

Study on Higher Education Performance Funding and Efficiency Reform

Presented to the Missouri Coordinating Board for Higher Education

June 14, 2023

(RFPS30034902300023)

About NCHEMS

- Private, non-profit 501(c)(3) in Boulder, Colorado, founded in 1969
- Mission: to improve strategic decision-making in postsecondary education for states, systems, institutions, and workforce development organizations
- Selected current and recent statewide projects
 - Governance New Hampshire, Utah, Vermont
 - Strategic planning Oregon, Utah, Vermont, Wyoming
 - Finance Texas, Virginia
 - Quality assurance Connecticut, Maryland

Project Deliverables as Described in RFP

1. Comprehensive Workplan
2. Performance Funding Model Review and Recommendations
3. Higher Education Efficiency and Possible Reform Review and Recommendations

An Important Distinction for #2:

A performance funding policy that adds to or reallocates a portion of existing recurring appropriations

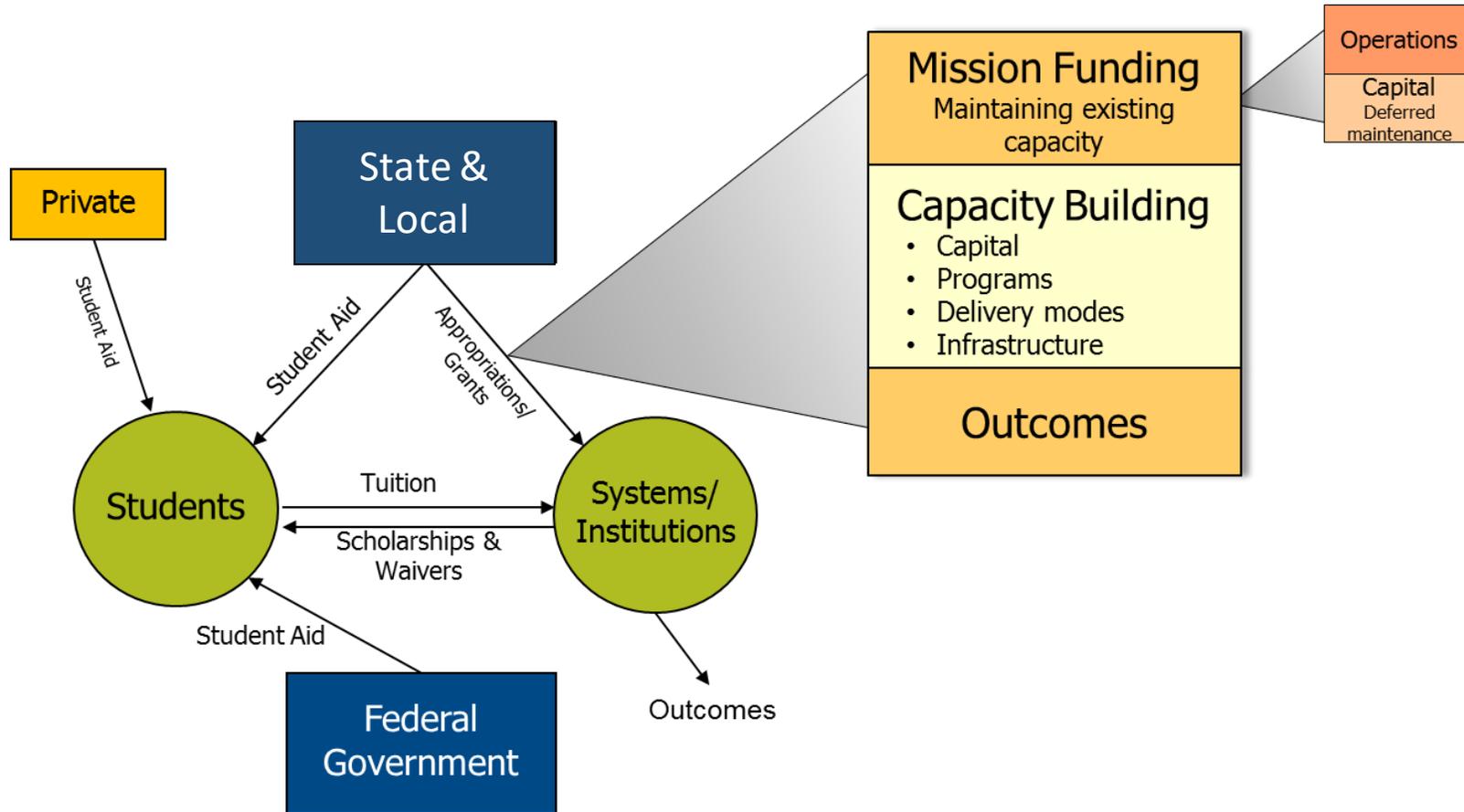
OR

A comprehensive state funding model that includes performance as one important component



Ultimately, the legislature expects the resulting reports to convey NCHEMS' recommendations – not consensus, but authentic desire to gather input.

The Flow of Funds



Linking Costs, State Priorities, and Funding

- Preserving the value of an institution as a state asset
- Recognizing variation in fixed and variable costs
- Aligning state goals with a rational funding strategy that has three critical elements
 1. Differentiated roles
 2. Predictability & sustainability
 3. Improvement
- Serving current students effectively AND serving more and different students better
- Variation in capacity to generate revenue



Ha Ha Tonka State Park

Institutional Adequacy Conceptual Framework

		Expenditure Type Category	Funding Responsibility
Funding Model		Non-Instructional Mission-Related Activities and Other Activities	External Funders & Self-Support
		Capacity Building	Mix (State/Local, Tuition, & External Funders)
		Performance	State
		Variable Costs	Mix (State/Local & Tuition)
		Fixed Costs	State/Local

Context

- NCHEMS has produced a report with recommended parameters and funding levels using our best judgment and experience
- Operationalizing this concept with available data is breaking new ground; Missouri has an opportunity to be a national exemplar
- Results that will be shown are tentative; institutions have been consulted but have not been able to study the model in detail

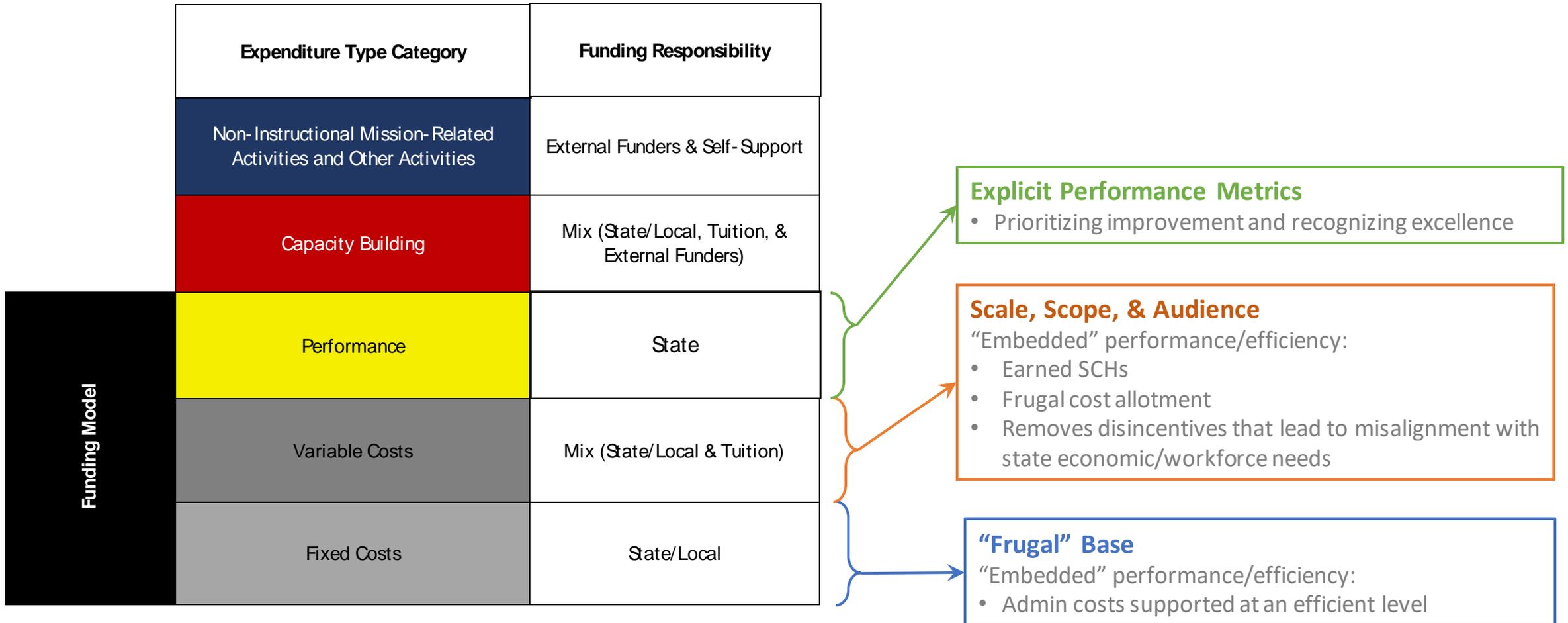
The Components of the Model

- The fixed costs—a “frugal” base
 - Costs that are *relatively impervious* to size
 - Administrative expenses benchmarked against similar institutions nationally
 - Recognize a below-average level of administrative expenses
 - Provide for the maintenance and renewal of the state (and local) assets—physical facilities, equipment, and curricula
- The variable costs
 - **Scale: tracks with enrollment**
 - **Scope: accounts for varying costs of different programs**
 - **Audience: varying costs of serving the specific student populations**
- Performance—priority given to incentivizing improvement, but also recognizing excellence
- Cost-sharing—seeks to set appropriate targets for the proportion of costs that should be borne by each of the principal payors

Data Realities

- Expectations of precision vs. the reality of data availability and quality.
- The demands of the appropriations process—allocations don't wait until the data are perfect.
- Don't let perfect be the enemy of the good.
- Refinements are expected over time.

Institutional Adequacy Conceptual Framework



Final Adequacy Step: Cost-Share Targets

- Reminder: state & local sources share responsibility for the **FULL AMOUNT** of the frugal foundation and the asset maintenance costs; the Cost-share target is applied **only** to the SSA costs.
- In sharing responsibility for community colleges costs with local authorities, state policy can specify an expected local contribution for community colleges based on a reasonable level of tax effort, given taxing capacity.

Institution	Cost-Share Target – Student Portion
Harris-Stowe	70%
Lincoln	70%
Missouri Southern	70%
Missouri State	75%
Missouri State – West Plains	75%
Missouri Western	70%
Northwest Missouri State	70%
SEMO	70%
Truman	70%
UCM	70%
UM – Columbia	80%
UMKC	80%
UMSL	80%
S&T	80%
State Tech	70%
Community Colleges	50%

Preliminary Results for Total Adequacy Funding

FY 2021 Actual Revenue					
Sector	Adjusted State Funding (Excluding Line Item Approps, e.g, Extension)	Local Funding Not Covered Under Tax Rate Allowance	Total Adjusted State & Local Funding	Estimated Tuition Revenue	Total Funding from Adjusted State & Local Appropriations + Estimated Tuition Revenue
Four-Year	\$692,413,668	\$1,334,817	\$693,748,485	\$1,186,896,451	\$1,880,644,936
Two-Year	\$166,052,030	\$161,775,201	\$327,827,231	\$216,689,604	\$544,516,835
Total	\$858,465,698	\$163,110,018	\$1,021,575,716	\$1,403,586,055	\$2,425,161,771

Adequacy Model Results						
Sector	Total Funding from Adjusted State & Local Appropriations + Estimated Tuition Revenue	Total Costs Estimated by Adequacy Funding Model	Surplus/Shortfall in Total Funding	Total Adjusted State & Local Funding	Given Cost-Share Targets, Estimated State & Local Funding Need	State & Local Surplus/Shortfall
Four-Year	\$1,880,644,936	\$1,923,036,786	-\$42,391,850	\$693,748,485	\$830,215,174	-\$136,466,689
Two-Year	\$544,516,835	\$643,996,916	-\$99,480,080	\$327,827,231	\$414,139,221	-\$86,311,989
Total	\$2,425,161,771	\$2,567,033,701	-\$141,871,930	\$1,021,575,716	\$1,244,354,394	-\$222,778,678

Note: These are all based on FY2021 figures, and state funding totals exclude \$58.7M in support for designated services being performed by specified institutions, usually in HB3 (e.g., extension, dedicated applied research projects). The total of local funding covered under the specified tax rate allowance threshold, and therefore excluded from revenue to be used in the model, is \$17,302,177. Results for cost estimates are adjusted for inflation using HECA. No inflation adjustments are made to any of the revenue data, but the figures for state funding do not include ~\$65-70M of additional state funding appropriated in FY2022, nor do they include additional investments in FY23 and FY24 of ~\$50M and ~\$70M respectively.

Source: IPEDS, MDHEWD, Missouri institutions

Adequacy Model Estimates

Four-Year Institutions

Institution	Frugal Foundation	Facilities & Equipment	Curriculum & Prof Development	Scale, Scope, & Audience	Total
Harris-Stowe	\$7,340,039	\$1,236,265	\$232,290	\$12,365,566	\$21,174,161
Lincoln	\$7,794,355	\$2,233,637	\$372,747	\$17,761,279	\$28,162,019
Missouri Southern	\$11,869,541	\$3,163,438	\$527,110	\$40,269,914	\$55,830,003
Missouri State	\$45,659,296	\$16,809,414	\$2,548,089	\$231,739,103	\$296,755,902
Missouri Western	\$11,054,504	\$4,607,824	\$538,432	\$37,059,149	\$53,259,909
Northwest Missouri State	\$16,894,304	\$4,395,313	\$768,885	\$79,115,957	\$101,174,459
SEMO	\$20,365,037	\$10,272,016	\$1,187,906	\$94,800,051	\$126,625,011
Truman	\$12,111,322	\$6,366,087	\$747,998	\$47,051,410	\$66,276,818
UCM	\$20,417,683	\$5,789,137	\$1,299,014	\$118,209,293	\$145,715,128
University of Missouri System	\$121,469,122	\$122,451,074	\$26,175,117	\$757,968,064	\$1,028,063,377
Total	\$274,975,205	\$177,324,206	\$34,397,589	\$1,883,253,556	\$1,923,036,786

Two-Year Institutions

Institution	Frugal Foundation	Facilities & Equipment	Curriculum & Prof Development	Scale, Scope, & Audience	Total
Crowder	\$9,490,724	\$2,032,945	\$301,244	\$23,881,342	\$35,706,255
East Central	\$7,650,066	\$1,211,000	\$192,306	\$15,691,426	\$24,744,797
Jefferson	\$9,168,999	\$2,084,958	\$299,140	\$19,805,871	\$31,358,968
Metropolitan	\$22,121,852	\$6,801,394	\$1,038,766	\$76,174,924	\$106,136,937
Mineral Area	\$7,911,346	\$1,085,775	\$184,763	\$15,005,385	\$24,187,268
Moberly	\$10,925,814	\$703,743	\$223,900	\$29,049,557	\$40,903,014
North Central	\$7,340,039	\$473,728	\$126,702	\$10,409,151	\$18,349,621
Ozarks	\$20,162,253	\$4,278,271	\$669,298	\$71,692,706	\$96,802,528
St. Louis	\$23,905,965	\$8,126,731	\$1,503,316	\$76,585,116	\$110,121,128
St. Charles	\$13,201,289	\$2,095,760	\$444,914	\$36,268,105	\$52,010,068
State Fair	\$9,307,438	\$1,274,892	\$258,457	\$24,018,250	\$34,859,037
Three Rivers	\$8,394,908	\$1,360,291	\$168,685	\$16,327,885	\$26,251,769
State Tech	\$8,394,908	\$1,997,283	\$169,284	\$32,004,051	\$42,565,526
Total	\$157,975,601	\$33,526,770	\$5,580,774	\$446,913,770	\$643,996,916

Note: Missouri State's costs include both its Springfield and West Plains campuses; the University of Missouri System's costs include all four of its campuses as well as its system office. These data do not apply to activities paid for by state support for designated services being performed by specified institutions, usually in HB3 (e.g., extension, dedicated applied research projects).

Funding Equity

$$\text{Equity} = (\text{Adjusted Revenue} - \text{Adequacy Model Estimate}) \div \text{Adequacy Model Estimate}$$

There are two major adjustments in the adjusted revenue figures. The first is to exclude line-item state appropriations for specified activities and programs such as cooperative extension. Most of these line items are detailed in HB3.

The second adjustment relates to the treatment of dollars received by institutions that originated as part of a student grant award. Because IPEDS treats grant aid as expenses, the revenue that institutions receive in the form of student grants and are used to offset tuition payments are not counted in the net tuition revenue variable in IPEDS. Yet some of those grant dollars are used to pay for instructional costs. Therefore, to partially correct for the omission of that revenue, here and elsewhere in this report NCHEMS' modeling adds the lesser of the sum of federal and state grant aid or discounts and allowances applied to tuition and fees to net tuition revenue. This is an imperfect solution; it more fully accounts for institutions' revenue but it injects some uncertainty in how institutions are reporting these data to IPEDS, which may not be uniform across all institutions.



Four-Year Institutions

Institution	Total Adjusted Revenue, FY2021	Adequacy Model Cost Estimates, FY2021	Funding Equity Ratio	Specified Cost-Share	Students' Share of Total Revenue
Harris-Stowe	\$22,464,692	\$21,174,161	6.1%	70%	45.1%
Lincoln	\$26,466,484	\$28,162,019	-6.0%	70%	43.1%
Missouri Southern	\$49,811,290	\$55,830,003	-10.8%	70%	53.1%
Missouri State	\$247,417,283	\$296,755,902	-16.6%	75%	66.5%
Missouri Western	\$54,689,956	\$53,259,909	2.7%	70%	55.9%
Northwest Missouri State	\$93,446,179	\$101,174,459	-7.6%	70%	61.2%
SEMO	\$119,333,478	\$126,625,011	-5.8%	70%	65.3%
Truman	\$61,807,888	\$66,276,818	-6.7%	70%	40.4%
UCM	\$125,401,283	\$145,715,128	-13.9%	70%	59.4%
University of Missouri System	\$1,079,806,403	\$1,028,063,377	5.0%	80%	65.7%

Two-Year Institutions

Institution	Total Adjusted Revenue, FY2021	Adequacy Model Cost Estimates, FY2021	Funding Equity Ratio	Specified Cost-Share	Students' Share of Total Revenue
Crowder	\$23,294,255	\$35,706,255	-34.8%	50.0%	58.9%
East Central	\$19,208,582	\$24,744,797	-22.4%	50.0%	38.5%
Jefferson	\$27,045,436	\$31,358,968	-13.8%	50.0%	28.3%
Metropolitan	\$90,795,764	\$106,136,937	-14.5%	50.0%	24.8%
Mineral Area	\$15,373,817	\$24,187,268	-36.4%	50.0%	29.6%
Moberly	\$30,254,275	\$40,903,014	-26.0%	50.0%	58.6%
North Central	\$9,492,402	\$18,349,621	-48.3%	50.0%	44.9%
Ozarks	\$66,557,325	\$96,802,528	-31.2%	50.0%	66.9%
St. Louis	\$140,692,148	\$110,121,128	27.8%	50.0%	23.5%
St. Charles	\$45,494,499	\$52,010,068	-12.5%	50.0%	43.3%
State Fair	\$24,747,309	\$34,859,037	-29.0%	50.0%	63.4%
Three Rivers	\$20,399,691	\$26,251,769	-22.3%	50.0%	48.3%
State Tech	\$31,161,332	\$42,565,526	-26.8%	30.0%	51.5%

Notes: Funding Equity Ratio is the difference between the total adjusted revenue and the adequacy cost model estimate over the adequacy cost model estimate. Students' share of total revenue is total adjusted tuition revenue over total adjusted revenue. Tuition revenue includes an estimate for the amount of externally funded grant aid that is used to pay for instructional costs and also excludes funding from the state for activities specified in HB3.

Performance Funding Component

1. Academic Progression
2. Completion
3. Responsiveness to workforce needs
4. Employment Outcomes
5. Efficiency
6. Collaboration

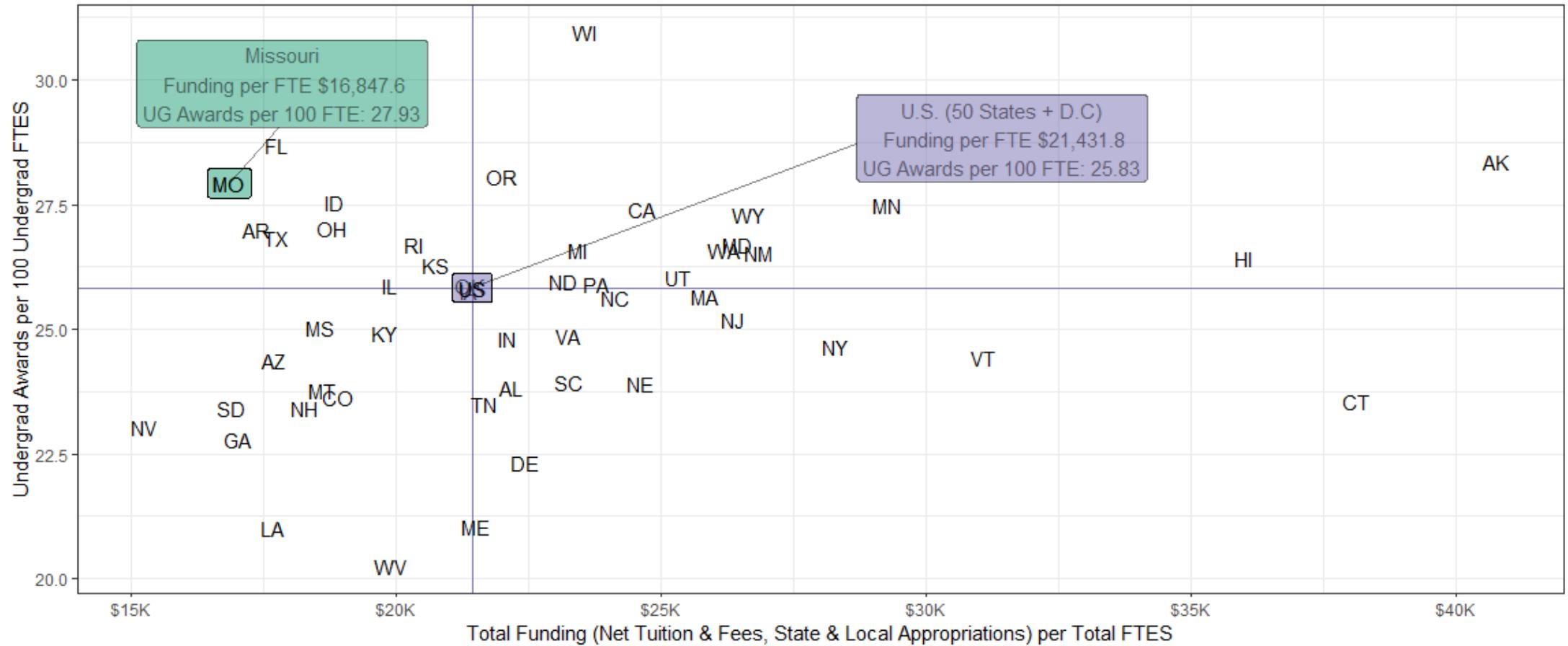
Preliminary Performance Funding Amounts

Metric	Amounts
Point value (adjustable)	\$50,000
Academic Progression	TBD
Completion	\$10,173,983
Postgraduate Wages	\$6,574,237
Efficiency	\$8,930,775
Workforce Responsiveness	\$8,357,500
Collaboration	TBD
Total	\$34,036,495
Two-Year Institutions	\$9,738,114
Four-Year Institutions	\$24,298,381

Efficiency

Awards per FTE vs Funding per FTE, 2020-21

Public Research Institutions



Source: IPEDS provisional release files efia2021, f2021_f1a, f2021_f2, c2021_a. Sectors identified using NCHEMS methodology.

Awards per FTE vs Funding per FTE , 2020-21

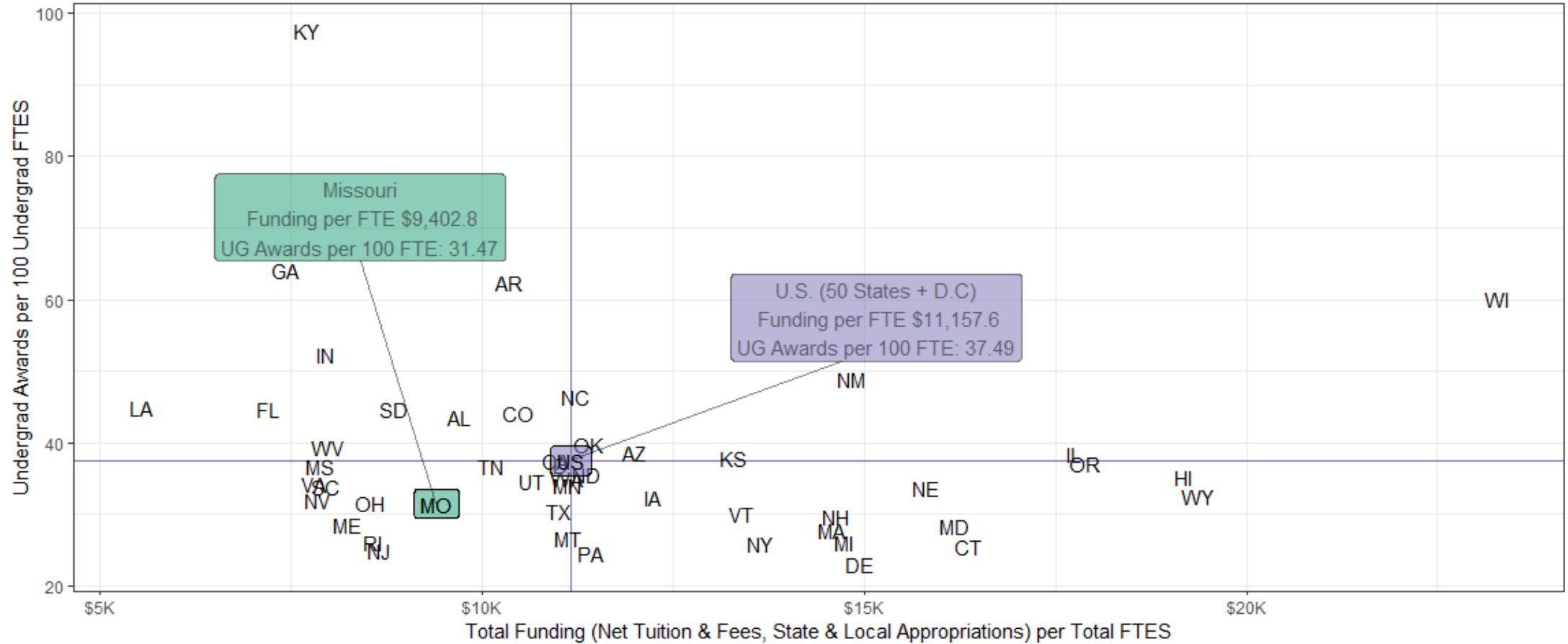
Public Masters, Bachelor's, and Other 4-Year Institutions



Source: IPEDS provisional release files efi2021, f2021_f1a, f2021_f2, c2021_a. Sectors identified using NCHEMS methodology.

Awards per FTE vs Funding per FTE , 2020-21

Public Associates and Other 2-Year Institutions



Source: IPEDS provisional release files efa2021, f2021_f1a, f2021_f2, c2021_a. Sectors identified using NCHEMS methodology. Excludes Alaska.

Observations from Surveys

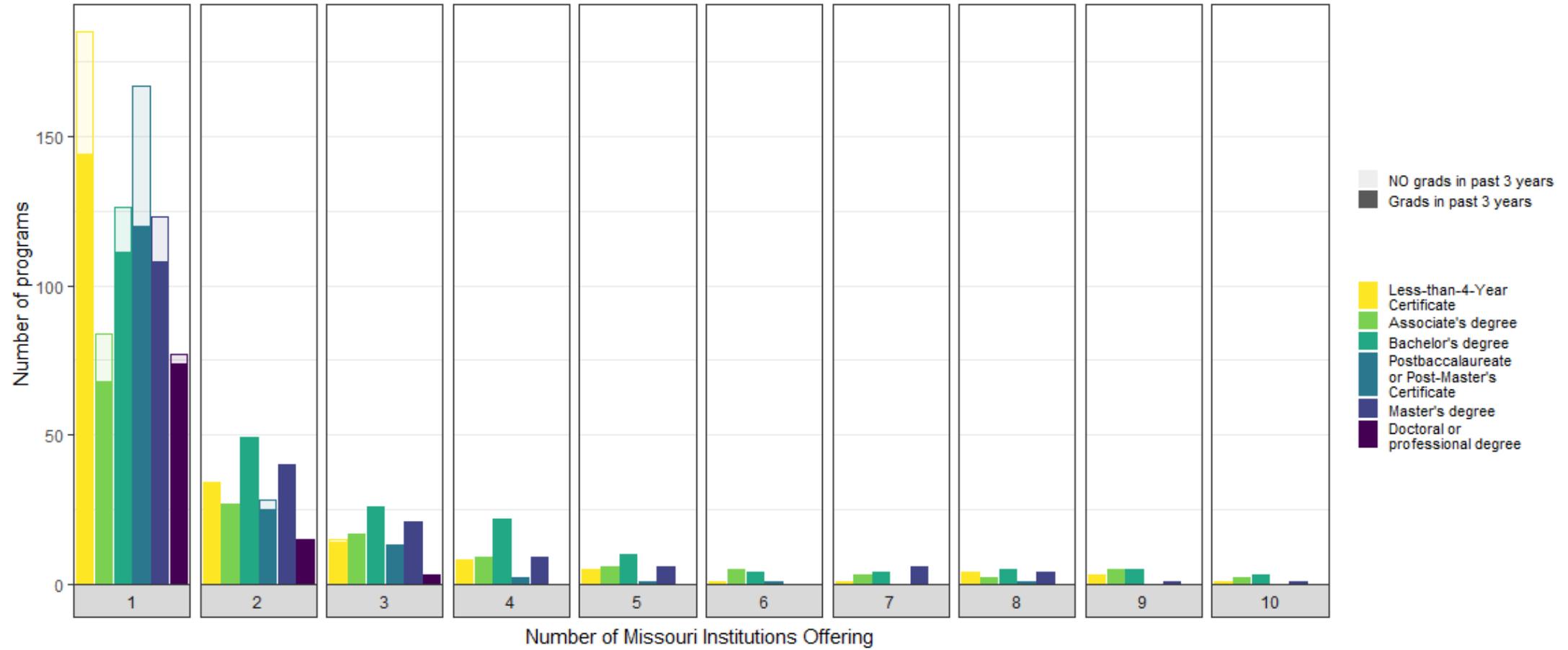
1. Survey of States

- Efficiency is a priority goal – 18 of 35 respondents
- “Savings” targets – 7
- Formalized metrics – 11 (8 of which have them in PBF models)
- Differentiated missions – 19 of 30 respondents

2. Survey of Missouri Institutions

- Efficiency a major priority, with a high degree of reported successful redeployment of resources to better achieve state or institutional goals
- Success is relatively more difficult in
 - Reducing administrative costs
 - Increasing enrollments and graduation rates for URM students

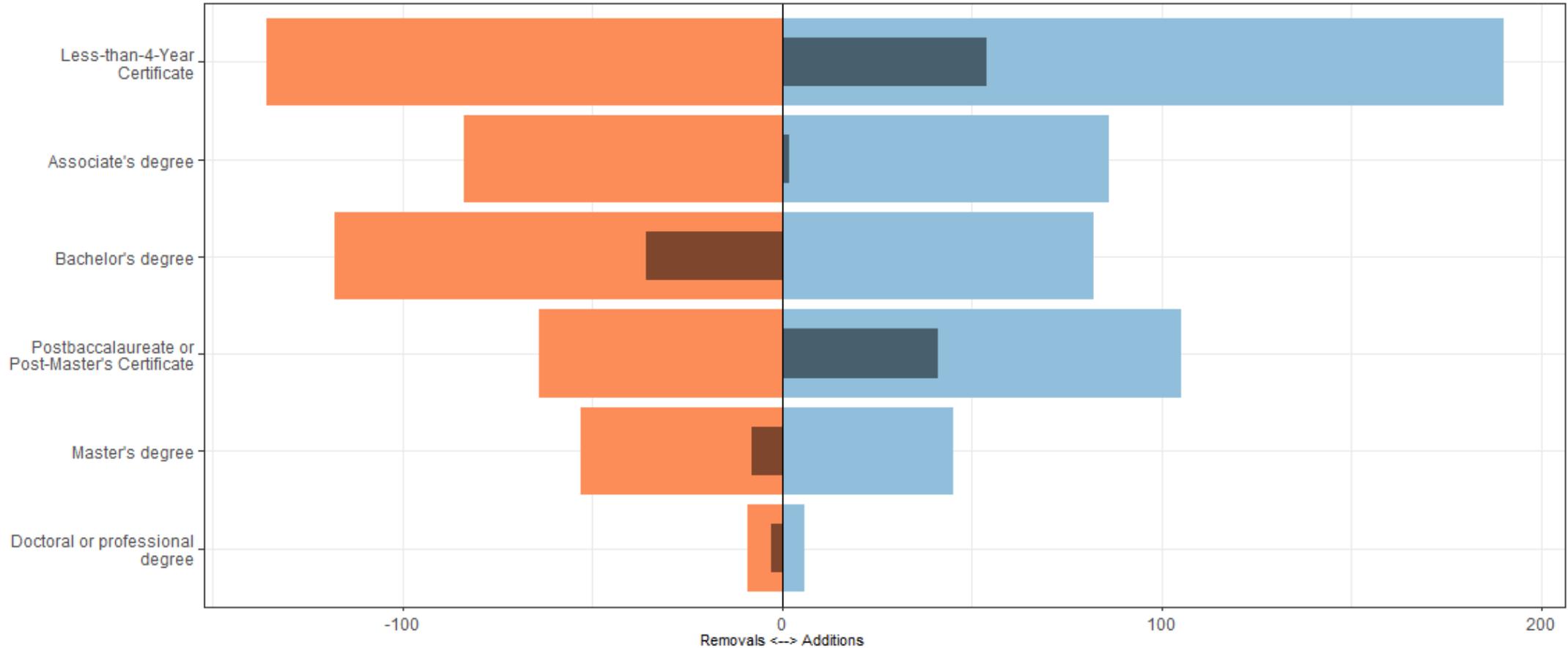
Distribution of Programs by the Number of Missouri Institutions Offering the Same Program



Source: NCES IPEDS Completions Survey, c2019_a and c2020_a final release files; c2021_a and c2021dep provisional release files
 Notes: There are an additional 16 programs offered at more than 10 institutions. Each program is defined as a single 6-digit CIP code.
 Program offerings are based on 2020-21; graduates are based on 18-19, 19-20, and 20-21

Statewide Program Additions and Removals 2017-2021

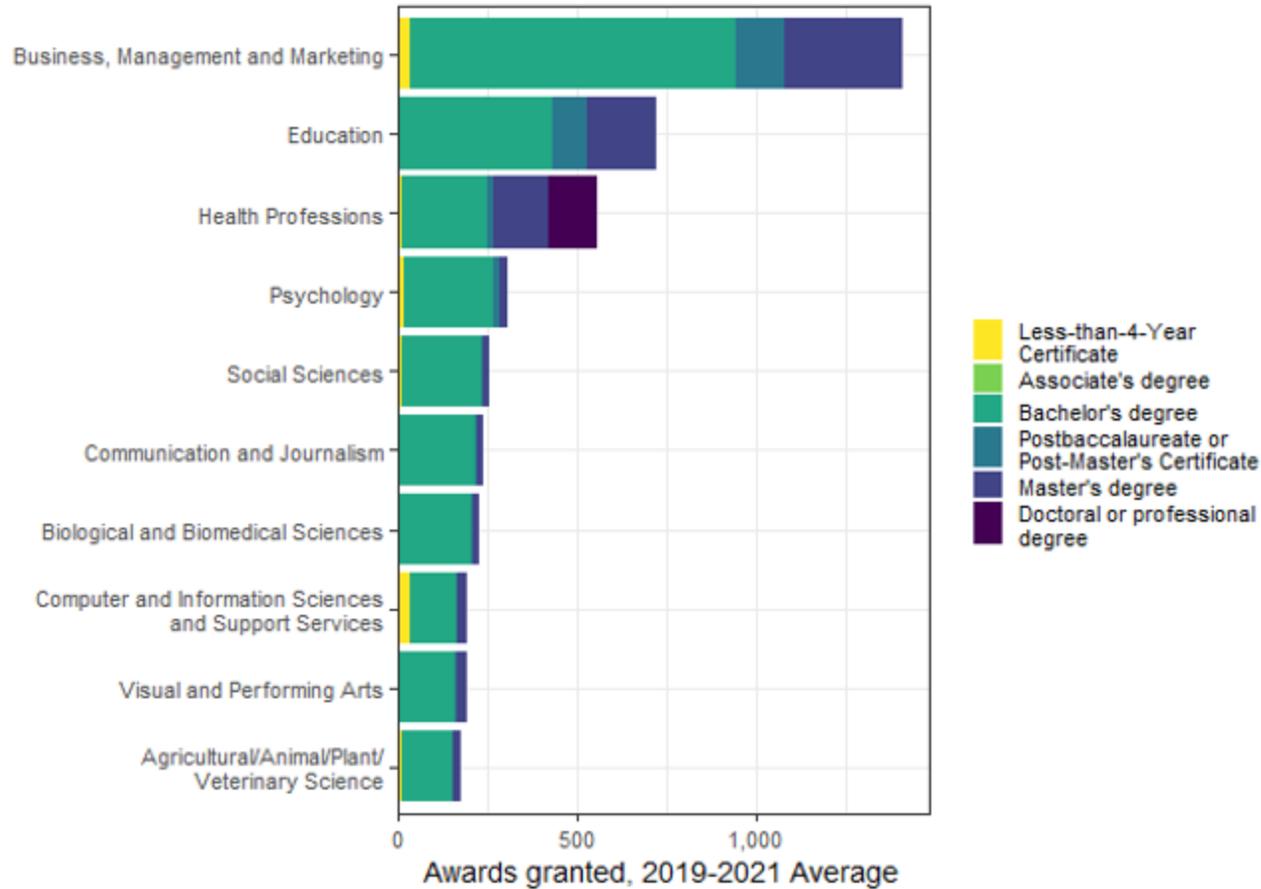
By Program Level



Source: IPEDS and MDHEWD. Note: Darker bars indicate net of additions minus removals.

Example: Missouri State University-Springfield Program Array

MO State Springfield Awards by Discipline

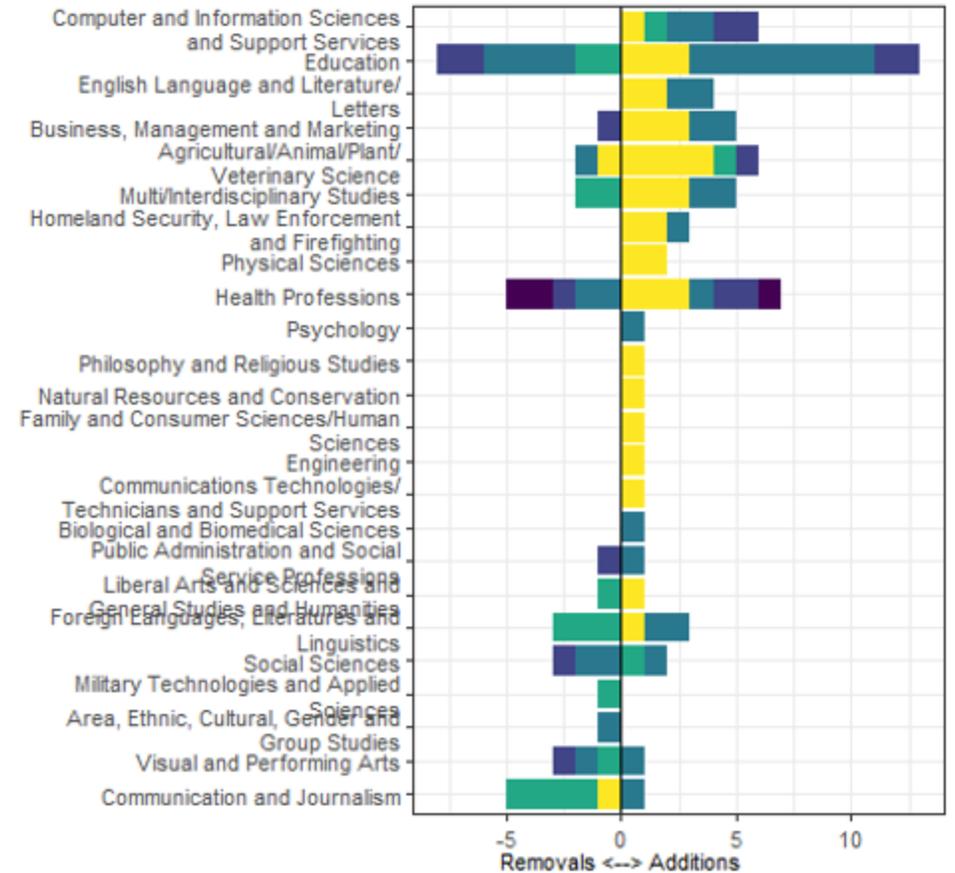


NCES IPEDS Completions Survey

Notes: Includes only top 10 2-digit CIP codes.

Awards may be duplicated in cases where a graduate receives multiple awards.

MO State Springfield Program Additions and Removals, 2017-2021



Source: IPEDS and MDHEWD. Note: Programs are sorted by net change.

Recommendations to the General Assembly

1. Enact into statute the broad general **framework** for a funding model.
2. Design the model with a **cost-based approach**.
3. Drive **improvement** in student success and efficient operations through the performance component and recognize that performance incentives are **embedded** throughout the funding model.
4. Direct the Department to prepare **cost-sharing** recommendations.
5. Direct the Department to propose a plan for **implementation** with some priority given to funding adequacy before performance.
6. Recognize the necessary but modest additional costs at the Department to **administer** the new funding model.
7. Direct the CBHE and Department to review **role and scope designations** for the public institutions.
8. Direct the Department to develop ideas for how to financially support **collaborative efforts** among its public institutions.

Recommendations to the CBHE and the Department

1. Develop the **detailed specifications** for the funding model's operation.
2. Establish the performance component based on a **fixed per-point dollar amount**.
3. Provide a **plan for implementing** the funding model.
 - a. Allow for a 2-4 year transition period with appropriate stop-loss provisions.
 - b. Assure some priority to funding adequacy but with some balance for performance incentives.
 - c. Give attention to student affordability.
 - d. Ration the variable costs and performance components proportionately when necessary; assure that the state (and local governments) fully cover the fixed costs component.
4. Establish **policies** that:
 - a. Assure periodic technical and policy reviews of the model.
 - b. Improve data collection and use appropriate for the model.
 - c. Articulate role and scope designations for public institutions.
 - d. Incentivizes collaboration among institutions.
 - e. Create a clearinghouse of initiatives that are aimed at improving efficiency, and use the Department's convening power to promote and scale lessons about such efforts.