This PDF is a selection from a published volume from the National Bureau of Economic Research

Volume Title: Education, Skills, and Technical Change: Implications for Future US GDP Growth

Volume Authors/Editors: Charles R. Hulten and Valerie A. Ramey, editors

Volume Publisher: University of Chicago Press

Volume ISBNs: 978-0-226-56780-8 (cloth); 978-0-226-56794-5 (electronic); 0-226-56780-X (cloth)

Volume URL: http://www.nber.org/books/hult-12

Conference Date: October 16-17, 2015

Publication Date: December 2018

Chapter Title: Comment on "Accounting for the Rise in College Tuition"

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Chapter URL: http://www.nber.org/chapters/c13712

Chapter pages in book: (p. 394 – 399)

- Rizzo, M. J., and R. G. Ehrenberg. 2004. "Resident and Nonresident Tuition and Enrollment at Flagship State Universities." In *College Choices: The Economics of Where to Go, When to Go, and How to Pay for It*, edited by C. M. Hoxby, 303–53. Chicago: University of Chicago Press.
- Singell, Jr., L. D., and J. A. Stone. 2007. "For Whom the Pell Tolls: The Response of University Tuition to Federal Grants-in-Aid." *Economics of Education Review* 26:285–95.
- Storesletten, K., C. Telmer, and A. Yaron. 2004. "Cyclical Dynamics in Idiosyncratic Labor Market Risk." *Journal of Political Economy* 112 (3): 695–717.
- Titus, M. A., S. Simone, and A. Gupta. 2010. "Investigating State Appropriations and Net Tuition Revenue for Public Higher Education: A Vector Error Correction Modeling Approach." Working paper, Institute for Higher Education Law and Governance Institute Monograph Series.
- Turner, L. J. 2014. "The Road to Pell Is Paved with Good Intentions: The Economic Incidence of Federal Student Grant Aid." Working paper, University of Maryland.
- Turner, N. 2012. "Who Benefits from Student Aid: The Economic Incidence of Tax-Based Aid." *Economics of Education Review* 31 (4): 463–81.
- US Department of Education. 2015a. "Federal Student Loan Portfolio." Accessed June 18, 2015. https://studentaid.ed.gov/sa/about/data-center/student/portfolio.
- 2015b. "National Student Loan Two-Year Default Rates." Federal Student Aid. Accessed June 18, 2015. https://www2.ed.gov/offices/OSFAP/defaultmanagement/defaultrates.html.
- Wei, C. C., X. Li, L. Berkner, and C. D. Carroll. 2004. "A Decade of Undergraduate Student Aid: 1989–90 to 1999–2000." Report NCES 2004-158, National Center for Education Statistics.
- Winston, G. C. 1999. "Subsidies, Hierarchy, and Peers: The Awkward Economics of Higher Education." *Journal of Economic Perspectives* 13 (1): 13–36.
- Wolverton, M., W. H. Gmeich, J. Montez, and C. T. Nies. 2001. The Changing Nature of the Academic Deanship: ASHE-ERIC Higher Education Research Report. San Francisco, CA: Jossey-Bass Publishers.

## **Comment** Sandy Baum

Gordon and Hedlund have developed a detailed model to shed light on the important question of why college prices rose so rapidly between 1987 and 2010. They appropriately focus on net tuition revenues of institutions, rather than on the sticker prices they charge. They consider both the demand and supply sides of the market.

The authors take many historical trends into account, including prices, student aid, the college earnings premium, and nontuition revenue sources. But as the authors acknowledge, the model makes many assumptions that

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For acknowledgments, sources of research support, and disclosure of the author's material financial relationships, if any, please see http://wwwdev.nber.org/chapters/c13712.ack.



Fig. 10C.1 Inflation-adjusted published tuition and fees relative to 1985–1986, 1985–1986 to 2015–2016 (1985–1986 = 1.0) Source: Ma et al. (2015).

are not consistent with how higher education institutions are structured and operate in the real world and with how students make decisions.

There is one representative institution, combining characteristics of the public and private nonprofit four-year sectors. There is no competition for the institution, which maximizes quality and prestige.

In reality, public and private institutions operate in very different worlds. They have very different funding sources and, as figure 10C.1 illustrates, the paths of tuition prices in these institutions have been quite different. The graph displays the path of sticker prices over time, illustrating the fact that prices in public four-year institutions rose much more rapidly than prices in the private nonprofit sector during the period of time covered by Gordon and Hedlund's work.

The model focuses on net tuition revenues, not sticker prices. But the discount rates at private institutions are higher and have increased more over time than those in the public sector, magnifying the divergence in prices. It is not at all clear that combining public and private price increases can generate an accurate estimate of the forces driving those price increases.



Fig. 10C.2 Annual percentage change in inflation-adjusted per-student state funding for higher education and in tuition and fees at public institutions, 1984–1985 to 2014–2015

Source: Ma et al. (2015).

The main conclusions emerging from the model in this chapter are both counterintuitive and inconsistent with existing evidence. In particular, the authors find that declines in nontuition revenues (including both state appropriations and endowments) are associated with price *reductions*, as are increases in institutional costs. These "reverse" effects leave increases in federal loan limits with the dominant positive impact on increasing tuition.

Looking at the actual patterns of changes in state funding for higher education and public college tuition levels, reported in figure 10C.2, raises serious questions about the conclusions emerging from the model. If the authors really want to argue that public colleges are not raising tuition to fill in the gaps left by declines in state per-student funding, they should provide strong logic and empirical evidence, not just the numbers that emerge from a model of a hypothetical institution.

Several other assumptions in the model deserve attention. The college only admits students who have a willingness to pay that exceeds marginal cost. When "custodial costs"—basically expenditures on student amenities—increase, colleges lower expenditures on instruction for fear that

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Fig. 10C.3 Percentage of undergraduate students borrowing federal subsidized and unsubsidized loans, 2004–2005, 2009–2010, and 2014–2015 *Source:* Baum et al. (2015).

they will lose high-quality students if they raise tuition. So costs do not drive tuition—in fact, the reverse is true.

In fact, the goal of maximizing quality and prestige that underlies the model actually applies only to a subset of four-year institutions—almost 50 percent of public and private nonprofit four-year colleges accept at least 75 percent of applicants (Ma et al. 2015). And selective institutions face considerable competition for students—a phenomenon not incorporated into the model.

A key question is which assumptions really matter for making the model a good representation of reality. Simplification is obviously necessary, but the model overestimates tuition increases and the number of students with loans. It underestimates enrollment. It predicts a 17 percent default rate on student loans over the entire time period. The authors acknowledge that this bears little relationship to reality, but nonetheless appear to have confidence about their analysis of the role of loans in driving net tuition.

According to the model, all undergraduates take federal students loans in 2010. But in fact, in any given year, the majority of undergraduates do not borrow (figure 10C.3). Just over two-thirds of bachelor's degree recipients graduate with debt. Many students borrow, but not every year.

	2010–2011 (\$)		
	Federal loans	Nonfederal loans	Total borrowing
2005-06	70.5	20.8	91.3
2006-07	71.7	23.7	95.3
2007-08	78.5	25.6	104.1
2008-09	93.6	12.5	106.1
2009-10	110.7	9.0	119.6
2010-11	116.1	7.9	124.0

Table 10C.1	Federal and nonfederal education borrowing, 2006–2005 to
	2010–2011 (\$)

Source: Baum et al. (2015).

A critical question about the impact of the availability of federal student loans relates to alternative financing mechanisms, such as private loans. Nonfederal loans constituted 25 percent of education borrowing in 2007–2008, but declined sharply to 12 percent the following year, as financial markets collapsed and the federal government increased its borrowing limits. The increase in federal loan limits had almost no impact on total borrowing. As table 10C.1 shows, it was just associated with a substitution of federal borrowing for nonfederal borrowing. Is this reality consistent with such a large impact of federal loan limits on tuition prices? Information like this has to be incorporated into the logic and the conclusions of the model.

It is certainly useful to develop a stronger theoretical foundation for analyzing changes in college prices. But starting with a model that does not distinguish between public and private colleges or between endowments and state appropriations and that assumes that all colleges are selective—and presenting the results emerging from that model as reliable—has the potential to do real damage to the higher education financing system.

This chapter has already generated headlines including "Economists Confirm Financial Aid is Inflating Student Loan Bubble" (ShiffGold 2015). An article in *Forbes* titled "Cause of High Tuition? It's the Government, Stupid" reports that "Gordon and Hedlund attribute the big rise in tuition charges almost entirely to the federal student financial assistance programs. Bill Bennett is, by and large, right. Student loan programs do not help students, they help the permanent citizens of college campuses—the administrators, the faculty, the research assistants, and so forth" (Solis 2016).

The authors do not clearly distinguish between their measure of the net tuition revenue institutions receive and the net prices students pay. Even if federal aid does increase net tuition revenues of institutions, it can lower the net prices students pay. This is the case as long as the increase in net tuition per student is lower than the aid per student—a point the *Forbes* discussion misses. There is no measure of the distribution of those net tuition prices across students from different income categories, making it even more difficult to consider the impact on college access.

You are reading copyrighted material published by University of Chicago Press. Unauthorized posting, copying, or distributing of this work except as permitted under U.S. copyright law is illegal and injures the author and publisher. The question underlying this chapter is of critical importance in the real world. Of immediate concern, how should the student aid system be structured to meet goals of access, success, and attainment? How can any potential impact on increasing the net price of college for students be diminished?

The main conclusion of the chapter is that increases in the availability of federal student loans more than account for the full increase in net tuition prices over the years in question. As the authors note, a number of empirical analyses by prominent higher education economists have generated results contradicting this conclusion. So the evidence behind this assertion should be strong.

If the availability of federal student loans is as significant a driver of college prices as this chapter suggests (despite much evidence contrary to this finding in existing literature)—is it time to abolish or dramatically reduce this stream of funding for students?

The authors acknowledge that their model "likely exaggerates the impact of the Bennett hypothesis. . . . The findings in this chapter should be viewed as an initial exploration to guide further research, rather than being authoritative or definitive." The exploration should continue before conclusions from this work become arguments for policy changes not really supported by evidence.

## References

- Baum, Sandy, Jennifer Ma, Matea Pender, and D'Wayne Bell. 2015. Trends in Student Aid. Report, Trends in Higher Education Series, The College Board. https:// files.eric.ed.gov/fulltext/ED572541.pdf.
- Ma, Jennifer, Sandy Baum, Matea Pender, and D'Wayne Bell. 2015. Trends in College Pricing 2015. Report, Trends in Higher Education Series, The College Board. https://trends.collegeboard.org/sites/default/files/2015-trends-college-pricing -final-508.pdf.
- ShiffGold. 2015. "Economists Confirm Financial Aid Is Inflating Student Loan Bubble." *ShiffGold*, Dec. 22. http://schiffgold.com/key-gold-news/economists -confirm-financial-aid-is-inflating-student-loan-bubble/.
- Solis, Brian. 2016. "Cause of High Tuition? It's the Government, Stupid." Forbes, Feb. 10. http://www.forbes.com/sites/ccap/2016/02/10/cause-of-high-tuition-its -the-government-stupid/#21373b9155e8.