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# Price Discrimination and Public Policy in the U.S. College Market

**E**ach year, over 80 percent of incoming college freshmen in the United States complete the Free Application for Federal Student Aid (FAFSA). The FAFSA collects detailed financial information as well as a list of colleges where the student is considering attending. The government uses the FAFSA information to determine eligibility for federal aid, but because it lacks the logistical capacity to dispense aid on its own, it enlists colleges as partners in distributing federal dollars to college students. In the process, the colleges a student lists on her application receive full access to the student's FAFSA information, including information about the student's family income and the number of potential competitors the college is facing. This partnership of sharing FAFSA information with colleges

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has been treated as a mere administrative detail by students, parents, policymakers, and even economists. It is not. As I demonstrate, colleges use the FAFSA to engage in substantial price discrimination with widespread repercussions for the cost of a college education as well as the equilibrium sorting of students into colleges.

Colleges in the United States charge high sticker prices but routinely offer discounts of varying sizes to their

students, which means that students at the same college often pay vastly different prices for the same education. These discounts can be sizable and are intended to influence the student's choice of which college to attend. For instance, if a college has a posted sticker price of \$20,000 per year but it offers a student a \$15,000 discount, the relevant transaction price is not \$20,000 but \$5,000. Each college offers a similar “price quote” to the student, and she chooses the college that makes her the most attractive offer, taking into account other college characteristics that she values in addition to price.<sup>1</sup>

Colleges care about the FAFSA because it provides them with a source of low-cost, high-quality information about a student's willingness-to-pay. The information is low-cost because the federal government bears the burden of collecting it, and it is high-quality because the government imposes fines or jail time for misreporting information on the FAFSA. Moreover, the application comes bundled with a convenient monitoring technology for ensuring that its information is reliable. Thirty percent of FAFSA forms are automatically audited using IRS tax data. If a student's application is not randomly selected for audit, then that student's college has full discretion to flag it for audit anyway. Indeed many colleges simply flag *all* of their students' FAFSA forms.<sup>2</sup> Effectively, the FAFSA grants colleges generous access to the IRS and other government databases and allows them to use that information to learn about a student's willingness-to-pay.

Is sharing the FAFSA with colleges a good policy choice? Specifically, what would happen to prices, student-college sorting, and welfare if colleges could not use it to price discriminate?

To answer these questions I build and estimate a model of college pricing using student-level data from the National Postsecondary Student Aid Study. I then use my estimates to simulate counterfactuals wherein colleges are unable to use the FAFSA to price discriminate and find that there would be four primary consequences.

First, with less ability to distinguish between low and high willingness-to-pay students, prices would vary less across students. I estimate that the variance in transaction prices among students at the same elite college would fall by 19 percent.<sup>3</sup>

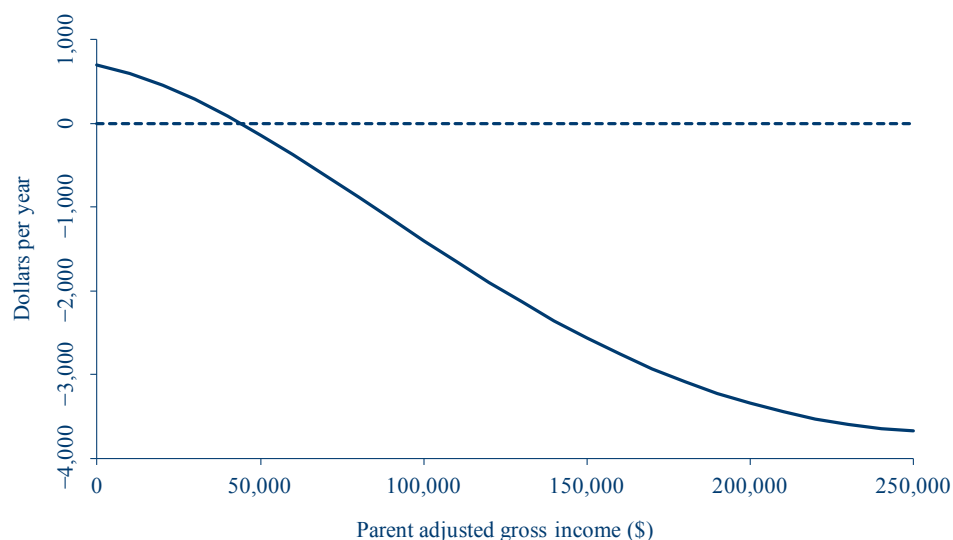
Second, transaction prices at elite colleges would fall by \$826 per student

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per year, and consequently student welfare would rise. However, the change in prices would vary by income so that students with parent adjusted gross income of about \$37,000 would see no change in transaction price, those with higher incomes would see their prices fall, and those with lower incomes would actually see their prices rise.<sup>4</sup> Looking at it differently, colleges use the FAFSA to price discriminate in a way that amounts to a 2 percent income tax coupled with a \$723 rebate, so the lowest income students receive the rebate, but it is taxed away as income rises. This is illustrated in Figure 1, which plots average change in a student's transaction price (relative to baseline) as a function of her parents' adjusted gross income. Thus, colleges use the FAFSA to charge wealthier students more and poorer students less, effectively using higher-income students to subsidize lower-income students. Nevertheless, Table 1 demonstrates that colleges only redistribute 35 percent of the “tax revenue” they raise from using the FAFSA to other students in the form of lower prices; the remaining 65 percent accrues to the colleges in the form of higher tuition revenue.

**Figure 1 Change in Price If FAFSA Information Is Restricted**

NOTE: The fitted values plotted here come from regressing the estimated change in price relative to baseline on parent adjusted gross income (included as a fourth-order polynomial). No other covariates were included.

The third consequence of preventing colleges from using the FAFSA to price discriminate is that 12.5 percent of students who are currently attending elite colleges would be inefficiently priced out of the elite market and would attend a nonelite college. This occurs because colleges are no longer able to tailor their prices as precisely. These mismatched students consist of a mixture of low-income students and high-income, low-ability students.

Fourth, without direct information on income, colleges will use other student characteristics to engage in statistical discrimination, which will tend to

reduce prices for minority students as well as curtail merit-based aid (since students with high test scores also tend to have higher incomes). These results all illustrate the extent to which giving colleges access to FAFSA information has affected the sorting of students into elite and nonelite colleges, the prices students pay, and the way those prices vary across different types of students.

In summary, the federal government has made a policy choice to share FAFSA information with colleges. This arrangement has been viewed as an administrative detail by students, parents, policymakers, and even economists. My

results demonstrate that this seemingly unimportant administrative detail is actually an important policy lever that should be part of the current debate around redesigning our federal financial aid system. Taken as a whole, I find that although allowing colleges to use FAFSA information does increase efficiency somewhat and lower prices for some students, its main effect is to boost tuition revenue, primarily at the expense of middle- and high-income students.

### Notes

1. Most high school seniors complete the FAFSA at the same time as their college applications. A primary reason for doing this is so they can compare price offers when choosing which college to attend. Research by van der Klaauw (2002) demonstrates that these discounts are indeed effective at attracting students.

2. It appears to be public knowledge that many colleges verify all of their FAFSA forms (Grant 2006; Weston 2014).

3. Elite colleges consist of four-year private colleges plus very selective public colleges (which roughly correspond to flagship state schools). Nonelite colleges then consist of less-selective and non-selective public colleges.

4. Roughly 30 percent of students at elite colleges have parent adjusted gross income below \$36,886.

### References

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**Table 1 Price Change Relative to Baseline by Income Group**

|  | FAFSA information restricted |                           |                |
|--|------------------------------|---------------------------|----------------|
|  | Parent income                | Number of colleges listed | All FAFSA info |
| Bottom third (\$)  | 212                          | –242                      | 428            |
| Middle third (\$)  | –493                         | –361                      | –538           |
| Top third (\$)   | –1,908                       | –471                      | –2,312         |
| Percent of "tax revenue" transferred to other students (%) | 17.0                         | 45.8                      | 35.4           |

NOTE: When colleges can no longer use the FAFSA to price discriminate, some students see their prices rise, relative to baseline, while others see their prices fall. Each cell in the first three rows reports the average change in price for students in the corresponding tercile of the distribution of parent adjusted gross income. The final row reports the change in price for those who see their prices rise, divided by the change in price for those who see their prices fall. This measures the degree to which colleges use FAFSA information to price discriminate in a way that redistributes money from some students to others, versus simply boosting tuition revenues.