

Financial Policy Analysis: Merit-Based Scholarships
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07B:222 – Intro to Policy Analysis and Evaluation

Introduction

In order to increase postsecondary educational access, the federal government has offered publicly funded grants to students. These grants, such as the 1972 Pell Grant amendment to the Higher Education Act, are awarded primarily based on the financial need of the student. One major goal of these federal grants is to increase access to college for low-income students and to eliminate the disparities in enrollment rates these students have compared to higher-income students.

The 1972 reauthorization of the Higher Education Act included a State Student Incentive Grant (SSIG) program. The SSIG provided states with financial incentives to develop state-funded scholarship programs (St. John, 2003). Many states used SSIG incentives to help fund needs-based grants so that low-income families will have postsecondary educational access (Heller, 2001). These state scholarship programs grew more and more important as federal grant funding failed to keep up with increasing tuition costs. According to the National Association of State Scholarship and Grant Programs (NASSGP, 2002), spending on state-sponsored grant programs increased 447% from 1980-2000 compared to a 214% increase in federal Pell Grant funding over the same period.

Over time, states shifted funds from needs-based grants (awarded to students based on their financial need) to merit-based grants (awarded to students based on their academic performance). From 1991 to 2001, the percentage of state grants awarded to students based on academic merit grew from 11% to 24% -- the percentage of state grants awarded on the basis of financial need decreased from 89% to 76% (NASSGP, 2002). Twelve states currently offer merit-based scholarship programs (Alaska, Florida, Georgia, Kentucky, Louisiana, Michigan, Mississippi, Nevada, New Mexico, South Carolina, and West Virginia). During the 2000-01 academic year, these states spent \$863 million on merit-based grants and only \$308 million on needs-based grants (NASSB, 2002). The merit-based grants offered by these states, which are typically funded by lottery revenues, are awarded to students based on their grade-point-averages in high school or their scores on standardized achievement tests.

One of the bigger merit-based scholarship programs exists in the state of Georgia. The HOPE program (Helping Outstanding Pupils Educationally) began in 1993 as a way to increase postsecondary educational access and as a strategy to keep high-achieving individuals in the state of Georgia. In 2001, over \$300 million was awarded to students who were able to earn at least a 3.0 GPA in high school core curriculum courses (and who were able to maintain at least a 3.0 GA in college). As a reward for their academic performance, these high-achieving students receive full tuition at any state university or \$3000 towards the cost of a private university in the state of Georgia (source: HOPE website).

This paper will attempt to both predict and analyze the impact the HOPE program had on postsecondary access and equality of access for both high-achieving students and low-achieving students. In doing so, it will also determine the potential disparate impact this program has for students of different SES levels or ethnicities. This analysis will be conducted through the frameworks of Human Capital Theory and Student Price Responsiveness.

Framework

According to Paulsen (2001), Human Capital Theory states that students make postsecondary educational decisions by weighing their perceptions of the costs and private benefits associated with college attendance. Financial aid given to students, in the form of loans and/or grants, will lower the net price paid by the student; increasing the likelihood that the student will be willing to invest in

postsecondary education (Heller & Rasmussen, 2001). In other words, an increase in grants awarded to students will increase student demand for enrollment. Thus Human Capital Theory can be used as a guide in developing demand curves to analyze the impact of merit-based grants on postsecondary enrollment.

The other framework that shapes this analysis is Student Price Responsiveness (or elasticity). Research on student price elasticity finds that grants have a stronger influence on student enrollment than loans, especially for low-income students. Furthermore, minority and low-income students tend to be more responsive to increases in tuition costs than white, higher-income students (Paulsen, 2001). In other words, the demand curves for low-income or minority students will have a more gradual slope than the demand curves for high-income or white students. Thus, Student Price Responsiveness, can be used to determine the relative slopes of demand curves for high- and low-income students.

Because these scholarships are merit-based (awarded to high-achieving students based on their high school GPAs and standardized test scores), it is important to examine the characteristics of high-achieving students. Without citing specific studies, it is generally accepted that students earning higher GPAs and standardized test scores are primarily from white, higher-income families. Low-achieving students, on the other hand, are disproportionately from low-income minority families. Thus analyzing the disparate impact of merit-based grants on high-achieving versus low-achieving students will serve as a proxy for analyzing the impact on high-SES versus low-SES or majority versus minority students.

To further support this point, Heller & Rasmussen (2001) analyzed the merit-based grant programs in the states of Florida and Michigan. They found that 46% of students in high-SES schools earned merit-based scholarships compared to 16% of students in low-SES schools. They also found that 32% of white students (and 42% of Asian students) earned merit-based grants compared to 9% of African American students (and 18% of Hispanic students) earning these grants. This clearly shows that achievement serves as a proxy measure for race and income.

Prediction Analysis

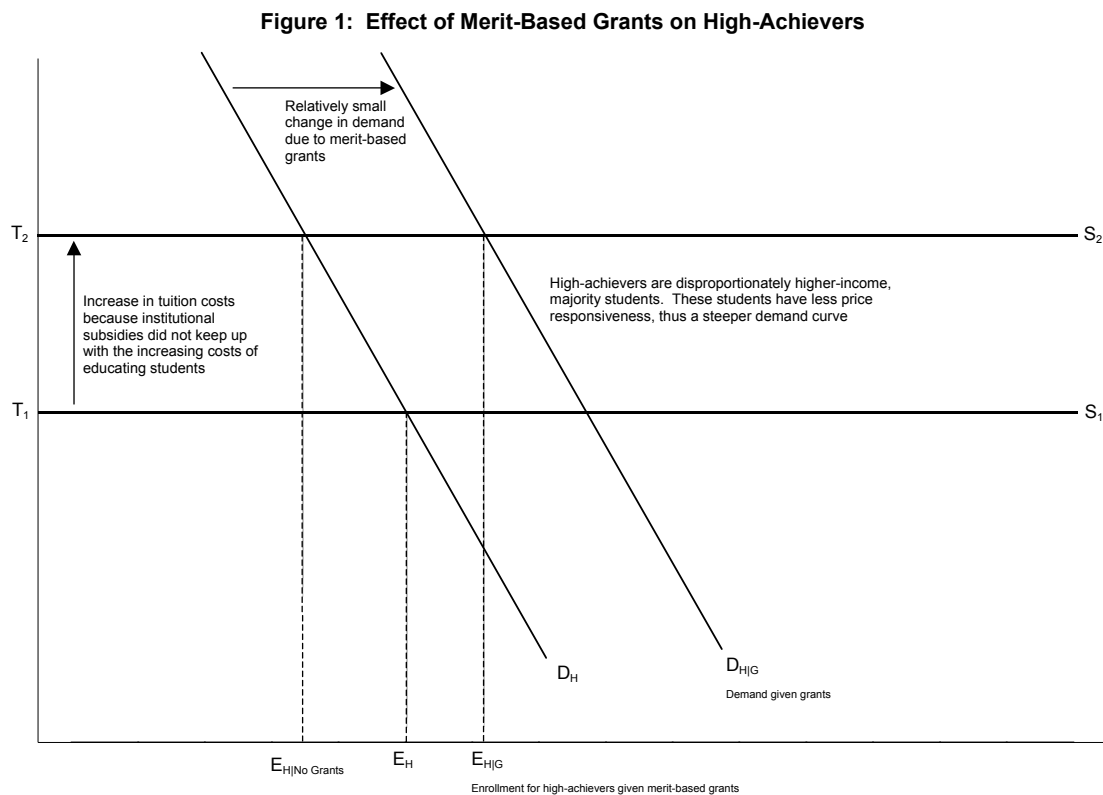
Using the Human Capital and Student Price Responsiveness frameworks, along with information about the characteristic of high- and low-achieving students, the effects of the HOPE program on college enrollment can be predicted via supply and demand curves. Figure 1 shows the predicted impact of the HOPE scholarships on high-achieving students.

T_1 represents the cost of tuition before the HOPE program was implemented. Over the past 12 years, tuition costs have increased for Georgia colleges (due to the fact that institutional subsidies have not kept up with the increasing costs in educating students). This increase in tuition is represented by T_2 . The D_H demand curve represents the demand for enrollment by high-achieving students before the HOPE program was implemented. The high slope indicates that high-achieving students have a relatively low response to changes in tuition costs (due to the fact that high-achieving students are more likely to come from higher-income families). The point E_H represents the enrollment of high-income students Georgia colleges before the HOPE program was implemented.

If the HOPE program was not implemented, and no other student grants were funded, fewer high-income students would enroll in Georgia colleges. This is represented by the point $E_{H|NO GRANTS}$. Enrollment would decline due to the increased tuition costs not being offset by any student grants. Since the HOPE program awards scholarships to these high-achieving students (thus decreasing the

perceived cost of attending college), we would expect an increase in demand for enrollment. This is represented by the demand curve $D_{H|G}$ – a demand curve shifted to the right. As is noted in Figure 1, this increase in demand might be smaller than what we might expect. To explain this, remember that high-achieving students are disproportionately high-income. Thus, HOPE grants do not have a huge impact on enrollment for high-achievers (even if HOPE grants were not awarded, these higher-income students would still likely enroll in college).

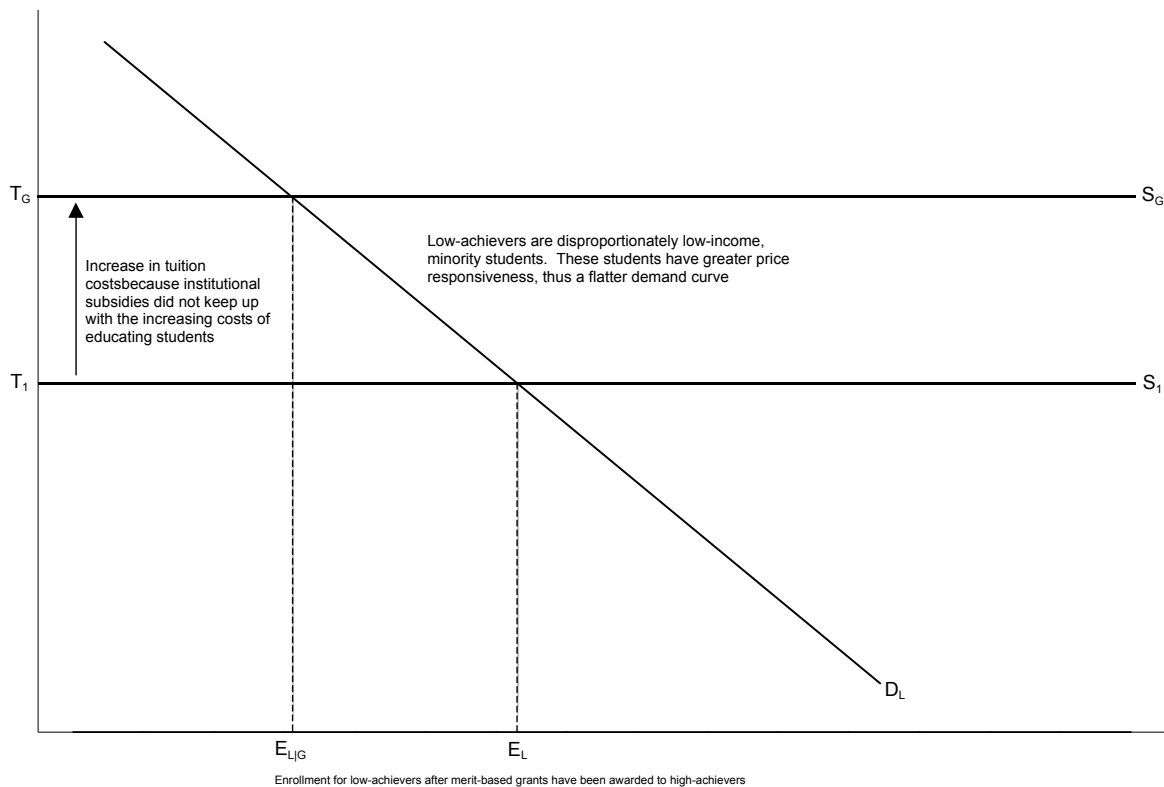
The point $E_{H|G}$ represents the increase in enrollment for high-achieving students due to the HOPE program. Notice that enrollment does not increase very much. This is due to three factors: (1) the increase in tuition costs since HOPE was implemented, (2) the low price-responsiveness of these students, and (3) the fact that many of these students would probably go to college even without HOPE grants.



Now let's turn our attention to the predicted impact of the HOPE program on low-income students. Figure 2 displays the predicted effects. Once again, tuition increased by a specific amount since the HOPE program was implemented. Notice the demand curve for low-achieving students has less slope than the demand curve for high-achieving students. This is because low-achieving students, disproportionately minority and low-income, are more responsive to increases in tuition costs.

Since low-achieving students do not receive anything under the merit-based HOPE program, we would not expect any increase in demand for college enrollment. In fact, we may predict demand might decrease slightly (by not receiving any HOPE grants, these students may feel as though they do not belong in college; therefore, they may not enroll). But with no increase in demand, and with the increased tuition cost, enrollment for low-achieving students would be predicted to decline (represented by the difference between points E_L and $E_{L|G}$).

Figure 2: Effect of Merit-Based Grants on Enrollment of Low-Achievers



By increasing enrollment slightly for high-achieving students and decreasing enrollment for low-income students, we would predict that the impact of the HOPE program (and the coinciding increase in tuition) would be negligible. We would predict that for high-SES or white students, enrollment would increase. We would also predict that for low-SES or minority students, enrollment and participation rates might decline.

The net impact of the HOPE program on enrollment and participation rates would depend on the proportion of students in Georgia who are labeled as high- or low-achievers. One impact that cannot be displayed in Figures 1/2 is that the HOPE program might increase the number of high-achieving students. By offering an incentive to students who earn good grades in high school, the HOPE program might convert otherwise low-achieving students into high-achieving students. This would increase the number of high-achievers who are helped by the HOPE program and decrease the number of low-achievers whose enrollment is predicted to drop because of the HOPE program.

Actual Impact of the HOPE Program

Studies conducted by Cornwell & Mustard (2001), Dynarski (2001), and Long (2001) all analyze the impact of the Georgia HOPE program on enrollment and participation rates for majority/minority and low/high-SES students. Some highlights of their findings include:

- (a) Overall enrollment participation rates increased 6%
- (b) The participation rate for white students at public colleges increased by 5%

- (c) The participation rate for black students at public colleges increased by 21%
- (d) SAT scores increased 50 points for freshmen at Georgia colleges

So it appears as though the Georgia HOPE program had a larger-than-expected impact on college enrollment and participation rates. As predicted, enrollment for white students increased slightly. But, for some reason, enrollment rates for black students increased by a large amount (and remember, it was predicted that the enrollment rate for black students would decrease). Why did the HOPE program have such a positive impact on enrollment rates?

One reason is that the HOPE program might not have increased *access* into college, but rather it increased the percentage of students who choose to stay in Georgia for their postsecondary education. High-achieving students who would otherwise choose states in other schools may have chosen to remain in Georgia to receive a free education at the state public schools. This would explain the overall increase in enrollment at Georgia schools.

Another reason why the HOPE program had such a positive impact on the enrollment rates for black students is that Georgia is home to a relatively large number of historically black schools. This makes it possible to increase black enrollment by a large amount. This reasoning is supported by the fact that the University of Georgia and Georgia Tech University both saw a decline in the enrollment rates for black students (since the HOPE program was implemented).

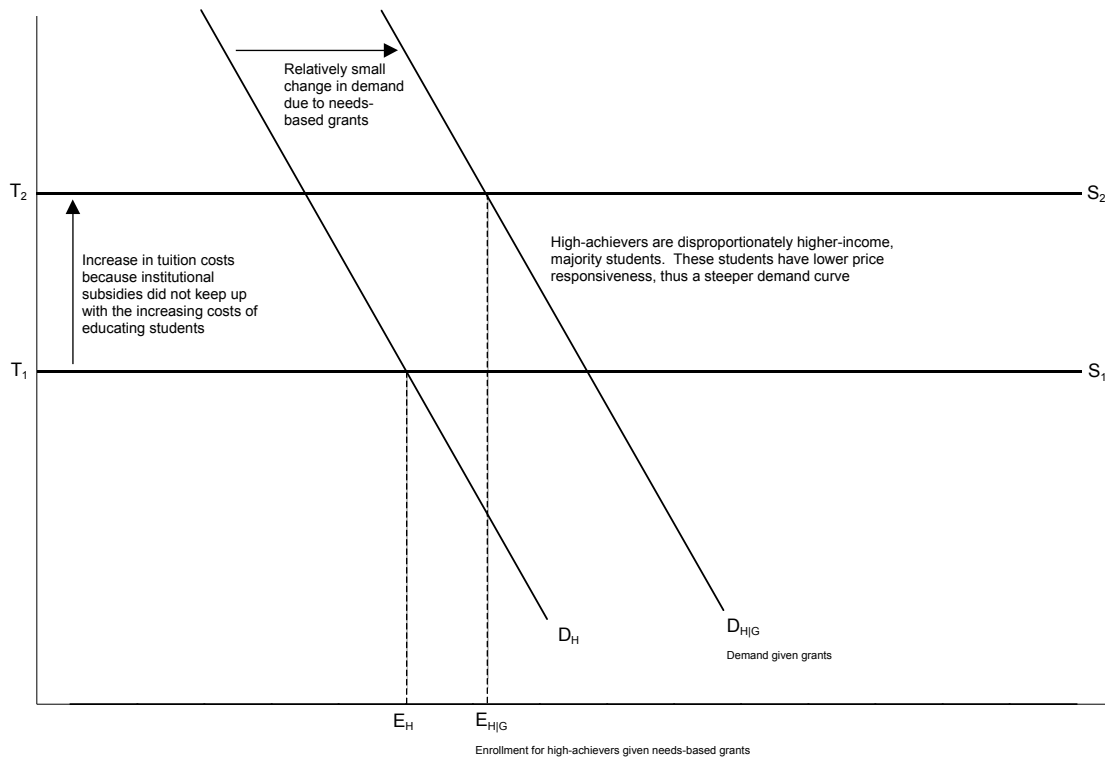
Critique of the HOPE Program & an Alternative

So while it was predicted that the HOPE program would decrease enrollment of low-income, minority students, it appears as though the HOPE program may have a positive impact on enrollment rates. This does not mean that the HOPE program is a success. An analysis of the funding sources for the HOPE program shows that the program does have a negative impact on low-SES, minority students.

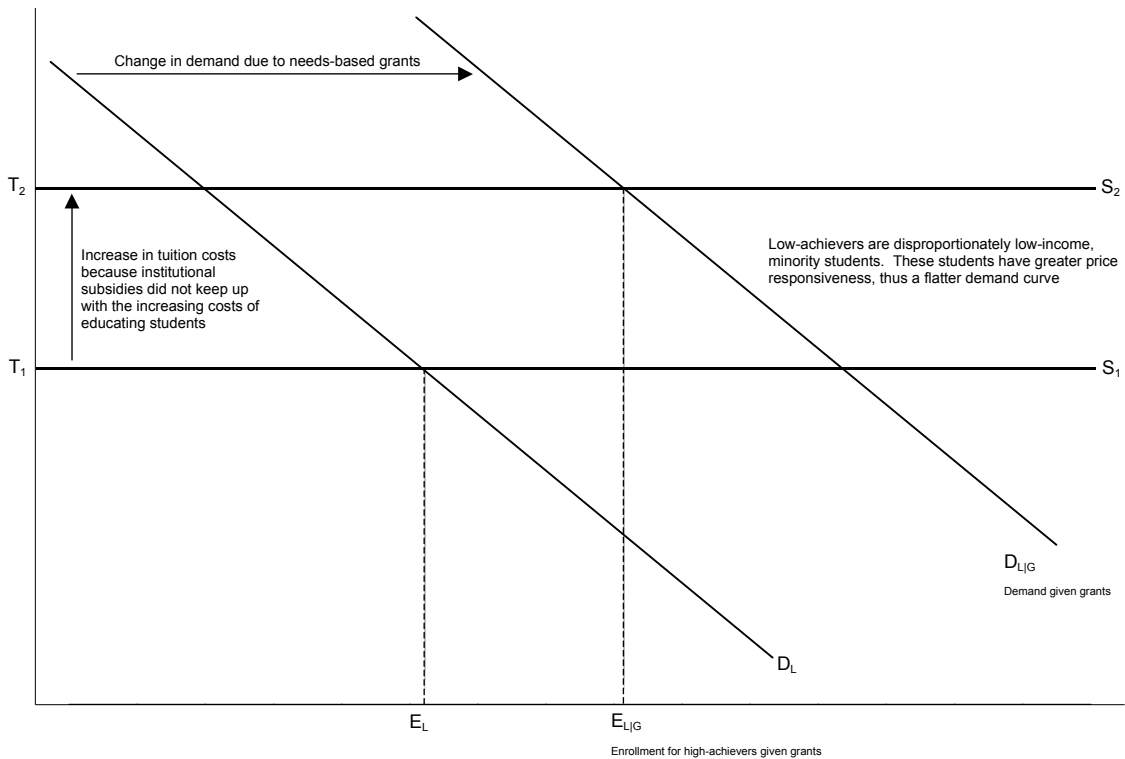
The HOPE program is funded primarily by revenue from the state lottery program in Georgia. Research cited by Cornwell & Mustard (2001) shows that uneducated, low-income, minorities spend a greater proportion of their income on lottery tickets than higher-income, white Georgians. And remember who receives these scholarships – primarily white, higher-income students. Thus, the financial incentives awarded to higher-income, white students under the HOPE program are actually paid for by lower-income, minority students. On its surface, this appears to increase inequities among high- and low-income students.

In order to eliminate disparities in enrollment rates, perhaps it would be more worthwhile to use the lottery funds to pay for needs-based grants awarded to low-income students. Figures 3 and 4 display the effect of needs-based grants on high-achieving and low-achieving students. Figure 3 shows that high-achievers (who are less likely to be eligible for needs-based grants) would have a small increase in enrollment due to a small increase in demand. Figure 4 shows that low-achieving students (who are more likely to be eligible for needs-based grants) would have a larger increase in enrollment due to a large increase in demand. Thus, needs-based grants would increase enrollment for both groups and would lessen the disparity in enrollment rates among high- and low-achieving students.

Figure 3: Effect of Needs-Based Grants on High-Achievers



Student Price Responsiveness: Effect of Needs-Based Grants on Low-Achievers



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