

Abstract

Census data demonstrate that Asian Americans have the highest median income among all racial groups in the United States (US Census Bureau 2004). Because of such promising statistics, a common perception is that Asian Americans have “made it” in American society. However, the “success” of Asian Americans is not uniform within the population. Past studies of the stratification of Asian Americans have focused on immigration status, nativity, length of stay, and ethnicity to account for the differences. A recent study stresses place of education as a crucial dimension in the stratification of Asian Americans. Once place of education is included in statistical models, race and nativity are no longer consequential. This study is an extension of the earnings’ disadvantages that arise from place of education. Specifically, we seek to determine the causal effect of US education through a counterfactual framework by using the differences-in-differences strategy.

The Discount Rate of Foreign Education: A Differences-in-Differences Approach

Much sociological attention has been given to the topic of immigrant assimilation into the labor market. It has been documented that immigrants suffer an initial wage penalty that decreases as they learn host-country skills. Through assimilation, it is believed that immigrants will be able to at least attain parity if not surpass natives in earnings (e.g. Chiswick 1978). The materialization of the American Dream is often believed to be embodied by the Asian American population, which, by and large, has fared well in the American economy.

This common perception has given rise to the popular “model minority” myth and has masked the socioeconomic heterogeneity within the Asian American population. While some Asian Americans are able to reach socioeconomic parity with their white counterparts, others continue to face economic distress. To account for this socioeconomic diversity, social science literature has examined ethnicity, nativity, length of stay and other social and human capital characteristics, but findings on whether the wage gap persists after controlling for these variables have been mixed (Chiswick 1983, Wong 1982). Recent scholarship (Zeng and Xie 2004) revisited the human capital model to explain the disadvantages Asian Americans face in the workplace. Past research that examined human capital variables suffered from aggregation bias by failing to differentiate between domestic and foreign sources of education. When source of education is taken into account, such variables as race and nativity are no longer statistically significant, thus marking the importance of the location of one’s education on earnings.

This study is a refinement of Zeng and Xie’s 2004 paper on Asians Americans’ earnings disadvantage. While the standard regression framework is able to show association, it is unable to determine causation. Therefore, we will examine the role of place of education from a

counterfactual framework. Specifically, this study asks the question, “What is the discount rate of foreign education for Asian Americans?”

Data

This research utilizes two datasets: the 5% sample of the 2000 PUMS and the 2003 New Immigrant Survey. For the PUMS sample, we restrict the analysis to 25-44 year old full-time, able-bodied immigrants who identified as Asian in the 2000 Census. Full-time workers are those who worked over 35 hours a week and over 45 weeks a year. PUMS is an ideal dataset for studying immigrant earnings because of its large sample size and its national representativeness of all sectors of the labor market. The 2000 PUMS is also an improvement over the 1990 PUMS for this topic because, unlike the 1990 dataset, immigrants’ year of arrival to the United States is not in bracket form. Though there is no direct measure of the key variable – place of education – we can impute it from the immigrants’ year of entry. For instance, since most high school students complete their secondary education by the age of 18, respondents who arrived in the United States at the age of 19 and reported no college education can be assumed to have obtained their high school degree abroad.

The New Immigrant Survey 2003 is a multi-cohort, longitudinal dataset of 8,573 new legal immigrants to the United States. The NIS is rich in demographic, social, economic and pre-migration variables that are relevant to the immigrant population. It also contains a direct measure of the main variable of interest, place of education. By comparing these two datasets, we can see whether place of education has differential effects on a nationally representative sample and a sample of new legal immigrants.

Methodology

In causal inference, we seek to determine what the effect a given treatment has on the individual. In answering causal questions, we estimate the difference between an individual's potential outcome to treatment and the same individual's potential outcome in the absence of treatment. But an apparent problem arises: an individual cannot simultaneously experience both being treated and not. In other words, the “counterfactual” – the “what if” – can never be observed. To solve this problem, we employ the differences-in-differences model as a strategy to create the counterfactual.

The differences-in-differences (DD) model is a simple double differencing strategy that compares group means between those who receive treatment and those who do not both before and after the treatment. In this study of the effects of US education on immigrants, the outcome is log of earnings and the treatment is receiving a US college education. The control group is used to answer the counterfactual question by estimating what the earnings of Asian immigrants would have been in the absence of US college education attainment. Following the differences-in-differences strategy, the discount rate is defined as the difference in log earnings between a) those who received a domestic college degree and those who did not and b) those who received a foreign college degree and those who did not (see figure 1).

Figure 1. Differences-in-differences

	Treatment	Control
Before	$T_b = \text{US High School Education}$	$C_b = \text{Foreign High School Education}$
After	$T_a = \text{US College Education}$	$C_a = \text{Foreign College Education}$
Difference	$T_a - T_b$	$C_a - C_b$

$$\text{Discount Rate} = \text{Differences-in-Differences} = (T_a - T_b) - (C_a - C_b)$$

In the first model, we first obtain the group means of the four different groups outlined in Figure 1 through t-tests. We then difference the treatment group before and after treatment and difference the control. Finally, we difference the difference to get the DD estimator. In

regression framework, the earnings of those living in the United States and those abroad before and after the attainment of college education can be written as

$$Y_i = \beta_t + \gamma_l + \delta E_i + \varepsilon_i \quad (1)$$

where Y_i is i 's log of earnings, E_i is a dummy variable that equals 1 if i received the treatment of US college education, and 0 otherwise. The differencing of earnings across the two locations l (US and abroad) and two time periods t (before and after the treatment) yields δ , which is the DD estimator. This model is a simple and transparent model, but it does not consider other sources of variation in earnings.

In subsequent models, we run regression models that allow for variations in other human capital characteristics (e.g. experience and language skills), in occupational differences, and an interaction of both (e.g. language skill * occupation). We also incorporate a variable for ethnicity to examine ethnic variability in discount rates. The inclusion of ethnicity sheds light on how the stratification process can occur prior to immigration in the differential transferability of foreign education. Since E in Eq (1) is an interaction term of the dummy indicating time and the dummy indicating location, we can extend Eq (1) and run regression-adjusted models. We do so by adding a vector of variables

$$Y_i = X'_i \beta_0 + \beta_t + \gamma_l + \delta E_i + \varepsilon_i \quad (2).$$

In doing these analyses, we can get a better understanding of the economic challenges Asian immigrants face in the United States, especially the earnings disadvantages of a foreign education and whether human capital, social, ethnic and occupational variables ameliorate the situation. This study will illuminate how place of education serves as a unit of stratification for the immigrant population prior to and upon arrival in the United States.

References

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