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TRENDS AND ISSUES

Assessing Public Higher Education At the Start of the 21st Century

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July 2005

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EXECUTIVE SUMMARY

As the overall slice of state budgets allocated to higher education has declined significantly over the past three decades, public institutions are faced with enormous challenges of trying to maintain quality while preserving broad-based access to education. Institutions have been forced to hire more part-time and adjunct faculty instead of higher-cost tenured or tenure-track faculty, which, according to recent research, can result in higher drop-out rates among students. As the resources of state institutions have fallen relative to those of private institutions, it has become more challenging for state institutions to lure top talent and the research dollars they attract. A recent conference by the Cornell Higher Education Research Institute (CHERI), and supported by the TIAA-CREF Institute, brought top administrators and researchers together to examine the issues and explore options for coping with financial pressures. This *Trends & Issues* by TIAA-CREF Institute Fellow and CHERI Director Ronald G. Ehrenberg summarizes the discussions and papers presented at the conference.

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Rising Costs, Declining State Support

At the start of the 21st century, public higher education appears to be in a state of crisis. The share of state funding going to higher education has declined by over one-third during the last 30 years. Reductions in tax rates in many states have led to structural deficits in state government budgets that made it difficult for the states to find the funds to support the over 50% increase in public higher education enrollments that has taken place since 1974. Several recessions during the period, including the economic downturn that started at the turn of the century, led many states to periodically cut their real state appropriations per student at public higher education institutions. As a result, between 1974 and 2004, state appropriations per student to public higher education institutions grew at an average annual rate that exceeded the rate of increase in consumer prices by only about 0.6% a year.

The rate of increase in consumer prices is widely believed to understate the rate of inflation that colleges and universities face because the bundle of goods and services that colleges and universities buy is very different than the bundle of goods and services that consumers purchase. The average annual rate of growth of one widely used index of the prices faced by higher education, the Higher Education Price Index (HEPI), exceeded the average annual rate of growth in the consumer price index by about 0.4 % a year during the period.[1] Hence, real state appropriations per student at public higher education institutions were essentially the same at the start and the end of the period.

As I discussed in my book, *Tuition Rising: Why College Costs So Much* (Harvard University Press, 2002), *selective* private higher education institutions have increased their tuition levels, on average, by 2% to 3.5% a year above the rate of inflation for longer than anyone can remember. Over the past 30 years, both private and public institutions generally have raised tuition levels at similar rates. However, tuition levels at the public institutions started at a much lower base; as a result, the sum of their tuition level and state appropriations per student grew at a much slower rate than tuition levels at the private institutions. Thus, the resource base of public higher education has fallen relative to the resource base of private higher education.

Discrepancy between Public and Private Faculty Salaries

Research that my students and I have conducted at the Cornell Higher Education Research Institute (CHERI) during the last five years has described some of the things that have

[1] 2005 HEPI (Wilton CT: Wilton CT: Commonfund Institute, 2005), table A.

resulted from these changes.[2] Average faculty salaries at public doctoral institutions have declined relative to average faculty salaries at private doctoral institutions, which undoubtedly makes it more difficult for the public institutions to attract high quality faculty.[3] Lower average salaries also make it more difficult to retain existing faculty and we have shown that turnover rates of associate professors are higher at public doctoral-level institutions that at private institutions.[4] Finding resources to provide funds for the growing cost of start-up packages also is more difficult for the public institutions; start-up cost packages for scientists and engineers are typically lower at public than at private universities, making it more difficult for the public institutions to attract top scientists. The public institutions also tend to fund a greater portion of their start-up packages by keeping faculty lines vacant, which has implications for the quality of undergraduate education.[5] So too, does the practice of increasingly substituting non-tenure-track full-time faculty and part-time faculty for full-time tenure-track faculty in an effort to meet student course demand during a period of contracting resources. Indeed, data from one large public system, the State University of New York (SUNY) system, indicate that during the decade of the 90s the percentage of undergraduate credit hours taught by tenured and tenure-track faculty fell by over 22 percentage points at the four university centers.[6] Rising tuition levels at four-year public institutions have led two-year colleges to increasingly become the entry point for access to public higher education for many students.[7]

Put simply, public higher educational institutions, where about 80% of all college students and 65% of all four-year college students are educated, appear to be in serious trouble. Limitations on their state funding may both restrict access to public higher education and reduce its quality in the future.

Examination of Slide in State Support for Higher Education

Given these concerns, CHERI brought together a number of prominent higher education researchers, senior university and system administrators, and higher education policy

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[2] The Cornell Higher Education Research Institute (CHERI) is financially supported by the Andrew W. Mellon Foundation, the Atlantic Philanthropies (USA) Inc. and the TIAA-CREF Institute.
[3] Ronald G. Ehrenberg, "Studying Ourselves: The Academic Labor Market", *Journal of Labor Economics* 21 (April 2003): 267-287.
[4] Matthew Nagowski, "Associate Professor Turnover at American Colleges and Universities", *American Economist* (forthcoming).
[5] Ronald G. Ehrenberg, Michael J. Rizzo and Scott S. Condie, "Start Up Costs in American Research Universities", *CHERI* Working Paper No. 33 (March 2003) (available at www.ilr.cornell.edu/cheri).
[6] Ronald G. Ehrenberg and Daniel B. Klaff," Changes in Faculty Composition within the State University of New York System: 1985 -2001", *CHERI* Working Paper No. 38 (August 2003).
[7] Ronald G. Ehrenberg and Christopher S. Smith, "Analyzing the Success of Student Transitions from 2-Year to 4-Year Institutions Within a State", *Economics of Education Review* 23 (February 2004): 11-28.

analysts in May of 2005 for a conference, "Assessing Public Higher Education at the Start of the 21st Century." To set the stage, Michael Rizzo (Centre College) addressed three major changes in state funding of education that occurred during the last quarter of the 20th century: 1) the decline in education's share of the state budget; 2) the decline in higher education's share of state educational funding; and 3) the decline in the share of higher education funding that goes to public higher education institutions (as opposed to directly to students in the form of grant aid). The latter is a direct result of the growth in state funded merit scholarship programs that followed the establishment of the HOPE Scholarship program in Georgia in 1993; today, 13 states have state merit scholarship programs.

Thomas Kane and Peter Orszag previously have pointed out the role that growing Medicaid expenditures have played in crowding out state higher educational expenditures.[8] Rizzo's analyses suggest a number of other important factors that help to explain the three changes that he has observed. First, tuition increases at public higher education institutions, which often are induced by state funding cutbacks, in turn appear to lead to subsequent state funding cutbacks. Second, the burden of court-ordered mandates to expand state funding of public elementary and secondary education expenditures that have occurred in a number of states have been borne at least partially by public higher education in terms of cutbacks in, or reductions in the growth of, state appropriations for public higher education. Finally, as the difference in the racial composition of the adult population and the college age population in a state widens, a greater share of the state resources for higher education are directed to students in the form of merit scholarships, rather than as appropriations to public higher education institutions.

During the discussion that followed Rizzo's paper, a number of conference participants stressed that an additional contributing factor is that states have realized that they are "leaving money on the table" if they pursue a high-state appropriation, low-tuition strategy. For in many states, increases in tuition will be associated with the generation of more federal Pell grant revenues for the state; students from lower income families will have the tuition increase fully covered by an increase in their Pell grants. Hence raising tuition (and cutting state appropriations or the rate of growth of state appropriations) is a way of shifting the cost of public higher education in a state from state taxpayers to the nation's taxpayers as a whole. Conference participants bemoaned the fact that federal financial aid policies encourage states to cut back rather than expand state appropriations to public higher education.

[8] Thomas J. Kane and Peter R. Orszag, "Higher Education Spending; The Role of Medicaid and the Business Cycle," *Brookings Institution Policy Brief No. 124* (Washington DC: Brookings Institution, September 2003).

Growing Use of Non-Tenure-Track Faculty

Another conference session focused on the growing use of full-time and part-time non-tenure-track faculty in public higher education. In a paper presented at an earlier conference held by the TIAA-CREF Institute, Liang Zhang (University of Minnesota) and I documented the growth that has occurred in both types of contingent faculty in public higher education. For example, between 1989 and 2001, the ratio of part-time faculty to total full-time faculty rose from .269 to .377 at a set of public higher education institutions.[9] Moreover, as might be expected, we also showed that much of the substitution of contingent for tenure-track faculty arose from the cost savings in terms of the lower salaries, and for part-timers often lower benefits, that such substitution permits the institution.

Of great concern, however, is the impact that the growing use of contingent faculty has on undergraduate students at public higher education institutions. If contingent faculty do not adversely impact on undergraduate students, pleas by university administrators and faculty that the quality of their institutions is being reduced are likely to fall on deaf ears in state capitols. On the other hand, if the increasing use of contingent faculty can be shown to adversely impact upon undergraduate students, governors and legislatures may think twice before making further cuts to public higher education.

Liang and I have analyzed institutional-level panel data from the College Board and other sources to ascertain whether, as an institution increases its usage of part-time or full-time non-tenure-track faculty, its undergraduate students' graduation rates fall, other factors held constant. We found that the increased usage of either type of contingent faculty is associated with a decline in graduation rates at four-year institutions, with the largest impact being felt at the public masters' level institutions.

Eric Bettinger (Case Western Reserve University) and Bridget Terry Long (Harvard Graduate School of Education) use a unique individual record data set for all students enrolled in public higher education in the state of Ohio that permitted them to analyze how the proportion of classes that students take in their first semester at college that are taught by adjuncts influences the students' probabilities of persisting at the institution into their second year. They find that students with "adjunct-heavy" course schedules are less likely to persist into their second year. Taken together, these two papers suggest that public higher education

[9] Ronald G. Ehrenberg and Liang Zhang, "The Changing Nature of Faculty Employment" in Robert Clark and Jennifer Ma Eds. *Recruitment, Retention and Retirement in Higher Education: Building and Managing the Faculty of the Future* (Northampton MA: Edward Elgin Publishing, 2005).

institutions should be concerned about how the expansion of their usage of contingent faculty influences undergraduate students.[10]

John Wiley, Chancellor of the University of Wisconsin Madison, gave the dinner address at the conference. His talk, "Why It's Unlikely That We Will See Any Publics Go Private," stressed that support for the core education mission of educating students at public higher education institutions comes from state appropriations, tuition revenue, endowment income and annual giving. Reductions in state appropriations cannot be offset by continually increasing tuition. At private institutions, high tuition levels are somewhat misleading due to the large fractions of private tuitions that are returned to students in the form of tuition discounts. If public universities aggressively move towards a high tuition strategy, as some such as Miami University of Ohio have already done, they will find that the need for tuition discounts to help them "craft the classes" they want will reduce the net tuition revenue that they will obtain from the higher tuition levels.

Wiley argues that to improve, or at least maintain, the quality of public higher education in the face of reduced state appropriations, will therefore require large increases in endowment income and annual giving at the public institutions. However, he presents calculations that suggest that the magnitudes of the endowment increases that would be required are much too large to be feasible. Hence, his fear is that the privatization of public higher education, moving more towards a low-state appropriation, high-tuition model, will invariably lead to a decline in the quality of public higher education which will have adverse consequences for the nation.[11]

Examination of Higher Education in Specific States

Ten other papers presented at the conference were "individual state" papers in which the authors were asked to describe how public higher education had evolved over the last quarter century in their states and how these changes had affected the public higher education institutions as well as current and potential students. The states chosen for study all have large public higher education systems and are representative of all sections of the nation; they are listed below along with the names of the authors of the papers:

California – Ellen Switkes and Jerry Kissler (University of California System)

[10] The United University Professions (UUP), the union representing faculty at the State University of New York, successfully argued in the debate over funding for public higher education in New York State during the winter of 2005, that increased usage of part-time faculty at SUNY was responsible for students being unable to find the classes they needed to graduate because part-time faculty teaching is often concentrated during certain times of the day (late afternoons and evenings).

[11] An earlier version of this message is found in John D. Wiley, "Higher Education at the Crossroads", *Madison* (November 2003).

Georgia – Christopher Cornell and David Mustard (University of Georgia)

Illinois – Daniel Layzell (Illinois Board of Higher Education) and King Alexander (Murray State)

North Carolina – Betsy Brown (University of North Carolina System) and Robert Clark (North Carolina State University)

Pennsylvania – Donald Heller (Pennsylvania State University)

Michigan – Steven Desjardins (University of Michigan)

Texas – Lisa Dickson (University of Texas)

Virginia – Sarah Turner (University of Virginia)

Washington – William Zumeta (University of Washington)

Wisconsin – David Olien (University of Wisconsin)

Authors were given considerable latitude about what should be covered in their papers. Some focused on the flagship research university in the state, while others discussed what had happened to public higher education statewide. All traced the changes in state appropriations and tuition levels that had occurred. Many addressed the changes in faculty salaries that had occurred and the changing mix of faculty between tenured/tenure-track and contingent faculty. A number focused on the impact of funding changes on graduate education, on how financial aid policies had changed at the state and institutional levels and how the latter in turn had influenced the distribution of students according to family incomes. Finally, some discussed innovative polices being undertaken in their states to try to restore the health of their public universities and/or to guarantee access to qualified students from all socioeconomic and racial/ethnic backgrounds.

All the states under discussion had been hit by funding cuts during the recent recession and most had suffered long-run declines in state appropriations per student, largely because enrollment growth had outstripped the state's ability, or willingness, to provide appropriations increases. Many of the flagship campuses had moved along the path of raising resident undergraduate tuition to try to offset cuts in per capita state appropriations. Typically, the tuition increases offset only part of the reductions in state appropriations and the increases often generated political pressure to limit the authority of the public universities to raise

tuition (which may occur soon in Illinois) or to roll back previous tuition increases (which has occurred in recent years in both California and Virginia). A number of institutions have increased tuition aggressively for out-of-state undergraduates to try to generate revenues, but few had been able to increase their out-of-state student enrollment share, and the University of Wisconsin at Madison has found that when out-of-state tuition increases too much, enrollment of out-of-state students declines. Some reported efforts to make professional graduate programs self-sustaining by substantially raising these programs' tuition levels.

Many reported concerns that their faculty salaries were falling relative to their private sector competitors, which was making recruitment and retention of faculty more difficult. Most reported substantial increases in the usage of lecturers and teaching assistants, which, as the Ehrenberg and Zhang, and Bettinger and Long papers demonstrated, may adversely impact upon undergraduate students, if other factors are held constant. However, other factors were not always held constant and several papers reported efforts to improve student persistence and graduation rates that had been successful; these actions have both an academic and financial payoff to the universities.

Efforts to Increase Access

A number reported institutional strategies to enhance their accessibility to students from lower-income families and other under-represented groups. Examples of public flagships that have undertaken such efforts are the University of North Carolina Chapel Hill with its "Carolina Covenant" and the University of Virginia with its "Access UVA" programs; both programs guarantee students that have incomes less than twice the federal poverty level that they can attend the institutions without incurring any debt. Both programs include comprehensive efforts by the universities to recruit more students from low-income families and, in the case of Virginia, a promise to report to the state each year on the socioeconomic distribution of its student body.[12] Similarly, the University of Texas "Longhorn Opportunity Scholarship" program provides scholarships to students from high schools whose students were historically under-represented in the University of Texas student body; in addition, it offers focused mentoring opportunities designed to provide substantial assistance to the students in their first year of enrollment.[13]

Whether other campuses within these states or flagship campuses in other states can develop resource streams to support these types of efforts to maintain/expand socioeconomic and racial

[12] See www.unc.edu./carolinacovenant and www.virginia.edu/accessuva for details of these programs
[13] See www.utexas.edu/student/connexus/scholars.

ethnic diversity of their student bodies is an open question. Other papers report that increasing tuition levels, coupled with limitations on institutional and state funds for need-based financial aid, have been associated with a reduction in the share of students from lower-income families in their flagship's undergraduate student bodies.

Impact of Declines in State Support on Graduate-Level Programs

Discussions about the impact of privatization of public higher education tend to focus on the implications for undergraduate students and whether higher undergraduate tuition levels will discourage some students from attending, or completing college. Often lost in the discussion is how cutbacks in state support will affect graduate education, research, and public service/extension activities at public universities. The papers for California and Wisconsin stress the negative effects that cutbacks in state support have had on graduate education; enrollments in graduate programs in Wisconsin are lower today than they were in 1993. Graduate enrollments have expanded in the University of North Carolina system, but as the out-of-state tuition levels increase, so does the cost of tuition waivers for graduate teaching and research assistants from out-of-state. Since these costs are born by departmental budgets (teaching assistants) and external faculty research grants (research assistants), the combination of cutbacks in state support and increased tuition levels inevitably must lead to a reduction in the numbers of teaching and research assistants employed at the university or to a shift towards enrolling a greater share of graduate students from residents of the state. The latter may lead to a reduction in the average quality of graduate students attending the university. Either will lead to a reduction in the ability of the university to augment its undergraduate teaching and its research programs.

Summary

Fifteen years ago, Henry Rosovsky wrote that "fully two-thirds to three-quarters of the best universities in the world are located in the United States."[14] Many of these institutions are flagship public campuses. Taken together, the papers presented at the conference do not provide an optimistic view of how these campuses and other public institutions in their states have fared over the last 30 years or of their likely futures. The twin goals of increasing, or at least maintaining, both the quality of public higher education institutions and their accessibility, will be difficult ones to achieve in the years ahead.

[14] Henry Rosovsky, *The University: An Owners Manual* (New York NY: W.W. Norton & Co., 1990), p.29.

Executive summaries of most of the papers presented at the conference will be available on the TIAA-CREF Institute web site in the near future. Copies of the conference versions of the papers can be downloaded from the CHERI web site, www.ilr.cornell.edu/cheri. Revised versions of the papers, along with an introduction by me and a concluding essay by King Alexander, president of Murray State University, will appear in a volume that I am editing, titled, "What's Happening to Public Higher Education?" which is scheduled to be published in the AEA/Prager Series on Higher Education by Greenwood Press in 2006.

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