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The Secretary of Education's Commission
on the Future of Higher Education

ISSUE PAPER

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to inform the work of the Commission*

Costs, Prices and Affordability

A Background Paper for the Secretary's Commission on the Future of Higher Education

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This paper has been commissioned by the Secretary's Commission on the Future of Higher Education as background for its work on college affordability. It draws from existing research to identify broad issues affecting prices, costs and the growing challenge of student affordability to postsecondary education. The paper concludes with suggestions about aspects of the topic which may be most fruitful for future policy attention.

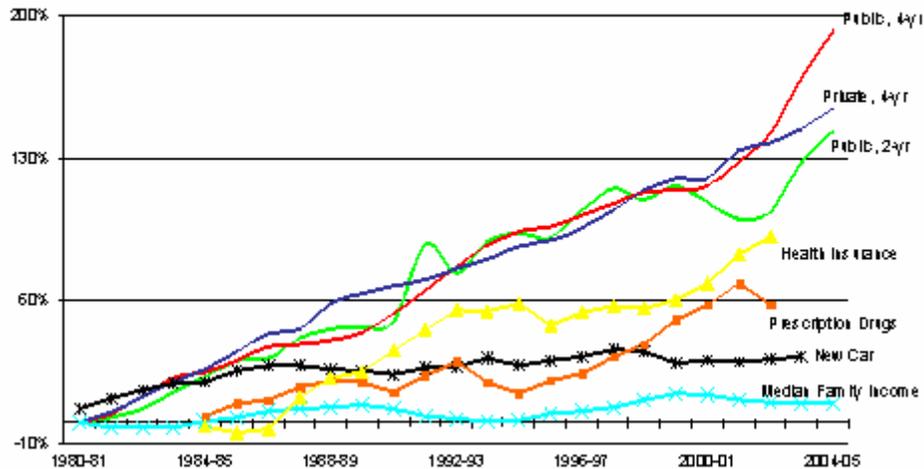
Focusing on the Public Policy Problem

In the last decade, the combination of rising tuitions, constrained public funding, and unprecedented enrollment pressure on institutional capacity have created a sense of alarm if not crisis in higher education finance in the United States. Some signposts of trouble include:

- Over the last twenty-five years, average tuition and fees have increased faster than inflation, per capita personal income, consumer prices, prescription health care, and even health insurance.
- Over half of current undergraduates take out loans to finance part of their college work. Nearly three-quarters of BA recipients in private non-profit institutions graduate with some debt,

compared to 62% for public institutions. Average debt levels were \$16,000 for nonprofit BA degree recipients and \$10,600 for public graduates. (College Board, Trends, 2005).

Price of College Is Going Up



- Unmet financial need among the lowest income families (below \$34,000 annually) grew by 80 percent during the 1990-2004 interval – at the same time that average student aid packages for the top quartile of families more than tripled. (Mortenson.) The Advisory Committee on Student Financial aid estimates that in the first decade of the new century, financial barriers will keep nearly 2 million low and middle income college qualified high school graduates from attending college. (ACSFA, 2002.)
- The biggest single trend affecting higher education finance has been the incremental privatization of finance, spurred by the erosion of state and local funding for public institutions. This has occurred despite the relatively high priority most states give to higher education, and the generous treatment of institutions in good budget years. But revenue and spending constraints are slowly squeezing state funding capacity for higher education, which reached a 25-year low on a per capita funding basis in 2004-05. This nadir occurred despite reasonably

healthy revenue growth for postsecondary education in many states since 2003. The problem is that nationwide, enrollments in public institutions are increasing faster than resources, resulting in a crunch between demand and funding. (SHEEO, SHEF Survey 2005.)

Institutional privatization in turn has led to a new intensity of competition among institutions, including between public and private institutions--for students, faculty, research dollars, prestige, and the resources which accompany them. Among elite institutions in particular, the evidence points to increased interinstitutional competition as a primary driver of spending increases. (Clotfelder; Winston)

- The prospects of a return to the days of where state or federal funding are likely to keep pace with enrollment and inflation are somewhere between slim and none. Absent a change in federal and state tax and spending policies (particularly cost containment in the Medicaid program), the proportion of state and federal funding going to higher education is predicted to decline in every state. (NCPPE.)
- By international measures US higher education is more generously funded than in almost any other country in the world, averaging total per-student expenditures of over \$22,000 annually in 2001, almost twice the OECD member nation average, and more than twice the average of \$8,779 spent per student in US secondary schools. (OECD, 2004 Factbook.)
- The rigor of high school academic coursework -- which in turn correlates with family income -- remains the biggest predictor of college access and degree attainment. 71% of bachelor's degrees go to students in the top income quartile, as contrasted to just 10% for the lowest income quartile. (Mortenson)
- Inequality has an institutional as well as a student dimension – as measured by average resources available per student. Even as student income inequality is growing, the gap in

resource availability between sectors has grown, with the well-endowed private institutions, and a handful of the leading public research universities, pulling away from the rest of the colleges and universities. Institutional wealth corresponds in turn to student admissions selectivity, which corresponds to family income. So the poorest students remain in the institutions least likely to have the funds to invest in their success. (NACUBO Endowment Survey; Winston.)

- Public opinion polls show growing concern about college costs and accountability threatening to erode otherwise generally favorable views about higher education. Nearly half of registered voters now question whether higher education returns value for costs – a proportion that rises among parents with children in college. (Winston and Associates, 2006).
- Growth in student enrollments over the next decade will come predominantly from low-income students who are the first in their family to go to college. Historically these students have the lowest probability of degree success in college. Unless those disparities change, the country faces growing problems of workforce shortages, as well as greater income inequality. (Descorchers, 2005; NCPPHE 2005).

What the research shows about trends in costs and spending

The issues surrounding postsecondary education finance in the United States (where the money comes from, where it goes, the relation between revenues and costs, and why prices are going up) are central to any discussion about postsecondary policy. The complexity of the system, and some persistent data problems, means that there isn't a single clear answer to the question about why college prices continue to go up -- other than that they can -- much less what to do about it as a public policy problem. The reasons behind cost increases are also slightly different depending on the type of institution (research universities have very different cost structures than community

colleges), and the time period studied. Especially among public institutions, funding follows a zig-zag course, with revenues – and spending – booming in years of growth, to be followed by revenue declines and cost cutting in times of recession.

Despite these problems, analyses of trends over time show consistent patterns that can help focus on the core policy issues. Before reviewing that research, however, it helps to clarify the terminology behind it.

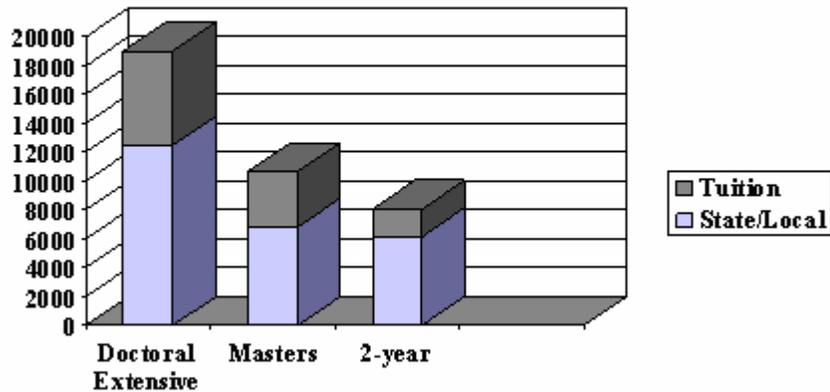
Revenues: Where the money comes from. Revenues for institutions come from many sources, with tuition and fees, state and local appropriations, endowment income, and federal funds being the dominant sources. Revenues from tuition and fees cover just a portion of costs in public and non-profit private. The difference between the average cost per student and the proportion covered by tuition is the general subsidy. In public institutions, subsidies come from unrestricted operating support via state and local appropriations. In private non-profit institutions, they come from gifts and endowments.

Table I below shows a snapshot of the composition of total current fund operating revenues, divided per FTE student, for the major categories of public institutions for the 2000-01 fiscal year, and for private non-profit institutions for 2001-02. (Unfortunately, NCES data don't report similarly for a single year for both sectors.) Using the example of the public research universities helps to see the distinctions in revenues per students and where the general subsidies are. In this example, total current fund revenues from all sources are just under \$40,000 per student per year. However, most of the federal funds are for contracted research (federal financial aid is reported as part of tuition revenue in financial reports) and none of the auxiliary or hospital revenue are available for general purposes. So the per-student general subsidy in this example is a little closer to the combination of tuition plus state and local revenues – or about \$19,000 per student per year on average, from which an average of \$6,548 came from tuition and fees. (Source: NCES, Digest 2004.)

**Current Fund Revenues per FTE Student by Source
(Publics, 2000-01, Privates 01-02)**

	PUBLIC				Private Non-Profit		
	Doctoral E	Masters	Bacc	2-year	DoctEx	Masters	Bacc
State/Local	12475	6824	5437	6133	1239	349	341
Tuition	6548	3818	4015	1893	16783	11182	10708
Fed	5320	830	693	521	19930	832	926
Hospitals & Aux	8729	1808	1611	524	17715	2590	3939
All other	6013	1086	900	620	14128	2196	3117
\$/FTE	39085	14366	12656	9691	69795	17119	19031

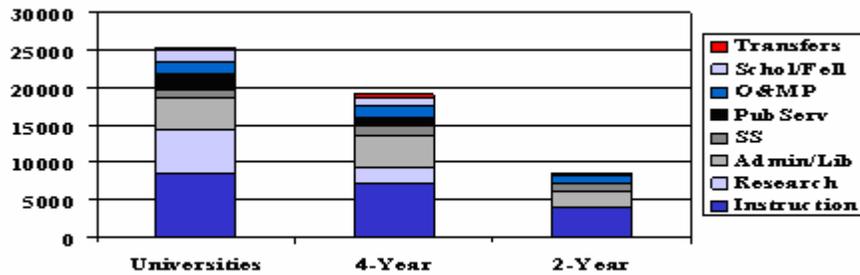
**Ratio of State Appropriations per FTE Student to
Tuition Subsidies, Public Institutions, 2000-01**



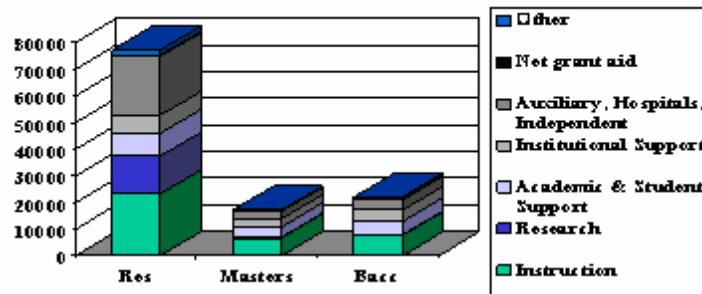
Costs (or expenditures): The amount of money that institutions spend in their operating budgets, and where they spend it. Capital expenditures are not reported as part of operating costs, thus all reports of costs understate the true total cost by excluding capital costs. The federal government requires all institutions participating in Title IV programs to report expenditures in standard categories, such as instruction, research, public service, administration, student services, libraries, operation and maintenance of the plant. To get standard measures of spending across institutions, most analyses divide spending by full-time student enrollments to get an average cost-per-student. This allows institutional comparisons to be put in some context, despite the fact that not all spending can

realistically be said to be on activities directly involving students. Charts II – IV below show average expenditures per FTE students for public, non-profit, and proprietary institutions. * Both in public and private non-profit institutions, the biggest spending categories are instruction, research (for universities and four year institutions), administration, student services, public service, and student aid. That is not the norm for proprietary institutions, where instructional expenditures are well below those for student services, and where there is no research or public service element.

II. Average Education & General Expenditures per FTE Student in Public Institutions by Function, 2000-01

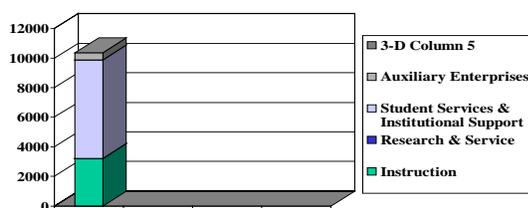


III. Current Fund Expenditures, Private Non-Profit 4-Year Institutions, 2001-02



* Unfortunately, NCES Digest data uses different expenditure categories for public and private universities. Private institutional costs are only reported for current fund expenditures, whereas on the public side the report captures only educational and general revenues. To improve the comparability, revenues for auxiliary enterprises and hospitals have been removed for the private institutions, something that primarily affects private research universities.

IV. Current Fund Expenditures, Private for-Profit Institutions, 2000-01



Prices: tuition and fees. The average posted price is the “sticker” price, while “net” prices are tuition and fees less grant (but not loan) aid. As tuition discounting has grown, many analyses now focus on net rather than sticker prices.

As a general matter, more is known about trends in student prices and aid than about revenues or expenditures. The College Board’s publication on trends in student aid and prices (now in its 23rd year) provides a readily accessible, aggregated annual report on broad trends in student tuition and fees (prices) and financial aid. No such comparable publication – public or private – exists in the realm of college costs or revenue covering all of higher education.[†] The quality – and timeliness – of the data are also quite different between public and private non-profit institutions. But while the details are missing, some broad patterns are pretty clear, and a summary of the research helps to tell the story.

Revenue Driven Costs. Higher educational institutions operate under what economist Howard Bowen coined the “revenue theory of costs” – which is that the institutions raise all the money they can, and spend all the money they have. Resource availability is widely believed to be equated with quality and prestige, and measures of funds are built into common ranking metrics such as the US News and World Report ratings. The revenue theory of costs has been proven to be accurate

[†] The State Higher Education Finance (SHEF) report, prepared by the State Higher Education Executive Officer organization, provides a comprehensive report on revenues and expenditures in public institutions and states, but does not extend to the private non-profit sector. The best routinely generated public source of nationwide revenue and expenditure data is the NCES “Digest of Educational Statistics,” based on IPEDS data. The Digest summaries tend to be out of date (the latest currently available are 2000-01), and do not provide summaries that allow comparisons between public and private institutions. Nonetheless, they are reasonably standardized, and go through a comprehensive review and audit process, and are the best source of aggregate data on trends in costs and prices.

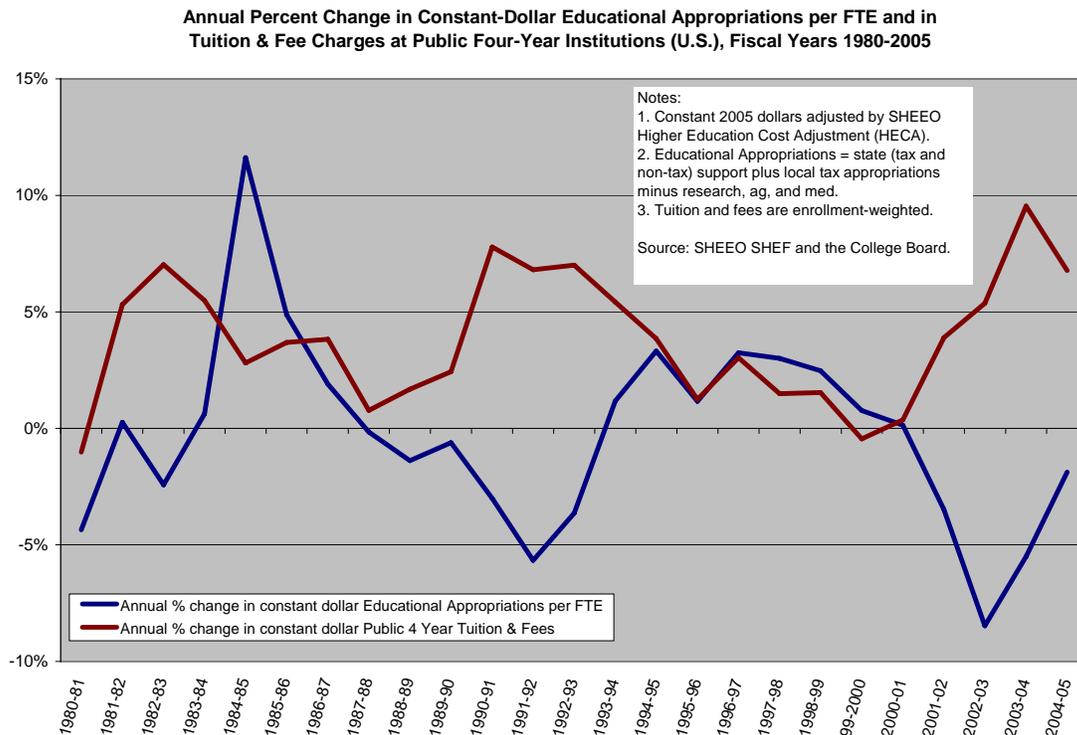
for the selective research and liberal arts institutions that operate at the top of the academic food chain. If revenues are constrained, institutions in this market will do one of two things to protect quality as they know it -- either increase student tuitions, or cut student enrollments. However, not all institutions operate in these markets, in particular the comprehensive public and community college institutions. They are less able to fully replace lost state funds with tuition revenues (although they do raise tuitions), and historically have had less control over student admission access. (The budget cuts and surge in enrollment demand in the early 2000's have led many institutions to cap admissions, either by raising admissions standards, or by cutting off enrollments earlier and earlier.) So they are faced with a greater imperative to cut costs, possibly by sacrificing some aspect of quality.

Measures of Institutional Costs. The methodology for measuring average operating cost per student within institutions is quite well developed, particularly as it relates to the cost of undergraduate instruction. The National Association of College and University Business Officers (NACUBO) has developed a voluntary reporting format to allow institutionally comparable measures of undergraduate instructional expenditures. Another long-standing measure of instructional costs is available from a voluntary consortium of institutions participating in what has become known as the "Delaware Study of Instructional Productivity." The Delaware study focuses on average direct costs of instruction, and not other costs such as for administration or research. That study has found a consistent pattern that differences between institutions in the average direct cost of instruction are largely attributable to differences in the mix of disciplines, levels of student enrollment (lower division, upper division, graduate or professional), faculty compensation patterns, and policies for use of part-time and adjunct faculty.

Relation between Revenues, Prices and Costs. Several studies over the last ten years document that college tuition (price) increases have been driven both by public revenue shortfalls and greater

spending within the institutions. The dominant pattern in public institutions has been the zig-zag of tuition increases accompanying reductions in the rate of growth in state appropriations. Public tuitions are not as a rule set by policy (e.g., in relation to costs), but to fill in the difference between revenue needs and state appropriations. There has not been a comprehensive study of revenues and expenditures done with national data since the first part of this century, however studies in the 1990's from several authors all showed similar patterns, with a little more than half of the tuition increases in public four-year institutions being attributable to reductions in state revenues, while those in the private non-profit sector are more associated with spending increases within those institutions. (McPherson and Schapiro; NCES Cost Study; National Cost Commission.) Readers are reminded that the late 1990's was a period of relatively healthy revenue growth for the economy and for higher education. If these studies are updated to reflect the experience of the first five years of this century, they will undoubtedly show a continuation of the downward curve in

state spending, as well as continued increases in tuition and fees.



Causes of Spending Increases. During the 1990's, in both public and private institutions, institutional cost increases have been the greatest in the categories of "institutionally" funded student aid, research and administrative costs. Some of that growth can be explained by increased costs for information technology, which have replaced expenditures for libraries and other forms of academic support during that time. (In fact, NCES digest data no longer separately report on library expenditures, they are subsumed within administrative and academic support costs.)

Research on the impact of student aid on prices done in the 1990's showed no causal relation between federal student aid grants and increases in tuition. The research is less definitive with respect to the role of federal loans in potentially contributing to college price increases. The 2002 NCES study of trends in College Costs and Prices (based on data from 1988 through 1998) found

no causal correlation between federal loans and tuition increases. Other researchers argue that while the revenue availability from federal loans may not cause spending increases, it permits them by allowing institutions to avoid cutting costs in the event of revenue shortfalls from other sources. Research on “tuition discounting” documents that growth in institutional aid – along with the federal tax credits – kept net prices well below sticker prices through much of the 1990’s. Despite that, the majority of the growth in institutional aid has been for merit rather than need-based aid. This lends weight to the theory that one of the biggest drivers in institutional costs is competition for the prestige from high achieving students. (Horn; College Board).

Spending on instruction (for which the biggest item of expenditure is faculty salaries) has not been a major cost driver at least in the public sector; the evidence is more mixed in the private sector, where trend data don’t allow research prior to 1995-96. Spending on instruction has declined as a proportion of educational and general spending in all public institutions, with the biggest declines coming in public two-year colleges. Spending *has* increased slightly in real terms –but by just slightly more than inflation. Over the period from 1986-87 to 2000-01, instructional spending per student increased by an average of 1% per year more than inflation in public two-year colleges, and close to 1.5% per year over inflation in public four-year colleges. These figures suggest that institutions were doing something to control instructional costs over this period, since health care insurance premiums alone would have resulted in higher cost growth over this period. Other research suggests that instructional costs have been contained because of a shift away from full-time, tenured faculty to an increasing dependence on part-timers. According to the AAUP, “contingent” faculty (e.g., non-tenured, part-time, and temporary) now make up more than 65% of all faculty, up from 43% in 1975. Close to half of all faculty are part-time. (AASCU).

Spending on
Instruction/Total, 1986-87 to
2000-01, In constant 2000-

01 Dollars

	1986-86	1996-97	2000-01	% Change	Average Annual % Change	96-01 only
Public 4-Year Instruction	5974	6360	7149	20%	1.42%	2.40%
Total	13263	15693	19124	44%	3.14%	4.40%
Public 2-year Instruction	3485	3694	3979	14%	1%	0.14%
Total	7021	7672	8623	23%	6.40%	2.40%

Another area where institutions appear to have been cutting costs is for operation and maintenance of the physical plant. OMP expenditures are down as a percentage of expenditures in both public and private institutions. The consequences of delaying maintenance are clearly to increase costs for deferred maintenance, and ultimately lead to higher capital costs. Whether that has happened cannot be documented easily because of the separate reporting of capital costs across public and non-profit postsecondary education.

Constraints in public funds have increased institutional efforts to raise revenues from other sources outside of tuition. "Other" funding has increased as a proportion of total revenues in all institutions. Most of these funds go to research, community service, or economic development. General purpose revenues – funds that can be used for any purpose – continue to be derived from state appropriations, tuition, and (in private institutions) from gifts endowments. (Among public institutions, even in the research universities with the largest endowments, nationwide revenue from endowments is just about one percent per year.)

Starting the Conversation

This paper does not reach specific recommendations for action, but does offer the following suggestions of places to focus discussion:

The central public policy challenges.

The major public policy problems surrounding higher education finance are at the intersection of quality and finance; focusing on money without a parallel attention to purpose and outcomes perpetuates data chases to no particular effect. Using this lens, the major public policy issues would seem to be:

- 1) student affordability to institutions with sufficient resources to do a decent job of educating them to the degree;
- 2) institutional cost control, productivity and focus on public as well as institutional priorities;
- 3) State and national capacity to remain economically competitive through a sufficient supply of workers and investments in research and technology; and
- 4) Public credibility and support for the enterprise, through accountability for use of resources to produce a high quality product.

Student Affordability

Student affordability will be increased only if college prices are stabilized, and more need-based grant aid gets to the poorest students. It seems reasonable to assume that public funding (both State and federal) is not going to increase enough to meet enrollment demand at current expenditure levels without future tuition increases. If that is the case, attention has to go to institutional cost control as the primary means to control the rate of tuition increases. The first responsibility for cost control needs to be at the individual institution, subject to oversight from their governing boards. To stabilize prices, institutions have to be able to document how they are controlling costs, and using those savings to contain prices, through productivity increases that do not sacrifice quality in the core instructional program. Particular attention should be paid to ways to streamline functions to reduce administrative costs. Also, if institutions shift their priorities for institutional aid back to support for need-based aid, that will reduce the pressure from tuition

discounting on costs. Increasing need based aid means putting the first priority on ensuring grant aid to cover unmet need to the poorest students.

The states and the federal government also can leverage their fiscal and regulatory resources to help contain prices. They can do this in one of several ways: 1) direct price control through tuition and budget policies for State institutions; 2) fiscal incentives through performance funding to institutions that show evidence of protecting need-based aid, and containing costs and tuition increases; 3) changing award practices for state and federal aid to increase grant aid to the neediest students; and 4) revising anti-trust laws to encourage collaboration to protect need-based aid.

Tackling the problem of ensuring that all institutions have the resources to protect instructional quality will be tougher. The problem is probably most acute in the poorest public community colleges, with great pressure to be all things to all people on an inadequate resource base. Among other things, policy makers need better analytical tools to make judgments about quality and capacity in relation to resource use. Presently institutional accreditation reviews focus predominantly on assessments of quality detached from funding. (It's a different picture with many specialized accreditors.) Similarly, measures of institutional costs evaluate resource use without reference to educational quality.

Institutional productivity and focus on public priorities

The biggest challenge at the institutional level will be in finding ways to enhance productivity under scenarios of slow or no growth in public revenues. Higher educational institutions look at costs in the context of revenues rather than production functions, and history would suggest that they engage in temporary rather than sustained cost-cutting only when there are shortfalls in revenues. Accomplishing real productivity increases will require a focus on resource use and outcomes, to ensure that quality and access are not degraded when costs are cut. Doing this will require new

habits within higher education, including better ways to measure productivity over time, beginning with a focus on cost per degree produced, rather than cost per student enrolled. In some institutions, it will also require a refocus on institutional priorities, to reduce low-demand and high-cost programs in areas that are not current policy priorities.

State and national capacity to sustain economic competitiveness.

At the aggregate level of state and federal policy, the biggest problem in finance may not be in the absolute level of resources, but in the distribution of subsidies, relative to current public priorities. Current ways of assessing institutional costs tend to obscure rather than shed light on ways to compare use of state and federal subsidies across institutions. (Patrick Kelly and Dennis Jones, at the National Center for Higher Education Management Systems, have developed a new methodology for assessing state-level differences in resource use; more work like this will help to reframe the discussion away from a primary focus on institutions to a better understanding of how subsidies are used to meet state priorities.) State and federal as well as institutional officials need to sharpen their focus on public priorities, and ensure that scarce public subsidies are targeted most efficiently to support them. That may require a reallocation of resources away from some functions toward others; it may require increases in state taxes if the priorities are sufficiently compelling.

Public credibility and accountability.

Public concerns about postsecondary value relative to cost threaten to erode public confidence in higher education. Current public reports about resource perpetuate confusion about prices and costs, and the role of subsidies relative to tuition income. Better information is needed both at the institutional, statewide, and sector levels.

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