Outcomes-Based Funding Formula Profile: Tennessee State University

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The Comptroller's Office of Research and Education Accountability (OREA) is examining the performance of public colleges and universities under Tennessee's outcomes-based funding formula (OBF), the state's funding formula for higher education. The last major revisions to the OBF occurred in 2015, and higher education policymakers are scheduled to meet in middle to late 2019 to begin considering further revisions to the formula. This profile takes a closer look at the performance of Tennessee State University under the funding formula.[1]

KEY POINTS

Like all public universities, Tennessee State University (TSU) has seen an increase in operating funding since the outcomes-based funding formula was implemented in 2010-11, though the rate of funding growth at TSU has been below the average for all universities. TSU's cumulative percent change in operating funding received under the formula has increased by approximately 8 percent since 2010-11. This is about 17 percent less than the cumulative percent change in total operating funding to all public four-year institutions. The 8 percent cumulative growth for TSU represents approximately $2.3 million in additional operating funding since 2010-11.

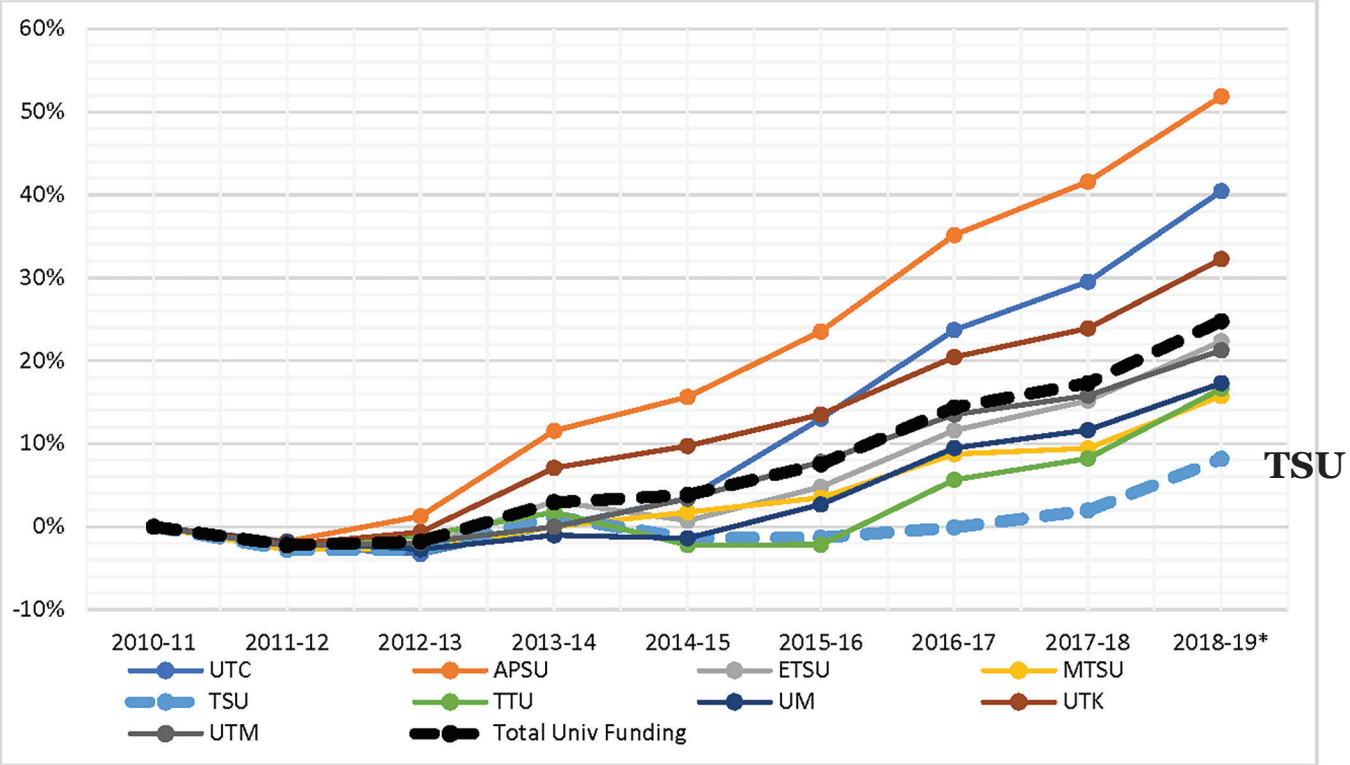
One of the main reasons for TSU's rate of funding growth is the institution's performance over the past four years on outcomes with the highest mission weights. Mission weights allow the leadership of each institution, in conjunction with the Tennessee Higher Education Commission (THEC), to identify certain outcomes as more or less important to the institution's mission. Performance on outcomes with higher mission weights will have a greater effect on the amount of funding received under the formula, all else being equal. The outcomes with the highest mission weights at TSU are bachelor's and associate degrees produced; expenditures on research, service, and sponsored programs; master's and education specialist degrees produced; and degrees awarded per 100 full-time equivalent (FTE) students.

The number of bachelor's and associate degrees produced at TSU showed a noticeable increase for the most recent year after declining in prior years. Performance has remained relatively constant or decreased on the institution's other outcome measures with the highest weights. It is also important to note that an institution's funding amount under the formula is not based on its performance in isolation; the performance of other institutions is also taken into account when determining a given institution's funding amount. Institutions with greater increases on outcome measures relative to other institutions will receive a higher share of funding.

[1] OREA has published a full report explaining how the outcomes-based funding formula works. The report, and additional information on the formula, can be found here: http://www.comptroller.tn.gov/OREA/PublicationDetails?ReportKey=fa70ee66-4be1-40ab-ae73-0c873c2dc744.

Like all public universities, Tennessee State University (TSU) has seen an increase in operating funding since the outcomes-based funding formula was implemented in 2010-11, though the rate of funding growth at TSU has been below the average for all universities. Exhibit 1 shows the cumulative percent change in operating dollars for Tennessee's nine public universities based solely on their performance across the three components in the formula that determine funding recommendations: weighted outcomes, fixed costs, and quality assurance funding. (The exhibit excludes Tennessee's community colleges and colleges of applied technology.[2]) TSU's cumulative percent change in funding is designated by the dotted light blue line while the total cumulative percent change in university funding is shown by the dotted black line.

Exhibit 1: Cumulative Change in Operating Funding for Tennessee's Public Universities in the Formula, 2010-11 to 2018-19

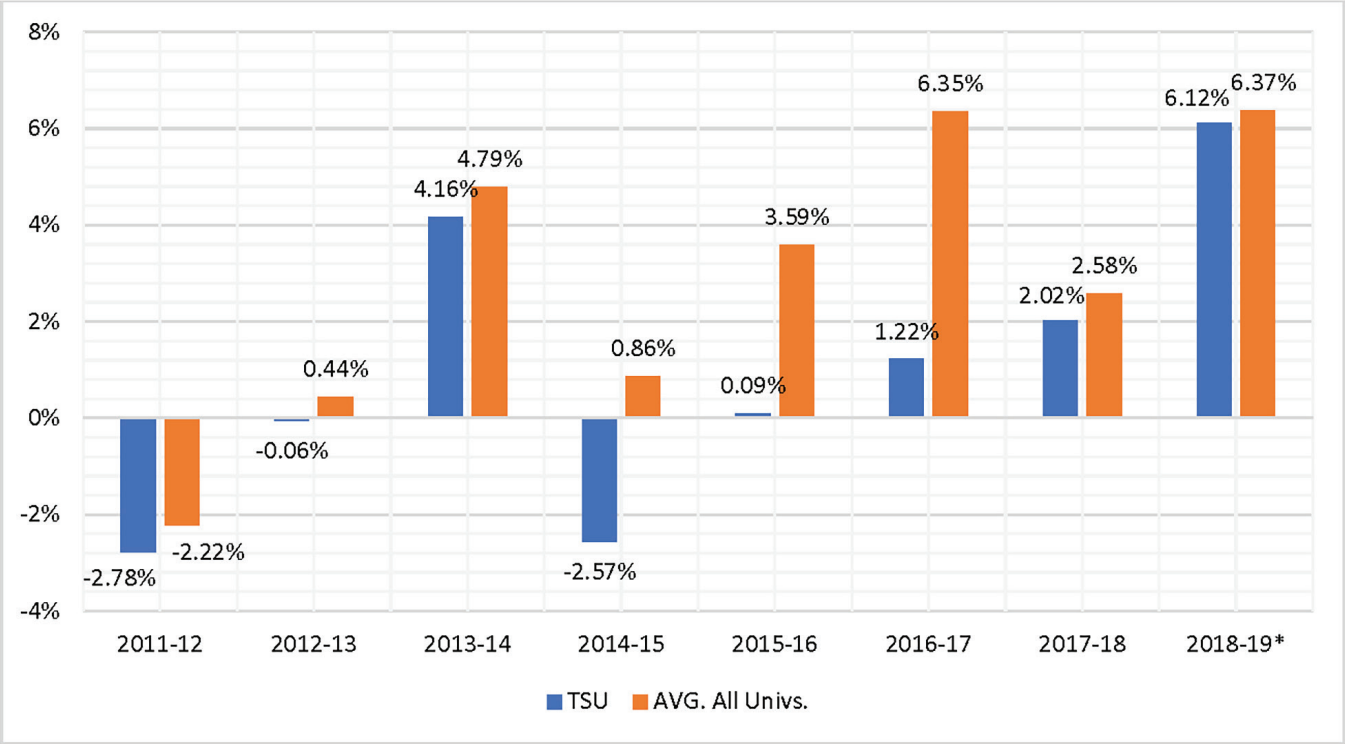


Note: These figures represent cumulative changes in operating funds and do not include adjustments to salary, health insurance, retirement funds, or changes due to the removal of the hold harmless provision. Total funding does not include community colleges or colleges of applied technology (TCATs).
* The 2018-19 cumulative change is based on THEC's funding recommendation formula and may change depending on THEC's Legislative Action plans expected at the end of 2018.
Source: Tennessee Higher Education Commission.

[2] A different formula – based on costs and enrollment – determines Tennessee's colleges of applied technology (TCAT) formula calculation. Although TCATs compete with universities and community colleges over the same revenue source, they are excluded from the exhibits to allow for a comparison between institutions that compete on similar metrics. Although community colleges compete with universities for funding in the outcomes-based funding formula, they are rewarded for improving performance on outcomes that are different from universities. Community colleges are excluded from the exhibits to allow for a comparison of universities that are funded on similar outcomes.

The breakdown of TSU's annual change in operating funds is seen in Exhibit 2, which shows how TSU's operating dollars change each year compared to the average annual change of all public four-year universities in the formula. Since 2015-16, TSU has shown smaller annual increases in operating funding than the average of all universities in the formula.

Exhibit 2: Annual Change in Operating Funding for TSU and the Average of all Universities in the Formula, 2010-11 to 2018-19



Note: These figures represent annual changes in operating funds and do not include adjustments to salary, health insurance, retirement funds, or changes due to the removal of the hold harmless provision. Adding the annual changes in funding for each institution will not result in the total cumulative change in funding shown in Exhibit 1. Average university funding does not include community colleges or colleges of applied technology (TCATs).
* The 2018-19 annual change is based on THEC's funding recommendation formula and may change depending on THEC's Legislative Action plans expected at the end of 2018.
Source: Tennessee Higher Education Commission.

One of the main reasons for TSU's rate of funding growth is its performance on outcomes with higher mission weights. Mission weights allow the leadership of each institution, in conjunction with THEC, to assign differing weights to outcome measures to reflect the institution's mission. Like most universities, and as seen in Exhibit 3, TSU's mission weights are highest for bachelor's and associate degrees produced (22.5 percent), followed by expenditures on research, service, and sponsored programs (15 percent), and an equal-weighting between masters and education specialist degrees produced (12.5 percent) and degrees awarded per 100 FTE students (12.5 percent).

Although bachelor's and associate degree production showed a noticeable increase for 2018-19, TSU's outcomes for the other highest weighted measures have decreased or remained constant since 2015-16.

Exhibit 3: TSU's Mission Weights by Outcome

	Students Accumulating 30 hrs	Students Accumulating 60 hrs	Students Accumulating 90 hrs	Bachelor's and Associate Degrees	Master's/ Ed Specialist Degrees	Doctoral/ Law Degrees	Research and Service	Degrees per 100 FTE	Six-Year Graduation Rate	Total
TSU	4.0%	6.0%	10.0%	22.5%	12.5%	7.5%	15.0%	12.5%	10.0%	**100%**
Range: All Univs.	2.0% - 6.0%	4.0% - 7.5%	6.5% - 10.0%	20.0% - 30.0%	10.0% - 20.0%	0.0% - 15.0%	5.0% - 15.0%	7.5% - 17.5%	10.0% - 20.0%	

Note: The range includes the mission weights of all outcomes for the university sector.
Source: Tennessee Higher Education Commission, 2015-20 Outcomes Based Funding Formula, 2018-19 Outcomes Formula Model: https://www.tn.gov/thec/bureaus/finance-and-administration/fiscal-policy/redirect-fiscal-policy/outcomes-based-funding-formula-resources/redirect-outcomes-based-funding-formula-resources/2015-20-outcomes-based-funding-formula.html (accessed Jan. 16, 2018).

What factors determine an institution's funding amount under the outcomes-based funding formula?

There are three components ***in the outcomes-based funding formula*** that determine funding recommendations:

- ***Weighted outcomes.*** Weighted outcomes for universities include measures such as credit hour accumulation, bachelor's and associate degrees produced, and six-year graduation rate. Improving weighted outcomes will result in more funding, all else being equal. Since 2015-16, weighted outcomes represent about 78 percent of an institution's funding recommendation, on average.

- ***Fixed costs.*** Fixed costs account for roughly 17 percent of an institution's funding recommendation, on average, and consist of the costs incurred for maintenance and operations, utilities, and equipment replacement. Fixed costs do not include capital outlay or capital maintenance.

- ***Quality assurance funding.*** Quality assurance funding provides institutions a chance to earn an additional 5.45 percent of an institution's funding recommendation for meeting certain quality standards for student learning, engagement, and student access.

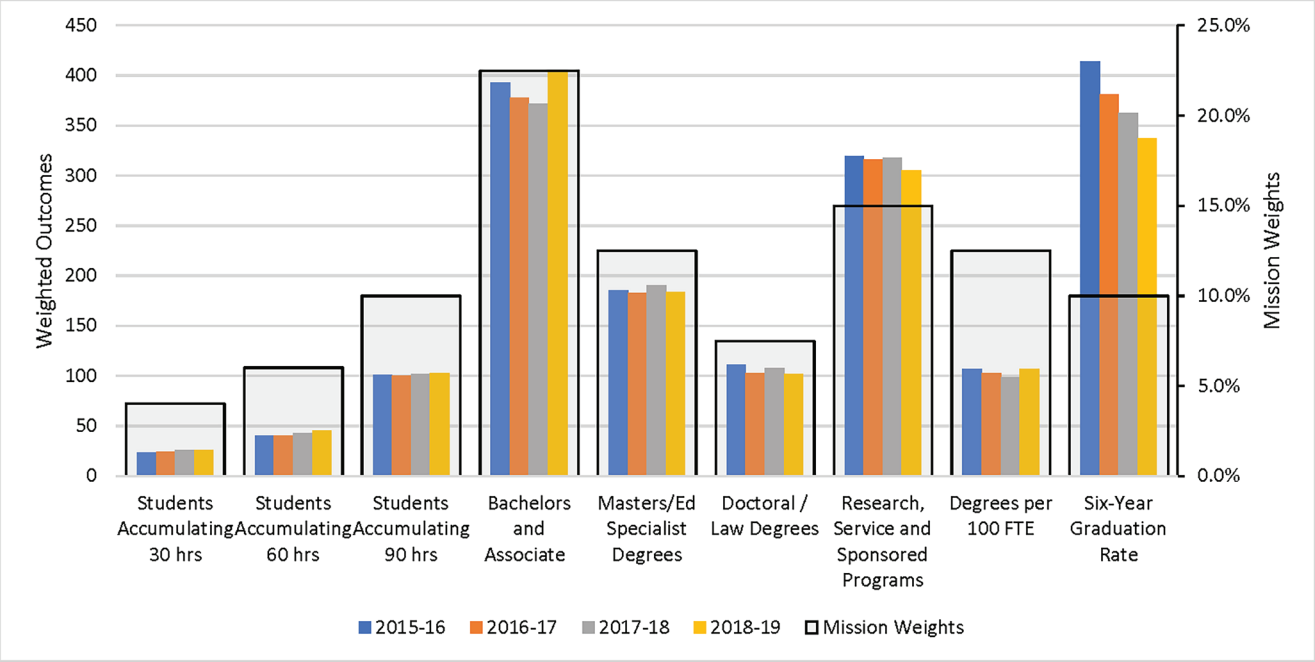
Performance on the components determines an institution's funding amount, which is also a function of:

- How an institution performs compared to its own three-year average.
- How an institution performs compared to other institutions' three-year average.
- The amount of new money appropriated by the General Assembly.

OREA has published a full report explaining how the outcomes-based funding formula works. The report, and additional information on the formula, can be found here: http://www.comptroller.tn.gov/OREA/PublicationDetails?ReportKey=fa70ee66-4be1-40ab-ae73-0c873c2dc744.

Exhibit 4 shows changes in TSU's weighted outcomes in the funding formula for the past four years.[3] The shaded boxes around the multicolored bars are the mission weights set by TSU in conjunction with THEC. For example, TSU applies a 22.5 percent mission weight to its bachelor's and associate degree production, which showed a noticeable increase for 2018-19. The next three highest-weighted outcomes – expenditures on research, service, and sponsored programs; master's and education specialist degrees produced; and degrees awarded per 100 FTE students – either decreased or remained constant over the past four years.

Exhibit 4: TSU's Weighted Outcomes and Mission Weights, 2015-16 to 2018-19



Note: Weighted outcomes include combined three-year averages of outcome measures, scales, and mission weights.
Source: Tennessee Higher Education Commission, 2015-20 Outcomes Based Funding Formula, 2018-19 Outcomes Formula Model: https://www.tn.gov/thec/bureaus/finance-and-administration/fiscal-policy/redirect-fiscal-policy/outcomes-based-funding-formula-resources/redirect-outcomes-based-funding-formula-resources/2015-20-outcomes-based-funding-formula.html (accessed Jan. 16, 2018).

TSU's performance on weighted outcomes, and the other two formula components (fixed costs and quality assurance funding) are analyzed in monetary terms in Exhibit 5.

In the weighted outcomes component, TSU improved performance on four out of nine outcomes and saw a decrease in the remaining five, producing a net decrease in recommended additional funding for weighted outcomes of $123,100, all else being equal. Fixed costs and quality assurance funding increased by $298,000 and $173,000, respectively, from 2017-18, all else being equal.

[3] Outcomes for Tennessee's colleges and universities underwent changes from the 2010-15 formula to the 2015-20 formula. The exhibit compares weighted outcomes since the implementation of the 2015-20 formula to maintain a consistent unit of comparison.

An additional $1.7 million was recommended for TSU through the formula based on the institution's performance from 2017-18 to 2018-19. The additional funding is applied to TSU's recurring state appropriation to produce a total recommended funding appropriation of $38.5 million for 2018-19.

Exhibit 5: Estimated Effects of the Formula's Components on TSU's Funding Recommendation, 2017-18 to 2018-19

Outcomes-Based Funding Formula Components		Performance Change from 2017-18 (%)	Effect on Funding Recommendation ($)	Total
2017-18 Additional Funding				**$1,433,500**
Weighted Outcome Measures	*Mission Weights*			
Students Accumulating 30 hrs	*4.00%*	-0.71%	-$3,400	
Students Accumulating 60 hrs	*6.00%*	6.36%	$49,700	
Students Accumulating 90 hrs	*10.00%*	0.94%	$17,500	
Bachelor's and Associates	*22.50%*	8.62%	$588,600	
Master's/Ed Specialist Degrees	*12.50%*	-3.29%	-$114,800	
Doctoral / Law Degrees	*7.50%*	-5.56%	-$110,200	
Research, Service and Sponsored Programs	*15.00%*	-3.81%	-$222,300	
Degrees per 100 FTE	*12.50%*	8.13%	$147,200	
Six-Year Graduation Rate	*10.00%*	-7.15%	-$476,600	
Total Weighted Outcomes*		-0.41%	**-$123,100**	
Fixed Costs		4.27%	**$298,000**	
Quality Assurance		12.00%	**$173,000**	
Increase from 2018-19 Components				**$347,900**
2018-19 Total Recommended Additional Funding				**$1,781,400**
Total Recommended Funding Appropriation				**$38,539,700**

* The total weighted outcomes will not equal the sum of all changes on weighted outcome measures since the analysis estimates each outcome while holding all other data constant. The change in total weighted outcomes includes all changes to weighted outcome measures, holding all other components constant.
Note: The estimated effects of each outcome calculated by OREA may differ slightly from THEC's estimates since OREA conducted its own analysis of the formula's components. Any differences are most likely due to rounding. The 2018-19 funding recommendation may change depending on THEC's Legislative Action plans expected at the end of 2018. Weighted outcomes include combined three-year averages of outcome measures, scales, and mission weights.
Source: Tennessee Higher Education Commission, Breakdown of Outcomes-Based Formula Components Impact on 2018-19 State Appropriations: https://www.tn.gov/content/dam/tn/thec/bureau/fiscal_admin/fiscal_pol/obff/2018-19%20Formula%20Component%20Analysis_FINAL%20for%20website_email.pdf (accessed March 16, 2018).

Definitions: 2016-17 Outcomes-Based Funding Formula

Outcomes	Definitions
Students Accumulating 30, 60, 90 hours	Students credit hour accumulation is measured by the number of full-time and part-time students whose cumulative credits earned at the beginning of a semester are less than the established credit hour threshold benchmarks of 30, 60, or 90 student credit hours and whose cumulative credit hours earned at the end of the semester are equal to or greater than the credit hour threshold benchmarks during the academic year.
Bachelor's and Associate degrees	The combined total of bachelor's and associate degrees conferred to undergraduate students during an academic year. Students earning multiple degrees in an academic year have each earned degree count as a separate outcome. Double majors do not count as two outcomes. Austin Peay State University and Tennessee State University are the only universities that grant associate degrees.
Master's/Education Specialist degrees	The combined total of master's and education specialist's degrees and certificates conferred to students during an academic year. Students earning multiple degrees in an academic year will have each earned degree count as a separate outcome. Double majors with the same degree do not count as two outcomes.
Doctoral/Law degrees	The combined total of doctoral and law degrees conferred to students during an academic year. The outcome does not include medical or pharmacy degrees. Students earning multiple degrees in an academic year will have each earned degree count as a separate outcome. Double majors with the same degree do not count as two outcomes.
Research and service	Expenditures on activities eligible for indirect cost allocation, primarily but not exclusively externally generated funding for research, service, or instruction. The data should exclude financial aid, capital funding, state appropriations, donations from foundations, and practice income.
Degrees per 100 FTE	The combined total of associate and bachelor's degrees conferred during an academic year for every 100 year-round, end-of-term undergraduate full-time enrollment (FTE) generated during the same academic year. Non-degree seeking students are not included in undergraduate FTE. Full-time enrollment is 30 semester credit hours.
6-year graduation rate	First-time, full-time, fall freshmen and summer first-time freshmen who continued in the fall, attempting 12 credit hours at the census date, who were awarded a bachelor's or associate degree as of the summer semester following their sixth year.

Note: Data definitions are based on THEC's 2016-17 formula definitions. Definitions for the 2017-18 formula have not been updated.
Source: Tennessee Higher Education Commission, 2015-20 Outcomes-Based Funding Formula Overview, Appendix D.

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