

Asian American Women's Earnings Advantage and Myth

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# **Asian-American Women's Earnings Advantage and Myth**

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## **Abstract**

*Asian Americans have become a focus of racial studies for the last four decades. Regarding the outcome in the labor market, prior research often addresses the performance of Asian American men. Asian American women are less frequently studied. I use the 2003 National Survey of College Graduates to investigate earnings differentials between white and Asian American women. I disaggregate Asian American women by their generational status, educational level, college type and field of study. The results show that none of Asian American women groups show earnings advantage compared to Whites. Field of study, college type, and region of residence on top of usual earnings determinants such as education and age fully explain the earnings difference between Asian American women and Whites. The earnings differences between Asian American women and Whites vary across generational status.*

*Key Words:* Asian American women; earnings; generational status; field of study; college type; region of residence

## **INTRODUCTION**

For the past four decades, Asian Americans have often been portrayed as a model minority group. Many sociologists have studied this portrayal by examining whether Asian American men have reached labor market parity with comparable Whites (Hirschman and Wong 1984; Kim and Sakamoto 2010; Sakamoto, Goyette, and Kim 2009; Zeng and Xie 2004). Researchers seem to find different results depending on the set of covariates they control for and what subpopulation they study. Additional covariates that are recently discussed in literature include place of education (Zeng and Xie 2004), generational status (Kim and Sakamoto 2010), and field of study (Goyette and Xie 2004; Kim and Sakamoto 2010).

The labor market outcomes for Asian American women are less studied than men, but the existing small body of research consistently shows that Asian American women perform better than Whites in labor market in terms of earnings (Wong and Hirschman 1983; Greenman and Xie 2008; Greenman 2010). By using 1970 U.S. Census data, Wong and Hirschman (1983) find that Asian American women (i.e., Chinese, Japanese, and Filipino) have higher labor force participation and “above-average” earnings relative to Anglo American women. The authors attribute the earnings advantage to “superior educational qualifications, greater levels of full-time work, and geographic location” (Wong and Hirschman 1983). Data from the 2000 U.S. Census indicate that U.S.-born Asian American women have higher earnings than comparable Whites, even after controlling for human capital (Greenman and Xie 2008; Xie and Goyette 2004). The main question in this study is whether the superior labor market performances of Asian American women comparing to

native-born White women persist after controlling for additional covariates that are recently discussed for Asian American men. In other words, in this paper, I intend to investigate whether the superior labor market outcomes in terms of earnings for Asian American women are results of omitted variable bias.

Recent studies on Asian American men provide convincing evidence on why it is crucial to control for additional covariates on top of usual educational and demographic determinants of labor market outcomes. For example, Hirschman and Wong (1984) argue that Asian Americans achieve earnings parity with Whites by overachieving in education and Asian Americans earn less if level of education is controlled. Sakamoto and Furuichi (2002) challenge Hirschman and Wong's conclusion by pointing out that U.S.-born Asian Americans have achieved parity in earnings with Whites of equivalent educational attainment. Xie and Goyette (2004) further contend that earnings differences between U.S.-born Asian American and White men from 1960 and 2000 show that by 2000 Asian American men no longer have lower earnings than Whites.

By additionally controlling for place of education, Zeng and Xie (2004) argue that only foreign-born Asian American men who completed their highest education in foreign countries have lower earnings than comparable Whites. Foreign education is less valuable in the U.S. job market than education acquired in the United States, and the place of education (i.e. foreign countries) leads to earnings disadvantage. Kim and Sakamoto (2010) take generational status into account based on the place of education. They find that after controlling for field of study, college type, and region of residence, only 1.5-generation Asian Americans (i.e., Asian Americans who immigrated at a young age and completed high school

in the United States) have achieved full parity with Whites. According to their study, native-born Asian Americans have 8 percent lower earnings than comparable Whites if current region of residence is considered an exogenous variable.

Asian professional immigrants are overrepresented as scientists, engineers, and health care professionals in the United States (Espiritu 1992). Although Asian immigrant men dominate the fields of engineering, mathematics, and computer science, Asian women are also overrepresented in these traditionally male-dominated professions. Rong and Preissle (1997) contend that in 1990, Asian women accounted for 5% of all female college graduates in the U.S. labor force but 10%-15% of engineers and architects, computer scientists, and researchers in the hard sciences. Kanjanapan (1995) also estimates that two thirds of foreign nurses and 60% of foreign doctors admitted to the United States during 1988 to 1990 were from Asia. Similar result is also found by Ong and Azores (1994a) that Asian immigrants represent nearly 25% of the health care providers in public hospitals in major U.S. metropolitan areas. They also find that the Philippines is the largest supplier of health professionals to the U.S., sending nearly 25,000 nurses between 1966 and 1985, and another 10,000 between 1989 and 1991. Because these professions are paid higher on average than other professions, it is important to assess the net effect of being Asian American women per se after taking these effects such as field of study into account.

This study will have three main contributions. First, a study of Asian American women's earnings advantage adds information on Asian American women, who have been less studied in the literature on Asian Americans' labor market performance. Second, the superior labor market performance of Asian American women regarding earnings seems to

uphold the popular media image of Asian Americans being Model Minority. This study intends to examine if the Model Minority image is still valid after controlling for a set of related variables. Third, this study will also contribute to our understanding of racial variation in the gender earnings gap.

I extend prior literature by disaggregating Asian Americans by their generational status in relation to the U.S. educational system, and by accounting for the effects of field of study, college type, and region of residence on top of usual educational and demographic determinants of labor market outcomes. I specifically focus on four aspects in this paper: (1) whether Asian American women indeed exceed native-born Whites after controlling for field of study, Carnegie classification of college type, and region of residence, on top of usual earnings determinants such as level of education and age; (2) whether the generational differences are significant for Asian American women in terms of earnings; (3) whether the mechanisms that account for the earnings differences between Asian American women and Whites differ by generational status; (4) whether the assimilation theory can explain the different labor market performances by generation for Asian American women.

## **LITERATURE REVIEW**

### **Model Minority Theory or Model Minority Myth**

Asian Americans are popularly believed to have high educational attainment, high median family income, low crime rates, a lack of juvenile delinquency, and a lack of mental illness (Herrnstein and Murray 1994). After the prohibition of Asian immigrants was abolished in 1965, immigration priority was given to family members of immigrants, and

workers with needed skills. Asian immigrants to the U.S. after the 1960s were more likely to be highly skilled workers, and many had been exposed to the English language and Western culture (Cheng 1997). Since the 1960s, Asian Americans' success in education and their high concentration in professional occupations have been widely publicized by the popular press, and Asian Americans have been portrayed as a successful minority for more than four decades. The key argument of Model Minority theory is that Asian Americans are "too successful" to be considered as a disadvantaged minority group (Herrnstein & Murray 1994; Petersen 1966). Model Minority theory indicates Asian Americans are a model for all groups, especially for other minority groups.

Model Minority theory is usually applied to East Asian American and Asian Indian immigrants from, or descendants of immigrants from, Confucian countries such as China, Japan, and Korea (Cheng 1997). According to Model Minority Theory, Asian American students are likely to be successful in school because they work hard and come from cultures that attach significant importance to education (Fejgin 1995; Kao 1995; Portes and Rumbaut 1990). Compared with other racial groups, Asian Americans achieve higher standardized test scores, and complete more advanced courses (Caplan et al. 1991; Hsia 1998; Sanchirico 1991; Zhou and Bankston 1998). Based on 1960 U.S Census data, Schmid and Nobbe (1965) find that Japanese Americans outperform European Americans, Native Americans, and African Americans in the median number of years of schooling and in the percentage of high school graduates. Sowell (1981) contends, "Groups that arrived in America financially destitute have rapidly risen to affluence, when their cultures stressed the values and behavior required in an industrial and commercial economy. Even when color and racial prejudice confronted them –



as in the case of the Chinese and Japanese – this proved to be an impediment but was ultimately unable to stop them.”

Model Minority theory, however, is critiqued as an exaggerated myth. Critics, by contrast, find importance in the enormous educational investment regarding the achievement of Asian Americans. Critics of the Model Minority Theory also argue that Asian Americans’ relatively high educational and occupational achievements can be attributed to a selective U.S. immigration policy (Daniels 1988; Min 1995; Takaki 1990).

Asian American scholars such as Sue and Kitano (1973), Suzuki (1989), Hurh and Kim (1989) have examined the popular image of Asian Americans being a model minority and the social construction behind it. Hurh and Kim (1989) argue that the high achievement of Asian Americans is the result of their enormous investment in the labor market. When working hours, number of workers in the household, ethnic status, and education are taken into account, the individual earnings for Asian Americans, especially those who are foreign-born, are lower than those of Whites with the same amount of investment. Hirschman and Wong (1984) argue that Asian Americans’ average earnings and occupational attainments do not differ much from those of Whites. However, because Asian Americans are more likely to have higher educational attainment, the labor market discriminates against Asian Americans, in that they have to make a higher investment in human capital (i.e., reach higher education level) to receive the same socioeconomic rewards as comparable Whites. According to Hirschman and Snipp (2001), without the higher investment in education, Asian Americans would be in the similar economic situations as Blacks, American Indians, and Hispanics.

Asian American women have not been studied much as the target population to

examine the Model Minority theory. Asian American women are considered to perform better than white women in the labor market (Xie and Goyette 2004; Greenman and Xie 2008; Greenman 2011). Previous literature shows that Asian American women's labor participation rates have been historically higher than Whites (Wong and Hirschman 1984; Xie and Goyette 2004). However, as the labor market participation rate among native-born White women has increased recently, the gap becomes almost negligible (Xie and Goyette 2004). Utilizing a panel data, Greenman and Xie (2008) argued that Asian American women's earnings advantage is due to their uninterrupted labor market participation after marriage and during pregnancy. Nonetheless, why Asian American women earn more than White women is understudied and not so well understood. This study aims to fill this lacuna.

### **Educational Attainment of Asian Americans**

Human capital theory assumes that labor market sort individuals into jobs that are commensurate with human capital characteristics. Education is consistently considered as the prime human capital investment (Becker 1960; Blaug 1976; Mincer 1958; Schultz 1963). Mincer (1958) argues that training and skill significantly affect personal income, and the process of investment is subject to free choice. He also finds that occupations requiring high levels of education provide higher compensation.

The link between academic performance, educational attainment, and labor market outcomes is widely studied (Coleman 1961; Jencks 1972; Kim and Sakamoto 2008). Kim and Sakamoto (2008) find a 47 percent relative increase in the explanatory power of basic educational levels in estimating the level of inequality since 1965 immigration policy change.

For college-educated workers, field of study is an important factor in differentiating

labor market outcomes (Davies and Guppy 1997; Daymont and Andrisani 1984; Song and Glick 2004; Wise 1975). Wise (1975) finds that the payoff to college depends on the choice of major. Individuals whose undergraduate major is engineering or a science receive higher initial salaries than those who select a liberal arts area. The importance of college major is again evident in the study of Daymont and Andrisani (1984). They contend that those selecting engineering, science, or math majors earn 12%-27% more than their humanities or social counterparts. Sizable earnings differentials by field of study are consistent after controlling for measures of general mental ability (Arcidiacono 2004).

The effect of college type is not widely studied, but several studies find that workers from more selective colleges are likely to have better labor market outcomes (Brewer, Edie, and Ehrenberg 1999; Loury and Garman 1995; Solmon and Wachtel 1975). Brewer and colleagues (1999) find a large premium to attending an elite private institution and a smaller premium to attending a middle-rated private institution, relative to a bottom-rated public school. By using the Carnegie classification of colleges, Solmon and Wachtel (1975) contend that at the college level, differences in type of institution attended have significant effects on future earnings of students.

Regarding education, the record of Asian Americans is consistently high (Hirschman and Wong 1986). Asian Americans tend to have higher standardized test scores, obtain better grades and complete more advanced course (Fejgin 1995). Kao et al. (1996) find that Asian had the highest GPA compared other racial groups. Asians also have the highest probability of school progression at each level of schooling, followed by Whites (Mare 1995). The rates of college attendance for Asian groups are extremely high (Mare and Winship 1988). Some of

the highest rates are among foreign-born Asians. Regarding completion of schooling, Asian Americans are more likely to stay in school, compared to Whites. According to Peng (1988), for those who entered a 4-year university, 86% of Asians stayed the following year compared with 75% of White. Asians are the more likely to complete college than Whites. According to Kao and Thompson (2003), persistence through college and earning a bachelor's degree are important markers that influence future labor market outcomes. Asian Americans are also found in somewhat more prestigious universities than do Whites, while Black and Hispanic students obtain their degrees at somewhat less prestigious institution (Jacobs 1996).

Scholars have also studied Asian Americans' concentration in certain fields of study. In higher education, Asian Americans are more likely to enroll in physical and natural sciences rather than subjects in humanities and social sciences, which require high verbal expression (Hsia 1988; Sue 1973; Watanabe 1973; Yoshioka et al., 1973). Sue (1973) find that Asian Americans are overrepresented in professions and occupations that require minimal verbal proficiency, such as math, engineering, chemistry, accounting, and business, but they are underrepresented in those that require people contact, such as law, advertising, and journalism. Asian Americans prefer careers in hard science, physical science, and engineering because they assume that these fields base on rewards on merit in comparison with rewards in social science, humanities, and arts (Cole 1992; Hargens & Hagstrom 1967; Hsia 1988; Leong & Hayes 1990). Xie and Goyette (2003) find that Asian Americans are much more likely to major in science, technology, engineering, and math, and less likely to major in low-paying pre-professional fields like education, journalism, and social work. Kim and Sakamoto (2010) find that field of study has significantly positive effect on Asian American

men's earnings. These studies on the field of study, however, are rarely conducted in the case of Asian American women.

Asian American women are also concentrated in STEM areas (Greenman 2000; Rong and Preissle 1997; Xie and Goyette 2004). A comprehensive study that investigates how the concentration of Asian American women in these majors affects their labor market performance is largely missing. Omitting field of study and college type from regression models might cause bias in estimating the effect of being Asian American women (i.e., omitted variable bias) because majoring in STEM areas and graduating from a prestigious university are positively associated with earnings. Examining effects of field of study and college type on earnings will lead to the correct estimate on the effect of being Asian American women per se. The question that whether the earnings advantage of Asian American women persist after controlling for a more comprehensive set of educational variables needs to be answered.

### **Assimilation Theory**

Assimilation theory sheds light on the reasons for the superior labor market outcomes of Asian American women. The classical assimilation framework developed in the mid 20<sup>th</sup> century predicts that immigrant groups will slowly gain economic parity and cultural similarity with the native majority. According to Gordon, assimilation is completed through three sequent stages: cultural, structural, and marital assimilation. Immigrants accomplish cultural assimilation by taking on the language and behavior of the host society. Structural assimilation (including obtaining socioeconomic and educational parity) follows cultural assimilation. Hereafter intermarriage is possible across ethnic groups. Structural assimilation

is indicated by the equal participation of minority group members in mainstream group activity. This leads to a decline in ethnic boundaries and in the social distance between groups, resulting eventually in full assimilation into the mainstream as indicated by decreased prejudice, increased intermarriage, and a loss of separate minority identity (Alba & Nee 1997). The standard measures of immigrant assimilation have been employed in social science to examine assimilation. These include (1) socioeconomic status (SES), defined as educational attainment, occupational specialization, and parity in earnings; (2) spatial concentration; (3) language assimilation, in terms of acquisition of English and loss of mother tongue; (4) intermarriage.

Assimilation theory (Gordon 1964, 1978; Park 1950) also assumes that education will help immigrants to assimilate to some extent. High educational attainment leads to better job opportunities and higher income. According to Ogbu (1987: 313), voluntary minorities tend to do well in school because they see schooling as a necessary step to social mobility. Voluntary immigrants interpret the cultural and language barriers that they face in the United States as things that they must overcome in order to succeed. Involuntary minorities, in contrast, view schooling as a threat to their oppositional cultures and identities. Most Asian Americans come to the United States voluntarily to pursue better life in this “dreamland.” Asian Americans are also much more highly-educated than other ethnic groups in the United States (Gardner et al. 1985).

The residential pattern of immigrant distribution in American cities, especially in relation to economic and cultural assimilation, has been the subject of much research. During the last two decades, there have been several studies that have assessed the residential

patterns in assimilation among recent immigrants (Alba and Logan 1991, 1993; Allen and Turner 1996; Belanger and Rogers 1992; Logan and Alba 1993; White et al. 1993). These studies have tested the influence of variables regarding cultural and economic assimilation on spatial assimilation. Allen and Turner (1996) contend that ethnic concentrations are no longer found only in the oldest, poorest, and most central parts of cities, but in suburbs with higher income levels. The higher educational and income levels of many modern immigrants mean that many immigrants are not forced by their poverty to settle in areas of low-cost housing. They also find that in nearly all ethnic groups the U.S.-born adults are much more spatially dispersed than foreign-born adults.

Historically, Asian immigrants were highly concentrated in the gateway cities of San Francisco, Los Angeles, and New York. This traditional pattern of regional concentration continues to hold. By comparing region of residence of immigrants, Belanger and Rogers (1992) note that the foreign-born as a whole are relatively more concentrated in the Northeast and the West than their U.S.-born counterparts. These two regions accounted for about two thirds of the foreign-born population and for only two fifths of the U.S.-born population from 1965 to 1980. According to 1980 U.S. Census, 46% of Asian immigrants live in the west. This higher concentration can be related to the traditional role of entry regions for Asian immigrants that have been assumed by the West (Lee and Yung 2010).

On the structural level, residence influences access to social resources such as jobs and education (Massey and Denton 1985). Residential segregation for Asian Americans is less problematic than other minorities. Asian Americans are regionally concentrated, especially in the areas where the cost of living is high. The relatively high earnings for Asian American

women could be simply a reflection of the high cost of living. Hence, this paper also estimates the net effect of being Asian American women after controlling for regional differentials.

### **Heterogeneity within Asian American Group**

Asian Americans are often characterized as a group of diversity (Sakamoto, Goyette and Kim 2009; Zeng and Xie 2004). There is much heterogeneity within this group regarding their labor market performance. In this paper, I focus on two aspects of heterogeneity: generational status, and ethnic diversity. Generational status is a concept which is related to the U.S. educational system. Kim and Sakamoto (2010) identify Asian American men into four groups based on their generational status, and find that only 1.5-generation Asian American men achieve full-parity in the labor market with comparable Whites after controlling for field of study, college type, and region on top of usual earnings determinants such as age and education level. Their results show that Asian American men differ in field of study, college type, and region of residence based on their generational status.

Asian Americans' labor market performance also varies substantially depending on countries of origin. Studies find that immigrants from East Asia receive higher earnings than immigrants from Southeast Asia (Barringer et al. 1990; Chiswick 1983). The acquired skills and value of foreign education differ by immigrants' origin countries (Bratsberg and Terrell 2002). Zeng and Xie's study (2004) upholds the argument that a large degree of ethnic variation in earnings exists depending on immigrants' sending countries. They also find that such ethnic variation in earnings is only limited to immigrants with foreign education who immigrated to the United States as adults.



Although the heterogeneity argument is largely made based on Asian American men, Asian American women, as the counterpart, also show heterogeneity. According to Xie and Goyette (2004), in 2000, Filipino women earned 9% more than Whites, and Asian Indian women had about one fifth higher adjusted earnings than Whites in 2000. Yet no study has fully examined the heterogeneity of Asian American women's labor market performance by considering both generational status and ethnicity.

### **Hypotheses**

There are both theoretical and empirical reasons to study the earnings differentials between Asian American women and the comparable Whites, and the heterogeneity of Asian American women's labor market performance. The few existing studies on earnings differences between Asian American women and Whites have not been able to fully examine the earnings advantage of Asian American women. A more complete set of variables including field of study, college type, and region should be controlled for. The heterogeneity of Asian American women based on generational status and ethnicity also needs to be taken into account.

This paper disaggregates Asian Americans based on their generational status (Kim and Sakamoto 2010). Following Kim and Sakamoto's model (2010), I specify Asian American women into four groups based on their generational status: (1) first-generation Asian Americans (AA-1.0 ) who were foreign born and completed all of their schooling overseas; (2) 1.25-generation Asian Americans (AA-1.25) who obtained their highest degree in the United States but were foreign born and completed high school in a foreign country; (3) 1.5-generation Asian Americans (AA-1.5) who were foreign born but completed high school

and all the higher levels of education in the United States; and (4) native-born Asian Americans (AA-NB) who were born in the United States and completed all of their schooling in the United States. I use native-born, non-Hispanic Whites as the reference group in this paper to examine the cross-race differences.

Given the previous findings that field of study and college type account for a significant portion of earnings differences, and the earnings disadvantage of Asian American are explained away once these variables are controlled for, my first hypothesis is as follow:

*Hypothesis 1: Net of field of study, college type, and region on top of usual earnings determinants such as education and age, the earnings differences between Asian American women and comparable Whites will be statistically zero.*

According to assimilation theory, immigrants achieve full assimilation through stages. Reaching parity with native-born Whites in terms of earnings is an indicator of the extent of assimilation. Previous literature shows Asian Americans vary in the extent of assimilation, across generations. My second hypothesis is as follow:

*Hypothesis 2: The earnings differences between Asian American women and Whites vary based on generational difference and ethnicity.*

## **ANALYTICAL STRATEGY**

### **Data**

I use 2003 National Survey of College Graduates (NSCG) data, which has not been considered in previous research on Asian American women. This survey sampled from the population of adults who answered in the 2000 U.S. Census with at least a college degree

(B.A./B.S.) NSCG 2003 includes information about major, highest degree, and college type. This reason for using NSCG data is that 56 percent of Asian American women are at least college-educated, and they compose the majority of Asian American women labor force.<sup>1</sup>

I restrict the sample to women age 25 to 64 years who are active in the labor market. I also exclude those whose annual earnings for the previous year are zero. This group includes 22,450 non-Hispanic white women, and 3,586 Asian American women.

### **Measurement**

*Dependent variable.* The dependent variable is the natural logarithm of annual earnings in 2002. Annual earning is the preferred earnings measure because most of the workers in the highly educated sample are paid on a salary basis, not on an hourly basis. The natural logarithm transformation is used because the earnings distribution is usually skewed to the right.

*Generational status.* As discussed in the hypothesis section, with the purpose to take heterogeneity into account, I follow Kim and Sakamoto's model disaggregating Asian American women into four groups based their generational status: first-generation Asian Americans, 1.25-generation Asian Americans, 1.5-generation Asian Americans, and native-born Asian Americans.

*Demographic variables.* I use age in years and age squared as control variables to study the pattern of growing earnings, which is related with accumulated work experience (Budig and England 2001). I also include marital status because marriage tends to have effects on earnings. Motherhood is also considered as a control variable because motherhood is an

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<sup>1</sup> Author's own calculation based on 2003 American Community Survey (ACS) data

important characteristics of women (Greenman and Xie 2008; Petersen, Penner, and Hogsnes 2011).

*Family background.* Parents' education level is used to measure family background. Whether parents' education has direct effect on children's earnings in the job market is still under debate (Blau and Duncan 1967; Becker and Tome 1986; Becker 1988; Solon 1992; Zimmerman 1992).

*Highest educational level.* I classify level of highest educational achievement into four categories: Bachelor's degree, Master's degree, Doctorate degree, and Professional degree.

*College type.* NSCG 2003 provides information on the Carnegie classification for the schools awarding respondents' highest degrees. As shown in the paper, college selectivity and prestige are related to individual earnings. I indicate eight categories of college type (i.e., Research University I, Research University II, Doctorate Granting I, Doctorate Granting II, Comprehensive I, Comprehensive II, Liberal Arts I, and Liberal Arts II) by dichotomous variables in the regression models; "other" is used as the reference group. By using college type as a control variable, I intend to have a better examination of being Asian American women per se.

*Field of study.* NSCG 2003 identifies 125 different major field of study for the highest degree completed. I classify them into seven groups by dichotomous variables in the regressions: (1) computer and math; (2) natural science; (3) social science; (4) engineering and technology; (5) health; (6) management and business; and (7) education, humanities and arts. I put other majors whose boundary of field is unclear into "other" as the reference group. Controlling for field of study also leads to a better understanding of the net effect of being

Asian American women per se.

*Region.* I use the Census region divisions: (1) Northeast region, including New England and Mid-Atlantic areas; (2) Midwest region, including East North Central and West North Central areas; (3) South, including South Atlantic, East South Central, and West South Central areas; and (4) West, including Mountain and Pacific areas. I also use region as dichotomous variables in several models. Asian Americans are regionally concentrated in areas with relatively higher cost of living. Controlling for region examines whether the high earnings of Asian American women is simply a reflection of the high cost of living.

### **Model Specifications**

I run several different ordinary least squares (OLS) regression models. I first estimate a simpler specification which only includes demographic variables and parents' education in the model, and it becomes my base model. The purpose of estimating basic Mincerian regression is to test to what extent they yield results that are similar to those reported in prior literature. I then add different independent variables that have not been previously investigated for Asian American women (i.e. field of study, college type, and region of residence) to examine to what extent the result of the base model is affected. My objective is to estimate the net effect of being Asian American women and other pre-labor market characteristics. I also run models which are based on specific variables, such as the highest degree and field of study, to examine in depth the net minority effects. I use native-born, non-Hispanic White women as the reference group. I exclude foreign-born non-Hispanic whites because of their heterogeneity.

## EMPIRICAL RESULTS

### Descriptive Results

Table 1 shows the descriptive results. For the Asian American groups, annual mean earnings range from a low of 53,356 for first-generation Asian Americans (AA-1.0) to a high of 70,194 for 1.25-generation Asian Americans (AA-1.25). The annual mean earnings for 1.5-generation Asian Americans (AA-1.5) is higher than that for native-born Asian Americans (AA-NB). The mean annual earnings for Whites (53,983) is higher than first-generation Asian Americans', but lower than the mean earnings for the other Asian American groups. This result provides partial support for Hypothesis 2.

[ Table 1 around here]

Though NSCG 2003 only samples those with bachelor's degree or above, the highest education completed by the five groups display diversity. 82.8 percent of AA-1.25 have master or above degrees. For AA-1.0, AA-1.5 and AA-NB, more than ten percent of each group have professional degrees. 88.1 percent of White women have bachelor's and master's degrees. AA-1.25 show the lowest rate to have professional degree among Asian Americans. AA-1.0, AA-1.5, and AA-NB, however, are nearly 7 percent more likely than Whites to have professional degrees. This result indicates that Asian American women are more educated, thus controlling for only one dummy variable (i.e. bachelor and above) in regression models is not sufficient to fully examine the effect of education.

Table 1 also shows that other than AA-NB, Asian American women are more likely to major in fields related to STEM (science, technology, engineering, and mathematics). AA-1.25 shows a stronger pattern of concentration in STEM, with 55.1 percent majoring in

computer, math, engineering, technology and natural science, compared with 21.8 percent for AA-NB and 17.6 percent for Whites. All the Asian American women groups are less likely to major in education, humanities and arts than White women. Nearly 30 percent of AA-1.0 major in health. AA-NB show a similar major concentration as White women.

Regarding father's education, Whites' is the lowest, and AA-1.25's is the highest. Mother's education for AA-1.0 is the lowest, and that for A-NB is the highest. Table 1 also shows that all of Asian American groups are more likely than Whites to reside in the West, which includes California and Hawaii. More than half of AA-NB (66.2 percent) live in the West. AA-1.0 and AA-1.25 are more likely than Whites to live in the Northeast, which includes New York, Pennsylvania, and New Jersey. Both West and Northeast region have higher income and consumption levels than the national average. The regional concentration of Asian American women also shows within-group variety based on generational status. 23.5 percent of AA-1.0 live in the South, but only 13.1 percent of AA-NB live there. 66.2 percent of AA-NB live in the West, but only 34.9 percent of AA-1.0 live there. Regional concentration of AA-1.0 and AA-1.25 shows similarity.

NSCG 2003 does not identify specific ethnic groups within the group of Asian Americans. For persons who are born outside the United States, I use country of birth as the indicator of ethnicity. The specification of ethnicity based on country of birth is not applicable to AA-NB, because they were all born in the United States. Table 1 shows the distribution of ethnicity for foreign-born Asian American women (AA-1.0, AA-1.25, and AA-1.5). For AA-1.0, there is a high concentration in Chinese, Asian Indian and Filipino. For AA-1.25, the percent of Chinese is over 50 percent, with an obvious decline in the percent of

Filipino. For AA-1.5, Chinese and Asian Indian decrease respectively to 29 percent and 9.6 percent, with an increase for all the other groups.

Table 1 also provides information about the differences in mean earnings associated with educational attainment and field of study. Variation in mean earnings by highest educational level is considerable, with \$46,679 for a bachelor's degree to \$120,508 for a professional degree. Regarding field of study (excluding "other majors" here due to its unclear definition), the highest mean earnings is \$92,496 for health, followed by \$78,611 for engineering and technology, and \$76,371 for computer and math. The lowest mean earnings is associated with fields of education, humanities and arts (\$ 36,771).

Table 1 also illustrates differences in mean earnings by educational level and demographic groups. On both bachelor's and master's level, the mean earnings of AA-1.0 is close to Whites, with approximately \$2,000 earnings disadvantage for AA-1.0. On all the four educational levels, AA-1.25 has the highest mean earnings.

## **Multivariate Results**

### ***Basic Regression Models***

Table 2 shows estimates of the net minority effects in basic regression models of log earnings. I run six different basic regression models of log earnings to estimate the net minority effects. All models include the dummy variable whose values are White, AA-1.0, AA-1.25, AA-1.5, and AA-NB.

[Table 2 around here]

Model 0 (i.e., the base model) only controls for demographic variables (age, age squared, marital status and motherhood indicator) and parents' education. The result shows



that only AA-1.0 has earnings disadvantage but the coefficient is not statistically significant. The coefficients for AA-1.25, AA-1.5 and AA-NB are significantly positive, with AA-1.25 showing the most advantage. Model 1 adds level of education to Model 0. Model 2 differs from Model 1 only because region is added as a control variable. The results of model 1 and model 2 are similar to that of Model 0. Results for Model 1 and Model 2 are consistent with findings from previous research (Greenman and Xie 2004; Greenman 2011). No negative effects are indicated for AA-1.25, AA-1.5 and AA-NB. Instead, the three groups all show significantly positive earnings advantage.

I obtain Model 3 by adding major of highest degree to Model 1. Model 3 indicates a significant earnings disadvantage for AA-1.0 (nearly 10 percent of disadvantage). The coefficient for AA-1.25 becomes statistically insignificant, and compared to Model 2, Model 3 indicates 11 percent of advantage for AA-1.25 disappears (from 18 percent of advantage in Model 2 to 7 percent of advantage in Model 3). The results of Model 3 show that after controlling for field of study, AA-1.5 and AA-NB continue to have earnings advantage. Estimates for these two groups in Model 3 reveal statistically positive coefficients, with nearly more than 10 percent of advantage over Whites.

Model 4 is obtained by adding college type to Model 1. Findings in Model 4 are very similar to those for all the models except Model 3. The coefficients for AA-1.25, AA-1.5 and AA-NB are significantly positive. AA-1.0 have earnings disadvantage, but the coefficient is not statistically significant. Results in Model 4 uphold previous research that Asian Americans who completed their highest degree in the United States do not face an earnings disadvantage.

Model 5 includes both controls for major and college type. The results show that the coefficients for AA-1.0 and AA-1.25 are statistically insignificant. Model 6 is the complete model, with region added to Model 5. Coefficients for AA-1.5 and AA-NB also become statistically insignificant. Region of residence, combined with field of study and college type is substantially important in explaining the earnings advantage for these two groups. The result of Model 6 indicates that the earnings differences between Asian American women and Whites are fully explained by field of study, college type, and region of residence on top of usual earnings determinants.

Previous research finds that Asian American women in general have earnings advantage. My base model supports for it, except the findings on first-generation Asian American women. Once field of study, type of college, and region are factored in, however, the earnings advantage for Asian American women disappears.

In sum, field of study is substantively important in explaining the earnings difference for AA-1.0 and AA-1.25. AA-1.0 shows consistent earnings disadvantage, but the negative coefficient only becomes significant when field of study is controlled for (along with other usual earnings covariates such as: demographic variable, parents' education, and level of education). Among AA-1.0, nearly 30 percent of AA-1.0 are concentrated in health, and another 31 percent major in STEM. That these fields are relatively lucrative explains the significant earnings disadvantage after controlling for major. The advantage for AA-1.25 is not significant after controlling for field of study. AA-1.25 are heavily concentrated in STEM (55.1 percent, see Table 1). Their earnings advantage is fully explained by field of study. Field of study, college type, and region of residence on top of other demographic and usual

educational variables fully explain the earnings difference of Asian American women, compared with White women. This result provides full support for Hypothesis 1.

### ***Regression Model by Educational Level***

I also investigate models by educational level to study the net minority effect. I estimate two models (Model 7.1 and Model 7.2) separately by the highest level of educational attainment. Model 7.1 controls for demographic background, parents' education, field of study, and college type. Model 7.2 is identical to Model 7.1 except that it also controls for region. The regressions are estimated separately by educational level. Table 3 shows the results of the two models on the left side.

[Table 3 around here]

For AA-1.0, the coefficients stay negative and insignificant in both models. The least negative net effect is on bachelor's level in Model 7.1, but on master's level in Model 7.2. The largest negative net effect is on doctorate's level. In Model 7.1, on bachelor's level, AA-1.0 has 8 percent disadvantage, but the disadvantage increases to 22 percent on doctorate's level. In Model 7.2, AA-1.0 shows 10 percent disadvantage on master's level, but the disadvantage increases to 16 percent on doctorate's level.

Regarding AA-1.25, results show substantive net minority effect. The coefficient is only statistically significant on bachelor's level in Model 7.1. The coefficient for AA-1.25 on bachelor's level exceeds those for AA-1.25 on the other three levels. In Model 7.2, AA-1.25 shows disadvantage on master's level. AA-1.5 has net negative effect on master's level. The coefficients for AA-1.5 are only statistically significant on bachelor's level in both models. For AA-NB, there is net negative effect on both doctorate and professional levels. On

bachelor's level, the coefficients in both models are significantly positive. The result of regression by educational level further provides support for Hypothesis 2. Asian American women's earnings vary depending on generational status after educational level is controlled on the same level.

### ***Regression by Field of Study***

The right side of Table 3 shows the regression results estimated separately by seven categories of majors. Model 8.1 controls for demographic variables, educational level, parents' education and college type. Model 8.2 is same as Model 8.1 except that it includes region as control variable.

For AA-1.0, in both models, the coefficients are only statistically significant for natural science, and business/management, and there is net negative effect for AA-1.0 in these two fields. In both models, AA-1.0 is also disadvantaged in computer and math, social science, education, humanities and arts, but advantaged in engineering, technology and health, but none of the coefficients is statistically significant. AA-1.25 has advantage in engineering, technology and health, and coefficients are statistically significant. AA-1.25 also appears to be advantaged in computer, math, natural science, but the coefficients for these fields are not statistically significant.

For AA-1.5, the only net negative effect is in natural science in Model 8.1, and in natural science and business/management in Model 8.2. However, the coefficients are almost all non-significant except for the one for engineering and technology in Model 8.1. Regarding AA-NB, the only significant coefficient is in social science in Model 8.1 (.1350).

In sum, the results of regression by field of study indicate that limited categories of

majors have positive effects on Asian Americans. These majors are basically STEM-related and health, with relatively high earnings. Hypothesis 2 is further proved by the result of regression by field of study. Asian American women's earnings differ based on generational status after field of study is controlled the same.

### ***Regression by Asian Ethnic Origin***

Table 4 shows regression results for several models from Table 2 after breaking down the Asian American group into specific ethnic subgroups based on country of birth. AA-NB is excluded from the regression because they are born in the United States, and thus the specification of Asian ethnicity by country of birth is not applicable to them. NSCG 2003 does not provide the ethnicity information for native-born populations. I put ethnic groups with sample sizes too small into the group "other Asian."<sup>2</sup> The number of first-generation Vietnamese is small, hence I put first-generation Vietnamese in "other Asian" group. 1.25-generation and 1.5-generation Vietnamese are treated as independent groups because of their moderate sample size.

[Table 4 around here]

For AA-1.0, Asian Indian, Japanese, Korean, and other Asian have consistently negative net effects for all the models, but only the coefficients for Asian Indian and other Asians are statistically significant. Based on Table 2, I concluded that AA-1.0 consistently faces an earnings disadvantage in all the regression models. Results in Table 4 are largely consistent with this conclusion. Negative effects are relatively large for Asian Indian, Japanese, Korean and Other Asian.

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<sup>2</sup> The minimum sample size for being an independent group in this paper is 20.

Regarding AA-1.25, I concluded in Table 2 that this group has earnings advantage but the advantage is fully explained by major and college type (See Model 5). Results in Table 4 basically uphold the conclusion. The coefficients for Asian Indian become consistently positive, and are significant before both college type and major are controlled. The coefficients for Chinese and Filipino are statistically significant and positive in Model 2. However, once region, college type, and field of study are all taken into account in Model 4, the positive effect of being Asian American women disappear.

For AA-1.5, results in Table 4 do not show any negative coefficients that are statistically significant for any of the groups. Chinese tends to have significant positive advantages before both field of study and college type are controlled for. Vietnamese continues to have significant positive effect after both field of study and college type are controlled (see Model 5) in Table 4. These findings indicate that my earlier conclusion regarding the net advantage of AA-1.5 as a whole group (see Model 5 in Table 2) appears to be limited to Chinese and Vietnamese.

### ***Summary of Generational Differences***

Results for first-generation Asian Americans (AA-1.0) show that they are the only group with earnings disadvantage. This is also supported by the results based on educational level. Though some of the results based on major show positive effects of this group, the coefficients are not statistically significant. Also, first-generation Chinese and Filipino are not disadvantaged relative to comparable White women. Asian Indian, however, as showed in the results, have significant earnings disadvantage.

Regarding 1.25-generation Asian Americans (AA-1.25), my analysis indicates that this

group is advantaged in earnings before controlling for covariates, however, the advantage is mostly explained by the concentration in the STEM areas for this group (see Model 3 in Table 2). Broken down by educational level, AA-1.25 are disadvantaged on the master's level, but advantaged on bachelor's, doctorate, and professional level. By field of study, 1.25-generation Asian Americans tend to be disadvantaged at social science, business, humanities and arts (see Model 8.2 in Table 3). Among 1.25-generation Asian Americans, Chinese, Asian Indian, and Filipino are the subgroups with largest earnings advantage.

1.5-generation Asian Americans (AA-1.5) is also a group with earnings advantage before factoring in extensive covariates. Like 1.25-generation, most of their advantages are explained by field of study, region of residence, and college type in addition to usual earnings determinants such as years of education and other demographic variables. Broken down by level of education, 1.5-generation Asian Americans tend to be disadvantaged on master's level (see Model 7.1 and Model 7.2), and on Professional level (see Model 7.2). By major, they tend to be slightly disadvantaged in natural science, business and management. Among 1.5-generation Asian Americans, Chinese and Vietnamese show the largest earnings advantage.

Like 1.5-generation, the earnings advantage of AA-NB disappears after controlling for field of study, college type, and region of residence on top of usual earnings determinants. Broken down by educational level, native-born Asian Americans are disadvantaged on doctorate and professional level. By major, they are disadvantaged in engineering, technology and health (see Model 8.2 in Table 3). Hypothesis 2 is proved in that the earnings differences between Asian American women and Whites differ across generations.

## **DISCUSSION AND CONCLUSION**

This paper intends to add new information on the performance of Asian American women in the labor market. By breaking down Asian American women based on generational status, this paper provides information about the different scenarios of assimilation and heterogeneity within group, which has rarely been discussed in the case of Asian American women.

I use national data (NSCG 2003) to examine the performance of Asian American women, especially the earnings, in the labor market, compared with White women. I have examined the labor market performance of Asian American women after taking the factors such as field of study, college type, generational status, and ethnicity that are not previously considered into account. In order to measure the effect of different extent of assimilation, I followed Kim and Sakamoto's way (2010) to break down Asian American women into four groups according to their generational status by educational attainment, in relation to the U.S. educational system: native-born Asian American women (AA-NB), 1.5-generation Asian American women (AA-1.5), 1.25-generation Asian American women (AA-1.25), and first-generation Asian American women (AA-1.0). With this research design, I am able to examine the effect of race regarding the earnings difference between Asian Americans and Whites; the effect of nativity between U.S.-educated Asian immigrants and U.S.-born Asian Americans; and the effect of place of education between foreign-educated Asian immigrants and U.S.-educated Asian immigrants. In terms of earnings, Asian American women, in general, show advantage instead of disadvantage. Regarding the place of education, the results show that Asian Americans who acquire U.S. schooling (AA-1.25, AA-1.5, AA-NB)



earn higher salary than those who have no U.S. schooling background (AA-1.0). Previous literature shows similar results. Schoeni (1997) reports that for most immigrant groups the returns to foreign schooling are substantially lower than returns to U.S. schooling. Brasberg and Ragan Jr. (2002) also have the similar argument. They contend that returns to years of non-U.S. education are higher for immigrants who complete their schooling in the United States, which is consistent with the view that U.S. schooling upgrades or certifies education received in the source country.

My findings in this paper suggest that college type and major have significant influence on future earnings. Less than 1 percent of AA-1.0 attended Research I. University. The percentages for the other three Asian American groups attending Research I. university are all at least 10 percent higher than that for Whites (See Table 1). This is basically in accordance with the rank of the earnings of each group. Wise (1975) finds that the payoff to college depends on the major chose. Individuals whose undergraduate major is engineering or a science receive higher initial salaries than those who select business or a liberal arts area. The importance of college major is confirmed by Daymont and Andrisani (1984). They contend that those selecting engineering, science, or math majors earn 12%-27% more than their humanities or social counterparts. I have the similar argument about major in this paper. The annual earnings of AA-1.25 is the highest, with 55.1% of this group majoring in STEM-related areas (55.1%, see Table 1).

This paper confirms the analytic value of Kim and Sakamoto's classification model for understanding earnings inequalities. Asian American women groups differ in labor market performance and independent variables (e.g., age, highest educational level, college type,

field of study and region. Asian American women, in general, have earnings advantage relative to comparable white women. However, broken down by generational status, first-generation Asian American women turn out to be disadvantaged in earnings. AA-1.25, AA-1.5 and AA-NB have earnings advantage to different extent. AA-1.25 is the most advantaged group, followed by AA-1.5. The explanatory mechanism of the earnings differences also differ based on generational status. Much of the earnings advantage of AA-1.25 can be explained by one of field of study. After controlling for field of study, college type, region on top of usual earnings determinants, the earnings differences between Asian Americans and comparable Whites are fully explained. This finding upholds the main hypothesis (Hypothesis 1).

Much research on the experience of immigrant groups and their descendents in the United States has built on the traditional assimilation theory. The findings in this paper prove the importance of traditional assimilation theory. First-generation Asian Americans show the most earnings disadvantage. This is in accordance with the traditional assimilation theory that the more foreign a group is, the less assimilation the group achieves. 1.25-generation, 1.5-generation, and native-born Asian Americans are advantaged in earning before controlling for field of study, college type, and region. It is their high education level and strategic adaptation that allow for better assimilation.

This paper in general seem to be in accordance with an earlier prediction (Sakamoto, Goyette, and Kim 2009): “As younger cohorts of native-born Asian Americans mature into the labor force or gain additional work experience, and as the significance of education increases in the stratification system, Asian Americans will continue to have favorable

socioeconomic circumstances, at least in general.”

However, that Asian American women in general show no earnings disadvantage does not mean Asian American women have achieved full parity with comparable Whites in every aspect. Economic parity is much easier to achieve than reputation, recognition from peers and possibility of promotion. Asian American women face glass ceiling, and “artificial” barriers. For Asian Americans, complaints about the glass ceiling are most audible in those fields where we might reasonably expect their professional skills to lead to higher managerial positions, that is, in the sciences, engineering, and other technical professions (Woo 1992). Too much emphasis on Model Minority image will overlook the underlying explanatory mechanisms for the earnings advantage of Asian American women.

This paper shows limitations. I use cross-section data (NSCG 2003), so I am unable to study the earnings change through time, or the initial work condition of Asian American women. Using panel data in future study might provide more information. Besides, NSCG 2003 data does not provide enough information about the occupations of participants, and the categories of occupation are not clear enough. Occupations of Asian American women can be further studied.

I use earnings as the independent variable to examine if Asian American women have achieved parity with Whites in the labor market. However, parity in the labor market is not limited to equal or even higher earnings. The ranking of positions, working hours and other measures for equality in the workplace can also be included into consideration. There is still evidence that Asian Americans face other types of socioeconomic barriers, such as a lower likelihood of having managerial authority (Sakamoto et al., 2009). The multiple aspects of

Asian American women's labor market performance, such as the rate of labor market participation, can be included in future studies on Asian American women's labor market performance.

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**Table 1.** Descriptive Statistics for Asian and White Women  
in the 2003 National Survey of College Graduates

	AA-1.0	AA-1.25	AA-1.5	AA-NB	White
Annual Earnings (dollar)	53,356	70,194	64,015	59,735	53,983
Annual Earnings Based on Highest Degree (dollars)					
Bachelor's	46,679	59,392	57,047	53,735	48,565
Master's	51,711	66,673	62,040	577,50	53,227
Doctorate	53,958	76,496	73,733	61,637	66,314
Professional	91,160	120,508	92,799	84,473	102,603
Annual Earnings Based on Major for Highest Degree (dollar)					
Computer and Math	62,677	76,371	67,639	65,045	66,740
Natural Science	42,230	64,241	51,942	47,696	49,957
Social Science	38,218	56,869	61,856	60,044	54,457
Engineering and Tech	63,912	78,611	68,323	69,070	65,665
Health	71,981	92,496	74,111	70,569	62,658
Management and Business	43,871	61,475	64,312	65,475	62,112
Education, Humanities, and Arts	36,771	47,245	48,941	46,541	44,003
Other Majors	26,800	56,000	103,333		44,556
Highest Degree from Research Univ. I (%)	0.4	40.4	44.4	56.3	29.2
Married (%)	83.8	81.2	65.7	59.5	68.3
Mean Age	45.6	42.1	36.9	40.0	44.0
Level of Highest Education Completed (%)					
Bachelor's	65.1	18.2	55.0	53.7	53.5
Master's	17.0	55.8	26.0	25.5	35.9
Doctorate	5.7	20.8	6.0	6.3	5.5
Professional	12.2	5.2	13.1	14.6	5.1
Major for Highest Degree (%)					
Computer and Math	8.0	25.7	8.6	5.3	4.9
Natural Science	14.3	16.7	11.8	9.8	8.1
Social Science	11.6	9.6	16.2	24.4	23.3
Engineering and Tech	8.9	12.7	13.6	6.7	4.6
Health	29.1	12.5	21.5	18.8	12.7
Management and Business	12.9	14.6	17.6	14.7	13.3
Education, Humanities, and Arts	14.9	8.2	10.3	20.4	32.9
Other Majors	0.3	0.1	0.5	0.0	0.3
Parents' Education					
Father with Bachelor's or above	49.5	57.5	46.3	49.1	41.2
Mother with Bachelor's or above	29.2	33.8	31.8	37.3	29.3
Region of Residence (%)					
Northeast	26.1	23.5	21.0	13.8	23.2
Midwest	15.5	15.7	13.1	6.9	26.4
South	23.5	25.7	19.9	13.1	31.1
West	34.9	35.1	46.0	66.2	19.3

Total	100.0	100.0	100.0	100.0	100.0
Occupation (%)					
Management	2.6	6.0	5.8	10.3	8.3
Professional	70.4	81.5	75.0	65.2	65.3
Social Service, Sales, Administrative Support & Art	25.6	11.4	17.6	22.4	24.5
Farming	0.7	0.4	0.7	0.2	0.6
Other	0.6	0.7	1.0	1.9	1.4
Ethnic Groups Based on Country of Birth (%)					
Chinese	19.9	52.3	29.0		
Asian Indian	28.7	20.5	9.6		
Japanese	1.9	3.7	6.1		
Korean	3.8	4.8	14.7		
Pilipino	36.5	5.6	10.1		
Vietnamese	0.7	3.9	17.7		
Other Asians	8.2	9.2	12.8		
Total	100.0	100.0	100.0		
Total Number of Children					
0	65.1	54.9	59.4	72.3	70.4
1-3	34.5	44.9	39.6	27.4	29.0
More than 3	0.5	0.2	1.0	0.3	0.6
Annual Earnings of Those Who	51,878	65,431	57,878	56,530	52,445
Have Children under Age 2 (dollars)					
Sample Size	1,103	1,076	604	624	19,947

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**Table 2.** Estimated Generational Effects of Being Asian American on Log Earnings among Women

	Model 0	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
<b>Control Variables</b>							
Demographic	Y	Y	Y	Y	Y	Y	Y
Parents' Education	Y	Y	Y	Y	Y	Y	Y
Level of Education		Y	Y	Y	Y	Y	Y
Region			Y				Y
Major				Y		Y	Y
Carnegie					Y	Y	Y
<b>Asian American Generations (White is Reference Group)</b>							
AA-1.0	-.0562 (.0321)	-.0324 (.0321)	-.0633 (.0329)	-.0975** (.0318)	-.0362 (.0544)	-.0790 (.0540)	-.0956 (.0538)
AA-1.25	.3040*** (.0367)	.2032*** (.0370)	.1791*** (.0374)	.0707 (.0378)	.1943*** (.0376)	.0685 (.0382)	.0442 (.0386)
AA-1.5	.2301*** (.0415)	.1798*** (.0409)	.1438*** (.0419)	.1042** (.0401)	.1589*** (.0412)	.0888* (.0405)	.0519 (.0416)
AA-NB	.1776*** (.0328)	.1398*** (.0328)	.1009** (.0352)	.1032*** (.0314)	.1216*** (.0331)	.0896** (.0319)	.0505 (.0344)
Adj. R-squared	.0203	.0628	.0680	.0887	.0708	.0945	.1001

Note: N=23,386. Demographic variables include age, age squared, marital status, and motherhood indicator. Numbers within parentheses are standard errors.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  (two-tailed test).

**Table 3.** Estimated Effects of Being Asian American on Log Earnings among women by Educational Level and Major

	Level of Education				Major							
	B.A.	M.A.	Doctorate	Professional	Computer Math	Natural Science	Social Science	Engineering Technology	Business Management	Health	Education Humanities, Arts	
Model 7.1: Demographics, Parents' Education, Major, College Type					Model 8.1: Demographics, Parents' Education, College Type							
Asian American Generations (White is Reference Group)												
AA-1.0	-.0852 (.0732)	-.1023 (.0997)	-.2226 (.1746)	-.1075 (.1545)	-.1773 (.1606)	-.4073** (.1589)	-.2212 (.1480)	.3474 (.1911)	-.3123** (.1022)	.1128 (.1459)	-.0908 (.1020)	
AA-1.25	.1601* (.0638)	.0010 (.0574)	.0474 (.0769)	.1304 (.1137)	.1016 (.0829)	.0547 (.0969)	-.0278 (.0656)	.2214** (.0812)	-.0206 (.0846)	.2621*** (.0703)	-.1714 (.1823)	
AA-1.5	.1533** (.0514)	-.0064 (.0872)	.0861 (.1222)	.0177 (.1129)	.1435 (.1454)	-.0120 (.1519)	.1111 (.1078)	.2390* (.1030)	.0713 (.0753)	.0527 (.0731)	.0556 (.1346)	
AA-NB	.1373*** (.0390)	.1166 (.0703)	-.1437 (.1908)	-.1297 (.0872)	.1079 (.2281)	.0539 (.0877)	.1350* (.0622)	.0662 (.1083)	.1223 (.0807)	-.0505 (.0774)	.1073 (.0615)	
Adj. R <sup>2</sup>	.0553	.0763	.1172	.1229	.1720	.0625	.1057	.0919	.0751	.1406	.0674	
Model 7.2: Demographics, Parents' Education, Major, College Type, Region					Model 8.2: Demographics, Parents' Education, College Type, Region							
Asian American Generations (White is Reference Group)												
AA-1.0	-.1016 (.0728)	-.1013 (.0979)	-.1648 (.1716)	-.1370 (.1575)	-.2179 (.1663)	-.3773* (.1565)	-.2307 (.1479)	.2787 (.1819)	-.3421*** (.1010)	.1034 (.1453)	-.1270 (.1027)	
AA-1.25	.1175 (.0645)	-.0083 (.0588)	.0425 (.572)	.0901 (.1168)	.1221 (.0870)	.0427 (.0951)	-.0529 (.0662)	.1641* (.0818)	-.0836 (.0865)	.2458*** (.0719)	-.1879 (.1833)	
<i>Continued</i>												
AA-1.5	.1102* (.0530)	-.0342 (.0886)	.0502 (.1215)	-.0120 (.1135)	.1392 (.1552)	-.0614 (.1551)	.0707 (.1096)	.1263 (.0998)	-.0125 (.0803)	.0288 (.0744)	.0332 (.1362)	
AA-NB	.0870* (.0415)	.0986 (.0766)	-.1555 (.1888)	-.1702 (.0905)	.0795 (.2303)	.0002 (.0985)	.0895 (.0665)	-.0039 (.1179)	.0540 (.0854)	-.0806 (.0781)	.0774 (.0701)	
Adj. R <sup>2</sup>	.0626	.0828	.1409	.1321	.1829	.0760	.1123	.1204	.0871	.1434	.0774	

Note: Demographic variables include age, age squared, marital status and motherhood indicator. Numbers within parentheses are standard errors.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  (two-tailed test).

Table 4. Estimated Effects of Ethnic Origin on Log Earnings

	among Women			
	Model 1	Model 2	Model 5	Model 6
Control Variables				
Demographic	Y	Y	Y	Y
Level of Education	Y	Y	Y	Y
Parents' Education	Y	Y	Y	Y
Region		Y		Y
Carnegie			Y	Y
Major			Y	Y
AA-1.0				
Chinese	.0618 (.0933)	.0221 (.0929)	.0167 (.1050)	-.0076 (.1042)
Asian Indian	-.1322* (.0627)	-.1513* (.0623)	-.1616* (.0767)	-.1659* (.0764)
Japanese	-.5073* (.2572)	-.5475* (.2591)	-.4318 (.2502)	-.4606 (.2509)
Korean	-.1895 (.1730)	-.2384 (.1727)	-.1229 (.1764)	-.1586 (.1757)
Filipino	.0828* (.0403)	.0520 (.0420)	.0173 (.0610)	-.0004 (.0611)
Other Asian	-.3345*** (.0947)	-.3537*** (.0950)	-.3223*** (.1016)	-.3252*** (.1014)
AA-1.25				
Chinese	.2459*** (.0502)	.2218*** (.0507)	.1014* (.0508)	.0768 (.0513)
Asian Indian	.3010*** (.0766)	.2830*** (.0759)	.1498 (.0798)	.1323 (.0793)
Japanese	.0269 (.1699)	-.0008 (.1703)	-.0388 (.1556)	-.0680 (.1555)
Korean	.1110 (.1785)	.1055 (.1715)	.0386 (.1785)	.0310 (.1710)
Filipino	.3009** (.0955)	.2683** (.0975)	.2131* (.0940)	.1788 (.0965)
Vietnamese	.1002 (.1946)	.0639 (.1928)	-.0801 (.1955)	-.1168 (.1935)
Other Asian	-.0948 (.1193)	-.1051 (.1187)	-.2044 (.1207)	-.2145 (.1199)
AA-1.5				
Chinese	.2273*** (.0633)	.1802** (.0649)	.1163 (.0622)	.0652 (.0639)
Asian Indian	-.0559 (.1283)	-.0707 (.1303)	-.1528 (.1294)	-.1671 (.1321)
Japanese	.0290	-.0042	.0152	-.0175

	(.1830)	(.1852)	(.1771)	(.1793)
Korean	.1976	.1678	.1393	.1072
	(.1044)	(.1047)	(.1022)	(.1031)
Filipino	.2327	.2063	.1529	.1266
	(.1480)	(.1479)	(.1392)	(.1395)
Vietnamese	.2783***	.2513***	.1717*	.1443
	(.0793)	(.0777)	(.0774)	(.0759)
Other Asian	.0689	.0389	-.0185	-.0501
	(.1353)	(.1349)	(.1388)	(.1385)

Note: N=22,762. Demographic variables include age, age squared, marital status and motherhood indicator. Numbers within parentheses are standard errors.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$  (two-tailed test).