



**News**



**'American Universities in a Global Market'**

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The status of the United States in the international higher education ecosystem – and, particularly, whether it is losing its longstanding place atop the global pecking order – is a topic of escalating discussion and, in some circles, hand-wringing. [Government agencies](#), [global rankings schemes](#), and [authors](#) and [analysts](#) of various stripes have all taken turns in recent years at assessing the state of global higher education and America's declining standing within it (or not?).

Now it's the economists' turn. In [American Universities in a Global Market](#) (University of Chicago Press), which emerged from a National Bureau of Economic Research conference in 2008, a who's who of higher ed economists examine varying aspects of the global higher education picture.

Among them: John Bound and Sarah Turner, and Grant Black and Paula E. Stephan, offer a pair of chapters on the changing flow of foreign graduate students. E. Han Kim and Min Zhu explore how universities operate as "firms" when they seek to establish outposts abroad. Eric Bettinger examines the choices American students make as they decide whether to become scientists (or not). And James D. Adams and Richard B. Freeman take broader looks at what the expansion and democratization of higher education elsewhere in the world means for the U.S.

The book's editor, Charles T. Clotfelter, Z. Smith Reynolds Professor of Public Policy, professor of economics and law at Duke University and director of its Center for the Study of Philanthropy and Voluntarism, answered a set of questions about the book via e-mail. His responses follow.

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**Q. It's an understatement to say that much has been made about the U.S.'s apparently slipping standing in the world higher education hierarchy, after many years of clear dominance. From what you and the authors in the book have found, how real is that slippage, and how serious a problem for American higher education?**

**A.** At this point, American research universities remain where they have been since the end of World War II, dominating the top rungs of the world's universities. Although there has been little slippage yet, there are ominous clouds on the horizon. One of these clouds is the marked deceleration in science and engineering research publications authored by Americans. Between 1995 and 2005 the U.S. share of world article production fell from 34 to 29 percent. Another sure sign of vulnerability is the diminishing numbers of American college students who undertake advanced study in science, technology, engineering, and math, or who persevere once they begin. Between 1970 and 2005, the number of U.S. citizens who obtained doctoral degrees declined 23% in engineering, 44% in physical sciences, and 50% in mathematics. Some of these defections can be attributed to the lure of more lucrative earnings possibilities, but certainly not all. Contributing to this worry are the stagnation of U.S. college completion rates and the lackluster performance of American students on international tests.

These trends have contributed to the well-documented growth in the share of foreigners among graduate students in American universities. Tracking doctoral students by the beginning dates of their programs, the authors of one study in the book trace the startling increase in the share of Ph.D. candidates from abroad, from 29% for the cohort beginning study in 1980 to 49% in the 1996 cohort. In engineering, the foreign born share of doctoral students has been over 50% since the late 1970s, since the late 1980s in economics, and since the mid-1990s in physical sciences.

It turns out that these high shares actually understate the contribution of foreigners to the research done in American universities. Another study in the volume presents a close examination of authorship patterns for articles published in the journal *Science*. It shows that more than half of the articles had a

foreign student or post doc as a coauthor. Of the large number of graduate students who were listed as a first author in these articles, 59% were foreign born, a much higher share than the overall foreign share. More than simply staffing the labs of American universities, therefore, foreign graduate students and post docs play leading roles in university research projects.

So, there is both good news and bad news in these high percentages of foreign graduate students. On the one hand, it is a sure sign of quality. The best universities in the world attract the best graduate students in the world. On the other hand, it is also a sign of vulnerability, of the fragility of American hegemony. Should the high-quality graduate students whom we have become accustomed to welcoming and putting to work in our universities decide instead to stay at home or go elsewhere for graduate training, American universities could be in for a painful adjustment.

**Q. Some analysts argue that all that's happened is that the rest of the world has finally realized what the United States figured out decades ago – that a democratic higher education system is necessary and desirable both economically and socially – and that the primary thing that's changed is that they're catching up with us. Isn't it arguable that that's good for the world, and not necessarily so bad for the U.S., and that the hand-wringing is overblown?**

**A.** As citizens of the world, we should of course be pleased that institutions in other countries are extending the sincerest form of flattery by emulating aspects of American higher education. In my view, American universities owe their current preeminence to four key factors: generous government support, the decentralized, highly competitive structure of the American higher education market, the country's traditional openness to people and ideas, and what economists have dubbed the first-mover advantage. Illustrations of these favorable factors include the Morrill Acts and GI Bill, the large number of independently-financed and competitive universities, the influx of European émigrés in the last century, and the fortuitous evolution of English as the international language of science.

Based on numbers alone, American universities are due for at least a relative decline. While postsecondary enrollments have been growing at 2 percent a year in the U.S., they have been growing 5 percent a year worldwide, with rates as high as 6 percent in India and 12 percent in China. These rates mean that America will necessarily be a smaller part of higher education in the world. One essay in the volume emphasizes the advantages that all American universities, and not just those at the very top, derive from their continuing access to some of the world's most promising graduate students. The resulting research output contributes to the expansion of knowledge, and thus to economic growth and rising incomes worldwide, and to the supply of highly trained graduates who can be hired by American corporations both domestic and multinational.

But from a narrower national perspective, there are good reasons we should want to have those graduate students continue coming to American universities. Not only is higher education one of America's strongest export industries, the fact that so many leaders around the world spent time in the U.S. is a continuing source of "soft power."

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**Q. There've been lots of recent analyses of American higher education's standing in the world, but this one comes from the economists' point of view. What distinguishes this analysis (apart from it having a whole lot more tables and regression equations)?**

**A.** It is true that nearly all the essays in this volume were written by economists. In addition, the discussants at the conference that preceded its publication – a group that included two former university presidents and several more former provosts and deans – were also mainly economists. Famed MIT economist Robert Solow has put forward the view that economics as a discipline contains three central ideas: equilibrium, rationality, and greed. Economists often apply these ideas in seemingly inappropriate contexts. But a strength of this way of looking at things, as we tell our microeconomics students, is the license it gives to look beyond institutional detail to focus on allocating scarce resources to achieve desired aims.

An equally if not more important feature of this volume is its empirical focus, the cause of those tables and equations. This research project was sponsored by the National Bureau of Economic Research, which, since its founding early in the 20th century, has emphasized scientific, non-partisan research. The functioning, the problems, and the prospects of American universities are important enough to receive serious research by scholars using appropriate analytical methods and the best data available. Each author was given the charge to use data to come up with new insights about important questions related to the position of American universities. The result is a dozen studies with original findings.

**Q. The book talks about higher education institutions as "firms." Use of that phrase is sure to make many non-economist faculty members who read this book bristle, so for them and others, can you explain how colleges are and are not like "firms" as that phrase is used by economists, and in popular parlance?**

**A.** Economists may appear to be taking perverse pleasure in applying elements of their standard models in unaccustomed applications, but there is often value to be gained from comparing the model to the actual. As a "firm," the modern research university differs from the modern corporation in at least three important respects: it is largely non-hierarchical, it usually has no overarching aim, except "to be the best," and an important group of its employees are in effect semi-independent professionals. But these organizations still perform a service using inputs, and it must worry about how best to combine these inputs

those inputs.

Some of the training they provide is highly complementary with the research function, illustrated by the graduate student who acts as lab assistant in a research project while she learns advanced skills and collects data as part of her doctoral training. In such labs and other collaborative research projects in the university, the utility of face-to-face contact and common access to research facilities makes it difficult but not unheard-of for universities to set up branch plants.

Yet we see exactly that in some of the overseas branches that universities have established. This paradox exemplifies the usefulness of importing concepts like “firm” into the analysis of higher education. Doing so suggests questions that might not otherwise seem important. Economists of higher education come up with other questions to study by viewing the collection of universities that compete with each other for students, faculty, and resources as an “industry.”

**Q. We seem to be in another of those periods – or at least we were before the economic downturn – when American colleges and universities were rushing to set up shop overseas, amid serious questions both about the international programs' financial viability and their academic rigor. Are these programs, by and large, smart and strategic uses of colleges' financial and other resources?**

**A.** There seems to be a growing consensus that such programs will not be successful if they are done mainly to earn money. Only when they can be justified in terms of a university's own basic educational mission do they turn out to be successful. One of the studies in the book examines universities' decisions to set up overseas programs. It concludes that, in this respect at least, universities behave like multinational firms in making overseas investment decisions. It notes that an early wave of overseas programs, in the late 1980s to the mid 1990s, was dominated by modestly ranked universities seeking tuition. These ventures were largely unsuccessful because the demand for them turned out to be weak. More recent forays by more highly ranked universities have been more successful because they have responded to strong demand.

**Q. The volume includes examinations of Europe, China, India and South Korea, among others. Which of those poses the biggest challenge to American predominance in higher education – or does it come from somewhere else entirely?**

**A.** Based on the essays in the volume and the two days of discussion that occurred in the conference preceding its publication, the smart money seems to be divided between Europe and China.

European universities are assuming a stronger position in global competition for students and top faculty by virtue of the increasing emulation of American universities. In a concerted effort called the Bologna process, European universities have begun to standardize their course offerings. One result may be to make a three-year bachelor's degree more attractive than the American version for many international students. In addition, much of Europe's research faculty have adopted American patterns of organization and research orientation.

And, with breathtaking speed, they have, with the exception of France, adopted English as the language of professional journals. Beginning in the 1970s, for example, economics journals in the Netherlands largely replaced Dutch with English within a decade. The percentage of economics journals in the European continent as a whole publishing in English rose from zero at the end of World War II to 40 percent by 2001.

The challenge posed by China looks entirely different. There, the national government has ramped up its investment in higher education with the ambitious objective of developing world-class universities. Between 1978 and 2006, the number of colleges and universities tripled, the number of faculty increased by a factor of five, and the number of graduate students increased ten-fold. To make good on these plans, China's top universities have begun to offer compensation packages that have become, for Chinese nationals, increasingly competitive compared to those offered by top American universities.

Ironically, it is the example of Korea that suggests the avenue by which China's universities may fulfill its government's ambitious aims. The experience of Koreans who obtained doctorates in the U.S. provides an unsettling look into a possible future of declining American hegemony. As long as Korea was a low-income country, offering limited opportunities for U.S.-trained scholars to get good jobs, most Koreans with American Ph.D.s stayed in the U.S. But when economic conditions improved, and the Korean government began to recruit such expatriates, the brain drain was severely reduced. The decisions of Korean-born U.S. Ph.D.s reveal the ability of home countries to attract their native sons and daughters, given favorable policies and economic conditions.

As for India, despite its size and its large cohorts of bright and well-trained young people, it seems unlikely in the short run that it will challenge the U.S. by developing world-class universities.

**Q. Is research the primary battleground on which this competition is playing out? And at a time when the biggest internal threat facing the United States is, arguably, the extent to which the country is falling short in producing an educated work force at the grassroots level, is it possible that too much emphasis on sustaining the country's global research dominance could succeed – and the country still be in worse shape?**

**A.** This is a great question, but I think it takes me too far outside the realm of the book. It asks whether the next dollar will do more for the country if invested in community colleges or K-12 schools than in the NSF. Suffice it to say, the nation will be the worse off if it loses its strong position among the world's

research universities. It can stand to lose out in undergraduate education to some extent, but a declining share of top research universities will not be a good thing.

— Doug Lederman

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