Changes in Financing and State Policy Related to American Public Research Universities

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Introduction

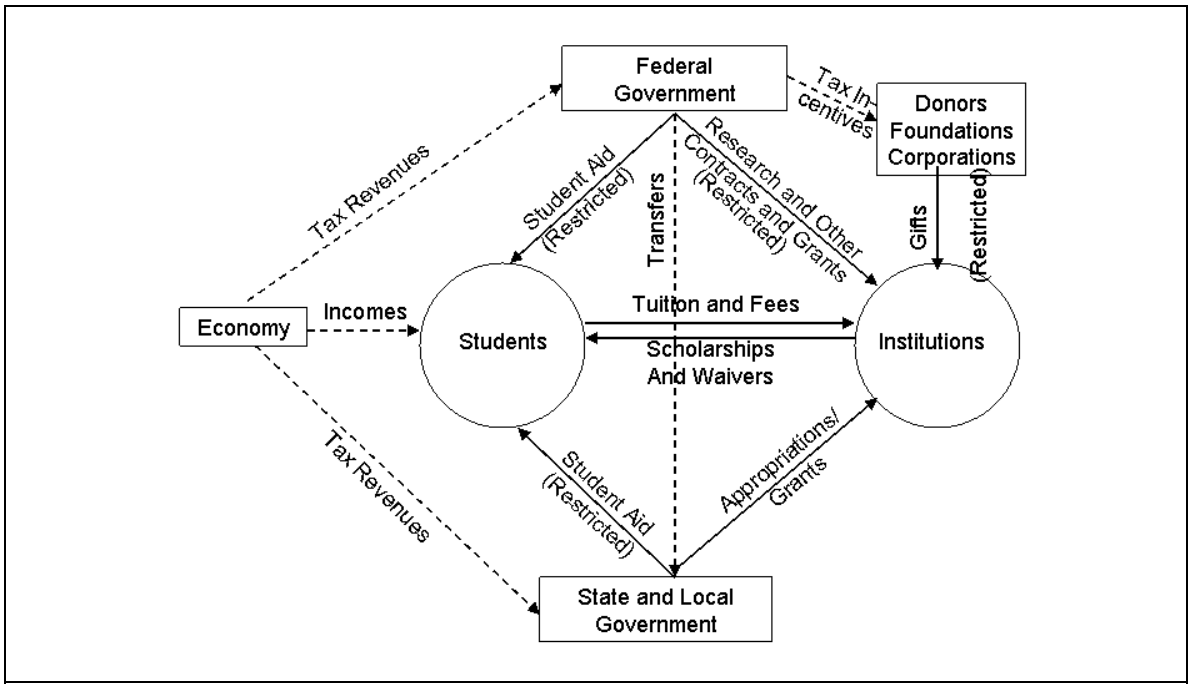
The financing of public research universities in the United States continues to change in fundamental ways, an acceleration of a trend that has been taking place over the past 20 years. In many ways, the more “private” the sources of financing of these institutions, the more they are being expected to be responsive to public priorities and accountable to governments and the public. This paper summarizes the major trends in revenue sources for public higher education in the United States with a focus on the major research universities, reviews the major trends in state-university relationships within the broader framework of changes in public governance—the role of government more generally, and summarizes the implications for public universities and states..

Trends in Financing of Public Higher Education

Conceptual framework

As depicted in Figure 1, higher education in the U.S. is financed from multiple revenue sources. The figure illustrates the major funding sources, their relationships to either students or institutions, and whether the funds are restricted or unrestricted. Figure 1 Schematic view of financing higher education in the U.S.[1]

Figure 1. Major Revenue Sources for U.S. Public Higher Education



Source: Adapted from Jones, D.P. (2003) *Financing in Sync: Aligning Fiscal Policy with State Objectives*.

Public institutions receive most unrestricted revenues dedicated to their core missions from two sources: state appropriations and student tuition and fees. Most other funding sources, such as federal contracts and grants or gifts from major donors, are smaller percentages of overall revenues and inevitably are dedicated to specific purposes. State appropriations and tuition revenue (less amounts dedicated to student aid and waivers) are the most important funding sources to *maintain and build* core institutional capacity—the institutions' human and physical assets. The restricted sources such as federal grants and contracts are generally intended to *utilize* this core capacity or to *purchase a service* for a specified purpose and time-period. They generally do not fund the institutions' core capacity or provide for full recovery of costs on the assumption that a portion of the costs should be born by the receiving institution. Figure 2 illustrates these differences.

Figure 2. State financing of higher education—the policy options

POLICY OBJECTIVES	POLICY FOCUS	
	Institutions	Students
Capacity Maintenance and Building	Base Appropriation	Base Tuition Need-Based Student Financial Aid
Capacity Utilization/ Purchase of Service	Targeted Funding Performance Funding	Outcome-Related Aid Merit Aid

Source: Adapted from Jones (2003), p. 13.

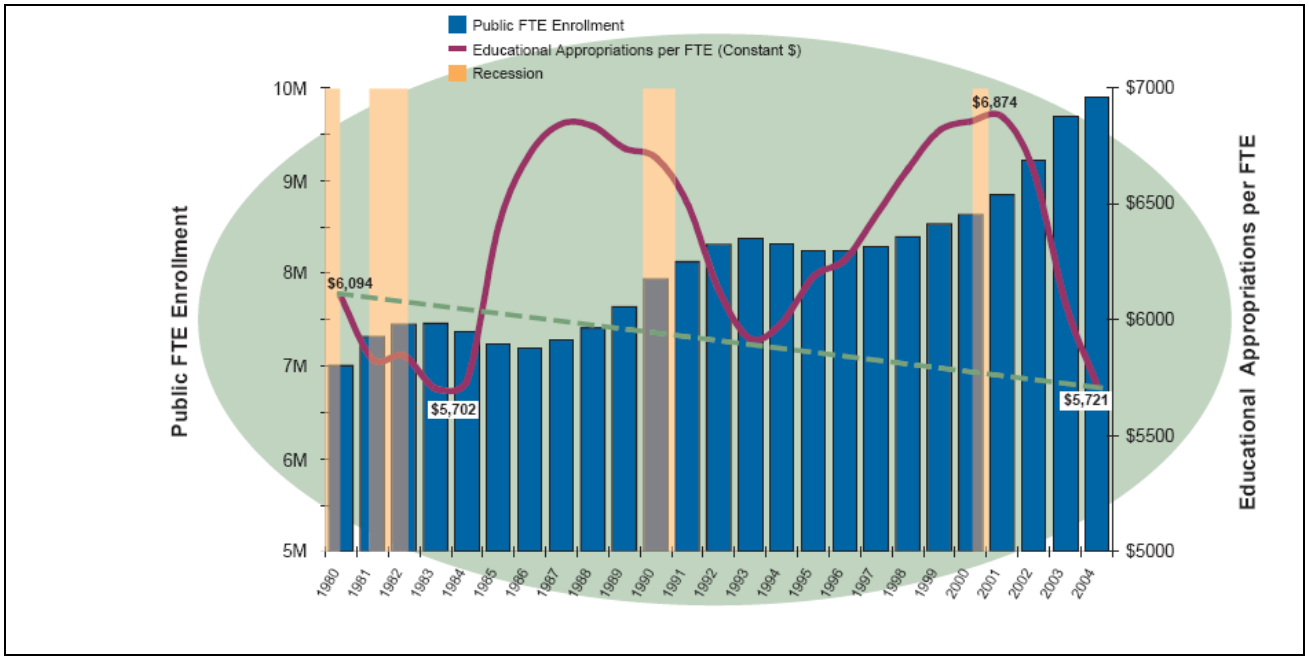
State funding

In the economic downturn of the early 2000s, states faced the most serious fiscal crisis in more than a decade. The crisis was fueled by the faltering national economy, contractions in manufacturing and high technology sectors, and escalating health care costs. Exacerbating the situation were the reductions in taxes enacted by a number of states in the boom years of the 1990s.

In the four-year period from fiscal years 2001 to 2004, state funding for higher education failed to keep pace with enrollment growth and nominal inflation. In fiscal year 2004, state and local support per full-time equivalent (FTE) student in public institutions was $5,721, the lowest level of funding in the 25 years, except in 1983, when state funding was $5,702 in constant 2004 dollars.[2] (Figures 3 and 4)

State appropriations per FTE for public higher education over the past 20 years have tended to rise and fall in relationship to the state of the economy. As illustrated in figure 2, state funding dropped precipitously at the time of the recessions in early the early 1980s, 1990s and early 2000s. State funding rebounded following each of the two recessions but because of projected state budget shortfalls it remains uncertain whether this will occur as rapidly in the 2000s.

Figure 3. Educational Appropriations for Public Higher Education per Full-Time Equivalent (FTE) Student, U.S., Fiscal Years 1980-2004

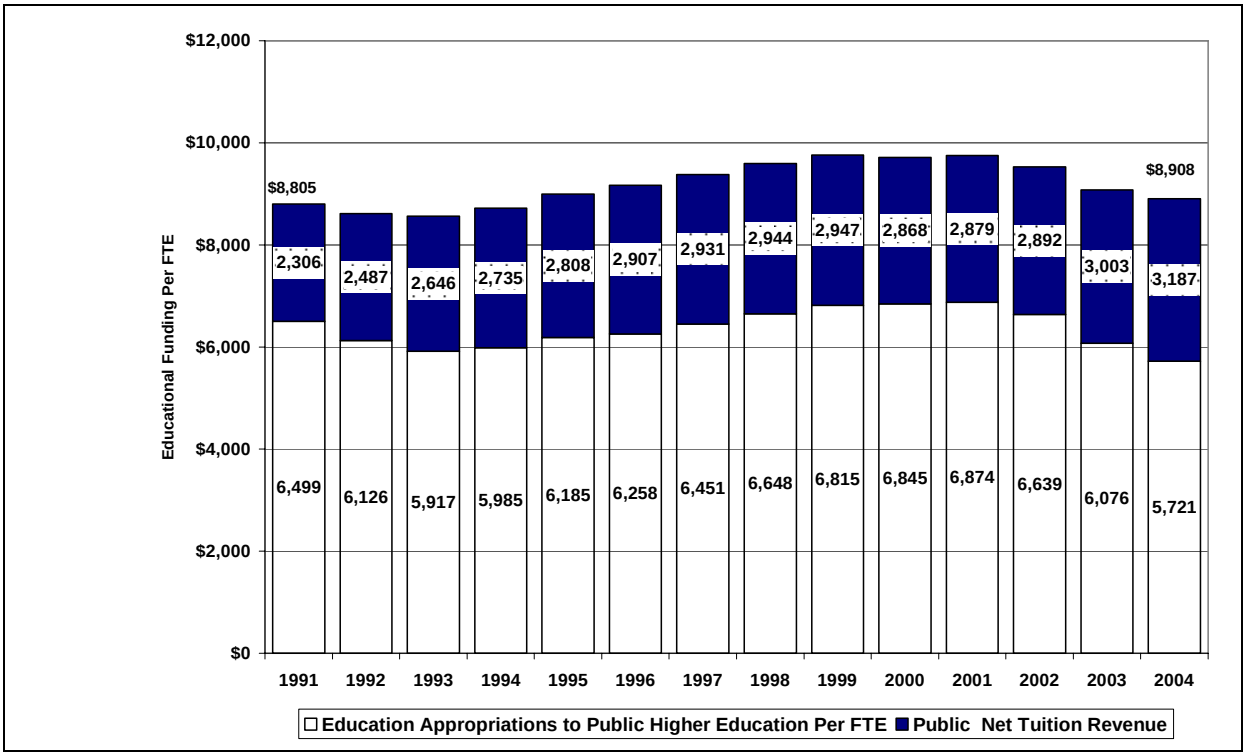


Note: State and local government support, excluding research, agriculture, and medical. Constant 2004 dollars using the Higher Education Cost Adjustment developed by SHEEO based on federal cost indexes.

Source: SHEEO (2004), Figure 1, p. 21

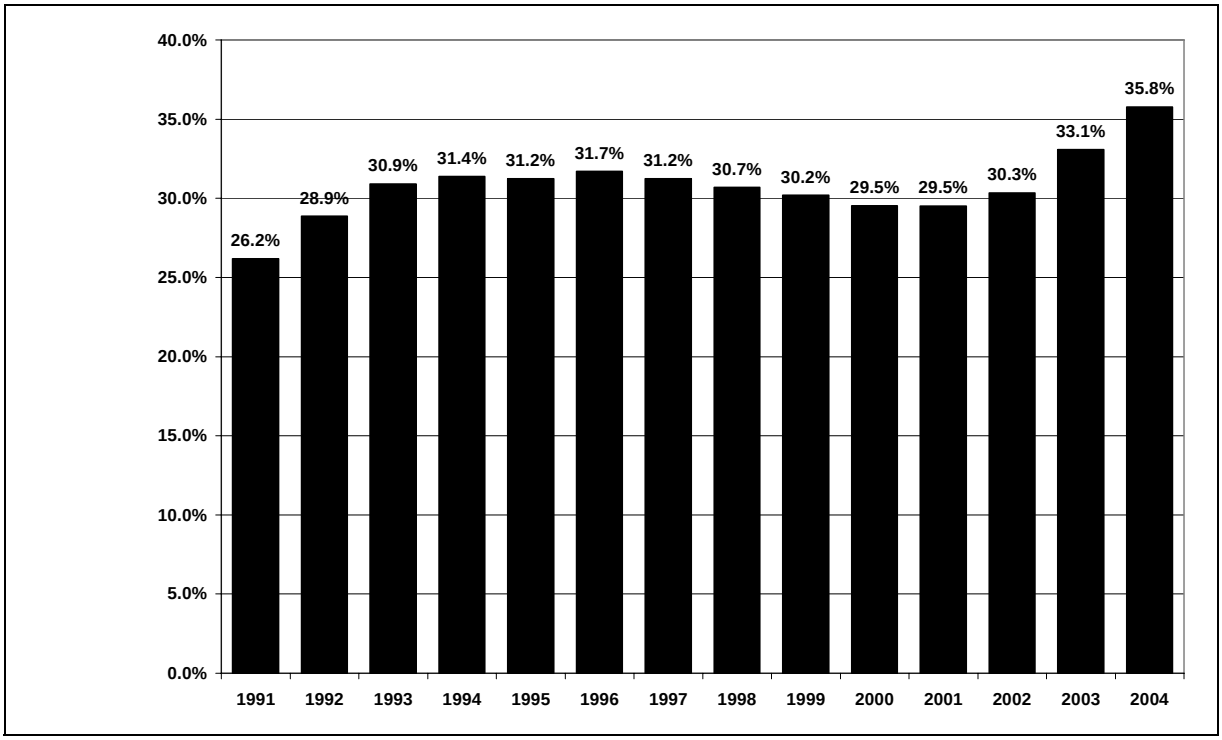
Throughout the past twenty years, students and families have borne a larger percentage of the costs of higher education through tuition and fees. The most pronounced tuition and fee increases have occurred during periods of economic downturn—the times when students and families are least able to pay increased amounts. The shifting balance between state appropriations and tuition and fees (less student financial aid) is illustrated in Figure 4. The increasing percentage of tuition and fees as a percent of total educational funding per FTE is shown in Figure 5.

Figure 4. Total Educational Revenues for Public Higher Education per FTE, by Component, U.S., Fiscal Years 1991-2004, in Constant 2003 Dollars (Constant dollars adjusted by SHEEO Higher Education Cost Adjustment)



Source: SHEEO (2004), Figure 2, p. 24. Constant dollars as adjusted by SHEEO Higher Education Cost Adjustment)

Figure 5. Net Tuition as a Percentage of Public Higher Education Total Educational Revenue, U.S., Fiscal Years 1991-2004



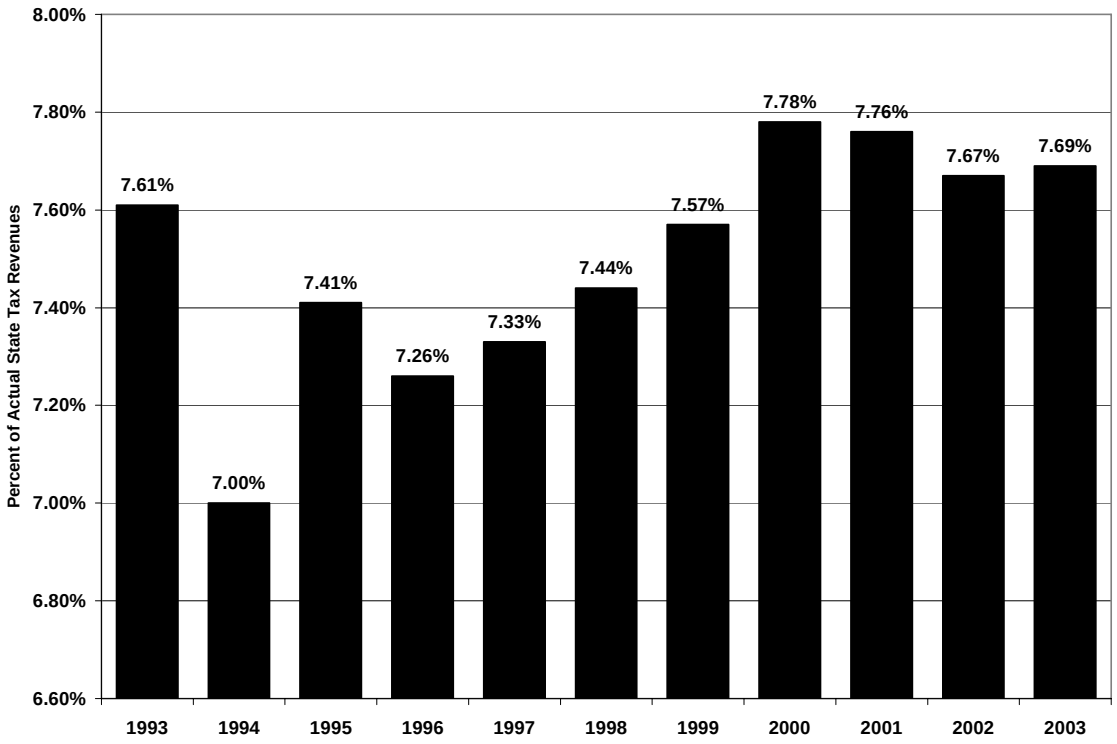
Source: SHEEO (2004), Table 3. p. 25

Long-term trends in state funding and the balance between governmental and non-governmental funding

The long-term trend in the U.S. is for an increasing share of the cost of higher education to be borne by non-governmental sources. State funding as a percentage of total educational funding has decreased over the past decade. It is inaccurate to interpret this trend as an indication of an overall decline in state commitment to funding higher education. After a slow decline in the percentage of total state tax revenues dedicated to higher education, states actually maintained a reasonably constant percentage of support during the decade of the 1990s and early 2000s (Figure 6) The major variable in the level of state support was the state's economy and level of tax revenue. When revenues dropped, higher education tended to suffer severe cuts in state funding and in many cases was seen as a "budget balancer" because higher education was seen as having its own alternative revenue sources, student tuition and fees. However, when state revenues increased, funding for public higher education increased.

The reality is that many states will face structural deficits over the next decade caused by a combination of mandated funding increases (especially for health care) and weaknesses in their tax policies derived in part by tax cuts enacted in the mid-1990s when their economies were strong (Figure 7). The result will be a continued squeezing of funds available for public higher education.[3]

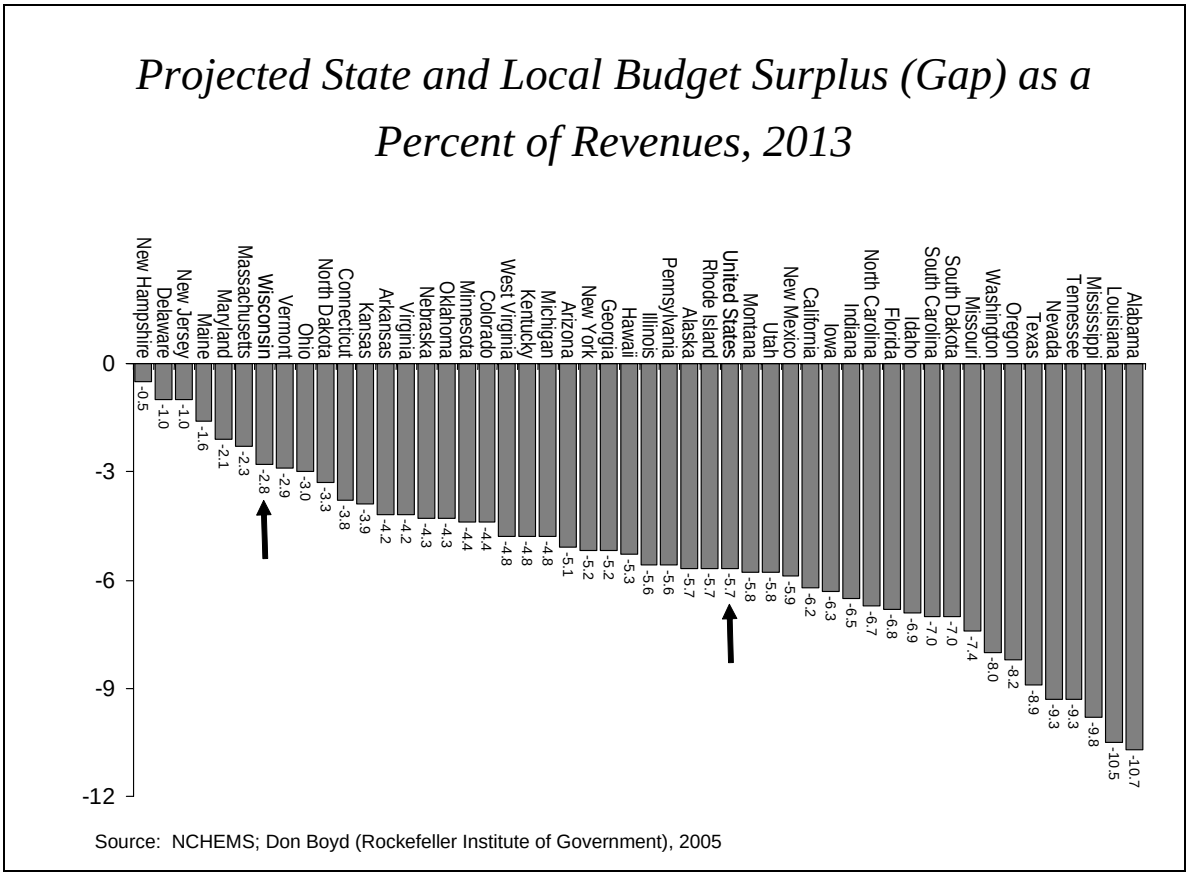
Figure 6. Higher Education Support as a Percent of Actual State and Local Tax Revenues, 1993-2003.



Note: State support includes gross tax and non-tax support for public and independent higher education.

Source: SHEEO (2004) through NCHEMS www.highereduinfo.org, "State Higher Education Priority"

Figure 7. State and Local Budget Surpluses and Shortfalls as Percent of Baseline Revenue



Trends in total education revenues for public institutions

Despite the decrease in state appropriations, total educational revenues for public institutions in the U.S. have been sustained through other revenue sources. Considering the two sources of state funding and student tuition and fees, tuition and fee increases have largely offset declines in state funding on a per student basis over the past decade. As shown in Figure 4, total educational funding per FTE in 2004 was essentially the same as in 1991 on a constant dollar basis ($8,805 per FTE in 1991 compared to $8,908 per FTE in 2004) despite significant enrollment increases in the period and the economic downturn in the early 2000s. The ability of public institutions to sustain this funding depended on the capacity of states to continue to increase funding in this period and, especially in the most recent years, by substantial increases in tuition and fees. Strong public reaction to precipitous tuition increases could seriously constrain the ability of public institutions to rely on this revenue source in the future, however.

Cautions about variations among and states and institutional sectors

Nationwide data show marked differences in funding levels and trends among states and institutional sectors. Several states have experienced more severe cuts in state funding per student; others have been able to sustain funding reasonably well because of stronger state economies. Also, the ability of public institutions to increase tuition and fees to offset reductions in state support varies markedly among sectors. More selective major public research universities have been able to increase tuition (often offset with increased student financial aid) without a major impact on demand. In contrast, many public universities with strong commitments to a tradition of low-tuition as a means to ensure access and opportunity for their state's population have been either unwilling or unable to raise tuition significantly.[4]

Other revenue sources

The focus of the foregoing review of financing trends is on state funding and student tuition and fees but not on the other major revenue sources illustrated in Figure 1, especially revenue from institutional endowments, federal, state and local government contracts and grants (in addition to appropriations for core missions), private gifts, grants and contacts, and miscellaneous other sources. As discussed below, these other sources have played an increasingly important role in the financing of public institutions, especially the major public research universities.

Revenue Trends for Major Public Research Universities

In the Carnegie Classification of Institutions of Higher Education, 2000 edition, 261 institutions of 3,941 in the U.S. were classified as doctoral/research universities. Of these, 151 were classified as "research extensive" universities in recognition of the depth and breadth of their graduate programs and their commitment to research. These institutions must grant at least 50 doctoral degrees in at least 15 disciplines. In the previous Carnegie Classification, the approximately 68 public universities, all of which are now classified as "research extensive" were classified as "Research I" institutions. This focus of this analysis is on these "Research I" universities. These institutions play a significant role not only within U.S. higher education as a whole but also within their own states. They tend to be the institutions preferred by the best prepared students in their

states. They are highly visible to the public because of state leadership roles of prominent alumni and the popularity of intercollegiate athletics. State leaders recognize these institutions as central to the state's global competitiveness because of the contributions of research and technology to economic development.

Summary of changes in financing

As discussed earlier, fundamental changes are taking place in the revenue sources for public higher education, especially for major public research universities. These changes are summarized below. Detailed data for Research I universities as a group and for several prominent universities in this group are Tables 1 through 5 in the Appendix. This analysis focuses on funding of total "education and general" (E & G) revenues for universities' core missions and excludes revenue for hospitals and auxiliary enterprises (dormitories, food service and other self-sustaining functions).

From 1993-94 to 2002-2003, in constant 2003 dollars adjusting for inflation as measured by the Consumer Price Index (CPI):

- Total E and G revenues in 2002-2003 were $37,120 per Full-time Equivalent (FTE) student, an increase of $6,348 per FTE in constant 2003 dollars from 1993. Most of this increase occurred in increased government (primarily federal) grants and contracts (Tables 1 and 2).
- Total Education and General (E & G) revenues per Full-time Equivalent (FTE) Student for R I Universities as a group increased 20.6%. (Table 3)
- Revenue from State and Local Appropriations increased 5.8% while tuition and fees increased 12.1% (Table 3)
- The most significant percentage increases in categories of revenue were in Endowment Income (279.3%) and in Government Contracts and Grants (74.5%). Private Gifts and Grants actually decreased 21.8% (Table 3)
- An important distinction is between funding for the universities' core instructional mission from the relatively fungible sources of state appropriations, tuition and fees, and endowment income, essential for maintaining and building capacity (see Figure 1) and funding to utilize this capacity through the "purchase" of specific services or projects from government and private grants and contracts and other revenue sources.

In the period from 1993-94 to 2002-2003, "core" funding increased 13.4%--slower than overall revenue growth.

- Behind these generalizations for major research universities as a group, however, are striking differences among universities. An examination of revenue changes at several of the best known universities in this category. For example:

- Total E & G revenue per FTE ranged from a high of $51,290 at the University of Washington to a low of $22,895 at the University of Colorado at Boulder (Table 1)

- Not all universities experienced decreases in revenue per FTE from state and local appropriations during this period, underscoring the point that generalizations about declining state support can be misleading if not inaccurate (Table 2). Pennsylvania State University had a major increase of $1,409 per FTE in constant 2003 dollars and the University of Virginia had an increase of $604 per FTE. In contrast, the University of Colorado at Boulder had a decrease of $531 per FTE from an already low level of state support and the University of Wisconsin experienced a decrease of $3,015 per FTE.

- After adjusting for inflation, Pennsylvania State University experienced a 90.9% increase in total E & G revenue per FTE from 1993-94 to 2002-2003 and the University of Virginia a 57.4% increase, compared to only a 6.6% increase at the University of Wisconsin Madison and a 12.6% increase at the University of Colorado at Boulder (Table 3)

- The revenue increases per FTE at Pennsylvania State University were across the board with the largest percentage increase being in endowment income, followed by private gifts and contracts and tuition and fees. The University of Virginia experienced revenue increases per FTE in most categories but most strikingly in endowment income with a five times increase from 1993-94. Basically, endowment income has offset slower revenue growth from state appropriations (Table 3).

- Several other public universities such as the University of Colorado Boulder, University of North Carolina Chapel Hill and the University of Washington, had significant *percentage* increases in endowment income

but from a comparatively small base (Tables 3, 4 and 5). Consequently, endowment income remains a relatively small share of overall income. The contrast between these institutions and Pennsylvania State University and the University of Virginia graphically illustrates the caution that even though revenue from endowments has increased, by no means is this presently a large enough revenue source to offset other significant reductions in core funding.

- In contrast to Penn State and the University of Virginia,
  - The University of Colorado Boulder experienced a sharp decline in revenue per FTE from state and local appropriations (-16.8%) which was only partially offset by tuition and fees (Table 3). The most significant decreases occurred in revenue sources commonly used to maintain and build capacity (see Figure 2) and increased revenues came from government grants and contracts (utilization of capacity), a change which—as noted below—can seriously undermine the university's ability to sustain its "core" assets for the instructional, research and service missions.
  - The University of Wisconsin-Madison also had a sharp decline in revenue per FTE from state and local appropriations (-23.6%) (Table 3). Overall, these decreases were offset by revenue increases from government grants and grants, a change with an impact similar to that at the University of Colorado Boulder.

In the same period, the relative shares of funding have shifted in fundamental ways (Tables 4 and 5). In general, the pattern has been a decrease in the shares of funding per FTE from both state and local appropriations (-4.3%) and tuition/fees (-1.3%), and an increase in shares from endowment income (2.4%) and government grants and contracts (11.6%). Of even greater significance is the shift from funding shares from sources for the "core" mission (state and local appropriations, tuition and fees and endowment income) (-3.2%), to funding for "purchase of service" missions (3.5%), most notably in government grants and contracts. Universities often undertake "purchase of service" functions at less than full cost-reimbursement with the result that a portion of the cost must be assumed by the "core" funding. Overall, there has been an erosion of the "core" as a consequence of the shift to "purchase of service" activities.

In 2002-2003, major public research universities received 31% of their funding from state and local appropriations, 16.4% from tuition and fees, 3.5% from endowment income, 37.5% from government grants and contracts, 5.3% from private grants and contracts and another 6.7% from other sources (Table 4).

Again, the overall picture of shifts in shares masks significant differences among public research universities.

- The percentage of funding per FTE coming from state and local appropriations is below 20% at several of the universities including Penn State (16.1%), University of Colorado Boulder (11.5%), the University of Michigan (17.5%) and the University of Virginia (17%) and the University of Washington (16.9%). All these institutions experienced decreases in the relative proportions of revenue coming from state and local appropriations. These decreases were offset by increases in other categories, most notably in endowment income and government grants and contracts (Tables 3 and 4).

- The University of North Carolina-Chapel Hill receives 32.2% of is revenue from state and local appropriations, but experienced a significant decline in this share as revenue increased from tuition and fees and government grants and contracts (Tables 3 and 4).

Implications of changes

In summary, with some specific exceptions, major U.S. public research universities have experienced *a continuing increase in revenue (even after adjusting for inflation),* but the revenue is coming less from generally fungible, unrestricted sources such as state and local appropriations and tuition and fees, and more from "purchase of service" funding, e.g., funding to support specific research projects. As a consequence, the core university instructional mission is threatened as well as the underlying asset structure (faculty and research staff, equipment and facilities). Ironically, this basic asset structure is necessary in order for the universities to compete for research funding and other "purchase of service" missions. It appears also that those universities that have amassed significant endowments have increasingly been able to use these assets to generate revenue for the "core" institutional mission. The problem is that only a few universities have such assets.

As discussed earlier, with predicted state structural deficits over the next decade, one can expect decreasing state and local appropriations and constraints on increases in tuition and fees. These changes added to the limited ability of institutions to other sources of unrestricted revenue (e.g., from endowments), could lead to a decline in the number of globally competitive, financially strong public research universities in the U.S. If these trends continue, one might expect to see a gradually sorting out of those universities that can compete globally as major research universities in contrast to those that will have to realign their goals to more modest aspirations.[5]

Changing Relationships between States and Universities

The trends in the financing of public universities are contributing to fundamental changes in the relationships between states and public universities in the U.S. These changes are taking place in the context of broader changes in public governance and the political and economic conditions of each state.

Changes in public governance.

There is a tendency of analysts to focus on changes *within* higher education and to ignore the broader context of changes in public governance in a specific country and around the world. In the United States, the changes in the relationship of public universities to government have paralleled changes in public governance within the states in which they are located and within the country as a whole.[6] B. Guy Peters in an analysis of public governance shifts since 1980 makes a distinction between the first wave of reforms in the1980s and early 1990s and most recent reforms.[7, 8] The first wave tended to be ideologically driven with an emphasis in particular on decentralization, privatization and market approaches. Many countries adopted these changes by copying reforms elsewhere and often without adequate consideration of the country-specific context. Peters identifies four different governance approaches in the first wave of reform. He then analyzes the differences among these approaches in relationship to four criteria (see Figure 8): the principal motivation or "diagnosis" for adopting the approach, the structure employed, the nature of policymaking, and the means to serve the public interest. The four approaches are not mutually exclusive: in practice, countries implemented elements of each of these approaches.

Figure 8. Models of governance reform

	Market	Participation	Flexibility	Deregulation
Principal Diagnosis	Monopoly	Hierarchy	Permanence	Internal Regulation
Structure	Decentralization	Flatter Organizations	Virtual Organization	Power Hierarchy
Management	Pay for Performance; Other Private Sector Techniques	Management Teams	Managing Temporary Personnel	Greater Managerial Freedom
Policy Making	Internal Markets; Market Incentives	Consultation; Negotiation	Experimentation	Active Bureaucracy
Public Interest	Low Cost	Involvement; Consultation	Low Cost; Coordination	Creativity; Activism

Source: Peters (2001), p. 21

More recent reforms involve pragmatic adaptation of traditional governance modes utilizing elements of traditional and new approaches and addressing problems created by the first wave. Among the commonly identified flaws are lack of capacity to ensure responsiveness of a decentralized, privatized system to public purposes, weak public accountability, difficulties in achieving co-ordination among dispersed public and non-governmental entities responsible for different elements of public governance, and the need for more coherent government-wide reform as opposed to piecemeal implementation.

Peters (2001) characterizes the reforms of the late 1990s and early 21st century as emphasizing four themes: coordination, accountability, re-regulation and performance management[9] He then uses the same criteria as employed in analysis of the early reform phase to identify the differences among the emerging models (Figure 9).

Figure 9. Characteristics of second round of reform

	Coordination	Accountability	Re-regulation	Performance Management
Principal Diagnosis	Excessive disaggregation	Inadequate control	Excessive autonomy	Poor quality services
Structure	Return to hierarchy	Institute control structures	Create regulators	No particular recommendation
Management	Require consultation	Create personal responsibility	Impose ex post	Focus on performance
Policy Making	Consider collaboration	Use of external mechanism for control	Measure outputs	Access Quality
Public Interest	Policy coherence	Accountability bureaucracy	Control *with* autonomy	High quality services

Source: Peters (2001), p. 120

The models and phases that Peters describes are not always sequential or mutually exclusive. Some countries retained significant elements of earlier public governance patterns while adopting elements of the two subsequent phases. Some countries are just now embarking on changes that other countries implemented long ago. Each country is adapting reforms derived from global policy networks to its unique political, economic and cultural context.

Changes in relationships across the U.S.

Peters' two models are particularly relevant to understanding the differences across the US in the relationships between states and public higher education and the changes that are taking place. In the earlier phases of changes in the 1980s and 1990s, especially in the periods of economic downturn in the early 1980s and 1990s, state reforms emphasized downsizing of government, out-sourcing, greater reliance on user fees and "market forces." The changes in higher education are summarized in Figure 10.

Figure 10. Changing Assumptions About Role of Government in Higher Education

A shift from:	To:
Rational planning for static institutional models	Strategic planning for dynamic market models
Focus on providers, primarily public institutions	Focus on clients: students/learners, employers, and governments

Figure 10. Changing Assumptions About Role of Government in Higher Education	
Service areas defined by geographic boundaries of the state and monopolistic markets	Service areas defined by the needs of clients without regard to geographic boundaries
Clients served by single providers (e.g., a public university)	Clients served by multiple providers (e.g., students enrolling simultaneously with two or more institutions)
Tendency toward centralized control and regulation through tightly defined institutional missions, financial accountability, and retrospective reporting	More decentralized governance and management using policy tools to stimulate desired response (e.g., incentives, performance funding, consumer information)
Policies and regulation to limit competition and unnecessary duplication	Policies to "enter the market on behalf of the public" and to channel competitive forces toward public purposes
Quality defined primarily in terms of resources (inputs such as faculty credentials or library resources) as established within higher education	Quality defined in terms of outcomes, performance and competence as defined by multiple clients (students/learners, employers, government)
Policies and services developed and carried out primarily through public agencies and public institutions	Increased use of non-governmental organizations and mixed public/private providers to meet public/client needs (e.g., developing curricula and learning modules, providing student services, assessing competencies, providing quality assurance)

Source: McGuinness, A. C. (2003) *The States and Higher Education Financial Management: A Comparative Study of State–Institutional Relationships in the United States*, national report for OECD project leading to report, *On the Edge.* Paris: OECD.

One of the most significant changes, as demonstrated by the earlier analysis, is the shift of state financing policy from *maintaining and building the capacity* of public institutions to *"purchase of service"* from institutions to serve public priorities and purposes.

The changes have also emphasized regulation and granting institutions greater autonomy, especially on "procedural" functions. Berdahl makes a useful distinction between two kinds of "autonomy"[10]:

- Substantive autonomy granting institutions a degree of independence to decide issues concerning issues related to what will be taught, by whom, to what ends, and to whom (who will be admitted to study)

- Procedural autonomy granting institutions flexibility on management and fiscal controls applicable to state agencies in areas such as purchasing, contracts, salary schedules and rates, health insurance and retirement policies, capital projects.

Historically, states have granted public universities a high degree of independence on "substantive" issues. At the same time, they maintained many procedural controls. Over past two decades, many states have acted to give institutions greater management flexibility.

By no means have these changes in state role taken place uniformly across the U.S. Some states have moved significantly in these directions while others have retained many of their earlier policies. States are also beginning from different points in terms of cultural and current relationships between state government and state universities. States differ fundamentally in the legal status accorded to public colleges and universities and, as a consequence, in the nature of the budgeting and financing relationships. Figure 11 presents a matrix illustrating how the state—institutional differ according to four different levels of state control of institutions on a continuum from high to low.

Figure 11. Levels of State Control and Institutional Legal Status

Level of State Control	Model	Status of States
High Control	A. Institution as State Agency	
↕	B. State-Controlled Institution	RI MT, WI
↕	C. State-Aided Institution	IL, IA, LA, MA, NY, OH, OR, SC, TN, TX, WV, VA FL, IN, ID, KS, KY, MD, ND, NJ, OK, WA
Low Control	D. Corporate Model for Institutional Governance	AL, AK, AR, CA, CT, DE, GA, HI, ME, MN, MS, MO, NC, NH, NB, NV, NM, PA, SD, UT CO, MI, DE, VT, WY

Source: McGuinness, A.C. *Higher Education Landscape: A National Perspective*, presentation to Virginia General Assembly SJR 90 Joint Subcommittee, October 12, 2004

State higher education reforms in the early 2000s reflect a reaction to the reforms of the past decade and roughly parallel the concerns identified by Peters in his second model of public governance summarized in Figure 9. Several forces are commonly driving these counter-movements away from the earlier emphasis on "market-oriented" reforms. These include public concerns about:

- Public accountability and the need for states to ensure that universities respond to a "public agenda"—the state's basic goals for raising the education attainment of the states' population and competitiveness of the state's economy[11,12]

- Escalating student costs (new fees and loan schemes) and the need to ensure access to low-income students.

- The potential for narrowing diversity in the state's higher education system resulting from student demand for entrance to more prestigious institutions and convergence of institutional missions and profiles toward the research university mission. Concerns often relate to the need for non-university sectors to accommodate students with a wider range of abilities and aspirations and to respond to the demands of the labour market.

These forces are leading to state governments to limit the authority of institutions to charge or increase fees, require institutions to enter into long-term agreements specifying accountability and performance expectations. The patterns of this new generation of state policies is only emerging but is best reflected in the reforms enacted by Kentucky and North Dakota in the late 1990s and the recent reforms enacted by Virginia. In brief, these reforms:

- Increase "procedural" autonomy and institutional management flexibility

- Realign the role of the state higher education agency to de-emphasize regulation and procedural controls and emphasize strategic policy leadership, strategic resource allocation, and public accountability.

- Set forth a multi-year "public agenda" linking higher education to efforts to raise the education attainment of the state's population and improve the state's economy and quality of life

- Establish multi-year agreements (contracts or "compacts") between the state and public universities with explicit performance and accountability

requirements, following the pattern of reforms in the several other countries.[13]

Policies for the Future

The implications for public universities and state governments of these trends are different but inter-dependent. The public university must give priority to sustaining the institution's capacity to carry out its mission in an increasingly uncertain policy environment. In this respect, the university must give more attention to strategic leadership and to generating and allocating resources necessary both to build and sustain capacity as well as to support strategic goals. As expressed by Robert Zemsky and William Massy, the university must be "market-smart and mission-focused."[14] As it pursues these goals, the public university must give attention to important public priorities, especially the need to maintain affordable access to the citizens of the state, to meet the needs of the state for a trained workforce, and for research and technology linked to local and regional economic development.

In the current financing environment, the incentives are strong for major public research universities to abandon their historic commitments to the states in which they are located. As state funding becomes a smaller share of total university revenues, universities are raising tuition and fees, becoming more selective in entrance policies, and seeking non-state and often out-of-state resources to sustain capacity. In other cases, the cuts in state subsidy essential to support the universities' core capacity are severely limiting the institutions'ability to serve their core teaching and research missions.

In this difficult environment, it is especially important that public universities arrive at "agreements" with their states that (1) make explicit state expectations and priorities, (2) provide increased long-term stability and predictability in core revenue sources of state subsidy and tuition, (3) provide for increased flexibility and procedural autonomy in areas deemed essential for the university to generate alternative non-state revenues, and (4) provide for public accountability for performance related to the state's goals and priorities.

From the public interest perspective, the state must be explicit about state goals and align financing policy with these goals. Referring to the basic framework outlined in Figure 2, the state must be concerned both that public universities have core capacity to carry out their missions and that the state has a means to ensure

that at least some of this capacity is used in the public interest. As the state share of university funding decreases, the core capacity of some universities that do not have alternative revenue sources could be seriously threatened. States must also ensure that their financing policies provide incentives to the institutions to respond to public priorities—to utilize the university core capacity (e.g., to provide affordable opportunities for state citizens and to respond to other state priorities). In the current financing environment, only a few states have in place deliberate state policies to "enter the market" in the public interest through strategic investment funds, targeted subsidies and other means. Again, if public universities lack essential core capacity, they will be unable to respond to targeted state initiatives.

Endnotes

[1] Jones, D.P. (2003) *Financing in Sync: Aligning Fiscal Policy with State Objectives*. Boulder: Western Interstate Commission on Higher Education.

[2] State Higher Education Executive Officers (2004). *State Higher Education Finance, FY 2004*. Denver: SHEEO, pp. 7-9.

[3] Jones, D.P. (2003a). "State Shortfalls Projected Throughout the Decade," *Policy Alert*. San Jose, California: National Center for Public Policy and Higher Education, February 2003.

[4] Breneman, David W. (2004). *Are the States and Public Higher Education Striking a New Bargain*? Public Policy Series, No. 04-02 July 2004. Washington, D.C.: Association of Governing Boards of Public Colleges and Universities, p. 9.

[5] See OECD (2004). *On the Edge: Securing a Sustainable Future for Higher Education*. Paris: OECD

[6] OECD (2005), *Modernizing Government*, March 2005, p. 3.

[7] Peters, B. Guy (2001) *The Future of Governing*. University of Kansas Press, 2nd edition

[8] See Cloete. N., Maassen, P. and Miller, J., (2003) "Great Expectations, Mixed Governance Approaches, and unintended Outcomes: The Post-1994 Reform of South African Higher Education.," paper presented at the 2003 CHER Conference in Porto, Portugal, September 2003, for application of the Peters' framework to policy change in South African higher education

[9] Peters (2001), p. 119-120.

[10] Robert Berdahl, Statewide Coordination of Higher Education, American Council on Education, 1971

[11] National Center for Public Policy and Higher Education, State Capacity for Higher Education Policy Making, *Crosstalk,* Summer 2005.

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Appendix

Table 1. Selected Major U.S. Public Research Universities (Research I), Education and General (E & G) Revenues per Full-time Equivalent Student (FTES), 2002-2003

	State and Local Appropriations	Tuition and Fees per FTES	Endowment Income per FTES	Government Grants & Contracts per FTES	Private Gifts, Grants & Contracts per FTES	Other E& Revenue per FTES	Total E&G Revenue per FTES
Average All Research I Universities	$ 11,524	$ 6,082	$1,281	$13,933	$1,969	$ 2,503	$37,120
Pennsylvania State Univ.	$ 7,694	$ 17,844	$2,417	$9,811	$6,149	$ 3,884	$47,799
Univ. of Colorado Boulder	$ 2,630	$ 8,738	$71	$9,190	$1,009	$ 1,258	$22,895
Univ. of Michigan	$ 9,549	$ 13,516	$6,281	$20,334	$1,620	$ 2,524	$53,824
Univ. of North Carolina Chapel Hill	$ 15,902	$ 6,350	$2,048	$19,689	$2,631	$ 2,694	$49,314
Univ. of Virginia	$ 8,060	$ 9,930	$9,374	$14,885	$3,476	$ 1,551	$47,275
Univ. of Washington	$ 8,654	$ 7,582	$2,499	$23,540	$3,550	$ 5,466	$51,290
Univ. of Wisconsin Madison	$ 9,781	$ 6,138	$296	$14,291	$4,587	$ 4,882	$39,975

Source: National Center for Education Statistics, NCHEMS NCES Finance Data Set.
Notes: E & G revenues exclude revenues for auxiliary enterprises and hospitals. FTES are calculated as full-time headcount plus one-third of part-time students

Table 2. Selected Major U.S. Public Research Universities (Research I), Education and General (E & G) Revenues per Full-time Equivalent Student (FTES), Change in Revenues per FTES from 1993-94 in 2002-2003 Constant Dollars (Adjusted by Consumer Price Index)

	State and Local Appropriations	Tuition and Fees per FTES	Endowment Income per FTES	Government Grants & Contracts per FTES	Private Gifts, Grants & Contracts per FTES	Other E& Revenue per FTES	Total E&G Revenue per FTES
Average All Research I Universities	$633	$655	$943	$5,950	-$548	-$1,166	$6,348
Pennsylvania State Univ.	$1,409	$9,584	$2,031	$3,368	$3,965	$2,400	$22,757
Univ. of Colorado Boulder	-$531	$1,140	$51	$2,477	-$219	-$349	$2,569
Univ. of Michigan	$140	$879	$5,691	$8,867	-$1,686	-$856	$13,036
Univ. of North Carolina Chapel Hill	-$694	$1,933	$1,352	$7,221	-$1,120	$1,454	$10,147
Univ. of Virginia	$604	$1,513	$7,884	$7,931	-$1,281	$592	$17,243
Univ. of Washington	-$1,897	$1,305	$2,214	$8,122	$515	$1,964	$12,223
Univ. of Wisconsin Madison	-$3,015	$136	$18	$4,515	-$57	$888	$2,486

Source: National Center for Education Statistics, NCHEMS NCES Finance Data Set.
Notes: E & G revenues exclude revenues for auxiliary enterprises and hospitals. FTES are calculated as full-time headcount plus one-third of part-time students

Table 2 Selected Major U.S. Public Research Universities (Research I), Education and General (E & G) Revenues per Full-time Equivalent Student (FTES), Percentage Change Revenues per FTES from 1993-94 in 2002-2003 Constant Dollars (Adjusted by Consumer Price Index)

	State and Local Appropriations	Tuition and Fees per FTES	Endowment Income per FTES	Government Grants & Contracts per FTES	Private Gifts, Grants & Contracts per FTES	Other E& Revenue per FTES	Total E&G Revenue per FTES
Average All Research I Universities	5.8%	12.1%	279.3%	74.5%	-21.8%	-31.8%	20.6%
Pennsylvania State Univ.	22.4%	116.0%	526.9%	52.3%	181.5%	161.7%	90.9%
Univ. of Colorado Boulder	-16.8%	15.0%	261.5%	36.9%	-17.8%	-21.7%	12.6%
Univ. of Michigan	1.5%	7.0%	964.2%	77.3%	-51.0%	-25.3%	32.0%
Univ. of North Carolina Chapel Hill	-4.2%	43.8%	194.4%	57.9%	-29.9%	117.2%	25.9%
Univ. of Virginia	8.1%	18.0%	529.1%	114.1%	-26.9%	61.7%	57.4%
Univ. of Washington	-18.0%	20.8%	775.8%	52.7%	17.0%	56.1%	31.3%
Univ. of Wisconsin Madison	-23.6%	2.3%	6.6%	46.2%	-1.2%	22.2%	6.6%

Source: National Center for Education Statistics, NCHEMS NCES Finance Data Set.
Notes: E & G revenues exclude revenues for auxiliary enterprises and hospitals. FTES are calculated as full-time headcount plus one-third of part-time students

Table 3 Selected Major U.S. Public Research Universities (Research I), Education and General (E & G) Shares by Major Revenue Source of Revenues per Full-time Equivalent Student (FTES), 2002-2003

	State and Local Appropriations	Tuition and Fees per FTES	Endowment Income per FTES	Government Grants & Contracts per FTES	Private Gifts, Grants & Contracts per FTES	Other E& G Revenue per FTES	Total E&G Revenue per FTES
Average All Research I Universities	31.0%	16.4%	3.5%	37.5%	5.3%	6.7%	100.0%
Pennsylvania State Univ.	16.1%	37.3%	5.1%	20.5%	12.9%	8.1%	100.0%
Univ. of Colorado Boulder	11.5%	38.2%	0.3%	40.1%	4.4%	5.5%	100.0%
Univ. of Michigan	17.7%	25.1%	11.7%	37.8%	3.0%	4.7%	100.0%
Univ. of North Carolina Chapel Hill	32.2%	12.9%	4.2%	39.9%	5.3%	5.5%	100.0%
Univ. of Virginia	17.0%	21.0%	19.8%	31.5%	7.4%	3.3%	100.0%
Univ. of Washington	16.9%	14.8%	4.9%	45.9%	6.9%	10.7%	100.0%
Univ. of Wisconsin Madison	24.5%	15.4%	0.7%	35.7%	11.5%	12.2%	100.0%

Source: National Center for Education Statistics, NCHEMS NCES Finance Data Set.
Notes: E & G revenues exclude revenues for auxiliary enterprises and hospitals. FTES are calculated as full-time headcount plus one-third of part-time students

Table 4 Selected Major U.S. Public Research Universities (Research I), Education and General (E & G) Revenues per Full-time Equivalent Student (FTES), Change in Shares of Revenues per FTES for Major Revenue Categories from 1993-94 to 2002-2003

	State and Local Appropriations	Tuition and Fees per FTES	Endowment Income per FTES	Government Grants & Contracts per FTES	Private Gifts, Grants & Contracts per FTES	Other E& G Revenue per FTES
Average All Research I Universities	-4.3%	-1.3%	2.4%	11.6%	-2.9%	-5.2%
Pennsylvania State Univ.	-9.0%	4.3%	3.5%	-5.2%	4.1%	2.2%
Univ. of Colorado Boulder	-4.1%	0.8%	0.2%	7.1%	-1.6%	-2.4%
Univ. of Michigan	-5.3%	-5.9%	10.2%	9.7%	-5.1%	-3.6%
Univ. of North Carolina Chapel Hill	-10.1%	1.6%	2.4%	8.1%	-4.2%	2.3%
Univ. of Virginia	-7.8%	-7.0%	14.9%	8.3%	-8.5%	0.1%
Univ. of Washington	-10.1%	-1.3%	4.1%	6.4%	-0.8%	1.7%
Univ. of Wisconsin Madison	-9.7%	-0.7%	0.0%	9.7%	-0.9%	1.6%

Source: National Center for Education Statistics, NCHEMS NCES Finance Data Set.
Notes: E & G revenues exclude revenues for auxiliary enterprises and hospitals. FTES are calculated as full-time headcount plus one-third of part-time students.