



# The Federal-State Higher Education Partnership

## How States Manage Their Roles

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**State funding of public higher education is central to college access and affordability and to postsecondary educational attainment. State support translates into resources colleges and universities can spend on instruction and other activities or to charge lower tuition prices, especially to in-state students. Each state develops its own higher education systems and determines funding for public institutions and for financial aid for its students. Differences in institutional structures and funding models combine with economic and demographic differences to create sharp variation in the educational opportunities available to students across the nation.**

In recent years, as state funding has failed to keep pace with growing enrollments, state appropriations cover a declining share of expenditures at public institutions. The federal government has increased its spending on student aid to pick up some of the slack. This changing balance between federal and state contributions increases the importance of the relationship between federal and state goals, policies, and strategies for higher education.

This brief describes differences across states in per student funding levels, distribution of funding across postsecondary sectors, systems for determining these funding patterns, and state grant aid offered to students who enroll in these institutions. It examines how these policies interact with federal subsidies for college students and how they further or counteract the goals underlying federal policies.

### **State Funding for Public Higher Education**

Total state funding for higher education increased 4 percent in inflation-adjusted dollars between fiscal year (FY) 1990 and FY 2015 and 1 percent between FY 2005 and FY 2015. Local funding, which

supports community colleges in some states, rose by 63 percent between FY 1990 and FY 2015, increasing from 7 percent to 10 percent of total appropriations. Because full-time equivalent (FTE) enrollment in public colleges and universities increased 43 percent over this 25-year period—and 13 percent between 2005 and 2015—combined state and local funding per student declined 20 percent in real terms between FY 1990 and FY 2015 and 7 percent between FY 2005 and FY 2015 (Carlson and Laderman 2016, table 2).

States vary widely in the resources they provide their public colleges and universities, from less than \$4,000 a student in Colorado, New Hampshire, Pennsylvania, and Vermont in FY 2015 to more than \$14,000 in Alaska and Wyoming (Carlson and Laderman 2016, table 5). Although other factors affect tuition and fees, states where public colleges receive more financial support tend to have lower prices. For example, four-year public colleges in New Hampshire charge the country's highest tuition prices (\$15,650 in 2016–17). States and localities provide less funding per student (\$2,591 in FY 2015) than any other state. Wyoming has the lowest tuition and fees (\$5,055 in 2016–17) and the highest per student state and local funding (Carlson and Laderman 2016, table 5; Ma et al. 2016). More public funding also provides more resources for instructional and student support spending.

## State Funding across Institutions

The variation *across* states in public higher education financing is well known, but differences among institutions *within* states receive little attention. These differences result from decisions made by state policymakers regarding how to fund categories of institutions, such as two- versus four-year or research- versus teaching-focused colleges and universities. Even within these categories, funding patterns may depend on the characteristics of individual institutions. Funding can be divided among institutions in myriad ways based on enrollment, perceived need, performance metrics, or other legislative priorities or preferences.

The within-state higher education funding policy that has received the most attention is performance-based funding, through which at least 33 states allocate as much as 90 percent (but often less) of state appropriations to institutions based on often-rudimentary performance metrics (e.g., degrees completed). Evidence suggests performance funding has had little or no impact on outcomes such as degree attainment (Dougherty et al. 2016). But policymakers and analysts are optimistic that new and more sophisticated approaches to performance-based funding may improve student outcomes.<sup>1</sup>

Evidence more clearly suggests that state funding decisions can have important downstream effects on student outcomes through their influence on institutions' spending. A recent study found that spending increases led to higher degree completion rates at nonselective public institutions. In contrast, across-the-board tuition reductions did not significantly affect these outcomes (Deming and Walters 2017). Other research has found that targeted financial aid and nonfinancial supports, both of which cost money, can improve outcomes for disadvantaged students.<sup>2</sup>

Questions about how states allocate funding across institutions and sectors and the implications for student outcomes deserve more attention. Below, we describe how states distribute funding across

their public colleges and universities. We also describe differences across states in the distribution of students between two- and four-year colleges and in per student funding levels in these sectors.

## Variation in Support within States

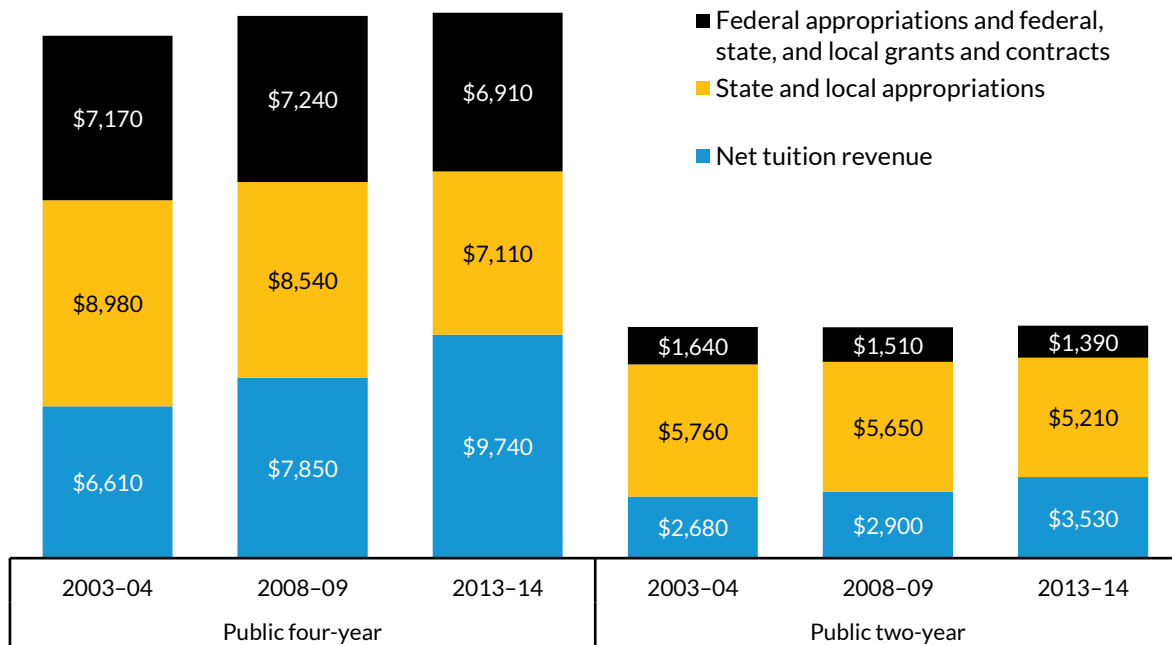
Because of the varied missions of public colleges and universities, simple comparisons of funding per student may be misleading. Two-year colleges offer only lower-level undergraduate courses, and their faculty focus only on teaching, not research, and have heavier teaching loads than university faculty. On the other hand, these institutions offer many technical courses that require equipment and labs that may be costly. Research universities teach graduate students and upper-level undergraduates, a more expensive undertaking than teaching first- and second-year students. They fund a considerable amount of research and cannot expect faculty to devote all their time to teaching.

That said, the differences in funding across types of institutions are stark. In 2013–14, public two-year colleges received an average of \$5,210 per FTE student in state and local appropriations. Public four-year universities received an average of \$7,110—36 percent more (figure 1).

FIGURE 1

### Revenue Sources of Public Four-Year and Two-Year Institutions, 2003–04 to 2013–14

Revenue in 2013 dollars



Source: Jennifer Ma, Sandy Baum, Matea Pender, and Meredith Welch, *Trends in College Pricing 2016* (New York: College Board, 2016).

Despite differences in funding, the pattern is similar across most states (Ma et al. 2016, figure 16). Only in states with the lowest funding levels in the public four-year sector do two-year institutions receive higher per student funding (figure 2). The largest gaps between sectors occur in states with relatively high funding for four-year institutions.

Exceptions to the general pattern of higher funding for four-year institutions include the following:

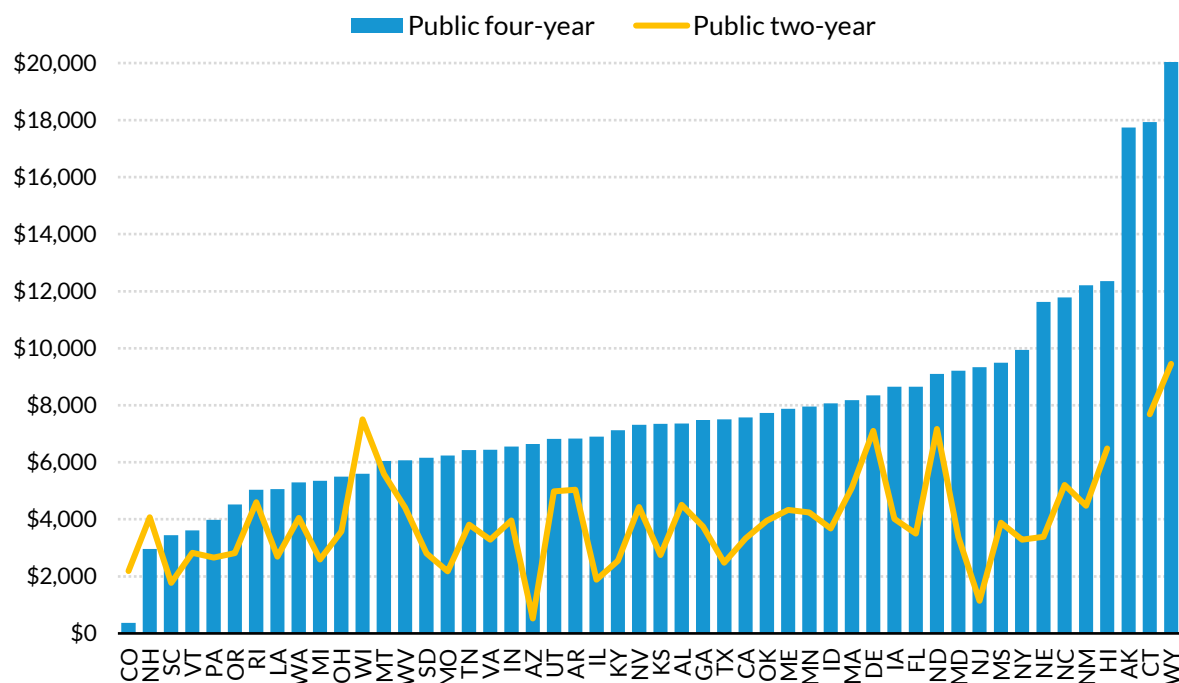
- New Hampshire appropriates \$5,560 per FTE student to Lakes Region Community College, but only \$3,460 to the University of New Hampshire main campus. Total appropriations are much higher at the university, but enrollment at community colleges is so low that less funding goes further. The community colleges with the highest appropriations per FTE student have enrollments between 500 and 825 FTE students, compared with the university, which enrolls 15,321 FTE students.
- Wisconsin provides more funding per student to public two-year colleges than to public four-year colleges. Because of strong local tax support, Wisconsin's technical colleges receive more funding per student than most two-year colleges across the nation.

Arizona and New Jersey are at the other end of the spectrum:

- Arizona community colleges get little state funding, relying instead on local funds and tuition revenues. Ten of the 20 community colleges reporting to the Integrated Postsecondary Education Data System received less than \$150 per FTE student in 2014–15, but the University of Arizona received \$7,790 per FTE student.
- New Jersey is second to Arizona in providing low appropriations to public two-year colleges, but only four states provide higher average funding per student to research universities. Funding to master's universities is significantly higher than the national average.

FIGURE 2

State and Local Funding per FTE Student at Public Four- and Two-Year Colleges, by State, 2014-15



Source: Integrated Postsecondary Education Data System.

Notes: FTE = full-time equivalent. Colorado relies on a voucher system, replacing most state appropriations with vouchers to students who enroll in public colleges and universities, so the data for this state are not comparable with data for other states. Alaska does not have a community college system.

Funding differences across sectors are significant because of the demographics of students enrolled in these sectors. Low-income students, older students, and black and Hispanic students are disproportionately represented in public two-year colleges.

In 2011-12, when 20 percent of public sector undergraduate students attended doctoral universities, only 11 percent of independent students (primarily students ages 24 and older) attended these selective universities. Among dependent students, the percentage enrolled in these institutions rose with parental income, from 21 percent of those from the lowest income quartile to 40 percent of those from the most affluent families. Sixty percent of public-sector undergraduate dependent students from the lowest family income quartile attended two-year colleges, compared with 37 percent of students from the highest family income quartile.

Differences by race and ethnicity are also significant, with 72 percent of Hispanic and 68 percent of black students who attended public colleges and universities enrolled in two-year colleges, compared with 54 percent of Asian and 59 percent of white students (table 1).

TABLE 1

**Distribution of Undergraduate Students across Sectors of Public Higher Education, 2011–12**

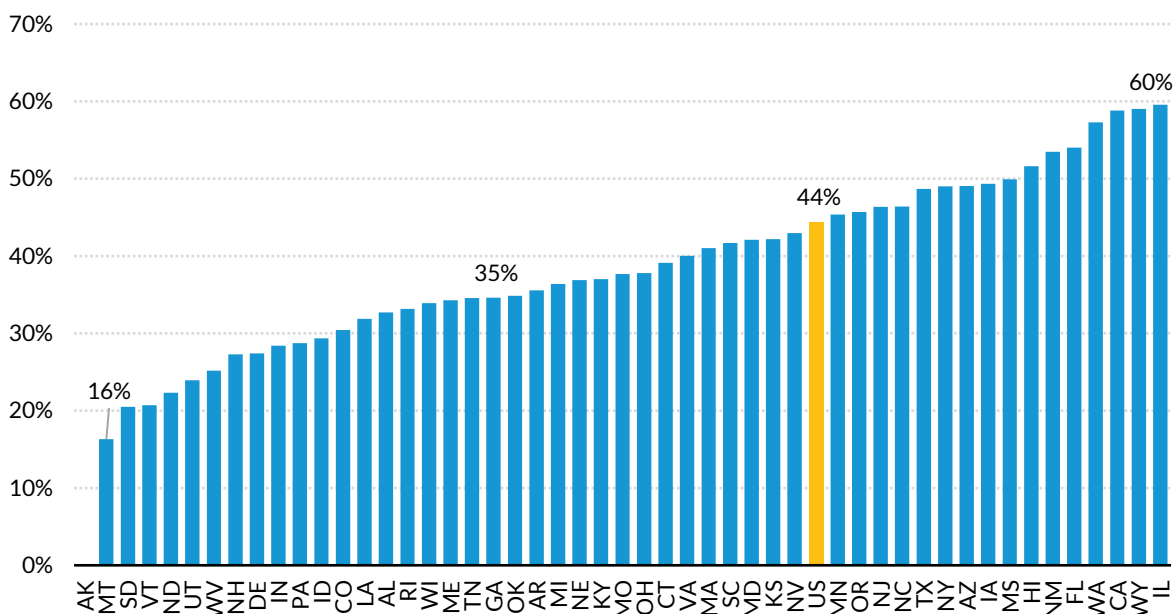
	Two-year	Doctoral	Master's	Bachelor's
All	62%	20%	15%	3%
Independent	75%	11%	11%	2%
Dependent	50%	28%	18%	3%
<b>Dependent students' parental income</b>				
Less than \$30,000	60%	21%	16%	3%
\$30,000–64,999	55%	24%	17%	3%
\$65,000–105,999	49%	29%	19%	3%
\$106,000 or more	37%	40%	21%	2%
<b>Race/ethnicity</b>				
White	59%	22%	16%	3%
Black	68%	15%	14%	3%
Hispanic	72%	14%	12%	2%
Asian	54%	28%	17%	1%
Other	62%	17%	16%	3%

Source: NCES, National Postsecondary Student Aid Study 2012, PowerStats.

The two-year sector—which has lower per student public funding and disproportionate numbers of older, low-income, black, and Hispanic students—enrolls as many as 59 percent of public-sector students in Wyoming and 60 percent in Illinois. But Alaska does not have a community college system and only 16 percent of public-sector students in Montana attend two-year colleges (figure 3).

FIGURE 3

Share of Public FTE Undergraduates Enrolled in Two-Year Institutions, by State, Fall 2014



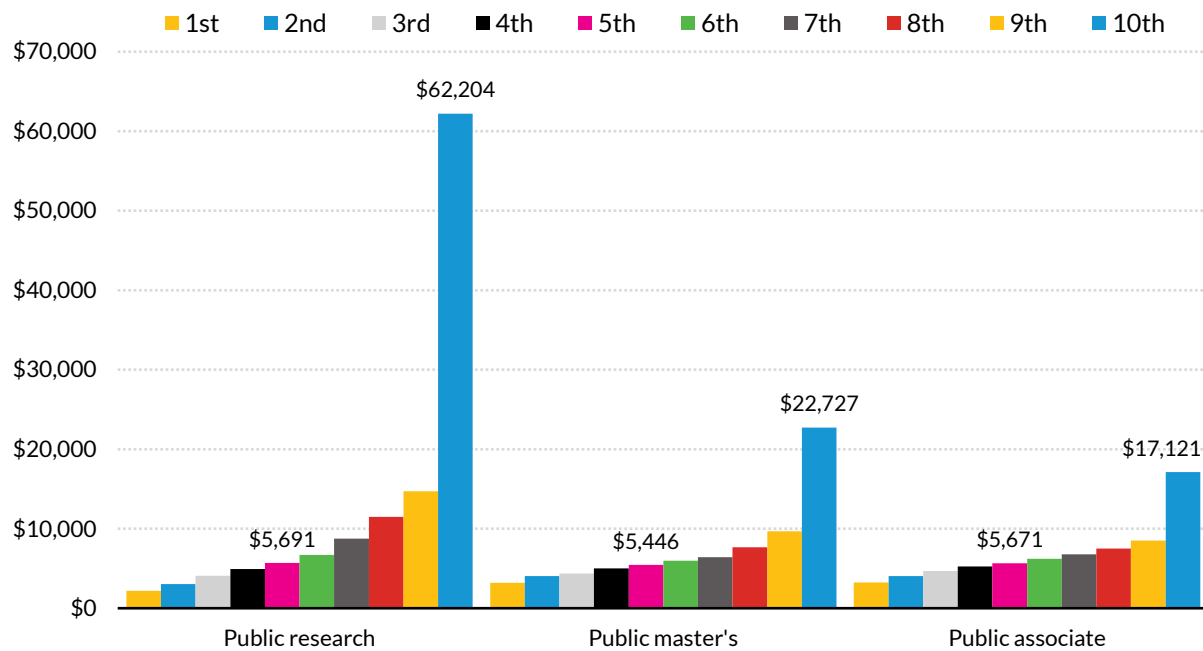
Source: Jennifer Ma, Sandy Baum, Matea Pender, and Meredith Welch, *Trends in College Pricing 2016* (New York: College Board, 2016), figure 21b.

Notes: FTE = full-time equivalent. Alaska does not have a community college system.

Average funding across sectors can conceal considerable differences among institutions within sectors. The median student in a public two-year college is enrolled in an institution that receives a per student subsidy from appropriations and other nontuition sources similar to the median student in a public research university, but a few research universities receive large subsidies (figure 4).

FIGURE 4

Distribution of Subsidies within Sectors, by Deciles of Students



Source: "Understanding College Affordability: How Students, Institutions, and the Public Pay for Higher Education," Urban Institute, accessed April 4, 2017, <http://collegeaffordability.urban.org/>.

Note: Subsidies include revenue sources other than tuition and fees.

In 18 states, the best-funded research university receives more than twice as much state appropriation per student as the research university with the lowest funding. The range is more than \$10,000 a student in five states. These numbers are similar for master's universities:<sup>3</sup>

- New College of Florida receives \$20,370 per student in state appropriations, and the University of Florida St. Petersburg receives \$5,950. Both are public four-year colleges.
- In the University of Massachusetts system, the flagship Amherst campus receives \$10,680 a student compared with \$7,260 for the Lowell campus, \$8,340 for Boston, and \$8,980 for Dartmouth.
- In the University of California system, the flagship Berkeley campus gets less funding per student than six other campuses (Davis, Los Angeles, Merced, Riverside, San Diego, and Santa Cruz) and more than only two other campuses (Irvine and Santa Barbara).
- The three Historically Black Colleges and Universities in Maryland get different funding per FTE student: Coppin State University receives \$15,310, Morgan State University receives \$12,850, and Bowie State University receives \$8,400.



In light of evidence about the impact of institutional resources on student success, funding differences across and within states create wide gaps in educational opportunity. States may place varying priorities on ensuring access to meaningful and appropriate postsecondary education for all their residents. But the federal government's involvement in higher education is deeply rooted in an effort to diminish inequality in opportunity. The best design of the federal-state partnership depends on coordination of priorities.

## How States Fund Colleges and Universities

The most recent information on state approaches to funding public colleges and universities comes from a 2012 SRI International report (figure 5). Seventeen states use a formula to divide appropriations among institutions, 19 states use a more ad hoc approach based on legislative priorities, and the remainder use a hybrid approach, such as one formula for two-year institutions but a different method for four-year institutions (SRI International 2012). Regardless of the approach, funding is generally driven by enrollment.

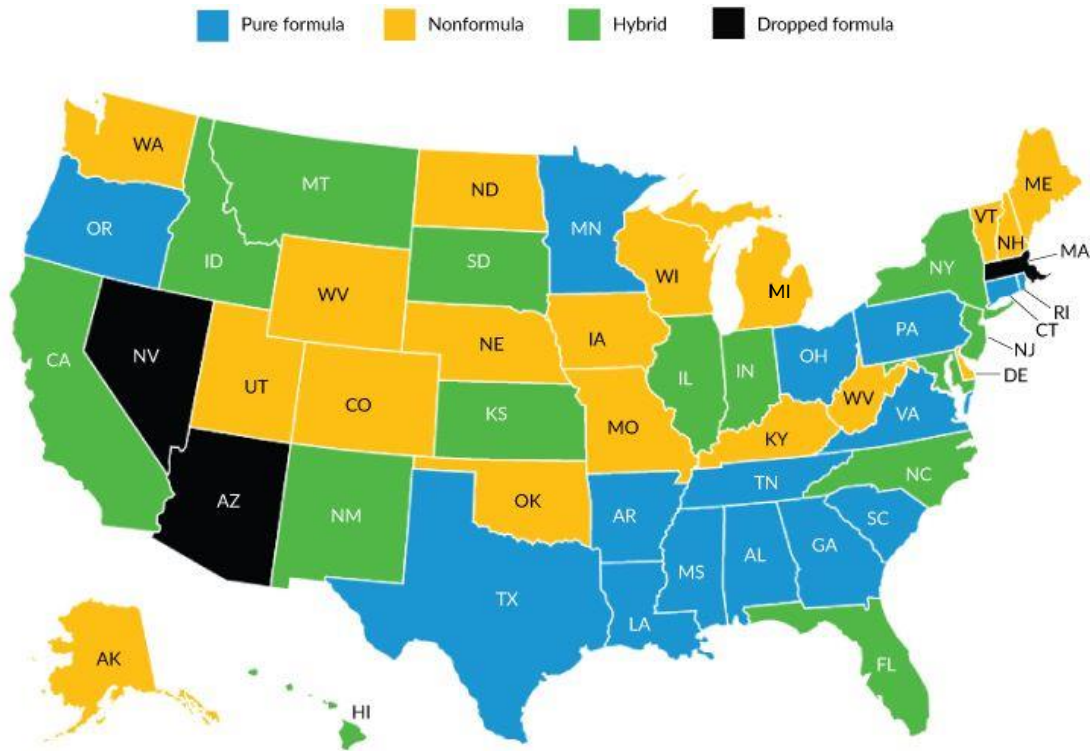
The report notes that “in many cases, higher education funding policies are a historical mash-up of different priorities and strategic decisions” (SRI International 2012, 3).

Formula funding methods vary across the states that use them, and in all states, some portions of funding are outside the formula. The SRI report identifies two common nonformula methodologies:

- The “base plus” method: Each institution receives the same appropriation as in the prior year plus (or minus) a funding increase (or cut).
- Legislative priorities: Legislators make ad hoc determinations of funding levels for individual institutions.

FIGURE 5

State Methods for Higher Education Funding, Formula and Nonformula, 2012



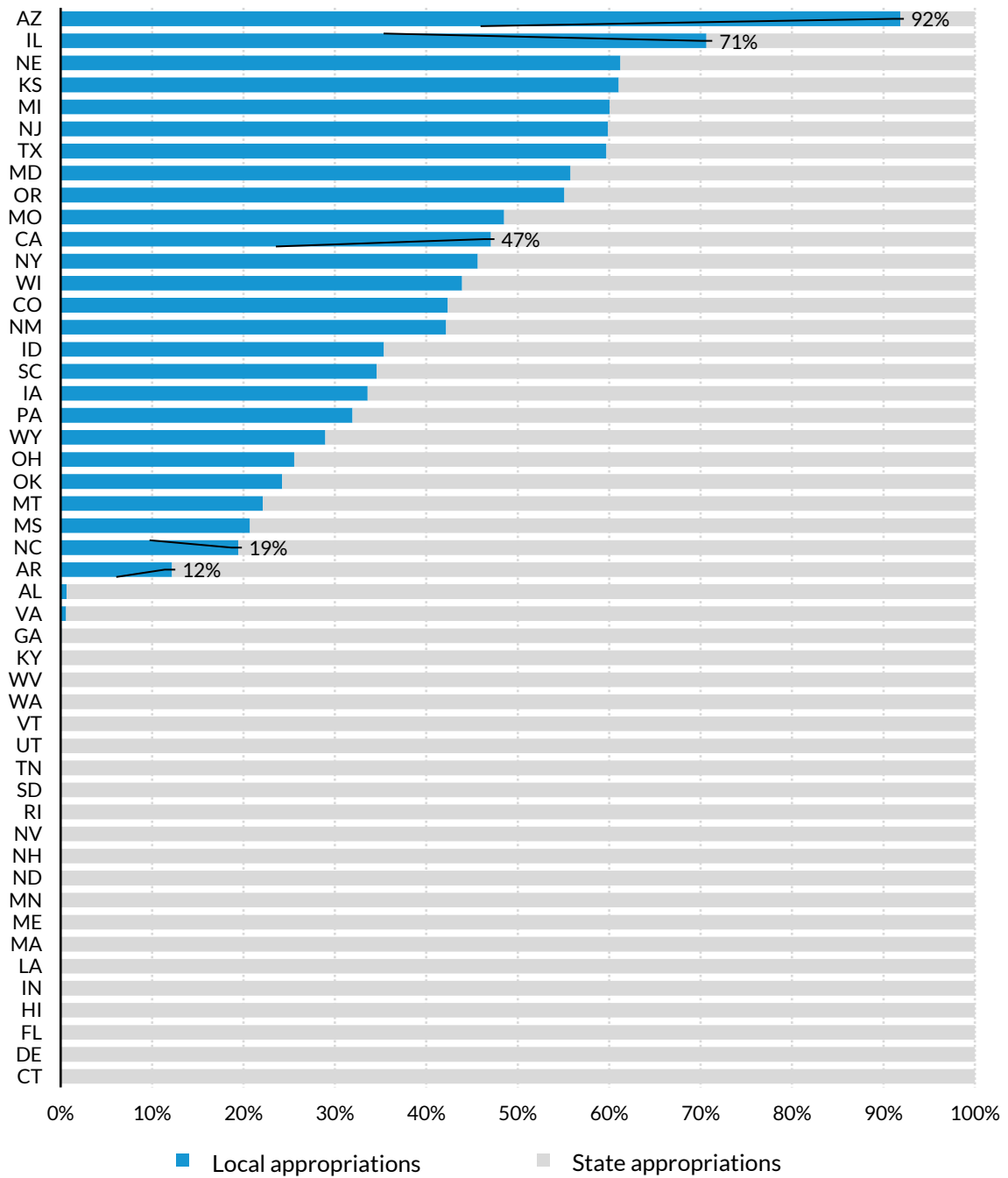
Source: SRI International, *States' Method of Funding Higher Education: Report for the Nevada Legislature's Committee to Study the Funding of Higher Education* (Arlington, VA: SRI International, 2012, 8).

In recent years, more states have incorporated performance metrics into their funding formulas. New performance-based funding models focus more on completion rates than earlier attempts did. Some states prioritize outcomes for underrepresented students. Mississippi, Nevada, North Dakota, Ohio, and Tennessee allocate more than half their funding based on outcomes (Snyder 2015).

Funding processes differ in other ways. Some states rely heavily on local funding for community colleges, but in other states, all appropriations are at the state level. In Arizona, the Maricopa Community College system no longer receives state funding, and other community colleges only receive a small share of their funding from the state. In New Hampshire and 20 other states, however, community colleges do not receive municipal funding (figure 6).

FIGURE 6

Appropriations for Public Two-Year Colleges from State and Local Governments, by State, 2014-15



Source: Integrated Postsecondary Education Data System.

# State Grant Programs

States direct most of their higher education funding to institutions, and the federal government dominates the provision of financial aid funds to students to help them pay for college. Nonetheless, almost all states have grant programs for residents who enroll in colleges and universities within the state. The share of state funding that goes toward student aid increased from 7 percent in 1993–94 to 13 percent in 2013–14 (table 2).

TABLE 2

## State Grant Expenditures as a Percentage of State Fiscal Support for Higher Education Operations

Academic year	Percentage
1999–2000	7%
2004–05	11%
2009–10	12%
2014–15	13%

**Source:** National Association of State Student Grant and Aid Programs, Annual Survey Reports on State-Sponsored Financial Aid, 2015.

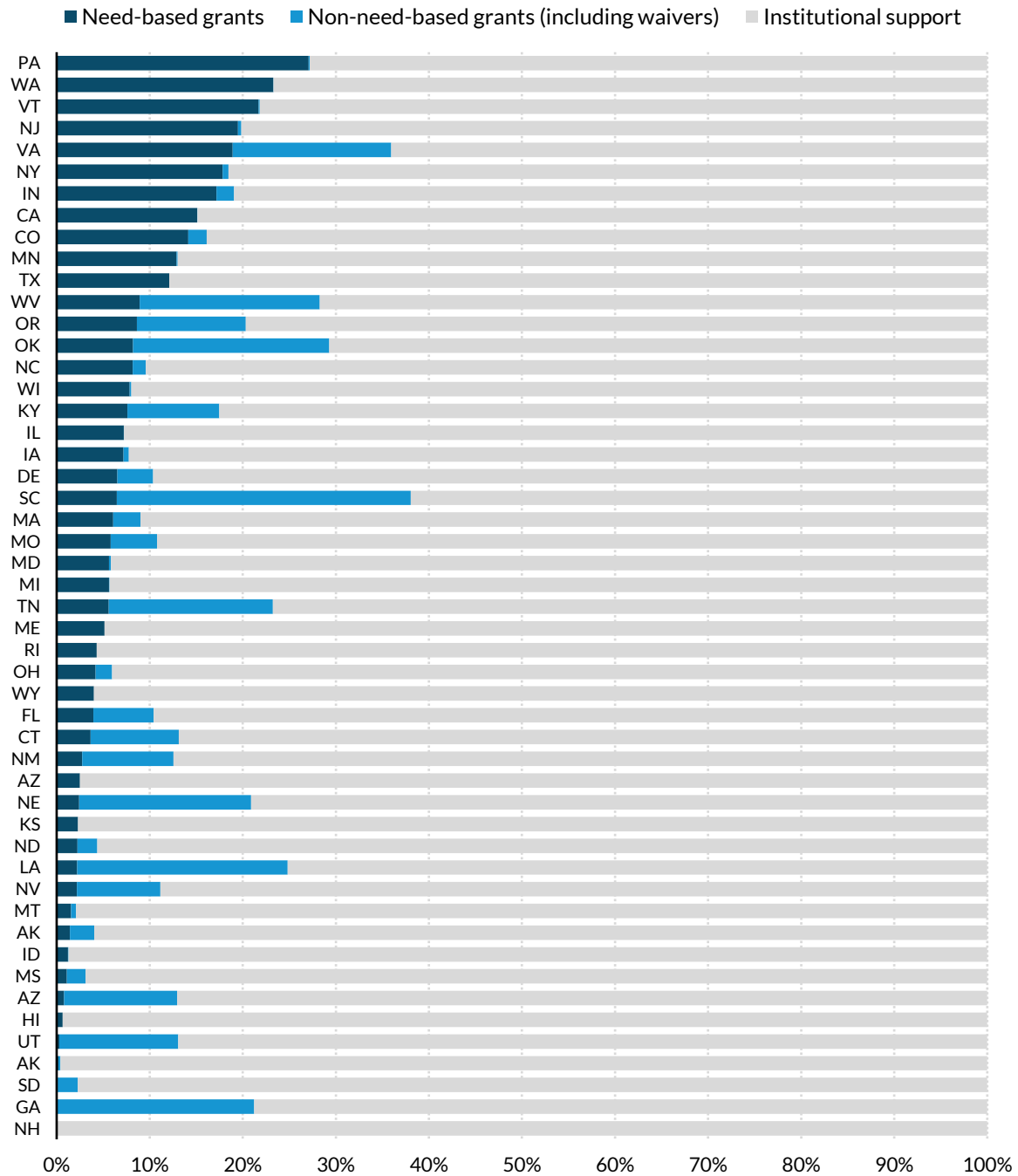
**Note:** Totals include only state support, not local support for higher education institutions.

States vary in the share of state dollars going to financial aid and in the breakdown between need-based aid and aid allocated without regard to the financial circumstances of the recipients.

New Hampshire and Georgia do not have need-based grant aid, and in nine other states, less than 2 percent of state funding is for need-based aid. But in Pennsylvania, Vermont, and Washington, more than 20 percent of state funding goes to these programs. Twenty states do not have non-need-based grant programs, but in Georgia, Oklahoma, and South Carolina, more than 20 percent of state funding goes to these programs (figure 7).

FIGURE 7

Need-Based Grant Aid, Non-Need-Based Grant Aid, and State Appropriations to Institutions, by State, 2014–15



Source: National Association of State Student Grant and Aid Programs, Annual Survey Reports on State-Sponsored Financial Aid, 2015.

Note: Local appropriations for higher education institutions are not included.

State grant programs differ in funding levels and eligibility criteria. In 2014–15, 10 states awarded less than \$150 per FTE undergraduate student, and 12 states awarded more than \$1,000 of grant aid per FTE undergraduate student (Baum et al. 2016, figure 22a). In 27 states, more than 90 percent of state grant aid was based at least partially on financial need, but in 7 states, more than three-quarters of grant aid was distributed without regard to financial circumstances. Instead, awards were based on high school academic achievement levels (Baum et al. 2016, table 21b). States such as Georgia and South Carolina, which provide generous non-need-based aid, have goals other than equalizing educational opportunities. They may, for example, seek to keep talented students in the state, increase the prestige and selectivity of their universities, or diminish college affordability concerns among the middle class.

The federal government’s grant aid is targeted to students from low- and moderate-income backgrounds. Students deemed by the federal formula to have no ability to contribute financially to their education receive the maximum federal Pell grant (\$5,815 in 2016–17), and the award declines dollar-for-dollar as the student’s (and family’s) expected contribution increases. The program provides the largest subsidies to students with the fewest resources, diminishing gaps across students.

State need-based grants do not always follow this pattern. Some give all recipients the same amount. For example, Ohio College Opportunity Grants go only to students from families with income below \$75,000 a year and expected family contributions of \$2,190 or less. But for eligible students, the grant amount depends only on the institution attended and part-time or full-time status, not on the level of income or expected family contribution.<sup>4</sup> Minnesota uses a “shared responsibility” model that determines how much each student should contribute and fills in the gap left by Pell grants.<sup>5</sup> Increases in federal Pell grant levels do not put more money in the pockets of low-income students, whose state grant aid declines in response.

State and federal governments might pursue different goals and design their policies accordingly, but policies at one level of government can diminish the effectiveness of funding from another level. For example, large state grant programs targeting high school academic achievement may, even combined with federal Pell grants, generate larger subsidies for students from more affluent families than for students from low-income families. High tuition at public institutions may dampen the effectiveness of federal need-based aid in making college financially accessible to students with limited resources. And inadequate funding of the public institutions educating large numbers of at-risk students may hinder federal efforts to increase postsecondary opportunity and attainment.

## Conclusions and Recommendations

Public colleges and universities use state appropriations for several purposes, such as subsidizing in-state tuition, paying faculty salaries, and providing academic and other support to students. An institution’s available resources affect how much it spends, and how resources are provided (e.g., whether strings are attached to certain funding streams) may affect how it spends its money.

Yet we know little about the implications of the various ways states allocate funds to institutions. These decisions likely affect equity because different groups of students enroll in different categories of institutions. Selective research universities tend to enroll students with strong academic credentials who generally come from more affluent families, whereas open-access community colleges enroll a more diverse student population, including older students with families of their own.

Comparing tuition levels across states is not enough. Being able to pay the price of enrollment is only a small piece of what it takes to earn a college degree. To understand what states contribute to residents' educational attainment requires greater understanding of how well funded the public institutions are and how those institutions use their funds to support students.

An important way federal and state goals interact is that state decisions about higher education potentially influence the productivity of federal investments. Imagine two states, one with high-quality, well-funded community colleges and another with poorly funded, low-quality community colleges. The tuition charges in both are similar because the higher funding level in the first state does not reduce tuition but provides higher-quality instruction and better support services for students. Federal Pell grants will allow low-income students in both states to access their respective community colleges, but those federal expenditures will lead to greater investments in human capital (and a larger payoff for the individual and for society in the long run) in the state with the better community colleges.

Large differences in state higher education funding mean some states contribute more than others to the federal goal of increasing postsecondary opportunities and attainment. Federal Pell grants go further toward making college affordable in states with low tuition and fees at their public colleges and universities than in those whose funding practices leave students with larger bills. Generous need-based state grant programs do more to complement the Pell grant program than programs based on high school achievement designed to meet other state goals.

Better understanding of several issues could strengthen the federal-state partnership in providing meaningful postsecondary opportunities. Of particular importance is understanding how state policies respond to changes in federal policies. Currently, most federal funding goes directly to students. How might state and institutional policies and practices be affected by a shift to more federal funding to states and institutions rather than to students?

Other questions for future research to address include the following:

- How do state goals differ from or correspond to federal goals?
- Is the (often large) funding disparity between four- and two-year institutions in most states justified?
- What formula and nonformula (or combination) methods best serve policymakers' goals?
- Are differences in funding amounts received by institutions that appear to be similar the result of arbitrary decisions (e.g., driven by politics) or by policymakers' attempts to achieve particular goals?

- What funding methods provide the right mix of predictability to institutions and control and flexibility to policymakers?
- Is performance funding best when integrated into existing funding policies or as a separate funding stream in state budgets?

The federal government has a compelling interest in the quality of the institutions attended by students who use federal aid. Quality is not necessarily synonymous with funding, but research makes clear that money can buy interventions that increase student success rates (e.g., the City University of New York Accelerated Study in Associate Programs). The federal government could create stronger incentives for states to improve the quality of their institutions through increased funding or other policy decisions about how funds are spent. For example, a new program could provide federal funding directly to institutions that enroll large numbers of low-income students and help them succeed.

Such a program would provide additional aid to institutions that are most likely to make productive use of those resources and encourage state governments to make policy changes that attract additional federal money by improving outcomes for disadvantaged students. Given budget constraints, one mechanism for such changes would be to increase pressure on states to repurpose funds that are currently spent on lower-return activities, such as oversubsidizing certain institutions for political reasons or providing generous grant aid to students who would enroll even without that assistance.

Federal and state higher education funding decisions tend to be made without due regard for the shared goals and interaction of funding streams. Greater attention to these issues could make federal and state investments more productive.

## Notes

1. Lucia Anderson Weathers, “Lumina Foundation Papers Highlight How Outcomes-Based Funding Focuses Colleges and Universities on Increasing Student Completion,” Lumina Foundation, November 3, 2015, <https://www.luminafoundation.org/news-and-views/s7-outcomes-based-funding-paper-series>.
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3. Integrated Postsecondary Education Data System.
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