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Key Issues Currently Facing American Higher Education

by

Ronald G. Ehrenberg*

* Irving M. Ives Professor of Industrial and Labor Relations and Economics at Cornell University and Director of the Cornell Higher Education Research Institute (CHERI).
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To paraphrase the title of one of my books, "Tuition Keeps Rising" in the United States – during the last quarter of a century undergraduate tuition and fees have risen at annual rates exceeding the rate of inflation by an average of 2.5 to 3.5 percentage points.[1] This has led one key Congressman to propose that institutions that raise tuition by more than twice the rate of inflation for several years in a row should be penalized by the government; fortunately his colleagues in Congress rejected this idea.[2] Faculty salary increases are not the major cause of increases in tuition – average faculty salaries at 4-year colleges and universities in the United States have risen at only about 0.5 to 1.0 percent a year more than the rate of inflation during the period.[3]

The reasons for tuition increases differ in public and private higher education. In the private sector, factors include the increased costs of technology, student services and institutional financial aid; the unrelenting competition to be the best in every dimension of an institution's activities; and, at the research universities, the increasing institutional costs of scientific research (which I will return to below). In public higher education, all these factors are also important, however, another important driver is the withdrawal of state support.

In his Cornell PhD dissertation, Michael Rizzo documents that the share of state budgets going to higher education has shrunk by over one-third over the last thirty years.[4] Although there is no reason why higher education's share should remain constant over time, the net result of this decline is that per capita state appropriations per full-time equivalent student at public higher education institutions rose in constant dollars from

[1] Ronald G. Ehrenberg (2002)
[2] Stephen Burd (2004)
[3] Ronald G. Ehrenberg (2004)
[4] Michael J. Rizzo (2003)

$5622 in FY1974 to $6717 in FY2004 – an average increase of only 0.6 percent a year. This occurred during a period when the real costs faced by higher education institutions were rising much more rapidly and when private higher education institutions were relentlessly annually increasing their tuitions by a much greater percentage than state appropriations were increasing. Public higher education institutions responded to their diminishing state support by increasing their tuition levels at slightly higher percentage rates than the private institutions did, however, because public tuition levels started at much lower levels, the public institutions generated less income from these increases than their private counterparts did from their increases. Thus the resource base of public academic institutions fell relative to the resource base of private academic institutions.

As a result, while the average professor at a public doctoral university earned about 91 percent of what his counterpart at a private doctoral university earned in 1978-79, by 2003-04 the percentage had fallen to about 74 percent.[5] Increasingly public institutions are having great difficult attracting and retaining high quality faculty, which surely influences the quality of what is going on in public higher education where the vast majority of our students are educated.

In the face of persistent rates of increase in tuition that exceed inflation, the changing pattern of financial aid in the United States has had an influence on who gets a college education. In 1982-83, over 50% of federal financial aid was in the form of grant aid, but by 2002-03, this had fallen to 40%.[6] Most federal financial aid now comes in the form of loans and research suggests that students from lower-income families are less willingly than other students to take on large loan burdens to finance their higher

[5] Ronald G. Ehrenberg (2004)
[6] *Trends in Student Aid* (2003), figure 6

education. Federal grant aid has not kept up with increases in college costs. During the mid 1970s the average Pell grant received by students was about 46% of the average costs (including room and board) of attending a public higher education institution. Last year, the ratio was under 30% (the ratio is much lower at private institutions but they have more institutional resources for financial aid).[7] The Bush administration has proposed increasing loan limits (which private higher education institutions applaud) but has shown little interest in increasing Pell Grant levels.

The share of states higher education budgets that go to public academic institutions has also declined over time –putting added pressure on public tuitions - as states are now devoting a greater share of their higher education expenditures to providing grant aid to students.[8] Moreover, increasingly this grant aid is non-need based. As late as 1993, less than 10% of all state grant aid to students was non-need based, but the growth of programs such as the Hope Scholarship program in Georgia, which started in 1993, raised this to almost 25% by 2001.[9] Today there are 12 other states that have Hope type programs. Increasingly financial aid at private colleges and universities in the United States is also "merit" rather than needs based, as private institutions use financial aid for enrollment management purposes (to attracting a class with "desirable characteristics" at least cost) rather than to permit lower income students access to them. Probably less than fifteen to twenty private academic institutions provide financial aid based solely on students' financial need today.

As a result, the U.S has not achieved its goal of reducing educational inequality based upon family income levels – differentials in college enrollment by family income

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[7] *Trends in Student Aid* (2003), figure 7
[8] Michael Rizzo (2003)
[9] *Trends in Student Aid* (2003), figure 10

quartiles are almost as large today as they were thirty years ago.[10] Moreover, more and more students from lower-income families are being forced, for financial reasons, to enter higher education through public two-year colleges. Given projections of growing college-age populations during the next decade, primarily from under represented groups, and limitations on state resources for both operating and capital expenses, we may increasingly see limitations on access to college (such as is happening in California this year) and disparities in college attainment, by income and race/ethnicity, may worsen in the U.S in the years ahead.

The importance of scientific research has grown at American universities fueled by major advances in genomics, advanced materials and information technology and by dramatic increases in governmental and private funding for research. However, in spite of the latter, a little known fact is that the costs of research are increasingly being born by the universities themselves out of their institutional resources. The share of universities R and D expenditures coming out of their own pockets grew from 11.2 percent in 1972 to almost 21 percent in 2000. [11]

There are many reasons for why universities are increasingly bearing the costs of their faculty members' research, but one important one is the magnitude of the start-up cost packages needed to attract new faculty members. At the Research I universities, these costs average \$300,000 to \$500,000 for assistant professors and often well over a \$1,000,000 for senior faculty. While universities properly view these costs as investments in their faculty members' scientific research productivity, where they get the money to fund these investments is of great concern. Public universities, more often than privates,

[10] *Trends in College Pricing* (2003), figure 11
[11] Ronald G. Ehrenberg, Michael J. Rizzo and George H. Jakubson (2003)

sometimes leave faculty positions vacant until salary savings can generate necessary start-up cost funds funds; these vacant faculty positions surely have an impact on the quality of undergraduate education at the public institutions. [12] Researchers at CHERI have also found evidence that the increasing institutional costs of research have led both public and private institutions to increase student/faculty ratios and substitute part-time and full-time non tenure-track faculty for tenure-track faculty.

In fact, throughout American higher education institutions are increasingly relying on part-time and full-time non tenure-track faculty. During the 1990s, the share of full-time faculty not on tenure-tracks and the ratio of part-time to full-time faculty both grew significantly. Moreover, the share of newly hired faculty not on tenure-tracks grew to over 50 percent.[13] Preliminary research findings suggest that as the share of part-time faculty grows at an institution, undergraduate students' attrition rates rise and their graduation rates fall. As the share of faculty off of tenure-tracks increases, the demand for full-time tenure-track faculty declines and the attractiveness of entering PhD study also declines for American college graduates.

This may be one of the factors that explain the increase in the share of PhDs granted by American universities going to temporary residents of the United States. During the last thirty years, this share rose from 10.4 to 26.3 percent. In key science areas the increase was more dramatic. In 2002 almost 40 percent of all PhDs in the physical sciences and 55 percent of those in engineering were awarded to temporary residents.[14] As higher education institutions improve around the world, there is no guarantee that foreign students will want to continue to pursue PhD study in the U.S and no guarantee

[12] Ronald G. Ehrenberg, Michael J, Rizzo and Scott S. Condie (2003)
[13] Ronald G. Ehrenberg and Liang Zhang (2004)
[14] Thomas B. Hoffer et. al. (2003), table 11

that those who do will want to remain in the U.S for employment. Given the decline in the number of PhDs produced in total by U.S universities in recent years and the large share of American faculty rapidly approaching retirement ages, a major problem facing American higher education is who our next generation of professors will be.

References

Stephen J. Burd, “Rep. McKeon is Expected to Drop Effort to Penalize Colleges that Raise Tuition Too Much”, *Chronicle of Higher Education*, March 3, 2004 (daily electronic edition, available to subscribers at www.chronicle.com)

Ronald G. Ehrenberg, *Tuition Rising: Why College Costs So Much* (Cambridge MA: Harvard University Press, 2002)

Ronald G. Ehrenberg, “Don’t Blame Faculty for High Tuition: The Annual Report on the Economic Status of the Profession: 2003-2004”, *Academe* 90 (March/April 2004): 22-33

Ronald G. Ehrenberg, Michael J. Rizzo and Scott S. Condie, “Start Up Costs in American Research Universities”, *Cornell Higher Education Research Institute Working Paper* WP33 (March 2003) (available electronically at www.ilr.cornell.edu/cheri)

Ronald G. Ehrenberg, Michael J. Rizzo and George H. Jakubson, “Who Bears the Growing Cost of Science at Universities”, *Cornell Higher Education Research Institute Working Paper* WP35 (April 2003) (available electronically at www.ilr.cornell.edu/cheri)

Ronald G. Ehrenberg and Liang Zhang, “The Changing Nature of Faculty Employment”, *Cornell Higher Education Research Institute Working Paper* WP44 (January 2004) (available electronically at www.ilr.cornell.edu/cheri)

Thomas B. Hoffer et. al., *Doctorate Recipients from United States Universities: Summary Report 2002* (Chicago IL: NORC at the University of Chicago, 20030

Michael J. Rizzo, “A (Less Than) Zero Sum Game? State Funding For Public Higher Education: How Public Higher Education Institutions Have Lost”, *Cornell Higher*

Education Research Institute Working Paper WP42 (September 2003) (available electronically at www.ilr.cornell.edu/cheri)

Trends in College Pricing (New York NY: College Board Publications, 2003)

Trends in Student Aid (New York NY: College Board Publications, 2003)