Increasing Student Loans and Rising Tuition: The Latest Research

By Mark J. Warshawsky

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In this article, Warshawsky discusses a study by a group of economists who examined the causal relationship between tuition increases and expansions in federal student aid programs.

Introduction and Summary

The rising cost of higher education has gotten more political attention recently. Some presidential candidates and the Obama administration have proposed significantly increasing federal funding to students. This would be on top of already substantial federal support given to the higher education sector through tax policy,[1] direct student subsidies, and the allocation of credit (subsidized and unsubsidized student loans).

Yet the policy consequences of this flood of money to higher education have been less considered. Does it increase student enrollment and degree attainment, or is it simply a transfer of resources from taxpayers to students (and their parents) who would have paid tuition and attended college anyway? If college attendance and completion rates increase, does that lead to better paying jobs for the students and improved productivity for the economy, or is it just a waste of the potentially vibrant time in young people's lives when they could have been working and learning skills on the job? Perhaps the most immediate concern at the lowest rung of the policy and political ladder is whether this large flow of resources is a net benefit to students (or their parents) that reduces their out-of-pocket spending on higher education. Or do colleges and universities just raise tuition and fees to sop up the increase in federal resources coming through student grants and loans, perhaps moving that money to increase administrators' and faculty salaries, decrease their educational work effort, or reduce the institutional effort to obtain other sources of external funds.

That question was addressed by a comprehensive and carefully designed staff working paper, released by the Federal Reserve Bank of New York this summer. Economists from the New York Fed, David O. Lucca and Karen Shen, and Brigham Young University professor Taylor Nadauld examined the causal relationship between expansions in federal student aid programs and tuition increases.[2] Solving the simultaneity problem of not knowing whether cost pressures lead to increased borrowing or increased loan supply leads to higher tuition, the authors exploit detailed student-level financial data and changes in federal student aid programs to identify how increased student loan financing affects tuition. Lucca, Nadauld, and Shen found that higher education institutions that are more exposed to changes in the subsidized federal loan program increased their tuition disproportionately, with a significant passthrough effect on tuition of about 65 percent. The effect is most pronounced for expensive, private institutions that are somewhat, but not the most, selective in admissions. That is a concerning result for the efficacy and fair distribution of federal higher education spending and allocation of resources, at an initial level of impact, without even addressing the longer-term consequences on enrollment and economic improvement.

Background and Method

Noting similarities to the expansion of housing credit availability and the housing boom in the mid-2000s, Lucca, Nadauld, and Shen begin their study by reviewing the statistics on student loans and tuition in the last decade. They note that yearly student loan originations grew from $53 billion to $120 billion between 2001 and 2012, with about 90 percent in recent years coming through federal student aid programs. The increases were particularly large between 2008 and 2010. Average sticker tuition rose 46 percent in real terms from 2001 to 2012, from about $7,000 to more than $10,000, or at

[1] Mark J. Warshawsky, "Federal Tax Expenditures for Higher Education," *Tax Notes*, Oct. 20, 2014, p. 327.

[2] Lucca, Shen, and Nadauld, "Credit Supply and the Rise in College Tuition: Evidence From the Expansion in Federal Student Aid Programs," Staff Report Number 733 (July 2015).

an annual average rate of increase, again after removing general price inflation, of about 3.5 percent.

Lucca, Nadauld, and Shen then proposed a solution to the key identification challenge in determining the causal relationship between these two trends. Borrowing from standard econometric techniques in studies of the labor market, they use changes in the maximum disbursable amounts of per-student aid in subsidized and unsubsidized student loan programs and Pell grants, legislated between 2006 and 2008 and put into effect between the 2007-2008 and 2010-2011 school years. The authors also use a data set containing student-level funding and family income information for a representative sample of higher education institutions. They note that some institutions had many more students who would be able to take advantage of the increases in student loans and grants because of variation in eligibility and participation. They use this pre-policy, cross-sectional variation to construct an instrument for student loan credit by interacting the shift in federal aid supply and the exposure of an institution to each shift, as measured by the ex ante fraction of students borrowing at a particular policy cap. They estimate in a first stage the impact of the federal policy changes on the amounts of loans and grants given to students. Then in a second stage, with suitable controls for time trends and fixed institutional-level effects and other variables, the authors relate the yearly change in each institution's sticker tuition to the instrumented yearly change in each institution's per-student federal aid.

Basic Results of the Study

In three separate first stage regressions for yearly changes in subsidized loans, unsubsidized loans, and Pell grants, Lucca, Nadauld, and Shen found that the effect of the cap increases is to raise dollar-for-dollar the amount of loans or grants disbursed to the students exposed to a policy cap change. This extremely high elasticity is not surprising for grants, but loans, even if subsidized, presumably must be eventually repaid, so it is more surprising there. The high elasticity is confirmed by other data on household borrowing — looking at the distribution of student loan origination amounts, there was a noticeable shift in the mass points of the loan distribution from the old caps to the new ones. The Pell grant instrument enters each loan regression with a negative sign, implying that the greater availability of Pell grants displaces these other forms of aid, likely because of lower demand or reduced eligibility.

In the second stage, with controls for all forms of aid, the authors found that each additional Pell grant dollar to an institution leads to about a 55-cent increase in sticker price tuition. For subsidized loans, they a found a somewhat larger passthrough effect of 70 percent, and for unsubsidized loans, the loading of tuition is about 30 percent. Those results, which are identified through cross-sectional exposures to the changes in student federal aid programs between 2007 and 2010 and contain numerous controls for other effects, support the hypothesis that increases in federal support for higher education lead to increases in tuition and not the other way around. The finding for subsidized loans is quite strong across different regression specifications in both magnitude and statistical significance.

Other Results of the Study

To address the potential criticism that sticker tuition is paid by relatively few and it is tuition net of institutional grants that matters, Lucca, Nadauld, and Shen show that in the medium run, changes in sticker prices are largely reflected in the net tuition of all students, although the changes are somewhat smaller for those who receive high amounts of institutional grants. That result is consistent with other studies that find that institutions alter institutional grants (scholarships) as a means of capturing the federal aid provided through the Pell grant program. The authors also found that the passthrough of subsidized loan aid to tuition is highest among relatively expensive, mostly private, four-year institutions with relatively high-income students but with average selectivity, as measured by their admittance rates. It could be that the tuition rates of the most academically elite institutions are influenced more by the investment performance of their endowments or have significant extra demand coming from wealthy foreign students and that tuition rates at public institutions are at least partially determined by political considerations.

Finally, using the same instrument, the authors examine whether in the short-run student aid expansion increased access to higher education, looking for differential growth in enrollments around the policy changes. They found an effect only for changes in Pell grant availability, which makes some sense, given that Pell grants are only given to low-income students who may be on the margin of attending college.

Conclusion

It is my sense that the political system has reacted to the obvious problems of rapidly increasing college costs and rapidly increasing student loan balances held by young workers by proposing and actually throwing more money and resources at the problems without pausing to consider interactions and untoward results. Indeed, the evidence presented by the Lucca, Nadauld, and Shen study is that increasing loan and grant programs has largely resulted in corresponding tuition increases, with little net benefit to students and seemingly small increases in enrollment. Policymakers should be clear on their policy goals, for example, reducing the cost of higher education to those who would not enroll otherwise and who enroll in economically valuable educational and job training programs. They should then carefully design programs that specifically support those goals. There is every prospect that those goals can be accomplished through tailored programs at much lower fiscal cost to the federal government than the myriad and massive current and proposed programs, with little net loss incurred by college students and perhaps with improved efficiency in the higher education sector.