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OUTCOMES-BASED FUNDING IN HISTORICAL AND COMPARATIVE CONTEXT*

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Abstract

With the advent of outcomes-based funding policies, state policymakers are increasingly committed to basing public college and university funding on how institutions perform on valued measures such as program progress and degree completion. This rising emphasis is considered here in the historical context of three earlier state funding approaches: "base-plus" approaches, enrollment-based formula-funding approaches, and early performance-based funding approaches. After detailed reviews of these funding approaches and the newer outcomes-based approach, the four models' respective strengths and weaknesses are reviewed comparatively. This paper then identifies some central conclusions for policymakers in this arena

Outcomes-Based Funding in Historical and Comparative Context

Perhaps more than ever before, the funding of state higher education systems and institutions is in the spotlight. In recent years, state policymakers have ramped up their attention to the efficiency and effectiveness of their states' public colleges and universities. Of particular concern has been a simple question: What is gained and what is risked in moving to outcomes-based funding approaches? Many states are taking a broad view of this question, seeking to ensure that their funding systems support a wide variety of state priorities beyond simple enrollment growth.

Improving postsecondary access has been a policy priority federally and in the states since the 1960s, and national progress on that front cannot be disputed. In virtually every state, post-secondary attendance rates have risen among all socioeconomic groups, but the opportunity to attend a college or university means little if it does not lead to academic success. The focus on enrollment was not accompanied by a similar focus on students' academic progress, program persistence, completion, overall educational attainment, and entry into the labor market. What is more, troubling academic outcome gaps remain among different student groups, with low-income and minority students often having lower attainment levels than more affluent and non-minority peers. In recent years, the nation's global leadership in educational attainment has dissipated, and policymaker focus has increasingly turned squarely to what happens once students arrive on college campuses (Perna and Finney, 2014).

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In many states, this emphasis on making institutions and systems more accountable for their quality has prompted the adoption of outcomes-based funding models, some of which put virtually all direct state funding for institutions at stake. In others, such models are being studied intently, and additional adoptions are very likely. **Starting around 2008, a few states-Indiana, Ohio and Tennessee-began to shift towards an outcomes-based funding formula. Since then, several other states have explored or begun to implement such funding approaches.** Outcomes-based funding models are not a revolutionary policy development in higher education. But both the

breadth of the recent reforms and the accelerating pace of their adoption are striking. These emerging developments are clearly transforming established relationships between state governments and their public colleges and universities.

Placing these developments in historical context is important. State concerns over postsecondary quality amplified as the prosperity of the late 1990s ended and the economy sank into stasis and then deep recession. Public higher education budgets took particularly hard hits, in part because those budgets offered lawmakers more fiscal and political discretion in recessionary times than those in elementary and secondary education, welfare, transportation, law enforcement and health care (Delaney and Doyle, 2011). Since 2000, accountability-driven reasoning has risen to the forefront in virtually every state's educational policymaking. This rising state attention to postsecondary quality has been fueled by financial constraints and increasing scrutiny at the federal level. The Bush administration controversially raised the prospect of intensified federal quality control in higher education (U.S. Department of Education, 2006), and the stakes have risen further as the Obama administration moves toward implementing a college ratings system with financial penalties for poor performers (Shear, 2014).

Throughout this period, overall enrollment rates have remained strong. For most families, the attraction of pursuing and obtaining a degree remains palpable. Still, the larger public's faith in the costs and returns of higher education attendance has begun to decline (Pew, 2011), and higher education systems find themselves in a vortex, facing a difficult "new normal" context of powerful public expectations versus strained state and federal support (Reindl and Brower, 2001).

There is little sign that these trends will abate anytime soon. State policymakers have begun collaborating with their institutions toward workable resolutions of the tensions inherent in "doing more with less." The goal is more directly connecting states' fiscal policies to the pressing needs for greater efficiency, greater affordability and greater opportunities for student persistence and success. Pursuing these outcomes could imply unprecedented policymaker attention to campus operations, sometimes challenging the historic autonomy of state systems and institutions.

Funding systems are the major lever available to state policymakers in higher education. Astute leaders are seeking to use well-designed incentives to ensure that public institutions deliver on their promises to people from all backgrounds, even in this challenging fiscal environment. Rising enrollments are laudable, but they are only as valuable as their implications for the quality of students' subsequent educational and working lives.

Designing and implementing funding reforms that improve postsecondary quality without endangering what is already working well on campuses is not easy. This paper focuses on the direct allocations that states provide to public institutions for their educational operations. Of course, effective state policymaking for postsecondary education requires attention to other

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factors, including student financial aid, structural differentiation (e.g., using community colleges as dominant postsecondary entry points) and tuition levels. Nonetheless, core operational appropriations are the key aspect of the states' commitment to higher education, both philosophically and proportionally, and merit sustained scrutiny.

States have more than two centuries of experience providing core funding to institutions. The increasing attention to postsecondary outcomes can address some limitations of earlier funding models, but outcomes-based models also can raise significant tensions. This paper reviews the emerging outcomes-centered approach to state funding in the context of its three predecessors, noting the rationales, strengths, risks and potential impacts associated with each, with particular attention paid to the models' respective influences on outcomes. The paper closes with a discussion of some caveats and trade-offs among the policy approaches.

Three Traditional Approaches to Funding Public Higher Education

For the years prior to 2000, we can identify three reasonably distinct approaches to state subsidies of colleges and universities: *base-plus funding*, providing annual or bi-annual increments over an established base; *enrollment-based formula funding*; and early versions of *performance-centered funding*. These approaches are considered here in their chronological order of emergence.

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It is important to note that each state employs a distinctive mix of approaches, and aspects of each of these approaches remain in place across the states even as the outcomes-oriented approach spreads. In fact, each state's funding approach reflects strategic choices tailored not just to that state's unique context, but also to its political compromises (a "negotiated order") and its historical artifacts and flukes. No state is identical to another in any respect; and, indeed, there are notable variations in individual states' allegiance to particular approaches as well as their implementations of a given approach. One state's enrollment or performance-based model usually differs quite significantly from another's version of the same general model.

With that caveat in mind, the history of core state funding is still richly instructive. All states show the vestiges of the historical emergence of the various approaches. As a seeming national consensus builds around outcomes-based approaches, it is important to step back to review comparatively the rationales, strengths and weaknesses attached to the dominant state funding approaches—and, thus, what is being gained and lost in the outcomes-oriented choices that are increasingly being made.

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Base-Plus Funding. From the nation's earliest years through the 1970s, most decisions about how to allocate funding to public higher education were made starting from an established base in annual or bi-annual budgets. Year-to-year, policymakers increased (or cut) funding against that base by some set amount. For example, a state's community college system might receive a 3 percent increase over the previous year, while the flagship institution might receive a 2 percent increase.

A particular institution or system's base-funding amount would be rooted in discussions between policymakers and leaders over what was needed to continue its financial health and educational effectiveness. Beyond these interactions, changes in costs (e.g., going rates for faculty, costs for facilities) and state revenues normally would help drive allocations, albeit in largely non-formulaic ways. Increases were commonly standardized across multiple institutions. Shifts in the relative allocations for different systems and institutions did occur, however, in line with shifts in interest-group power, stakeholder preferences and emerging special considerations, such as the launch of new degree programming or campuses.

Policymaker attention to higher education rose and fell over time, but a more passive approach by policymakers was typical in most states in most years. Occasionally, "policy windows" opened, bringing higher education issues to policymaker and public attention (e.g., during the McCarthy and Sputnik eras in the 1950s). But in those cases, attention tended to focus on specific topical issues rather than longer-term strategic goals. Thus, the base-plus funding context featured annual or bi-annual adjustments at the margins to established ways of doing business.

Under base-plus funding, public institutions could expect a "core" or "base" level of funding that was subject to shifts depending on developments in their larger educational, economic or political contexts. The base-plus approach offered several advantages to states in the limited-access, limited-size contexts of higher education prior to the 1950s. The administrative costs of the decision-making system were low. Ongoing and systematic analysis of data on enrollments, economic conditions, demographic trends and labor markets was largely unnecessary. Also, base-plus systems typically provided institutions with significant spending discretion within their allocated amounts.

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Base-plus funding models cannot be viewed as strategic, however. That is, such approaches tend to be insensitive (or slowly responsive) to shifts in circumstances and shifts in missions and priorities at the state, system and institutional levels. In addition, such models tend to connect only indirectly and inconsistently to institutional differences and similarities. For example, while two similarly sized community colleges might be expected to receive similar levels of state funding, that determination is by no means assured under a system subject to substantial year-to-year political maneuvering. Further, what is enough to cover changing costs for one college within a system might not be enough for another experiencing greater growth—system-wide blanket increments cannot reflect emerging market conditions on individual campuses.

These problems with base-plus funding may be exacerbated when a state has neither a central governing board for higher education nor an empowered coordinating board. When a state's institutional allocations go to system offices, rather than to individual institutions, professionalized staff can implement strategic analysis of different budget scenarios and options. In the absence of such mediating governance arrangements, however, base-plus approaches can potentially contribute to budgetary instability, insensitive targeting and ineffectiveness.

Enrollment-Based Formula Funding. Several developments after World War II raised questions about the traditional base-plus funding approach. First, enrollments swelled as the federal G.I. Bill subsidized the enrollment of unprecedented numbers of students, as the postwar generation came of age, and as inequality in educational and economic opportunity became growing national concerns. With increased enrollments came significant new managerial challenges. Second, the expansion of higher education and its growing centrality in people's lives prompted a need for tough policy choices regarding the goals, governance, subsidization and pricing of the postsecondary enterprise. Third, the federal government's wartime experience contributed to growing national expertise in operations research and large-scale organizational planning, which in turn brought a management-systems revolution to other branches of government, to American business and to nonprofit organizations. This new analytic capability increasingly focused on rationalizing bureaucratic systems in the interest of improving efficiency and predictability through the use of quantitative methods. In its turn, the analytic revolution contributed to more sophisticated design ideas for funding higher education (Hearn and Lough, 2001).

States reorganized the governance of higher education systems with an eye toward establishing not only more efficient managerial and financing approaches but also more effective planning and oversight in accordance with state priorities. Many argued that the growth and systematization of state higher education funding needed to be accompanied by greater public accountability (Morgan, 1984; Hearn and Griswold, 1994). In funding, the result was "formula funding." In essence, formula funding imposed a more transparent and publicly defensible form of base funding. Although formulas can be extraordinarily complex, the major driver in allocations is the operational cost of serving students. That is, the primary determinants of a given system or institution's state allocation are the costs associated directly with instruction, student services and the administration of academic programs. Beyond these factors, formulas can allocate additional funding based on the costs of offering public service, research activities and student scholarships (SRI International, 2012).

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The new formulas did not usually appreciably threaten institutions' historically useful levels of autonomy in spending state money, but the formulas (and the accompanying improvements in data-gathering and analysis) did bring greater predictability, stability and transparency to budgeting processes. Policymakers also gained knowledge through the new funding models' highlighting of costs at the student level and their facilitation of

cost comparisons among current and aspirational peer institutions. As McKeown-Moak (1999, p. 103) has noted, well-designed formulas can reduce political competition and lobbying, increase objectivity, simplify and clarify allocation decisions, facilitate planning, balance accountability and institutional autonomy and promote efficiency.

Formula funding emerged in concert with the massive "baby boom" in the United States, as well as with the nation's growing attention to educational inequality. By keying on enrollment numbers, allocations under the new formulas directly served state goals of improving access, raising increased access to the most prominent place in funding criteria.

In some ways, policymakers got exactly what they wanted with the advent of this funding approach: Coinciding with the ascendance of enrollment-driven funding have been remarkable rises in postsecondary attendance in the United States. It is far harder to discern a parallel rise in postsecondary graduation and certification rates, however. Basing funding on enrollments and their associated costs downplays some other potential criteria, such as students' progress toward their academic goals. Of course, other factors intersect with progress and completion patterns, including national and state trends in student-aid funding, but the implication is clear: Incentives for access can spur enrollment, while the absence of incentives predictably can leave completion rates relatively unchanged.

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It should also be noted that allocations under the new formulas were never meant to be "objective" in any absolute sense. The formulas could help buttress equity across institutions and systems by removing rationally inexplicable discrepancies in funding levels, but any formula in the end reflects political choice. That is, despite efforts to tie subsidies to costs, formulas inevitably required putting subjective judgments in mathematical terms (Meisinger, 1976).

Further, like base-plus funding, enrollment-driven formulas cannot be considered strategic. Longstanding inequities in funding may be perpetuated owing to the formulas' typical reliance on historical assumptions and cost data. Institutions' missions and profiles may shift and vary more than their formula allocations. And, as McKeown-Moak (1999, p. 103) has noted, formulas "may be used to reduce all academic programs to a common level of mediocrity by funding each one equally because quantitative measures cannot assess the quality of the program." Also, while formulas may neatly address changes in actual market demand for established programs, they may do a weaker job in anticipating and responding in a timely fashion to emerging changes in social, demographic and economic conditions surrounding individual institutions and thus to emerging needs for new programs on individual campuses. Such problems can harm students' prospects for success.

What is more, the pursuit of increased rationality through formulas comes at a price. Gathering appropriate data and administering allocation processes can be costly and complex, especially to the extent that, each year, some allocations inevitably need to be adjusted to reflect enrollment "bulges," economic recessions, fixed costs at smaller institutions, special programs specific to individual institutions, and so forth. As one example of special circumstances, it is statistically given that an "average-cost" formula (one that funds institutions based on the prior year's average cost per student

credit-hour) tends to provide "bonus" funds to institutions when enrollments are expanding, as institutions can spread their fixed costs over more credit hours/students/graduates; but when enrollments are declining, the same funding formula penalizes institutions beyond their cost savings. In such circumstances, institutions' calls for relief may need to be heard and answered. Thus, the yearly bonuses and penalties produced under cost-driven formulas may be unrelated to strategic goals, or even to institutional performance or emerging cost patterns, so they may demand special adjustments.

The initial rationalist appeal of formulas waned somewhat over time as their complexity and inadequacies became increasingly apparent. Arguably, formulas became more difficult to justify inside higher education and more difficult to explain to outsiders. As McKeown-Moak (1999, p. 107) concluded: "Formulas will never solve the resource allocation problems in higher education. Formulas cannot recognize the full range of objective and subjective differences among institutions and neither can they anticipate changes in the missions of institutions… Formulas, when properly designed, do provide an objective allocation mechanism that can provide more equity and independent funding of each institution without the power plays and patronage that inevitably characterize such allocation decisions."

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Early Versions of Performance Funding. Over the course of the 1980s and 1990s, as the problems of relying heavily on enrollment-driven formulas became more apparent, many states began incorporating new performance-based elements into their allocation procedures. Attention shifted somewhat from the costs attached to securing and employing institutional resources (notably, the costs associated with delivering education coursework to undergraduates) to the actual performance of institutions in using those resources. Increasing numbers of state policymakers sought to encourage institutional behavior that fostered improved performance. New incentives were designed to link campus funding levels to performance in such areas as student graduation rates, undergraduate access, measures of institutional efficiency, job placement rates, faculty productivity and campus diversity. By linking funding to performance, policymakers sought to establish "accountability with teeth" (Ruppert, 1998, p. 3).

It is important to bear in mind that the new attention to performance produced simply a new form of formula funding, not a wholesale retreat from it. Most performance funding models were designed to supplement traditional formulas, essentially by providing some bonus funds at the margins of the larger, usually enrollment-driven core allocations. As usually defined, performance funding began in Tennessee in 1979. From there, it gradually spread into other Southern states, then into the Midwest and nationally. At least 20 states, and arguably as many as 30, had some sort of performance-funding model in place by 2000. The exact number is a matter of definition, because these models varied widely in levels of investment (e.g., Minnesota had a program in place but provided no funds for it) and areas of emphasis. All of these performance-based models included state incentives for work toward certain valued goals, such as enrollment growth among lower-income students, but these

models usually provided no more than 10 percent of a state's total allocations. (The exception was South Carolina, which tried for a few years to implement a much more expansive model, ultimately failing due to poor design and implementation.) State funding allocations thus continued largely as before, i.e., largely focused on inputs and production-process costs, but now including financial adjustments at the margins for certain institutional accomplishments.

Clearly, states' growing attention to measuring and rewarding college and university performance reflected significant progress in conceptions of accountability in this arena. Importantly, though, these new performance-funding approaches did not always consider the perspectives of all stakeholders in model design, were often not sufficiently differentiated by institutional missions, and often suffered from data inadequate for the task (Zumeta, 2001; Burke, 2005). Also, the models were not appreciably more strategic than earlier base-plus and enrollment-driven allocation approaches—state needs and returns on investments were not central elements in these processes (Ewell and Jones, 1994). As Daniel Layzell argued in 1999, a fundamental limitation of early versions of performance funding policies was their confusion of inputs and processes with outcomes—for example, data on faculty instructional workloads say nothing about instructional outcomes, or more broadly, about student outcomes.

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Not surprisingly, given their typical place outside of the main funding formulas in the states, state political and fiscal support for early versions of performance funding waned in the face of recessionary pressures, statutory and organizational difficulties in implementing and maintaining data-intensive models, as well as a growing realization that there was only limited evidence supporting performance models as a cost-effective lever for ratcheting up institutional performance (Shin, 2010; Schmidt, 2002; Dougherty and Natow, 2009). By Harnisch's (2011) count, 14 of the 27 performance-funding programs established before 2000 were eventually terminated.

The programmatic and fiscal retreat continued in some places even in the face of tentative supportive evidence (Albright, 2009). In retrospect, the conclusions indicating success appear to have been somewhat premature. The evidence of early performance-funding models' positive effects on student outcomes remains limited. Dougherty and Reddy (2013) reviewed a number of studies in Florida, Washington, South Carolina, Pennsylvania, Tennessee, Missouri and Ohio that reported positive influences on graduation numbers and rates. They conclude that these studies were far from definitive, noting that "careful multivariate studies with extensive controls have largely not found strong evidence that performance funding significantly affects graduation numbers and rates" (p. 55), and finding a similar lack of solid evidence for positive effects on retention rates and remedial education completion rates. Bell (2005) reached similar conclusions, as have a number of sophisticated quantitative analyses by Tandberg and Hillman and their colleagues (Tandberg and Hillman, 2014; Hillman, Tandberg and Gross, 2014; Tandberg, Hillman and Barakat, 2014). The various Tandberg and Hillman studies have uncovered few or no positive impacts on bachelor's degree completions

and some negative impacts on associate degree completions from performance programs in place for suitably long periods.

There is more promising evidence of improvements at the institutional level from early performance-funding models. Several analyses of earlier performance models suggest that these models raised campus awareness both of state goals and priorities (Burke and Associates, 2002; Dougherty and Reddy, 2013) and of institutional performance (Dougherty and Hong, 2006). Also, as Dougherty and Reddy (2013) have noted, early versions of performance funding succeeded in increasing competition among institutions, building capacity for organizational learning, altering academic policies, programs and practices (e.g., changing curricula, restructuring units, reforming staffing practices), changing developmental educational and academic support practices and shifting student services approaches on campuses (e.g., streamlining registration processes, improving financial aid practices). All told, there are indications that the models were helping to increase transparency, accountability and productivity (Harnisch, 2011).

Thus, as of now, the evidence for positive returns to states' investments in early performance-funding systems remains mixed, with stronger suggestions of favorable institutional effects than of favorable effects on students themselves. Two caveats should be stressed, however. First, as noted earlier, there was extraordinary variation in states' implementation of performance funding over the 1980s and 1990s, and that variation severely limits analysts' ability to perform sophisticated across-state analyses. There was no consistent, identifiable "treatment": The levels and targets of investment differed enormously across states and across time, posing a difficult methodological challenge. Second, these studies examine states' early performance-funding approaches, not their contemporary descendant, the more assertively outcomes-focused approach. Inferences regarding the newer, more intensive outcomes-centered approaches should be drawn only with great caution.

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The Emergence of Outcomes-Based Funding

After earlier experience with rapid expansion followed often by retreat, policymakers have begun in recent years to push for reshaped forms of performance funding, focusing more intently on outcomes (McLendon and Hearn, 2013). Spurred in part by Lumina Foundation's funding of quality improvement efforts in several states ("Performance Funding 2.0," 2008), newer outcomes-based approaches center around what Harnisch (2011, p. 2) has called "a shift from state inputs to campus outcomes, and from institutional needs to state priorities."

As Albright (2009) has observed, the outcomes-focused funding prominently on display in such states as Ohio and Tennessee is distinctive from earlier versions of performance funding in several ways:

- Increased focus on completion and, particularly, course completion rates and numbers, program retention rates and numbers, timely program progression, and graduation rates and numbers;
- Increased attention to stakeholder perspectives in determining state goals, institutional missions (and mission differentiation), institutional goals and missions, and the expectations and values of academic leaders and faculty;
- Increased proportions of state allocations determined by performance, compared with earlier performance approaches: up to 25 percent or even as much as 100 percent by some definitions in some states;

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- Slowed implementation of new funding policies, via phase-in, hold-harmless or stop-loss provisions[1] and via multi-year averaging, instead of the abrupt transition adopted in some earlier versions;
- Greater attention to progress, not just absolute targets, thereby encouraging steady academic progress and smooth articulation and transfer as well as ultimate college completions;
- Increased funding rewards for improved enrollments and success of lower-income students, students of color and "non-traditional" students;
- Greater attention in aligning rewards with specific work-force and economic-development needs, such as job placement in high-priority science, technology, engineering and mathematics (commonly known as STEM) fields;
- Greater emphasis on preserving and improving academic quality through expanded measures of student learning (e.g., licensure passage rates); and
- Simplified metrics, avoiding to the extent possible the complexity that bedeviled earlier versions of performance funding.

Viewed as a whole, the newer approaches emphasize the production of improved student outcomes in valued areas while de-emphasizing earlier models' rewarding of such cost and input accomplishments as raw enrollment growth or improved faculty/student ratios.

Of course, rhetorical emphasis is not always easily translated into effective implementation. (The measurement of student learning remains a major operational challenge, for example.) Also, it should be stressed that chronological newness does not always imply conceptual newness. While Ohio and Tennessee are certainly pursuing conceptually new versions of the outcomes-based approach, the neighboring states of Michigan and Missouri and others are not embedding outcomes-based funding in

[1] *Stop-loss provisions limit financial losses to a certain amount.*

their new efforts. In addition, at least 10 states with programs established since 2008 tie no more than 5 percent of funding to performance—such low proportions were typical in earlier versions of performance funding. So numerous new outcomes-based policies still use only add-on funding, and many do not substantially tie funding to performance. A recent analysis of current outcomes-based funding efforts distinguished between various state funding policies across a number of measures (Snyder, 2015). This analysis shows that only a handful of states have robust outcomes-based funding systems, with significant and stable (base) funding, full institutional participation, differentiation by sector, and prioritization of both degree/credential completion and outcomes for underrepresented students.

Still, a new perspective is clearly taking hold nationally. Proponents of the new outcomes-based funding movement argue that it aims to closely align state goals with accurate and appropriate measures and well-designed incentives (Harnisch, 2011). Progress on such state goals as increasing the number of college graduates, improving program completion, stimulating state development in STEM fields and increasing educational attainment by minority or lower-income students can be assessed by examining overall and subgroup indicators for end-of-term enrollments, retention over programs' duration, timely degree progress via credit milestones, transfer success rates, graduation rates and numbers, high-need subject outcomes (e.g., in STEM fields) and the like. Incentives under the models provide significant funding for institutions performing well on these goal-driven measures of success.

As to the question of how well these new approaches are working in improving postsecondary educational performance, some intriguing hints are emerging. Albright (2009) notes that Tennessee's system appears to be having a measurable impact on student learning and that Ohio's earlier outcomes-focused Completion Challenge Program appears to have reduced significantly the median time to achieving a bachelor's degree. Recent comprehensive reviews and empirical analyses undertaken by Kevin Dougherty and colleagues (2013), however, indicate that it is too early for definitive conclusions. Strong empirical evidence for the effectiveness of the new outcomes-based approaches is simply not yet available.

Comparative Impact Analysis of the Four Approaches

Table 1 summarizes the four funding models for public higher education discussed above, while Table 2 highlights distinctive strengths and weaknesses of each. Below, these features are discussed in more detail.

Table 1. Funding Models for Public Higher Education

Funding Model and Description	Timing of Emergence	Drivers of Allocation	Disposition
Base-Plus • Incremental changes relative to a base amount • Decision by fiat by governors, legislators • No established formula	1800s	• Revenue growth • Politics • Cost indexes • Sectoral shifts	Decentralized: discretion at system, sector, institution levels
Enrollment-Based • Formula approach • Emphasis on professionalized planning, efficiency and predictability	Post-WWII years	• Primary: costs of educating students (instruction, student services, administration) • Secondary: public service, research, scholarships	Decentralized, but numerous line-item amendments emerged over time
Early Performance Funding • Small portion of funding (usually as a bonus) tied to specific indicators of performance	Late 1970s	• Primary in most states: enrollment costs • Secondary: performance	Increasingly pointed to valued formula components
Outcomes-Based • Substantial portion of or total allocation tied to performance on clearer metrics	2000	• Primary: performance on clearer, measurable metrics, with an increased focus on completion • Secondary: enrollment and other non-performance metrics	Pointed to valued state priorities

Table 2. Strengths and Weaknesses of Funding Models for Public Higher Education

Funding Model	Strengths	Weaknesses and Risks
Base-Plus	• Simplicity • Low administrative costs • Minimal data and analytic demands • Allowance for campus spending discretion	• Inattention to institutional differences and inefficiency • Threats to institutional equity • Vulnerability to politics • Year-to-year instability • Lack of strategic direction and control
Enrollment-Based	• Sensitivity to complexity and size • Reliance on data and analysis, with capability for more accurate forecasting • Attention to costs • Provision of organizational direction • Objectivity • Attention to inter-institutional equity • Routinization and predictability • Transparency (initially)	• Complexity • High administrative costs • Tendency to reward the continuation of established production models, even if inefficient • Focus on access at the expense of progress and completion • Insensitivity to changing markets, missions, environments, and state strategic priorities
Early Performance Funding	• Emphasis on goals and evaluation standards • Use of targeted incentives to influence behaviors	• Insensitivity to institutional differences, stakeholder perspectives/values, and state strategic priorities • Inter-institutional competition • Emphasis on means over the ends • Reliance on continuingly healthy state revenues
Outcomes-Based	• Connection to state strategic goals and to national priorities of student degree completion and job placement • Emphasis on evaluation standards, assessment, and measured goals (including student learning) • Centrality of outcomes rather than input or process goals • Integration of goals, measures, and targeted incentives to influence behaviors • Attention to simple, transparent model designs, efficiency and accountability • Focus on progress and completion rather than solely raw access • Gradual implementation	• Measurement challenges • Vulnerability to misestimating labor markets and thus creating mistimed incentives for students • Reliance on continuingly healthy state revenues

Among the strengths of *base-plus funding* are its simplicity; its low administrative costs; its minimal needs for data and analysis; and its accommodation of some institution-level spending discretion within allocated amounts. Among the approach's risks are its relative inattention to conditions at specific institutions (and thus its potential for creating inter-institution and inter-system inequities); its vulnerability to political influence; its inattention to inefficiencies (what makes a historically established given base amount an appropriate base amount?); its potential instability year-to-year; and its relative lack of strategic direction and control. In effect, this approach creates few incentives for institutions to align with state needs in educational capacity, innovation and student attainment. Each of these weaknesses can be exacerbated in states without effective, professionalized central governing mechanisms for higher education.

As many have observed (e.g., Ahumada, 1990; McKeown-Moak, 1999; Morgan, 1984), there are notable strengths and weaknesses in the *enrollment-based funding approach*. Among the strengths are its sensitivity to the complexity and size of modern higher education systems; its reliance on data and sophisticated management-analysis tools; its close attention to costs within and across systems; its capability for more accurate projections of enrollment and costs, its presentation and reinforcement of an organizational sense of direction; its stressing of objectivity; its attention to inter-institutional equity; its routinization and predictability; and its high levels of decision transparency across institutions and across time. Among the approach's risks are the complexity of the formulas; high data-gathering and administrative costs; its tendency to reward the continuation of established production models; its formalization of formula funding patterns that may not be sensitive to changing markets, missions and environments; and its potential for delayed, ad hoc, and slow and indirect connections to strategic priorities.

A particular weakness of enrollment-driven formulas is their potential creation of a disincentive for institutions encouraging their students to accelerate program progress and completion. By rewarding raw enrollment numbers rather than academic achievement, such formulas can promote access at the expense of efficient movement toward graduation. Under enrollment-based formulas, institutions are provided clear incentives to bring students in, but not to help students move along.

The *early versions of performance funding* brought several improvements in these domains. Among the strengths of this approach are its focus on identifying goals for higher education systems and the standards by which they might be evaluated; its employment of targeted incentives to influence system and institutional behaviors that otherwise might not shift; and, at least in most states, its maintenance of existing commitments to levels of formulaic core funding necessary for ongoing institutional operations. Among this approach's risks are its tendency to downplay differences in institutional missions and contexts; its spurring of inter-institutional competition; its tendency to emphasize means over the actual ends/goals of education; its frequent insensitivity to significant differences in stakeholder perspectives and values; its inattention to such strategic priorities as a state's economic development and return on investment; and its evident vulnerability to cuts under times of economic duress. Regarding the latter point, the continuing growth in state higher education funding in earlier decades may have underlain these models' tendency to rely on assumptions of continuing availability of "bonus" funds for providing incentives.

The *outcomes-based funding* approach aims to address these shortcomings in earlier versions of performance funding, and it is no surprise that it is gaining adherents across the states: Both its logic

and some tentative evidence in its support are appealing to many policymakers. As suggested above, however, the case for a wholesale policy shift is not airtight. Among the model's strengths are its clear connections to state strategic goals; its emphasis on evaluation standards and goals, including student learning in particular; its use of incentives to shape institutional behaviors; its close attention to efficiency and accountability; its incorporation of national priorities in student degree completion and job placement; its closer integration of goals, measures and incentives; its making outcomes a central rather than marginal element of state allocations (increasing the potential for positive impacts); its commitment to gradual rather than dramatic implementation in institutions and systems; and efforts to keep designs simple and transparent. Among the approach's risks are the potential for the problematic translation of state goals into operational measures, including the challenges of operationalizing strong indicators for certain desirable educational outcomes (e.g., gains in critical thinking); its potential vulnerability to wide year-to-year swings in individual institutions' funding; the need for sensitivity to the varied "starting points" of institutions on such indicators as course and degree completion; and its vulnerability to misestimating labor markets and thus creating incentives for students that may not be functional for them or for the state economy.

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Examined comparatively, each of the four approaches is superior to the others in certain respects. Base-plus approaches offer low overall operating costs because they require few baseline data, little ongoing data analysis and less direct institutional oversight. Also, of the four, base-plus approaches have the least reliance on the quality of centralized databases on academic operations and outcomes —the quality of those data can be a point of debate among academic leaders. Enrollment-based formulas can offer transparency, stability and predictability. Early versions of performance funding can encourage efficiency and effectiveness without allowing debatable outcome measures to drive large budget proportions. Newer outcomes-based funding approaches connect directly to state strategic goals and can ensure institutional attention on precisely the priorities being emphasized by key state stakeholders.

The Heart of the Matter: Student Success

How do the four approaches influence the most fundamental aspect of systemic quality: success for all postsecondary students? After all, funding models should be aimed toward improving efficiency and innovation in postsecondary education, which should in turn ultimately serve every state's goal of improving student success. The advancement of students represents the most important criterion for examining the approaches, as the national drive toward improving higher education attainment and

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global competitiveness continues. As noted earlier, absent powerful "controls" for all the other levers and factors at work, it is impossible to evaluate the effects of any one state policy lever such as state allocations. Still, there are clearly trade-offs among the four approaches in their implications for student success.

First, to the extent that increasing enrollments are rewarded in a funding system, then the expansion of student access is likely to be encouraged in concert. Of the four approaches, enrollment-driven formula funding and earlier versions of performance funding appear to most directly reward basic enrollment growth. The traditional base-plus funding approach can proceed rather independently of raw enrollment data, although raw student numbers certainly play a role.

On first glance, outcomes-based funding would appear to be a less-favorable approach to expanding access for disadvantaged students because institutions can potentially achieve higher efficiency and greater academic progress and graduation numbers by focusing on recruiting fewer "at-risk" (i.e., academically marginal) students. Many states, however, have built special incentives into their outcomes-based models to reduce the risk inherent in emphasizing progress and completion. What is more, outcomes-based funding models are increasingly incorporating explicit rewards for providing access for vulnerable populations, unlike earlier enrollment-based and performance-based models. In fact, many of the newer approaches (Tennessee and Ohio, for example) emphasize student counts rather than rates, allowing states to expand access and potentially facilitate attainment by underserved students more directly than in earlier performance-driven programs that focused solely on rates.

Another risk that must be carefully guarded against is the temptation for institutional leaders and faculty to lower standards in courses or degree requirements to keep progress and graduation numbers as high as possible (Dougherty and Hong, 2006). This concern may be magnified by evidence that incentives-based budgeting systems at the institutional level have spurred some academic departments to reduce requirements that students take substantial credits in courses outside their departmental major (Meisinger, 1994; Adams, 1997). Still, administrators cannot easily compel faculty to shift their core values, and one would hope and assume that institutional leaders and faculty would withstand any educationally destructive temptations associated with outcomes-based funding models. For higher education researchers, this question should prompt identification and examination of the current quality of instruction to establish a baseline for understanding the shift, both positive and negative, as states transition to outcomes-based budgeting.

Community colleges face special challenges in working with the quality incentives built into outcomes-based funding models because of their student demographics and qualifications. Shulock (2011) has highlighted some design features that can help offset the dangers for those institutions, whose educational success is central to national and state policymakers' efforts to raise access and equity while also serving economic development. Building into the models financial rewards for maintaining and expanding access and diversity is the most straightforward approach, but in two-year colleges, these steps can be powerfully offset by provisions that reward success in the form of completion, with no controls for confounding factors. Shulock argues that through such provisions, outcomes-based funding models can compromise those colleges' open-access missions. She suggests: 1) rewarding students' progress from where they begin rather than simply rewarding graduation (e.g., through incentives for remediation reform, for enrollment policy reform, etc.); 2) rewarding institutions with equity-based performance bonuses for closing racial and ethnic performance gaps;

and 3) rewarding colleges' improvement from their own starting point rather than by comparing colleges with each other. Clearly, efforts like those in Tennessee and in community colleges show how new outcomes-driven policies can encourage effective success-centered practices in ways that other funding approaches (such as the enrollment-based models) cannot.

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For any funding model, program design is at the crux. Of the four considered here, one (base-plus funding) allows institutional discretion that can directly and explicitly reflect goals and concerns on individual campuses, albeit at the possible expense of state-level goals and concerns. The other three models rely on formulas that can be adjusted appropriately at the design stage to incorporate safety nets and incentives for whatever most interests policymakers. There is no single funding model that necessarily spells doom for any particular state goal. Through legal statutes, allocative formulas or implementation protocols, states can work to ensure that their goals are met and that the potential risks in any given funding model are minimized. Ideally, higher education system and campus leaders and analysts can work collaboratively with policymakers to ensure that choices are informed and likely to succeed in fostering state interests.

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Conclusions

State allocations for public colleges and universities are a singularly important element in the nation's investment in higher education and thus central to its performance. This historical and comparative look at those allocations suggests some observations potentially useful for policymakers in this arena.

First, *empirical evidence isolating the distinctive impacts of each of the four funding models is inconclusive and of limited generalizability. Each state's model implementation and funding level has been different in both form and magnitude, and each has changed over time.* In addition, controlling for other confounding factors is daunting—researchers are only now beginning to approach designs capable of making valid causal inferences for funding. At present, adopting any funding system and investing in it to the levels necessary to achieve the desired impacts involves a substantial leap of faith.

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Turning to early performance-based and outcomes-based models in particular, these models exhibited and continue to exhibit substantial diversity in their details and in the volume of resources allocated for them (i.e., their "treatments" and "dosage"). This observation, along with the great variability in individual states' socioeconomic, educational and policy contexts, make it difficult to discern effects that are generalizable beyond the particular state in which a program is implemented. One can infer that the earlier performance-centered models have indeed had substantial effects on institutional behaviors that connect to students' enrollment, counseling, retention and graduation, but inferences about the programs' effects on student outcomes themselves are much more problematic, especially as analyses extend beyond any single state's environment.

It seems fair to suggest that while a spectrum of policy and funding configurations still exists, the emerging outcomes-based models are exhibiting less programmatic variation than the earlier performance-centered models. In general, new outcomes-oriented programs seem to offer heavier "dosages" of funding and more consistently structured "treatments" than the older performance-centered programs for which we have the most solid evidence. Thus, looking ahead, more convincing analyses of their effects may be forthcoming.

One element that will likely continue to hamper efforts to isolate the models' effects is the fact that state subsidies are just one element in state finance, intersecting significantly with state student aid and with tuition-fee levels (Hearn and Longanecker, 1985; Conklin, 2002; Western Interstate Commission for Higher Education, 2003; St. John et al, 2004; Toutkoushian and Shafiq, 2010). What is more, the postsecondary sector doesn't produce its outcomes in a vacuum; educational attainments are influenced—but not solely determined—by childhood family conditions, communities and schools. None of these influences operates simply or alone. There is a pressing need for states to develop integrated educational priorities from preschool through college graduation (dubbed P-20), and to link their funding at all levels with those priorities.

Second, *without care, increasing focus on outcomes can mean decreasing focus on access and thus on equity for students and, in some cases, institutions.* Absent special attention to potential tensions between valued goals, the funding approaches that might most successfully promote expanded access and equity for all student groups may be the very approaches that restrain efforts to improve student success, and vice versa. To their credit, some system and campus officials have already identified these potential risks and worked to offset them. Tennessee is considering significantly raising its funding premium for enrolling lower-income, adult and STEM students.

Third, *the distinctive nature of efficiency and effectiveness in higher education can confound attempts to distill college-going to a matter of production outputs.* The current emphasis on creating incentives for improved post-secondary outcomes is both welcome and necessary, but caution is warranted in such a client-centered, open and interactive process as college education. The route to a "successful" education is not always the most direct and linear, and a quick, low-cost, vocationally targeted educational experience is not always a cost-effective educational experience, from a student, provider or societal perspective.

Fourth, *the new outcomes-based movement is substantially altering relationships between institutions and their state governments.* As Tandberg and Reddy (2013) have noted, the earlier performance-centered approaches had their most discernible effects in influencing institutional behaviors. These influences included greater attention to measuring and influencing the student outcomes most valued, including retention and graduation. Although the ultimate effects on students remain unclear, the earlier programs undeniably helped increase institutions' attention to student-centered services and student-level data on campuses.

Because those earlier programs usually provided only "add-on" funding, it stands to reason that the similar but more assertively core-funding-driven, outcomes-based approaches would create even greater pressures on institutions to act in ways that comport with central expectations. Already, reports from Tennessee indicate that the state's new emphasis on student outcomes as the key factor in institutional funding is improving the quality of student data and the quality of student-centered analysis at all levels of the system (David Wright, personal communication, September 2014). State efforts to identify singularly revelatory indicators of institutional performance will always be a point of controversy in state systems, but it is hard to deny the very positive implications of focusing state funding more directly on gathering and using student data more effectively.

And it would seem obvious that institutional behaviors would change most in those campuses most dependent on state funding. Thus, we can expect the most dramatic institutional influences of outcomes-based programs to emerge in such settings as community and technical colleges and less-selective four-year institutions. In research universities -- and especially those with abundant federal, industry and foundation funding; strong out-of-state enrollments; high retention and graduation rates; and higher tuition levels -- the influences of the new funding approaches may be somewhat more diluted.

Fifth, *designing effective state funding models requires serious investment of time and energy.* As Table 2 suggests, abandoning earlier funding models requires significant forethought, a willingness to retreat from some of their strengths as well as their weaknesses, an understanding of competing stakeholder perspectives, and ongoing commitment. Values and goals must be traded off. When contemplating a shift to an outcomes-based system, policymakers must comparatively weigh stability, improvement in access, improvement in the quality of undergraduate education, improvement in persistence rates,

improvement in graduation rates and numbers, contribution to economic development, higher oversight and data-management expenses, and other outcomes. Also, performance on these must be well measured, and incentives must be crafted effectively to achieve these goals while maintaining stakeholder support. As Albright (2009) has noted, in order to succeed, any funding model must be clear and understandable to all stakeholders, as well as balance institutional autonomy with control; recognize differences in institutional missions; be based in accurate, transparent and timely data; and be well-integrated with campus strategies and processes. And if that were not enough, once a model is chosen, leaders must face the difficult task of maintaining political support for it against advocates of older (or newer) approaches.

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The Big Picture: Thinking Long and Wide.

Choosing among state funding approaches requires considering not only the initial but also the longer-term costs and returns, including opportunity costs. Systems driven heavily by performance on certain outcomes require long- as well as short-term thinking. Can states continue to provide bonuses for institutions in times of economic recession or even depression? And will policymakers and the public be comfortable over the long term with a system 100 percent driven by performance (as is being implemented in some states)? In such a perfected meritocracy, high-performing institutions would become increasingly well funded (so long as their performance continued), while those institutions not meeting their performance standards and goals could decline or even wither away as states disinvest over time. If an institution serves, for example, a remote Appalachian area far from feasible alternative schools for students, a likely outcome of declining institutional resources and increasing student disaffection may be steadily decreasing performance by students or students' abandonment of classroom-based higher education altogether (though students might pursue distance or online learning instead). For better or worse, older base-plus models and even formula-funding models impose less direct and less dramatic penalties on poorly performing institutions than newer outcomes-directed models. Political interventions and negotiations can preserve and buttress institutions that, on the surface, merit no favors. Preserving those schools can relieve their most vocal stakeholders at the cost of some frustration to others—not the least of which are ill-served students.

Certainly, any funding agency deserves solid performance for its money, and letting good money chase weak outcomes is increasingly indefensible. Still, the "public" in public higher education systems merits ongoing attention. "Rewarding failure" would require an entirely different logic from the logic currently dominating policy discussions. On its face, it is a political "non-starter." Institutions suffering the pains of repeated budget cuts brought on by poor performance will ideally be stimulated to

undertake the reorientation and innovation needed to raise them to solid financial and academic quality. It appears, however, that older funding models were more accommodating to the idea that the weakest institutions will occasionally need more, not less, support, especially in difficult fiscal times. Troubled but still important schools may require buffering from severe harm. The challenge in designing effective funding systems lies in appropriately encouraging quality improvements while not endangering societally valued educational resources.

In the end, policymakers who are contemplating initiating a new funding model must confront the unanswered questions associated with the models. How can states design models that maintain reasonable funding stability for institutions in the face of the inevitable year-to-year swings in budgets and performance data (Burke and Associates, 2002; Shulock, 2011)? How can state models minimize the trade-offs between desirable simplicity and attention to institutional differences in mission, culture, history and resources (Layzell, 1999; Albright, 2009; Harnisch, 2011)? In the face of scarce resources, how can outcomes-driven competition among institutions be managed to minimize losses to morale and collaboration? How best can policymakers incorporate campus-level perspectives into the design and implementation of funding models, so that they are not viewed on campuses as threats to autonomy, academic freedom and faculty governance (Layzell, 1999; Albright, 2009)? Some of these questions may be analyzed to some extent via empirical studies, but each requires philosophical consideration as well. For policymakers and institutional leaders, effectively addressing such issues requires attention not only to data but also to core values.

Author Bio

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