

Research Article

# Are Native-born Asian Americans Less Likely To Be Managers?<sup>1</sup>

Further Evidence on the  
Glass-ceiling Hypothesis

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## Abstract

We use nationally representative data and carefully specified statistical models to investigate the glass-ceiling hypothesis according to which Asian Americans are less likely to be managers in administrative hierarchies. We focus our analysis on native-born Asian Americans who have not received much attention in previous research. The results indicate that native-born Asian American men are at least as likely as white men to be employed as managers in the government sector even after adjusting for education and other demographic characteristics. For both men and women, there is only limited evidence that native-born Asian Americans are significantly less likely than whites to be employed as managers in the non-self-employed private sector. Although a few notable differences by specific Asian ethnicity are discussed, we interpret our findings as indicating that, at least among the native-born Asian Americans, the glass-ceiling may not be so widely pervasive at the occupational level. Future research should investigate the glass-ceiling hypothesis using data that focus more specifically on the higher levels of managerial hierarchies.

## Introduction

In terms of working-age adults in the labor force, Asian Americans are still overwhelmingly foreign-born. Asian Americans are thus often portrayed as recent migrants who are handicapped in terms of English language skills, knowledge of American society, and a lack of American educational credentials or labor force

experience (e.g., Ong and Hee 1993; Portes and Zhou 1996; Sanders and Nee 1996). Understanding the heterogeneity of immigrant socioeconomic circumstances and disadvantages continues to be an important and lively source of debate (e.g., Borjas 1987; Card 2001; Feliciano 2005; Portes and Rumbaut 1996).

Although informative, these studies generally do not directly apply to native-born Asian Americans. They are typically schooled in the U.S. and are not challenged by the above-mentioned disadvantages that immigrants often encounter. Accordingly, the earnings attainment processes of native-born Asian Americans probably differ fundamentally from those of foreign-born and foreign-educated Asian Americans (Zeng and Xie 2004). The socioeconomic circumstances and attainment processes of native-born Asian Americans thus merit further research because the failure to adequately consider the role of nativity in studies of Asian Americans may lead to simplistic generalizations that overlook the heterogeneity of this demographic group.<sup>2</sup>

### Previous Literature on the Glass-ceiling

We investigate the so-called glass-ceiling hypothesis according to which Asian Americans are said to face racial discrimination in regard to employment in administrative positions with managerial authority. In this strand of research, the focus is not on the socioeconomic returns to social and human capital characteristics and credentials in the labor market as a whole, but on the chances for employment in a particular job sector, namely, managerial occupations. It is hypothesized that this job sector remains especially resistant to Asian Americans due to a preference for white managers who are stereotyped as being more competent in administration and more compatible with white workers (Takaki 1998; Woo 2000). One of the earliest references to this hypothesis is attributable to 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.”

The glass-ceiling issue is of course well known in the Asian American Studies literature where it is usually referred to as a well-established fact rather than a hypothesis. For example, as stated by Min (1995: 42), Asian Americans “are severely under-represented

in high-ranking executive and administrative positions." Ong and Hee (1993: 147) suggest that this result arises because Asian Americans "are often stereotyped as not aggressive, inarticulate in the English language, and too technical to become managers." Fong (1998: 116) argues that this under-representation demonstrates that "the 'old-boys' network is still firmly in place." Takaki's (1998: 477) discussion similarly concludes that "excluded from the 'old-boy' network, Asian Americans are also told they are inarticulate and have an accent."

In her study of a governmental research organization, Woo (2000) contends that discrimination against Asian Americans is entrenched due to a corporate culture which stereotypes them, imposes a "dual ladder," and systematically denies them mentoring opportunities or management training (Woo 2000: 161-170). There is furthermore a lack of recruitment programs, limited access to informal social networks, and biased evaluation systems (Woo 2000: 64-71). Woo (2000: 156) contends that "the culture of corporate America has been identified as 'the most serious type of impediment by far to upward mobility and advancement' (Cabezas et al 1989: 96)."

We agree that the glass-ceiling hypothesis is a serious and important issue and we therefore seek to improve our empirical understanding of it. Our contribution to this area of research is to provide empirical results about general patterns from nationally representative data for the native-born Asian American population as a whole. We believe that our research provides important additional evidence regarding this topic although our analysis differs in significant ways from the above-mentioned studies.

First of all, many previous studies have not adequately considered the effects of immigration and nativity status. Most studies include some mix of immigrant and native-born Asian Americans but lack the appropriate statistical controls (i.e., interaction terms) that would clearly ascertain whether these two groups have different attainment processes. Without more precise information and multivariate analysis (i.e., more than simply bivariate statistics about the proportion of Asian Americans in managerial positions), the under-representation of Asian Americans as managers may be at least partly attributed to their characteristics as immigrants rather than to racial discrimination *per se*.<sup>3</sup> As has already been suggested, these disadvantages may include limited English-language skills, a lack of American educational credentials, and a reduced

familiarity with American culture or with the social norms that are critically important for competence as a manager.<sup>4</sup> To be sure, the significance of cultural factors is sometimes exaggerated (Woo 2000: 33-35, 66-68). Nonetheless, nativity status is an important confounding variable in socioeconomic attainment that has not been adequately taken into account in many previous studies.

Another limitation of several previous studies is that they are often based on specialized data for narrowly defined occupational groups, governmental agencies in specific municipalities, or particular firms from certain local areas such as “California’s Silicon Valley” (for a summary of several studies, see Woo 2000: 56-62). Although interesting and useful, their results nonetheless do not clearly permit generalization to the managerial labor market as a whole. Individuals may self-select into particular firms or specialized job categories, and thus do not constitute samples that are representative of general labor force patterns. The glass-ceiling hypothesis needs to be evaluated using multivariate statistical methods and nationally representative data that provide more systematic information about employment in managerial occupations for the labor force in general.

In this regard, a more informative study was conducted by the U.S. Commission on Civil Rights (1988). Using the 1980 U.S. Census data (i.e., the 1980 Public Use Micro-data Sample which are obviously nationally representative), their results for native-born men, aged 25 to 64 indicate that the odds of being employed in a managerial occupation is 28 percent lower for Chinese Americans, 43 percent lower for Filipino Americans, and 30 percent lower for Japanese Americans (relative to native-born, non-Hispanic white men).<sup>5</sup> These effects are net of education, years of labor force experience, region of residence, marital and disability statuses, self-reported English-language proficiency, and industry of employment. Because they pertain to native-born men, these results cannot be easily explained as deriving from the handicap of foreign educational credentials or the presumed unfamiliarity with American culture or language. Thus, these negative net effects may be interpreted as stronger evidence of a racial discrimination against the employment of native-born Asian American men as managers.

Another multivariate statistical analysis by Yamane (2002) used the 1990 U.S. Census data (i.e., the 1990 Public Use Micro-data Sample) to investigate the socioeconomic attainments of native-born

Filipino Americans. Yamane (2002: 139) interprets his results as indicating that, net of a variety of control variables, “being a Filipino man decreases the probability of being a manager by 2.6 percent [in terms of absolute percentage points], decreasing the overall probability of being a manager by about 23 percent [in terms of the relative percentage differential] relative to white men.” Yamane’s (2002) findings thus seem to indicate that the glass-ceiling against native-born Filipino American men was still significant in 1990 albeit perhaps slightly less substantial than in 1980.

U.S. Commission on Civil Rights (1988) and Yamane (2002) are the two studies that are most similar to our analysis. We would argue, however, that our investigation improves upon their research in several ways. First, in addition to using more recent data, we consider how sensitive the conclusions are to controlling for region and metropolitan residence. In our view, models that treat region and metropolitan residence as independent variables are “over-controlling” (Sakamoto and Furuichi 1997) and confusing the distinction between cause and effect. More specifically, we argue that workers who wish to become managers need to be willing to move to where the managerial jobs are located rather than visa-versa. In order to remain competitive, companies are obliged to locate their businesses in order to minimize their costs, not simply to conform to the residential preferences of Asian Americans.<sup>6</sup>

Our analysis also goes beyond U.S. Commission on Civil Rights (1988) and Yamane (2002) in that we disaggregate the managerial occupations (see also Woo 2000: 54-56) into three different sectors including governmental, self-employed, and the non-self-employed private sector (which we refer to simply as the private sector). These different sectors tend to be quite different in terms of job security, wages, working conditions, and fringe benefits and thus merit disaggregation. Generally speaking, managerial employment in the self-employed sector is less desirable in terms of the aforementioned socioeconomic rewards. The glass-ceiling hypothesis is typically construed to refer to managers in the private sector and in government (Woo 2000) rather than to self-employed persons who actually have little if any administrative authority over workers.

Our analysis further differs from U.S. Commission on Civil Rights (1988) and Yamane (2002) in that our statistical models do not control for industry. In our view, controlling for industry in the regression equation is another example of “over-controlling” be-

cause the model does not account for how the industrial distribution of Asian Americans may differ from that for whites. To the extent that Asian Americans are more likely to be employed in industries with a lot of managers, then the estimated net Asian American effect will be biased downward (in the models of U.S. Commission on Civil Rights [1988] and Yamane [2002]). To the extent that Asian Americans are more likely to be employed in industries with fewer managers, then the estimated net Asian American effect will be biased upward (in the aforementioned models).<sup>7</sup> Although in principle, a complete industry-specific managerial employment analysis could be attempted, the large number of industries to be considered would quickly exceed our space limitations.<sup>8</sup>

In sum, the glass-ceiling hypothesis identifies an important issue. Although the literature on this topic often assumes that it is a well-established fact that Asian Americans face racial discrimination when seeking employment in the managerial occupations, more research on this issue is needed particularly in regard to native-born Asian Americans. The glass-ceiling hypothesis needs to be evaluated with more carefully specified multivariate statistical models using more recent, nationally representative data that provide better information about employment in the managerial sectors for the labor force as a whole.

## Data and Methods

We use the data from the 1994, 1996, 1998, 2000, and 2002 Current Population Surveys (CPS). We combine these years in order to increase the available sample size for native-born Asian Americans in the labor force.<sup>9</sup> The other data set that we use is the Public Use Micro-data Sample from the 2000 U.S. Census (PUMS) which is quite large. Both the CPS and the PUMS are nationally representative.

Our target population includes whites and Asian Americans who were non-institutionalized, non-Hispanic, native-born persons aged 25 to 64 who were not students and who were employed in a non-military occupation during the survey year.<sup>10</sup> For each data set, we estimate multinomial logistic regression models for which the dependent variable refers to employment in terms of the following set of five mutually exclusive categories of jobs: (1) managerial occupations in the (non-self-employed) private sector; (2) managers who are self-employed; (3) managers in governmental

agencies; (4) non-managerial workers in business and professional occupations; and (5) all other non-military jobs. We distinguish between categories (4) and (5) because of their quite different average socioeconomic rewards (i.e., business and professional occupations tend to have higher wages, etc.).

Using each of the two data sets, three different specifications of the multinomial logistic regression model are estimated separately by gender. The first specification includes only a dichotomous variable for Asian American (without any control variables). This is a baseline model to compare with the results obtained after control variables are included. The second specification then includes: a dichotomous variable for Asian American; several dichotomous variables to indicate the highest level of education completed; age; age-squared (to account for its non-linear effect); whether the subject has served in the military; and whether he or she has a work limiting disability. The third specification includes all of the independent variables of the second specification plus additional covariates to indicate region and metropolitan residence. As stated above, our view is that adding region and metropolitan residence constitutes “over-controlling,” but we nonetheless report the results from this second specification for exploratory and comparative purposes.<sup>11</sup>

### Empirical Results

The means on the variables are shown in Table 1 which also shows the sample sizes. For the CPS data, there are 115,824 white men, 1,480 Asian American men, 103,461 white women, and 1,417 Asian American women. The PUMS data are considerably larger and include 1,964,488 white men, 11,937 Asian American men, 1,679,658 white women, and 10,900 Asian American women.

The means for most of the variables are fairly similar across the two data sets. Compared to whites, Asian Americans tend to be slightly younger, more highly educated, less likely to have served in the military, more likely to live in a metropolitan area, and much more likely to live in the west. There is little difference between the racial groups, however, in terms of having a work inhibiting disability.<sup>12</sup>

The top panel of Table 2 shows, for each of the demographic groups, the distribution of employment across the five job sectors according to the CPS data. Among men in the CPS data, Asian



Table 2. Distribution Across 5 Job Sectors  
by Race and Gender (%)

5 Job Sectors	Current Population Survey			
	Men		Women	
	White	Asian	White	Asian
Manager, private companies	11.89	12.16	11.93	13.76
Manager, self-employed	4.03	3.92	1.86	2.05
Manager, government	2.21	3.24	2.43	3.81
Business and professional occupation	18.00	22.91	24.89	26.89
All other non-military occupation	63.85	57.77	58.89	53.49

5 Job Sectors	5% PUMS for the 2000 U.S. Census			
	Men		Women	
	White	Asian	White	Asian
Manager, private companies	8.89	9.35	6.29	8.39
Manager, self-employed	3.70	1.93	1.02	0.94
Manager, government	1.23	1.60	1.22	1.39
Business and professional occupation	21.17	40.85	32.01	44.42
All other non- military occupation	65.01	46.28	59.46	44.86

differ slightly from those of the CPS due to methodological reasons such as the measurement/definition of a managerial occupation and of self-employment.<sup>13</sup> Nevertheless, in terms of the pattern of racial differences, the results from the PUMS are generally quite similar to those from the CPS. In both data sets, Asian American men are much more likely than white men to be employed in business and professional occupations and less likely to be employed in the residual occupational category. The racial differences for the other job-sectors are small but Asian American men seem to be slightly more likely to be employed as managers in the government sector but slightly less likely to be self-employed managers.

As is also evident in Table 2, both the CPS data and the PUMS data show that Asian American women are slightly more likely than white women to be employed as managers in the private sector (although the two data sets differ in the overall rate of employment in this job-sector). Both data sets also indicate only small racial differences in employment as managers in government or in the self-employed sectors for women. The two data sets do slightly differ, however, in that Asian American women are much more likely than white women to be employed in a business or professional occupa-

tion according to the PUMS data (i.e., 44.42 percent versus 32.01 percent, respectively) whereas the CPS data indicate that Asian American women are only slightly more likely to be employed in that job sector (i.e., 26.89 percent versus 24.89 percent, respectively).

Despite these relatively minor differences across the two data sets, the overall picture that emerges is that Asian Americans tend to have at least slightly higher status occupations than whites (at least on average for our target population of native-born persons). For both men and women, this racial differential tends to be most evident in regard to business and professional occupations. In the case of women, Asian Americans also seem to be slightly more likely to be employed as managers in the private sector (which tends to have higher socioeconomic returns). Although managers in the government sector are not a large portion of the labor force, Asian Americans appear to be, if anything, slightly more likely to obtain such employment.

These employment distributions as shown in Table 2 do not, however, take into account the demographic characteristics of these groups. For example, as we have seen in regard to Table 1, Asian Americans tend to be younger and to be more highly educated. A younger age should reduce the chances that one is a manager while a higher level of educational attainment should increase those chances. Multivariate statistical analysis is needed in order to assess whether there is a net racial differential after taking into account age, education, veteran status, and disability status.

The results from the multinomial logistic models are shown in Tables 3. Given our primary theoretical interest (and space limitations) here, however, we report only the results for the Asian American coefficients in the three specifications of the multinomial logistic regression model.<sup>14</sup> These are the estimated coefficients for the Asian American variable for each of the job-sector contrasts (by gender). The reference category for these contrasts is the other or residual job-sector.

Coefficients in Table 3 (as well as in later tables) that are listed with an asterisk are statistically significant which means that the probability that the coefficient is simply the result of random sampling variability is quite low. In other words, a coefficient that is listed with an asterisk is likely to be reliable in the sense of accurately representing the true pattern in the entire population. Coefficients listed with two asterisks are even more reliable than coef-

Table 3. Coefficients for Asian Using 5 Job Sectors by Gender

Current Population Survey													
Model	Manager, Private		Manager, Self-Employed		Manager, Government		Business & Professional						
	Men	Women	Men	Women	Men	Women	Men	Women					
Model 1	0.0950	0.2196	**	0.0703	0.1863	0.4712	**	0.5223	***	0.3270	***	0.1577	*
Model 2	-0.0665	-0.0162		0.0111	0.0516	0.3975	**	0.3314	*	0.1371		-0.2174	**
Model 3	-0.0886	-0.0808		-0.1796	-0.1999	0.3648	*	0.1483		0.0180		-0.1889	*

  

5% PUMS for the 2000 U.S. Census													
Model	Manager, Private		Manager, Self-Employed		Manager, Government		Business & Professional						
	Men	Women	Men	Women	Men	Women	Men	Women					
Model 1	0.3903	0.5710	***	-0.3113	0.1964	0.6002	***	0.4054	***	0.9974	***	0.6095	***
Model 2	-0.0485	0.0669		-0.4336	-0.0337	0.2499	***	-0.0325		0.3730	***	-0.0693	**
Model 3	-0.1328	-0.0526	***	-0.3933	-0.1080	0.2444	**	-0.0482		0.2921	***	-0.0355	

\* p ≤ 0.05    \*\* p ≤ 0.01    \*\*\* p ≤ 0.001

Note: Omitted reference group for 5 job sectors is 'all non-military occupations'.

ficients listed with one asterisk while coefficients listed with three asterisks are extremely precise and thus have the highest level of reliability. By contrast, coefficients that are listed without any asterisk are not statistically significant meaning that they are not reliable and are not unlikely to be zero in the population (i.e., these coefficients are not substantially beyond the “margin of error”).<sup>15</sup>

### Regression Results for Men Using the CPS Data

Because the coefficients are obtained from a logistic regression model, they may be transformed by the antilog (i.e., exponential) function in order to indicate the change in the odds of employment in the given job-sector for Asian Americans (relative to whites). For example, Table 3 shows that, according to Model 1 using the CPS data, the coefficient for Asian American men in the government sector is .4712. This coefficient implies that the overall odds of Asian American men being employed as a manager in the government sector is 60 percent greater than for white men (because  $\exp[.4712] = 1.60$ ).<sup>16</sup>

After taking into account education, age, veteran status, and disability status in Model 2, the coefficient for Asian American men in the government sector is reduced to .3975 in Table 3. That is, after controlling for those variables, the odds of Asian American men being employed as a manager in the government sector are still 49 percent higher than for white men ( $\exp[.3975] = 1.49$ ). Including region and metropolitan residence into the regression (i.e., Model 3) reduces the greater odds for slightly ( $\exp[.3648] = 1.44$ ). All of these coefficients are statistically significant (i.e., they are listed with at least one asterisk and thus are reliable).

None of the coefficients for the Asian American variable are statistically significant for employment as a private-sector manager or as a self-employed manager. The coefficients for private-sector managers are furthermore rather small, less than .10 in absolute value. Regarding employment in a business or professional occupation, the Asian American coefficient is substantial and statistically significant in Model 1 but not in Models 2 or 3. The latter results indicate that Asian American men are more likely than white men to be employed in a business or professional occupation, but that higher propensity is entirely explained by the higher educational attainment and other demographic characteristics of Asian American men (relative to white men).

### Regression Results for Men Using the PUMS Data

Generally speaking, we expect the results from the analysis of the PUMS data to be more precise and informative due to its larger sample size.<sup>17</sup> As shown in Table 3, the results using the PUMS data also indicate (as did the CPS data) that Asian American men are more likely to be employed as managers in the government sector. This advantage is statistically significant and is evident after controlling for the demographic characteristics of Asian American men (in either Models 2 or 3). In contrast to the CPS results, the PUMS results furthermore indicate that Asian American men are also more likely to be employed in a business or professional occupation even after controlling for education, veteran status, and disability status. The coefficient in Model 2 is .3730 which implies that, net of those traits, Asian American men have 45 percent higher odds than white men of being employed in a business or professional occupation (since  $\exp [.3730] = 1.45$ ).

The results for men in Table 3 indicate that Asian American men are less likely to be self-employed managers. In all three models, the Asian American coefficients are statistically significant and negative for that job-sector. For Model 2, for example, the coefficient of -.4336 implies that, after for education, veteran status, and disability status, Asian American men have 35 percent lower odds than white men of being self-employed managers (since  $\exp[-.4336] = .65$ ).

In regard to employment as managers in the private sector, the Asian American coefficient is significant in Model 1 but not in Model 2. That is, after controlling for education, veteran status, and disability status in Model 2, the coefficient for Asian American is substantively small (i.e., -.0485) as well as statistically insignificant (despite the large sample size). The coefficient becomes significant, however, in Model 3 after adding controls for region and metropolitan residence. The coefficient of -.1328 for Model 3 implies that after adjusting for education, veteran status, disability status, region, and metropolitan residence, the odds of being employed as a manager in the private sector are 12 percent lower for Asian American men than for white men (since  $\exp [-.1328] = .88$ ).

### Regression Results for Women Using the CPS Data

The analysis of the CPS data for women does not indicate any racial differences in terms of being self-employed managers. Although the Asian American coefficient in Table 3 for employment

as a private-sector manager is positive and significant in Model 1—indicating that the slight racial differential that is evident in Table 2 may be generalized to the population of women—the coefficients are not significant in either Models 2 or 3. That is, after taking into account their demographic characteristics, Asian American women are probably no more or no less likely to be employed as managers in the private sector. In terms of employment in the government sector, the coefficient in Model 2 is statistically significant and implies that the odds of Asian American women being employed as a manager in that sector is 39 percent higher than for white women (since  $\exp [.3314] = 1.39$ ) after taking into account education, veteran status, and disability status.

As for business or professional occupations, we noted earlier in regard to Tables 2 that Asian American women are more likely to be employed in that job-sector than white women. This result is consistent with the positive and statistically significant coefficient for Model 1 in Table 3. However, after controlling for education, veteran status, and disability status in Model 2, the coefficient of  $-.2174$  implies that Asian American women have 20 percent lower odds of being employed in that job-sector relative to white women (since  $\exp [-.2174] = .80$ ).

### Regression Results for Women Using the PUMS Data

As was evident with the CPS data, the results for women with the PUMS data indicate no racial differences in terms of being self-employed managers. Also consistent with the CPS, the PUMS results in Table 3 show that Asian American women are more likely than white women to be employed as private-sector managers, but this difference is explained by the demographic characteristics of these two groups. Another consistency with the CPS findings is that the PUMS results indicate that after controlling for education, veteran status, and disability status (i.e., in Model 2), Asian American women have lower odds of being employed in a business or professional occupation. In regard to the latter disadvantage, the coefficient of  $-.0693$  implies that those odds are 7% less for Asian American women (since  $\exp [-.0693] = .93$ ).

In terms of being a manager in the government sector, the PUMS data indicate that Asian American women are no more likely than white women to obtain such employment after taking into account demographic characteristics.

## Regression Results for Asian American Ethnic Groups Using the PUMS Data

Because the PUMS data include information on ethnicity (in contrast to the CPS), we estimated each of our three model specifications using variables for each of the largest specific Asian ethnic groups (rather than using the overall category of Asian Americans as a whole as in the earlier tables). The results of these models are summarized in Table 4 for men, and Table 5 for women. Space limitations prevent us from discussing all of these findings in detail, but we note some of the most salient patterns that are evident in Tables 4 and 5.<sup>18</sup>

Perhaps the most clearly consistent finding for Asian American men is that virtually all of the ethnic groups are more likely than whites to be employed in business and professional occupations. This advantage is evident in Table 4 both before controlling for demographic characteristics (i.e., Model 1) as well as after (i.e., Models 2 and 3).<sup>19</sup> For Asian American women (in Table 5), the tendency is for most of the groups to be overrepresented in business and professional occupations before controlling for the other variables (i.e., Model 1) but only Asian Indian and Korean women are still overrepresented in Models 2 and 3.

In terms of managerial employment, Japanese men are the only group that is consistently overrepresented in the government sector even after controlling for demographic characteristics. Regarding employment as private-sector managers, only Filipino men are underrepresented while Asian Indian men are overrepresented after taking into account education, veteran status, and disability status. Japanese men also become slightly disadvantaged in that sector in Model 3 after adding controls for region and metropolitan residence.

Among women there are relatively few differences in managerial employment relative to whites after controlling for demographic characteristics. As is evident in Table 5, none of the variables for any of the ethnic groups is significant in Models 2 or 3 for managerial employment in government. In terms of private-sector managerial employment only Japanese women are disadvantaged after controlling for demographic characteristics while only Chinese women are advantaged (in both Models 2 and 3).

## Summary and discussion

Overall these findings generally do not provide strong sup-

Table 4. Coefficients for Asian Ethnicity  
Using 5 Job Sectors for Men, 5% PUMS

Model	Variable	Manager, Private		Manager, Self-Employed		Manager, Government		Business & Professional	
Model 1	Chinese	0.7298	***	-0.0770		0.7494	***	1.4468	***
	Filipino	-0.2452	**	-1.1890	***	-0.1383		0.5455	***
	Asian Indian	0.8542	***	-0.0458		-0.0471		1.5351	***
	Japanese	0.4218	***	-0.1018		0.9419	***	0.8730	***
	Korean	0.6343	***	-0.4097		-0.4110		1.4559	***
	Other Asian	0.1334		-0.2798		-1.5777		0.6396	***
	Multi-ethnic Asian	0.2057		-1.0682	*	0.6168		0.5943	***
Model 2	Chinese	-0.0184		-0.3448	*	0.0270		0.4348	***
	Filipino	-0.2911	**	-1.0276	***	0.2426		0.4235	***
	Asian Indian	0.4413	**	0.1094		-0.0411		0.5779	***
	Japanese	-0.0673		-0.3649	***	0.4099	***	0.2864	***
	Korean	0.2603		-0.2558		-0.4058		0.6613	***
	Other Asian	0.0327		-0.1092		-1.3888		0.3713	**
	Multi-ethnic Asian	-0.0750		-1.0578	*	0.5355		0.1788	
Model 3	Chinese	-0.1230		-0.2016		0.0543		0.3463	***
	Filipino	-0.3785	***	-1.0042	***	0.2274		0.3413	***
	Asian Indian	0.3489	*	0.2880		-0.0186		0.5116	***
	Japanese	-0.1376	**	-0.3834	***	0.3872	***	0.2062	***
	Korean	0.1654		-0.1210		-0.3883		0.5839	***
	Other Asian	-0.0431		-0.0030		-1.3930		0.3122	**
	Multi-ethnic Asian	-0.1453		-1.0810	*	0.4772		0.0984	

\* p ≤ .05    \*\* p ≤ .01    \*\*\* p ≤ .001  
 Note: Omitted reference group for 5 job sectors is 'all non-military occupations'.

port for the glass-ceiling hypothesis which states that Asian Americans are significantly less likely to be employed as managers in administrative hierarchies. Although the results from the PUMS data do indicate that Asian American men are less likely to be self-employed managers, this sector is generally not part of any administrative hierarchy. By contrast, both the CPS and the PUMS analyses suggest that Asian American men are actually more likely than white men to be employed as managers in the government sector both before and after taking into account their demographic

Table 5. Coefficients for Asian Ethnicity Using  
5 Job Sectors for Women, 5% PUMS

Model	Variable	Manager, Private		Manager, Self-Employed		Manager, Government		Business & Professional	
Model 1	Chinese	1.1185	***	0.4267	*	0.8087	***	1.0157	***
	Filipino	0.2984	***	-0.3245		-0.5079		0.1769	***
	Asian Indian	0.9206	***	0.7706		-0.1059		1.2389	***
	Japanese	0.3740	***	0.2731		0.7020	***	0.5271	***
	Korean	0.6506	***	0.1346		-0.4542		1.1380	***
	Other Asian	0.0380		0.4710		-1.6568		0.1085	
	Multi-ethnic Asian	0.3773	*	-0.7211		-0.2113		0.2627	**
Model 2	Chinese	0.3532	***	0.0481		0.0546		-0.0011	
	Filipino	0.0732		-0.2228		-0.2929		-0.0649	
	Asian Indian	0.2636		0.7731		-0.3610		0.2715	*
	Japanese	-0.1389	*	-0.1212		0.0758		-0.1600	***
	Korean	0.0978		0.1180		-0.6796		0.3438	**
	Other Asian	-0.1867		0.5685		-1.5828		-0.1707	
	Multi-ethnic Asian	0.0241		-0.7724		-0.3286		-0.1930	
Model 3	Chinese	0.2209	**	0.0529		0.0762		0.0280	
	Filipino	-0.0446		-0.3096		-0.3201		-0.0358	
	Asian Indian	0.1606		0.8784	*	-0.3148		0.2774	*
	Japanese	-0.2571	***	-0.2477		0.0375		-0.1148	**
	Korean	-0.0124		0.1416		-0.6496		0.3618	**
	Other Asian	-0.2978		0.5926		-1.5887		-0.1638	
	Multi-ethnic Asian	-0.0795		-0.9193		-0.3832		-0.1539	

\* p ≤ .05    \*\* p ≤ .01    \*\*\* p ≤ .001

Note: Omitted reference group for 5 job sectors is 'all non-military occupations'.

characteristics. Although more limited, there is some evidence to support the latter generalization for Asian American women as well (i.e., Model 2 for the CPS data).

In regard to employment as managers in the private sector, none of the evidence considered indicates any disadvantage for Asian American women (relative to white women) at least as an overall category. As for Asian American men, none of the CPS results indicate any disadvantage that this overall group is disadvantaged (relative to white men) in employment as private-sector managers. The PUMS results similarly indicate that Asian Ameri-

can men are not disadvantaged in employment in that sector after taking into account education, veteran status, and disability status.

One piece of evidence that is consistent with the glass-ceiling hypothesis is Model 3 for the PUMS data which yields a coefficient of  $-.1328$  which implies (as noted above) that after adjusting for education, veteran status, disability status, region, and metropolitan residence, the odds of being employed as a private-sector manager are 12 percent lower for Asian American men than for white men. As we suggested earlier, however, including region and metropolitan residence as covariates into the statistical model may be “over-controlling” because the labor market for managers is not highly restricted by region. Many companies routinely relocate to or establish branch offices in different regions, and managers are often recruited from other parts of the nation. On substantive grounds, therefore, one could argue that the results from Model 2 are more relevant than Model 3 because employees need to be willing to move to other regions in order to be competitive candidates for managerial positions in the private sector.

In terms of specific ethnic groups, it is important to note that Filipino men are consistently disadvantaged in obtaining private-sector managerial positions.<sup>20</sup> On the other hand, Asian Indian men are advantaged. If the disadvantage of Filipino men derives primarily from a negative “corporate culture” that excludes minorities (as claimed by Woo [2000] as discussed earlier), then the question arises as to why the other minority groups do not also experience the same level of disadvantage (and why Asian Indian men are advantaged relative to white men). Further, if the disadvantage of Japanese women in private-sector managerial employment reflects some sort of disliking or exclusion of that particular racial/ethnic group, then the one might ask why Japanese men are significantly overrepresented (relative to white men) in governmental managerial positions.

Although the study of business and professional occupational employment is not the main focus of this research, our results nonetheless include the notable finding that Asian American women (as an overall category) are somewhat underrepresented in that sector after taking into account their high levels of educational attainment (i.e., the negative coefficients for Model 2 in both the CPS and PUMS data). In future research, we plan to assess the extent to which this under-representation may be related to mari-

tal status and number of children which are not controlled for in our statistical models. If highly educated Asian American women are more likely to marry and have children than highly educated white women (and if those demographic characteristics reduce business and professional employment among women), then controlling for these characteristics may explain at least part of the net disadvantage that Asian American women face in that job-sector of employment. More research on this issue is certainly warranted.<sup>21</sup>

Furthermore, we point out that other results from the study of the socioeconomic attainments of native-born Asian American women may be relevant to understanding these labor market patterns. In particular, using recent CPS data, Sakamoto and Yap (2004:50) find that native-born Asian American women earn a higher hourly wage than native-born non-Hispanic white women. Their findings indicate that, even after controlling for educational attainment, age, veteran status, second generational status, region of residence, and metropolitan residence, native-born Asian American women had a wage that was still, on average, 6 percent higher than for non-Hispanic white women.<sup>22</sup> Using the 2000 PUMS data, Xie and Goyette (2004:16) find that this advantage for native-born Asian American women increases to 17 percent when only education and age are used as control variables. If Asian American women are advantaged relative to white women in terms of wages, then the occupational attainment patterns of Asian American women may at least partly involve voluntary choices rather than structural barriers.<sup>23</sup>

Finally we note that after disaggregating the Asian American category into specific ethnic groups, only Japanese women are clearly disadvantaged in obtaining business and professional employment while Asian Indian and Korean women are advantaged over white women.<sup>24</sup> Given these advantages of Asian Indian and Korean women relative to white women in obtaining business and professional occupational positions, the question again arises as to how these employment differences can be construed as being simply derivative of a pervasive anti-minority "corporate culture." Further research is clearly needed, however, on improving our general understanding of the business and professional employment patterns of Asian American women including the disadvantage of Japanese women in that job-sector.

## Policy Implications and Conclusions

Promoting effective public policy requires objective and detailed social scientific data and analysis in order to accurately assess the probable costs and benefits of various policy options. Public policy cannot be based on unwarranted or simplistic conclusions about societal circumstances and processes relating to racial and ethnic relations. Compared with the plethora of studies of other racial and ethnic groups, social scientific research on Asian Americans is still relatively limited. Our first conclusion is simply that there is a definite need for more careful studies and systematic evidence regarding the complex processes involved in managerial appointments—and more generally the socioeconomic attainments—of Asian Americans. We hope that this research represents a modest step in that direction.

As summarized above, our results do not provide strong support for the glass-ceiling hypothesis. This conclusion is rather surprising given that the assumption of a severe glass-ceiling against Asian Americans is the conventional wisdom in Asian American Studies. Our findings suggest, however, that this standard view may not be entirely applicable to native-born Asian Americans at least when they are considered as an overall group with more current data. Another source of our different conclusions may relate to our research methodology which, as was explained above, avoids “over-controlling.” An additional complication is that our results point to the need for better understanding ethnic differentials between the various Asian American groups. Given the complexity of these issues and the relatively limited number of previous studies, we believe that our findings should not be viewed as conclusive but rather should be seen as indicating the need for a more thorough review and analysis of existing data and methodologies so that future studies may reach greater consensus on this complicated phenomenon.

In closing, we emphasize that our results do not definitely show that there is no glass-ceiling of any sort against native-born Asian Americans even as an overall category. Rather, we believe that our findings suggest that, if a glass-ceiling does currently exist, it is less likely to operate at the occupational level. We caution that occupational data are indicative of only very general categories of job duties, and are not particularly informative of the level of ac-

tual managerial authority or power in administrative hierarchies. A glass-ceiling against native-born Asian Americans might still possibly be evident in data that provide better information about managerial authority or about the attainment of specifically upper-level managerial positions. For this reason, we emphasize that our results should not be over-generalized or viewed as being entirely conclusive regarding the general issue of a glass-ceiling broadly construed. We hope that future research will extend our efforts here by investigating other data on the managerial hierarchy.

## Notes

1. An earlier version of this paper was presented at the 2004 Annual Meetings of the Population Association of America in Boston, MA. We thank the Editor and two anonymous reviewers for their helpful comments. All opinions expressed herein are the sole responsibility of the authors.
2. For example, a recent study of the socioeconomic attainments of non-immigrant Vietnamese Americans (Sakamoto and Woo 2005) yields substantially different conclusions from those of Yamane (2001) who focuses on foreign-born Vietnamese Americans.
3. Similarly, bivariate statistics indicate that Asian Americans are extraordinarily over-represented as physicians and dentists (Sakamoto and Xie 2005), but this finding should not be construed as conclusively indicating that medical and dental schools wantonly discriminate in favor of Asian Americans against other racial groups such as whites. Qualitative evidence suggests that Asian Americans may have a tendency to have a strong preference for the health professions (Min 2002).
4. Among working-age Asian Americans, the overwhelming majority are foreign-born. A highly disproportionate number of directors of Asian American Studies programs are, however, native-born. We do not believe that this differential derives from Asian American Studies being "anti-immigrant" or "anti-Asian" because this field is known for its promotion of progressive political and social causes.
5. Odds refer to the ratio of the probability of being a "yes" to the probability of being a "no." For example, if one's probability of being employed as a manager is 10 percent (and hence the probability of being employed as a non-manager is 90percent) then the corresponding odds would be  $.10 / .90 = 1 / 9 = .11$ . If, for example, the odds are 28 percent lower for Chinese American men, then their odds ratio would be  $.11 - .11(.28) = .11 - .03 = .08$  (as compared to the odds of .11 for white men). Odds may be converted to probabilities per se but more cumbersome mathematical calculations are required to do so.

6. Companies today are often highly mobile geographically, and are generally concerned with doing business with the entire market of potential consumers rather than serving only Asian Americans. In fact, the geographic distribution of Asian Americans has been characterized by a progressive movement out of California and the western region of the U.S. (Sakamoto and Ha 2003; Sakamoto, Woo and Yap 2005).
7. The strength of these biases will be furthermore complicated by the distributions of age and education in each of the industries.
8. Controlling for industry as an independent variable in a regression model is not equivalent to estimating a model with industry-specific managerial employment as the dependent variable.
9. We do not use the 1995, 1997, 1999, and 2001 CPS data because of the overlap in the samples between adjacent years of this survey. By contrast, Ong (2000) pools the 1997, 1998 and 1999 CPS data and his sample of unique individuals are therefore smaller than his reported sample sizes (which imply that his reported statistical significance levels need to be adjusted). Although Ong's (2000) study also uses CPS data, we cannot precisely compare our results to his because it is not clear what control variables he used other than education (Ong 2000:354). In any event, his reported results for native-born Asian Americans are apparently not statistically significant (Ong 2000:331).
10. Our target population is thus broader than that of Ong (2000) who limits his analysis of managerial employment to full-time workers. In general, racial inequalities may operate by limiting full-time employment to minorities.
11. In order to control for period effects, the model using the CPS data also includes dichotomous variables to indicate the year of the survey. This is unnecessary for the PUMS data which refer to only one year (i.e., 2000).
12. The means were computed using the respective sampling weights for both data sets. The means on disability are notably larger in the PUMS data than in the CPS data probably as a result of the more limited definition of disability in the latter survey. For descriptive purposes, Table 1 shows a slightly condensed version of the educational categories that were actually used in the regression analyses.
13. For example, the two data sets use different occupational classification systems. Details about our coding procedures are available upon request.
14. The coefficients for the other independent variables are typically consistent with theoretical expectations or results from prior research. Complete regression results are of course available from the authors.

15. In technical terms, the asterisks in Table 3, Table 4, and Table 6 refer to alpha or Type-I levels of significance in classical hypothesis tests with one asterisk representing 5percent, two asterisks representing 1 percent, and three asterisks representing .1 percent.
16. This finding indicates that the racial difference reported in Table 2 regarding managerial employment in the government sector (3.24% for Asian American men versus 2.21percent for white men) is actually significant in relative terms and can thus be generalized to the population.
17. A well known statistical result is that, *ceteris paribus*, a larger sample size increases the reliability of the estimation of a coefficient because the increased sample size represents more information that yields greater precision.
18. We invite the readers to inspect Table 4 more thoroughly on their own.
19. Some of the differences are quite large. For example, after controlling for demographic characteristics in Model 2, Korean men are 94 percent more likely than comparable white men to be employed in business and professional occupations.
20. This general conclusion regarding Filipino men is consistent with the results of Yamane (2002) discussed earlier despite his use of older data and a somewhat different model specification.
21. Asian American children are also well known for having above-average educational attainments (e.g., Goyette and Xie 1999). For this reason, we speculate that Asian American women may have a somewhat greater preference for using their educational skills at home rather than in exclusively promoting their careers.
22. Controls for region and metropolitan residence are more commonly used in the analyses of wages and earnings than of upper-level occupational attainment. Second-generation persons often have slightly higher socioeconomic attainments due to having immigrant parents who tend to be selective in socioeconomic terms (Borjas 1987; Feliciano 2005).
23. In addition, the results of Xie and Goyette (2004) suggest that Asian American women are less likely than white women to be employed as librarians, elementary school teachers, social workers and in a few other "feminized" professional occupations. For this reason, native-born Asian American women may simply be more successful than white women at avoiding lower paying "feminized" professional occupations.
24. Although Japanese are not a large proportion of the Asian American population as a whole, they are a large group among native-born Asian Americans who are old enough to be in the labor force.

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