INVESTIGATING THE EFFECTS OF THE MODEL MINORITY MYTH AND THE GLASS CEILING ON THE EARNINGS OF ASIAN AMERICAN MEN*

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Abstract

The investigation of labor market discrimination against native born Asian American men is an important case in contemporary racial and ethnic relations. While some scholars have recently argued that this demographic group has achieved approximate labor market parity with white men, our analysis provides detailed empirical evidence that is more directly relevant to prior theoretical discussions of the Model Minority Myth and the Glass Ceiling. Previous research focuses on racial differentials in conditional means, but the more theoretically relevant parameters refer to racial differentials at the tails of the earnings distributions. Using pooled data from the 2000 Census and the American Community Survey, we specify quantile regression models that estimate the net racial effects at both the lower and the higher ends of the distribution of earnings differentials. At the national level, estimates from quantile regressions provide considerable support for the Model Minority Myth and Glass Ceiling hypotheses but lead to the rejection of the alternative explanation about negative educational selectivity. Conclusions about the full labor market parity of Asian American men relative to white men may thus be premature when using national-level data.

Keywords: Asian Americans; Model Minority; Glass Ceiling; Educational level; Earnings

INTRODUCTION

Asian Americans have long been portrayed as a "model minority" especially in journalistic and popular media (Min 2006). Asian American educational attainment is higher than any other racial category, and their earnings and occupational achievement appear to be generally similar to whites if not sometimes higher (Goyette and Xie 1999; Zeng and Xie 2004; Sakamoto, Goyette, and Kim 2009). Such successful socioeconomic attainment is uncommon for a non-white group which prompted Sakamoto et al. (2009:256) to refer to Asian Americans as the "non-minority minority."

Nonetheless, researchers continue to debate whether Asian Americans have really achieved full parity with whites in terms of labor market processes. Many scholars have argued, for example, that the image of Asian Americans as a "model minority" is a myth in the sense that racial discrimination is still evident to the extent that they must achieve higher levels of education in order to obtain the same earnings as whites (Hirshman and Wong 1984; Hurh and Kim 1989; Zhou and Kamo 1994; Min 2006; Kim and Sakamoto 2010). Given the history of discrimination against Asian Americans after their arrival to the U.S. during the 19th century (Kitano and Daniels 1998), labor market outcomes need to be carefully investigated for Asian Americans.

Prior research has studied the mean net effect of being Asian American. Using conventional multivariate regression models, conditional mean differentials between whites and Asian Americans are estimated after taking into account productivity related control variables. Although informative, this traditional methodology focusing on net averages does not consider other possible patterns of earnings disadvantage that may stem from more particular processes of racial discrimination in the labor market. In the following, we investigate alternative statistical

models to assess more specific patterns of earnings disadvantages that are implied by theoretical discussions in this literature.

THEORETICAL BACKGROUND AND PRIOR RESEARCH

The Model Minority Myth Effect

"*The model minority myth diverts attention from the problems of many segments of the Asian American community, particularly the Laotians, Hmong, Cambodians, and Vietnamese, who have poverty rates of 29 percent, 55 percent, and 21 percent, respectively*" (Min, E. 2003: 200).

Much of the research on Asian Americans has been concerned with addressing the "model minority" image (MMI) of Asian Americans (Sakamoto et al. 2009). In response to the MMI, many sociologists adopt the alternative "model minority myth" (MMM) perspective (Min 2003). The MMM is a loosely constructed theoretical model which argues that the MMI inaccurately portrays the extent to which Asian Americans may be characterized as being highly motivated, hard working, and economically successful in the labor market due to their perseverant efforts (Hurh and Kim 1989). The MMM also contends that the MMI exaggerates the degree of meritocracy in American society as well as the presumptive implication that the labor market is "devoid of racism" (Zhou and Lee 2004:18). According to the MMM, the MMI is used by politically conservative commentators to overemphasize the openness of American society and to argue against government programs such as affirmative action and welfare that disproportionately help other racial and ethnic minorities (Hurh and Kim 1989; Fong 1998).

According to Kao and Thompson (2003: 432), the MMI is "misleading and damaging" to those Asian Americans who do not have high levels of education and occupational achievement

because the stereotypical characterization of this group as being extremely successful leads to the neglect of those Asian Americans who are actually disadvantaged (Lee 1994). Asian Americans with economic, social or psychological problems may be overlooked by public programs, government agencies, service organizations or the private sector when the MMI is taken too seriously (Hurh and Kim 1989; McGowan and Lindgren 2006). In this sense, the MMI has been called a "destructive myth" (Li 2005; Min, E. 2003).

Indeed, some entire ethnic groups within the Asian category tend to have lower socioeconomic origins and attainments including Laotians, Hmong, and Cambodians (Min, E. 2003; Sakamoto and Woo 2007). These groups "are extremely disadvantaged but happen to be classified under the rubric of Asian Americans" (Kao and Thompson 2003: 432). Their socioeconomic disadvantages may become largely imperceptible when these groups become subsumed into the racial category that is generically heralded as the model minority (Li 2005; Zhou and Xiong 2005). The MMI may be particularly problematic for Asian Americans who deviate from it by being not highly educated.

When considering this issue in regard to Asian American attainment, we refer to the MMM effect as *an earnings disadvantage that Asian Americans may have relative to whites that is net of productivity and is associated with an exaggerated characterization or level of performance that is required for Asian Americans*. That is, the MMM effect is a net earnings penalty reflecting racially discriminatory processes which require higher standards from Asian Americans. This definition of the MMM effect is consistent with Kao and Thompson's (2003:432) claim that the MMI is "misleading and damaging." By not exemplifying the MMI, less educated Asian Americans may be especially overlooked in regard to the provision of

adequate opportunities which may instead be reserved for highly educated Asian Americans who thereby provide the appearance of an open and highly mobile society that is "devoid of racism."

Exaggerated standards of performance may not be limited to less educated Asian Americans, but may also apply to college educated Asian Americans in the labor market more broadly. Heightened expectations stemming from the MMI may contribute to an Asian American worker being rated lower than a white worker even when the two have the same objective level of performance (Wong et al. 1998; Goyette and Xie 1999; Tashiro and Conrad 2009). The MMI may lead to equally performing Asian Americans being evaluated lower than whites. This process results in the devaluation of Asian American productivity and may hinder their advancement in whatever occupation they may be employed.

The Glass Ceiling Effect

"*Asian Americans have long been confronted with the glass ceiling. Some say the ceiling is actually made of steel, not glass*" (Ng 2001:8).

A closely related theme in the MMM literature are claims of a glass ceiling. One of the earliest references to the glass ceiling is by Hirschman and Wong (1981:496) who commented that Asian Americans "are permitted to occupy certain 'occupational niches' which allow for somewhat higher socioeconomic status than other minority groups, but there remains a ceiling on advancement into positions of authority or institutional power." Although Takei and Sakamoto (2008) find reduced levels of supervisory authority among native born Asian American managers, a more general process of a glass ceiling may operate beyond the particular phenomenon of promotion into the upper echelons of the managerial hierarchy.

Although clearly related to the MMM effect as described above, we define the glass ceiling (GC) effect as the more specific case of *an earnings disadvantage that highly educated Asian Americans may have relative to whites that is net of productivity and is derivative of the systematic exclusion of Asian Americans from the highest levels of attainment in an occupation, job ladder, career or company*. That is, we define the GC effect as the special case where elite status in a field or company is simply withheld due to being Asian American (Woo 2000). This disadvantage need not necessarily derive via higher expectations of performance levels for Asian Americans due to the MMI, but may be merely based on the direct exclusion of minorities from the highest positions with "institutional power."

Geographic Concentration, Migration, Selectivity and Ethnic Niches

Estimating the MMM and GC effects is complicated by additional demographic factors. The first relates to geographic concentration and regional migration. In comparison to whites, Asian Americans are more concentrated in the West especially in regard to native born persons (Sakamoto, Kim and Takei 2010). As is well known, the cost of living is generally higher in the West so the concentration of Asian Americans in that region represents a sort of economic disadvantage for that group (Hirschman and Wong 1984). This geographic characteristic has been accounted for in prior research by controlling for region of residence as an exogenous independent variable in regression analyses comparing the earnings of Asian Americans and whites.

Contemporary America is characterized, however, by a high level of geographic mobility particularly among college-educated workers as higher-skilled labor markets usually recruit from a broader geographic area (Farley 1996). Workers may be increasingly choosing jobs considering not only their financial rewards but also their associated residential conditions. That

is, higher-skilled workers may be deciding to migrate to locales given the desirability of the combination of employment opportunities and regional amenities. For those workers who do choose to migrate across regions, prior research finds that college-educated "movers" have higher earnings than college-educated "stayers" net of other variables (Tolnay 2003; McKinnish 2008).

Asian Americans are more likely to be college educated. Native born Asian Americans may also have greater preferences for living in high-cost areas such as California due to personal proclivities and family ties that are associated with being more likely to have previously lived in the West. Furthermore, in keeping with traditional Asian cultural norms, Asian Americans may be more concerned than whites with residing near or with aging parents (Xie and Goyette 2004; Kamo 2000). Given that native born Asian Americans are less likely than whites to be regional "movers" (Kim and Sakamoto 2010), estimates of the MMM and GC effects need to account for geographic mobility which is to some extent voluntary rather than discriminatory in nature.

A second factor relates to the possible selectivity associated with having a higher average level of educational attainment. As discussed by Mare (1980), individuals tend to be more selective the higher their level of educational attainment. For example, persons with a Ph.D. degree tend to have higher cognitive skills (e.g., "IQ") than persons with lower levels of education. However, cognitive skill level is often not available in data sets to control for as an independent variable. Selectivity may thus affect the comparison of two groups if they differ, on average, in terms of omitted variables (e.g., "IQ") that are not adequately controlled for in the multivariate analysis.

Asian Americans are well known to have a higher average level of educational attainment than whites. Given that the majority of native born Asian Americans advance to tertiary

education (Sakamoto et al. 2009), those who do not earn a high school diploma are possibly more negatively selected than whites who do not earn a high school diploma. Asian American educational attainment is enhanced by sub-cultural factors associated with immigrant and Asian influences relating to higher motivation (Goyette and Xie 1999; Kao and Thompson 2003; Sakamoto et al. 2009; Sakamoto et al. 2010). Assuming that Asian Americans are unlikely to have innately greater potential for higher cognitive skills than whites, Asian Americans may be negatively selected in terms of cognitive skills (or other variables) for any given higher level of educational attainment. In other words, Asian Americans are "pushed" into higher rates of college attainment due to their ethnic and family backgrounds, but Asian Americans are no more intrinsically academically capable than whites. This process implies that the average Asian American college graduate may have lower cognitive skills than the average white college graduate. If so, then statistical analyses of their differential earnings need to consider this possibility of selectivity when a direct measure of cognitive skills is unavailable in the data.

A third factor is the ethnic enclave. Ethnic "niches" may provide the second generation some advantages in terms of priority access to jobs in the ethnic economy (Light and Gold 2000). Ha (2003) has documented, for example, the dominance of Vietnamese families in the nail salon industry. Her findings are consistent with the view that "the ethnic economy provided a safety net for the least well educated members of the Chinese [or other Asian] second generation" (Kasinitz et al. 2008:202). Given the high concentration of Asian Americans in the West, ethnic enclave employment may be more available for them in that region.

RESEARCH STRATEGY AND METHODOLOGY

Educational Selectivity and the Model Minority Myth for Less Educated Asian Americans

To investigate the MMM effect, equation 1 may be investigated:

$$y = \Sigma\, \beta_j A_j + \Sigma\, \gamma X + e \qquad (1)$$

where A_j refers to Asian Americans with education level j, and X refers to a set of control variables (such as age, work disability status, etc.). According to the MMM hypothesis, the coefficients are expected to be negative for Asian Americans at each jth educational level. Being most deviant from the MMI, the coefficients for lesser educated Asian Americans (i.e., β_{LTHS} for those with less than a high school degree and β_{HSG} for those with only a high school degree) are predicted to be the most negative.

[Figure 1 about here]

However, a negative β_{LTHS} might alternatively arise, not as a consequence of the MMM, but due to negative educational selectivity as discussed above. Figure 1 shows the hypothetical distribution of a work-related productivity characteristic (e.g., "ability") for whites and for Asian Americans. Suppose that the distributions for these groups are identical (i.e., Asian Americans do not have more ability than whites). Due to the screening role of educational attainment, less able workers are less likely to advance to higher education and are therefore concentrated in the left tail of each distribution. Given that a direct measure of ability is not controlled for in equation 1, a negative β_{LTHS} may derive from this educational selection process if Asian American high school dropouts have a lower average ability than white high school dropouts as illustrated by Figure 1.

Figure 1also implies that high income earners among less-than-high-school educated Asian Americans earn less than high income earners among less-than-high-school educated whites due to the same selectivity. However, low income earners among less-than-high-school educated Asian American are expected to earn about equally low incomes as less-than-high-

school educated whites because near the lower end of the distribution negative selectivity is minimal. In other words, the earnings of less educated Asian Americans are predicted to be lower than less educated whites at the high quantiles, but the earnings gap will be reduced at lower quantiles. This pattern of the racial earnings gap by quantile among high school dropouts is illustrated by Figure 2(A).

[Figure 2 about here]

A contrasting pattern is illustrated by Figure 2(B). It shows that, among high school dropouts, the negative effect of being Asian American is predicted to be moderated (i.e., the racial earnings gap is reduced) at higher quantiles while the effect is most negative at lower quantile points. This pattern is the reverse of negative educational selection and is indicative of the MMM effect as discussed above. In this case, the negative β_{LTHS} might be interpreted as deriving from employer discrimination against those Asian Americans who do not meet the portrayal of the MMI that fosters the presumption of superior performance levels among Asian Americans (so that the MMI may be called a "destructive myth"). This MMM effect is most penalizing for less educated Asian Americans with the lowest ability, and so Figure 2(B) shows that the racial earnings gap will be reduced at higher quantiles. At those higher points, Asian Americans work performances more closely approximate the MMI expectation. Note that the median (or mean) values for both Figure 2(A) and Figure 2(B) will be the same, but the direction of the slopes informs us about the nature of the negative effect among Asian American high school dropouts.

Educational Selectivity and the Model Minority Myth for Highly Educated Asian Americans

The negative educational selection process may also be considered at the other tail of the distribution in which highly educated persons are concentrated. As shown in Figure 3(B), the ability threshold for whites to complete a BA degree is line W while for Asian Americans it is line A. Because A is closer to the mean than is W, college educated Asian Americans are less selective than college educated whites. In this case, the expected pattern by quantile for college educated Asian Americans is shown in Figure 4(A). At the low end of the distribution of quantiles, Asian Americans receive reduced earnings because their work-related productivity characteristic is lower on average than for corresponding whites (e.g., at this level, Asian Americans are less selective because they are more likely to be less competitive students who completed college mainly due to their parents' insistence). As the quantile increases, however, the negative effect is predicted to disappear because less educational selectivity occurs at the highest levels (e.g., where "the best and the brightest" tend to be equally for both racial groups). The selectivity process implies that the effect of Asian American among college-educated workers is negative at lower quantiles but tends towards zero at higher quantiles.

[Figures 3 and 4 about here]

To the extent that the MMI itself causally affects the positioning of A to shift to the left of W, then this consequence of the MMI may be thought of as being beneficial rather than "destructive" (e.g., high school teachers or college administrators rank Asian Americans more highly due to stereotyping them as "model" students). The MMI may thus to some extent be a positive influence for Asian Americans whose college prospects are enhanced. On the other hand, the MMI may lead to a negative influence for Asian Americans who do poorly in school and then encounter a greater racial earnings penalty in the labor market as hypothesized by the

MMM effect. The disaggregation of racial earnings differentials by educational level is therefore important to investigate.

Regarding the MMI in relation to college attainment, another scenario is also possible that is less positive. If the MMI raises the educational expectations for Asian Americans, then their threshold for college admission may become higher than that for whites (Espenshade and Radford 2009). Asian American students may be disadvantaged in college admission processes if their required standards for matriculation are higher than for other racial groups (e.g., Asian Americans need to have a higher grade-point average and a higher SAT score than whites to be admitted to the same college).

This case is shown in Figure 3(C) which illustrates the consequences of the differential admission standards. The admission criteria for whites is associated with a level of selectivity shown by line W while the more severe admission criteria for Asian Americans is associated with a level of selectivity now shown by line A that is to the right of W (i.e., Asian American college graduates are more selective than white college graduates). Although in reality Asian Americans are more likely to attend college than whites, the process illustrated by Figure 3(C) implies that the observed Asian American advantage in matriculation would be even greater if the two groups were evaluated using the same admissions threshold.

When Asian American college graduates are more selective than white college graduates, the consequences in terms of earnings as investigated by equation 1 are shown by the blue line in Figure 4(B). At the lower end of the quantile distribution, the effect of being Asian American will be positive because Asian Americans are especially more selective among persons who are more marginal in terms of college completion. As the quantile increases, however, the positive effect is reduced. At the higher quantiles, Asian American selectivity over whites declines (i.e.,

they are all more likely to be "the best and the brightest" at higher levels). For this reason, at the highest quantiles where Asian Americans are no longer selective over whites, the greater performance expectations for Asian Americans become more dominant and lead to a racial disadvantage for Asian Americans as shown by the blue line in Figure 4(B).

The Glass Ceiling Effect in the Labor Market for Highly Educated Asian Americans

The pattern identified as a MMM effect as shown by Figure 4(B) may be distinguished from the pattern shown by the red line in Figure 4(B). The latter indicates no racial disadvantage at the lower quantiles but an increasing racial disadvantage for Asian Americans as the quantile level increases beyond the median. This red line in Figure 4(B) shows the pattern that is predicted by the GC effect in the labor market for highly educated Asian Americans. At the lower quantiles the racial groups are evaluated in about the same manner and no racial disadvantage is evident (i.e., the red line is close to the line of equality or no racial disadvantage). In contrast to the MMM effect, the GC effect is not predicted to be evident at the lower quantiles.

After going beyond the median, however, the GC effect then begins to become evident. Highly competitive Asian Americans will increasingly be excluded and overlooked for promotions at they begin to approach elite stature. At those higher quantiles, the red line therefore becomes increasingly negative indicating a rising racial disadvantage for Asian Americans due to a GC stemming from social exclusion.

In sum, Figure 4(B) illustrates two related but separate patterns of racial disadvantage among highly educated Asian Americans. These are the MMM effect and the GC effect, and they both become more pronounced at the higher quantiles. They are distinguished, however, by the lack of a racial disadvantage at the lower quantiles in the case of the GC effect as compared

to an actual racial advantage at the lower quantiles in the case of the MMM effect (with the latter deriving from higher college admission standards for Asian Americans). Both of these patterns differ from negative educational selectivity as shown in Figure 4(A) which assumes that Asian Americans and whites face the same college admission standards.

Using this framework, the following working hypotheses may now be more formally stated in regard to the effects of MMM and the GC.

Hypothesis 1A: Among less educated Asian Americans, a MMM effect would be evident to the extent that the negative net effect of being Asian American is more pronounced at the lower quantiles of the earnings distribution but less pronounced at the higher quantiles of the earnings distribution.

Hypothesis 1B: Among less educated Asian Americans, negative educational selectivity would be evident to the extent that the negative net effect of being Asian American is less pronounced at the lower quantiles of the earnings distribution but more pronounced at the higher quantiles of the earnings distribution.

Hypothesis 2A : Among college educated Asian Americans, a MMM effect would be evident to the extent that the net effect of being Asian American is positive at the lower quantiles of the earnings distribution but negative at the higher quantiles of the earnings distribution.

Hypothesis 2B: Among college educated Asian Americans, negative educational selectivity would be evident to the extent that the net effect of being Asian American is negative at the lower quantiles of the earnings distribution but approximately zero at the higher quantiles of the earnings distribution.

Hypothesis 3: Among college educated Asian Americans, a GC effect would be evident to the extent that the net effect of being Asian American is approximately zero at the lower

quantiles of the earnings distribution but increasingly negative at the higher quantiles of the earnings distribution.

In addition, we propose the following hypotheses which relate to other demographic factors that affect the racial earnings differential.

Hypothesis 4: If the effect of being Asian American is mediated by the geographic concentration of Asian Americans in the Pacific and their low geographic mobility out of that region, then the earnings disadvantage of Asian Americans will be observed in the Pacific but not in other regions.

Hypothesis 5: If ethnic economic niches provide a safety net for less educated Asian Americans, then the earnings disadvantage for less educated Asian Americans will be less severe in the Pacific than in other regions.

Hypothesis 6: If the MMM has particularly negative effects on disadvantaged Asian ethnic groups (e.g., Cambodians, Filipinos, Hmong, Laotians), then the net effect of their ethnicity will be more negative than for other Asian ethnic groups.

Data

To test these hypotheses, we use the Integrated Public Use Microdata Series (IPUMS) and American Community Survey (ACS). To obtain an adequate sample size of Asian Americans, we combined the 5% sample of the IPUMS 2000 with the ACS 2001 to 2007 samples. We limit our analyses to native-born, non-Hispanic, single-race white men and native-born, single-race Asian American men. Because the 2000 Census and the ACS classify Pacific Islanders as being in a separate racial category, we do not include them in our analysis. As is customary in labor market studies, our sample selects persons between the ages of 25 to 64 who have positive earnings, are not currently enrolled in school, and are not on active military duty.

We limit our investigation to men in part due to space limitations but also because the regional migration patterns of women appear to differ substantially from those of men in regard to labor force outcomes (McKinnish 2008). Because the sample of whites was too large for quantile regression analysis, we randomly sampled 10 percent of them but retained all of the Asian American respondents.

Variables

The dependent variable for this study is the log of annual earnings. Earnings across the different years were adjusted for inflation using the Consumer Price Index. In keeping with common practice, the log transformation is used because the distribution of earnings is highly skewed. The coefficients from models of log-earnings may be interpreted as percentage effects. The control variables include age, education, marital status, work disability status, English proficiency, region of residence, state of residence, residence in a metropolitan area, usual hours worked per week, weeks employed last year, and employment class.

Age-squared as well as age (in years) are included to account for the curvilinear pattern of earnings over the life course. Five educational levels are distinguished including less than high school (LTHS), high school graduate (HSG), some college (SC), bachelor's degree (BA), and graduate degree (GRAD). Marital status is measured with one dummy variable to indicate being currently married, and another dummy variable to indicate being divorced, separated or widowed. Work disability status is indicated by one dummy variable.

Although our sample is restricted to native born persons, we nonetheless include a dummy variable to indicate English proficiency which is coded 1 if the respondent reported speaking only English at home or if he answered that his English was "very good" for those persons who spoke a language other than English at home. Measured in this way, English

proficiency differs slightly between Asian Americans and whites even among the native born (i.e., whites have slightly higher English proficiency). This variable is statistically significant in all of our models.

Region of residence is measured in terms of the nine standard divisions as defined by the U.S. Census Bureau (i.e., New England, Mid-Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, and Pacific). Some of our model specifications include a dummy variable to indicate being a regional mover which refers to having a current residence in one of the nine divisions that differs from the one of birth. Persons coded 0 on this dummy variable are those who reside in a region that is the same as their region of birth.

As a further control, we also include 50 dummy variables to indicate the U.S. state of current residence (with Washington, D.C. being the reference category). Metropolitan location is measured with one dummy variable for being in the central city of a metropolitan area, and another dummy variable for being outside of the central city in a metropolitan area. Because information on class of worker is available, we further control for that status by using dummy variables to indicate the following categories: employees in the private sector, employees in the non-profit sector, workers in the federal government, workers in state government, workers in local government, incorporated self-employed, and the unincorporated self-employed.

Although occupation is not a pre-labor market control variable, occupation is nonetheless included in some of our models in order to assess the extent to which it may statistically explain racial earnings differentials. For this purpose, occupation is measured using dummy variables to indicate 23 separate categories. Models that include occupational controls may be interpreted as referring to within-occupational earnings differentials.

For exploratory purposes, we estimate additional models in which the dependent variable is the Duncan socioeconomic index score for the respondent's occupation. Such scores retain important analytic value as a dependent variable if they are correlated with long-term earnings, non-wage job benefits such as health insurance or valued non-pecuniary aspects of work conditions (e.g., job autonomy, exposure to poor weather conditions, etc.) as argued by Hauser and Warren (1997). The Duncan socioeconomic index scores are constructed on the basis of the average education and income of each three-digit occupation.

In the models that distinguish between the different Asian ethnicities, the following groups are identified: Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, and Other Asian. The latter miscellaneous category includes such Asian groups as Cambodian, Hmong, Indonesian, Laotian, Pakistani, Thai, and multi-ethnic Asians (e.g., Chinese and Japanese). Limited sample sizes prevent us from investigating a more detailed classification.

Statistical Methods

Quantile Regression

To assess our hypotheses, linear quantile regression models are estimated as follows:

$$Q_y(\tau|A,X) = \Sigma\, \beta_i(\tau)\, A_i \; + \Sigma\, \gamma(\tau)\, X \qquad (2)$$

where $Q_y(\tau|A,X)$ refers to conditional quantile of y (i.e.,, log-earnings) at quantile point τ given A and X. For each of the quantiles, τ is an element of the set {.1, .2, .3, .4, .5, .6, .7, .8, .9}. That is, the estimated coefficients are based on 9 decile points. A_i is Asian American with education i and $\beta_i(\tau)$ refers to the net effect of Asian American with education i at quantile point τ controlling for X which is a vector of independent variables.

Quantile regression specifies the same model as equation 1, but instead of estimating the coefficients to obtain the conditional mean function using ordinary least squares (OLS), linear

quantile regression estimates the coefficients of the conditional quantile function (Koenker 2005; Hao and Naiman 2007). Just as OLS fits a linear model for conditional means, quantile regression fits a linear model for conditional quantiles by minimizing $\sum \rho_\tau[y- (\Sigma \beta_i A_i + \Sigma \gamma X)]$. $\rho_\tau(\cdot)$ is the tilted absolute value function that yields the τth sample quantile (Koenker and Hallock 2001:145-146).

As discussed earlier, Hypotheses 1A and 2A refer to damaging consequences of the MMM while Hypotheses 1B and 2B conversely suppose that the negative effects of being Asian Americans derive from negative educational selection. Hypothesis 1A predicts that $\beta_{LTHS}(.1)$ is significantly negative, but as τ increases, the corresponding coefficients become less negative and eventually non-negative. Hypothesis 1B predicts that $\beta_{LTHS}(.1)$ is insignificant but as τ increases, $\beta_{LTHS}(\tau)$ becomes significantly negative.

Hypotheses 2A and 2B pertain to college educated Asian Americans. Hypothesis 2A predicts that $\beta_{BA+}(.1)$ is significantly positive but that $\beta_{BA+}(.9)$ is substantially negative. Hypothesis 2B predicts an opposite pattern, namely, that $\beta_{BA+}(.9)$ is insubstantial and insignificant, but that $\beta_{BA+}(.1)$ is significantly negative. Regarding the GC effect, Hypothesis 3 predicts that the coefficients $\beta_{BA+}(.1)$ to $\beta_{BA+}(.6)$ are insignificant, but that $\beta_{BA+}(.9)$ is substantially negative.

The Negative Effects of the MMI for the Less Educated Members of Disadvantaged Asian American Ethnic Groups

As discussed, the negative impacts of the MMM are said to be most problematic for disadvantaged Asian ethnic groups. To empirically investigate this possibility, we first need to ascertain which Asian groups may be deemed "disadvantaged." For this purpose, we simply define them to be those groups for whom mean log-earnings is lower and statistically significant

relative to whites This comparison is not made conditional on any control variables but is indicative of a bivariate differential for our target population. The source of the differential (e.g., lower rates of return in the labor market or means on pre-labor market characteristics) is not critical for this purpose.

Let DA_{ij} refer to a member of the *i*th educational level of the *j*th disadvantaged Asian ethnic group while A_{ik} refers to a member of the *i*th educational level of the *k*th non-disadvantaged Asian ethnic group. Equation 2 may be expanded as:

$$Q_y(\tau|A,X) = \Sigma\, \beta^D_{ij}(\tau)\, DA_{ij} + \Sigma\, \beta_{ik}(\tau)\, A_{ik} + \Sigma\, \gamma(\tau)\, X. \qquad (3)$$

where β^D indicates the extent to which the earnings of the disadvantaged Asian ethnic group differ in comparison to whites net of the control variables. If the MMI has particularly negative effects for disadvantaged Asian ethnic groups, then $(\beta^D_{ij}(\tau) - \beta_{ik}(\tau))$ should be negative and the corresponding $t(\beta^D_{ij}(\tau) - \beta_{jk}(\tau))$ should be statistically significant (i.e., the effect is less negative for the non-disadvantaged Asian groups). Because prior discussions relating to this view refer to less educated workers, we focus on $(\beta^D_{LTHS,j}(\tau) - \beta_{LHTS,k}(\tau))$ for this comparison.

EMPIRICAL FINDINGS

Table 1 shows the descriptive statistics. On average, the annual earnings for Asian American men is $59,258 which is $6,745 higher than for white men. 58 percent of Asian Americans have at least a bachelor's degree compared to 33 percent for whites. Broken down by educational levels, mean earnings for Asian Americans is lower than for whites. These latter results do not necessarily imply a racial disadvantage in labor market processes, however, because Table 1 also shows that, in comparison to whites, Asian Americans are slightly younger, are less likely to be married, and work fewer hours per week.

[Table 1 around here]

Table 1 shows a major racial differential in regard to region. Whereas about one in nine (i.e., 12%) of white men reside in the Pacific, two-thirds (i.e., 67%) of Asian Americans do so. A related finding is that Asian Americans are much less likely than whites to be regional movers. Relative to persons with only a bachelor's degree, those with a graduate degree are *more* likely to reside in the Pacific if they are white but *less* likely to reside there if they are Asian American suggesting that Pacific whites are more selective.

In regard to ethnicity, regional concentration in the Pacific is especially high for Japanese (86%) and Filipinos (70%). The Asian groups with proportions below the Asian average in the Pacific include Indians (26%), Vietnamese (36%), Koreans (45%), Chinese (59%), and Other Asian (62%) even though those proportions are still much higher than for whites. Mover status shows substantial ethnic variation with Japanese (18%) and Filipinos (34%) being below the overall average for Asian Americans while the remaining Asian groups are above it. However, only Indians (74%) have an average mover status that exceeds that for whites (63%). Because our target population refers to native born adults, over one-third of the Asian American sample is Japanese who are the largest pre-1965 Asian group (Kitano and Daniels 1998).

Table 1 further shows that Asian Americans are more likely to be managerial or professional than whites. Asian Americans are substantially less likely to have blue-collar occupations even after broken down by educational level. The latter occupational differential is also evident for each Asian ethnic group. The Asian group with the highest employment in blue-collar occupations is the Vietnamese (24%) but they are still substantially lower than whites (38%).

[Table 2 around here]

OLS Regressions

In investigating multivariate patterns, we first report the net effect of being Asian American from a series of OLS regression models. These results are summarized in Table 2. The rows shown under panel I of Table 2 indicate which control variables are included in each regression. The rows shown in panel II report the estimated net effect of being Asian American and its standard error for each of the regression models. The rows shown under panel III report the estimated net effect of being Asian American by educational level using an expanded specification that includes interactions. Due to space constraints, the coefficients for the control variables are omitted from Table 2 as well as from the remaining tables.[1]

On average, as shown in Table 2, the gross annual earnings for Asian American men overall is 14 percent (i.e., $1\text{-}e^{-.130}$) higher than white men. This is the baseline bivariate specification (i.e., Model 1) which includes no control variables. After including education (4 dummy variables), English proficiency (1 dummy variable), and the demographic controls (age, age-squared, disability status, and 3 dummy variables for marital status), Model 2 is obtained in which the net effect of being Asian American is reduced to 4.3% (which is still statistically significant). The subsequent addition of the geographic variables (2 dummy variables for metropolitan residence, and 50 dummy variables for each U.S. state) then yields Model 3 in which the net effect of being Asian American becomes substantively trivial as well as statistically insignificant (i.e., the effect is statistically "explained"). Controlling further for the working-time variables (usual hours worked and weeks worked last year) in Model 4 and then class of worker (7 dummy variables) in Model 5 does not change the basic result of a zero net effect for Asian American.

[1] The full results for this table as well as for any of the succeeding ones may be obtained from the authors upon request.

Broken down by educational level as shown in panel III in Table 2, more precise patterns may be delineated. In Model 2 which controls for education, English proficiency, and demography, none of the Asian American effects are negative. They are actually positive at the higher levels of education indicating that Asian Americans are advantaged over whites. The addition of the geographic variables in Model 3, however, yields a negative effect for Asian Americans with less than a high school degree while the advantage at the graduate level for Asian Americans is slightly reduced although remaining positive. Controlling for the working-time variables in Model 4 eliminates the positive effect at the graduate level while Asian Americans with less than a high school degree remain disadvantaged with 6 percent lower earnings than whites. The latter conclusion is not generally altered by Model 5 which adds the variables for class of worker.

In order to explore the geographic aspect in more detail, Model 5 was estimated separately by region (i.e., Pacific versus non-Pacific) as shown in Table 2. These results demonstrate that the negative effect for Asian Americans with less than a high school degree is consistently evident and similar in both regions. At the BA level, however, the net effect of Asian American is significantly negative in the Pacific but significantly positive in the non-Pacific.

[Table 3 around here]

Quantile Regressions

Table 3 shows the results for the quantile regressions which are based on the specification for Model 5 which controls for education, English proficiency, demography, geography, working-time, and class of worker. The row shown under panel I of Table 3 reports the estimated net effects of being Asian American by decile which are then broken down by

educational level in panel II. The rows shown under panel III report these net effects further broken down by region (i.e., Pacific versus non-Pacific).

[Figure 5 around here]

The estimates in panel I indicate that none of the Asian American coefficients are significant except at the highest end of the distribution of earnings (i.e., 9th decile) where the net effect is slightly negative. Although quantile regression effects do not mathematically correspond to the OLS effect on the conditional mean in a direct way, the latter is often empirically similar the quantile effect at the median. The estimated quantile effect at the median is close to 0 and not significant in panel I of Table 3 which is consistent with the OLS result for Model 5 in panel II of Table 2.

Broken down by educational level, the results in panel II of Table 3 indicate that none of the quantile effects at the median are statistically significant. For Asian Americans with less than a high school degree (AA-LTHS), large negative effects are evident at the lower deciles while positive effects are statistically significant at the 8th and 9th deciles. Thus, the negative OLS effect for AA-LTHS in panel III for Model 5 of Table 2 is driven by the notably large negative effects at the low end of earnings distribution rather than a more uniform disadvantage for that group.

As shown in panel II of Table 3, the coefficient for AA-LTHS at the 1st decile (i.e., 10th percentile) is highly negative (i.e., -.269) and statistically significant. It implies that AA-LTHS have 24 percent lower earnings (i.e., 1-e$^{-.269}$). The earnings level at the 10th percentile among AA-LTHS is thus 24 percent lower than the earnings level at the 10th percentile among measurably comparable whites.

Figure 5 summarizes the pattern of the decile effects by educational level as shown in panel II of Table 3. In general, the patterns for AA-LTHS and AA-HSG (i.e., Asian Americans with only a high school degree) are consistent with that predicted by the MMM effect as shown in Figure 2(B). The effects are most negative at the lower deciles but slope upward towards 0 at the middle deciles, and then become slightly positive at the highest deciles. The slope for AA-LTHS is steeper than for AA-HSG which is again consistent with the MMM hypothesis because the lowest educational group is the most penalized due to its greater deviation from the MMI. Figure 5 supports Hypothesis 1A about the MMM effect but does not support Hypothesis 1B about negative educational selectivity.

In the case of highly educated Asian Americans, Figure 5 shows that the effects are consistently close to 0 up until the highest deciles. For Asians Americans with just a bachelor's degree (i.e., AA-BA), the effect the 9^{th} decile (i.e., 90^{th} percentile) of the earnings distribution is approximately a negative 10 percent (i.e., at the 9^{th} decile, the earnings of AA-BA are 10 percent lower than the 9^{th} decile of the earnings for comparable whites). For Asian Americans with a graduate degree (AA-GRAD), the disadvantage at the 9^{th} decile is 3.6 percent which is less substantial than for AA-BA but is still significant at the .01 level. These patterns differ from Figure 4(A) and the blue line in Figure 4(B). They generally correspond to the GC effect as depicted by the red line in Figure 4(B). These results support neither Hypothesis 2A (about the MMM effect for highly educated Asian Americans) nor Hypothesis 2B (about negative educational selectivity among highly educated Asian Americans) but instead support Hypothesis 3 about a GC effect.

[Figure 6 around here]

Quantile Regressions by Region

Panel III of Table 3 shows the quantile regression results broken down by educational level in each of two regions including the Pacific in panel III(A) and the non-Pacific in panel III(B). The pattern of these estimated effects are shown in Figure 6. Following the MMM hypothesis, the effects of being AA-LTHS are significantly negative from the lowest decile up to about the 6th decile in both regions. However, the AA-LTHS disadvantage is clearly smaller in the Pacific as is shown in Figure 6(A). For example, at the 1st decile, the disadvantage for AA-LTHS is -.126 in the Pacific while it is -.350 in the Other Regions as shown in Figure 6(B).

For AA-HSG, the pattern again tends to follow the MMM hypothesis especially in the Other Regions where the disadvantage is quite negative among the lower deciles but is moderated (and eventually positive) above the median. In the Pacific, however, AA-HSG is close to zero and the negative disadvantage at the 1st decile is not even statistically significant (as shown in Table 3). So again in the case of AA-HSG, the disadvantage is lower in the Pacific. These findings are consistent with Hypothesis 5.

At the other end of the earnings distribution for AA-LTHS and AA-HSG, the disadvantage is essentially zero (i.e., no different from whites) in the Pacific, but in the Other Regions, a substantially positive and statistically significant advantage is evident at the 9th decile. For some unexpected reason, AA-LTHS and AA-HSG with higher earnings actually earn more than do comparable whites at the 9th decile in the Other Regions. This finding might be associated with the larger groups of disadvantaged whites (e.g., "trailer trash" [Morris 2005]) in the Other Regions.

In any event, these statistical results imply that the levels of within-group variance among AA-LTHS and AA-HSG are much higher than among comparable whites in the Other Regions. Given that AA-LTHS and AA-HSG have lower earnings than comparable whites at the lower

deciles but higher earnings at the upper deciles, earnings variability among AA-LTHS and AA-HSG must be quite high. AA-LTHS and AA-HSG are likely to be very heterogeneous in the Other Regions.

In regard to highly educated Asian Americans, notable regional differences are again evident. Whereas at the national level, Figure 5 shows a general GC pattern with a substantial disadvantage at the highest decile for AA-BA and AA-GRAD, this pattern is not evident in the Other Regions where AA-GRAD are slightly advantaged over comparable whites (which is statistically significant in Table 3). For AA-BA, Figure 6(B) shows that they are slightly advantaged over whites at most of the deciles. The disadvantage of highly educated Asian Americans is thus observed only in the Pacific. Although that disadvantage at the 9th decile for AA-GRAD is nontrivial (about 12 percent lower earnings), it is restricted to the Pacific.

In sum, the GC effect as described by Hypothesis 3 is evident for highly educated Asian Americans in the Pacific but not in the Other Regions. Both of these two regions provide evidence for the negative effect at the lowest deciles for less educated Asian Americans as proposed by the MMM effect and as stated by Hypothesis 1A. This negative effect is substantially moderated, however, in the Pacific where ethnic enclaves may be assumed to be most significant which supports Hypothesis 5.

Occupational Attainment and the Earnings of Asian Americans

The MMI may possibly be helpful to Asian Americans in acquiring jobs with higher occupational status. At the same time, however, higher expectations for performance in good jobs may lead to a within-occupation earnings disadvantage for Asian Americans. Similarly, within-occupational promotions may be less forthcoming for Asian Americans simply due to a distrust of minorities (Hurh and Kim 1989).

22 dummy variables to control for occupational category are included in Model 6 as indicated in Table 2 which shows the OLS regression results for log-earnings as the dependent variable. The results for AA-BA and AA-GRAD are consistent with the view that Asian Americans face within-occupational earnings disadvantages (4% and 6%, respectively, as shown in Table 2) which are not evident in Model 5. AA-LTHS also face a within-occupational earnings disadvantage (5%) according to the results for Model 6, but for this group, this disadvantage is instead slightly less than that in Model 5. That is, part of the disadvantage that AA-LTHS face in terms of earnings derives from being employed in lower paying occupations in comparison to whites with otherwise similar characteristics.

[Table 4 around here]

Table 4 shows the results for the regression with the Duncan socioeconomic index score as the dependent variable and the independent variables being the Model 5 specification. The results for the nation as a whole are straightforward in that Asian Americans are slightly advantaged over whites at all educational levels. For example, net of the independent other variables in Model 5, AA-LTHS have a Duncan score is 2.87 points higher, on average, than comparable whites while for AA-GRAD the advantage is 3.77 points.

Table 4 also shows the results broken down by the two regions. The advantage of Asian Americans in terms of the Duncan score is again evident at all educational levels in the results for the Other Regions. In the results for the Pacific, the estimated advantages for Asian Americans at the higher educational levels are slightly lower than in Other Regions while at the lower educational levels (i.e., AA-LTHS and AA-HSG) the coefficients are not statistically significant. Net of the other control variables, AA-LTHS and AA-HSG are not advantaged in terms the Duncan score in the Pacific.

These results run counter to the earlier findings indicating that, in terms of earnings, less educated Asian Americans are more disadvantaged in the Other Regions. Taken together, these findings suggest that Asian Americans in the Other Regions have higher occupational status but at the cost of lower earnings. This differential may reflect a greater preference for white collar occupations among less educated Asian Americans in the Other Regions or more blocked opportunities and discrimination facing Asian Americans in the Other Regions in regard to obtaining blue-collar employment. Another possible interpretation is that ethnic enclaves in the Pacific moderate the earnings disadvantage there for less educated Asian Americans, but the buffer operates by way of increasing their employment in lower status jobs in the ethnic economy.

[Table 5 around here]

[Figure 7 around here]

Migration and the Earnings of Asian Americans

The quantile regressions are then estimated separately by the Pacific versus the Other Regions. In order to ensure an adequate sample size (particularly in regard to movers versus stayers by region), the educational levels were collapsed as follows. AA-LTHS and AA-HSG were combined into AA<HSG while AA-BA and AA-Grad were combined into AA-BA+. For this part of the analysis, our classification scheme of Asian Americans by educational level thus consists of 3 groups including AA<HSG, AA-SC and AA-BA+.

In addition to the control variables used in Table 3 (i.e., Model 5 from Table 2), these quantile regressions with migration status also include additional dummy interaction terms to indicate white movers by education. The coefficients for Asian American by educational level thus show the effects in comparison to whites with the corresponding educational level and

migration status (and net of all other control variables in the regression). Table 5 shows the results for these models while Figure 7 summarizes them.

One pattern that is noteworthy in Table 5 is that the coefficients for movers tend to be mostly insignificant or negative for less educated workers. By contrast, the coefficients tend to be significant and positive for highly educated workers. These findings are consistent with the general view that labor markets for highly educated workers are more national in scope so that region mobility is typically associated with higher earnings relative to comparable persons who are geographically immobile (Sakamoto et al. 2009).

Table 5 shows that the negative coefficients for highly educated Asian American at the highest deciles (as was reported earlier in Table 3) are limited to stayers in the Pacific. Among movers to the Pacific, Table 5 shows that the coefficients for AA-BA+ are not significant for the upper deciles. In the Other Regions, the coefficients for AA-BA+ are not significantly negative for movers or stayers. To the contrary, those coefficients that are significant are actually positive.

Other results in Table 5 show that for less educated Asian Americans, the coefficients for the lower deciles are consistently negative in both regions for both movers and stayers. All of these coefficients are statistically significant as well except for AA-BA+ movers which partly reflects their small sample size. Consistent with the interpretation that larger ethnic enclaves provide a buffer in the Pacific for less educated Asian Americans, the coefficients are notably less negative among AA-BA+ stayers in that region who may have more developed social networks providing access to those enclaves (in comparison to movers to the Pacific or those residing in Other Regions). Overall, these results from Table 5 lend support to Hypothesis 4

(about the significance of migration status) and Hypothesis 5 (about the buffering provided by ethnic enclaves in the Pacific for less educated Asian Americans).

Quantile Regressions by Ethnic Groups

As shown in Table 1, the average earnings for Chinese, Japanese, Indian, and Korean Americans are above the grand mean of Asian Americans while the average earnings for Filipino, Vietnamese, and Other Asian Americans are below the grand mean. Other results from OLS regression models (not shown but available upon request) are also suggestive of an earnings disadvantage among Filipino, Vietnamese, and Other Asians relative to Chinese, Japanese, Indians, and Koreans as well as to whites. For our purposes, we therefore define disadvantaged Asian ethnic groups to include Filipino, Vietnamese, and Other Asians

[Table 6 around here]

[Figure 8 around here]

Table 6 shows the results for the quantile regression that we have been using (i.e., including the same control variables as in Table 3) when the Asian American category is differentiated by Asian ethnic group. Due to the smaller sample sizes by ethnicity, we again use the more aggregated educational classification distinguishing between those with only a high school degree or less, those with some college, and those with at least a bachelor's degree.

In regard to Asian Americans with less than a high school degree, the most negative coefficient at the 1st decile is -.347 for Chinese <HSG in Table 6. Fairly similar negative coefficients at the 1st decile are also evident in Table 6 for Indians, Koreans, Vietnamese, and Other Asians which are further shown by the upward sloping patterns for these groups in Figure 9(A). For Filipino<HSG, the coefficient at the 1st decile is -.073 which is statistically significant

but not as negative as for the other groups. In the case of Japanese<HSG, the coefficient at the 1st decile is slightly positive and not significant.

These results for Chinese, Indians, Koreans, Vietnamese, and Other Asians (and to a lesser extent, Filipinos) are largely consistent with the expected pattern according the MMM effect (i.e., an upwardly sloping pattern with greater disadvantages at the lower deciles) for lesser educated Asian Americans. However, these findings do not support the MMM effect in regard to ethnicity as stated in Hypothesis 6. The disadvantaged ethnic groups (i.e., Filipino, Vietnamese, and Other Asians) do not stand out as having the most negative coefficients. For example, $(\beta^{D}_{<HSG,\ Others}(.1) - \beta_{<HSG,Korean}(.1))$ is not even negative in Table 6. The estimated disadvantage for Filipinos is less severe than for Chinese, Koreans, and Indians.

Ethnic variability is apparent in Figure 8 but the patterns do not lend themselves to any obvious explanation or theoretical expectation. Among Asian Americans with some college, Figure 8(B), the patterns are fairly horizontal with the exception of a few groups at the lower deciles. Among Asian Americans with at least a bachelor's degree, no clear patterns are obvious although at the upper deciles, Filipinos, Japanese, and Other Asians are the most disadvantaged.

DISCUSSION

Prior research on Asian Americans has emphasized the MMM and the GC, but has not sufficiently linked those hypotheses to specific patterns of racial earnings differentials. This literature has also ignored negative educational selectivity despite its clear relevance to the study of the MMM. Our analysis has sought to address these issues by estimating quantile regressions which facilitate a more detailed investigation of racial differentials at each decile of the earnings distributions for Asian Americans and whites.

The findings from the quantile regressions do indicate significant variation in the net effects by deciles which are not provided in the OLS condition-mean regression. In practice, the effects estimated using the OLS condition-mean regression are often similar to the quantile effect at the 5^{th} decile. In many of our quantile regression results, the coefficients at the 5^{th} decile are insignificant while the coefficients in the same model for the lowest or highest deciles are significant.

The findings reported in Table 3 provide considerable support for the relevance of our methodological approach. As predicted by the MMM, racial differentials at the lowest deciles of the earnings distribution for less educated Asian Americans are the most disadvantageous but are ameliorated at higher deciles. This pattern may be interpreted as reflecting discriminatory treatment arising from their deviation from the MMI which provides greater economic rewards for those Asian Americans who are closer to the cultural ideal of being above average or highly educated. These findings contrast with the prediction associated with negative educational selectivity because the lower proportion of Asian Americans who are less educated implies that the racial differential should be most negative at the highest deciles (where Asian Americans would be the most negatively selected relative to whites).

Among highly educated Asian Americans, the national-level results in Table 3 indicate a GC effect because approximate racial parity is apparent at the lower deciles but an Asian American disadvantage arises at the highest deciles. This pattern is difficult to explain in terms of negative educational selectivity especially since Asian Americans are well known to be over-represented at the nation's most prestigious universities (Sakamoto et al. 2009). It may instead be interpreted as stemming from discriminatory attitudes that limit the acceptability of visible minorities from assuming the highest leadership roles in a given career, occupation or company.

Region and Migration

Our results have also shown that conclusions about the net effects of being Asian American are complicated by geographic variables and interactions. Table 1 indicates that the clear majority of this group (i.e., two-thirds) resides in just one of the nine U.S. Census regions, namely, the Pacific. By contrast, only a small proportion of white men live there (i.e., about one in nine). As is evident in our systematic consideration of various model specifications, taking region and migration into account when comparing whites and Asian Americans often affects the estimate of the racial differential.

For example, findings for the quantile regressions in Table 3 indicate that the negative effects at the 9th decile for AA-BA and AA-GRAD are limited to those who reside in the Pacific. Breaking down the latter category further, the negative effect seems to apply only to stayers in the Pacific and not to movers to the Pacific (i.e., in Table 5). One interpretation of these findings would be that highly educated and competitive Asian Americans are choosing to remain in the Pacific due to some regional preference that outweighs the higher earnings that they could obtain by accepting employment in the Other Regions. An alternative explanation would be that a GC is most fully developed against stayers in the Pacific but not in the Other Regions.

Regarding the latter interpretation, the visibility-discrimination hypothesis states that negative attitudes among whites towards a minority group will increase in an area as the proportion of the minority group increases (Burr, Galle and Fossett 1991). Although we are unaware of studies of this hypothesis for Asian Americans, empirical evidence supports it for African Americans (Cohen and Huffman 2007).[2] Future research might investigate regional

[2] Some historical evidence for Japanese Americans before World War II suggests that white attitudes against them were far more pronounced in southern California where mainland Japanese Americans were concentrated at that time (Kitano 1976). Similarly, the internment of

variation in attitudes towards Asian Americans who may pose little "threat" to whites in non-Pacific regions due to extremely small and dispersed population sizes.

On the other hand, if one accepts the alternative interpretation that highly educated and successful Asian Americans have a regional preference for residing in the Pacific, then the evidence for racial discrimination against them is rather limited in our findings. We are reluctant, however, to draw this conclusion at this stage of our analysis, and leave it for further investigation in future research. While we believe that this interpretation is certainly plausible, it requires further research because no direct empirical evidence clearly supports the assumption that Asian Americans would prefer to trade-off residence in the Pacific with increased earnings opportunities in the non-Pacific. For this reason, this explanation of a regional preference seems too ad hoc to be conclusive.

One negative effect that is more regionally consistent is the disadvantage for Asian<HSG which is largely evident in both the Pacific and in the Other Regions as well as for movers and stayers. As expected by Hypothesis 5, however, this disadvantage appears to be moderated among those who are in the Pacific and especially among stayers in the Pacific. The latter group may be assumed to have the greatest access to opportunities in the ethnic enclave that is likely to be more developed in the Pacific.

Ethnic Differentials

Ethnic variation is typically a notable issue when investigating Asian Americans, and our results are consistent with that conventional wisdom. Ethnic differentials among Asian Americans in part reflect variation in immigration circumstances and characteristics (Sakamoto et al. 2009). Because our study is limited to adult, native born men, our results do not display as

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Japanese Americans occurred only in the western region of the mainland where Japanese Americans were overwhelmingly concentrated.

wide a degree of ethnic variation as is the case in some more general studies of Asian Americans (e.g., Xie and Goyette 2004).

In addition, the disadvantaged Asian ethnic groups as we have identified them (i.e., Filipino, Vietnamese, and Other Asian) do not generally stand out as being more disadvantaged (relative to whites) than the remaining Asian ethnic groups. Table 1 shows that Filipino, Vietnamese, and Other Asian have lower average levels of educational attainment, but their earnings relative to comparable whites do not consistently appear to be more disadvantaged than is the case for Chinese, Indians, Japanese, and Koreans. To the extent that a particular group can be identified in our results as being more likely to have more significantly negative coefficients, Filipinos may perhaps be singled out, and yet Table 1 indicates that this group also has a poverty rate that is lower than any other group (including whites) except Japanese whose poverty rate is the same as the Filipinos. In sum, our findings provide no significant support for Hypothesis 6 which identifies notable effects for disadvantaged Asian ethnic groups.

Occupation-related Processes

In regard to occupational attainment, Asian Americans appear to be slightly advantaged relative to whites at least as measured by the Duncan socioeconomic index score. This advantage is observed at all educational levels although it is generally modest. The advantage is slightly larger in the Other Regions and notably smaller at the lower educational levels in the Pacific. Ethnic enclaves in the Pacific may possibly be channeling less educated Asian Americans more directly into lower service jobs.

As mentioned above, the traditional sociological view of occupations is that they provide a broader indicator of long-term socioeconomic circumstances than do annual earnings (Hauser and Warren 1997). While we are not so sure than this assumption is necessarily valid for the 21st

century American labor market, the results in Table 4 clearly indicate that Asian Americans are not disadvantaged in terms of occupational attainment as measured by the Duncan score. This is a notable finding given that the conventional view in this literature has been that Asian Americans can achieve the occupational status of whites only by having higher educational attainment than whites (Hurh and Kim 1989).

At the same time, however, some of our results indicate a within-occupational earnings disadvantage for Asian Americans. That is, some Asian Americans may have slightly higher levels of occupational attainment but at the cost of lower within-occupational earnings. While this pattern is most obvious in Model 6 in Table 2, the regional breakdown shown in Figure 7 more precisely indicates that the within-occupational earnings disadvantage is most relevant for less educated Asian Americans at the lowest deciles (especially in the Other Regions), highly educated Asian Americans at the highest deciles in the Pacific, and Asian-GRAD at the lower deciles in the Other Regions.

CONCLUSION

The investigation of labor market discrimination against native born Asian American men is an important case in contemporary racial and ethnic relations because this minority group appears to be on the verge of achieving labor market parity with whites (Sakamoto et al. 2009; Zeng and Xie 2004). This assessment is based on empirical evidence concerning racial differentials in conditional means (Sakamoto et al. 2009), but we have argued that racial differentials at the tails of the earnings distributions are more directly relevant to the MMM and the GC views. More precise empirical evidence is therefore needed before the issue of labor market parity may be more confidently accepted.

Our analysis has sought to fill this research gap by estimating quantile regressions. The national-level results provide considerable support for the MMM and the GC hypotheses but lead to the rejection of the alternative explanation about negative educational selectivity. Conclusions about the full labor market parity of Asian American men relative to white men may thus be premature when using national-level data. Future research should investigate the extent to which regional migration patterns may be assumed to be endogenous with respect to labor market outcomes, and whether a richer analysis that incorporates geographic variability might lead to alternative conclusions about the MMM and the GC hypotheses.

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Table 1. Descriptive Statistics

	N	Share[a]	Annual Earnings	Poverty Rate	BA+	Age	Married	Pacific Region	Metro Resi.	Mover	Usual Hours Worked	Weeks Empl.	Self Empl.	Prof/ Manager	Other White Collar	Blue Collar
		(%)	($)	(%)	(%)		(%)	(%)	(%)	(%)			(%)	(%)	(%)	(%)
White																
Total	380,126	100.0	52,513	2.22	32.9	43.8	72.7	11.5	48.7	62.9	45.2	49.5	15.6	37.0	25.2	37.8
By Education																
LTHS	29,464	7.8	30,889	6.54	-	43.9	66.9	7.6	41.1	52.6	43.5	47.9	17.3	8.4	19.6	72.0
HSG	113,011	29.7	37,071	2.84	-	43.3	70.3	7.8	43.0	61.8	44.6	49.3	15.0	13.4	24.8	61.8
SC	112,557	29.6	45,342	1.87	-	43.6	72.8	13.4	50.0	62.3	45.1	49.8	14.9	29.8	31.4	38.9
BA	79,337	20.9	68,415	1.09	-	43.0	73.9	13.8	54.8	65.2	45.7	50.0	14.8	62.5	27.8	9.8
Grad	45,757	12.0	94,640	.81	-	46.8	80.3	14.5	55.1	70.2	46.8	49.6	18.9	86.7	10.3	3.1
Asian American																
Total	28,677	100.0	59,258	3.68	58.4	40.9	58.2	67.0	56.9	34.8	44.3	49.2	11.2	55.1	27.6	17.3
By Education																
LTHS	740	2.6	29,017	11.25	-	41.0	51.8	60.5	56.5	34.5	41.3	47.4	11.8	12.4	38.5	49.1
HSG	3,562	12.4	35,183	6.29	-	42.0	52.3	72.0	52.9	26.2	41.6	48.5	10.0	14.1	40.9	45.0
SC	7,637	26.6	42,859	3.01	-	42.0	58.0	74.5	55.6	25.7	42.8	49.2	10.3	30.7	39.7	29.6
BA	10,403	36.3	60,583	2.20	-	39.4	54.8	67.2	58.6	34.9	44.2	49.5	9.3	68.4	25.3	6.4
Grad	6,335	22.1	93,920	1.65	-	41.2	67.8	55.5	58.1	50.5	48.0	49.4	15.9	90.4	8.3	1.4
By Ethnic Group																
Chinese	7,124	24.8	70,630	4.27	74.4	40.6	58.7	59.0	56.6	41.8	44.9	49.5	11.7	65.8	24.4	9.9
Japanese	10,161	35.4	59,421	1.72	54.8	45.4	62.3	85.7	56.5	18.0	43.9	49.7	13.1	51.6	28.4	20.0
Filipino	5,176	18.1	44,426	1.72	40.0	37.7	55.5	69.5	59.0	33.6	42.5	49.6	6.4	43.4	33.1	23.5
Indian	1,847	6.4	68,833	3.26	76.8	33.4	52.2	25.8	56.5	73.5	48.1	48.8	11.6	72.1	18.6	9.3
Korean	1,173	4.1	65,209	3.79	69.2	34.7	48.1	45.4	55.8	58.8	46.6	48.4	12.9	62.2	26.0	11.9
Vietnamese	1,085	3.8	51,132	5.20	49.2	41.4	59.0	35.5	62.1	53.8	44.2	48.7	14.5	49.7	26.2	24.1
Others	2,111	7.4	48,953	6.26	49.5	37.6	53.4	62.1	53.4	37.9	43.7	48.7	8.7	48.1	30.9	21.0

Notes: [a]. Share is a proportion of workers by group among White men or among Asian American men.

Table 2. The Effects of being Asian Americans for Log Earnings

		Model 1		Model 2		Model 3		Model 4		Model 5 Total		Pacific		Non Pacific		Model 6	
		β	Sig	β	Sig	β	Sig	β	Sig	β	Sig	β	Sig	β	Sig	β	Sig
I	**Control Variables**																
	Education			Y		Y		Y		Y		Y		Y		Y	
	English			Y		Y		Y		Y		Y		Y		Y	
	Demographic Variables			Y		Y		Y		Y		Y		Y		Y	
	Geographic Variables					Y		Y		Y		Y		Y		Y	
	Working Times Variables							Y		Y		Y		Y		Y	
	Class of Workers									Y		Y		Y		Y	
	Occupation															Y	
II	(Ref: White)																
	Asian American	.130	***	.043	***	-.005		-.001		-.009		-.004		.000		-.032	***
		(.005)		(.005)		(.006)		(.005)		(.005)		(.008)		(.007)		(.005)	
	Adjusted R^2	.002		.183		.201		.348		.366		.368		.363		.383	
III	(Ref: Equally Educated White)																
	Asian American: LTHS			-.012		-.088	**	-.064	*	-.078	**	-.090	*	-.086	*	-.054	*
				(.029)		(.028)		(.026)		(.026)		(.037)		(.040)		(.025)	
	Asian American: HSG			.007		-.034	*	-.004		-.010		.001		-.057	**	.000	
				(.013)		(.014)		(.013)		(.012)		(.017)		(.022)		(.012)	
	Asian American: SC			.036	***	-.014		.010		-.001		.009		-.011		-.002	
				(.009)		(.010)		(.009)		(.009)		(.012)		(.016)		(.009)	
	Asian American: BA			.035	***	-.018	*	-.010		-.017	*	-.027	*	.035	**	-.044	***
				(.008)		(.009)		(.008)		(.008)		(.011)		(.012)		(.007)	
	Asian American: GRAD			.096	***	.046	***	.017		.004		.024		-.004		-.056	***
				(.010)		(.010)		(.010)		(.009)		(.015)		(.013)		(.009)	
	Adjusted R^2			.183		.201		.348		.366		.368		.363		.383	

Notes: Numbers within parenthesis are standard errors. Education controls include 4 dummy variables. Demographic controls include age, age-squared, 3 dummy variables for marital status, and disability status. Geographic variables include 2 dummy variables for metropolitan residence and 50 dummy variables representing the US states. Working time variables include usual hours worked and weeks worked last year. Class of worker variables include 7 dummy variables. Occupation refers to 23 dummy variables representing broad categories. The sample size for all models is 408,803.

* < .05; ** < .01; *** < .001 (two tailed test)

Table 3. Quantile Regression Results for the Effects of being Asian American on Log Earnings

	Quantile									
	.1		.3		.5		.7		.9	
	β	Sig.	β	Sig.	β	Sig.	β	Sig.	β	Sig.
I. (Ref: White)										
Asian	-.012		.007		.004		-.000		-.031	***
Pseudo R^2	.281		.226		.212		.215		.241	
II. Total										
Asian American: LTHS	-.269	***	-.108	***	-.031		.027		.098	**
Asian American: HSG	-.109	***	-.029	*	-.005		.030	**	.087	***
Asian American: SC	.011		.005		.006		.003		.014	
Asian American: BA	.030	*	.024	**	.000		-.022	**	-.101	***
Asian American: GRAD	.000		.015		.017		.012		-.036	**
Pseudo R^2	.282		.226		.212		.215		.241	
III. By Region										
(A) Pacific Region										
Asian American: LTHS	-.126	*	-.121	***	-.066	*	.013		-.038	
Asian American: HSG	-.046		-.018		-.003		.027		.057	*
Asian American: SC	.071		.024	*	.009		-.004		-.043	*
Asian American: BA	.023		.013		-.019	*	-.040	***	-.131	***
Asian American: GRAD	.064	*	.061	***	.054	***	.007		-.123	***
Pseudo R^2	.294		.237		.213		.204		.224	
(B) Other Regions										
Asian American: LTHS	-.350	***	-.116	**	-.075	*	.015		.169	**
Asian American: HSG	-.229	***	-.089	***	-.056	**	-.008		.081	**
Asian American: SC	-.085	***	-.006		.005		.000		.044	*
Asian American: BA	.030	**	.066	***	.055	***	.042	***	-.030	
Asian American: GRAD	-.060	***	-.014		.002		.039	**	.046	***
Pseudo R^2	.279		.223		.209		.213		.243	

Note: The independent variables correspond to Model 5 in Table 2 and include controls for education, English proficiency, demography, geography, working-time and class of worker.
* < .05; ** < .01; *** < .001 (two tailed test)

Table 4. The Effects of being Asian Americans on Duncan Occupational SEI

	Total	**(A) Pacific Region**	**(B) Other Regions**
	β (S.E) Sig.	β (S.E) Sig.	β (S.E) Sig.
(Ref: Equally Educated White)			
Asian American: LTHS	2.87 (.74)***	.53 (1.03)	3.58 (1.16)**
Asian American: HSG	2.36 (.34)***	.89 (.48)	2.66 (.63)***
Asian American: SC	1.83 (.25)***	1.37 (.34)***	2.57 (.45)***
Asian American: BA	2.08 (.20)***	1.83 (.32)***	3.32 (.35)***
Asian American: GRAD	3.77 (.27)***	3.23 (.42)***	4.61 (.39)***
Adjusted R^2	.372	.343	.372

Note: The independent variables correspond to Model 5 in Table 2 and include controls for education, English proficiency, demography, geography, working-time and class of worker.
* < .05; ** < .01; *** < .001 (two tailed test)

Table 5. Quantile Regression Results for the Effects of being Asian American by Education and Migration Status on Log Earnings

	Quantile									
	.1		.3		.5		.7		.9	
	β	Sig.	β	Sig.	β	Sig.	β	Sig.	β	Sig.
I. Total										
Asian Am. Stayer: <HSG	-.105	***	-.028	*	-.009		.037	**	.052	**
Asian Am. Stayer: SC	.032		.001		-.002		.000		-.016	
Asian Am. Stayer: BA+	.045	**	.027	**	.005		-.028	***	-.121	***
Asian Am. Mover: <HSG	-.239	***	-.099	***	-.052	**	-.005		.098	***
Asian Am. Mover: SC	-.029		.013		.017		-.002		.029	
Asian Am. Mover: BA+	-.001		.028	**	.023	**	.028	***	-.018	
Pseudo R^2	.282		.226		.212		.215		.242	
II. By Region										
(A) Pacific Region										
Asian Am. Stayer: <HSG	-.064	*	-.030		-.016		.023		.031	
Asian Am. Stayer: SC	.075	**	.020		.005		.000		-.048	**
Asian Am. Stayer: BA+	.037		.041	***	.013		-.017		-.105	***
Asian Am. Mover: <HSG	-.115		-.050		-.020		-.012		.036	
Asian Am. Mover: SC	.027		.051		.029		.001		-.033	
Asian Am. Mover: BA+	.051		.036	*	.039	*	.021		-.035	
Pseudo R^2	.294		.237		.214		.204		.225	
(B) Other Regions										
Asian Am. Stayer: <HSG	-.207	***	-.081	*	-.055		.005		.084	
Asian Am. Stayer: SC	-.188	***	-.045		-.029		.023		.026	
Asian Am. Stayer: BA+	.025		.074	***	.058	**	.051	**	.009	
Asian Am. Mover: <HSG	-.278	***	-.105	***	-.056	**	-.011		.102	**
Asian Am. Mover: SC	-.061	*	.008		.012		-.003		.055	*
Asian Am. Mover: BA+	-.030		.019		.021	*	.035	***	-.011	
Pseudo R^2	.279		.223		.209		.213		.243	

Notes: The reference group for Asian American stayers is equally educated white stayers. The reference group for Asian American movers is equally educated white movers. The independent variables correspond to Model 5 in Table 2 and include controls for education, English proficiency, demography, geography, working-time and class of worker.

* < .05; ** < .01; *** < .001 (two tailed test)

Table 6. Quantile Regression Results for the Effects of being Asian American by Education and Ethnicity on Log Earnings

Level of Education	Ethnicity	Quantile .1 β	Sig	.3 β	Sig	.5 β	Sig	.7 β	Sig	.9 β	Sig
< HSG	Chinese	-.347	***	-.105	***	-.025		.039		.069	
	Japanese	.031		.065	**	.077	***	.095	***	.143	***
	Filipino	-.073	*	-.066	**	-.047	*	-.013		.032	
	Indian	-.290	***	-.116	*	-.068		.059		.221	**
	Korean	-.266	**	-.062		-.021		-.002		.119	
	Vietnamese	-.294	***	-.213	***	-.115	**	-.053		.021	
	Others	-.215	***	-.085	**	-.054		-.034		.019	
Some College	Chinese	.042		.035		.032		.030		.023	
	Japanese	.088	***	.042	**	.037	**	.035	**	.025	
	Filipino	.005		-.026		-.039	**	-.044	**	-.022	
	Indian	-.194	**	-.048		-.079		-.092	*	-.024	
	Korean	-.151	*	-.071		-.018		-.025		-.006	
	Vietnamese	-.195	**	-.060		-.021		-.035		.026	
	Others	-.061		.005		.003		-.010		-.053	
BA+	Chinese	.069	***	.074	***	.057	***	.025	**	-.056	***
	Japanese	.082	***	.031	**	-.001		-.037	***	-.133	***
	Filipino	-.037		-.074	***	-.087	***	-.112	***	-.200	***
	Indian	-.053		-.004		.037	*	.099	***	.104	***
	Korean	-.045		-.002		.043		.056	*	.095	**
	Vietnamese	-.127	**	-.061	*	-.029		-.043		-.030	
	Others	-.060		-.002		-.005		-.009		-.096	**
Pseudo R^2		.282		.227		.212		.215		.242	

Notes: Low education includes high school graduate or lower; Middle education indicates those who have some college education; and high education refers to those who have bachelor degree or higher. The independent variables correspond to Model 5 in Table 2 and include controls for education, English proficiency, demography, geography, working-time and class of worker.
* < .05; ** < .01; *** < .001 (two tailed test)

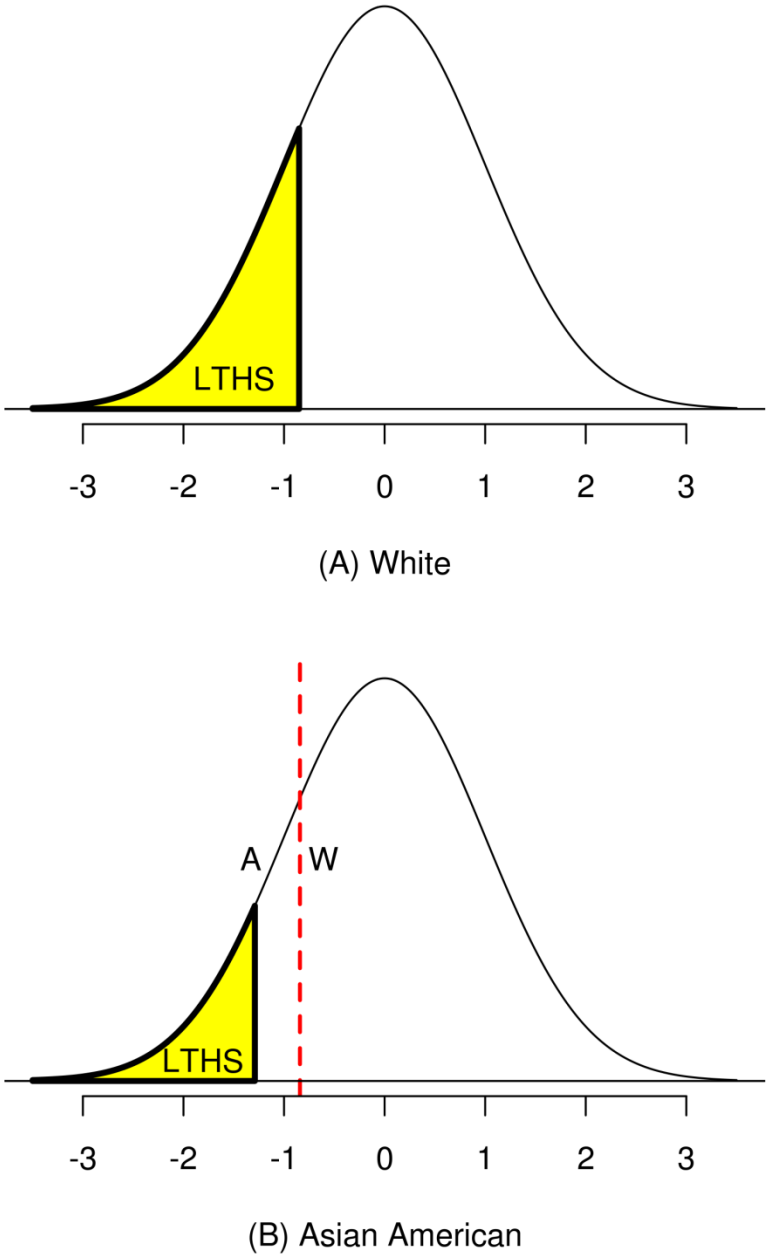

Figure 1. Selectivity and Less Educated Workers by Racial Category

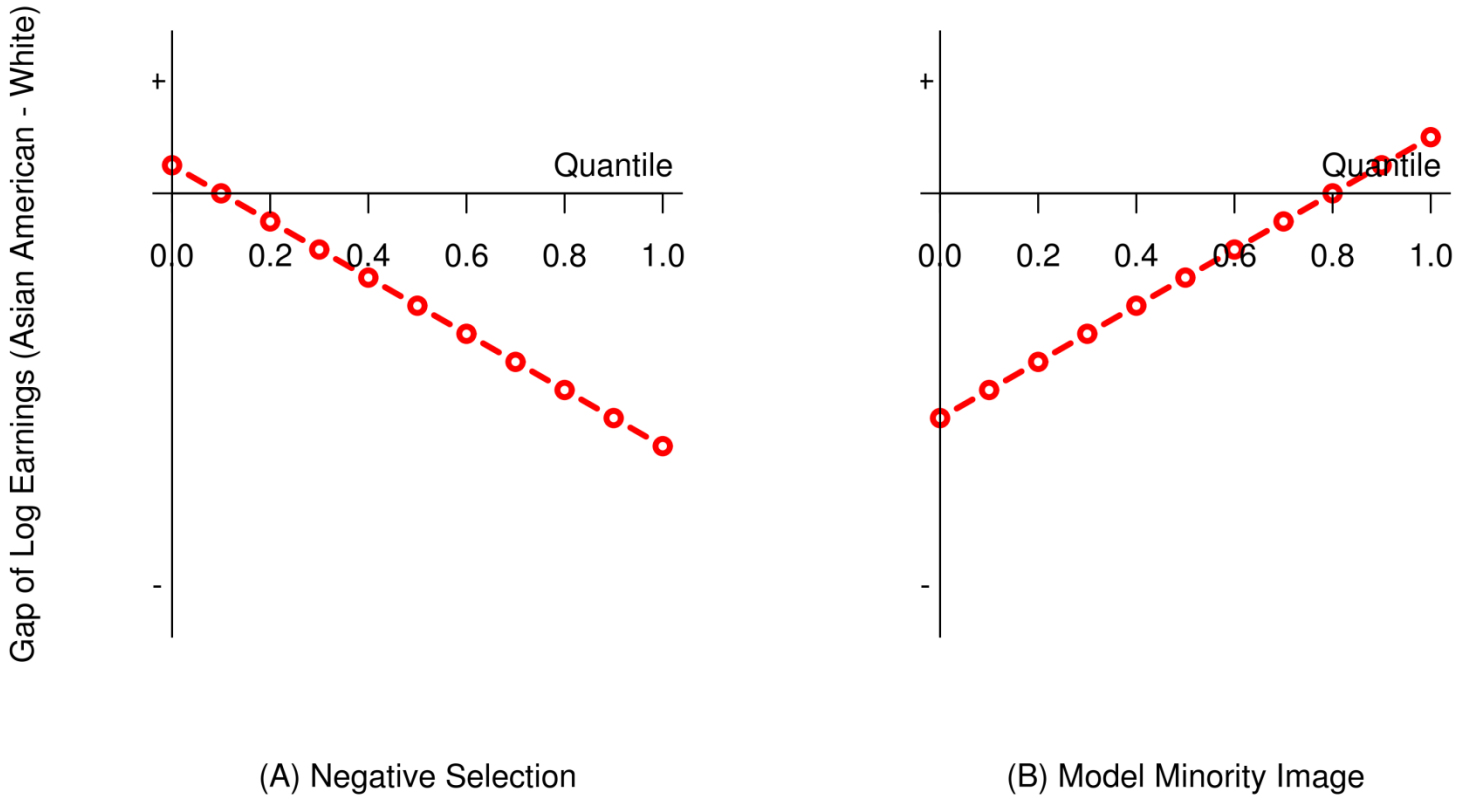

Figure 2. Predicted Log-Earnings Gap between White and Asian American High School Dropouts Using Quantile Regression

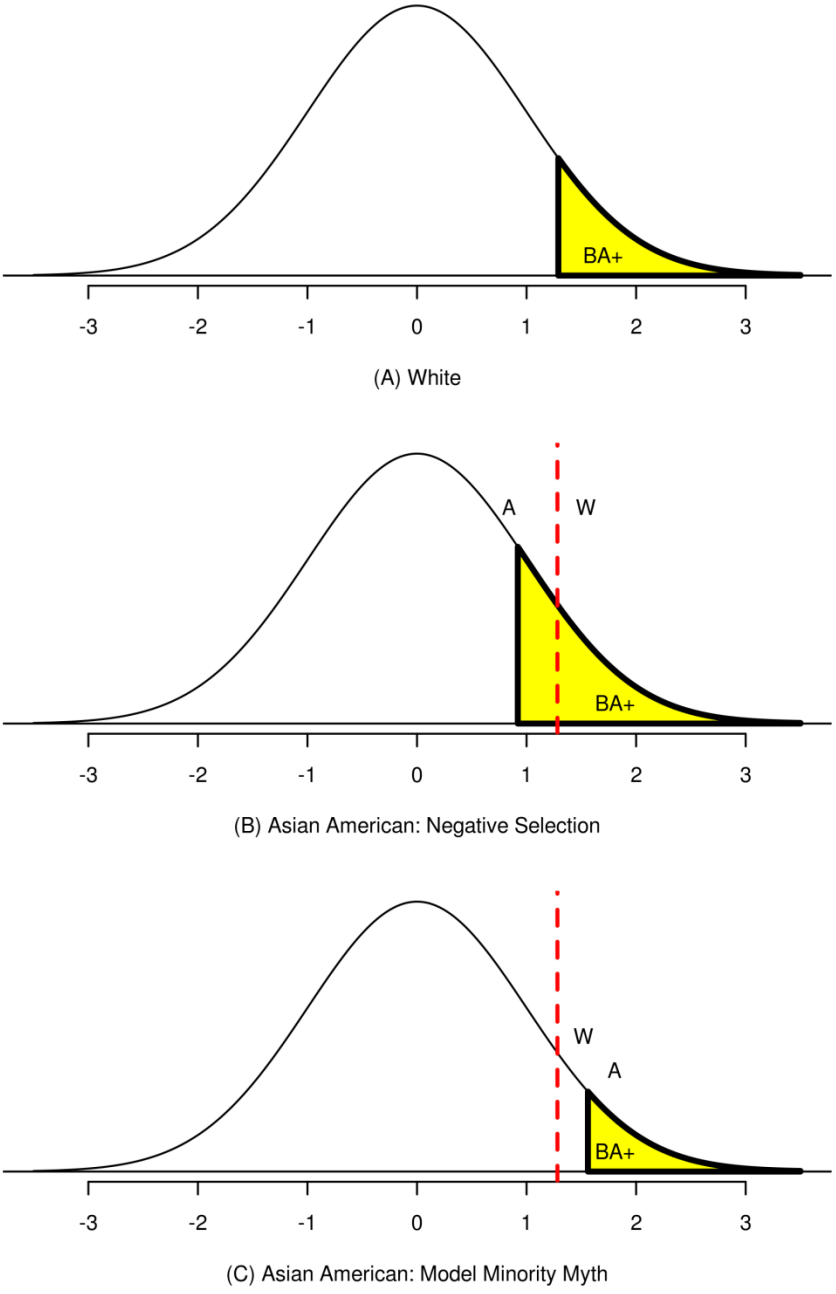

Figure 3. Selectivity and Highly Educated Workers by Racial Category

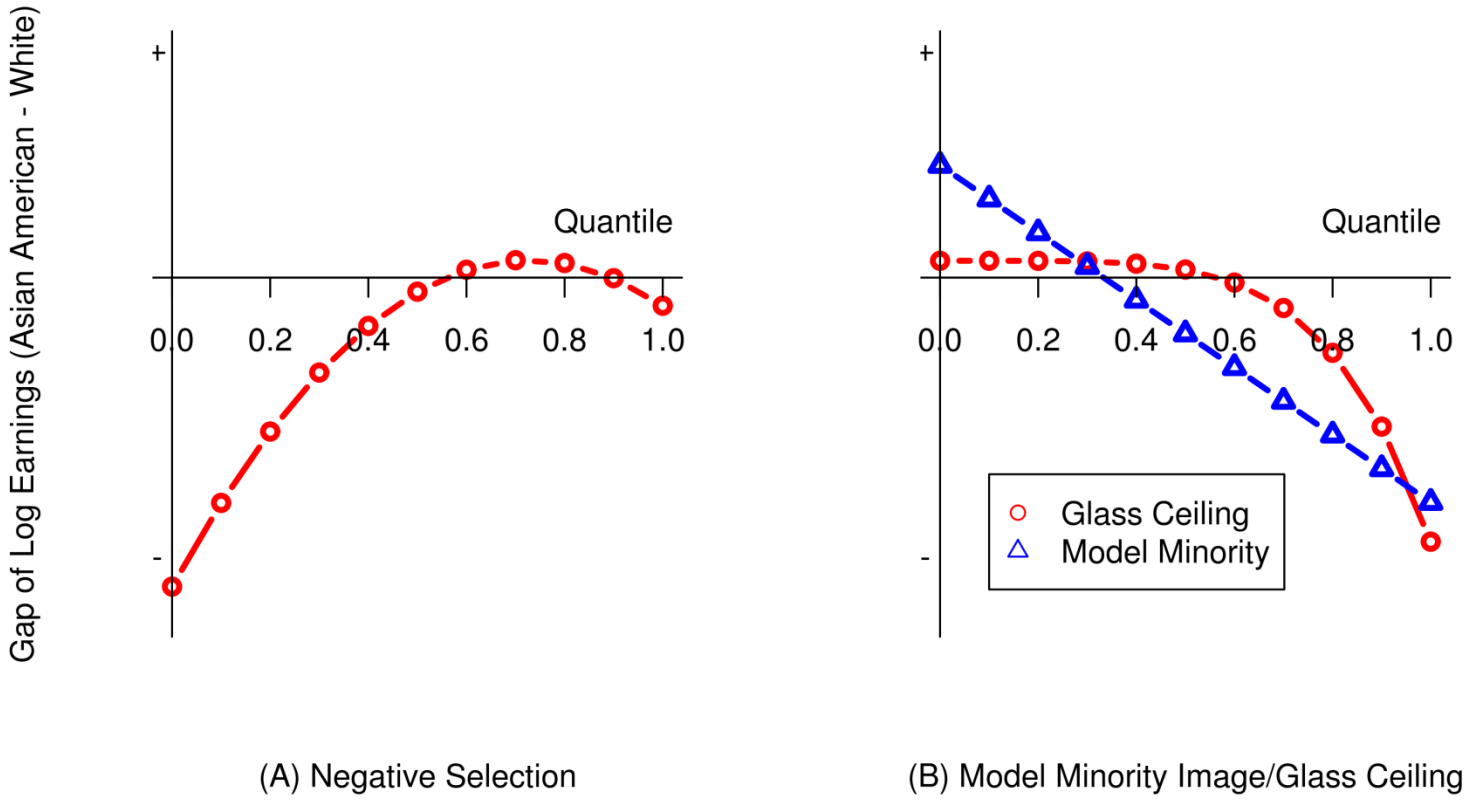

Figure 4. Predicted Log-Earnings Gap between White and Asian American College Graduates Using Quantile Regression

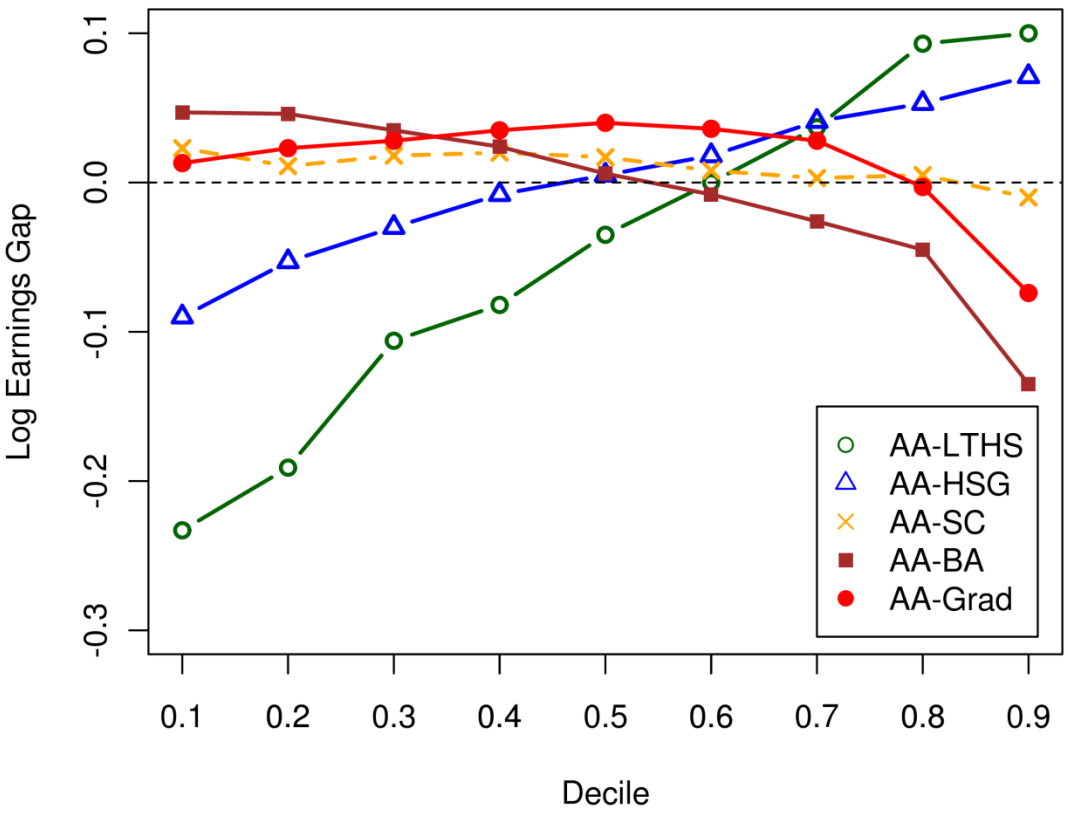

Figure 5. Quantile Regression Results of the Effects of Being Asian American Men on Log Annual Earnings Compared to White Men by Education

Note: Dependent variable is log earnings. The independent variables correspond to Model 5 in Table 2 and include controls for education, English proficiency, demography, geography, working-time and class of worker.

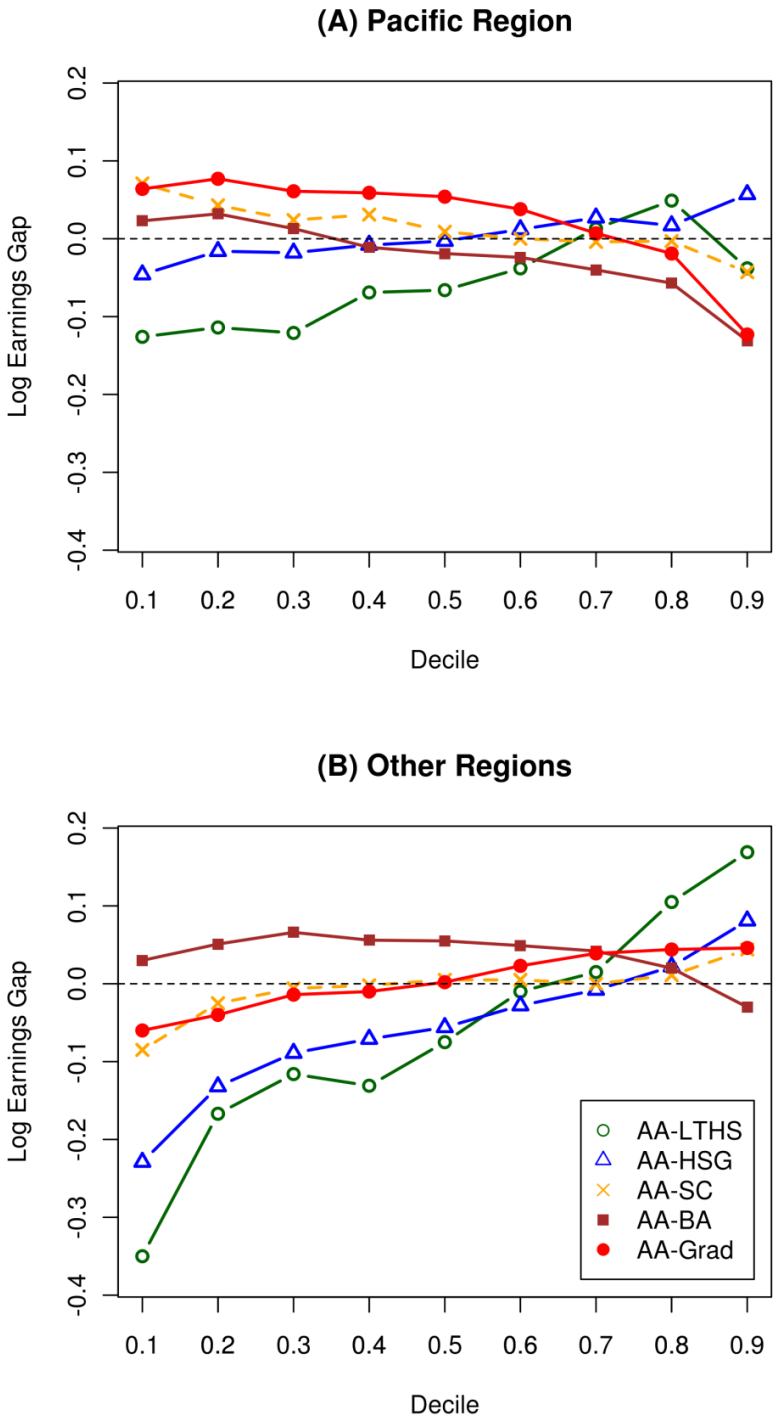

Figure 6. Quantile Regression Results of the Effects of Being Asian American Men on Log Earnings Compared to White Men by Education and Region

Note: Dependent variable is log earnings. The independent variables correspond to Model 5 in Table 2 and include controls for education, English proficiency, demography, geography, working-time and class of worker. Quantile regression models are estimated for Pacific and for Other Regions separately.

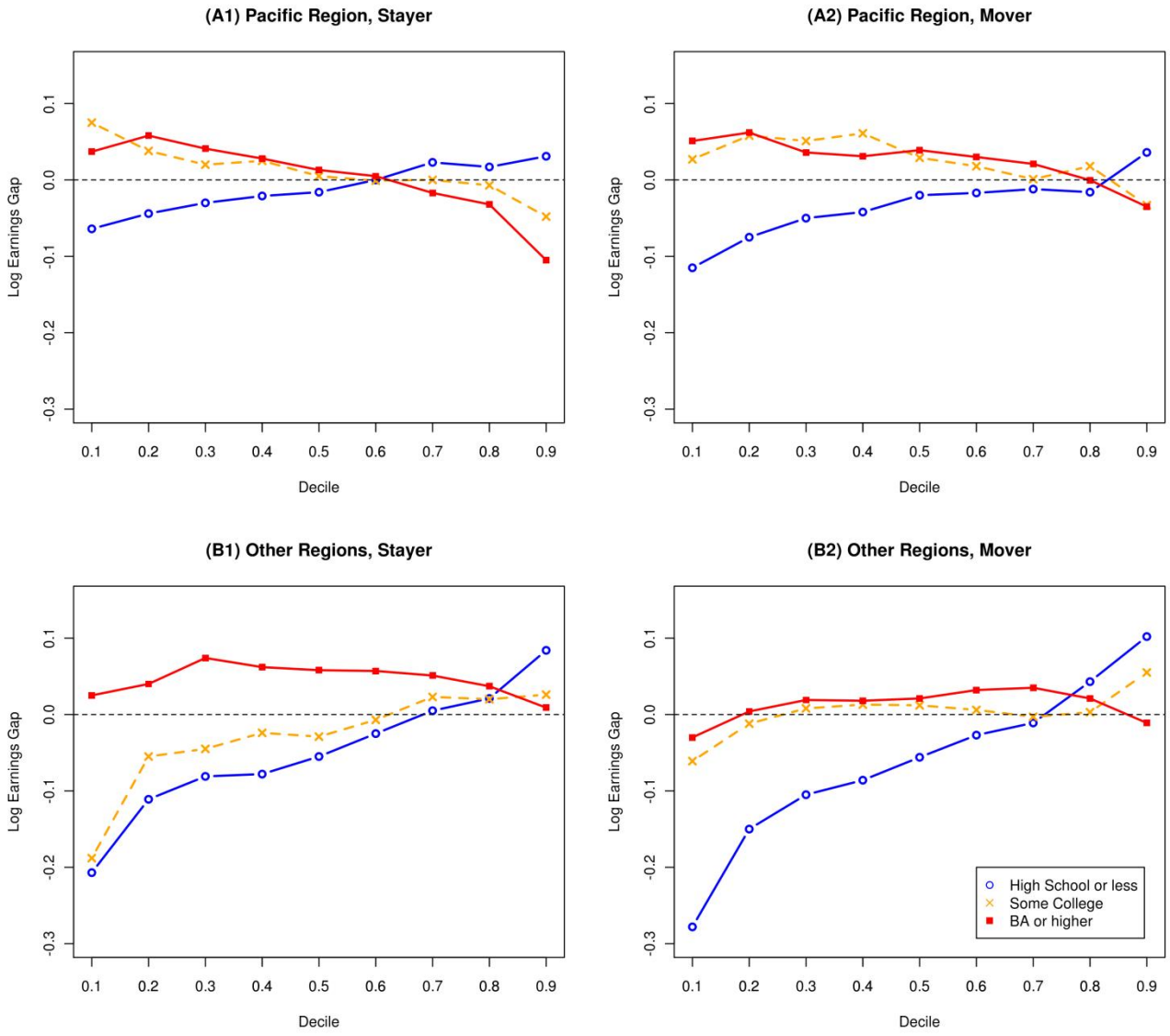

Figure 7. Quantile Regression Results of the Effects of Being Asian American Men on Log Earnings Compared to White Men by Education and Regional Migration Status

Notes: Reference group for stayers is equally educated white stayers while the reference group for movers is equally educated white movers. Dependent variable is log earnings. The model controls for white movers' education as well as the independent variables for Model 5 in Table 2 (i.e., education, English proficiency, demography, geography, working-time and class of worker).

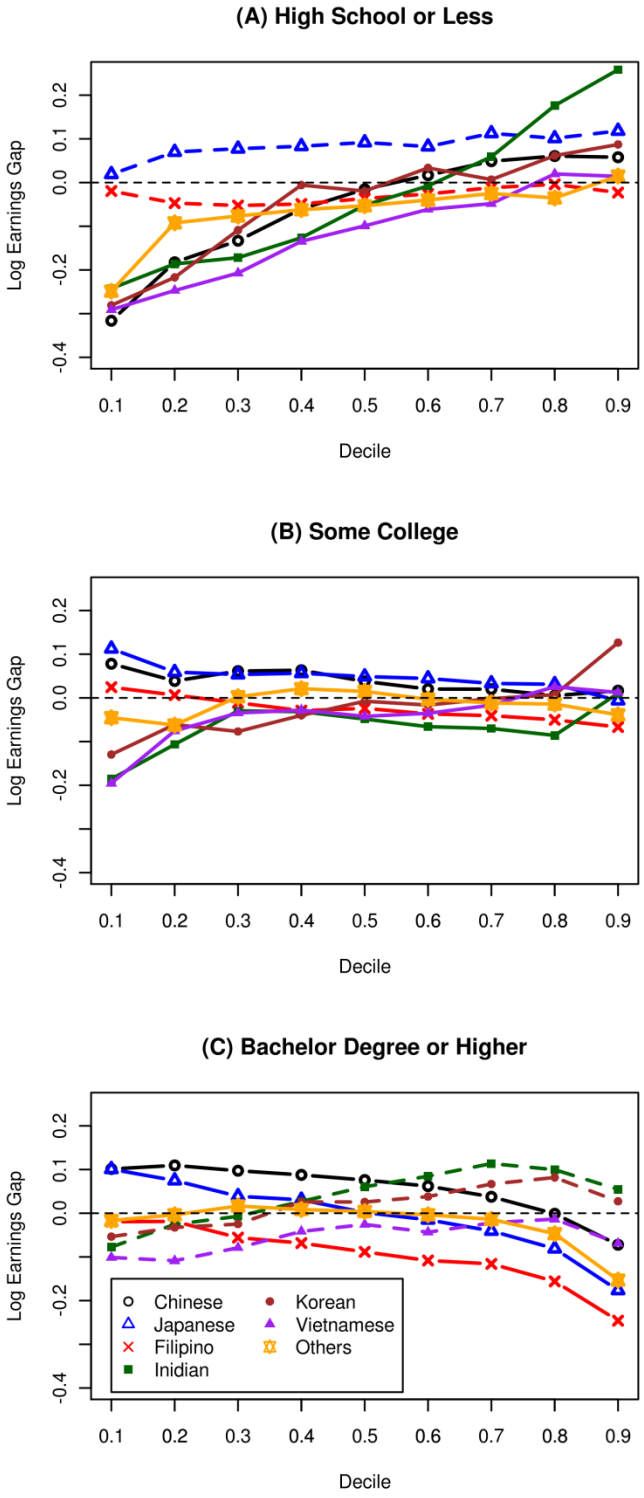

Figure 8. Quantile Regression Results on the Effects of Being Asian American Men Compared to White Men by Ethnic Group and Education

Notes: Dependent variable is log earnings. The independent variables include controls for English proficiency, demography, geography, working-time and class of worker.