

# Problem Set #6

Saharnaz Babaei

saharnaz.babaei@grad.moore.sc.edu

ECON815 — November 4, 2019

## Elaboration

In this problem set, I use the education data from IPEDS and Scorecard to answer the question, what the relationship between aided students and college outcome is. In this regard, I am using graduation rate within 6 and 8 years for colleges in the US as my outcome measure, and share of aided students who have low/medium/high income. Low income families are defined as the ones who have incomes between \$0 and \$30000 in nominal dollars. Middle income families in my variable of choice are determined as the ones whose income is between \$48001 and \$75000 in nominal dollars and the high income families are considered as the families whose income is above \$110001 in nominal dollars. Besides the share of aided students, I will look at the relationship between average family income for the dependent and independent students (in real 2015 dollars) and the graduation rate. The visual assessment of these relations are provided in figures 1 - 3.

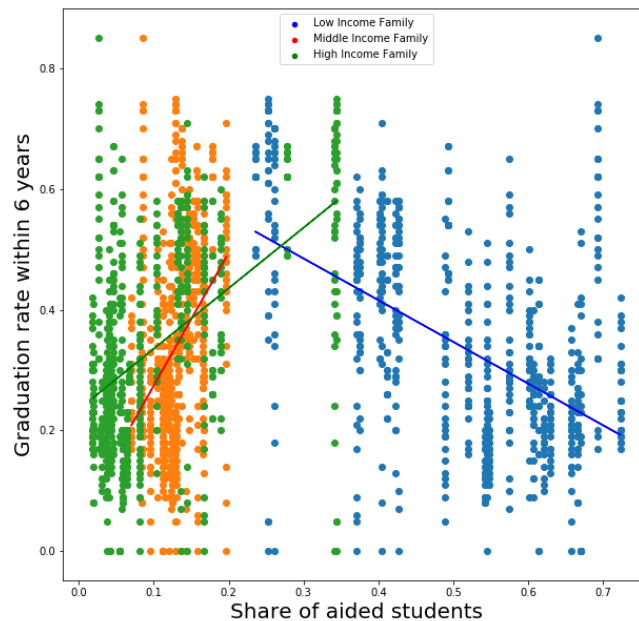


Figure 1: Graduation rate within 6 years and the share of aided students separated by their family income groups

Figure 1 shows the relationship between the aided students and their graduation rate within 6 years. Comparing the regression line for low income family students with middle and high income family students, we can see that the graduation rate has a negative relationship with low income family aided

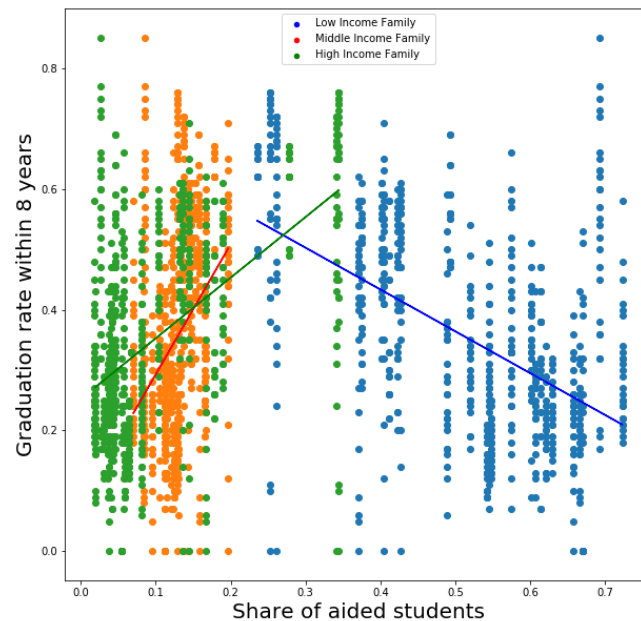


Figure 2: Graduation rate within 8 years and the share of aided students separated by their family income groups

student. The higher the aided students in an institution, the lower the graduation rate is. It can be due to the amount of aid which is paid to the students. That is, low income family students need higher financial assistance. Hence, the university splits the constant amount of budget among higher number of students. But for middle and high income family students, the graduation rate increases when the share of aided students increases. This can be due to the value of aid as the middle and high income family students require less amount of aid, compared to low income family students, to cover their education costs. Even comparing middle and high income groups, the former is increasing with higher speed (larger slope of regression line) in graduation rate, meaning that a small amount of aid to middle income family students can be more effective and "alter their life intensely(!)". The results for graduation rate within 8 years is pretty much the same as 6-year-graduation and are provided in figure 2.

As of the family income for dependent and independent, the linear regression line and the scatter plot in figure 3 indicates that regardless of students dependency or in-dependency, when the average family income increases, the graduation rate for the colleges increases. The economic and financial status of the families leads to higher graduation rate maybe due to their support of their children regardless of their children's dependency. The students from higher income families suffer less severe financial issues because even if they encounter a problem, their parents help them.

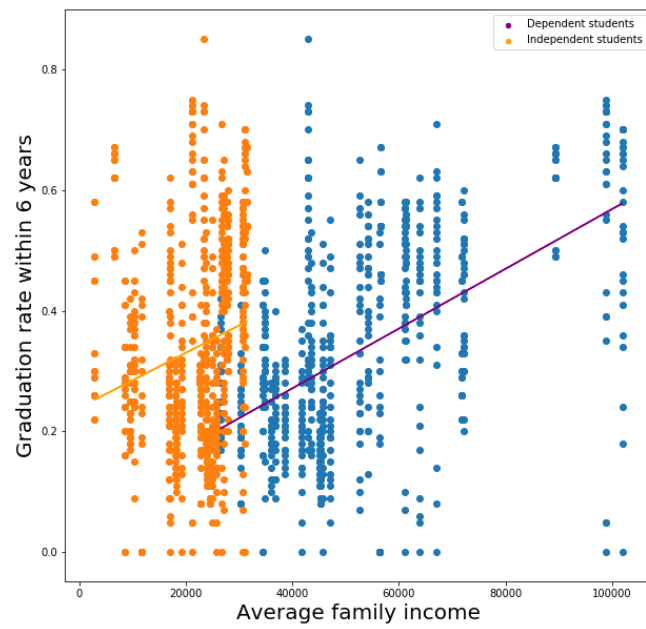


Figure 3: Graduation rate and average family income