Financing Higher Education: Who Pays and Other Issues

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The funding of higher education is a large and complex topic. It is complex in part because of its multiple sources of revenue and its multiple outputs, or products, which are only loosely connected to these different revenue sources. Furthermore, these revenue and expenditure patterns vary significantly by type of institution (university, four-year college, two-year college), mode of governance (public or private), and state. Within the private sector, expenditure levels as well as patterns of pricing and price discounting vary greatly according to institutional wealth and the depth, demographics, and family affluence of the applicant pool. In the public sector, these patterns also vary according to state funding levels, tuition policies, and enrollment limits that are set by state governments or public multicampus governing boards.

The topic is large because finance underlies much of the three overarching themes of contemporary higher education policy: *quality,* and the relationship between funding and quality in any of its several dimensions; *access,* or the search for social equity in who benefits from, and who pays for, higher education; and *efficiency,* or the search for a cost-effective relationship between revenues (particularly those that come from students, parents, and taxpayers) and outputs (whether measured in enrollments, graduates, student learning, or the scholarly activity of the faculty).

Within these broad themes lie public and institutional policy questions that are informed, if not always answered, by economic and financial perspectives. How, if at all, can costs—especially to the taxpayer and the student—be lowered without damage to academic quality or to principles of access and participation? What are appropriate ratios of students to faculty and to professional and administrative staff at various kinds of institutions? What are reasonable conceptions and expectations of higher educational productivity? How can institutional aid, or price discounting, be used either to attract students with qualities or characteristics sought by the institution or to maximize net tuition revenue? Are taxpayer dollars in the public sector best used to hold down tuition, or should they go toward expanding need-based aid, with public tuitions raised closer to the full average costs of undergraduate instruction? Are public aid dollars best used for grants or for loan subsidies? Should public aid be based on academic promise and performance as well as upon family financial need? And what is the appropriate response by institutions and governments to the pervasive condition of austerity in higher education, whether brought on by declining enrollments, declining state tax assistance, allegations of runaway costs, or (especially vivid at the time of this chapter updating in December of 2009), the severe

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economic downturn of 2008-10 that has ravaged endowments, state budgets, current giving, and the ability of many families to cover the high and still rising costs of a college education?[1]

Although this chapter concentrates on American higher education, the financial principles and problems are much the same worldwide.[2]

Our understanding of the particular financial conditions and problems of American higher education can be sharpened by noting what is peculiar to the financing of the American university: the sheer size, and consequent accessibility, or what the Europeans call "massification"; the large private sector, which includes the most and the least prestigious institutions; and the great reliance on nongovernmental revenue—mainly tuition but also private gifts and return on endowments.

Who pays and who should pay? Students and parents? Taxpayers? Philanthropists? How much higher education? At what cost or level of efficiency? Does the seemingly profound economic downturn of the end of the first decade of the century portend fundamental and lasting changes in the way most of our colleges and universities operate? Or are the financial troubles at the time of this writing to be overcome with time and additional revenue—and if so, from where? These questions can be adequately addressed only within the broader context of American society in the early 21st century.

The Economic, Social, and Political Context

Higher education is recognized both as an engine of economic growth and as a gatekeeper to individual positions of high remuneration and status. Advanced education—particularly in high technology, information processing, and sophisticated management and analysis—is thought to be essential to maintaining America's economic position in the increasingly competitive global economy. It follows that most jobs of high remuneration and status will require an advanced degree, probably beyond the baccalaureate, and it further follows that the lack of postsecondary education creates a likelihood of marginal income and status. These propositions, however, do not mean that advanced education necessarily makes individuals more productive or that all recipients of advanced education will find remunerative, high-status employment. Higher education can make individuals more productive; but it can also simply screen, or select, for the kinds of intellectual, social, and personal characteristics required for the high-remuneration, high-status jobs that may be available. In short, higher education is essential for most good jobs, and the absence of education beyond high school will be an

[1] The prevailing condition of austerity in higher education, in the United States and other high income countries has been described in such works as David W. Breneman, *Liberal Arts Colleges: Thriving, Surviving, or Endangered?* (Washington, D.C.: The Brookings Institution, 1994); and Bruce Johnstone, "Higher Education and Those 'Out of control Costs'" in Philip G. Altbach, Patricia J. Gumport, and D. Bruce Johnstone, *In Defense of American Higher Education* (Baltimore: Johns Hopkins University Press, 2001), 144–80.

[2] For a perspective on the overwhelming condition of austerity in higher education in developing countries, and the similarity with the United States and Europe in both the analyses and policy solutions, see Adrian Ziderman and Douglas Albrecht. (1995). *Financing Universities in Developing Countries* (Washington, D.C.: Falmer Press; Task Force on Higher Education and Society. (2002). *Higher Education in Developing Countries: Peril and Promise* (Washington, D.C.: The World Bank and UNESCO); World Bank, *Constructing Knowledge Societies: New Challenges for Tertiary Education* (Washington, D.C.: World Bank, 2002); Akilagpa Sawyer. (2004). *Financing African Universities: Selected Issues*. Accra Ghana: Association of African Universities; and World Bank. (2010 forthcomng)). *Financing Tertiary Education in Africa*. (Washington, D.C.: World Bank)

increasingly formidable barrier to obtaining them; but the mere possession of an advanced degree will guarantee neither good, nor lasting, employment.

American society continues to be polarized by class, race, and ethnicity. More and more children grow up in poverty, both rural and urban. The dilemma presented by higher education's gatekeeper function is that access to, and especially success in, college and university remains highly correlated with socioeconomic class. This correlation has not significantly diminished in recent years, even though American higher education is more accessible than the higher education systems of other countries. Thus, with the increasing disparities of income in the decades ending the 20th and beginning the 21sat centuries, and with the increasing relationship of economic success in life to success in college, there is reason to be alarmed at the degree to which our colleges and universities perpetuate, and even accelerate, the intergenerational transmission of wealth and status.

As to the political context, American society, or at least a voting electorate, has become increasingly polarized and conservative. Notwithstanding the elections of 2008, key elements of this conservatism continue, including resistance to the notion of a benign government, to the expansion of social welfare programs, and to transfer payments from the rich to the poor. Insofar as there is to be a public agenda for education, conservatives would have it advanced through private, or at least market-oriented, mechanisms such as charter schools, vouchers, tuition tax credits, and portable need-based aid to increase accessibility to higher education. A third element of this resurgent conservatism, continuing at least into the second decade of the century, is increasing concern over crime and moral laxity, coupled with a diminishing inclination to view either poverty or racism as an acceptable excuse for "deviant" (i.e., non-middle-class) behavior.

Finally, college and university finance at the start of the second decade of the 21st century has a special salience due to the worldwide economic downturn that began in the United States in 2008 and that has caused the deepest recession since the Great Depression of the 1930s. At the time of this writing (late in 2009), the United States and most other countries seem to be recovering, albeit slowly. However, revenues in most states remain severely strained, without the recourse to deficit financing that cushions expenditures at the federal level. As current operating budgets of public colleges and universities are dependent on state budgets for 60 to 70 percent of instructional costs, and as the continued shift of costs from states to parents and students is meeting economic as well as political resistance, public institutions of higher education are experiencing financial strains unprecedented since before the Second World War. While the financial fortunes of private colleges and universities vary enormously, depending on such factors as the depth of applicant pools (and thus the ability to maintain tuition revenues in the face of falling applications and yields) and the resilience of endowments and current giving, many endowments lost up to 40 percent of their value in the market crash of 2008, and most private colleges and universities, even selective ones, continue through 2009-10 to experience losses of students to public institutions of similar selectivity and much lower tuitions.

The resulting financial strains in both public and private institutions of higher eduction manifesting in academic years 2009 and 2010 are forcing deep budget cuts, including deferral of planned capital projects and maintenance, leaving positions vacant, non-renewal of junior and adjunct faculty, and even extending in many institutions to lay-offs, mandatory furloughs, salary reductions, and cuts of entire programs. It is difficult to predict the longer range consequences of this austerity, especially the degree to which it is a temporary downturn from which most institutions will recover in a few years, or whether many or even most colleges and universities

will have to alter fundamentally their instructional production functions to effect major and permanent increases in productivity. In either event, the future course of higher educational quality, accessibility, and efficiency from the vantage point of the second decade of the century seems increasingly dependent on matters of finance.

These themes are intertwined, of course. For example, the political inclination to seek private solutions to what used to be viewed as public problems is given impetus by the decline in public revenues that (quite aside from the deep economic turndown of 2008-10) is a function, at least in part, of the globalization of the economy and the increasing propensity of wealthy individuals to flee to low-tax havens and to move their enterprises to low-wage economies. There are also internal inconsistencies among these themes: for example, increasing dissatisfaction with governmental intrusion contradicts not only the demand for more costly and intrusive accountability, but also direct political intervention into matters of curriculum and programs. But these economic, social, and political themes, for all their complexity, provide a context for consideration of the three broad issues of higher education finance: (1) *The size of the America's publicly funded higher educational enterprise (including the publicly funded portion of the private sector*): How much publicly supported higher education do we need or will we choose to afford, measured either in total expenditures or as a percentage of our gross domestic product? (2) *The efficiency and productivity of this enterprise.* What should higher education, particularly public higher education, cost per unit (whether the *unit* is students enrolled, degrees granted, scholarship produced, service rendered, or combinations thereof)? (3) *The sources of revenue to support this enterprise*. Who pays (or who should pay) for the costs of higher education as among government or taxpayers, parents, students or philanthropists?

Size of the Enterprise

The American higher education enterprise is enormous, even when controlling for our great wealth and population. For example:

- Total current-fund expenditures for all public and private nonprofit institutions of higher education in 2005-06 were $334 billion, of which operating expenditures on instruction alone (that is, excluding research, public service, academic and institutional support, student services, institutionally provided room and board and other auxiliary enterprises, university hospitals, scholarships and fellowships from all sources, and depreciation) were more than $100billion.[3]
- Total public and private per student expenditures on higher education in 2005 were the highest of any of thirty major industrialized countries and almost double the expenditures of either France or Germany.[4]
- A total of 18,240,000 undergraduate, graduate, and first professional students were enrolled in the fall of 2007. Of these, more than 57 percent were undergraduates; 56 percent female; 38 percent part time; and 32 percent minority (12 percent Black, 11 percent Hispanic, and 7 percent Asian or Pacific Islander). F
- ewer than 20 percent in fall 2007 were enrolled in private, non-profit institutions.[5]

[3] National Center for Education Statistics (NCES). (2009). *Digest of Education Statistics 2008*, Tables 362 and 365.
[4] National Center for Education Statistics (NCES). (2009). *Digest of Education Statistics 2008*, Table 418.
[5] National Center for Education Statistics (NCES). (2009). *Digest of Education Statistics 2008*, Table 188.

- Fifty-nine percent of 25-29 year-olds in 2008 had completed some college, and 30.8 percent had completed a Bachelor's degree. Those with some college included 80.2 percent of Asian and Pacific Inlanders, 67.1 percent of Whites, 51 percent of Blacks, and 35.9 percent of Hispanics; those completing a Bachelor's degree by race/ethnicity included 57.9 percent of Asian and Pacific Inlanders, 37.1 percent of Whites, 20.4 percent of Blacks, and 12.4 percent of Hispanics.[6]

These students were enrolled in 2007-08 in 4,352 colleges and universities (counting branch campuses and institutions outside of the fifty states), including 2,667 public and 1624 private institutions, as well as some 550 degree granting proprietary institutions (in addition to more than 5000 non-degree granting, mainly very short term, proprietary vocational institutions).[7]

By these and other measures, it is clear that America has chosen to support a large, accessible—both in cost and in admission standards—and highly diverse system (some would say a *nonsystem*) of higher education. These choices are made in the form of literally millions of decisions by parents and students to pay the costs of college, thereby giving expression to the value they place on higher education for themselves or for their children, and by even more citizens and elected officials, mainly at the state level, who spend tax funds to maintain public colleges and universities, to provide assistance, mostly via student aid, to private colleges and universities, and finally, to support an academic research enterprise that is far and away the largest and most productive in the world.

In the twenty-first century, four forces will expand this already large enterprise. The first is an expansion of the eighteen-to-twenty-four-year-old age cohort. The National Center for Education Statistics projects an enrollment growth for the decade 2008 to 2018 ranging from a low estimate of 9 percent to high estimate of 17 percent with the middle estimate pushing enrollment projections to 20,620,000 full and part-time students.[8] This growth will occur unevenly, concentrated mainly in the high-growth states of the West, Southwest, and South. (California, for example, continues to experience what policy experts in the 1990s were forecasting as a "tidal wave" of enrollment growth—on top of what in 2009-10 is considered to be one of the most serious economic downturns of any state.)[9]

A second force for more higher education is an expansion of participation and completion due to a perception of higher private rates of return and the need for at least some higher education for positions of remuneration and status, compounded by political pressures for increasing accessibility and reducing rates of attrition. If the current (as of 2010) efforts to increase participation and reduce drop-outs are successful, enrollments will be accelerated by the three-fold drivers of demographics, enhanced participation, and reduced attrition.

A third force, related to the above, is the accretion of degree levels sought by many students. This phenomenon is probably a function of the increasing amount and complexity of

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[6] National Center for Education Statistics (NCES). (2009). *Condition of Education*, Table A-23-1.
[7] National Center for Education Statistics (NCES). (2009). *Digest of Education Statistics 2008*, Table 265.
[8] National Center for Education Statistics (NCES). (2009). *Condition of Education*, Table 14, and NCES, *Digest of Education Statistics 2002*, table 174, p. 212.
[9] *The Challenge of the Century* (Sacramento: California Postsecondary Education Commission, April 1995). The privately financed California Policy Center sets the number at 488,000; see *Shared Responsibility: Strategies to Enhance Quality and Opportunity in California Higher Education* (San Jose: California Higher Education Policy Center, 1996).

knowledge, the increasing educational demands of the productive economy (whether for actual skills, or simply for higher education's screening function), and the tendency of most professions to enhance their status by requiring ever more education prior to entry and perhaps more continuing education to maintain licensure.

A fourth force, working more to increase costs than to increase enrollments, and identified more through conjecture than hard evidence, is the incentive for enhancements that seems to be built into the traditions of the academy. William Massy and Robert Zemsky identify this force as "the ratchet."[10] It manifests in a perpetual dissatisfaction on the part of professors, staff, and administrators with the status quo and in a determination to do more and better: to teach new materials, to advise students more effectively, to perform more sophisticated (and usually more costly) research, and generally to advance in the highly competitive pecking order of individual and institutional scholarly prestige—all of these without regard to whether *more and better* is either cost-effective or is demanded by those who must pay the bills.

The Efficiency and Productivity of the Enterprise

Another issue within the financing of higher education is the efficiency, or expected productivity, with which all of these resources are employed in the higher educational enterprise. Productivity and efficiency look at both costs, or expenditures, and at benefits, or outputs. These concepts deal with costs *per:* whether per student (which, of course, is not really an output but which has the advantage of being easily and unambiguously measured), or per unit of research, or per unit of learning (however measured), or per learning added by the institution. Because the real outputs of the university (the discovery, transmission, and promulgation of knowledge) are both multiple and difficult to measure, and because revenue, at least for the support of instructional expenditures, generally tracks student enrollment in both the public and the private sectors, the cost per student inevitably and overwhelmingly dominates approaches to questions of productivity and efficiency. But we ought never to forget that enrollment, however measured—and however sensitive to fields of study, levels of education, or methods of instruction—is still merely a proxy for the hard-to-measure real output, which is student learning.

Variation in Unit Costs

In the production of goods, there are usually multiple ways of combining productive inputs—mainly different combinations of labor, capital, materials, and managerial effectiveness—to produce a unit of output. The most efficient combination of inputs is determined by the alternative manufacturing technologies and the relative costs of the inputs. Given a set of input costs and a set of technologies for combining inputs into desired outputs, there generally is an unambiguously *most efficient way*: that is, a lowest cost per unit. The efficiency, then, of any alternative producer or production process can be measured by how that producer or that process compares to that most efficient way.

Higher education is not as fortunate as these goods-producing enterprises. The technology of university production (of learning and scholarship) is unclear and highly idiosyncratic to the institution, the department, and the individual professor. We know that per

[10] William F. Massy and Robert Zemsky, "The Lattice and the Ratchet," *Policy Perspectives*, no. 3 (Philadelphia: PEW Higher Education Research Program, 1990). Also, Zemsky and Massy, "Toward an Understanding of Our Current Predicaments," *Change*, (November/December 1995): 41–49.

student costs vary greatly. For example, higher education is generally assumed to be more costly at research universities than at undergraduate colleges due to the higher salaries, lower teaching loads, and more extensive academic support (e.g., libraries and computer facilities) accorded the faculty of the research university. However, the direct instructional costs (especially at the margin) at least of freshmen and sophomores at a typical public research university can be rather low due to the prevalence of low-cost teaching assistants and very large lecture courses—in contrast to the typical public four-year college, where more instruction may be carried out by regular faculty in moderate-sized classes, albeit with heavier average teaching loads. In the end, it is probably appropriate to claim that per student costs even for undergraduates are higher at most research universities than at four-year colleges; but it must not be forgotten that this is so at least partly because of certain assumptions and cost allocations that, while reasonable, are nonetheless judgmental and sometimes questionable.

Among like institutions, most inter-institutional variation in per student costs can be attributed to differences either in the amenities provided to the students (recreational and cultural facilities, for example, or academic and student services support staff) or in the costs of faculty. Differential faculty costs, in turn, reflect differences not only in salaries—which are low for part-time faculty, who provide much of the teaching at low-cost colleges, and high for the full-time senior professoriate at prestigious private colleges—but also in that other major faculty expense, which is time—that translates into light teaching loads at wealthy colleges and heavy teaching loads at low-cost "access" colleges.

Howard Bowen, in his classic 1980 study of higher education costs, found great variation in costs among seemingly similar institutions with seemingly similar outcomes. Among a sample of research and doctoral-granting universities arranged from lowest to highest in per student expenditures, the average university in the third quartile spent twice as much per student as the average in the second quartile, and the highest-spending university in the sample spent almost seven and one-half times as much as the first quartile average. Variation among colleges was less, but the colleges in the third quartile of per student costs still spent about 50 percent more than the colleges in the second quartile.[11] While Bowen's data are old, these cost disparities have continued: Fiscal year 2000 data on current-fund expenditures on instruction show per student spending as high as $20,815 at elite private research universities, but only $8,417 at all public universities, $4,617 at public masters colleges, and $3,912 at public two-year colleges.[12]

This great spread in unit costs is seen by some as profligacy on the part of the highest-cost institutions. Bowen accounts for such variation with his revenue theory of costs, which states that institutions raise all the money they can (which, in the case of highly endowed institutions with wealthy alumni that continue to attract children of affluent families, is a very large amount indeed), and spend all that they raise, purposefully and honorably, even though the amounts spent do not emerge from any discernible production function, as such, as in the industrial manufacture of goods.[13]

But even if the *cost* we use to calculate the cost per student at Harvard were to mean the same thing as the *cost* in per student costs at, say, neighboring Wheelock College or at UMass, Boston, we still cannot say unambiguously that Wheelock and UMass, Boston, are more efficient

[11] Howard R. Bowen, *The Costs of Higher Education* (San Francisco: Jossey-Bass, 1980), 116–19.
[12] NCES, *Digest of Education Statistics 2002*, tables 343, 345, 386, p. 389.
[13] H. Bowen, *The Costs of Higher Education*, 19–26.

or more productive than Harvard. They may be cheaper per student, to be sure, but whether they are more efficient requires a measure of output that we do not have and that we probably could not agree upon. And if Harvard were to contest its possible characterization as "inefficient" or "unproductive," it would point to the extraordinary knowledge and competence of its graduates, or to the lifetime of added benefits that Harvard presumably helped to produce, or the value to the society (uncaptured by private lifetime income streams) that Harvard "created".

In short, without better agreement on the proper outputs of higher education, not to mention how to weight and how to measure them, we are left with cost per full-time equivalent student, as best as we can measure it, as the dominant metric of higher educational productivity—and as something that should presumably get lower (or cheaper) in response to the demands of students, parents, and taxpayers that higher education become less costly.

Inflation in Unit Costs

Actually, the problem of unit costs and efficiency (or inefficiency) in higher education is less a function of unit costs, per se, and more a function of the seemingly inexorable increase of such costs and of the resulting tuition increases at rates considerably in excess of the rate of inflation. This is the *cost disease* described by William Baumol and William Bowen as characteristic of the so-called productivity-immune sectors of the economy, which are generally labor-intensive, with few opportunities for substitution of capital or new production technologies for labor (including, for example, live theater, symphony orchestras, social welfare agencies, and education).[14] Unit costs in such enterprises track their increases in compensation. Because workers in such enterprises (e.g. faculty) typically get the same wage and salary increases as those in the productivity-sensitive, goods-producing sectors of the economy, in which constant infusions of capital and technology produce real productivity gains and allow unit cost increases to be less than compensation increases, the unit costs in productivity-immune sectors will inevitably exceed those in goods-producing sectors. Thus, unit-cost increases in higher education will be "above average." And since the rate of inflation is nothing more than a weighted average of many price increases, it is inevitable that unit costs—and thus tuitions—in higher education will rise in normal years faster than the rate of inflation.

This, then, is the normal, or default, condition in higher education: unit costs that increase slightly in excess of the prevailing rate of inflation. Tuitions, however, tend to increase at even higher rates, substantially exceeding the prevailing rates of inflation, resulting from the following practices:

- State governments that continue year after year to shift the cost burden from taxpayers to students and families through very high percentage tuition increases in the public sector.
- Private colleges that year after year have to put more of their marginal tuition dollars back into student aid, thus requiring even larger tuition increases to keep up with rising costs.
- Faculty compensation increases that for many institutions exceed compensation increases prevailing in the economy generally.

[14] William J. Baumol and William G. Bowen, *Performing Arts: The Economic Dilemma* (New York: Twentieth Century Fund, 1966); also, William G. Bowen, *The Economics of the Major Private Universities* (Berkeley, CA: Carnegie Commission on the Future of Higher Education, 1968).

- Higher education that becomes more and more "input rich" in the form, say, of more technology per student, higher faculty and staff to student ratios, or more costly physical plant per student.

All of these factors have been at work for most of the past several decades (at least up to the severe recession of 2008), resulting in very substantial tuition increases in both the private and the public sectors. From 1997-98 to 2007-08, the average cost of attendance (tuition and required fees plus room and board) rose at private universities from $13,075 to $40,640, or 211 percent. The percentage increase at public universities over the same two decades was from $4,619 to $14,915, for an increase of 230 percent. The very high rates of tuition increases alone in private universities—from $8,771 in 1987-88 to $30,260 in 2007-08, or an increase of 245 percent—was the result largely of an enrichment of the amenities, a lowering of faculty/student and staff/student ratios, and the increase in institutionally provided financial aid (i.e., a lowering of the net revenue yield from a dollar of tuition increase). Rising tuitions in public universities—from $1,726 in 1987-88 to $$7,171 in 2007-08, or an increase of some 315 percent—are caused mainly (in addition to inflation) by the withdrawal of state tax revenue and a shift in relative cost burden from the taxpayer to students and parents.[15]

Diverging Trajectories of Costs and Revenues

The natural trajectory of unit costs in higher education, as described above, is steeply upward, at rates in excess of prevailing rates of inflation. The corresponding rate of increase of anticipated revenues is substantially flatter, being dampened by the following:

- Price resistance from upper-middle-class parents, manifested both in a shift in demand to selective public universities and in "bargain hunting" for increased financial aid (lowering *net* tuition revenues), both phenomena increasing during the economic downturn beginning in 2008.
- Price resistance from older students and from graduate and advanced professional students facing mounting debt loads.
- The sharp decline in the stock market beginning in 2008 and the resulting collapse of college and university endowments, especially affecting private institutions.
- Decreasing support from governors and state legislatures faced with other compelling public needs as well as restive state taxpayers—also severely exacerbated by the collapse of state revenues in the recession of 2008-10.
- Increasing costs of "big science" without concomitant increases in federal research support.
- Decreasing support for academic health centers, caught between cost-cutting insurers and low-cost alternative providers.

[15] Figures taken from National Center for Education Statistics (NCES). (2009). *Digest of Education Statistics 2008*, Table 331. For more on rising tuition fees, see Charles T. Clotfelter, *Buying the Best: Cost Escalation in Elite Higher Education* (Princeton, NJ: Princeton University Press, 1996); Ronald G. Ehrenberg, *Tuition Rising: Why College Costs So Much* (Cambridge, MA: Harvard University Press, 2000); and Bruce Johnstone, "Higher Education and Those 'Out of control Costs'," in Philip G. Altbach, Patricia J. Gumport, and D. Bruce Johnstone, *In Defense of American Higher Education* (Baltimore: Johns Hopkins University Press, 2001), 144–80. For time series, see College Board, *Trends in College Pricing*, available annually at www.collegeboard.com.

The resulting financial scenario is worrisome and for some institutions even frightening: for high-priced private institutions, feeling price resistance and declining applications and yields, as well as for public colleges and universities, facing declining state tax revenues and politicians and taxpayers unconvinced of their productivity and accountability. Some institutions have turned their fortunes around through vigorous cost cutting, restructuring, and moving into a narrow market niche, but the future will continue to hold great uncertainty and continuing financial stress for most colleges and universities.

Sources of Revenue for the Enterprise

The financing of higher education poses the question of how the costs should be apportioned among four parties: parents, students, taxpayers, and philanthropists.[16] Parents would finance their children's education from current income, savings, or future income via increased indebtedness (such as a home equity loan). Students would finance their own education from savings, summer earnings, term-time earnings, and future earnings via loans. Taxpayers at the federal, state, and local levels would finance students' education through taxes on income, sales, property, assets, business or manufacturing taxes (via the higher prices of the goods or services so taxed) or through the indirect "tax" of inflation brought about by public deficit spending. And philanthropists would finance students' education either through endowments or current giving.

The sharing and song these parties can be a zero-sum game, in which a lessening of the burden upon, or revenue from, one party must be compensated either by a reduction of underlying costs or by a shift of the burden to another party. Thus, if state taxpayers' share of higher education costs is to be lessened, that reduced share must either lead to reduced institutional costs or be shifted, probably to students and parents via higher tuition. But if parents cannot pay or have enough political power to limit, by statute or regulation, a higher parental contribution (as happened when voter pressure forced Congress to eliminate home equity from the assets considered in determining "need" for awarding federal Pell grants), the burden would shift to students, principally through higher debt loads. This scenario—lower taxpayer contributions, reduced institutional budgets, higher tuitions, level parental contributions, and much higher debt burdens—is exactly what has happened in the last decades of the 20th and first decade of the 21st centuries.

A number of policy questions regarding tuitions and financial assistance are sharpened by the cost-sharing perspective. For example, what is the appropriate amount that should be expected from parents to cover the higher educational costs of their children? Is this share to be a function only of current income, to be met by family belt tightening? Or are parents also expected to have saved from the past or to borrow against the future? Are assets to be figured in the calculation of need? How long should parental financial responsibility continue: through

[16] Some consider "business" a possible fifth party to bear a share of higher education costs. However, grants from business to higher education can be viewed in one of three ways: (1) as the purchase of a service, whether research or specialized training, in which case the grant should cover the costs of the added service but is not expected to bear a share of the core instructional costs of the college or university; (2) as voluntary contributions coming out of owner profits, in which case they would fall under "philanthropy"; or (3) as contributions considered part of the cost of doing business, included in the price of the products and paid for by the general consumer, like a sales or consumption tax, in which case the incidence, or burden, is indistinguishable from that of other taxes and may be considered to be included, at least conceptually, in the "taxpayer" party. See D. Bruce Johnstone, *Sharing the Costs of Education* (New York: College Board, 1986).

undergraduate years only, or until the age of, say, twenty-four or twenty-five? And what is the expected contribution from a noncustodial parent?

With regard to student share, are there any limits to the hours of term-time work compatible with full-time study? Are there any limits to the amount of indebtedness that students should be allowed to incur in pursuit of their education? Should this limit be a function of likely completion of studies or of the anticipated earning power of the intended occupation or profession? Would this deferred payment obligation be best handled via a conventional mortgage-type loan, an income-contingent obligation, or a graduate tax obligation (assuming that the present value of the repayment stream under all options would yield the same repayments, at least over a cohort of borrowers)?

With regard to tuition policies, particularly for public colleges and universities, and whether paid by parents or students or both, should tuitions reflect differences in instructional costs: that is, higher in research universities than in four year or community colleges? Should they reflect differences in individual program costs, as between, say, engineering and sociology? Or, should tuitions reflect market demand, as between a more selective and less selective public college, or between a major in history versus, say, economics or management? And should the combination of tuition and student assistance—that is, the net price of attendance—be used to favor certain institutions, programs, or students that the government wants to favor?

There has been a considerable increase in education costs borne by students and parents, mainly through higher tuitions, in both the private and the public sector in the first decade of the 21st century (and for many years preceding). These increases, in both current and constant dollars, are shown in Tables 1.

Table 1: Annual Tuition and Required Fees,
Private and Public College, 1987/88-2007/08 (current dollars)

Year	Private Institutions		Public Institutions	
	University	Four Year College	University	Two-Year
1987/88	$8,771	$6,574	$1,726	$ 706
1992/93	$13,055	$9,533	$2,604	$1,025
1997/98	$17,229	$12,338	$3,486	$1,314
2002/03	$22,176	$15,416	$4,686	$1,483
2007/08	$30,260	$19,798	$7,171	$2,063
Percent increase 2002-2007	36%	28%	53%	39%
Percent increase 1997-2007	76%	60%	106%	57%

Source: National Center for Education Statistics, *Digest of Education Statistics, 2008*, table 331.
Note: Data has not been adjusted for changes in the purchasing power of the dollar over time.

Table 2 shows the total cost of attendance and the percentage taken from family incomes at selected income quintiles. While adjustments for inflation (that is, converting from current to constant price increases) brings the increased costs of attendance between 1997-98 and 2007-08 down considerably, the increases as percentages of mean family incomes by income quintiles reveal that the increases costs of attendance are taking a greater proportion of family incomes in almost all circumstances. More serious, the stagnation of family incomes in the latter decades of

Table 2: Increase in Average Total Costs (Tuition, Room, and Board) 1997/98 to 2007/08 by Sector in Current and Constant (2006/07) Dollars and as a Percentage of Mean Family income by Quintile (2007 CPI-U-RS adjusted dollars)

		Average Total Cost Private University	Average Total Cost Private Other 4-Year	Average Total Cost Public University	Average Total Cost Public 2-Year
Total Cost 2007/08 (Current dollars)		$40,640	$28,142	$14,915	$6,966
Total Cost 1997/98 Current dollars		$24,116	$17,717	$8,210	$4,509
Total Cost 1997/98 Constant (2006/07) Dollars		$24,069*	$16,308	$9,685*	$5,691
Percent Increase Current (unadjusted) Dollars		66%	59%	82%	54%
Percent Increase Constant (2006/07) Dollars		22%*	NA	34%*	18%
Total Cost 2007/08 current dollars as Percent of Mean Family Income by Quintile 2007	High Quintile	24%	17%	8%	4%
	Third Quintile	81%	56%	30%	14%
	Low Quintile	351%	243%	129%	60%
Total Cost 1997/98 constant dollars as Percent of Mean Family Income by Quintile 1997	High Quintile	15%	10%	6%	4%
	Third Quintile	50%	34%	20%	12%
	Low Quintile	211%	143%	85%	50%

*All four year institutions.
Source: Total Costs from NCES *Digest of Education Statistics 2008*, Table 331. Mean Family Income by Quintiles from US Census bureau, *Income, Poverty, and Health Insurance Coverage in the United States: 2007*, Table A-3.

the 20th, and continuing through the first decade of the 21st, centuries, particularly at the lowest income quintile, has raised the total cost of attendance for low income families at a public university from 85 to 129 percent of income, and at a private university from 211 to a staggering 351 percent of family income. Clearly, these costs (or more accurately prices) are substantially moderated by financial assistance, such that low income students can access most colleges and universities—but only with very generous (and partially merit-based) institutional aid at private institutions, and with high levels of term-time work and very high levels of student debt at almost all institutions.[17]

Tables 3 and 4 show how the expenses of private and public institutions, both high cost and low cost, are met through combinations of family contributions, federal and state aid, loans, and institutional (philanthropic) grants for high, middle, and low income families. The numbers shown in the tables are illustrative only, as actual numbers will very greatly depending on both

[17] National Center for Education Statistics (NCES). (2009). *Digest of Education Statistics 2008*, Table 331. See also The College Board, *Trends in College Pricing* [yearly] available at www.collegeboard.com

Table 3
Student Budgets at Private Institutions:
Sources of Support by Family Income

	High Cost Institution ($40,000)			Low Cost Institution ($28,000)		
Sources of Support	**Low Income Family**	**Middle Income Family**	**High Income Family**	**Low Income Family**	**Middle Income Family**	**High Income Family**
Parental Contribution[a]	0	3,508	27,362	0	3,508	27,362
Federal Grants[b]	9,350	2,760	0	9,350	2,760	0
State Grants[c]	2,000	1,500	0	2,000	1,500	0
Institutional Grants	12,650	18,732	5,638	2,430	7,732	0
Summer Savings	3,000	3,000	3,000	2,500	2,500	638
Student Term-time Earnings	2,000	2,000	2,000	1,500	1,500	0
Stafford Student Loans (subsidized and unsubsidized)	5,500	5,500	2,000	4,720	5,500	0
Perkins Student Loans (max)	5,500	3,000	0	5,500	3,000	0
Total from Taxpayer[d]	14,630	6,583	0	14,630	6,583	0
Total from Parents[e]	0	3,508	27,362	0	3,508	27,362
Total from Student[f]	12,720	11,177	7,000	10,940	10,177	638
Total from Philanthropists[g]	12650	18,732	5,638	2,430	7,732	0
Total	40,000	40,000	40,000	28,000	28,000	28,000

Notes: Low family income is point below which family qualifies for maximum grants and has no expected financial contribution. Middle income is household earnings of $50,000 and high income is household earnings of $150,000.

a. Expected family contribution calculated using FinAid calculator. Available at: http://www.finaid.org/calculators/scripts/estimate.cgi
b. Assume maximum Pell plus FSEOG grants.
c. Assume maximum need based grants.
d. Sum of federal and state grants plus the present value of loan subsidy for Subsidized Stafford Loans (interest paid by government while student is in school and for 6 months after completion plus subsidized interest rate of 5.6 percent during repayment period) and Perkins Loans (interest paid by government while student is in school and for 9 months following completion plus subsidized interest rate of 5 percent during repayment period).
e. Expected family contribution minus assumed summer savings from the student.
f. Sum of expected term-time earnings plus summer savings plus present value of loan repayments.
g. Total from philanthropists includes all institutional grants.

the institution and the family. These numbers, however, suggest several policy-relevant observations:

First, the annual costs of attendance at private colleges and universities (Table 3) are very high for high income parents, and are also high for low and middle income students. At high cost private institutions, the costs borne by the institutions (assumed to be from endowments, but in

some cases might also be from institutional discounts) are also very high, but without which such institutional aid colleges would be inaccessible to low and middle-class students.

Second, the costs borne by students are very high—even for many students from relatively high income families)—and are composed of varying amounts of loans and earnings. In fact, the key to financial accessibility, particularly to private colleges and universities, lies less in the level of tuition, or even in the expected parental contribution than in students' willingness to incur substantial indebtedness. Total student debt for four or more years of undergraduate education alone can reach $30,000 to $50,000, and three or more years of graduate or advanced professional school can increase aggregate student debt to more than $100,000, presenting low and middle income students with repayment obligations that can either discourage advanced higher education altogether or distort career and other life choices.

Third, access by low and middle income students to private higher education also depends heavily on taxpayer support through federal and state grants as well as through estimates of the taxpayer-borne costs of student loan subsidies.

Table 4: Student Budgets at Public Institutions
Sources of Support by Family Income

	High Cost Institution ($15,000)			Low Cost Institution ($7,200)		
Sources of Support	**Low Income Family**	**Middle Income Family**	**High Income Family**	**Low Income Family**	**Middle Income Family**	**High Income Family**
Parental Contribution[a]	0	3,508	15,000	0	3,508	7,200
Federal Grants[b]	9,350	1,333	0	7,200	1,333	0
State Grants[c]	2,000	1,000		0	1,000	0
Institutional Grants	650	720			0	
Summer Savings	1,500	2,000	0	0	598	0
Student Term-time Earnings	1,500	1,000	0	0	761	0
Stafford Student Loans (max amounts subsidized and unsubsidized)	0	5,439	0	0	0	0
Perkins Student Loans (max)	0	0	0	0	0	0
Total from Taxpayer[d]	11,350	3,508	0	7,200	2,333	0
Total from Parents[e]	0	3,508	15,000	0	3,508	7,200
Total from Student[f]	3,000	7,264	0	0	1,359	0
Total from Philanthropists[g]	650	720	0	0		0
Total	15,000	15,000	15,000	7,200	7,200	7,200

Fourth, Table 4, showing the division of cost burden at public institutions, reveals that high-cost public institutions (high tuition plus residency) also require substantial indebtedness,

particularly from middle income students, considerably diminishing the price advantage over high-cost private institutions to students, although not to parents.

Finally, The costs borne by families and students at low cost public institutions—essentially the costs of commuting to a public community college—remain modest and require, at least for the low estimate for the costs of living—little from the student. With the addition of loans and earnings, low cost public higher education is clearly still accessible at least to traditional age youth who are appropriately accommodated by their local community college.

High Tuition, High Aid

From time to time, a proposal is made that direct public funding of state colleges and universities, at least for the support of instruction, be drastically reduced or eliminated altogether, with tuitions raised to full or near full cost and eliminating or greatly reducing what the proponents of this view call the "subsidy" to the students and families of students attending public colleges and universities. In place of direct state revenue, which currently supports from 60 to 90 percent of public four-year undergraduate instructional costs, proponents of the high-tuition, high-aid model would substitute a much expanded program of need-based grants, which would diminish as parental or student incomes rose. The grants would phase out entirely for families and students whose income was deemed sufficient to pay the full cost of tuition in addition to other expenses.[18]

The high tuition, high aid model is based on claims of efficiency and equity. The efficiency claim begins with the tenet of public finance theory that any public subsidy of a good or a service that consumers are likely to purchase anyway, in the absence or diminution of the subsidy, is an inefficient use of public tax dollars. The tax dollars released, if public sector tuitions were allowed to rise (or forced to be raised) would supposedly go toward public needs of greater priority: more need-based student aid, health care, public infrastructure, tax cuts, or public deficit reduction. And if the demand for public higher education should decline as a result of lower subsidies and higher prices, this too might be a move in the direction of a more efficient use of the nation's resources. Subsidies can generate overproduction of a good or service, and a higher priced public higher education might discourage ambivalent, ill-prepared students whom advocates of high tuition and high aid assume are taking up space and wasting precious resources in our public colleges and universities.

A corollary of the efficiency claim is that there exists, at least in some states, underutilized capacity in the private higher education sector that could be filled at relatively low marginal cost. A shift of tax dollars from the direct support of public colleges and universities to need-based student aid, portable to the private sector, would presumably shift enrollments there and enable the socially optimal level of enrollments to be supported more in the private sector but at a lower additional net cost to the taxpayer.

The equity argument in favor of high tuition, high aid is based on two assumptions: first, that public higher education is actually partaken of disproportionately by students from upper middle income and affluent families; and second, that the state taxes used to support public

[18] The case for high tuition, high aid was popularized in W. Lee Hansen and Burton A Weisbrod, *Benefits, Costs, and Finance of Public Higher Education* (Chicago: Markham, 1969). See also Carnegie Commission on Higher Education, *Higher Education: Who Pays? Who Benefits? Who Should Pay?* (New York: McGraw-Hill, 1973); Frederick J. Fischer, "State Financing of Higher Education: A New Look at an Old Problem," *Change* (Jan./Feb., 1990); and McPherson, Shapiro, and Winston, *Paying the Piper.*

higher education tend to be proportionate or even regressive and thus are paid by many lower middle income and poor families who are unlikely to benefit. Thus, the high tuition, high aid model of public higher education finance is claimed to be more equitable than across-the-board low tuition because it targets all public subsidy only on the needy and imposes full costs on students or families affluent enough to pay.

The case against the high tuition, high aid model rests partly on the oversimplification and political naïveté of the case made on its behalf, summarized above, and partly on the case to be made for the very existence of a public higher education sector. The case against high tuition, high aid may be summarized by four points.[19]

First, a full cost recovery "sticker price" of $20,000 to $30,000 or more for a full-time year at a public college or university would almost certainly discourage many from aspiring to higher education, even with the prospect of financial aid or a lower tuition for those in need. The total costs to students and parents of a year of full-time study at a public four-year college or university, as shown in table 13.3, make even public higher education today a relatively heavy financial burden for most families and for nearly all independent students. This fact alone does not fully negate the more theoretical arguments of efficiency and equity presented on behalf of full-cost or near-full-cost pricing for public higher education, as summarized above. But even with financial aid, costs at a public college might seem daunting to many students and their parents, especially to students from disadvantaged and nonwhite families.

Second, a high tuition, high aid policy would lessen the quality of public colleges and universities. The purpose of high tuition, high aid plans is to reduce state tax revenues currently going to public colleges and universities, even though some proponents claim that this revenue loss would be made up by increased revenue from the much higher tuitions paid by the more well-to-do. Private sector proponents of high tuition, high aid, however, make no secret of their aim to shift enrollments and tuition dollars of middle and upper middle income students (or at least the most attractive and able ones) from the public sector to the private sector. With little or no price advantage left in the public sector; with the resource advantage of large endowments, wealthy alumni, and the tradition of philanthropic support in the private sector; with the patina of elitism and selectivity associated with private colleges and universities (especially in the Northeast); and with greater constraints and burdens remaining on the public sector, many of the nation's 1,600 public colleges and universities would become places for students whom the private colleges, now priced the same as public colleges, would not accept. Such an erosion in the relative status and quality of public colleges and universities does not seem to be in the nation's public interest.

A third element in the case against high tuition, high aid is that high tuition in of itself does not guarantee high aid. Governors, legislators, and voters, continually pressed by public needs exceeding available resources, are likely to support that part of the public sector in which they perceive that they or their children have a stake. They are much less likely to maintain the financial aid, or *tuition discount*, portion of the public higher educational budget when it is devoted almost exclusively to the poor. The not unlikely consequences of a policy of high tuition, high aid, rather than the purported enhancements of efficiency and equity, are higher

[19] D. Bruce Johnstone. (19930. *The High-Tuition–High-Aid Model of Public Higher Education Finance: The Case Against* (Albany: State University of New York Office of the Chancellor, for National Association of System Heads).

tuition, lower taxes, inadequate aid, diminished access, and deteriorating public colleges and universities.

Fourth and fundamentally, the high tuition, high aid model is a denial of the appropriateness of higher education as a public good. The nation's public colleges and universities have been built and supported over the last century and a half not merely to provide a subsidized education to those who might not otherwise have an opportunity for higher education. Rather, voters and elected officials wanted public colleges and universities that would attract and hold the best and brightest students and scholars, serve society, aid the economy, and be a signal of the state's culture. The high tuition, high aid model essentially denies most of these public purposes to public higher education and substitutes only a public subsidy for those who are too poor to afford what would become an otherwise unsubsidized, expensive, and essentially privatized product. States need to consider whether these continue to be important reasons for supporting public higher education or whether they mainly want to get needy students into some college, in which case high tuition, high aid is almost certainly, as public finance theory correctly states, less expensive to the taxpayer.

Summary and Conclusions

The financial fortunes of American colleges and universities vary greatly by institution. Those relatively few private institutions with large endowments, traditions of generous alumni giving, and deep and affluent student applicant pools will experience continuing cost pressures as well as what many observers in 2010 believe will be only a temporary set-back due to losses of endowment and current giving from the 2008-10 recession. Some public institutions similarly situated with deep and affluent applicant pools, with established traditions of philanthropic support, and with research strengths in areas of continuing public investment (e.g., biomedical and applied sciences) may suffer temporary state revenue cut-backs, but will continue to prosper and may gain some market share from the troubles of the less selective private institutions. Some less selective and less endowed private institutions may be able to seize a specialized market niche, either vocational (e.g., health-related professions) or cultural/ideological (e.g., conservative Christian) and, with good management and low faculty costs, also prosper. Most private colleges and universities, however, will experience a fierce revenue squeeze, primarily driven by the lack of growth in the number of upper middle class parents able or willing to pay the high tuitions and in the number of students willing to take on increasing levels of indebtedness. And most public colleges and universities will continue to experience flat or declining state tax support, forcing even higher tuition, more program closures, and an increasing reliance on part-time and adjunct faculty.

As more and more colleges and universities exhaust the available cost-side measures for increasing productivity, some interest is being turned towards measures to increase productivity by enhancing higher education's output, or learning.[20] Expressed another way, the major remaining productivity problem in higher education may lie less in excessive costs and more in insufficient learning—a function of such features as redundant learning; aimless academic exploration; the unavailability of courses at the right time; excessive nonlearning time in the academic day, week, and year; insufficient use of self-paced learning; and insufficient realization of the potential of collegiate-level learning during the high school years. Enhancing the

[20] D. Bruce Johnstone, "The Productivity of Learning," *Journal for Higher Education Management*. Summer/Fall, 1995, pp. 11-17.

productivity of learning, then, would reduce vacation time and other time spent in other-than-learning activities; provide better advising and other incentives to lessen aimless curricular exploration; enhance opportunities for self-paced learning, perhaps through the aid of instructional technology; minimize curricular redundancy; and maximize the potential of college-level learning during the high school years.

Technology in the form of personal computers, new instructional software, the Internet, and instructional videocassettes, will profoundly affect the way faculty and advanced students conduct research, and it will enrich some teaching. However—aside from some pockets of distance learning and users of a virtual university, generally limited to nontraditional and technologically inclined students—technology will mainly enable more and better, not cheaper, learning.

The shift in burden from parents and taxpayers to students, paid for with more part-time (and even more full-time) work and much more debt, will continue, but there is reason to believe that the long-expected price resistance is happening. Marketing will become even more frenzied, and so will governmental efforts to "solve the problem" without spending any taxpayer revenue: tuition prepayment, tax-exempt savings plans, non-need-based price discounting, income-contingent repayment plans, and the like.

State higher education budgets will be smaller, but this reduction will be accompanied in most states by greater flexibility together with performance criteria and incentives, such as premiums to institutions that improve retention and completion rates. Most institutions have been shaping their missions for years to adjust to more low-income, minority, older, part-time, and place-bound students; greater applied and vocational interest among most students; and less revenue and the need to trim or eliminate that which is neither excellent nor popular nor central to the institution. In short, much of the vaunted restructuring that management consultants and many observers and analysts of higher education have been calling for as a solution to the financial dilemma of U.S. colleges and universities is probably not a solution at all for the simple reason that it has been going on for years. Most of the smaller and comprehensive colleges have reallocated resources and altered their programs and faculty profiles dramatically; many have changed mission altogether. Whether more small, non-selective, non-endowed colleges will close their doors in the wake of the recession that is still current at the time of this writing (late 2009) is impossible to forecast; but some almost assuredly will.

Also in some financial jeopardy may be those universities, both public and private, largely regional, and with minimal or uneven scholarly reputations, that continue to pursue the research university model but that are unlikely to penetrate the top ranks, measured by the scholarly prestige of their faculty or their graduate programs. Here, pressures to control costs are likely to focus on an increasing separation of funding for instruction and research, much as has occurred in the United Kingdom. If these measures are successful, the result could be less indirect public subsidization of faculty scholarship, a widening difference in faculty workloads, and a reduced administration overhead on competitive research grants.

Although American higher education does more than the systems of any other nation to provide postsecondary opportunities to those from low socioeconomic backgrounds, the larger American society is becoming not only more unequal but also more predictable in the intergenerational transmission of higher educational attainment. In other words, the children of well-educated, well-off parents generally achieve and persist in college, and those of the very

poor, unless they are very bright and very lucky, generally do not. The likely continuation of sharply rising public tuitions, political attacks against remedial courses, elimination of affirmative action considerations in admissions and financial aid, and the conservative assault against curricula acknowledging multicultural values may accentuate this pattern.

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