

What the lottery can tell us about college affordability

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Where technology and economics collide

If you asked the average person why people don't go to college, their first answer would almost certainly be, "They can't afford it." It's a fair point: Tuition really has been going up rapidly, much **faster than inflation or even the cost of health care**. And the proposals of Democratic politicians like **Hillary Clinton or Bernie Sanders** to eliminate tuition for some or all students have spread the message that the high cost of college is the main factor keeping high school graduates from going — or, if they already go (as the **vast majority do**), from **graduating**.

There's **considerable evidence that cheaper tuition would help expand access** to college; **when Scotland got rid of college fees, applications spiked**, and when the **Buffett Foundation randomly granted college aid** to Nebraska high schoolers, it found that those getting aid were more likely to go to four-year colleges and less likely to drop out.

But **a new paper** complicates this picture somewhat. UC Santa Cruz's George Bulman and Robert Fairlie, the Federal Reserve's Sarena Goodman, and Adam Isen at the Treasury Department figured out a clever way to study how college affordability affects attendance: They looked at lotteries. It turns out that unless the family in question wins a *ton* of money

(like, more than \$300,000), winning the lottery doesn't increase their kids' odds of going to college — even though it makes college more affordable.

A sample size of more than a million

One of the most impressive things about the study is its sheer scale. The authors look at more than 1 million children whose parents won \$600 or more in the lottery from 2000 to 2013. They link lottery winners with their tax records, which lets them identify their income and who their kids are. Using those kids' Social Security numbers, the authors could get federal data on where they went to college (colleges have to report names of students for tax purposes), if they got financial aid, and how much they got.

The result is an incredibly large and rich data set, with information on families' incomes, size, scale of lottery win, children's attendance and persistence in college, and more. The researchers were able to measure the size of the effect of lottery wins on attendance by exploiting the fact that recipients win at different times (some right before kids go to college, some after kids have already gone, some decades before they'd go) and win different amounts.

They find that lottery wins of \$10,000 to \$100,000 do not have a statistically significant effect on college attendance. Indeed, their estimated effect is actually *negative* (though very tiny and non-significant). Nor were there any effects if you limited the sample to poor or low socioeconomic status households. Even though winning, say, \$80,000 ought to cover much if not all of a four-year degree (at least at in-state public universities), it does not appear that lottery winners spend it on that.

Once you get into the \$100,000 to \$300,000 range, enrollment starts to tick up a *little*, by about 1 to 2 percentage points. Wins from \$300,000 to \$1 million boost attendance by 5 to 6 percentage points, and wins of \$1 million or more increase it by 10 points. Those are real effects — but think for a second about how expensive they are to generate.

"Households in the second highest bin receive an income shock averaging \$500,000, which, even after taxes, would comfortably cover four years of tuition at a private college

(potentially even for multiple children)," the authors note. "Yet, the estimated effect on attendance is only half that of what we estimate for wins over \$1 million." So even winning enough money to pay for a full ride at a private college isn't enough to spur families to send their kids. They need to earn even more.

One could object that a lot of households winning the lottery would've been eligible for financial aid anyway. If that had made college affordable to them even before the lottery win, then you wouldn't expect an increase in attendance. Luckily, the authors also had access to students' financial aid records. Moreover, they knew that the effect of winning the lottery on financial aid was very different depending on when the lottery win happened. If it happened the year before college, then the lottery money is included in the family's income and would substantially reduce their eligibility for aid. Any other year, and it would just be savings, which counts less severely against financial aid eligibility.

They found no evidence that lottery wins boosted attendance more for families who didn't see it counted as income and thus lost less of their financial aid due to the lottery win. That is, the issue isn't that the lottery money is just replacing financial aid money, and that adding the money *on top of* financial aid would've boosted attendance. The effects were small even if the win didn't crowd out financial aid money.

Parents have other things to spend money on than their kids' college

So what gives? The basic answer the paper provides is that rather than going to pay for college, lottery winnings, including large wins in many cases, are directed instead to other kinds of spending and saving.

In particular, they find evidence that winning the lottery decreases earnings later on, and, for big wins, causes victors to drop out of the labor force altogether. That is, families use the money to allow themselves to work less. Interest and dividend income increases for winners, indicating they're putting a sizable portion of the money in savings. Regardless of the size of the win, winners become more likely to have a mortgage, and those who win big and already have a mortgage tend to use the money to pay it down.

The simplest conclusion to draw here is that merely giving families cash is not a very effective way to get their kids to go to college. The cost of increasing attendance this way — hundreds of thousands, if not millions, of dollars per family — is simply untenable, and far, far bigger than the price of **increasing attendance by lowering the cost of college**. If the money's directed, you get a lot more bang for your buck.

But that's not a huge takeaway, given that no one is really proposing unrestricted cash transfers as a way to boost enrollment. Instead, the authors argue that this tells us something important about what keeps people away from college *generally*:

While wins of less than \$100,000 should be sufficient to cover a significant fraction of tuition at a four-year public university and to ease most financial constraints associated with college attendance, attendance responses are not found either in aggregate or among lower-SES households, suggesting that, in the current policy environment, borrowing constraints are not explicitly hindering attendance. Thus, new policies seeking to raise educational attainment should not be primarily justified on the basis of the existence of such constraints.

Basically, they're saying this result implies that financial obstacles aren't really what's keeping people away from college. If they were, then you'd expect to see much, much bigger effects here. But the results instead suggest that families not currently sending kids to college aren't doing so because they can't afford it but rather because they don't want to, it's impractical for whatever reason, etc.

If they're right, and financial obstacles aren't the major problem with college, then that suggests politicians might need to do some rethinking about what actually needs fixing in higher education. For one thing, maybe grants are a more effective policy than loans — since the latter still need to be paid back, and the research suggests that these families simply don't want to direct their money that way.

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