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**STRUCTURING
STATE POLICY FOR
STUDENT SUCCESS:
APPLYING
INCENTIVES IN THE
VOLUNTEER STATE**

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Commission

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Introduction

This is a time of great challenge and opportunity for American higher education. The challenges are well-established and widely acknowledged: escalating standards for economic competitiveness, coupled with a severe economic downturn and protracted recovery, require broad access to relevant postsecondary education, training and retooling as never before, but stagnant state funding and surging student demand have tightened the tension on an already cash-strapped public system. The flagging economy limits tax collections, which are an important stream of unrestricted revenue for public institutions. Faced with doing more with less, campuses respond by raising tuition, fees or both, while cutting costs in a variety of ways, often affecting personnel, services and quality. Students, increasing numbers of them returning adults or first in their family to consider college, borrow or work to afford enrollment. If they graduate, students may face unemployment, underemployment or unsustainable accumulated debt, contributing to the current 15 percent default rate on federal student loans each year. The outlook is even more dire for students who drop out or put their education on hold.

At the same time, the environment is rich with opportunities for meeting these challenges. For the first time since the Sputnik era, postsecondary education is a front-burner issue for policymakers and a large segment of the American people. The “big goal” of 60 percent postsecondary educational attainment, articulated by the Obama administration, supported by the grant-making community and ascribed to by most states, has given rise to an abundance of institutional activity and innovation in pursuit of productivity gains. State and federal policy leadership, emboldened by external support and technical assistance, has created a rich environment for change in many states.

As holders of the two largest purse strings of unrestricted operating revenues for public higher education—state appropriations and tuition and fees polic —state governments and higher education systems are key players that stand at the intersection of an important crossroads. Stating the challenge is simple: achieve transformative gains in student success—persistence, degree completion and degree efficiency—within available resources, while maintaining high standards for educational quality. Meeting the challenge leaves plenty of room for state innovation and initiative.

This paper focuses on Tennessee’s experience in responding to the college completion imperative by implementing an array of policies and programs representing incentives to either institutions or students. The Tennessee experience is pertinent to other states because: with only 36 percent of its adult residents holding a postsecondary certificate or higher (ranked 42nd nationally), Tennessee has a long way to go in terms of educational attainment; it has made substantial strides in a short time; and it shares enough characteristics with enough states to make its experience relevant across a variety of state contexts.

2009 to the Present: A College Completion Agenda Takes Root in Tennessee

In 2009, Tennessee was one of seven states to compete successfully for a Productivity Grant from Lumina Foundation for Education. The purpose of the Productivity Grant initiative was to support selected states in effecting policy changes that could serve as examples to the nation that substantially more students can be educated within existing budgets while maintaining academic quality. Among the first of Tennessee's grant-funded activities was a policy audit—a systematic review of state policies and practices affecting higher education access, success and productivity—to identify areas in which existing policies and practices were out of step with the state's emerging commitment to college completion. The audit identified disconnects in the areas of developmental education, student transfer, outreach to adult learners, tuition policy, student aid and the state's two major funding mechanisms for higher education—the public higher education funding formula and the longstanding Performance Funding program.

Since then, Tennessee has applied consistent effort to establish an environment conducive to improving education outcomes at the K-12 and postsecondary levels. During a Special Session called by then-Governor Phil Bredesen in January 2010, the Tennessee General Assembly passed two landmark pieces of legislation: the "Tennessee First to the Top Act of 2010" for K-12 education and the "Complete College Tennessee Act of 2010," addressing postsecondary education. Taken together, these new laws enacted a range of measures designed to spur improvement in Tennessee's education pipeline—specifically, improving student performance, graduation rates and the production of graduates at the high school and college levels.

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For its part, the Complete College Tennessee Act—the product of year-long talks with a bipartisan group of state lawmakers on how to improve college completion in the state—made several changes designed to enhance cooperation between the Tennessee Higher Education Commission and the colleges and universities in the Tennessee Board of Regents and University of Tennessee systems. Among other changes, the Act:

- 1) stated that public higher education funding would be based on outcomes, including but not limited to end-of-term enrollment, timely progress toward degree completion, student transfer activity and student success;
- 2) established common course numbering at the freshman and sophomore levels to promote consistency and quality across the two-year system;
- 3) created a statewide transfer policy so that any student who earned a two-year degree at a community college could transfer seamlessly to a four-year university as a junior, with no loss of credits; and
- 4) required the Tennessee Board of Regents and University of Tennessee systems to establish dual admission agreements between the two- and four-year colleges and universities.

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- 1) funding public institutions on the basis of students' academic progress and program completion;
- 2) addressing students' remedial math needs in their senior year of high school;
- 3) changing the delivery of developmental coursework to a co-requisite, competency-based approach;
- 4) normalizing institutional standards for the awarding of academic credit via prior learning assessment;
- 5) offering free community college tuition for recent high school graduates;
- 6) reaching out to adult learners who left college without certificates or degrees and facilitating their re-entry into postsecondary education or training; and
- 7) better aligning postsecondary offerings with workforce opportunities across the state.

As is evident from the foregoing list, Tennessee makes extensive use of incentives to institutions and/or students to improve the performance of either group, or, in the best case, both.

An Organizing Framework for Student Success Incentives in Tennessee

In the higher education context, a performance incentive is something that motivates individuals or institutions to perform an action. At the individual level, it can be accepting a scholarship, choosing a course schedule or academic major, or enrolling in a certain threshold of credit hours. For institutions, it can be opening an off-campus center, offering a new academic program or shuttering an under-performing one, or changing the full-time enrollment standard for tuition purposes.

Why are incentives important? First, incentives communicate something fundamental to higher education's varied constituencies about its core values. They answer the question,

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The Complete College Tennessee Act of 2010:

- Required that state public higher education funding be based on outcomes
- Established common course numbering in the two-year system
- Created a statewide transfer policy
- Required dual admission agreements between the public two- and four-year colleges and universities.

"What thing(s) do we value to the extent that we are willing to make the considerable investment of time, money and human and political capital necessary to identify, calibrate, publicize and support (with resources and rhetoric) a set of incentives to students, institutions and the tax- and tuition-paying publics?"

Second, incentives can help achieve buy-in from the institutions or individuals from whom a certain behavior is desired. They balance the risk-reward calculus for the entity facing a choice relative to a newly introduced incentive. Incentives answer the question, "If I change my behavior, or if I re-prioritize resources toward a given policy aim, what is the reward for my risk?" Put succinctly, they answer the age-old question, "What's in it for me?"

Finally, a more pragmatic perspective on the importance of incentives is that they work, at least judging from the Tennessee experience. From its seminal Performance Funding program (1979), to the Tennessee Education Lottery Scholarship (2004), to a public higher education funding formula based entirely on student outcomes (2010), to the establishment of the Tennessee Promise last-dollar scholarship that will enable recent high school graduates to attend in-state community colleges free of charge (beginning Fall 2015), Tennessee has a rich history of broad-based policy reform grounded in extending incentives to institutions and students.

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Tennessee's groundbreaking Performance Funding program, now 35 years old, is well established in higher education circles. More recently, the state's full-scale adoption of an outcomes-based funding formula for public higher education has been widely publicized. The majority of the following pages will be devoted to these initiatives. However, it is important to note that Tennessee's use of incentives extends beyond the economic to the academic, student and workforce development arenas. Although the relationship between the fiscal realm and the incentives embedded in non-economic policies or practices is not always readily apparent, well-designed incentives should always hold the potential to improve the quality of life or the bottom line for students or institutions—and, in the best of worlds, both.

Table 1 presents a framework for thinking about certain incentives that are currently offered in Tennessee to institutions, students or both. As the table indicates, a given incentive may be essentially economic or non-economic in nature, and the transaction (i.e., perform Action X to receive Reward Y) may benefit the individual or institution immediately (i.e., direct incentive), or the benefit of the desired behavior may accrue to the individual or institution at a later time (i.e., indirect incentive).

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Table 1. An Organizing Framework for Student Success Incentives in Tennessee, with Examples

Incentive Target	Economic		Non-Economic	
	Direct	Indirect	Direct	Indirect
Institutions	Performance Funding (1979); outcomes-based funding formula (2010)	Prior learning assessment (2012); co-requisite developmental education (2014)	Degree Compass (2011) course recommendation system; college coaching (2013)	
Students	HOPE Scholarship (2004); Tennessee Promise (2015)			GEAR UP (2005); high school mentoring component of Tennessee Promise (2015)

In the table, the funding programs that are the primary subject of this paper—Performance Funding (1979) and the Tennessee public higher education funding formula (2010)—are *direct economic incentives*. That is, institutional performance, as measured by the funding model, leads directly to the institution’s amount and share of state appropriations for institutional operating expenses. The Tennessee Higher Education Commission policy staff asserts that direct economic incentives such as these are a *necessary but insufficient* tool for advancing the state’s college completion goals.

Tennessee’s experience in offering broad-based direct economic incentives to students began more recently. The HOPE Scholarship (2004), offered as part of the Tennessee Education Lottery Scholarship program, and the Tennessee Promise, the last-dollar award that will ensure that community college attendance is free to all recent high school graduates in the state beginning in Fall 2015, are examples of direct economic incentives to students. In recent years, Tennessee has begun offering incentives of different kinds to supplement these foundational approaches:

- **Indirect economic incentives.** This type of incentive is basically economic in nature, but the primary payoff is delayed. Two examples of indirect economic incentives recently adopted in Tennessee are cited in the table: 1) developing statewide common standards for the awarding of

Performance Funding (1979) and the Tennessee public higher education funding formula (2010) are direct economic incentives. That is, institutional performance, as measured by the funding model, leads directly to the institution’s amount and share of state appropriations for institutional operating expenses.

To supplement its foundational direct economic incentives, Tennessee has begun offering other types, such as indirect economic incentives, direct non-economic incentives and indirect non-economic incentives.

Prior Learning Assessment credit (2012), concurrent with promoting institutions' more intentional and frequent use of such credit; and 2) choosing co-requisite developmental education as the preferred method for assisting students in acquiring the math competencies they need to progress to college-level math (2014).

In both examples, students receive an immediate benefit of earning the credit in a manner that is more efficient and less costly, but the big payoff is that their chances of progressing and reaching their academic goal of degree completion are greatly enhanced. It is worth mentioning that the table shows the ultimate benefit accruing not only to students, but to institutions as well, because when these students complete their degrees, their institutions benefit also benefit under the outcomes-based funding formula. If the student happens to be an adult learner or low-income student, the formula pays a 40 percent premium to the institution when the student graduates.

- **Direct non-economic incentives.** With incentives of this type, the student chooses or receives a direct intervention; and the impact, benefit or feedback received is fairly immediate. However, the incentive itself is essentially non-economic in nature. In Tennessee, examples of such incentives include: 1) the Degree Compass course recommendation system that utilizes predictive analytics to advise students into courses they need and in which they are likely to succeed (2011); and 2) college coaching services, which a few campuses provide or purchase for the benefit of their freshman cohorts (2013).

The immediate benefit to the student may be choosing a class schedule or individual course that represents a good fit for his or her academic skills, or it may be receiving better and/or more personalized advising on a consistent basis. Having access to such tools provides an advantage to students who use them relative to students who do not. However, in an economic sense, the full impact of these interventions is realized when the student graduates. Again, due to Tennessee's outcomes-based funding mechanism, the graduation benefit accrues not only to the student, but to the institution as well.

- **Indirect non-economic incentives.** For almost a decade, the Tennessee Higher Education Commission has provided college access and postsecondary transition-focused services to academically and economically at-risk students in middle and high school in geographic areas of low educational attainment in the state via the federal Gaining Early Awareness and Readiness for Undergraduate Programs initiative (commonly known as GEAR UP). Similarly, beginning in Fall 2015, the Tennessee Promise will offer an array of services to high school students, including mentoring by local adults who have volunteered and been trained for the role. These are examples of indirect non-economic incentives for students: the benefit received at first is non-economic in nature, and any financial "payoff" may be a year or more away, but the activity is undertaken because of the promise of substantial benefits, both economic and otherwise, to students (and potentially institutions) down the line.

Direct Economic Incentives for Colleges and Universities: The Tennessee Experience

States have long sought to find an equitable way to fund institutions of higher education in a manner that is stable but also prompts institutions to be more productive and efficient. For many years, state funding to public colleges and universities in Tennessee and across the nation was distributed based

primarily on enrollments. This was a holdover from times gone by when an enrollment-based formula cranked out a “calculated need,” which one might think of as an “invoice” the higher education system presented to the General Assembly each year. For years, the state legislature paid it. But, over time, the percentage of calculated need that was actually funded decreased from 100 percent, to 90 percent, and so on, until in the mid-1990s, the legislature was funding the higher education enrollment-based formula at a rate of about 60 cents on the dollar.

Besides funding inadequacy, there was another, more fundamental problem. For years, the primary policy objective incentivized by the former enrollment-based formula was enrollment growth, rather than degree

production or efficiency. This led or allowed institutions to engage in certain perverse behaviors, whether intentional or not:

- 1) **Grow larger.** More heads meant more dollars, at least while the enrollment-based formula was fully funded. This meant that the state invested large sums of money in access that led to no tangible credentials for the students or the state.
- 2) **Become a more complex (and expensive) institution.** The higher institutions climbed in the Carnegie institutional classification system, the more per-full-time-equivalent-student funding they received, leading to rampant mission creep and duplication of programs.
- 3) **Maximize headcount at the census date.** Regardless of a particular course’s start and end dates, its students and instructor of record met on the 14th day of classes to take roll. The tacit message sent was that beginning-of-term enrollment was the most important event of the semester. There was no incentive for ensuring that students completed the semester, much less their program of study.

In an attempt to increase degree completion, Tennessee incorporated a small but robust performance-funding piece into the enrollment-based formula to reward institutions for success in meeting certain state goals for higher education. These goals included higher graduation and job placement rates, student satisfaction levels and other variables.

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1979 to the Present: The Performance Funding Program

For economy of language, performance funding refers to a broad set of state policies that link

allocation of resources to certain desired priorities. The current wave of state experimentation with and adoption of outcomes-based higher education funding approaches are an evolved form of performance funding, and often termed “Performance Funding 2.0” (Snyder, 2015; Lederman, 2008). Logically, the 2.0 suffix implicates the existence of a Performance Funding version 1.0, and such is indeed the case. It started in Tennessee some 35 years ago. For that reason, Tennesseans are very intentional about their use of the term Performance Funding (also known simply as “PF” in the state), as it has its own unique heritage and specific meaning inside the Volunteer State.

Tennessee was the inaugural state to formally implement a Performance Funding program, in 1979-80. With support from a handful of external sources, including the federal Fund for the Improvement of Postsecondary Education, five years of pilot and development work on Performance Funding took place from 1974 to 1979. The primary purpose of this grant-funded activity was simply “to explore the feasibility of allocating some portion of state funds on a performance criterion”

(Bogue, 2002). From this modest objective arose a program that stood the test of time, spanning five governors (three Republicans and two Democrats), and serving as a model for many state and some international higher education systems.

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Performance Funding Design Features

Fundamentally, the Performance Funding program involves allocating a small portion (the im-probably specific figure of 5.45 percent) of state higher education operating appropriations to public campuses on the basis of a small number of performance indicators. In the beginning, the underlying purpose was to forestall the imposition of performance measures by political action. The project was also undertaken with the tacit expectation that policy makers would view the state higher education community’s proactivity in a favorable light, which would encourage increased financial support for the enterprise.

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The Performance Funding indicators and metrics are reviewed, and usually revised, every five years, concomitant to the Tennessee Higher Education Commission’s five-year strategic plan for Tennessee higher education. Each revision has produced a variety of policy shifts, reflecting changes in state priorities put forth in the five-year master plan. These five-year revisions constitute a form of periodic peer evaluation in which a panel of institutional, governing board and coordinating commission representatives examine the policy and make recommendations for improvement.

Performance Funding History

The performance standards and indicators have changed in number and nature over the 35 years since Performance Funding was introduced. For instance, the indicators moved from a common set for all campus types to a list that allowed for some differentiation based on campus missions. Additionally, indicator weights shifted from uniform to differential values to reflect the relative importance of each measure.

Over time, a consensus began to develop within the higher education community that Performance Funding was probably not the game-changer that institutions had hoped it would be. Three realities pointed to the need for a role redefinition for the program:

1) its ineffectiveness in attracting new state appropriations; 2) the small share of institutional operating revenues (from tuition and state appropriations) it put at risk; and 3) the lack of differentiation between institutions when performance points were tallied.

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In its current iteration (see Table 2), coincident with the 2010-15 state higher education master planning cycle, Performance Funding ceded the traditional productivity measures of progression and graduation rates to the outcomes-based formula in order to become the “quality control” counterbalance to that more productivity-focused funding formula. It continues to account for just over 5 percent of the public higher education budget request for formula-funded units each year.

Table 2. Tennessee’s Performance Funding Program: 2015-15 Quality Assurance Standards and Performance Indicators

Standards	Standard 1: Quality of Student Learning and Engagement	Standard 2: Quality of Student Access and Success
Purpose	To measure institutional performance by achievement of student learning, performance evaluation and satisfaction studies.	To measure institutional performance by achievement of credentials earned by selected student sub-populations. Institutions expand diversity and opportunity for student sub-populations and select five such sub-populations for concentrated support.
Indicators	<ol style="list-style-type: none"> 1) General education assessment 2) Major field assessment 3) Licensure exam results 4) Percentage of programs accredited 5) Student satisfaction surveys 6) Alumni feedback 7) Employer feedback 8) Job placement rates (community colleges only) 9) Quality enhancement plan or student learning initiative 	<ol style="list-style-type: none"> 1) Adult learners 2) Low-income students 3) African-American 4) Hispanic 5) Males 6) Residents of counties with low educational attainment rates 7) Selected academic programs (STEM, Health, other high-need fields) 8) Transfer students 9) Institutional selection

Even with its mixed track record, the Performance Funding program should be acknowledged for, throughout its history, keeping institutions engaged and open to the ideas of: 1) public accountability, 2) a culture of ongoing institutional assessment and improvement, and 3) performance funding. Although two studies about a decade apart ultimately found that the Performance Funding program had little effect on institutions' performance (Doyle, 2006 and Sanford, 2011) the program's rich history, national visibility and institutional allegiance helped it set the stage for the major overhaul that was to come in the form of a new funding formula based entirely on student outcomes.

The Performance Funding program served several key purposes, keeping institutions engaged and open to the ideas of: 1) public accountability; 2) a culture of ongoing institutional assessment and improvement; and 3) performance funding. In so doing, it set the stage for the major overhaul that was to come in the form of a new funding formula based entirely on student outcomes.

2010 to the Present: The Outcomes-Based Public Higher Education Funding Formula

As part of the Complete College Tennessee Act of 2010, Tennessee introduced an outcomes-based funding formula model that builds substantially on the Performance Funding program by rewarding institutions for the production of outcomes that further the educational attainment and degree productivity goals of the state Master Plan. The outcomes chosen represent broad activities across various types of institutions, from research-heavy four-year universities to community colleges filling workforce development needs. These outcome measures are grouped into the categories of student progression, degree production, efficiency and other important institutional functions. An overview of the performance metrics used in presented in Table 3 on the next page.

As part of the Complete College Tennessee Act of 2010, Tennessee introduced an outcomes-based funding formula model that builds substantially on the Performance Funding program by rewarding institutions for the production of outcomes that further the educational attainment and degree productivity goals of the state Master Plan.

Outcomes for community colleges include student progression (counted at 12, 24 and 36 credit hours), dual enrollment, associate degrees and certificates, remedial and developmental education, student transfer, workforce training and job placement. Student progression measures the accumulation of credit hours, thereby incorporating course completions. In Figure 1, which sets forth how the funding formula works, the examples provided focus on outcomes for Tennessee's public universities only.

Table 3. Community College and Public University Outcomes Included in the Tennessee Public Higher Education Funding Formula

Community Colleges	Public Universities
1 Students accumulating 12 credit hours	1 Students accumulating 24 credit hours
2 Students accumulating 24 credit hours	2 Students accumulating 48 credit hours
3 Students accumulating 36 credit hours	3 Students accumulating 72 credit hours
4 Transfers out with at least 12 credit hours	4 Transfers out with at least 12 credit hours
5 Certificates and Associate degrees granted	5 Bachelor and Associate degrees granted
6 Dual enrollment students	6 Masters and Ed Specialist degrees granted
7 Remedial / developmental education success	7 Doctoral and Law degrees granted
8 Degrees and long-term certificates per 100 Full-Time Equivalents	8 Undergraduate degrees per 100 undergraduate Full-Time Equivalents
9 Workforce training	9 Six-year graduation rates
10 Job placements	10 Research and service expenditures

Figure 1. Tennessee’s Public Higher Education Funding Formula in 10 Steps

- 1 After a total weighted outcome is calculated for each institution, these values are monetized by multiplying them by the Southern Regional Education Board average faculty salary of similar Carnegie Classification institutions. The result is the “Outcome-Based Performance” value for each institution.
- 2 Next, fixed costs are calculated. Fixed costs include funding for maintenance and operation, utilities, rent and equipment replacement for each institution.
 - Maintenance and operation and utilities are calculated by multiplying the institution’s education and general square footage by pre-determined fixed rates.
 - Rent costs are based on actual rent expenditures by each institution, while equipment replacement cost is calculated as 10 percent of total equipment inventory.
- 3 The sum of the Outcome-Based Performance value and the fixed costs for each institution is the “Formula Subtotal.”
- 4 “Quality Assurance” scores are applied for each institution. These scores represent the achievements of institutions in meeting the additional Performance Funding program metrics, including general education course assessments, surveys of student engagement and student satisfaction surveys, among others. Through success on these benchmarks, institutions can earn up to an additional 5.45 percent of their formula subtotal.
- 5 These Quality Assurance subtotals are then summed with the Formula Subtotal to reach the “Total Formula Calculation.” The Total Formula Calculation for each institution is summed to calculate the total appropriation request for all formula units in the Tennessee public higher education system.
- 6 Utilizing the outcomes listed in Table 3, data are collected for each metric. For universities, all data except Research and Service are pulled from the Tennessee Higher Education Commission’s Student Information System. Individual institutions submit these data files to their respective system office, which then submits a file for all system institutions to the commission. The three most recent years of data are analyzed, and a three-year average for each outcome for each institution is calculated.

Figure 1 continued ►

Figure 1 continued

- 7) Next, a premium is awarded to institutions for success on certain outcomes for two student sub-populations of statewide priority. Institutions report the number of adult learners and Pell-eligible students who met the progression and undergraduate-degree-completion metrics during the academic year. A 40 percent premium is applied to these outcomes to recognize the additional institutional assistance provided to these populations as well as the importance of these populations' success to meeting state goals for college completion.
 - For example, if 100 degrees were awarded to adults at Middle Tennessee State University, those degrees are actually reflected in the model as if 140 undergraduate degrees were conferred over that time period.
- 8) These data are then scaled to make the effects of the measured outcomes comparable. For instance, Research and Grant funding is reported in millions of dollars at most universities. To make sure this outcome does not disproportionately impact formula calculations, it is scaled down. Conversely, for outcomes where the numbers are small, like degrees awarded per 100 full-time-equivalent students, the data are scaled up. Any scaling factors used are the same for all institutions.
- 9) The outcomes data are then weighted to reflect institutional mission, indicating both the priority of that outcome at a particular institution and—in the case of universities—an institution's Carnegie Classification. Higher weights are applied to higher priority outcomes at each institution. For instance, an institution classified as a "Research University / Very High Research Activity" would weight graduation rates and research support highly, while student progression might be weighted less highly. Conversely, an institution classified as a "Master's Medium" university, with more emphasis on undergraduate and master's level degrees, might put less weight on its graduation rate and no weight on doctoral degree production.
 - Weights for universities and community colleges were developed in consultation with campus leaders through the Formula Review Committee.
- 10) Scaled data are then multiplied by the institutional weighting values, producing final outcomes for each institution. These data are then summed to produce the "total weighted outcome" for each institution.
 - The steps presented are the same for every institution. The only difference in how the total weighted outcome is calculated is based on the institution-specific weighting structure.

Key Features of the Tennessee Formula

Before continuing, a few clarifying comments are in order. First, Tennessee's outcomes-based funding formula is *not* a reform to the longstanding Performance Funding program. That program still exists in the manner outlined above, in a supporting role to the statewide long-range plan for higher education and the outcomes-based formula. Second, this methodology is not just for the allocation of new state funding, but for *all* state funding. The model performs just as well in times of economic growth, stasis and decline, so its use can be defended no matter the prevailing fiscal conditions. Third, the out-

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comes-based model completely replaces the former enrollment-based model. Tennessee no longer makes any purely enrollment-based allocations to state colleges and universities. The student no longer

triggers a payment to his or her institution simply by enrolling in classes. The first payment does not accrue to the institution until the student completes 12 credit hours at a community college or 24 credits at a public university. So while it is technically accurate to say, "Tennessee no longer funds enrollment," it is perhaps more accurate to say that the state funds productive enrollment. Furthermore, enrollment counts are now taken at the end of the term, not the beginning, thereby removing the previous perverse incentive to stockpile students on the census date (the 14th day of classes).

The outcomes-based model provides several distinct advantages to an enrollment-based methodology. The outcomes model is productivity-based and provides more stability by basing the financial incentives on more variables and a three-year rolling average. Unlike Performance Funding, the outcomes-based formula does not have annual targets or benchmarks. Where previous formulae counted things (i.e., full-time equivalent enrollments), the outcomes-based formula simply counts other things (e.g., graduates, remedial and developmental education successes, and students who surpass certain cumulative credit hour checkpoints). Therefore, it does not punish institutions for failure to achieve a predetermined goal. Furthermore, the links to the Master Plan are strengthened by utilizing the formula as a policy tool to encourage increased productivity.

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The key features of Tennessee's new public higher education outcomes-based funding formula may be summarized as follows:

- 1) It incorporates student outcomes exclusively, rather than enrollment;
- 2) Its allocations account for campus missions as reflected in the unique weights each institution assigns to a common set of performance metrics;
- 3) It credits to the institutions multiple measures of productivity that went unrewarded under the enrollment-based formula;
- 4) It acknowledges the importance of maintaining access and diversity in American higher education by rewarding institutions with a 40 percent funding premium for credit-hour accumulation and degree completion by two student sub-populations of critical importance to the state: adults and low-income students;
- 5) It is not prescriptive as to how to achieve success and excellence;
- 6) It does not directly penalize an institution's failure to achieve pre-determined goals. An institution whose performance actually diminished from one year to the next could still increase its share of the overall funding formula appropriation if all the other public institutions experienced even greater decreases in productivity;

- 7) Its metrics are linked directly to the educational attainment goals of Tennessee’s long-range plan for higher education;
- 8) It is simpler and more transparent for state government and the public;
- 9) It provides a framework for government and higher education to have an ongoing conversation about state policy priorities for the enterprise; and
- 10) It is adjustable to account for new outcomes or a change in policy focus.

An Organizing Framework for Student Success Incentives in Tennessee

Having described the history, state context and mathematical operations behind Tennessee’s outcomes-based funding formula, it is appropriate to address the main question, “Has it worked?” The formula model was officially endorsed by the Tennessee Higher Education Commission on July 29, 2010, and it was subsequently used to develop the higher education budget request for FY 2011-12. Since then, the formula has provided the methodology for developing four subsequent higher education budget requests—FY 2012-13, FY 2013-14, FY2014-15 and FY 2015-16. Although the new formula has four budgets under its belt, many in the state believe the time is too early, or the relationship between the outcomes-based funding methodology and the actual production of outcomes is too unclear, to make a definitive judgment about the formula’s impact. Nevertheless, the slightly reworded question, “How is the outcomes-based formula working so far?” is reasonable to ask and expect an answer.

Negatives That Have Not Occurred

When the mandate for the Tennessee Higher Education Commission to develop an outcomes-based funding formula for the state’s public colleges and universities appeared in the Complete College Tennessee Act of 2010, conversation inside the higher education community was rife with dire predictions of all sorts: that the access mission of Tennessee postsecondary education was being disavowed; that poorly-resourced institutions would fail and be forced to close; and that a diploma from a state institution would no longer be worth the parchment it was printed on. While most of Tennessee’s institutions seemed to have made their peace with the new formula, or at least reached an uneasy *détente* with it, such misgivings are still plentiful in other states that are considering an approach similar, if not identical, to the Tennessee approach. Since that is the case, it is appropriate to discuss the negative consequences that *have not* transpired under the new formula before turning our attention to what has occurred. In the following list, commonly heard objections are followed by the commission staff’s reflections after four years of experience on the ground.

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Notably for other states considering outcomes-based funding policies, the objections and concerns most commonly heard at the policy’s onset—such as that academic standards would be lowered and funding volatility would jeopardize institutional planning—have not come to pass.

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1) **Outcomes-based funding can only be implemented in times of budgetary growth.**

This objection has more to do with the political dynamics between systems or institutions than with mathematics or model design. Designed correctly, outcomes-based formulaic approaches allocate dollars just as effectively during periods of economic growth, stasis or contraction. When economies are contracting, allocating diminished state dollars across a number of institutions, each having virtually limitless needs, is a painful process regardless of the method used. Even so, using performance criteria to make these decisions is preferable to cutting all institutions equally across the board or seeking another (non-performance-based) rationale for cutting certain institutions at lesser or greater rates than their in-state peers.

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2) **The rich will get richer, and the poor will get poorer.** This objection assumes that the institutions that are better-resourced, admit better students and are already performing at relatively high levels will “win” under the outcomes formula, and schools at the other end of the spectrum will lose. The performance data on this theory are mixed, indicating that the truth here is more nuanced than the objection implies. It is true that an institution needs a certain critical mass of financial and human resources to reallocate current revenues toward improving institutional performance on the outcomes where it lags.

However, each institution helps assign weights to the common performance metrics so as to reflect its unique mission, and the three-year rolling averages that populate each metric’s values give institutions ample lead time to reallocate institutional resources to problem areas. To address the stated objection, inclusion of a stop-loss provision for consistently lower-performing institutions may be indicated in the future. However, it is just as true that savvy presidential leadership—uniting, forward-thinking and proactive—can and has helped make institutions that appear demographically and fiscally challenged competitive under formula rules.

3) **The surest way to “win” under outcomes-based funding is to admit only those students with academic backgrounds so strong that they are virtually assured of graduating.**

Humorously enough, whenever individuals that raise this argument are pressed on it, they admit that their own institution would never adopt such a strategy, but they are a little worried about “that institution across town.” Attempting to “game” the formula in the manner described would likely be a losing strategy for an institution because of the formula’s relatively minor emphasis on graduation rates (which serves as a metric in the public universities’ funding model only) compared with the emphasis on the raw numbers of graduates.

So, if an institution produced only a small number of graduates at the time the formula was enacted, it needed only to improve on its own poor performance (relative to other institutions’ improvements from their own baselines) to increase its share of the performance-funded pie. In fact, the Tennessee public university that consistently increased its share of performance-based state appropriations during the first three years of formula implementation is a regional master’s institution that admits nearly 90 percent of its applicants and has a six-year first-time, full-time graduation rate in the low forties.

4) **Broad-based outcomes funding will inevitably lead to a lowering of academic standards academy-wide.** Such funding will pressure faculty members to award passing grades that students have not earned. First, there is belief in the autonomy and integrity of individual faculty members that would limit the ability for this to ever happen on a broad scale. As it stands, a phalanx of forces already exist that exert outside pressure on the grading process now—such as maintaining student eligibility for intercollegiate athletic competition, maintaining satisfactory academic progress for student-aid eligibility, gaining or keeping outside employment, dealing with influential “helicopter parents,” and so on.

5) **A model in which 100 percent of state operating appropriations is at risk every year introduces an environment that is too volatile in which to conduct sound institutional planning.** The models for both public universities and community colleges are framed by 10 common performance indicators based on a three-year rolling average. Assuming an institution weighted all 10 indicators equally, any year-to-year volatility in one particular indicator would account for roughly 3 percent of the institution’s budget request for the fiscal year. When one considers the fact that, in all likelihood, another of the institution’s indicators is bouncing in the other direction (cancelling out the volatility in the indicator of initial concern), and other institutions’ performance is moving up or down simultaneously, year-to-year volatility is not the real concern.

What matters is an institution’s overall performance on all 10 common metrics relative to that of other institutions, as calculated on a three-year rolling average basis. In reality, the changes in an institution’s funding formula calculation from year to year range from 2 to 4 percent, and about half that when the revenue stream of net tuition is taken into account alongside state operating appropriations from the formula.

6) **Performance funding was tried on a grand scale a quarter-century ago, and it didn’t work.** This argument makes the fundamental assumptions that: 1) previous attempts at performance funding were definitive and unassailable; 2) existing fiscal conditions in the states are so similar to those of the early 1990s that any current-day attempt to re-envision a broad-based outcomes funding approach is unwarranted; and 3) until the perfect one-size-fits-all model is created, it is better to do nothing than to engage and risk getting some aspect(s) wrong. If the latter were true, the calls to assess college-level learning would have subsided long ago. But, of course, they haven’t.

So much is different today than in the 1990s, when the last wave of state higher education performance funding initiatives occurred, that it would be easy to belabor the reasons why new models for the current day are necessary: state student-unit record data systems are exponentially more comprehensive, nimble and enlightening; and economic conditions in many states have deteriorated to the point that student outcomes are no longer viewed as window dressing to

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- 7) **Public higher education's original interest in outcomes-based funding was based on the latter's potential for stemming the tide of decreasing operating appropriations for public higher education, and therefore will not withstand extended periods of static or decreasing state higher education budgets.** This argument may in fact be true. Only time will tell. There is an inherent tension between the goals of those that hold the purse in state government and leaders of our public institutions. Bowen's Revenue Theory of Cost states, in part, that there is virtually no limit to the amount of money an institution could spend toward seemingly fruitful ends; therefore, it will raise all it can and spend all it raises.

On the other hand, state budget chiefs must balance ever-escalating demands between a seemingly infinite lineup of supplicants. They are only too willing to receive an improvement in degree production or efficiency if they think they can get it for free, or get someone else (i.e. students) to pay for it. The latter is why institutions often receive little "credit" for making productivity gains in the face of static or decreasing state appropriations. State policymakers are likely to see such improvement as evidence that higher education "can do better without turning to us for additional support." Ultimately, the objection stated above is political in nature and should not prevail in a state's decision to develop a rational approach to allocating limited state funds on the basis of student and institutional outcomes.

Positives That Have Occurred

When the question of formula impact is asked and answered in a summative sense, the effectiveness of the outcomes-based funding model as a policy tool for reaching the governor's Drive to 55 initiative's numeric goal will be judged on quantitative performance. It will rest on the ability of the state's colleges and universities to increase degree productivity and efficiency to the point that state college completion goals are surpassed. However, at this stage, it is also important to consider the many cultural and qualitative improvements to which the formula has given rise.

- 1) **The outcomes-based funding formula, in concert with the Drive to 55 initiative and the Complete College Tennessee Act before it, has changed the fundamental nature of the conversation on campuses, in board rooms and in the state legislature.** Whereas 14th-day fall-term enrollments used to be of primary interest, that information is now almost an afterthought, taking a back seat to the latest degree production numbers, graduation rates or time-to-degree calculations. Preliminary (census date) enrollment counts are of interest to the extent that they signal whether

the base of students with whom institutions have to work toward "productive enrollments" is increasing or decreasing.

At the state level, interest in Tennessee's standing relative to other states on "educational revenues per full-time-equivalent student" (state operating appropriations plus net

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tuition revenue less special appropriations for research, agricultural extension and medical schools) has been replaced by a formerly little-known statistic calculated by the U.S. Census Bureau—educational attainment of the state’s working-aged population. In 2009, when Tennessee received a Productivity Grant from Lumina Foundation, the state ranked 44th nationally in the percentage of working-aged adults (ages 25-64) with an associate’s degree or higher, at 31.3 percent. It now ranks 42nd on the same metric, at 33.4 percent (NCHEMS, 2014). Movement on this statistic is slow, but the governor’s Drive to 55 initiative has given the state a target and a rallying cry.

- 2) **The outcomes-based formula has unleashed enormous creativity and innovation at the campus level centered on degree production and efficiency.** When the implications of the new formula hit institutions, campus-wide committees were convened to identify and remove all unnecessary barriers to student completion, and strategies were devised to identify students who might be struggling academically, financially or socially and keep them engaged. Academic success centers were created to identify and intervene with recent high school graduates who were struggling academically in time to reshape the trajectory of their academic careers.

Bridge-loan programs were offered to students who had lost their HOPE scholarship and needed money to hold them over while they attempted to raise their cumulative grade point average to regain the scholarship. College coaching services were offered and an academic advising technology utilizing predictive analytics was created to give students a firmer footing from which to make direction-setting course-scheduling and career decisions.

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To compile and make sense of all these institutional actions, the Tennessee Higher Education Commission has contracted with higher education policy researchers from the University of Georgia to conduct a qualitative study about the cumulative effects, whether positive or negative, brought about on campuses by the college completion culture in general and the outcomes-based formula in particular.

- 3) **From the state perspective, the outcomes-based formula is a more efficient way of appropriating state dollars for institutional operations.** It has been said, at times by Tennesseans, that the state no longer funds enrollment. The spirit of this statement is true, but in a technical sense it is only partially correct. The truth is that we fund “productive enrollments”—enrollments that have resulted in the passing of some critical benchmark — 12, 24, 36 and 48 credit hours at community colleges; 24, 48, 72 and 96 credits at public universities. In the past, the very fact that a student’s name appeared on a class roster on the 14th day of class generated a state “payment” to a public institution. Such is no longer the case. Some of Tennessee’s critics have seen this development as overly harsh, robbing institutions of resources needed to help enrolled students make it over the hump of fall semester, freshman year. Since tuition and fees have now far surpassed state appropriations as the primary source of unrestricted operating revenue at every public institution in Tennessee, it is neither necessary nor appropriate that state allocations fund every activity on public college campuses. In most

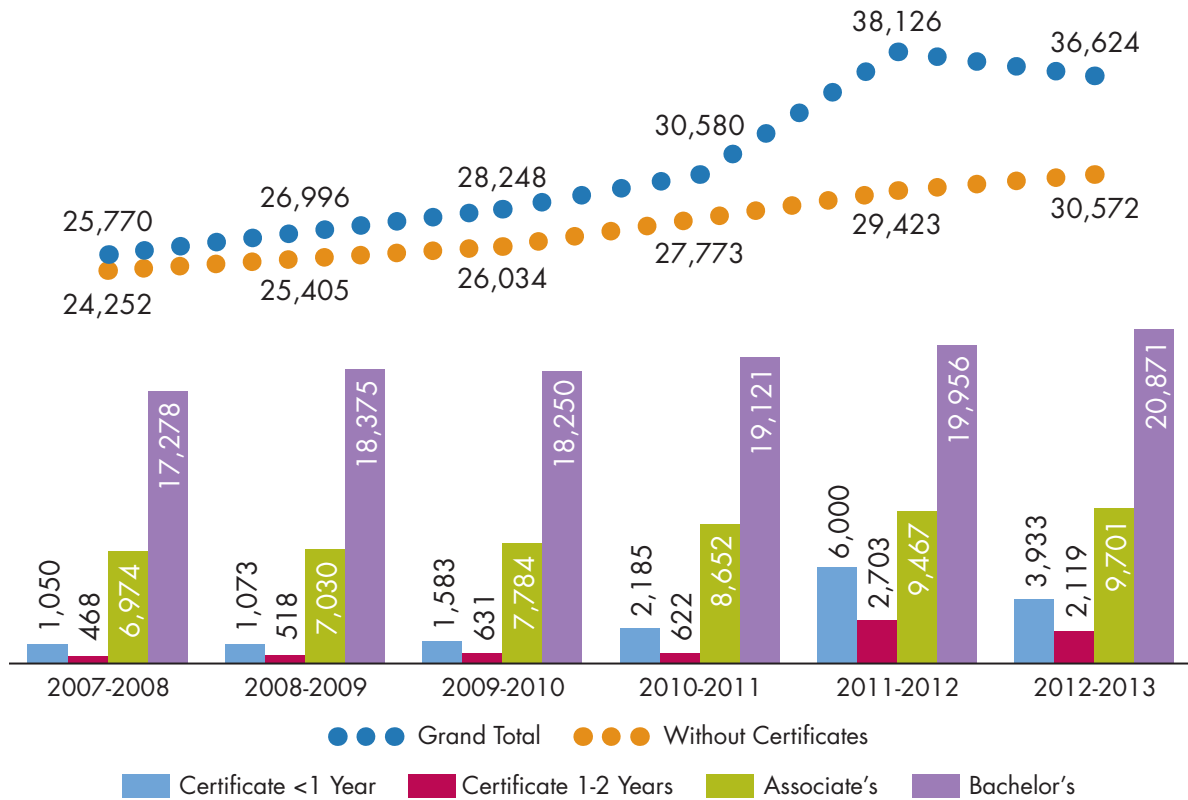
states, casual enrollments, unsuccessful developmental education activities and degree-seeking first-time full-time freshmen who do not graduate will still be funded by the State at about 53 percent of the full rate for what the SHEEO State Higher Education Finance study calls "total educational revenue"—unrestricted operating appropriations plus net tuition and fee revenue (SHEEO, 2013). Tennessee has made the choice that those "non-productive" (in the sense that the funding formula defines productivity) students will no longer be funded by the State, the minority partner in the enterprise. Tuition and fee revenues must cover them.

4) **Though generally positive, the early data are mixed as to whether the outcomes formula and the college completion era have ushered in improvements in degree productivity by Tennessee public postsecondary institutions.** At this writing, the answer to the question of whether improvements made to date are of significant magnitude for the state to reach its Drive to 55 goal by the year 2025 is an unequivocal "no." **Figure 2** tells a story that is largely successful but reveals a great deal of volatility and susceptibility to changing economic conditions with regard to postsecondary certificates and, to a lesser extent, associate's degrees.

- Overall, the number of undergraduate credentials awarded by Tennessee's public institutions grew by 35.1 percent from 2008-09 through 2012-13, and the compound annual growth rate was 6.2 percent for the period.
- Bachelor's degrees grew by 4.6 percent in the most recent year shown, which represented an uptick over the more modest compound annual growth rate of 2.6 percent for the five-year period 2008-09 through 2012-13.
- Associate's degrees had a compound annual growth rate of 6.7 percent for the period, but the single-year growth in 2012-13 moderated to 2.5 percent.
- When interpreting the results for postsecondary certificates, it is important to note that Tennessee's higher education funding formula counts a postsecondary certificate in the completions total only if it is the highest credential a student received. For example, Figure 2 shows 6,000 less-than-one-year certificates were awarded in 2011-12, yet only 1,468 (about one-fourth) of these were counted as completions in the funding formula. This is because the remaining 75 percent of certificate earners were found in subsequent years to be continuing their training toward a lengthier certificate or perhaps an Associate of Applied Science (AAS) degree. We know this because we looked at the 6,000 certificates from the year before to see if a higher certificate had been earned.

Focusing only on those certificates that were counted in the funding formula, one can see that the majority of credential growth among public institutions from 2008-09 through 2012-13 was accounted for by postsecondary certificates, particularly certificates of less than one year in length. Growth in the numbers of certificates awarded in training programs that range from one to two years in length has been steady, though more modest than in the shorter certificate programs.

Figure 2. Undergraduate Credentials Awarded by Tennessee Public Institutions, 2007-08 Through 2012-13



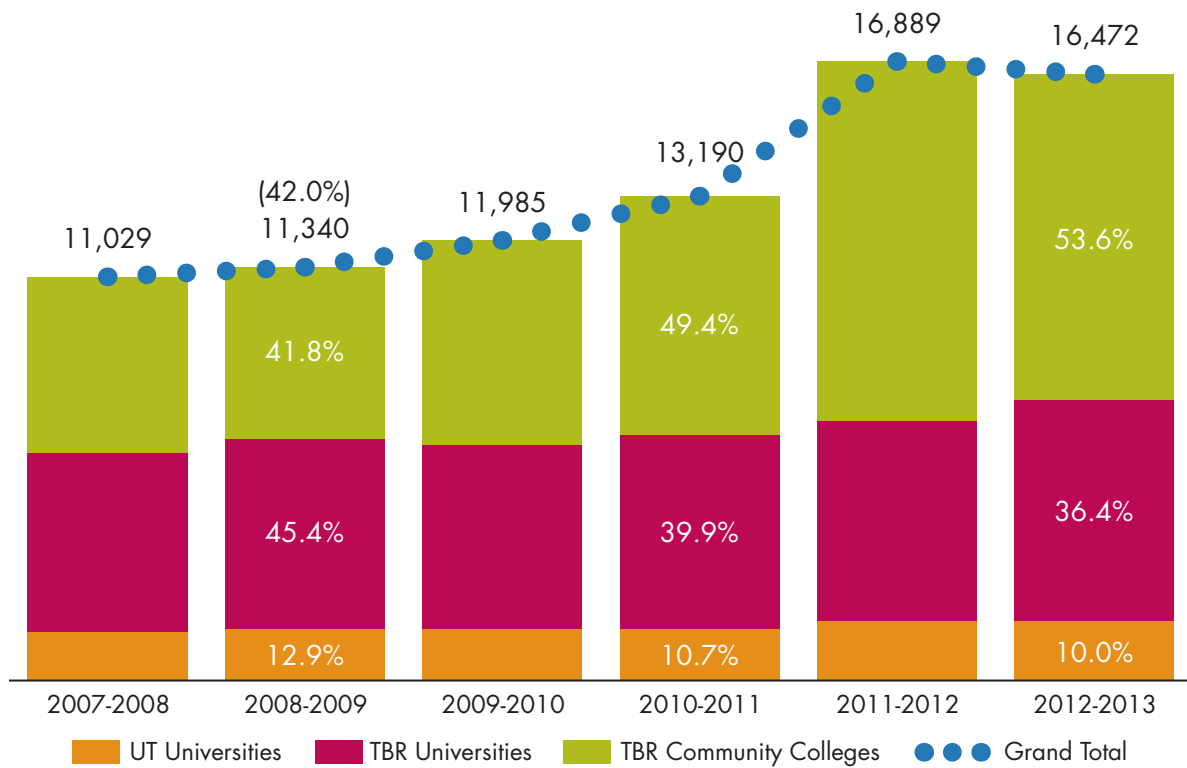
Notes: Includes public universities, community colleges, and Tennessee Colleges of Applied Technology (TCATs). Includes awards granted by non-formula units.

	2008-09	2011-12	2012-13	1-Year Change	5-Year Change	5-Year CAGR
Undergraduate Awards						
Public Institution Total	27,114	38,126	36,624	-3.9%	35.1%	6.2%
Certificate <1 Year	1,073	6,000	3,933	-34.5%	266.5%	29.7%
<i>Funding Formula Certificate <1 Year</i>	<i>828</i>	<i>1,468</i>	<i>2,818</i>	<i>91.9%</i>	<i>240.3%</i>	<i>27.8%</i>
Certificate 1-2 Years	518	2,703	2,119	-21.6%	301.1%	32.5%
<i>Funding Formula Certificate 1-2 Years</i>	<i>518</i>	<i>778</i>	<i>802</i>	<i>3.1%</i>	<i>54.8%</i>	<i>9.1%</i>
Associate's	7,030	9,467	9,701	2.5%	38%	6.7%
Bachelor's	18,375	19,956	20,871	4.6%	13.6%	2.6%
TCAT	6,762	13,777				

As previously noted, the Tennessee formula attaches a 40 percent funding premium to students representing two important sub-populations: adult learners and low-income (Pell-eligible) students. Therefore, degree productivity among those students bears closer examination, which is provided in Figures 3 and 4.

Overall, **Figure 3** shows above-average growth in credential completions by adult learners from 2007-08 through 2012-13, the latest year for which completions data are available. The compound annual growth rate for adult completers from Tennessee public institutions from 2008-09 through 2012-13 was a robust 7.8 percent; and a tremendous increase of 28 percent occurred between 2010-11, the first year of funding formula implementation, and 2011-12. However, in 2012-13, a leveling-off occurred. While adult student participation has increased in every public sector, the figure also shows that community colleges' share of adult completers is increasing while the public universities' share is decreasing.

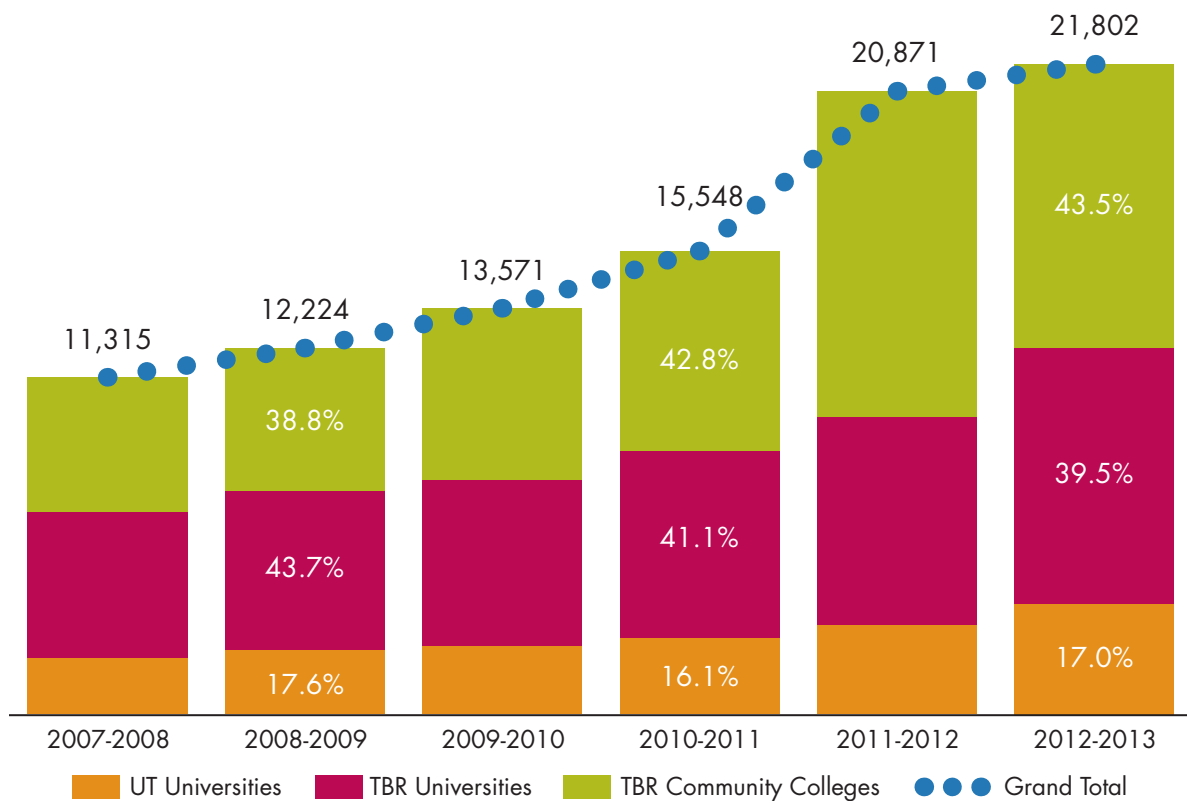
Figure 3. Adult Undergraduate Credential Completers From Tennessee Public Institutions, 2007-08 Through 2012-13



Note: An adult student is defined as a student who was age 25 or older at the time of enrollment.

The news with respect to low-income students appears to be more encouraging. As shown in **Figure 4**, the compound annual growth rate for Pell-eligible completers from Tennessee public institutions was 12.3 percent from 2008-09 through 2012-13. The majority of that growth occurred in the community colleges. Interestingly, the largest growth in a single year occurred between 2010-11 and 2011-12. Not only was this the first year after the implementation of Tennessee’s new outcomes-based higher education funding formula; it was also the year in which Tennessee community colleges saw the greatest single-year increase in enrollment throughout the economic recession. Therefore, correlating the outcomes-based formula with the increase in low-income completers from Tennessee’s community colleges is confounded, to say nothing of causation. Indeed, a portion of this growth may be attributable to decreases in family incomes brought on by the economic recession during this period.

Figure 4. Pell-Eligible Credential Completers From Tennessee Public Institutions, 2007-08 Through 2012-13



Note: Students are coded as Pell-eligible if they were eligible for the federal Pell Grant at any time in their academic careers.

Fiscal Incentives in State Higher Education Policy: Tentative Conclusions

The Higher Education Commission's lengthy history with the performance funding program and recent work with the governor's office, higher education systems and business community around the Drive to 55 has led to several "tentative conclusions" about the use of financial incentives to improve institutional and student success. The following statements can and should be tested empirically. Confirmation—or, more accurately, failure to reject—these statements would elevate their status from tentative conclusions to something like "performance-incentive principles." Again, time will tell.

However, at this stage, in the state of Tennessee, the incentives introduced are too new, our evidence too anecdotal or our understanding of the nuanced interactions between the incentive(s) introduced and the behavior(s) observed too incomplete to characterize the following statements as being anything stronger than the tentative conclusions that they are.

1) **Incentives work.** Tennessee's experience has been people and institutions respond to incentives. Institutions respond most readily to direct economic incentives. To be sure, students also respond to economic incentives, but they are also likely to respond to incentives that demystify the college experience, lessen the wasted movement associated with navigating the college completion process and improve their quality of life. A welcome byproduct of this conclusion is that incentives targeted on institutions often have an indirect positive effect on students, and vice versa.

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2) **Incentive funding is superior to initiative funding.** This conclusion is a corollary of the first. Over time, the Tennessee Higher Education Commission staff has come to believe that the state higher education community has accomplished more in terms of culture change, results and cooperation between institutions and systems in response to the notion of outcomes-based funding than could have resulted from decades of state- or federally imposed initiatives. The reality that a significant portion of an institution's daily operating revenues is predicated on its performance and that of its students has created a "downstream flow" such that campuses and systems can easily decide whether any state- or foundation-initiated project is worth its investment of time, resources and energy. If the idea is in keeping with "the way the water is flowing" it easily garners system and campus support. If it isn't, it doesn't.

The state higher education community has accomplished more in terms of culture change, results and cooperation between institutions and systems in response to the notion of outcomes-based funding than could have resulted from decades of state- or federally imposed initiatives.

3) **Get the money right, and everything else will follow.** Properly credited to Tennessee Higher Education Commission chief fiscal officer Russ Deaton, this is a corollary to the first and second conclusions.

4) **Focus on the “what” and not the “how.”** Only after a full year of funding formula development and four years of implementation have we begun to understand the full extent of its wisdom. Limiting the state-level focus to the “what” and leaving the “how” to the institutions unleashes campus creativity and allows institutional buy-in to build as individual colleges take ownership of the solutions they have tailored to themselves.

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5) **Direct economic incentives are a necessary but insufficient policy response to the college completion agenda.** This is true because most of the non-economic and indirect incentives listed back in **Table 1** are byproducts of the outcomes-based formula itself. They were initiated in response to outcomes-based funding, to make it more impactful on campus and to help the institution fare better within its parameters. Similarly, these additional campus tools, initiatives and practices would be less than the sum of their parts without the benefit of outcomes-based funding and might not even exist apart from it.

Author Bio

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David Wright is Chief Policy Officer for the Tennessee Higher Education Commission. In his role, David routinely advises the governor’s staff, legislature and campus leaders on policy matters related to higher education. He was the primary architect of the 2010-15 Public Agenda for Higher Education, which identified educational attainment as the state’s most pressing need. The Public Agenda set the stage for the state’s higher education funding formula that allocates almost all of the state’s institutional support on the basis of student outcomes.

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