

Excerpt [pp. 658-662] from Paul E. Lingenfelter "The Financing of Public Colleges and Universities in the United States." in *Handbook of Research in Education Finance and Policy*, Helen F. Ladd and Edward B. Fiske, editors. Sponsored by the American Education Finance Association. Routledge: New York and London, 2008

## **Budgeting for Higher Education: An Art, Not a Science**

Budgeting for higher education, at the state level and even at the institutional level, is complicated and difficult. No other conclusion can explain the variety of approaches employed and the continuous search for a better way. Why is it so difficult?

First, the fundamental mission of higher education--advancing, transmitting, and applying knowledge--knows no bounds. Howard Bowen's (1980) famous "revenue theory of costs," that institutions raise and spend all the money they can, is less a description of insatiable gluttony than of expansive aspirations. Bowen contends that non-profit institutions of higher education endeavor to maximize prestige-enhancing activities rather than profit-maximizing ones. For-profit institutions, where shareholders demand financial returns, act as traditional profit maximizing firms.<sup>1</sup> That is, they also will pursue all the marginally productive dollars the market will provide and spend them on programs that yield higher returns. While variation in wealth and the ability to attract revenues is substantial, even among institutions with similar missions, every institution, for profit or non-profit, public or private, will raise all the revenue it can.

Second, the many facets of institutional missions are interdependent in fundamental ways and separable in others. Research and instruction can be separated, but not entirely. The budgets for academic departments may be determined by the revenues they generate (commonly known as "every tub on its own bottom" budgeting), but the inflexible application of this principle leads to the starvation of essential disciplines (such as philosophy) which may be less favored in the current marketplace (Froomkin, 1990). Cross-subsidization, based on values, judgments, and politics, has proven unavoidable, even desirable.

Third, the cost structure of the enterprise varies enormously among disciplines, purposes, and functions (Wellman, 2006). Instruction becomes progressively more expensive (by several orders of magnitude) as students advance from lower-division undergraduate courses to doctoral study.

---

<sup>1</sup> For discussions of "prestige maximization" please see [The Costs of Higher Education](#) (1980) by Howard Bowen and [Academic Capitalism](#) (1997) by Sheila Slaughter and Larry Leslie.

Instruction in the lab and in clinical practice settings requires costly equipment and individualized attention, which make it much more expensive than instruction by lecture. Economies of scale are possible at large institutions or in high demand courses, but individual and social goals often require less efficient, small institutions (in rural areas, for example) and small enrollment programs. The many ways such variation can be aggregated at the institutional level (as well as differences in revenue generating capacity) have produced great differences among institutions in per student costs.

Fourth, the principal institutional characteristics used as proxies for quality in higher education – prestigious faculty and highly selective student admissions – are pervasively associated with higher spending. “Quality” institutions (as identified by various ranking schemes) tend to have small classes, higher faculty salaries, heavy commitments to research and graduate education, comfortable facilities, access to advanced technology, and other amenities for students and faculty. The characteristics associated with quality, coupled with the “revenue theory of costs,” generate an endless spiral of budgetary demands.

Fifth, the growing importance of a quality higher education to individuals has increased student demand and willingness (among those who can afford it) to pay more. Higher education is now a sellers’ market in which institutions compete for relative market position, more so than absolute market share, by enhancing quality and the amenities needed to attract stronger students. Where enrollment demand permits, prices are frequently raised. Institutional costs have also been increasing faster than the CPI because per capita incomes and competitive compensation in a labor intensive industry have grown faster than the CPI.<sup>2</sup>

These five factors have made it very difficult for public budget makers to know what is “enough” money for higher education and how to allocate those funds among different institutions and purposes. “More” is unfailingly the request, and a “fair” allocation is imperative; but more is never enough,

---

<sup>2</sup> Baumol and Bowen’s analysis of the difficulty of productivity gains in labor-intensive enterprises such as higher education is valid, but it has been extended too far by those who argue productivity gains in education are impossible. The amount of cost variation among institutions and results from recent applications of technology in instruction suggest real productivity gains are feasible, even if these factors limit the extent.

and fair varies in the eyes of different beholders.<sup>3</sup> (Wildavsky (1964), and Lingenfelter (1974.)

Two basic techniques – formula budgeting (usually based on some form of cost analysis) and base plus/minus budgeting – have been employed to address these problems in state and system budgeting. Although institutional budget procedures may be less formally structured, formula and base budgeting techniques are also commonly used within institutions. Both approaches have their advantages and limits, and, in some respects, both must be employed to obtain good results. They also have many variations, two of which, performance funding and contracts for service, also are discussed below.

### **Formula Budgeting with Cost Analysis.**

For more than fifty years, many states have used formulas which seek to establish “adequacy,” that is, what the budget “should” be based on external standards. These standards have been determined by examining actual costs, funding levels at “peer” institutions, or analytically developed standards for faculty workloads, building operations, libraries, administrative support, etc. Budgeting formulas typically base funding primarily on enrollments and the amount of space occupied, possibly (but not always) with variation depending on the level of enrollment (undergraduate lower division, upper division, and graduate) and the cost of instruction in different disciplines (McKeown-Moak, 2001).

Formula budgeting is predictable, it is generally perceived as fair, and it usually responds to changes in workload quantity and program mix. Many policymakers also consider its “automatic” features (the provision of more or less funding based on changes in workload, space occupied, or programs offered) an advantage, because these features reduce the transaction costs of decision-making from year to year. But formula budgeting’s “automatic” features can be a problem. Formulas inevitably limit the number of factors considered in budgeting, which can provide incentives for dysfunctional behavior such as excessive marketing for student enrollment growth,

---

<sup>3</sup> Aaron Wildavsky’s classic *The Politics of the Budgetary Process* and his subsequent research documented the power of inertia in budgeting. The author’s 1974 dissertation research examined ten years of budgetary decisions in Illinois, Michigan, and Wisconsin, and found that in each state previous decisions could predict nearly all (>97 percent) of the variance in annual appropriations to individual institutions.

reduction of academic standards, mission creep, and so on.<sup>4</sup> (Shulock and Moore, 2007) Also, when enrollments decline or grow more rapidly than available revenues, the “automatic” elements of formulas become a problem for budget predictability. In the end, virtually every formula budgeting state has made significant “non-formula” budget allocations to address “non-formula” (perhaps political) priorities.

Formula budgeting also fails to encourage gains in quality and productivity, unless such measures are added to the formula in some way. But the more formulas attempt to account for complex goals and conditions, the more they become unwieldy, incomprehensible, and mistrusted. Finally, no formula really resolves the adequacy of funding question, even when based on peer institutions or rationalistic analysis of workload, staffing, and space requirements. Many formulas purporting to establish “adequacy” have been persistently funded at some fraction of the “adequate” amount. Then the formula becomes a straitjacket on the budget process; no discussion of priorities and issues is possible because “there is no money.” When formulas are persistently “unfunded,” decision-makers eventually will not pay serious attention to the formula “requirements” for the bottom line.<sup>5</sup>

### **Base Plus/Minus Budgeting.**

The starting point for base plus/minus budgeting is funding in the current year. This approach is simpler and more transparent than formula budgeting, because all changes (the pluses and minuses)—inflation, salary increases, program improvements, productivity gains or reallocation, changes in workload, etc.—are visible and justified on some basis. Base plus/minus budgeting is entirely flexible in the issues it addresses and the methods it uses. Everything is on the table or can be put there.

---

<sup>4</sup> *Rules of the Game: How State Policy Creates Barriers to Student Completion and Impedes Student Success in California’s Community Colleges* provides an extensive discussion of dysfunctional incentives in the budget formulas of California’s community college system.

<sup>5</sup> C. Warren Neel’s transmittal memorandum for “Measuring Performance in Higher Education,” a joint study of Tennessee’s Comptroller of the Treasury, Office of Legislative Budget Analysis, and Division of Budget and Department of Finance and Administration, (February 2001) illustrates this tendency in a state noted for its sophisticated budget formulas: [The Tennessee higher education budget] “formula has not been fully funded for thirteen years and this year the gap is \$102 million.”

At its worse, base plus/minus budgeting perpetuates the status quo. Past decisions have great, perhaps undue weight, and the budget process may be inadequately responsive to quality issues, inequities, or changes in workload and priorities.

The flexibility of base plus/minus budgeting is an asset, but to work well this approach requires continuous analysis and negotiation of need, quality, productivity, and "fairness" issues, the questions formula budgeting seeks to resolve mechanistically. Consequently, base plus/minus budgeting can be more of a decision-making burden—and an occasion for attracting political heat—than some decision-makers can tolerate. This is why formulas were invented. In base-plus budgeting the decision-makers are more explicitly people, not a disembodied, pre-negotiated formula.

Finally, base plus/minus budgeting *also* has no direct way to address the question of adequacy. It can use external reference points (just like formula budgeting), but base plus/minus budgeting may be less credible than an explicit formula, even one that is flimsy in substance. These limits of formula and base budgeting and the desire to achieve better outcomes from higher education have led to many experiments, including performance funding and "contracts" between states and institutions which are briefly considered below.

### **Performance Funding.**

Performance funding explicitly allocates some portion of an entity's budget based on past performance. It focuses attention on outcomes, provides incentives for improvement, and rewards high or improving performance. It is difficult to argue with popular slogans offered for performance funding: "You get what you measure," and "Money changes behavior, and a lot of money changes a lot of behavior!" Many policy makers have found these approaches very attractive, and performance funding has been advocated as a means of increasing political and financial support for higher education. (Burke, 1998 and 2002)

Performance funding is related to an earlier budget tradition of PPBS (program planning/budgeting systems) intended to guide rational resource allocations based on program goals, the evaluation of program effectiveness, and subsequent allocations of resources to the most cost-effective programs. Because performance funding is formula budgeting with an explicit allocation tied to performance outcomes, it shares the advantages and disadvantages of formula budgeting. But the disadvantages are amplified. Performance funding tends to have a high transaction and negotiating costs, because the stakes are high and indicators and measurement techniques are debatable.

If substantial amounts of money are tied to performance, the systems tend to be politically unsustainable. Why? When the stakes are high, financial stability is put at risk, lower performing institutions are denied resources they may need to improve, and higher performing institutions are likely to become less efficient because they receive budget increases based on already established levels of performance. If a small fraction of the budget is involved, the stakes may be too small to have the desired effect.

After witnessing its popularity grow and then recede, Joseph Burke<sup>6</sup>, who has written extensively and sympathetically about the performance funding movement, concluded that performance funding is more useful and feasible for budgeting purposes at the institutional level than the state level. (Burke, 2005)

### **Contracts for Services**

A few states have recently employed yet another budgeting innovation -- a contract for services between a higher education institution and the state<sup>7</sup> -- purportedly as a means of improving accountability while reducing direct regulation. This approach focuses attention on outcomes and provides incentives for improving performance or meeting explicit state priorities, such as expanding degree production in high demand fields, greater minority participation and success, etc.

The contract for services approach has the great benefit of establishing mutual goals, but some of its drawbacks are obvious. First, a "contract" between an institution and the state for core functions is not the same as an enforceable contract for a specific task or service. Neither the state nor the institution is truly a free agent with viable options. State and public institutional contracts are like agreements between parents and children. Due to dependency and commitment, breaking the relationship or turning to another vendor is not an option. Second, contracts also tend to have high transaction costs with extensive negotiations, lots of fine print, and compliance reviews. Such an approach is hardly likely to reduce bureaucracy. Finally, like all other approaches, contracts do not resolve tension over adequacy (Breneman, 2005)

### **Intelligent Eclecticism.**

---

<sup>6</sup> Former institutional president and system provost in the State University of New York System.

<sup>7</sup> As an example, please see the Colorado Commission on Higher Education's website: [www.state.co.us/cche/cof/ffs/index.html](http://www.state.co.us/cche/cof/ffs/index.html). [no longer available]

Each of these approaches to higher education budgeting addresses an important issue, but they all fail to solve the fundamental question of adequacy, and each tends to fall short on one or more essential requirements – continuity, equity, responsive to changing conditions, and efficiency. On the question of adequacy, for example, a recent analysis at the National Center for Higher Education Management Systems (Jones & Kelly, 2005), has found wide variation among the states in spending per student and degree production, and a very small correlation between these variables. While the amount of money available is obviously relevant, the mix of institutions in the system, student characteristics and preparation, and how money is used within institutions appear to be even more important.

Although some decision-makers persistently seek a higher education budgeting system that can run on “automatic pilot,” effective budgeting requires analysis, engagement, adaptation, and negotiation over ends, means, and values. Cost-analysis, at the core of formula budgeting, is required for fairness and efficiency. The assessment of performance is essential for improving results. Continuity and predictability are necessary for good management. And the effectiveness of the entire system requires institutions and states to agree on common purposes, to develop straightforward, transparent approaches for allocating resources to priorities, and to avoid perverse incentives.

The most important question about budgeting procedures is whether they contribute to progress toward high priority educational goals. A thoughtful, eclectic approach drawing on all of these traditions is most likely to be successful.