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Boosting productivity in US higher education

America's economic health depends on additional college-trained workers. Some universities are showing how to graduate more students at lower cost.

Adam Cota, Kartik Jayaram, and Martha C. A. Laboissière

The United States needs more college graduates. Opinions vary on exactly how many, but McKinsey estimates that the nation will need an additional one million each year by 2020 to sustain its economic health. That would mean increasing today's annual total—2.5 million—by 40 percent.

To meet this goal, universities and colleges would have to increase their output of graduates by 3.5 percent a year over the next decade. That's a daunting task for two reasons. First, it would cost an additional $52 billion a year, based on 2008 costs to produce a graduate. Yet many states, plagued by fiscal woes, have recently lowered spending on higher education, a trend that's unlikely to be reversed. Second, to achieve this increase, colleges would need to enroll many more than 3.5 percent more freshmen each year, because today, on average, only 40 percent of students who enroll go on to graduate.

To meet the target without spending more, colleges would simultaneously have to attract additional students, increase the proportion of them who complete a degree, and keep a tight lid on costs. Gaming the target by lowering the quality of the education or granting access only to the best-prepared students obviously wouldn't count. Not surprisingly, many people within and beyond higher education say that colleges can't possibly do all these things at once.

But McKinsey research suggests that many already are, using tactics others could emulate. In fact, the potential to increase productivity across the varied spectrum of US higher education appears to be so great that, with the right policy support, one million more graduates a year by 2020, at today's spending levels, begins to look eminently feasible. The quality of education and access to it could both improve at the same time.

Good education, good management

How a college manages its resources shows up in its cost per degree, found by dividing the institution's total annual costs by the number of degrees awarded. The measure sounds simple, but it captures the two key components of higher education's productivity: cost efficiency and completion rates. Some colleges have a high cost per degree because they produce many graduates, but their overall costs are excessive. Others graduate relatively few students, though keep their costs in check. Some struggle on both counts. Institutions become more productive by increasing graduation rates while controlling overall costs.

To understand what makes institutions more productive, McKinsey examined the education and management practices of eight colleges with productivity levels up to 60 percent greater than average, measured by the cost per degree (see sidebar, "About the research"). These highly productive colleges are a mix of private and public, for profit and nonprofit, with more or less competitive entry. All perform highly on measures of educational quality and openness of access, and all belong to the groups of colleges that

About the research

Instiution	Description	Cost per degree[1]	Enrollment (full-time-student equivalent)
Competitive bachelor's degrees[2]			
Western Govemors University	A private, nonprofit institution that offers online competency-based instruction	$27,495	15,870
Southern New Hampshire University	A private, nonprofit institution that offers associate's, bachelor's, and master's degrees	$52,285	5,370
Brigham Young University–Idaho	A private, nonprofit institution that offers associate's and bachelor's degrees. Currently transitioning from awarding primarily associate's to primarily bachelor's degrees	$42,294	14,098
DeVry University	A for-profit institution awarding a mix of degrees in various locations across the country, both online and onsite	$40,128 (excludes marketing expenditures)	46,926
Indiana Wesleyan University–College of Adult and Professional Studies	A private, nonprofit faith-based institution that awards associate's, bachelor's, and graduate degrees. For this study, the research focused primarily on bachelor's degree programs offered onsite and online via the College of Adult and Professional Studies	$40,851	14,233

Associate's degrees			
Valencia Community College	A public, two-year community college that awards both associate's degrees and certificates	$22,311	19,934
Certificates			
Rio Salado College	A public community college that awards primarily certificates. Instruction is delivered through unbundled online courses	$32,043	10,224
Tennessee Technical Centers	A public vocational-training school with 23 campuses across the state	$21,053	9,125

[1]Normalized to account for average time to obtain degree.

[2]Based on selectivity ratings from Barron's Profile of American Colleges. Competitive-degree institutions admit 75 to 85 percent of applicants and select students ranked in the top 50 to 65 percent academically in high school.

award associate's or bachelor's degrees after two or four years of study, respectively. We chose schools from these groups because they represent the bulk of higher education: similar segments of institutions educate 51 percent of all college students in the United States.

The eight colleges share some organizational and cultural features that facilitate high productivity. These features notably include smooth-running operational and managerial systems, a policy framework that encourages their ongoing improvement, and, above all, leaders and staff dedicated to combining good education and good management. The schools achieve high productivity largely through five strategies: two that increase the number of students completing their degrees and three that keep costs under control.

Helping students to graduate

The eight highly productive institutions design their education systems expressly to help as many students as possible achieve degrees. Indiana Wesleyan University's College of Adult and Professional Studies (IWU–CAPS), for example, achieves a six-year graduation rate of 65 percent—19 percentage points above its peer average—by constructing clear-cut pathways to degrees and encouraging students to support one another. Early assignments have the dual purpose of helping students get together and learn how they can succeed academically at college, whether on campus or online. With few pathways to a degree, students generally move through the sequence of classes as a single cohort, keeping each other up to the mark.

Similarly, in Florida, Valencia Community College's three-year graduation rate—35 percent—is 15 percentage points above that of peer institutions, partly because the college provides students with support and tools for planning their path to graduation. It also tailors support to its different student segments and has redesigned support services to improve their quality.

Reducing nonproductive credits

Up to 10 percent of all credits taken by US students are in excess of the number required to graduate. True, such credits may expand students' minds, but they add cost to a degree. Tracking students' progress and skillfully intervening when necessary can help reduce that cost. Southern New Hampshire University (SNHU), for instance, has a monitoring system that discourages students from embarking on redundant credits altogether: no bachelor's graduate at SNHU completes more than 150 credits en route to a degree, while 20 percent of graduates at similar institutions have upward of 150. Better preparation for college work and a policy of allowing transfer students to conserve credits help reduce redundant credits too.

Failed courses and courses from which students withdraw account for an additional 7 percent of all credits taken. Targeted policies can help institutions to cut this waste. Brigham Young University–Idaho (BYU–Idaho) has implemented policies to prevent redundant teaching and learning, including strict guidelines on course withdrawal and academic progress. Partly as a result, BYU–Idaho's rates of failure and withdrawal are as much as 32 percent lower than its peer average. In addition, BYU–Idaho insists that students gain at least 75 percent of their intended credits *each semester* or risk suspension. By contrast, many colleges review a student's rate of credit completion only once a year.

Redesigning instruction

Using new teaching technologies can lower costs substantially and raise quality at the same time. Rio Salado College, in Arizona, substitutes part- for full-time faculty. Western Governors University (WGU), in Utah, uses course mentors—one for academic and one

for life-coaching purposes—to augment online teaching materials. Both schools develop "master courses" centrally instead of asking individual professors to create their own material. High-tech teaching systems are understandably controversial, but their results have been verified. Since 1999, the National Center for Academic Transformation (NCAT) has helped 150 institutions make the best use of technology in their teaching. NCAT found that costs at its partner institutions decreased, on average, by 37 percent in redesigned courses. Learning outcomes improved after 72 percent of the redesigns, and the other 28 percent produced learning of a quality comparable to that of traditional formats. NCAT has six alternative redesigns ready and waiting for colleges to introduce.

Technology isn't the only way to cut teaching costs. More conventionally, BYU–Idaho revamped the academic calendar to include a third (full spring) semester, serving the same number of students as the fall and winter semesters. The college increased faculty pay somewhat but hired only a handful of new staff members. As a result, BYU–Idaho cut teaching costs per student by 32 percent while paying its faculty more than peer institutions do.

Improving efficiency in core support and services

Introducing leaner processes is one way to reduce the cost of core support and services, such as management functions, student services, academic support services, and plant operations. Organizational redesign and better purchasing also help. BYU–Idaho, Rio Salado, and DeVry University, for example, succeeded in bringing down costs in this area by converting paper-based systems to electronic ones, cross-training to eliminate staff downtime, and using self-service online portals to administer financial aid. BYU–Idaho and IWU–CAPS have markedly lower ratios of administrative staff to students than their counterparts, but with no outsourcing of operations. On the contrary, these schools spend less than peers do buying goods and services but pay their staffs as much as or more than peer institutions.

Running noncore services and other operations efficiently and selectively

Top-performing institutions also continually check to ensure that any noncore service and other operation they must offer to fulfill their missions are run efficiently. Many aren't. Although some noncore services—catering, for instance—generate revenues and are self-supporting, 49 percent of all US higher-education institutions report that noncore-service revenues are too low to cover related costs.

DeVry University, SNHU, and WGU, as part of their effort to control total costs, offer almost no noncore services. Of course, many institutions must offer some, notably research, to fulfill their missions. But even these institutions can drive down costs by paying closer attention to mandatory operations while improving efficiency across all noncore services.

Doing better

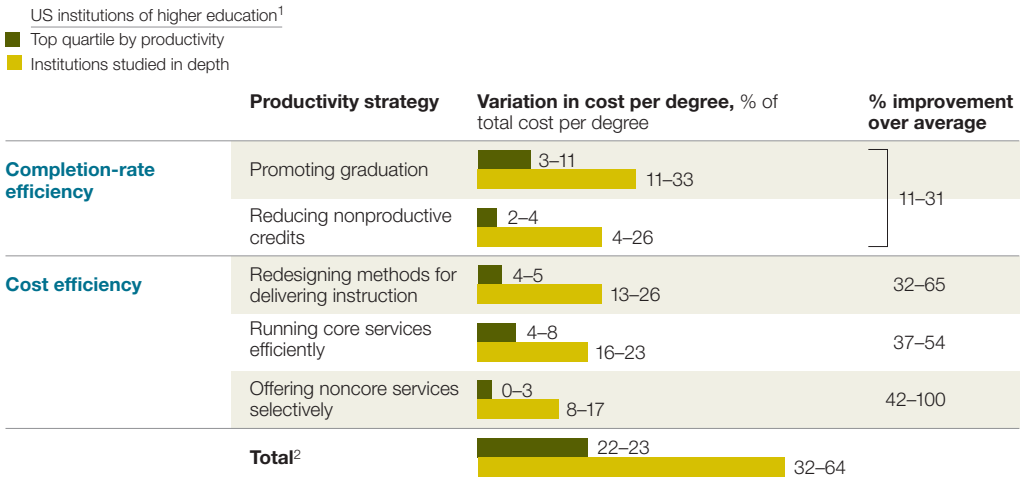
Could other schools raise their productivity by adopting these strategies? The good news is that many appear to be using them already. Laying the cost-per-degree yardstick across all US higher-education institutions[1] shows an average gap of 34 percent between the most productive quartile and the mean level of productivity. This difference doesn't exist solely because some types of higher-education institutions—private universities, say—are more productive than others: there are big gaps between the average and the best in every cohort of peer institution. While we don't know if schools in the highest quartile are using exactly the same tactics as the highly productive eight in our sample, the former too are achieving measurable improvements in all five areas targeted by the five strategies (exhibit).

Achieving one million extra graduates a year by 2020 without any increase in public funding would depend on lowering the nation's average cost per degree by 23 percent. (This estimate assumes that total tuition revenues rise in line with student numbers but that tuition fees do not rise.) Since a quarter of the nation's colleges and universities already produce graduates 34 percent more productively than the average, the 2020 target begins to look doable. Although eight colleges can't represent the breadth of US higher education, the productivity impact of the five strategies we found them to be using suggests that these strategies could play a useful part in meeting the target.

[1]Represented in the Integrated Postsecondary Education Data Systems (IPEDS) national dataset.

Exhibit

The best performing schools are achieving measurable improvements in the areas targeted by five strategies.



[1]Includes the Integrated Postsecondary Education Data Systems (IPEDS) national dataset and state longitudinal databases from two states.
[2]Impact is not additive as institutions do not employ all levers to increase productivity.

Source: IPEDS; data from institutions; McKinsey analysis

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Smarter policy needed

Policy makers can do their bit too. For starters, both state and federal governments could push productivity in higher education further up their agendas. Any higher-education institution aiming to improve its productivity will need to begin by appraising its current performance against reliable benchmarks. Governments should therefore require institutions to collect data on their degree productivity, to signal its significance. States should agree with colleges on standard practices for recording and measuring productivity and publish the data they collect. Without such comprehensive, accessible data, institutions cannot be held accountable for their progress (or the lack of it).

Funders too can draw attention to productivity—for example, by paying colleges to share best practices or introducing competitive grants and results-based financing. But funders should not dictate how better productivity is achieved: creative institutions can improve their performance in different ways, as long as they stick to the goals of helping more students attain degrees at a stable cost while maintaining or raising quality and access.

US living standards could falter unless most US higher-education institutions achieve these goals. Thankfully, today's most productive colleges appear to be blazing a trail to a future when more Americans fulfill their educational potential at a cost the nation can afford.

Adam Cota is an associate principal in McKinsey's Miami office, **Kartik Jayaram** is a principal in the Chicago office, and **Martha Laboissière** is an associate principal in the San Francisco office.