

Asian Americans, Glass Ceilings, and PhDs

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ABSTRACT:

Analyzing 2000 U.S. Census Public Use Microdata Sample data, East/Southeast Asian American men with PhDs are estimated to earn 3 percent to 5 percent less than comparable non-Hispanic White American men with PhDs and appear to be 32.7 percent less likely to be promoted into managerial positions. Asian American women with PhDs have earnings that are comparable to those of non-Hispanic White American women with PhDs but earn significantly less than non-Hispanic White American men with PhDs. East/Southeast Asian American women appear to be 31 percent less likely to be promoted into managerial positions than comparable non-Hispanic White American women and 41.2 percent less likely than non-Hispanic White American men. Controls were included for weeks and hours worked, experience, occupation, industry, language ability, age of immigration, disability status, marital status, and region of residence.

Wen Chen¹ was born in China but grew up in Taiwan. He did his undergraduate work at National Cheng Kung University and went to Canada to complete his doctorate in electrical engineering at the University of Manitoba. After teaching at Columbia University for several years, he became a research staff member at the IBM Watson Research Center. While at IBM, Chen designed 1 GB RAM chips before people had 1 GB hard drives. He published more than a hundred technical papers and held more than a hundred international patents. But after eighteen years at IBM, he felt himself bumping against a glass ceiling. So he returned to Taiwan and joined the faculty of National Chiao Tung University. There he quickly became senior vice president and then acting president of the university.

The example of Wen Chen informs this study of Asian Americans and labor market discrimination. The article will examine the experiences of Asian Americans, not by looking at all Asian Americans but by focusing on Asian Americans with PhDs. Asian Americans are known to value education, but only 3 percent of Asian Americans go so far as to obtain doctorates. These Asian Americans end up at an extreme end of the labor market. The factors that affect all Asian Americans may become magnified at the extreme ends of the labor market, particularly if there are glass-ceiling issues.

Some geologists have observed that we can learn more about earthquakes by studying one large earthquake rather than a dozen small ones (Aki 1981). As well, economists have advised that we can learn more about business cycles by studying the Great

Depression rather than a dozen small recessions (Bernanke 2000; Temin 1989). Both groups believe that the nature of various phenomena can become magnified in extreme cases. Thus, we will try to learn something about all Asian Americans by looking at the most highly educated Asian Americans.

These findings show that Asian American men with PhDs earn less than comparable non-Hispanic White men with PhDs. The study makes a distinction between South Asians and East/Southeast Asians and finds that East/Southeast Asians experience more discrimination. The evidence also shows that Asian Americans are much less likely to hold managerial positions than comparable non-Hispanic Whites. Being Asian will reduce the chance of holding a managerial position by 26 percent to 29 percent. The estimates of this study may be biased downward by the effect of return migration to Asia. These results are broadly consistent with previous results published in literature by the U.S. Commission on Civil Rights (1988) and Marlene Kim and Don Mar (2007), suggesting very little has changed over the past two decades.

BACKGROUND

While Asian Americans are known for valuing education,² the actual levels of educational attainment are quite varied. The community tends to be overrepresented at the extremes. While Asian Americans are more likely than non-Hispanic White Americans to have a bachelor's degree or higher (44.1 percent versus 26.1 percent), they are also more likely to have less than a high school education (19.6 percent versus 16.4 percent) (Bauman and Graf 2003). At the doctorate level, approximately 1 percent

of non-Hispanic Whites and 3 percent of Asian Americans have PhDs.

Using 2000 U.S. Census Public Use Microdata Sample (PUMS) data, Asian Americans are disaggregated across ethnic groups and levels of higher education in Table 1. The table is limited to the twelve Asian American ethnic groups with populations of more than 100,000 because of sample-size issues. Despite combining the 5 percent and 1 percent PUMS files from the 2000 Census, the sample sizes for other Asian ethnic groups were too small, as was the number of individuals who seek PhDs, to make precise estimates regarding these smaller ethnic groups.

The percentage of Asian Americans in each ethnic group between the ages of twenty-five and sixty-four who have a bachelor's degree, master's degree, professional degree (PRO), or doctorate appears in Table 1. A professional degree might be from a law, medical, business, art, architecture, seminary, or social work school. These degrees prepare the individual for a particular career or profession, not scholarly research or academic activity.

Even though many Asian Americans obtain significant levels of education, the data in Table 1 shows that there is an enormous range in the educational attainment of specific ethnic groups. While almost 70 percent of Taiwanese have at least a bachelor's degree, more than 90 percent of Laotians have less than a bachelor's degree. In the Asian American community, the Taiwanese and the Indians are most likely to have at least a BA. Eight of the twelve Asian ethnic groups are more educated than non-Hispanic White Americans, however, the Vietnamese, Cambodians, Hmong,

Table 1 — Asian Americans and Higher Education

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%	BA+			PhD			PRO			MA			BA		
	All	M	F	All	M	F	All	M	F	All	M	F	All	M	F
Taiwanese	69.5	78.7	61.4	7.6	13.5	2.5	5.8	8.5	3.6	24.3	28.2	20.9	31.7	28.5	34.5
Indian	65.8	70.9	59.8	4.9	6.8	2.7	8.0	8.7	7.1	22.4	26.1	18.0	30.6	29.3	32.1
Pakistani	54.8	59.6	48.1	2.0	2.6	1.2	9.6	11.3	7.1	14.3	17.0	10.6	28.9	28.7	29.2
Chinese	51.4	55.0	48.1	5.6	8.7	2.9	3.7	4.3	3.3	16.1	18.2	14.3	25.9	23.8	27.7
Japanese	50.7	56.2	46.2	2.3	3.6	1.2	3.4	4.6	2.4	10.0	11.0	9.2	35.0	37.0	33.4
Korean	46.3	55.6	39.6	2.4	4.3	1.1	3.3	4.7	2.2	9.6	13.3	6.9	31.0	33.3	29.4
Filipino	45.9	41.9	48.8	0.6	0.6	0.5	3.5	3.8	3.3	3.7	3.5	3.8	38.2	34.0	41.2
Thai	38.2	47.8	33.2	1.1	1.9	0.7	3.1	4.7	2.3	11.2	13.8	9.8	22.8	27.4	20.4
NHW	28.0	28.8	27.2	1.0	1.4	0.7	2.1	2.7	1.6	6.9	6.6	7.0	18.0	18.1	17.9
Vietnamese	20.3	23.3	17.4	0.5	0.7	0.4	1.8	2.0	1.6	2.8	3.5	2.0	15.3	17.1	13.4
Cambodian	9.6	12.3	7.2	0.1	0.2	0.1	0.4	0.7	0.2	1.9	2.3	1.5	7.2	9.1	5.5
Hmong	8.3	10.5	6.0	0.2	0.3	0.0	0.4	0.5	0.3	0.8	1.0	0.6	6.9	8.7	5.1
Laotian	7.0	7.1	7.0	0.1	0.1	0.1	0.3	0.5	0.1	0.8	0.9	0.8	5.8	5.7	5.9

The figures are percentages for each group between the ages of 25 and 64.

“All” means men and women, “M” means males, and “F” means females.

NHW means “Non-Hispanic White.”

“BA+” means bachelor’s degree or more.

The Asian American percentages were estimated from the combined 5% and 1% PUMS files from the 2000 Census.

The NHW percentages were estimated from the 5% PUMS files from the 2000 Census.

and Laotians lag behind non-Hispanic White Americans and other Asian Americans in their level of educational attainment.

Koreans and Filipinos are almost equally likely to have at least a BA, but Koreans are much more likely to continue with their education and to have an MA or a PhD than Filipinos. On the other hand, Filipinos have an edge on professional degrees. This can be accounted for by the immigration of Filipino health care workers. More than 50 percent of Filipinos with professional degrees are foreign-born Filipinos who work in health care.

Educational attainment figures are also separated for men and women. There are significant gender differences in educational attainment for the Asian ethnic groups, much more so than for non-Hispanic White men and women. Among the Asian ethnic groups, the men are generally more educated than the women. In the one exception, Filipina women are more educated than Filipino men.

The study notes that all ethnic groups, both males and females, have more professional degrees than PhDs except for Chinese and Taiwanese males. An astonishing 20 percent of thirty-six-year-old foreign-born Chinese American males

had doctorates in 1999, along with 20 percent of Taiwanese American men in their 50s.³ The Chinese and Taiwanese are more likely to have PhDs than any other Asian American ethnic group.

ASIAN AMERICAN PHDS

The 2000 Census PUMS indicates approximately 154,000 Asian Americans between the ages of twenty-five and sixty-four have PhDs. The Chinese and Indians make up the lion's share—72.4 percent—of Asian Americans with PhDs. Adding in the Koreans and the Japanese brings the number to 87.7 percent. Including the Filipinos and Taiwanese, the number is more than 94.8 percent. And adding in the Vietnamese and Pakistanis will bring the number to more than 97.8 percent. For an earlier analysis of Asian American scientists and engineers, see work by Paul Ong and Evelyn Blumenberg (1994).

Some summary statistics on Asian Americans with doctorates are presented in Table 2. According to the data, men are earning approximately 60 percent more than women overall. The average male PhD earns about \$72,000, and the average female PhD earns about \$44,000. On an hourly basis, men earn approximately 40 percent more than women overall. White PhDs earn more than the Asian PhDs by 6 percent for men and 10 percent for women. It should be noted that these averages are for all PhDs, including those who are only working part time and/or just part of the year.

Several possible explanations for the differences immediately come to mind. Asian American PhDs reported working fewer hours and fewer weeks during the year than the White PhDs. As such, the hourly wage for Asian men is 3.9 percent less than for White men, yet the hourly

wage for Asian women is 2.2 percent higher than for White women. The Asian American PhDs, who are generally foreign-born and nonnative English speakers, are about six years younger than the White PhDs. About a third of all Asian Americans are native-born, but only 7 percent of Asian Americans with PhDs are native-born. The Asian Americans are also more likely to be married and to have more kids. It's worth noting that Asian Americans are much less likely to hold managerial positions and more likely to hold professional positions. This issue will be addressed more carefully later.

The distribution of Asian and White PhDs across industries is somewhat similar with a majority of the degree holders working in education services and professional services.⁴ Asians, however, are disproportionately overrepresented in durables manufacturing (computer, peripheral equipment, electronic component, and product manufacturing), nondurables manufacturing (pharmaceuticals and medicine manufacturing), information (wired telecommunications carriers), and professional services (scientific research and development services). Asians are underrepresented in education services (colleges and universities, including junior colleges) and public administration.

The regional distribution is also somewhat similar. In 2000, all Asian Americans were most likely to live in the states of California (36.1 percent), New York (10.2 percent), Texas (5.5 percent), and Hawaii (4.9 percent). However, Asian Americans with PhDs were most likely to live in California (25 percent), New Jersey (7.7 percent), New York (7.3 percent), and Texas (6.1 percent). Only 1 percent of Asian Americans with PhDs lived in Hawaii. Thus, the distribution of Asian

Table 2 — Summary Statistics for PhDs by Race and Gender

2000	Asian Men	White Men	Asian Women	White Women
Income	\$68,296	\$72,387	\$41,066	\$44,992
	(61424)	(70496)	(39142)	(44103)
Hourly Wage	\$34.45	\$35.79	\$26.18	\$25.62
	(34.82)	(62.15)	(30.41)	(35.32)
Hours	42.59	44.62	36.19	38.92
Weeks	46.09	46.31	39.74	42.53
Manager %	14.01	18.95	8.91	15.67
Professional %	79.33	72.41	76.61	74.31
Age	42.97	48.607	40.01	46.48
	(9.63)	(9.54)	(8.91)	(9.53)
Native-Born %	6.05	85.52	10.07	87.33
Age at	25.56	3.92	23.43	3.22
Immigration*	(10.16)	(10.61)	(11.65)	(9.48)
Lang. Ability†	1.16	0.16	1.07	0.16
	(0.65)	(0.46)	(0.72)	(0.45)
Married %	86.69	78.47	75.63	63.64
Kids	0.86	0.70	0.72	0.55
NOBS	6,615	42,381	2,471	20,877

Standard deviations are in parentheses.

* Age at immigration is 0 if native-born.

†Lang. ability: 0 means only speaks English, 5 means does not speak English at all.

Manager is defined as three-digit census occupation codes 001–099.

NOBS includes all observations.

Americans with PhDs is not as skewed to a few states as the distribution of all Asian Americans.

LABOR MARKET DISCRIMINATION

Labor market discrimination exists when workers who have identical productive characteristics are treated differently because of their race or gender. The two prominent forms of current labor market discrimination are wage discrimination and occupational discrimination. Wage discrimination occurs when two equally skilled groups of workers doing exactly

the same job under the same working conditions are paid different wages. Occupational discrimination occurs when two equally skilled groups of workers are given different access to certain higher-paying positions.

Wage Discrimination

Asian American men earn about 6 percent less annually and 3.9 percent less hourly than non-Hispanic White men. The differences may be caused by discrimination and/or differences in average levels of productive

characteristics. Asian women earn less on average than White women, approximately 10 percent less. Furthermore, Asian women earn 60 percent less than White men.

To investigate racial and gender discrimination, this study uses the Oaxaca decomposition, which is the standard tool of economists when analyzing similar topics.⁵ First, the study examines the data on human capital and other characteristics that are theoretically relevant to the determination of wages. These include age, education, experience, hours of work, region of residence, industry, occupation, age at immigration, language ability, number of children, and marital status for both Asian Americans and non-Hispanic White Americans. Then, empirical estimates are made on how each of these characteristics contributes to the earnings of non-Hispanic White Americans. Having measured the levels of the productive characteristics typically possessed by Asian Americans, and having estimated how these characteristics contribute to the earnings of non-Hispanic White Americans, estimates can be made on how much Asian Americans would earn if they were treated in the labor market like non-Hispanic White Americans. The difference between their predicted earnings if White and their actual earnings as Asian is this study's measure of current labor market discrimination.⁶

For estimating the wage functions, the sample was restricted to people working full time (thirty-five hours or more per week) for more than half of 1999. It is assumed that this sample group has strong attachments to the labor force. Individuals included were between the ages of twenty-five and sixty-four who were not self-employed and reported

earnings of at least \$4,500 in 1999. Since the minimum wage in 1999 was \$5.15, everyone in the sample should have earned at least this much.

These restrictions yielded a smaller sample size with 5,407 Asian men, 1,665 Asian women, 31,812 non-Hispanic White men, and 13,662 non-Hispanic White women. These new subsamples contain about 81.7 percent of the Asian men and 75.1 percent of the White men, but only 67.4 percent of the Asian women and 65.4 percent of the White women in the data set. The data shows that Asians with PhDs are more strongly attached to the labor market than Whites with PhDs.

If the decision to work full time is not random with respect to the stochastic error in the wage equation, ordinary least squares regression will give biased estimates of the wage function coefficients. Since this is likely to be a problem with the female wage equations, the James Heckman (1979) selectivity bias correction is used on the female wage equations. A probit equation is estimated to model whether or not an individual is in the sample, and the inverse Mills ratio is included in the wage equation. When the estimates are controlled for selectivity bias, the average wage differential can be decomposed into a portion due to differences in average selectivity bias, a portion due to differences in average skills, and a portion due to discrimination. The differences in average selectivity bias may also be decomposed further, a part of which may be interpreted as due to discrimination. Since the appropriate interpretation is unclear, this article will not try to interpret the selectivity bias differences.

The dependent variable in these regressions is the log of annual wages and

salaries. All the coefficient estimates were of the expected sign, and most were statistically significant at the 5 percent level. People who work more weeks and longer hours earn more. There are positive returns to experience (age). There is a penalty for being disabled, having language difficulty,⁷ and living in a rural area. Asians who immigrated at a younger age tend to have higher earnings. Married men and married White women have higher earnings.⁸ Having more children is associated with higher earnings for everyone. These regressions were run with controls for class of worker, six regions of residence, seventeen industries, and thirteen occupations.

In this analysis, all doctorates were treated as equivalent in terms of earnings potential, regardless of the field of the degree or the quality of the university from which the degree was granted. However, the potential earnings are probably higher for people with doctorates in life sciences, physical sciences, and engineering. And almost 70 percent of doctorates earned by Asian Americans are in the life sciences, physical sciences, and engineering, far above the average for other ethnic groups (Woo 2000). One-fifth of all U.S. doctorates awarded in these fields goes to persons of Asian heritage, and Asian Americans are three times more likely to be scientists or engineers than the average American (Lawler 2000). By using industry controls in the regressions, the study captures some of these differences, however, the study likely biases results against finding any discrimination by treating all doctorates as equivalent.

Using the wage regression estimates, the study can then estimate the amount of current labor market wage discrimination faced by Asian Americans. The estimates

appear in Table 3. From the regression results, Asian American men earn 2 percent less than comparable non-Hispanic White men. These differences were significant at the 5 percent level. For Asian women, their earnings are comparable to White women,⁹ although they are found to earn 15 percent less than comparable White men.

One partial explanation for the earnings gap may be the measure of labor market experience. The study assumes that individuals acquire the same amount of labor force experience each year after completing their education and that they complete their education at roughly the same age. But since Asian women have labor force participation rates¹⁰ around 67.4 percent and White men have labor force participation rates around 75.1 percent, the study may be overestimating the amount of labor force experience Asian women have relative to the White men. Assuming that all White men are in the labor force 75.1 percent of the time and that all Asian women are in the labor force 67.4 percent of the time, then in an average year, the typical working White man would get 11.4 percent¹¹ more labor market experience than the typical working Asian woman. Therefore, the study reduced all the experience measures for the Asian women by 11.4 percent and reestimated the wage gaps. Doing so reduces all the wage gaps by approximately 2 percentage points. Thus, rather than earning 15 percent less than comparable White men, Asian women earn 13.3 percent less than comparable White men.

It is worth noting that labor force participation rates are higher for Asian men than White men, 81.7 percent versus 75.1 percent. Applying the same rationale from above, Asian men gain approximately 8.8 percent more labor market

Table 3 — Wage Discrimination

All Asians	Asian Men/ White Men	Asian Women/ White Women	Asian Women/ White Men
Actual Annual Wage	\$62,140	\$46,627	\$46,627
Predicted Annual Wage	\$63,325	\$46,205	\$55,161
Relative Wage	98.11¢	100.91¢	84.53¢
East/Southeast Asians	East Asian Men/ White Men	East Asian Women/ White Women	East Asian Women/ White Men
Actual Annual Wage	\$59,548	\$46,993	\$46,993
Predicted Annual Wage	\$61,572	\$46,499	\$55,185
Relative Wage	96.66¢	101.06¢	85.16¢
South Asians	South Asian Men/ White Men	South Asian Women/ White Women	South Asian Women/ White Men
Actual Annual Wage	\$68,465	\$45,548	\$45,548
Predicted Annual Wage	\$67,501	\$45,338	\$55,091
Relative Wage	101.42¢	100.46¢	82.68¢

The dollar figures are anti-logs of the predicted values.

experience each year than White men. After adjusting for this factor, the amount of discrimination faced by Asian men increases from 2 percent to 4 percent.

This study explores the issue of wage discrimination further by separating out the different Asian ethnic groups; this surfaced a difference in the experience of East/Southeast Asians and South Asians. While East/Southeast Asian men earn 3 percent less than comparable White men, the earnings of South Asian men are comparable to those of White men. Both East Asian and South Asian women have earnings that are comparable to that of White women. But they earn 14.8 percent and 17.3 percent less than comparable White men, respectively. After adjusting for differences in labor force participation rates, the earnings gap with respect to White men falls by about 2 percentage points. The gaps become 12.6 percent and

15.6 percent, respectively. Thus most of the gaps remain.

GLASS CEILINGS

In addition to being paid less for doing the same work, Asian Americans may be less likely to be promoted on the job. Asian Americans may be denied equal access to the higher rungs of the managerial or corporate ladder. To the extent that such discrimination exists, Asian Americans may be excluded from spheres of power and influence along with the associated money earnings.

Probit¹² models were estimated to explain the factors that affect the probability of someone being a manager. The study included controls for years of experience (age), disability status, marital status, rural area, language ability, age at immigration, number of kids, and whether or not the person is Asian. Furthermore, controls for industry and

Table 4 — Probability of Being a Manager

Asian Men/White Men	Asian Women/White Women	Asian Women/White Men
12.04% (16.30%)	7.39% (10.36%)	7.39% (12.08%)
South Asian Men/White Men	South Asian Women/ White Women	South Asian Women/ White Men
14.96% (17.37%)	7.69% (9.45%)	7.69% (11.56%)
East Asian Men/White Men	East Asian Women/ White Women	East Asian Women/ White Men
10.76% (15.98%)	7.29% (10.56%)	7.29% (12.40%)

Shows the actual percentage who are managers (census three-digit occupation codes 001–049) and the predicted percentage if the Asians were treated as White and/or male in parentheses.

All differences are statistically significant at the 5% level except for South Asian women relative to White women.

East Asian includes East Asians and Southeast Asians.

region of residence were included because the percentage of the labor force in managerial positions may differ by industry and region for reasons independent of race.

For Asian women and White women, probit models were estimated with sample selection.¹³ All the coefficients were generally of the expected sign and statistically significant. A woman is less likely to be a manager if she is younger, is disabled, is not married, or has limited language ability. Having more kids decreases the probability that a man will be a manager but seems not to impact women. Being Asian also decreases the probability of being a manager.

If Asian men were White, their probability of being a manager would increase by 4.26¹⁴ percentage points, increasing the overall probability of being a manager by about 35.4 percent. If Asian women were White, their probability of being a manager would increase by about 3 percentage points, increasing the overall probability of being a manager by 40.2 percent. And if Asian women were White and male, their probability of being a

manager would increase by 4.7 percentage points, increasing the overall probability of being a manager by 63.5 percent. Thus Asian men and Asian women are much less likely to hold managerial positions than non-Hispanic White PhDs with similar characteristics. See Table 4.

The study tested to see if South Asians had the same experience with the glass ceiling as East/Southeast Asians and found the glass ceiling for East/Southeast Asians to be stronger. East Asian men see about a 5.2 percentage point drop in the probability of being a manager relative to White men, reducing the overall probability by 32.7 percent. South Asian men see about a 2.4 percentage point drop in the probability of being a manager, reducing the overall probability by 13.9 percent. South Asian women and White women have similar probabilities of being a manager. But East/Southeast Asian women see a 3.3 percentage point drop in the probability of being a manager relative to similar White women, a decline in the probability of approximately 31 percent. Relative to White men, South Asian women were 3.9 percentage points, or 33.5 percent, less likely to be a

manager. And East/Southeast Asian women were 5.1 percentage points, or 41.2 percent, less likely to be a manager than similar White men. Thus while all Asians seem to encounter a glass ceiling, East/Southeast Asians seem to encounter a stronger glass ceiling than South Asians.

RETURN MIGRATION

The final issue to be considered is that of return migration. Masao Suzuki (1995) raised this issue in his discussion of the economic status of Japanese Americans in the 1920s. He found that Japanese Americans who were not doing well economically were more likely to return to Japan. Thus, an examination of the economic status of Japanese who remained in the United States gives us a biased measure of the actual experience of Japanese Americans.

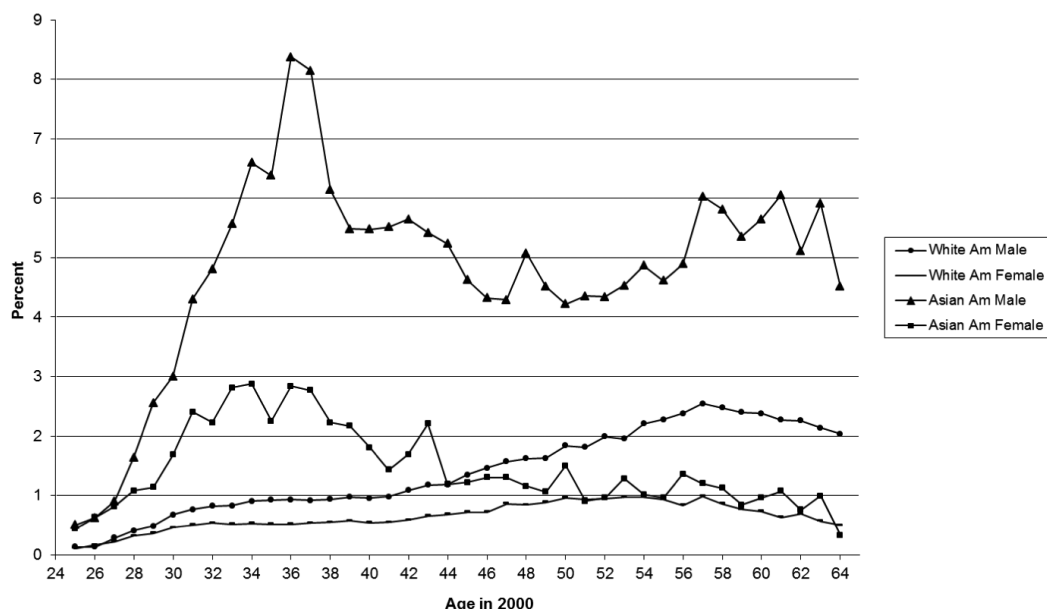
Similarly, many foreign-born Asian Americans with PhDs return to Asia. Of all the temporary residents from Asia who received doctorates in science¹⁵ and engineering in the United States in 1998, 32 percent had returned to Asia within five years (Finn 2005). There were significant differences by country of origin. Immigrants from Japan and South Korea were much more likely to return than immigrants from China and India.

Consequently, the age profile of Asian American PhDs looks very different from the age profile of non-Hispanic White PhDs (see Figure 1). Data on the percentage of PhDs for every age from twenty-five to sixty-four in 1999 shows that Asian Americans are three times more likely to have a PhD than non-Hispanic Whites. The percentage of Whites with PhDs rises with age until the age of fifty-seven. The older a person is, the more time he or she has had to complete the dissertation. And since education is something that cannot

be taken away from a person, the peak in the number of PhDs at the age of fifty-seven is probably the result of the 1944 G.I. Bill, which sent increasing numbers of Americans into higher education. The percentage of Asian Americans with PhDs rises dramatically with age, but after the age of thirty-five or so, there is a sharp decline. This may be partly the result of increasing numbers of Asian Americans pursuing doctorates over time. But it is also the result of Asian Americans returning to Asia later in their careers.

There is also an unusual pattern for middle-aged Asian Americans. The percentage of Asian males with PhDs between the ages of thirty-eight and fifty-seven is lower than expected given the percentages of Asian males with PhDs at age thirty-five and at age sixty. The same is true, though to a smaller extent, for Asian females with PhDs. This gap can be accounted for by the Great Cultural Revolution in China from 1966 to 1976. There was a purging of “imperialistic intellectuals,” university presidents, and other prominent intellectuals during this period. So the percentage of Chinese immigrants who would obtain doctorates declined rapidly after 1966 and did not fully recover until about 1986. The number of Asian American doctorates “lost” to the Cultural Revolution appears to be around 15,000 to 20,000.¹⁶ This is 10 percent to 13 percent of all Asian Americans with PhDs.

Since the census data provides information on the Asian Americans who did not return to Asia and nothing about those who did return, the estimates of discrimination may be biased. The direction of the bias depends on the nature of the differences between the Asian Americans

Figure 1 — Percent Holding Ph.D.s by Age

who remain in the United States and those who return to Asia.

The very best scholars and researchers may hesitate to return to Asia. The research culture in the United States may be more conducive for doing first-rate scholarship. For example, the number of Nobel prizes (outside of peace and literature) won by the United States dwarfs the number won by Asian countries. Furthermore, the majority of the Nobel prizes won by Asian countries are actually for research done in the United States. Thus, the top scientists might prefer to stay in the United States and those who are less likely to find decent, permanent positions or tenure here in the United States may be more likely to return to Asia early in their careers. The most qualified scholars and researchers may return to Asia closer to the end of their careers to take senior administrative positions as was the case for Wen Chen, the example individual with whom this article opened. This would bias our estimates of discrimination downward.

CONCLUSION

Using 2000 Census PUMS data, the evidence on labor market discrimination is very consistent with the experience of Wen Chen and the earlier literature. This data allows the study to control for age, language ability, and the age at immigration if the person is not native-born. The evidence shows that East/Southeast Asian men earn 3 percent to 5 percent less than comparable White men with PhDs and are 32.7 percent less likely to be promoted into managerial positions. Asian American women have earnings that are comparable to those of White women but earn significantly less than White men. East/Southeast Asian women are 31 percent less likely to be promoted into managerial positions than comparable White women and 41.2 percent less likely than comparable White men. All of these estimates may be biased downward because the study does not fully control for the field of the doctorate and because of the theory that the less qualified Asian

American PhDs return more quickly to Asia during the course of their career.

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Endnotes

¹ Wen Chen’s real name and background have been changed to protect his anonymity.

² Compiled from information on the college Web sites regarding undergraduates, in 2010, Asian American students accounted for 17 percent of the students at Harvard University, 23 percent of the students at Stanford University, and 43 percent of the students at the University of California, Berkeley, but 4.8 percent of the U.S. population.

³ Author estimates from the 2000 Census PUMS.

⁴ The actual distribution across industries and regions is available from the author.

⁵ See Ronald Oaxaca’s work for details (1973).

⁶ This assumes that the wage offer function in a nondiscriminatory world would be the same as the non-Hispanic White wage offer function. This seems reasonable because the number of non-Hispanic Whites in the labor force outnumber Asian Americans by 7 to 1 in the PhD labor market.

⁷ Language ability is measured by five dummy variables. Lang1 means “only speaks English.” Lang2 means speaks English “very well.” Lang3 means speaks English “well.” Lang4 means speaks English “not well.” And Lang5 means speaks English “not at all.”

⁸ Higher earnings for married men is a standard result in the literature but not for married women. The experience of married women with PhDs may be different from women in general.

⁹ The female regression estimates are much less precise than the male regression estimates because of the sample-selection issue.

¹⁰ “Labor force participation rate” is defined here as working at least thirty-five hours a week for at least half the year. This is not the standard definition of “labor force participation,” which includes part-time workers.

¹¹ $11.4\% = (75.1/67.4) - 1$

¹² Logit models were also estimated. The results were almost identical, so only the probit results are presented. The probit model is theoretically more appealing than the logit.

¹³ See Wynand Van de Ven and Bernard Van Praag (1981). A dummy variable for children at home under the age of six was used in the selection equation while the number of children ever born was used in the managerial probit equation.

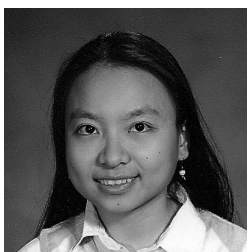
¹⁴ These percentages are evaluated from the probit coefficient estimates and the mean values of all the variables for Asian Americans using a table for the cumulative normal distribution.

¹⁵ Science includes the social sciences.

¹⁶ Without the Cultural Revolution, the percentage of Chinese immigrants with a PhD is assumed to have increased smoothly from the actual values in 1966 to the actual values in 1986 to arrive at these estimates.



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