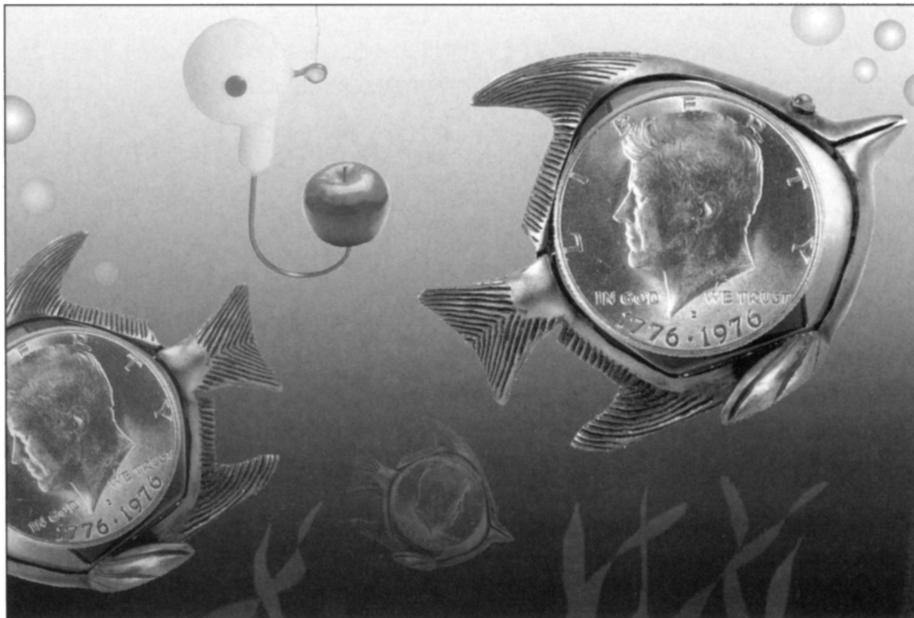


# Financial Forces and the Future of American Higher Education



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Recent shifts in state funding are altering the most basic realities of American higher education, from student access to faculty research.

Each year over the past quarter century, undergraduate tuition and fees in the United States have increased by an average of 2.5 to 3.5 percentage points above the inflation rate.<sup>1</sup> This continuous rise recently led one congressman to propose that the government penalize institutions that raise their tuition by more than twice the rate of inflation for several years in a row; fortunately, his colleagues in Congress expressed little interest in his proposal, and he dropped it.<sup>2</sup>

Colleges and universities, both public and private, often claim that faculty salaries are among the major causes of persistent increases in tuition. The most recent AAUP annual report on faculty salaries, however, questions this assertion. Published in the March–April 2004 issue of *Academe*, the report notes that average faculty salaries at four-year colleges and universities in the United States have risen at only about 0.5 to 1.0 percent a year more than the inflation rate over the past twenty-five years.

The most important reasons for tuition increases differ in public and private higher education. In the private sector, contributing factors include the rising 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. Public higher education must deal with all these factors in addition to another important driver: the withdrawal of state support.

### Dwindling State Support

In his 2004 Cornell University PhD dissertation, Michael Rizzo illustrates the dramatic decline in state funding of higher education that has occurred over the past quarter century, arguing that the attention paid to recent fiscal difficulties in the states has obscured this persistent decrease.<sup>3</sup> Figure 1 shows that the share of state general funds going to higher education has shrunk by more than one-third over the past twenty-five years. Had this share remained constant at 1977 levels (8.9 percent of state general fund budgets), institutions of public higher education would have received, on average, an additional \$3,900 for each full-time-equivalent student in 2001.

In *Higher Education Spending: The Role of Medicaid and the Business Cycle*, a 2003 report published by the Brookings Institution, economists Thomas Kane and Peter Orszag attribute the decline in state funding of higher education that took place during the 1990s to the expansion of state spending on Medicaid (resulting from increased health care costs, changes in the federal government's financing of Medicaid, and an expansion of Medicaid caseloads in most states).

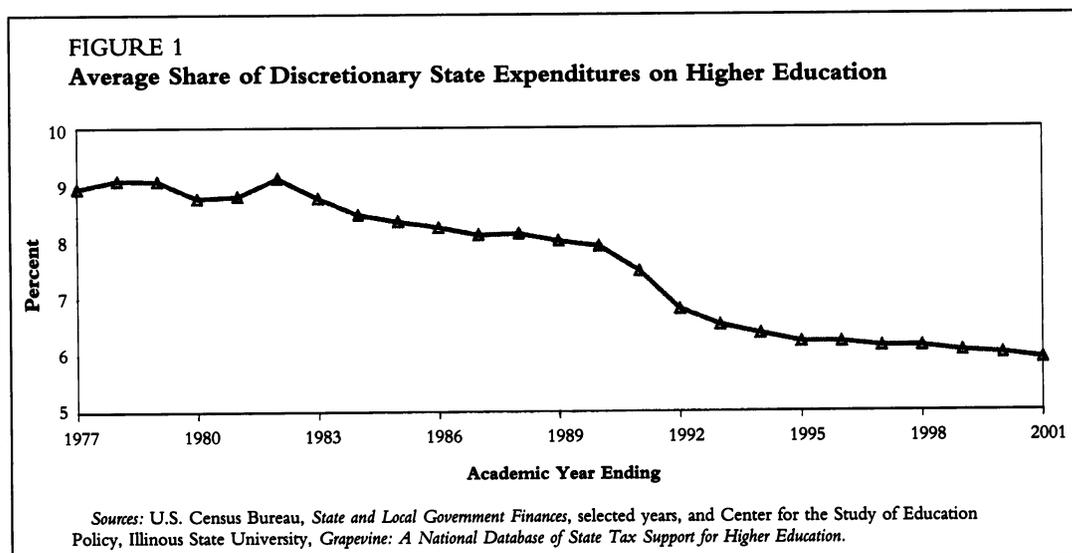
Rizzo reports that pressure to fund elementary and secondary education also accounted for a significant portion of the decline. Between 1977 and 2001, twenty-two state courts mandated K–12 finance reforms to equalize spending across school districts within these states. He says that these reforms led to an average increase in K–12 spending of \$340 million in these states. More than 25 percent of that increase (\$90 million) came directly from reducing state higher education budgets to below the levels that otherwise would have prevailed.

There is no reason why higher education's share of state spending should remain constant over time. As a result of this decline, however, per-capita state appropriations for each full-time-equivalent student at public colleges and universities rose in constant dollars from \$5,622 in fiscal 1974 to \$6,717 in fiscal 2004—an average increase of only 0.6 percent a year. This slow growth occurred during a period in which institutions of higher education faced rapidly rising real costs because of the reasons discussed above. At the same time, private colleges and universities relentlessly raised their tuitions by a much greater annual percentage than the increases in state appropriations for higher education.

Public institutions responded to diminishing state support by increasing their tuition levels at slightly higher percentage rates than the private institutions did. However, because tuition at public institutions started at much lower levels than those at private colleges, the public institutions generated less income from their increases than their private counterparts did from theirs.

Rizzo notes that statehouses nationwide responded with hostility to efforts by public institutions to recover lost appropriations by seeking private gifts and raising tuitions. On average, each dollar of private giving (per student) was met with a twenty-cent cut in per-student appropriations, and each dollar that tuition was raised led to at least a one-dollar cut in future state appropriations.<sup>4</sup>

The diminished resource base of public academic institutions relative to that of private colleges and universities has affected faculty salaries. As the 2003–04 AAUP report on faculty salaries notes, the average professor at a public doctoral university earned about 91 percent of what his or her counterpart at a



private doctoral university earned in 1978–79. By 2003–04, however, the percentage had fallen to 77 percent. Increasingly, public institutions find it difficult to attract and retain high-quality faculty. This difficulty surely influences the quality of public colleges and universities, where most U.S. students are educated.<sup>5</sup>

### Aid Pullback

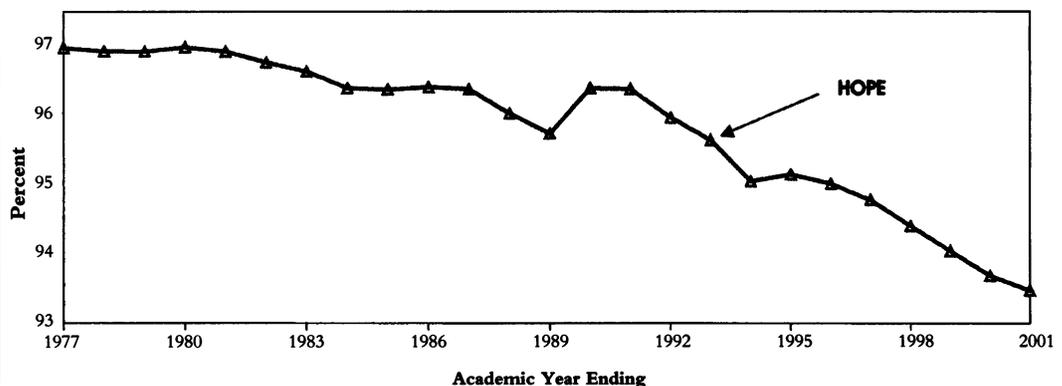
In the face of persistent tuition increases, the changing pattern of financial aid in the United States has influenced who gets a college education. In 1982–83, more than 50 percent of federal financial aid was in the form of grants; by 2002–03, however, grants made up only 40 percent of such aid. Most federal financial aid now comes in the form of loans, and research suggests that students from lower-income families are less willing than other students to take on large loan burdens to finance their higher education.

Moreover, federal grant aid has not kept up with increases in college costs. During the mid-1970s, the average Pell Grant covered about 46 percent of the average costs (including room and board) of attending a public college or university. Last year, the average grant paid for less than 30 percent of the costs (the percentage is much lower at private institutions, but they have more institutional resources for financial aid). The Bush administration has proposed increasing loan limits (a step private institutions applaud), but it has shown less interest in an across-the-board increase in the level of Pell Grants.<sup>6</sup>

States have placed additional pressure on public university tuitions by devoting an ever-increasing percentage of their higher education expenditures to targeted grant aid for students, as opposed to appropriations to institutions. Figure 2 shows the drop between 1977 and 2001 in the share of state dollars to support higher education that went directly to public institutions.

Rizzo attributes this decline to two factors. First, states have allowed their higher education appropriations to lag to take advantage of the perverse incentives built into the federal financial aid system, which brings more Pell Grant dollars into a state when its tuition level is higher. Second, there has been an aggressive movement away from need-based aid and toward non-need-based aid. As late as 1993, less than 10 percent of all state grant aid to students was not based on need. But the growth of “merit-based” programs such as the HOPE Scholarship program in Georgia, which started in 1993, raised the share of non-need-based aid to almost 25 percent by 2001. Under the HOPE program, any in-state student with a 3.0 grade point average is eligible to receive a scholarship if he or she attends an institution in the state.

FIGURE 2  
Average Share of State Higher Education Expenditures to Institutions



Note: The Hope Scholarship Program in Georgia began in 1993, launching a trend in which states reduced aid dollars allocated directly to institutions.  
Sources: Center for the Study of Education Policy, Illinois State University, *Grapevine: A National Database of State Tax Support for Higher Education*, and National Association of State Student Grant and Aid Programs, *Annual Survey*, selected years.

Since 1993, twelve additional states have implemented HOPE-type programs. Increasingly, financial aid at private colleges and universities in the United States is also based on “merit” rather than on need. Many private institutions now use financial aid to manage enrollment (to attract a class with the most “desirable characteristics” at the least cost) rather than to expand access to higher education among lower-income students. Probably fewer than fifteen to twenty private academic institutions provide financial aid based solely on students’ financial need today.

As a result, the United States has failed to reduce educational inequality based upon family income levels. Disparities in college enrollment by family income quartiles (measures used to categorize the population into four equal groups based on the level of household income) are almost as large today as they were thirty years ago. Harvard University’s president, Lawrence Summers, recently told a group of college presidents that the gap in opportunities for children from different economic backgrounds is the “most severe domestic problem in the United States,” and he called on colleges and universities to take steps to ameliorate it.<sup>7</sup>

More students from lower-income families are being forced, for financial reasons, to enter higher education through public two-year colleges. The U.S. college-age population is expected to grow over the next decade, primarily among groups now underrepresented in higher education. Limits on state resources for both operating and capital expenses may increasingly restrict access to college; students are already being turned away from four-year public universities in California and Washington. If these trends continue, disparities in college attainment by income, race, and ethnicity may worsen in the years ahead.

### Research Costs

The importance of scientific research has grown at American universities, fueled by major advances in genomics, advanced materials and information technology, and dramatic increases in governmental and private funding. A little-known fact,

however, is that despite expanded funding, universities increasingly finance research out of their own institutional resources. The share of research and development expenditures universities paid out of their own pockets grew from 11.2 percent in 1972 to almost 21 percent in 2000.

Universities increasingly bear the costs of their faculty members' research for many reasons, but the magnitude of the start-up packages needed to attract new faculty members in the sciences is an important factor. At research universities, these costs average \$300,000 to \$500,000 for assistant professors and often well over a \$1 million for senior faculty. Universities properly view these costs as investments in their faculty members' research productivity. Yet, where institutions get the money to fund these investments is of great concern.

### Demise of the Tenure Track

Public universities, more often than private institutions, sometimes leave faculty positions vacant until salary savings generate necessary start-up funds; leaving these faculty positions open surely affects the quality of undergraduate education at the public institutions. Researchers at the Cornell Higher Education Research Institute (CHERI) have also found evidence that escalating research costs have led both public and private institutions to raise student-faculty ratios and substitute

seek employment here. The decline in the total number of PhDs produced by U.S. universities in recent years, together with the large share of American faculty approaching retirement age, raises the question of who our next generation of professors will be.<sup>8</sup>

Cowboy humorist Will Rogers once said, "Even if you're on the right track, you'll get run over if you just sit there." The United States has the best higher education system in the world, but it is not a foregone conclusion that we will maintain that position of excellence. Protecting the quality of higher education and increasing access to it are not mutually exclusive goals, and we simply cannot afford to treat them as such. Nor can we afford to ignore either of these important goals. Policy makers and taxpayers alike would be well advised to pay attention to the issues that we have raised in these pages. ✍

### Notes

1. For further details, see Ronald Ehrenberg's 2002 book, *Tuition Rising: Why College Costs So Much* (Cambridge, Mass.: Harvard University Press).
2. See Stephen J. Burd, "Plan to Punish Big Increases in Tuition Is Dropped," *Chronicle of Higher Education*, March 12, 2004.
3. A paper based on the dissertation, "A (Less Than) Zero Sum Game? State Funding for Public Higher Education: How Public Higher Education Institutions Have Lost," is available at [www.ilr.cornell.edu/cheri](http://www.ilr.cornell.edu/cheri).

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In fact, throughout American higher education, institutions rely increasingly on part- and full-time non-tenure-track faculty. During the 1990s, the percentage of full-time non-tenure-track faculty and the ratio of part- to full-time faculty grew significantly. The share of newly hired full-time faculty appointed off the tenure track was over 50 percent in 2001–02.

Preliminary research findings at CHERI suggest that as the percentage of part- and full-time non-tenure-track faculty grow at an institution, undergraduate students' six-year graduation rates fall. Moreover, as the share of faculty off the tenure track increases, the demand for full-time tenure-track faculty declines, and PhD programs become less attractive to American college graduates.

This trend may partly explain the increase in the number of PhDs that U.S. universities grant to temporary residents of the United States. Over the past thirty years, the share of such PhDs 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.

As institutions of higher education improve elsewhere around the world, foreign students may choose not to pursue PhD study in the United States, and those who do may not

4. Even if states did not respond negatively to increased private giving, the giving and endowment levels of public institutions would probably not be able to catch up with those of private institutions, because the public institutions started from such a low base relative to their private counterparts.

5. It is predicted that much of the enrollment expansion in coming decades will be driven by currently underrepresented minorities or first-generation college students. Most of these enrollments are expected to occur in the public sector.

6. The administration did include in its fiscal 2005 budget proposal \$33 million for a pilot program that would provide an additional \$1,000 for the first year of college for students from low-income families who had taken "rigorous" coursework to prepare for college. See Stephen J. Burd, "In His 2005 Budget Bush Proposes Few Increases in Student Aid," *Chronicle of Higher Education*, February 13, 2004.

7. See Julianne Bassinger and Scott Smallwood, "Harvard Gives a Break to Parents Who Earn Less than \$40,000 a Year," *Chronicle of Higher Education*, March 12, 2004. In addition, Summers announced that parents of Harvard students from families earning less than \$40,000 a year would no longer be asked to pay anything toward their children's education.

8. Since September 11, 2001, the number of international students applying to U.S. PhD programs has declined consistently as well. The Council of Graduate Schools reports that the number of foreign applicants to American graduate schools for fall 2004 was 32 percent lower than for the previous fall. A summary of the report is available at [http://www.cgsnet.org/pdf/CGS\\_PR\\_IntlSurvey.pdf](http://www.cgsnet.org/pdf/CGS_PR_IntlSurvey.pdf). Also see "Foreign Students Decline to Study at U.S. Universities" on page 4–5 of this issue of *Academe*.