SHEEO

STATE HIGHER EDUCATION EXECUTIVE OFFICERS ASSOCIATION

STATE APPROACHES TO BASE FUNDING FOR PUBLIC COLLEGES AND UNIVERSITIES

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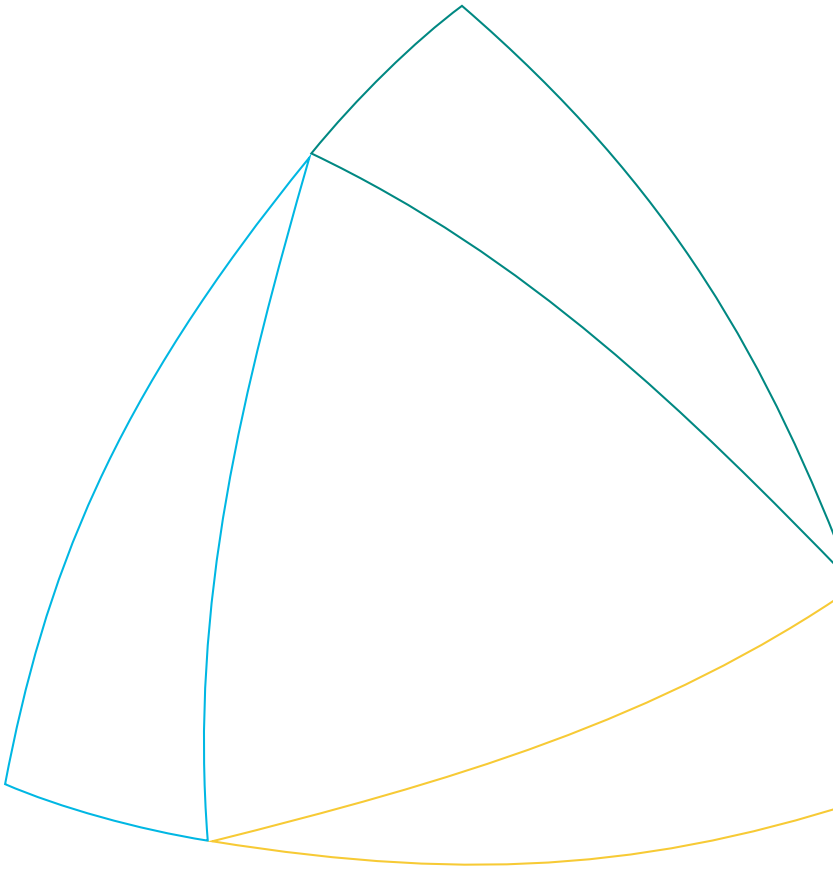

NCHEMS

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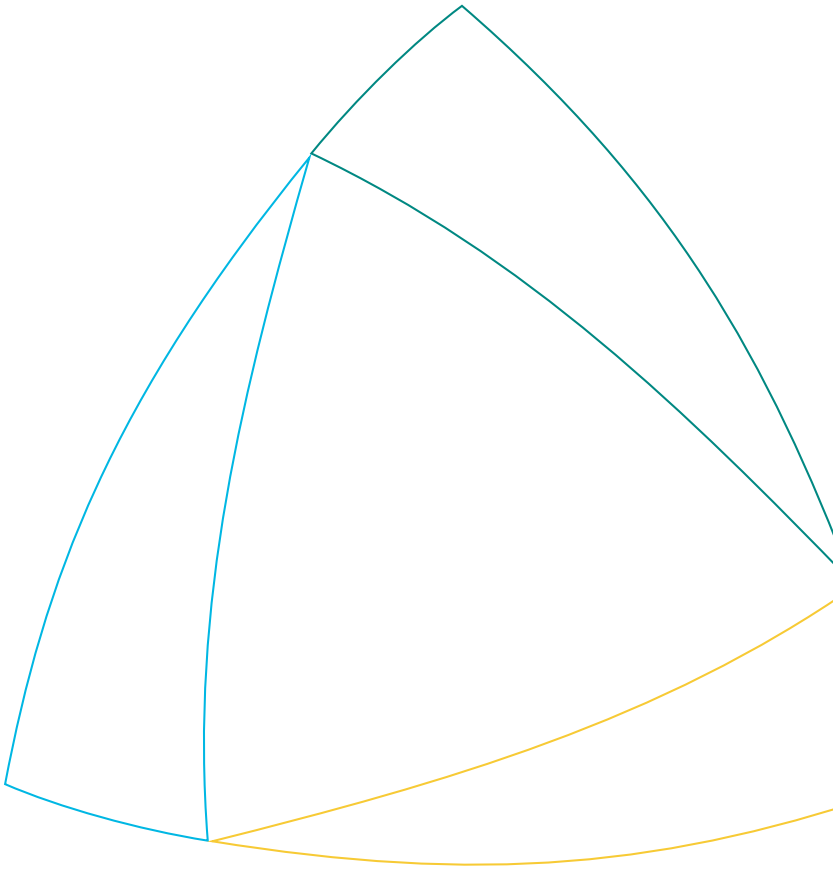
Aggregate and state-level data from this publication are available upon request.



INTRODUCTION

Research on state higher education funding policies and practices is widespread. There is considerable research documenting how state funding for higher education tends to serve as a balance wheel for state budgets facing an economic downturn,[1] research describing the responses of institutions to changes in state funding, and research on how state funding affects institutional expenditures and student accessibility and outcomes, among others.[2] In addition, in recent years, a growing number of states have adopted so-called performance-based funding approaches that distribute a portion of existing or new state money to institutions according to how well they perform on a set of measurements such as graduation numbers or rates, productivity measures, and workforce participation.[3] This trend has spurred substantial research on the parameters states use to allocate funds under these models and on the impact of these approaches.[4]

In contrast to the interest shown by the research community in documenting performance funding and its consequences, there has been surprisingly little effort to provide details about how states appropriate money to institutions to support general operations. This is in spite of the fact that nearly all states allocate the majority of their direct funding of institutions based on how much funding support they provided in previous years. The only national-level source documenting the factors that determined those funding allocations was MGT Consulting group, which once produced periodic reports on states' varied funding approaches.[5] However, those reports were discontinued in the early 2000s. More recently, the researchers behind InformEd States released a brief about state funding policies that included base funding.[6]

Building on this work, the State Higher Education Executive Officers Association (SHEEO) partnered with the National Center for Higher Education Management Systems (NCHEMS) to administer a survey to update our understanding about how states provide a basic level of support for operations at public institutions. The survey sought to gather, consolidate, and share information about how states provide base funding for their public higher education institutions, and provide baseline definitions for different types of state funding methodologies. The survey focused on state funding allocation strategies, not necessarily the determinants of funding (i.e., we do not answer the question of how states determine the total amount of funding to give

1. Delaney, J., & Doyle, W. (2011). State spending on higher education: Testing the balance wheel over time. *Journal of Education Finance,* 36(4). www.jstor.org/stable/23018116
2. State Higher Education Executive Officers Association. (2021). *Investigating the impacts of state higher education appropriations and financial aid.* sheeo.org/wp-content/uploads/2021/05/SHEEO_ImpactAppropationsFinancialAid.pdf
3. Lingo, M., Kelchen, R., Baker, D., Rosinger, K., Ortagus, J., & Wu, J. (2021). *The landscape of state funding formulas for public colleges and universities.* InformEd States. informedstates.org/policy-briefs-feed/the-landscape-of-state-funding-formulas-for-public-colleges-and-universities-jtbcg-z3g7x
4. For example, see: Dougherty, K. J., Jones, S. M., Lahr, H., Natow, R. S., Pheatt, L., & Reddy, V. (2016). Looking inside the black box of performance funding for higher education: Policy instruments, organizational obstacles, and intended and unintended impacts. *RSF: The Russell Sage Foundation Journal of the Social Sciences,* 2(1), 147-173; Li, A. Y., & Kelchen, R. (2021). Policy diffusion of performance funding equity metrics: Traditional neighbor and dyadic survival analyses. *Educational Policy.* doi.org/10.1177/08959048211058439; McLendon, M. K., Hearn, J. C., & Deaton, R. (2006). Called to account: Analyzing the origins and spread of state performance-accountability policies for higher education. *Educational Evaluation and Policy Analysis,* 28(1), 1–24. doi.org/10.3102/01623737028001001; Rosinger, K. O., Ortagus, J., Kelchen, R., Cassell, A., & Brown, L. C. (2022). New evidence on the evolution and landscape of performance funding for higher education. *The Journal of Higher Education.* doi.org/10.1080/00221546.2022.2066269
5. KcKeown-Moak, M. P. (2006). *Funding formula use in higher education.* MGT of America, Inc. www.hawaii.edu/act188/docs/MGTAmer-funding_forumula_use.pdf
6. Lingo, M., Kelchen, R., Rosinger, KJ., Baker, D., Ortagus, J., & Wu, J. (2021). *The landscape of state funding formulas for public colleges and universities.* InformEd States. static1.squarespace.com/static/5d9f9fae6a122515ee074363/t/612d9d7458f7db4cfd58baab/1630379382136/InformEdStates_Brief_LandscapeofStateFundingFormulas.pdf

to colleges; rather, we answer questions about how those determined amounts are allocated among institutions). SHEEO agency finance officers completed the survey during the fall of 2021. We received 48 responses from 46 states. We were not able to collect responses from Georgia, Massachusetts, Nevada, or Texas.

There are several limitations to this survey that should be noted. First, the survey sought to exclude performance-based funding (PBF) in order to focus on base appropriations (i.e., the survey sought to isolate the funding an institution might receive through a formula that was not performance-based from funding allocated via PBF), but data providers were instructed to consider completed credits (a measure of enrollment) as a component of base funding, not PBF. The exclusion of PBF muddles some survey responses, as over 30 states use PBF for at least part of their institutional funding allocations to one or more sectors, and PBF accounts for between 0.1% and 100% of funding across states.[7] SHEEO plans to continue administering this base funding survey occasionally, and future surveys and reports on this topic will include PBF as one component of state funding models. Second, in this survey, we asked states to report the total amount of state general fund support to all public institutions, including any federal stimulus funds that were used to replace state funds. We then asked that states provide the amount of funding allocated to each sector based on different funding approaches. Some states provided percentages for each funding approach, requiring us to estimate the proportion of state general fund support allocated to each sector using data from the State Higher Education Finance dataset.[8] Future survey administrations will correct for this by collecting sector-level state general fund support together with sector-level funding amounts for each approach.

In this report, we provide definitions for several different state higher education base funding approaches: base plus, input-driven formula funding, institutional requests, and performance funding (PBF). We also discuss special purpose funding. Additionally, we share details on the creation, review, and change of state funding policies. It is our hope that this report will be of use to states considering revising their base funding models, and to researchers and policy analysts seeking to examine the impacts and effects of different funding strategies.

7. See the SHEEO SHEF report on PBF at shef.sheeo.org/wp-content/uploads/2022/10/SHEEO_SHEF_FY21_PBF_Report.pdf
8. State Higher Education Executive Officers Association. (2022). *State higher education finance: FY 2021*. shef.sheeo.org

STATE HIGHER EDUCATION FUNDING APPROACHES

In the following sections, we describe four different state approaches to funding base operations at public two-year and four-year institutions. These funding approaches are based on state-level (not system-level) decisions and actions. We focus on the approach by which funding is allocated, not on the factors that determine annual funding increases or decreases (although there is some overlap). As we discuss in a later section, many states use more than one funding approach. States may use one approach for the base of recurrent funding and another approach for new funding, or may use multiple approaches to determine either component. As such, the approaches described here represent our best attempt at classifying the broad strategies used to allocate base funding for public institutions across states.

BASE PLUS

One way that states allocate higher education funding to institutions is through a "base plus" approach. In this type of approach, funding decisions are made starting with an established institutional "base" amount from prior fiscal years. The state budgeting authority then determines the new fiscal year allocations through additions or subtractions to this base, or by simply flat funding the institution from the previous fiscal year (making no changes to the base). Institutions receive relatively consistent funding proportions one year to the next, and increases or decreases in funding are similar or equivalent across institutions in a sector or system. In some states with base plus funding, public institutions within a sector receive a flat or fixed percentage increase on their base funding. For example, all public four-year institutions within a system might receive a 5% increase on their base institutional funding. In a base plus approach, allocation changes are derived not from set formulas or statutory requirements but instead from changing state economic circumstances or political priorities. Allocation changes may also respond to sector-level impacts such as increases in input costs, tuition revenue, or enrollment changes. However, base allocations are typically not calculated based on a formula and often do not account for institution-specific contexts. In a base plus approach, prior year funding changes (the "plus") are incorporated into the recurring base each year, and institutions are generally treated similarly for any future increases or cuts. Twenty-five states reported utilizing a base plus approach in the two-year sector, and 30 use a base plus approach in the four-year sector (*Table 1*).

In some states, base plus allocations are appropriated directly to the colleges and universities while maintaining relatively proportional incremental changes between institutions in a sector. While Virginia allocates a single appropriation to its two-year community college system, public four-year institutions receive separate appropriations relative to their prior biennial funding year bases.[9] In Utah, public two- and four-year institutions, part of the Utah System of Higher Education, present a unified operating budget request to the state legislature, but receive individual appropriations above or below their established bases in the budget bill.[10] However, unlike in an institutional requests funding approach, the budget recommendations come from the system office or state agency, not individual institutions.

9. Virginia's final 2020-2021 adopted budget. Virginia's Legislative Information System. budget.lis.virginia.gov/secretariat/2020/2/HB5005/Chapter/1/office-of-education.

10. For USHE's operating budget requests, see: ushe.edu/office-of-commissioner/institutional-resources/budget-finance. For Utah's fiscal year 2021 *Higher education base budget,* see le.utah.gov/~2020/bills/static/SB0001.html.

In other states, a flat increase or decrease is given to the public systems, and they make internal allocation decisions for their institutions. Because the state does not determine specific increases or decreases for each institution individually, we consider this a type of base plus funding. New Hampshire is one state that uses a base plus approach to funding its institutions through systems that govern the two-year and four-year sectors, respectively. In the fiscal year 2019-2021 biennium, the University System of New Hampshire and Community College System of New Hampshire received separate operating support appropriations, with the University System receiving an additional $12 million over its base amount from the prior budget, and the Community College System receiving a $10 million operating support increase over its base amount.[11] This funding is appropriated to each system office, which then decides how to allocate the funding to individual institutions. Minnesota takes a similar base plus approach to funding its college and university systems. In the fiscal year 2020-2021 biennium, the Minnesota State Colleges and Universities system received a $70 million increase above its prior budget base, while the University of Minnesota System was appropriated $33.5 million over its prior year budget base.[12]

Factors that are formally considered in determining additions to the base include (from most common to least common, per survey responses): institution-specific initiatives, additions of new assets (such as new facilities), enrollment, a fixed percentage, input costs, and average rates of employee pay. There is a distinction between enrollment in this context, which is used as a factor that states consider in adjusting funding levels, and an enrollment formula, which is less subjective. In rare cases, some states reported considerations such as peer group comparisons and student/faculty ratios when determining additions to base funding. While average rates of employee pay were only referenced by two states, responses indicated that personnel costs—specifically, fringe benefits and salaries—were commingled with input costs (*Table 2*).

Base plus funding offers a simple and stable approach to determining institutional allocations. The administrative burden for the state budgeting authority is lower than for a formulaic or other strategic approach, and because funding is calculated off of a previously established base, institutions can expect relatively consistent funding year over year, with incremental rather than drastic fluctuations in funding amounts.[13] On the other hand, a shortcoming of base plus funding is the possibility that the established base perpetuates historic inequities in funding.[14] A solution to this problem is to periodically conduct an equity analysis and to use the findings to reestablish the base amounts to be used in subsequent years.[15] This funding approach is also slower to respond to evolving conditions or to changes in state priorities or missions than formula funding. States that employ a formula funding approach may find it easier to realign institutional funding allocations to match new or changing state goals by updating the formula. However, states that use a base plus approach can only shift funding starting from a historical institutional allocation base, meaning any year-to-year changes in funding allocations are more incremental. In addition, when states

11. See: *FY 2020-21 Operating and capital budget*. The General Court of New Hampshire Office of Legislative Budget Assistant. www.gencourt.state.nh.us/LBA/Budget/fy2020_2021_budget.aspx; and *The state budget for fiscal years 2020 and 2021*. New Hampshire Fiscal Policy Institute. nhfpi.org/resource/the-state-budget-for-fiscal-years-2020-and-2021

12. Budget numbers taken from: *Major appropriations and finance bills, 1995-present*. Minnesota Legislative Reference Library. www.lrl.mn.gov/history/appropriations.

13. Hearn, J. (2015). *Outcomes-based funding in historical and comparative context*. Lumina Issue Papers. www.luminafoundation.org/wp-content/uploads/2017/08/hearn-obf-full.pdf.

14. Kelchen, R., Ortagus, J., Rosinger, K., Baker, D. & Lingo, M. (2022). *The relationships between state higher education funding strategies and student outcomes*. InformEd States. static1.squarespace.com/static/5d9f9fae6a122515ee074363/t/626ff693896a6424729fcea3/1651504787359/ISBrief_FundingStrategiesStudentOutcomes.pdf

15. Laderman, S. (2022). *Under audit: Equity audits in state higher education finance*. MDRC. www.mdrc.org/publication/under-audit-equity-audits-state-higher-education-finance

implement across-the-board cuts to all institutions, institutions within a state that are more reliant on public funding for their operating revenues will be disproportionately affected; these are often the institutions with the least ability to generate revenue from alternative sources, and which tend to serve students of color, low-income students, and adult learners.

The degree to which base plus funding can strategically account for state priorities and institutional contexts can depend on how funding allocations are distributed to colleges and universities from the state budgeting authority. In states that use a base plus approach to allocate funding to a sector through a statewide system or central governing board, staff in that system office who work more closely with that sector's institutions may be better able to direct the funds in a strategic manner.[16] In states without a centralized system office that allocates funding, decision-making on funding allocations tends to be less strategically targeted, leading to allocation decisions shaped more by political considerations than individual campus contexts.

TABLE 1

STATES WITH A BASE PLUS FUNDING APPROACH, BY SECTOR

SECTOR	STATES	COUNT
Two-Year Only	SD, WA	2
Four-Year Only	AZ, CA, FL, IL, KS, NJ, WY	7
Both Sectors	AL, AR, CO, HI, ID, IA, LA, MD, MN, MO, MT, NE, NH, NM, NY, NC, OK, OR, UT, VT, VA, WV, WI	23

SOURCE: SHEEO State Higher Education Finance (SHEF) Dataset

16. Hearn, J. (2015). *Outcomes-based funding in historical and comparative context*. Lumina Issue Papers. www.luminafoundation.org/wp-content/uploads/2017/08/hearn-obf-full.pdf.

TABLE 2

FACTORS CONSIDERED IN DETERMINING ADDITIONS TO THE BASE, BY STATE AND SECTOR

CONSIDERATIONS	TWO-YEAR SECTOR	COUNT	FOUR-YEAR SECTOR	COUNT
A Fixed Percentage Applied to all Institutions	AL, AR, MO, NM, WA	5	AL, AR, CA, IL, MO, NJ, NM, NY	8
Enrollments or Enrollment Changes	ID, MT, NM, NY, NC, UT, VA, WA	8	CA, ID, MT, NJ, NM, NC, UT, VA	8
Numbers of Employees	-	0	NC, WY	2
Student/Faculty Ratios	MT	1	-	0
Average Rates of Pay (Overall or for Category of Employee)	MT, SD, UT	2	MT, NC, UT	3
Changes in the Prices/ Costs of Inputs	AL, MT, OR, SD, UT, VA	5	MT, NC, OR, UT, VA	5
Additions of New Assets (e.g., New Programs, Facilities)	AR, ID, IA, MT, NY, NC, OK, UT, VA	9	AL, AR, FL, ID, IA, MT, NY, OK, UT, VA	10
Institution-Specific Initiatives	AL, AR, HI, ID, IA, OK, UT, VA, WA, WI	10	AR, CA, FL, HI, ID, IA, NC, OK, UT, VA, WI, WY	12
Peer Group Comparisons	MT	1	MT	1

SOURCE: SHEEO State Higher Education Finance (SHEF) Dataset

INSTITUTIONAL REQUESTS

Another approach to state funding of higher education is through institutional requests. In this approach, state legislatures or the budgeting authority determine base budgets on an institutional level, rather than making system- or sector-wide funding decisions, and funding allocations for each institution are determined based on historical patterns as well as institution-by-institution funding requests. While the "base" may be similarly determined in base plus and institutional requests funding approaches, they differ primarily in how changes in funding levels are determined. Unlike with a base plus approach, where year-over-year funding changes are largely equivalent between institutions in a single sector or system, with an institutional requests approach, institutions within a sector may receive different changes in their allocations based on their ability to successfully plead their case in the legislature, a practice that may be abetted by specific state priorities (e.g., support for an institution uniquely positioned for that purpose) or by more run-of-the-mill political considerations (e.g., powerful legislators favoring institutions located in their districts).

In states that fund their postsecondary institutions using an institutional requests approach, initial funding amounts (such as general operating allocations) for each institution are often based on the prior year's allocation amount, with changes to this amount based on budget requests submitted by institutions to the state budgeting authority for new funding line items (such as new programs or initiatives). In this approach, funding decisions may be tied more to individual campus contexts, and colleges and universities may request funding for a new initiative or to support enrollment growth specific to their institution. For example, one public four-year institution in a state may receive a sizable increase in their allocation due to a growth in enrollment in the previous year or to fund a new programmatic initiative, while another public four-year institution may be flat

funded in the same budget. Nine states use this approach in the two-year sector and 13 in the four-year sector (*Table 3*).

Many states with an institutional requests approach to funding use it in combination with other approaches, such as an input-driven or performance-based funding formula or a base plus approach. For example, while Indiana allocates a portion of its funding to its two-year and four-year institutions through a performance funding model, institutions also submit line-item budget requests to the governor and the legislature, which are considered for recommendation in the final budget as part of Indiana's biennial budget negotiations. Institutions also submit line-item and capital requests to the Indiana Commission for Higher Education, but, as a coordinating body, the agency does not have final say over the budget allocation for each institution.[17] In Alabama, although a base plus approach is used to determine general allocations for the state's public institutions, individual colleges and universities also submit line-item budget requests for new campus programs and initiatives, which are considered by the governor for adoption in the recommended budget for each fiscal year.

Other states rely on institutional requests as their sole approach to funding higher education. For example, in Delaware, the state's public institutions—the University of Delaware, Delaware State University, and Delaware Technical Community College—each submit annual budget requests to the governor's office for their campuses and programs. The governor's office then considers these requests when determining each institution's recommended budget amounts for the governor's proposed budget to the state legislature.[18]

Institutional requests can be a useful approach for states to use when looking to tie new funding to specific state priorities. Since institutions usually submit individual line-item proposals for their budget requests, appropriators can selectively choose which items to fund based on whether the new program or initiative is in line with the particular funding goals for that fiscal year. However, relying on institutional requests to fund institutions can also lead to states privileging certain institutions over others. This might occur if certain public colleges and universities are able to leverage favorable political connections in state government or a well-funded government affairs staff and lobby to get their budget requests funded.

TABLE 3

STATES WITH AN INSTITUTIONAL REQUESTS APPROACH, BY SECTOR

SECTOR	STATES	COUNT
Two-Year Only	IA	1
Four-Year Only	AK, PA, SD, WA, WY	5
Both Sectors	AL, CT, DE, HI, IN, ME, MS, SC	8

SOURCE: SHEEO State Higher Education Finance (SHEF) Dataset

17. Institution line-item requests for Indiana's FY 2019-2021 budget are here: www.in.gov/che/files/CHE-2019-2021-Budget-Recommendation-Final.xlsx. Final appropriation amounts for the FY 2019-21 budget are here: www.in.gov/sba/files/AP_2019_C_7_2_1_Education_Appropriation_Details.pdf.

18. Institution requested and recommended funding allocations for the Delaware FY 2021 Governor's Recommended Operating Budget are here: budget.delaware.gov/budget/fy2021/documents/operating/higher-ed.pdf.

INPUT-DRIVEN FORMULA FUNDING

Funding formulas have been used by states since the 1950s to allocate state funding to higher education institutions.[19] Originally, formulas were developed to distribute state funding in a more rational and equitable manner that reduced political influence and volatility. While funding formulas vary by state, the common distinguishing feature includes a mathematical or empirical method for calculating "a set of rates, ratios, and/or percentages" that determine each institution's allocation.[20] The calculations typically involve normalizing or standardizing with an input measure such as FTE enrollment. While some formulas are very simple (e.g., a set dollar amount per FTE student), other formulas are complex and incorporate cost weights based on program and level of instruction, space utilization, the costs of funding specific functions within the institution (student services, libraries, etc.), or peer analysis.

Modern input-driven formulas might better be considered as funding guidelines. They tend to be used for making budget recommendations for distributions to institutions based on the total funding amount the legislature intends to direct to higher education. True input-driven funding formulas—where the funding amount is determined by the formula—are rarely the final determinant of funding levels overall or by institution. Following years of state disinvestment, legislatures were unable or unwilling to fully fund formula recommendations, and states have moved toward using the formula calculations as guidelines for how appropriations (at any level) should be allocated, for example, institutions are funded based on their proportionate share of funds, which is calculated by using the formula and applied to the fixed amount of the allocation determined by the legislature.

In the SHEEO/NCHEMS survey, respondents were asked to identify if they had formula funding based on whether a portion of the state's appropriation is distributed to institutions by a formula not based on performance (including formulas that are based on cost models). Following this definition, input-driven formula funding refers to any non-performance-based funding formulas.

Input-driven formula funding is used for the two-year sector in 19 states and for the four-year sector in 10 states (*Table 4*). States that reported using a formula approach to funding institutions' base operations often reported using similar factors in the formula across both two- and four-year sectors. Idaho, Kentucky, Louisiana, and Ohio reported using the same set of factors for both sectors. In the two-year sector, the factors included in the formula (per survey responses) are: FTE enrollment (six states), enrollments linked to program costs (six states), completed credits (three states), student characteristics (three states), number of faculty and compensation levels (three states), funding of peer institutions (two states), headcount enrollment (one state), square footage of facilities (one state), and institutional mission (one state). In the four-year sector, factors included in the formula are (per survey responses): enrollments linked to program costs (four states), completed credits (three states), student characteristics (three states), FTE enrollment (two states), institutional mission (two states), number of faculty and compensation levels (two states), square footage of facilities (one state), and funding of peer institutions (one state). These factors are listed in *Table 5*.

19. McKeown, M. P., & Layzell, D. T. (1994). State funding formulas for higher education: Trends and issues. *Journal of Education Finance,* 319-346.

20. McKeown, M. P., & Layzell, D. T. (1994). State funding formulas for higher education: Trends and issues. *Journal of Education Finance,* 319-346. Page 320.

Almost all states that use input-driven formula funding use it either in conjunction with another non-formula funding approach, or their formula includes both input- and performance-based components. Kentucky uses a hybrid formula funding approach for its institutions in both sectors; 35% of its formula includes performance-based metrics with the remaining portion being input-driven. Kentucky's formula allocates state funds to institutions based on inputs such as earned credit hours (weighted for cost), square footage, instruction and student services spending, and FTE enrollment.

Louisiana uses a hybrid funding approach that includes formula funding. Their funding approach is comprised of calculations for base, outcomes, and costs. The cost component provides a good example of a modern, complex, input-based formula and is designed to measure costs and calculate a state share of operating costs. The formula utilizes several variables, including a measure of semester credit hours, a cost matrix, Southern Regional Education Board (SREB) average faculty salaries and benefits, average undergraduate liberal arts class size, Integrated Postsecondary Education Data System (IPEDS) finance data, and a measure of facilities costs. The main driver in the formula calculation is semester credit hours adjusted by a cost matrix that weights disciplines and levels of study by their costs. For example, a graduate level STEM course has a higher cost weight than an undergraduate liberal arts course.[21]

Funding formulas (both input-driven and performance-based) are mechanisms by which states seek a rational basis to allocate state funds to institutions in ways that reflect differences in mission and the costs associated with those differences. Formula funding, particularly performance-based formula funding, is an attempt by the state to provide funding based on their values and goals. While formula funding has a rational, objective basis and provides consistent funding, just as with other approaches, it is susceptible to differences in an institution's ability to advocate for beneficial components in the formula that may result in structural funding inequities between institutions with varying levels of political capital. In addition, institutions with sophisticated analytical capacity may be better positioned to identify those factors in a formula model that gives them a relative advantage in the process of reviewing and revising the technical aspects of the formula. On the other hand, formula funding may present an opportunity to correct past funding inequities; rather than building on a pre-existing base, states can modify the factors and weights in their formula to redistribute funding in new ways. Additionally, while formula funding provides a sense of stability and consistency to institutions, it can also be more susceptible to volatility if the input measures (like enrollment) decline suddenly. Formulas also may not be particularly useful in directing resources to institutions for the development of needed capacity, which calls for the use of a complementary approach for addressing such funding needs. Funding formulas should be reviewed regularly to ensure they accurately reflect costs and are functioning effectively and meeting the goals of the state.[22]

21. For more information on the Louisiana formula, including detailed variable definitions, see regents.la.gov/wp-content/uploads/2021/07/Funding-Formula-Summary-FY22.pdf

22. Pinkard, J., LaBruyere, M., Collins, C. L., & Weeden, D. (2022) *The funding formula review process: Guidance and best practices*. State Higher Education Executive Officers Association. sheeo.org/wp-content/uploads/2022/08/SHEEO_FundingFormula.pdf

TABLE 4

STATES WITH AN INPUT-DRIVEN FORMULA FUNDING APPROACH, BY SECTOR

SECTOR	STATES	COUNT
Two-Year Only	AZ, CA, IL, KS, MT, NE, PA, SD, WA, WY	10
Four-Year Only	NC	1
Both Sectors	CO, ID, KY, LA, NJ, OH, OR, TN, VT	9

SOURCE: SHEEO State Higher Education Finance (SHEF) Dataset

TABLE 5

FACTORS CONSIDERED IN AN INPUT-DRIVEN FORMULA APPROACH, BY STATE AND SECTOR

CONSIDERATIONS	TWO-YEAR SECTOR	COUNT	FOUR-YEAR SECTOR	COUNT
Overall FTE Enrollments	CA, KS, LA, MT, OR, WA	6	LA, OR	2
Overall Headcount Enrollments	NJ	1	-	0
Completed Credits	IL, LA, OH	3	LA, OH, OR	3
Enrollments Linked to Differential Program Costs	ID, KS, LA, MT, OH, WA	6	ID, LA, OH, OR	4
Student Characteristics	IL, LA, OH	3	LA, NJ, OH	3
Square Feet of Facilities to be Maintained	LA	1	LA	1
Special Institutional Mission Requirements	CO, LA	2	LA, OR	2
Number of Faculty and Staff and their Compensation Levels	LA, MT, WA	3	LA, TN	2
Funding Levels of Peer Institutions	KS, LA	2	LA	1

SOURCE: SHEEO State Higher Education Finance (SHEF) Dataset

PERFORMANCE-BASED FUNDING FORMULAS

As previously stated, the SHEEO/NCHEMS survey explicitly sought to zero in on funding for general operations (base funding) and did not include performance-based funding (PBF). However, PBF formulas are an essential and growing part of the landscape for how public institutions are funded and, accordingly, are discussed in this section. PBF is an increasingly common formula funding approach wherein some portion of the state higher education appropriations is allocated based on measures of "performance" such as student retention and completion. In many cases, particular student populations or programs of interest are incentivized and tied

to additional funding bonuses.[23] In 2020, 32 states had PBF in at least one sector and 20 states implemented it in both sectors (*Table 6*).[24] PBF is most commonly used in conjunction with one or more additional funding approaches, and often does not impact an institution's base state funding allocation (rather, PBF is sometimes treated as a bonus to allocate funding increases). For these reasons, the SHEEO/NCHEMS base funding survey excluded PBF and focused on the other primary funding approaches.[25]

While states vary in the outcome metrics they use in their formulas, some common PBF metrics include the number of completions, progress milestones, or transfers, and average time to degree. Some states also include premiums or additional metrics that track the type of degree completed, prioritizing STEM, healthcare, or other "in-demand fields" tied to workforce needs. In some states, PBF allocations either attempt to incentivize equity or reduce unintended consequences from other parts of the formula by including metrics that place a premium on awards earned by low-income or underrepresented minority students.[26]

TABLE 6

STATES WITH PERFORMANCE-BASED FUNDING BY LEVEL AND SECTOR, FISCAL YEAR 2020

SECTOR	STATES	COUNT
Two-Year Only	CA, IL, NC, SC, WI, WY	6
Four-Year Only	NJ, OR	2
Both Sectors	MI, MT, CO, NV, HI, NM, KS, ND, LA, OH, AR, OK, IN, RI, MA, TN, KY, TX, FL, UT	20

NOTE:
Includes all state-level PBF models, even those based only on completed credit hours. Excludes states such as AL, CT, VA, WA with system-level PBF (wherein the state is not involved in determining metrics or allocations).

SOURCE: SHEEO State Higher Education Finance (SHEF) Dataset

A substantial body of evidence has examined the impacts of PBF on student outcomes and identified several unintended consequences and equity concerns related to the use of PBF. Research indicates that there is little connection between a state's adoption of a PBF formula and increases in underrepresented minority enrollment at two-year and four-year institutions. This research did find that four-year institutions subject to PBF formulas that include equity provisions have larger increases in African-American enrollment as compared to institutions not funded through such a PBF approach (although this enrollment change was not found among low-income students or other minority groups or among institutions in the two-year sector).[27] PBF can also disadvantage minority-serving institutions (MSIs), with research showing that MSIs

23. Lingo, M., Kelchen, R., Baker, D., Rosinger, K., Ortagus, J., & Wu, J. (2021). *The landscape of state funding formulas for public colleges and universities.* InformEd States. informedstates.org/policy-briefs-feed/the-landscape-of-state-funding-formulas-for-public-colleges-and-universities-jtbcg-z3g7x

24. See the SHEEO SHEF report on PBF at shef.sheeo.org/wp-content/uploads/2022/10/SHEEO_SHEF_FY21_PBF_Report.pdf

25. For more information, the InformEd States website (informedstates.org) includes detailed information about common measures and metrics used in PBF.

26. Rosinger, K., Ortagus, J., Kelchen, R., Cassell, A., & Brown, L. (2022). New evidence on the evolution and landscape of performance funding for higher education. *The Journal of Higher Education*, 93(5). www.tandfonline.com/doi/full/10.1080/00221546.2022.2066269.

27. Kelchen, R. (2018). Do performance-based funding policies affect underrepresented student enrollment? *The Journal of Higher Education,* 89(5). www.tandfonline.com/doi/full/10.1080/00221546.2018.1434282; Kelchen, R. (2019). Exploring the relationship between performance-based funding design and underrepresented student enrollment at community colleges. *Community College Review,* 47(4). journals.sagepub.com/doi/full/10.1177/0091552119865611.

in states with PBF lose funding relative to MSIs in non-PBF states.[28] Additionally, in response to a state's adoption of a PBF model, some institutions may become more selective and change their recruitment strategies in ways that disadvantage low-income and minority students.[29] Research on PBF funding models is sure to continue, but it is evident from the existing research that PBF policies must be carefully designed and implemented to avoid creating unintended consequences that run counter to the state's goals.

SPECIAL PURPOSE FUNDING

In addition to the base funding approaches described in the previous sections, most states provide some sort of special purpose funding. By definition, special purpose funding occurs outside of any base allocations for public institutions. Special purpose funding allocations are funds directed specifically for state priorities and state-incentivized programs and services, or to support specific institutional missions (such as research, STEM, etc.). It is likely that special request funding is also affected by the governance structure in two-year institutions—specifically, whether or not the colleges are governed by local boards. In this case, local boards rather than the state are likely to determine funding for special request items.

Six states reported funding set-asides for collaborations that are intended to create improved educational opportunities, service delivery, or efficiencies on operations. Six states also reported that the state legislature typically reserves a portion of the total higher education appropriation for making investments directed to public institutions in pursuit of specific state priorities (*Table 7*).

Additionally, 30 states provide special purpose funding of some form. Survey respondents used the "Other" option to provide additional detail, for example, Louisiana indicated that some institutions receive special line-item appropriations for specific initiatives, and Ohio indicated that certain universities receive special supplements based on their mission (an HBCU and an institution with a regional mission). States commonly include specific line items for research, technical centers, and other state priorities of interest. Alaska reported on the inconsistency of state funding approaches over time (they had used each type of special purpose funding, but none on a regular basis). This issue may be common among other states. Moreover, the survey did not directly address the extent to which this special purpose funding intersects with base plus approaches, as might be the case if the former is rolled into the base in subsequent budget cycles.

28. Hillman, N. & Corral, D. (2017). The equity implications of paying for performance in higher education. *American Behavioral Scientist*, 61(14). journals.sagepub.com/doi/full/10.1177/0002764217744834.

29. Kelchen, R. & Stedrak, L. (2016). Does performance-based funding affect colleges' financial priorities? *Journal of Education Finance*, 41(3). www.jstor.org/stable/44162557.

TABLE 7

SPECIAL PURPOSE FUNDING, BY STATE

FUNDING CATEGORY	STATES	COUNT
Incentives to Encourage Cross or Multi-Institutional Partnerships for Services or Program Delivery	ID, IN, MN, OK, SD, VA	6
A Pool Taken "Off the Top" for Investments in State Priorities	AL, ID, MT, NM, OK, VA	6
Special Purpose Funding	AL, AZ, CA, CO, CT, FL, HI, ID, IN, IA, KS, KY, LA, ME, MI, MN, MS, MO, MT, NJ, NM, NC, OH, OK, SC, SD, VA, WA, WI, WY	30
Other	AK, KY, LA, NM, OH, OR, VA	6

SOURCE: SHEEO State Higher Education Finance (SHEF) Dataset

COMPARISON OF FUNDING APPROACHES

Surveyed states varied in which allocation approaches they used to fund public institutions in both the two-year and four-year sectors, and in how much funding they allocated through each approach (*Table 8*, with state-level details in *Appendix Table 1*). The most common funding approach among states in both the two-year and four-year sectors was base plus, with at least 50% of surveyed states responding that they allocated at least a portion of their state operating appropriations through a base plus approach in both sectors. However, the total amount of funding that was allocated through a base plus approach varied greatly between sectors. While 25 states responded that they allocated a portion of total funding to two-year public institutions through a base plus approach, this approach only accounted for about 21% of total state operating appropriations for U.S. public two-year institutions. However, in the four-year sector, about two-thirds of total four-year operating appropriations were allocated through a base plus approach. Therefore, although a high number of states use a base plus approach in both sectors, a larger share of appropriated dollars goes to base plus in the four-year sector than in the two-year sector.

Twenty-one states responded that they allocated a portion of their funding through an input-driven formula approach, and it was the approach through which the most total funding to two-year public institutions was allocated (just over half). In the four-year sector, however, while 10 states responded that they used a formula to allocate a portion of their state funding to their institutions, input-driven formula funding accounted for only about 5% of total sector funding. So, while it is common for states to use a formula funding approach in both sectors, states tend to allocate larger amounts of funding to two-year public institutions through a formula than to four-year public institutions.

An institutional requests funding approach was more common in the four-year sector among surveyed states, and states tended to allocate larger amounts of funding through this approach to four-year public institutions compared to the two-year sector. In the two-year sector, institutional requests accounted for the least amount of funding of any approach. On the other hand, in the four-year sector, institutional requests were the second most common approach (behind base plus). Sector differences in an institutional requests approach to funding may be due to how the budget request process operates among states. Since an institutional requests funding approach usually involves individual colleges and universities making line-item funding requests, in states where either the two-year or four-year sector coordinating or governing board makes a consolidated budget request, it is unlikely that funding is allocated through an individual institutional requests approach. In these states, a base plus or formula funding approach may be more common.[30]

TABLE 8

PERCENTAGE OF TOTAL STATE OPERATING APPROPRIATIONS FOR U.S. PUBLIC POSTSECONDARY INSTITUTIONS BY SECTOR AND FUNDING APPROACH, FISCAL YEAR 2021

U.S. PUBLIC INSTITUTIONS						
SECTOR	BASE PLUS	INPUT-DRIVEN FORMULA FUNDING	INSTITUTIONAL REQUESTS	PBF	OTHER*	TOTAL FUNDING
TWO-YEAR	21.54%	51.57%	7.59%	8.69%	10.6%	$64,691,925,593
FOUR-YEAR	63.07%	4.74%	14.44%	12.04%	5.72%	

NOTE:
*"Other" denotes non-PBF state operating funding that is not categorized into one of the three funding approaches, such as one-time funding, special purpose funding, and/or incentive funding for cross-institutional partnerships.

SOURCE: SHEEO State Higher Education Finance (SHEF) Datase

30. For more information on state budget request processes, see: Syverson, E., Whinnery, E., & Pingel, S. (2020). *50-State comparison: Postsecondary education funding*. Education Commission of the States. www.ecs.org/50-state-comparison-postsecondary-education-funding.

CREATION, REVIEW, AND CHANGE OF FUNDING POLICIES

In this section, we discuss additional components of the state funding process for base operations at public institutions. These findings come from the SHEEO/NCHEMS survey, SHEF data collection, and a recent SHEEO report on funding model reviews.[31] The following sections cover funding approach policy creation, review of funding models, policy changes, and state responses to funding shortfalls.

POLICY CREATION

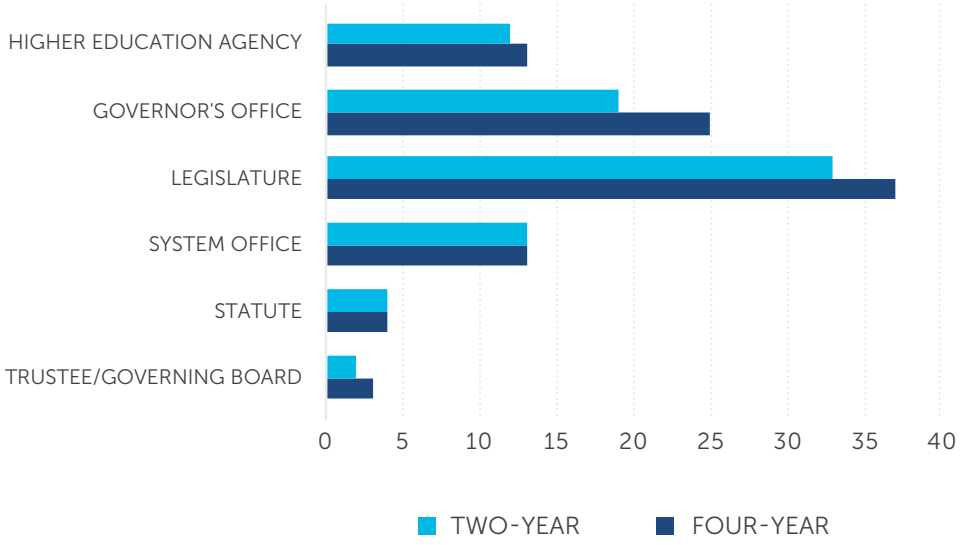
Our survey results suggest that establishing a state's allocation model involves the coordination of multiple actors in most states. We asked states which actors (or groups) were involved in creating a new funding policy. In the four-year sector, 30 states indicated that multiple actors are involved in establishing the factors that influence allocation decisions, compared to 15 states that indicated a single actor has been granted this authority. The legislature was the most common group involved in policy creation. The legislature is involved in establishing allocation factors in 37 states, including all 30 states that indicated the involvement of multiple actors. Among the 15 states that indicated a single actor establishes allocation factors, seven indicated this actor was the legislature. Governor's offices were frequently involved in determining funding allocation factors but were never unilaterally responsible: governors' offices are involved in establishing allocation factors in 25 states, but no state indicated the governor's office held this authority alone. System offices and higher education agencies were the next most common actors identified in this process, with 13 states indicating the involvement of each.

Among respondents for the two-year sector, 26 states indicated the involvement of multiple actors in establishing the factors that influence allocation decisions (*Figure 1*). Like the four-year sector, legislatures (33), followed by governors' offices (19), were the two most common actors reported by respondents. While governors' offices were the second most frequent response, no governor's office was the sole actor in establishing allocation factors. Of the 15 states where only one actor is involved in establishing allocation factors, seven states indicated that the legislature was the sole actor, three states indicated the higher education agency, and three states indicated that the system office was the only actor involved in establishing funding allocation factors.

31. Pinkard, J., LaBruyere, M., Collins, C. L., & Weeden, D. (2022) *The funding formula review process: Guidance and best practices*. State Higher Education Executive Officers Association. sheeo.org/wp-content/uploads/2022/08/SHEEO_FundingFormula.pdf

FIGURE 1

ENTITIES INVOLVED IN ESTABLISHING BASE FUNDING ALLOCATION FACTORS



FUNDING MODEL REVIEW

State funding approaches are not static in time; they shift and change frequently in response to stakeholder demands. In this section, we discuss why it is necessary for states to periodically review funding strategies and the types of reviews they conduct. A state's funding model should be dynamic enough to respond to changing circumstances but stable enough to allow the institutions a reasonable level of predictability of future distributions. To achieve this balance, funding approaches should be periodically reviewed for fit, form, and function.

There are a number of reasons why the periodic review of a funding approach should be conducted. The most common reasons are ensuring the approach aligns with the state's higher education goals (i.e., fit), avoiding unintended consequences (i.e., form), and responding to current circumstances (i.e., function). A review should be conducted periodically but not so often that it reduces the predictability of an allocation, thereby affecting an institution's financial viability. This involves striking a balance between institutional inertia and stakeholder engagement. Institutions will likely not want to review or make changes to the funding model too frequently to avoid introducing uncertainty and unpredictability in funding, while policymaker attention will wane unless timely reviews are conducted. A recent SHEEO publication recommends that states with funding formulas conduct reviews at least every five years.[32] This roughly coincides with the time frame in which many statewide, higher education strategic plans are reviewed and updated.

32. Pinkard, J., LaBruyere, M., Collins, C. L., & Weeden, D. (2022) *The funding formula review process: Guidance and best practices*. State Higher Education Executive Officers Association. sheeo.org/wp-content/uploads/2022/08/SHEEO_FundingFormula.pdf

It should be noted that not all reviews are equal. Funding reviews can range from simple annual checkups to deep reviews that lead to entirely new funding models. We use the terms technical review and policy review to distinguish between the two broad categories. A technical review is a process that might occur more frequently, will not alter the funding principles or lead to structural changes to the funding model, and will likely lead to fewer dollars moving around as a result of any recommendations. Alternatively, this can be called a technical update as opposed to a technical review if routine changes are intended. Technical reviews are conducted more frequently to assess potential unintended consequences.

A more substantive policy review occurs less frequently in an effort to balance funding stability with the need for accountability and alignment with state goals. The principles and structure underlying the funding model are part of the review, and substantial shifts of funding among institutions may occur as a result. This type of review generally includes more stakeholders with more meetings, requires more support and resources, and can take longer to complete. This is the type of review most people think of when considering a statutory review and may require a phased implementation based on the financial magnitude of any changes recommended.

POLICY CHANGES AND FUNDING SHORTFALLS

In addition to regular funding reviews, state base funding approaches are subject to disturbances when there are shortfalls in state revenue. As a consequence of the pandemic, as well as past recessionary cycles, many states have experienced sudden and sharp declines in revenue collection. States consistently respond to revenue shortfalls by reducing higher education base funding appropriations.[33] Resulting cuts to funding for public higher education imposed in the middle of a budget cycle have been challenging for systems and institutions to accommodate strategically; most frequently, the responses have been opportunistic. We surveyed states about how they approach addressing impacts on postsecondary institutions when the state encounters funding shortfalls in the middle of a fiscal year. There were several categories of responses to this question.

First, some states have formal policies for midyear budget reductions. For example, in Arkansas and Ohio, statute authorizes and determines how appropriation reductions should occur, and higher education institutions receive the same percentage reduction as all state entities. In other states, the governor and/or legislature have the authority to pass a revised budget with reduced appropriations. Alabama maintains an Education Trust Fund, to which it adds funds up to a specified limit during good times, and from which it authorizes withdrawals to offset cuts when state funding declines.

In most states, however, the response was not formalized. In states with both formal and informal responses to midyear funding shortfalls, the most common strategy was an across-the-board or proportional cut, where all institutions faced the same percentage decline regardless of their reliance on state funding. In Iowa, these approaches are combined: the governor has the authority to require an across-the-board cut, and the legislature can additionally impose specific cuts (usually to public four-year institutions).

33. Delaney, J., & Doyle, W. (2011). State spending on higher education: Testing the balance wheel over time. *Journal of Education Finance*, 36(4). www.jstor.org/stable/23018116

In other states, the severity and distributional impact of midyear budget cuts are determined on a situational basis. For example, in Arizona, the governing board for four-year public institutions typically conducts an impact analysis and determines a strategy to implement cuts. Finally, two states (Alaska and Pennsylvania) indicated that they do not make midyear changes to higher education institutional funding in response to budget shortfalls.

States may also change their funding approaches in response to state budget shortfalls. In the wake of the COVID-19 pandemic and fiscal year 2021 budget shortfalls, several states responded by temporarily suspending their PBF models. Louisiana, Michigan, Oklahoma, and Utah, all states with PBF for both the two- and four-year sectors, suspended their PBF formulas in 2021 due to the state budget cuts following the COVID-19 pandemic and 2020 economic recession.[34] Additionally, Colorado suspended its PBF model for fiscal year 2021, facing revenue shortfalls due to the pandemic, and instead reduced funding proportionally to its institutions by 58%. This budget cut was later restored in the fiscal year 2022 budget, which returned state funding for higher education to pre-COVID levels.[35] Budget reductions were the primary factor in Louisiana and Oklahoma not utilizing their formulas. Although Michigan restored 2020 funding cuts in 2021, they still did not use their PBF model in 2021. Utah cut all 2021 performance funding during a legislative special session due to a state tax revenue shortfall. In Michigan, Oklahoma, and Utah, PBF made up a small proportion (<5%) of total funding for public institutions. In Louisiana, however, the suspension was a larger disruption, since PBF accounted for over 90% of public institutional funding.

Base funding cuts in response to state revenue shortfalls have clear impacts on state funding and introduce significant instability into public institution's budgets. Consistency in state funding is particularly important for institutional long-term planning and has implications for institutional behavior; if state funding approaches are aligned with state goals for public higher education, and those approaches are not utilized as intended due to budget shortfalls, there may be ramifications for the ability of public institutions to meet state's goals and priorities. Moreover, the disruption created by abrupt changes in funding levels will be more severe for institutions that are most reliant on public support—those in states with historically strong support to public institutions and those that disproportionately serve students of color, low-income students, rural and first-generation students, and adults.

34. See the SHEEO SHEF report on PBF at shef.sheeo.org/wp-content/uploads/2022/10/SHEEO_SHEF_FY21_PBF_Report.pdf

35. Colorado Department of Higher Education. *Summary of higher education budget measures in FY 2020-21 budget package.* cdhe.colorado.gov/sites/highered/files/documents/FY2020-21_SummaryHigherEdBudget_revised_06022020.pdf

CONCLUSION

The SHEEO/NCHEMS survey on base funding approaches for public institutions sought to determine the ways in which states determine base funding allocations to different institutions. We found that most states relied on more than one funding approach for each public sector. While it is common for states to use a formula funding approach in both sectors, community colleges have more formulaic funding, while funding for four-year institutions is more commonly determined based on historical funding levels and institutional requests.

Each funding approach has potential benefits and risks. No matter the approach taken, there is a risk that politically privileged institutions will work to ensure that the funding approach benefits them the most. In future editions of the survey on base funding approaches, SHEEO plans to further explore these implications and expand our understanding of how states use the different funding approaches together to determine both base funding and increases or decreases. We also seek to distinguish more clearly between how the state decides the total level of funding, and the allocation methods used to distribute total funding across public institutions.

State approaches to funding public higher education institutions remain under-studied, and without additional research on non-PBF funding approaches, it is impossible to make recommendations to states about the most efficient, effective, stable, and equitable funding approaches they can employ. It is our hope that the data shared in this report will lead to additional research, consideration, and evaluation of base plus, institutional requests, input-driven formula funding, and special purpose funding across the states.

APPENDIX

TABLE 1

LIST OF FY 2021 STATE FUNDING APPROACHES, BY SECTOR

	TWO-YEAR SECTOR				FOUR-YEAR SECTOR			
STATE	BASE+	INPUT-DRIVEN FORMULA	INSTITUTIONAL REQUEST	OTHER	BASE+	INPUT-DRIVEN FORMULA	INSTITUTIONAL REQUEST	OTHER
AL	X		X		X		X	
AK							X	
AZ		X		X	X			
AR	X				X			
CA		X		X	X			
CO	X	X			X	X		
CT			X				X	
DE			X				X	
FL					X			
HI	X		X		X		X	
ID	X	X			X	X		
IL		X			X			
IN			X				X	
IA	X		X		X			
KS		X			X			
KY		X				X		
LA	X	X			X	X		
ME			X				X	
MD	X				X			
MI								X
MN	X				X			
MS			X				X	
MO	X				X			
MT	X	X			X			
NE	X	X			X			
NH	X				X			
NJ		X			X	X		
NM	X				X			
NY	X				X			
NC	X				X	X		
ND								
OH		X				X		
OK	X				X			
OR	X	X			X	X		
PA		X					X	
RI								
SC			X				X	
SD	X	X					X	
TN		X				X		
UT	X				X			
VT	X	X			X	X		
VA	X				X			
WA	X	X					X	
WV	X				X			
WI	X				X			
WY		X			X		X	
TOTAL	25	19	9	2	30	10	13	1

SOURCE: SHEEO State Higher Education Finance (SHEF) Dataset

The State Higher Education Executive Officers Association (SHEEO) serves the executives of statewide governing, policy, and coordinating boards of postsecondary education and their staffs. Founded in 1954, SHEEO promotes an environment that values higher education and its role in ensuring the equitable education of all Americans, regardless of race/ethnicity, gender, or socioeconomic factors. Together with its members, SHEEO aims to achieve this vision by equipping state higher education executive officers and their staffs with the tools to effectively advance the value of higher education, promoting public policies and academic practices that enable all Americans to achieve success in the 21st century, and serving as an advocate for state higher education leadership. For more information, visit sheeo.org.

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