

Revised Draft
July 14, 2010

Financing and Restructuring Doctoral Education in the Future

by

Ronald G. Ehrenberg¹

I know from my own personal experiences as a Cornell University vice president, a Cornell Board of Trustee member, and now a Trustee of the State University of New York, that it is much easier to write about how higher education should be run than it is to actually be a higher education administrator. I also know that it is much easier to be a higher education administrator in good times than in bad times, but that who are leaders are during bad times is much more important than during good times. So at the outset of my remarks I want to thank all of you who are graduate deans for being there at a very crucial point in time for higher education in general and graduate education in particular.

I will argue today that a combination of short- and longer-run economic and political forces pose a threat to the well-being of our nation's doctoral programs. After briefly touching on the impact of our current economic problems on doctoral education at private universities, I will in turn discuss the growing pressure on academia to expand access to and improve persistence in undergraduate education, the financial problems facing public research universities, the changing nature of faculty positions in academia and the implications of all of these forces for financing and restructuring doctoral education in the future.

¹ Ronald G. Ehrenberg is the Irving M. Ives Professor of Industrial and Labor Relations and Economics at Cornell University and Director of the Cornell Higher Education Research Institute (CHERI). This talk was presented at the Council of Graduate Schools Summer Workshop for Graduate Deans in July 2010 and will be published in a forthcoming issue of the *Communicator*.

Economic and Political Forces

The current economic dislocation we are facing has put financial pressures on both private and public doctoral universities. Turning first to the privates, buffeted by falling endowment values and a reduction in flows of annual giving, private universities have had to make substantial budget cuts. At the same time, high levels of unemployment and declining financial and housing asset levels of families have substantially increased the financial need of the universities' undergraduate student bodies and made undergraduate students and their parents more sensitive to the costs of attending college. It should come as no surprise to you that the recently released 2009 NACUBO Tuition Discounting study showed that the average tuition discount rate for first-time full-time freshmen at private colleges and universities was at an all-time high of 42 percent in the fall of 2008 and this has further squeezed private university budgets.² These budget problems have all put pressure on graduate school budgets, at a time when the poor job market for new PhDs is causing some PhD students to prolong the duration of their graduate student careers.

Hopefully, these financial problems of private universities are short-run in nature and eventually endowments will be rebuilt, annual giving flows will resume, and family incomes and asset levels will increase. However, there are longer run political problems that face both private and public higher education that will likely have implications for the ability of the privates to finance doctoral education in the future.

There is a sense among political leaders that our higher education system is failing. The U.S no longer leads the world in terms of the share of our young adult

² 2009 NACUBO Tuition Discounting Survey of Independent Institutions (Washington DC: National Association of College and University Business Officers, 2010)

population that has a college degree and the groups in our population that are growing the most rapidly are the ones that historically have been under represented in higher education –African Americans, Hispanic Americans and relatively low-income families. Because a highly educated workforce is essential in a knowledge based international economy for our nation’s economic growth and our level of economic well-being, improving access to college, and persistence to college graduation, for these groups, as well as for the population at large, is a fundamental policy objective of both the Obama administration and many state governments.

The longer run political and financial pressures on the private research universities come from the concerns that they and the selective liberal arts colleges enroll, on average, only a very small fraction of their students from families with limited economic means (as measured by Pell Grant recipients). Thus, the Senate Finance Committee exerted pressure two years ago on the wealthy colleges and universities to increase their endowment spending rates to provide more funds for need-based financial aid. Many private research universities responded, with a number going so far as to eliminate all loans from their undergraduate financial aid packages, either because they understood their social responsibility or because of their desire to avoid federally mandated minimum endowment spending rates. It will be very difficult for most of these institutions to back off their enhanced commitments to undergraduate need based financial aid because data on the shares of each institution’s undergraduate student body that receives Pell Grants are now annually widely publicized. The institutions’ commitment to undergraduate financial aid will put continual pressure on their abilities to fund doctoral education.

While popular attention on matters of undergraduate access is often focused on what is going on at the relatively small number of wealthy private liberal arts colleges and research universities, two-thirds of all four-year college students and close to four-fifths of all college students (including two-year college students) attend public higher education institutions. Hence if we are to achieve improvements in access and persistence, the public institutions will be the ones bearing the brunt of the responsibility. However, they will be forced to seek to make progress with very few resources at their disposal and these pressures will likely have profound impacts on the ability of the public research universities to fund doctoral education.

The Unique Problems of Public Research Universities³

Over the last thirty years, tuitions at public higher education institutions have increased at the same rate as tuitions at selective private institutions; on average about 3 percentage points a year above the rate of inflation. However, because public tuition levels are lower than private tuition levels, the dollar increases that equal percentage increases in tuition yield to an institution is greater at the privates. In addition, even before the current economic downturn, state support per student barely kept up with inflation. The endowments of the top private institutions also soared over the period, even after the sharp decline in endowment values in 2008-09, most of their endowments per student are as high today as they were less than four or five years ago.

As a result, the resource base of public research universities has declined relative to those of their private competitors. We see this in declining relative salaries in public higher education, in increased use of contingent faculty and increased student/faculty

³ Much of the discussion below draws on Ronald G. Ehrenberg, “The Perfect Storm and the Privatization of Public Higher Education”, *Change* 38 (January/February 2006): 47-53.

ratios in public higher education. Moreover, given structural deficits in state budgets (due to state tax cuts after the Reagan Revolution, the growth in Medicaid costs, the cost of K12 education, and the costs of criminal justice systems), it is unlikely even after the economy picks up that public higher education will see large infusions of funding to support undergraduate education. Indeed, public higher education was “protected” in many states in 2009-10 because of all the stimulus funds that governors were able to use to keep from having to make draconian cuts in K12 education. When the stimulus funds go away, public higher education, which received very little of the stimulus funds save for funding for research, will likely be a big loser. Pressure to expand undergraduate enrollments will continue, but with fewer resources, these expanded undergraduate enrollments will have to be funded from reallocations of existing state dollars and doctoral education may well be vulnerable for two-reasons.

First, with only a few exceptions (and the University of California system is a major exception), the share of undergraduates who are Pell Grant recipients at a state’s leading research universities exceeds the share of undergraduates who are Pell Grant recipients at the public comprehensive universities in the same state, which in turn exceeds the share of undergraduates who are Pell Grant recipients at two-year colleges in the state. Conversely the educational expenditures per student are higher at the public research universities than they are at the public comprehensives, which in turn are higher than they are at the public two-year colleges in the state. While some of these expenditure differences are clearly due to the different mix of classes being taught at the different institutions, the result is that on average there is a negative correlation between the share of low-income students (as measure by Pell Grant recipients) and educational

expenditures per student at public institutions in most states. Politically, this will not work to the advantage of public research universities in their quest for a greater share, or even to maintain their existing share, of their state's appropriations for higher education.

Second, states have an incentive to under invest in their public higher education systems because college educated labor is mobile and can move to wherever employment opportunities are the best. Careful research suggests that the share of a state's adult population that has a college degree is only weakly related to the amount that a state spends on its public higher education system.⁴ Even more problematic is that the more highly educated an individual is the greater is her mobility. As a result, the share of residents in a state with a doctoral degree is almost totally unrelated to the state's expenditures on doctoral education. My friend Paula Stephan from Georgia State University has used data from the *Survey of Earned Doctorates* to trace the mobility of new doctorates and her analyses show many Midwestern states being net losers of new doctorates to coastal states. Both the Midwestern states (who are net losers of new doctorates) and the coastal states (who are attracting new doctorates without having to bear the costs of educating them) have an incentive to under invest in the production of new doctorates.⁵

Large bodies of research suggest that research and development lead to innovation and economic growth and that graduate students play a major role at universities in the production of research and innovation.⁶ While states benefit from the

⁴ John Bound et. al., "Trade in University Training: Cross- State Variations in the Production and Stock of College-Educated Labor", *Journal of Econometrics* 121 (July-August 2004): 143-173

⁵ Paula Stephan, "Wrapping it up in Person: The Mobility Pattern of New PhDs" in Adam B. Jaffe, Josh Lerner, and Scott Stern eds. *Innovation Policy and the Economy* (Volume 7) (Cambridge MA: The MIT Press, 2006)

⁶ See all the references cited in Ronald G. Ehrenberg, "Graduate Education, Innovation and Federal Responsibility", *Communicator* 38 (July 2005): 1 -8

research that PhD students at their public universities help to produce during their graduate careers, they do not reap as much of the benefits from the research of new PhDs when they move to out-of-state employment. Because the nation as whole benefits, this suggests that ultimately it must be the federal government that plays the role of guaranteeing that our nation's public and private graduate schools have the resources to attract and train an adequate supply of doctoral level scientists and engineers.⁷

Changes in the Academic Labor Market

Major changes have occurred in the way that American colleges and universities staff their classes and these also have implications for doctoral education. While close to 80 percent of instructional faculty were full-time back in 1970 when I received my PhD, by 2007 this percentage had fallen to only slightly more than 50 percent.⁸ Moreover these numbers overstate the percentages of faculty that are full-time because they ignore graduate students in instructional roles who have titles such as teaching assistants or teaching fellows.

To say that a faculty member is full-time does not necessarily mean that the faculty member is tenured or on a tenure track. The percentage of full-time faculty nationwide that was not on tenure track appointments more than doubled between 1975 and 2007 increasing from 18.6 to 37.5 percent.⁹ These faculty members are often on one- or multi-year appointments, with titles such as instructor, lecturer or senior lecturer and empirical studies suggest they are paid much less than their tenured and tenure-track

⁷ Paul Courant, James Duderstadt, and Edie Goldenberg, "Needed a National Strategy to Preserve Public Research Universities", *Chronicle of Higher Education* (January 3, 2010) also make this point.

⁸ U.S. Department of Education, *Digest of Education Statistics: 2009* (Washington DC: 2010), table 249

⁹ U.S Department of Education, *IPEDs Fall Staff Surveys*

colleagues. It should be clear that in recent years less than one-third of the faculty in American higher education are tenured or on tenure- tracks.

Nationwide, the percentage of part-time faculty ranged from less than 20 percent at the nation's public research universities to about 67 percent at its public 2-year colleges. While the percentage of full-time faculty with doctoral degrees was at least 65 percent in all institutional categories that offer bachelor's degrees, it was less than 20 percent at the public 2-year colleges. Moreover, while some part-time faculty members have doctoral degrees, the vast majority at each institutional type does not and less than 10 percent of the part-time faculty at 2-year colleges has doctoral degrees.¹⁰

I have speculated elsewhere that we are likely to see a continuation of these trends in the future- a declining share of full-time faculty, a declining share of tenured and tenure-track faculty among the full-time faculty, and an increasing share of faculty without doctoral degrees.¹¹ These trends surely will lead to a decline in the attractiveness of academic careers, which in turn should adversely impact on the numbers of American college graduates who seek to go on for doctoral study. The impact will be felt the greatest in fields, such as the humanities, in which the vast majority of new doctorates currently seek careers in academia. As the probability of obtaining good academic jobs falls, there is also likely to be increased pressure for collective bargaining for graduate assistants. Recent changes in the composition of the National Labor Relations Board leave open the possibility of new efforts to reverse the NLRB's 2004 decision in the

¹⁰ U.S. Department of Education, *Digest of Education Statistics:2008* (Washington DC, 2009), table 252

¹¹ Ronald G. Ehrenberg, "Rethinking the Professoriate", *Cornell Higher Education Research Institute Working Paper* No. 134 (April 2010) (www.ilr.cornell.edu/cheri)

Brown University case that prohibited collective bargaining for graduate assistants at private research universities.¹²

Looking to the Future

Many of the things that I have said so far are consistent with the messages in *The Path Forward: The Future of Graduate Education in the United States*. The well-being of the American system of doctoral education depends upon an increased federal role in funding doctoral education. The funding of doctoral programs at our public research universities needs to be a shared responsibility between the federal and state governments. Federal funds should not displace state funds, rather incentives need to be established by the federal government to encourage states to maintain and expand funding for the doctoral programs in their public research universities, perhaps through matching grant programs. Private funding from individuals, corporations and foundations is also important. Federal (and state) programs that reward both public and private universities for developing endowments to support doctoral education (again perhaps through matching grant programs) would also be desirable.

While money matters, the lack of funds is not the only problem facing doctoral education. Long times to degree and high drop out rates discourage American college graduates from entering doctoral programs, and waste valuable resources. Strategies to improve performance on both these dimensions must be pursued; examples of strategies come from both the Andrew W. Mellon Foundation's *Graduate Education Initiative* and the Council of Graduate School's own *PhD Completion Project*.¹³ Given the likely continued decline in the share of tenured and tenure-track positions in academia, faculty

¹² Scott Jaschik, "Showdown on Grad Unions", *Insidehighered.com*, April 28, 2010

¹³ Ronald G. Ehrenberg, Harriet Zuckerman, Jeffrey A. Groen and Sharon M. Brucker, *Educating Scholars: Doctoral Education in the Humanities* (Princeton NY: Princeton University Press, 2009)

and graduate deans need to revalue how they view the success of their doctoral programs. A reduced focus on the quality of academic placements probably is in order and more attention needs to be developed to restructuring doctoral programs to provide students with skills that will help them achieve success in nonacademic careers. Such efforts will help to maintain American college graduates' interests in pursuing doctoral study.