

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 "Online Postsecondary Education and Labor Productivity"

Chapter Author(s): Nora Gordon

Chapter URL: <http://www.nber.org/chapters/c13710>

Chapter pages in book: (p. 460 – 463)

Why It Matters to Our Economic Future.” *Beyond the Numbers: Employment and Unemployment* 5 (8). US Bureau of Labor Statistics, May. Accessed Jan. 2017. <https://www.bls.gov/opub/btn/volume-5/the-high-tech-industry-what-is-it-and-why-it-matters-to-our-economic-future.htm>.

Xu, Di, and Shanna Smith Jaggars. 2013. “The Impact of Online Learning on Students’ Course Outcomes: Evidence from a Large Community and Technical College System.” *Economics of Education Review* 37:46–57.

## Comment Nora Gordon

Hoxby’s research makes an important contribution to our understanding of the role online delivery of higher education plays in the earnings dynamics of the students who use it. This online focus is highly policy relevant: as Hoxby details in the chapter, many have hoped that online education would be a low-cost way to avoid the increasing costs of traditional higher education while effectively—and perhaps even more effectively—providing students with skills needed for current labor market success. The current study provides strong evidence that online education is not going to serve as such a panacea.

Hoxby brings the most comprehensive data to date on earnings dynamics following *online* enrollment. The present study speaks to a similar set of policy questions as the literature on returns to brick-and-mortar higher education, some of which have been under scrutiny in recent years particularly as they pertain to for-profit colleges. Do students have access to accurate and timely information about how a degree from a particular institution is likely to pay off? Would they make different choices with access to such information? Do institutions of higher education engage in deceitful marketing? Do some institutions devote too many resources to marketing and recruitment, and too few to student supports and instructional quality? Hoxby’s analysis suggests online institutions are far from exempt from these familiar problems.

Finally, a critical contribution of this piece is its focus on *social* returns to online higher education, given the fact that its costs are shared between enrolled students and taxpayers. This is an important point when considering all higher education, including more traditional institutions. While the social costs of student loan default have played prominently in policy discussions, the true full cost to taxpayers includes federal tax expenditures through higher education credits and deductions as well. Hoxby explicitly

Nora Gordon is associate professor at the Georgetown University McCourt School of Public Policy and a research associate of the National Bureau of Economic Research.

For acknowledgments, sources of research support, and disclosure of the author’s material financial relationships, if any, please see <http://www.nber.org/chapters/c13710.ack>.

includes these in her calculations of social return on investment (ROI) to online higher education.

### **Strengths and Limitations of Data and Methods**

Hoxby uses IRS data for all students enrolled in at least partially online enrollment. The IRS data allow linkage of the higher education tax credits or deductions and a student's earnings—before, during, and after the period of enrollment. She links these to IPEDS data on institutional characteristics. She then uses these rich data to describe how earnings dynamics evolve differently postattendance depending on “how online” the at-least-partially-online institution attended is and to estimate ROI to online enrollment with individual fixed effects.

This is necessarily a descriptive study, as there is no experimental or quasi-experimental assignment into online environments. Students self-select into the institutions she observes them attending. The appropriate interpretation of the findings, then, is as presented in the chapter: how have wages been affected by online education—for the types of students who have chosen to use it to date? With relatively few caveats, the data permit a deep exploration of that question and reveal consistent, disappointing patterns about limited wage growth after enrollment in online education.

One significant data limitation Hoxby faces is the need to infer the online nature of a student's coursework. The IRS data link the student to an institution. In the IPEDS data, institutions report how many students are enrolled solely, partially, or not at all in distance education courses separately for non-degree/certificate-seeking undergraduates, degree/certificate-seeking undergraduates, and graduate students. Hoxby then uses these data to calculate student-level probabilities and classify students' experiences as exclusive, mainly, or hardly online.

Given the IPEDS language, Hoxby must make some assumptions about just how online the experience of those students taking “some but not all” distance courses is in order to estimate such probabilities. She interprets it as meaning 50 percent of the student's experience is online. She chooses this share based on the federal “50 percent” rule in place through 2005 requiring institutions to deliver at least half of their instruction in person in order to qualify for federal aid, loans, and tax assistance. She notes that, “many institutions were tightly bound by the 50 percent rule up through 2005,” and that “in more recent years, the mainly online category has become, if anything, more online.” Fifty percent therefore seems an upper bound of “online-ness” through 2005, and a likely underestimate of the concept in later years (the analysis of online students is weighted toward later years, due to their higher online enrollments). Hoxby acknowledges the imprecise nature of the “mainly online” category throughout the piece. Going forward, it would be useful for the IPEDS (if not already doing so) to collect more

precise data based on the number of student-course units that are online versus in person.

The entire universe of students analyzed attended institutions with at least some online offerings. The relevant comparisons are therefore between how individual wages evolve following enrollment for students in more (in Hoxby's terminology, "exclusively" or "mainly") or less ("hardly") online institutions. Among the hardly online institutions, Hoxby notes which are nonselective, to best compare with the (nearly universally nonselective) exclusively or mainly online institutions.

Because of the selection into online education, it is important to understand how online (going forward, shorthand for exclusively or mainly online) students differ from their counterparts attending hardly online nonselective institutions. The online students are older, and earn more before and during their schooling. An unavoidable limitation of this approach is that it does not permit speculation about what would happen in response to particular policy changes, such as an entire state system switching to online only, or a selective institution choosing to offer a greater share of its courses online. It also cannot speak to differences in quality of online instruction. The estimates should be interpreted just as Hoxby does: as impacts of online instruction in the types of institutions that offered it, and on the wages of the types of students who enrolled in it.

### **Policy Implications**

Higher education in the United States is under scrutiny for a host of issues including cost, access, and quality. Online instruction as implemented during the time frame of this study, through 2013, appears an unlikely solution to these problems: wage boosts are small and costs, both private and social, are high. In fact, the most significant policy implications of this work are independent of the online nature of the institutions studied. These findings fit into a broader and entirely consistent literature highlighting low returns to higher education in a subset of institutions, in large part due to low completion rates. For example, Cellini and Chaudhary (2014) find that private returns to for-profit colleges may be too small to warrant their private costs for the average student.

Why would students choose to invest their time and money—and take on debt burden to finance enrollment—in institutions that consistently fail to put their students on a trajectory that yields sufficient income to repay their loans? Recent policy efforts have focused on information problems. Students lacked comprehensive information about how others fared after attending specific institutions, but were offered plenty of persuasive marketing materials from the institutions themselves. This line of reasoning prompted the Obama administration's gainful employment rule for career college programs. In order to comply with this rule, "the estimated annual

loan payment of a typical graduate” could not “exceed 20 percent of his or her discretionary income or 8 percent of his or her total earnings.” Institutions failing to reach this benchmark would lose access to federal student aid. The rule also requires institution-specific data on debt, graduation rates, and later earnings to be made publicly available. The Trump administration’s Education Department is in the process of rewriting this rule.

The gainful employment rule notably applies only to career—vocational—programs. The poor social returns to online education identified here include enrollments in other programs. And many brick-and-mortar institutions, including not only for-profits but also public community colleges, have low attainment rates as well. Efforts to protect student and taxpayer investments should acknowledge that low-quality programs are not confined to online or traditional, or to particular sectors or subject areas: accountability for public dollars should apply across all these realms.

Distance learning is an evolving field, and advances in its pedagogy may well help students learn more online. Low returns on the enrollment dollar, however, are unfortunately far from unique to this context. Improving returns—to both students and taxpayers—on investments in online higher education will require solving the same policy problems that have plagued brick-and-mortar education.

## Reference

Cellini, Stephanie R., and Latika Chaudhary. 2014. “The Labor Market Returns to a For-Profit College Education.” *Economics of Education Review* 43 (December): 125–40.