The Relationship Between Student Debt and Graduation Rates in the United States

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ABSTRACT

Institutions with a lower average debt total were found to have a higher graduation rate. Institutions with a lower percentage of students taking out federal loans were also more likely to have a high graduation rate. It was concluded that student debt is not the most effective form of financial aid and that new policies should model those of elite institutions, where the bulk of funding comes in the form of grants.

INTRODUCTION

Student debt has become a topic of great debate in the United States. As it has become the largest source of debt, pursuing a college degree has become that much more important. As the federal and state governments have cut grants, student loans have become the primary source of financial aid for the vast majority of students. With the demand for college graduates, the cost of a college degree, and the level of outstanding student debt all increasing, it is essential to understand how these changes affect the average student. Furthermore, it is even more important to understand the attributes of institutions with the highest graduation rates. This study sought to understand how student debt influences graduation rates at institutions across the country to suggest meaningful policies that can enhance higher education in the United States and ensure that all students have the opportunity to complete their degree.

MATERIALS AND METHODS

This SIP utilized the data of the College Scorecard released by the United States Department of Education in September 2015. The purpose of the Scorecard is to provide metrics of performances at a variety of institutions for prospective enrollees. Furthermore, it seeks to provide students, families, and their advisors with a truer picture on college cost and value, while diverting from the mainstream rankings that care more about the number of students an institution rejects. This data was then used to build two empirical models and conduct two ordinary least squares regressions.

RESULTS

Two classical linear models, using the classical assumptions of ordinary least squares, were regressed to measure the relationship between student debt and graduation rates. The general functional form of the two models is stated below:

Model 1: GRAD= f(AVGDEBT, COST, SALARY, MINORITY)

Model 2: GRAD= f(PCTDEBT, COST, SALARY, MINORITY)

Where:

GRAD is the graduation rate at a given institution.

AVGDEBT is the typical total debt a student has acquired upon leaving an institution.

PCTDEBT is the percentage of student who took out loans to finance college.

COST is the average value owed by a student less school, state, and federal aid.

SALARY is the median earnings of former students who received financial aid, 10 years after entering school.

MINORITY is the percentage of minority at a given institution.

Both models were run twice: once for private universities and once for public universities.

Table 1: Summary of Regression Results for Model 1

Institution Type	AVGDEBT	COST	SALARY	MINORITY	Adjusted R^2	Probability Different From 0
Private	-8.54	4.44	10.63	-5.22	.6391	0.0001
Public	-3.84	4.05	8.88	-2.06	.5288	0.0001

Table 2: Summary of Regression Results for Model 2

Institution Type	AVGDEBT	COST	SALARY	MINORITY	Adjusted R^2	Probability Different From 0
Private	-11.71	3.60	7.71	-6.67	.6955	0.0001
Public	-3.60	3.48	8.13	-1.42	.5239	0.0001

* The critical t-value was 1.97 for both models. The absolute value of the reported t-score was significant if greater than 1.97.

The Ramsey RESET test and the Variance Inflation Factor (VIF) were used to measure specification error and multicollinearity. The former tests to confirm or reject the null hypothesis of specification error in an ordinary least squares model. A probability factor less than 0.05 forces the rejection of the null hypothesis, proving that a model has been incorrectly specified. The VIF test runs a regression using the independent variables as a dependent variable of the other independent variables. The mean VIF factor is simply the average value of the individual variable's VIF factor.

Table 3: Summary of Specification Tests

Model	Institution Type	Ramsey RESET p-value	Mean Variance Inflation Factor
Model 1	Private	0.0002	1.28
	Public	0.00001	1.31
Model 2	Private	0.0010	1.48
	Public	0.00001	1.32

CONCLUSIONS

This study found that there is a significant, negative relationship between the average student debt and graduation rates. Furthermore the percentage of students taking on federal loans also has a negative impact on graduation rates. Simply put, institutions with lower average debt levels and a smaller percentage of students who take out federal loans were found to have higher graduation rates.

These findings provide valuable insight into the financial aid policies that set apart institutions with the highest graduation rates. To make higher education more accessible and to ensure that more students complete their degree, the government and institutions should take note of the financial aid policies of Ivy League universities. These elite universities, by providing need-based aid to students from poor- and working-class families, have removed the burden of financing an education away from students in need.

Free public education is an attractive policy suggestion. The financial aid policies of the Ivy League institutions show the power of fulfilling the needs of the less affluent student. Investing in education should be a top priority for the United States. By providing free tuition at public institutions, the government would make college accessible to anyone who desires a college degree. This is a worthy investment because a well-educated nation is a healthy nation. Students from poor and working class families would have a greater opportunity to rise into the middle class. Without the burden of debt, students need not worry about their finances and could instead focus on their academics. Education is a public good and should be accessible to anyone who desires an education. With the current student debt levels and the research demonstrating the inadequacy of financial aid, it is essential that the government advocate for policy reform that promote higher education for all, rather than restricting higher education for the less privileged.

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