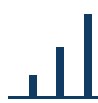


Moneyball for Higher Education

**How States Can Use Data and Evidence
to Improve Student Outcomes**



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 **RESULTS**

FOR AMERICA

By James Kvaal and John Bridgeland



Results for America is helping decision makers at all levels of government harness the power of evidence and data to solve our world's great challenges. Our mission is to make investing in what works the new normal, so that when government policy makers make decisions, they start by seeking the best evidence and data available, then use what they find to get better results. We accomplish this goal by developing standards of excellence which highlight the government infrastructure necessary to be able to invest in what works, supporting policy makers committed to investing in what works, and enlisting champions committed to investing in what works.

Executive Summary

Time and time again, at critical junctures in our nation's history, our leaders have bet on education as a route to future prosperity, equality of opportunity, and a stronger civic fabric. Today, our colleges and universities once again have a central role to play in helping Americans overcome years of stagnant incomes, preparing for a tidal wave of economic dislocation resulting from automation, and bridging growing civic and political divides.

Over the course of the 20th century, states built the community colleges and public universities that now enroll three-quarters of America's college students. But higher education as a whole has low graduation rates and rising student debts. As a result, many colleges and universities are not yet the reliable path to the middle class or the force for social, economic, and civic progress that they should be.

The good news is that colleges have identified a growing number of ways to help students graduate from college and find rewarding jobs. However, too often colleges struggle to sustain even successful innovations, much less help them reach more students across campuses and the country. The challenge for state leaders is to help college leaders identify what works and apply it systematically to benefit students.

As a Democrat and a Republican, the authors of this report may not agree on everything, but we both believe that the strategic use of data and evidence can help more college students succeed. In this paper—part of a series published by Results for America—we present specific recommendations for state leaders to use data and evidence in the financing of colleges in order to improve student outcomes. We recently published a similar paper focused on federal policies. The steps we outline below can help promote upward mobility, foster shared economic growth, and enable Americans of all backgrounds to understand and cooperate with one another to solve our toughest public challenges.

How States Can Use Data and Evidence to Improve Student Outcomes

1. Improve Measures of Student Success

- 1.1 Improve the accuracy of graduation rates.
 - 1.2 Publish employment outcomes by major.
 - 1.3 Develop measures of learning and civic outcomes.
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2. Help Colleges Analyze and Act on Data

- 2.1 Invest in the data capacities of colleges.
- 2.2 Generate evidence of what works.
- 2.3 Kickstart evidence-based improvements.

3. Align Resources Behind Student Success

- 3.1 Make pay-offs clear and certain.
 - 3.2 Prioritize equity.
 - 3.3 Consider post-graduation goals.
 - 3.4 Consider additional strategies to help low-performing colleges.
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The Potential of Data and Evidence to Improve Colleges

American colleges and universities are needed now more than ever. Wages barely budged for working families between 2000 and 2016, after inflation.¹ Only half of American workers born in the 1980s earn more than their parents did a generation ago.² The changing nature of work and the rapid pace of automation are adding substantial uncertainty to the job market.³ America's current civic picture is also disturbing, with historically low levels of trust in one another and in government institutions, a continued decline in volunteering, voting, and participation in community projects and organizations, and increased tensions in American communities.⁴

America's colleges and universities now enroll 20 million students a year, a tremendous advance in educational opportunity that has occurred largely in recent decades.⁵ However, while college remains an excellent investment for most, it does not always pay off. Only 55 percent of students earn a degree or certificate within six years.⁶ Graduates' earnings vary widely from college to college and from major to major.⁷ Over a million students default on their loans each year.⁸

The good news is that, across the country, colleges and universities are finding ways to help students learn, graduate, and pursue their goals.⁹ For example, the City University of New York's Accelerated Study in Associate Programs initiative (Project ASAP) may be the most effective reform of community colleges yet. ASAP requires students to attend college full time and provides a tuition waiver, block-scheduled classes, high-touch advising, career services, and financial aid for textbooks and transportation. A rigorous study by MDRC found that ASAP nearly doubled the graduation rate among students needing developmental education, from 22 percent to 40 percent.¹⁰

1. U.S. Census Bureau, Current Population Survey: Annual Social and Economic Supplement, Historical Income Tables: Households (2017), Table H-8: Median Household Income by State. <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-income-households.html>.

2. Raj Chetty et al., "The Fading American Dream: Trends in Absolute Income Mobility since 1940," *Science* 356, no. 6336 (2017): 398–406. <http://science.sciencemag.org/content/sci/356/6336/398.full.pdf>.

3. Carl Frey and Michael Osborne, *The Future of Employment: How Susceptible Are Jobs to Computerisation?* (Oxford University, 2013). http://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf.

4. Matthew Atwell, John Bridgeland, and Peter Levine, *Civic Deserts: America's Civic Health Challenge* (Washington, DC: National Conference on Citizenship, 2017). <https://www.ncoc.org/wp-content/uploads/2017/10/2017CHIUpdate-FINAL-small.pdf>.

5. U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics: 2015* (Washington, DC, 2016), Table 105.30: Enrollment in Elementary, Secondary, and Degree-Granting Post-secondary Institutions, by Level and Control of Institution: Selected Years, 1869–70 through Fall 2016. https://nces.ed.gov/programs/digest/d16/tables/dt16_105.30.asp?current=yes; see further discussion in James Kvaal and John Bridgeland, "Moneyball for Higher Education: How Federal Leaders Can Use Data and Evidence to Improve Student Outcomes," (Results for America, 2017).

6. Doug Shapiro et al., *Completing College: A National View of Student Attainment Rates—Fall 2010 Cohort* (National Student Clearinghouse Research Center, Herndon, VA, 2016). <https://nscresearchcenter.org/wp-content/uploads/SignatureReport12.pdf>.

7. For more discussion, see James Kvaal and John Bridgeland, "Moneyball for Higher Education: How Federal Leaders Can Use Data and Evidence to Improve Student Outcomes."

8. Consumer Federation of America, *New Data: More Than 1.1 Million Federal Student Loan Defaults in 2016* (2017). http://consumerfed.org/press_release/new-data-1-1-million-federal-student-loan-defaults-2016/.

9. For more discussion, see James Kvaal and John Bridgeland, "Moneyball for Higher Education: Using Data and Evidence to Improve Student Outcomes."

10. Susan Scrivener et al., *Doubling Graduation Rates: Three-Year Effects of CUNY's Accelerated Study in Associate Programs (ASAP) for Developmental Education Students* (MDRC, 2015).

Although ASAP has existed for a decade, it has not been widely replicated, possibly because it is relatively expensive. Four colleges in Ohio have implemented a version of ASAP, but they may not all be able to sustain it. Although ASAP is more expensive per enrolled student, it is less expensive per graduate because its impact on graduation rates is so large—illustrating the challenges of a system that funds colleges based on enrollment rather than graduation.

Another proven intervention is InsideTrack, a for-profit company that offers individualized coaching to college students. A rigorous, independent analysis by economists Eric Bettinger of Stanford University and Rachel Baker of UC-Irvine concluded that InsideTrack increases graduation rates by four percentage points at the relatively modest cost of \$500 per student per semester.¹¹

The challenge is sustaining such successful innovations where they first take root, scaling them to serve more students, and applying the knowledge gained across colleges and universities. We have previously recommended steps that the federal government can take to improve student performance.¹² However, in some ways states are in an even better position to fill these gaps, and a diversity of approaches would be useful. We propose a three-part strategy for state policy makers:

1. Produce better measurements of student graduation rates, learning and civic outcomes, and career success so that colleges can set goals and measure improvement;
2. Invest in a concerted effort to build and apply evidence of what works, including building the capacity of colleges to better use data and evidence; and
3. Align resources behind investments in quality through outcomes-based funding systems that are clear, certain, and prioritize equity.

STEP 1. IMPROVE MEASURES OF STUDENT SUCCESS

An ability to define and measure one's goals is a precondition for improving performance. Without clear goals, colleges will have no clear vision for what they are expected to accomplish, no way to measure progress, and no way to distinguish between steps that promote efficiency and those that merely cut costs. What gets measured is often what matters. States should create accurate, regularly updated measures of student outcomes—such as graduation rates, employment outcomes, learning, and civic participation—to help colleges improve and to help entering students make good college choices.

Recommendation 1.1: Improve the accuracy of graduation rates.

States should require their colleges to work together to match enrollment records, while

<http://www.mdrc.org/project/evaluation-accelerated-study-associate-programs-asap-developmental-education-students#overview>.

11. Eric Bettinger and Rachel Baker, *The Effects of Student Coaching: An Evaluation of a Randomized Experiment in Student Advising* (Stanford Center for Education Policy Analysis, 2014). <http://cepa.stanford.edu/content/effects-student-coaching-evaluation-randomized-experiment-student-advising>

12. James Kvaal and John Bridgeland, "Moneyball for Higher Education: How Federal Leaders Can Use Data and Evidence to Improve Student Outcomes."

protecting the privacy of individual students, to calculate key measures like the state’s overall graduation rate, how well community colleges are preparing students for four-year degrees, and how well universities serve incoming transfer students.

The most widely used graduation rates include only “first-time full-time” students, leaving out transfer and part-time students. The deficiency is particularly important for community colleges, which enroll many part-time students and whose mission includes putting them on a path to a four-year degree from another institution. In the fall of 2017, the U.S. Department of Education began publishing a broader set of graduation data.¹³ Because each college must report its own information, however, federal data do not include verified information on whether a student who leaves one college goes on to graduate from another or merely drops out.

In addition, the most widely used graduation rates measure completion at so-called “150 percent time”: six years for bachelor degree students and three years for associate degree students. Our goal, however, should be to help students complete on time.

Associations of colleges operate similar systems to pool data and measure better graduation rates, such as the Voluntary System of Accountability and the Voluntary Framework of Accountability.¹⁴ However, these approaches are voluntary and have not yet generated reliable, comprehensive data on how well students can transfer among institutions.

States should combine data from across their colleges and universities, including private colleges, to generate insight into how effective colleges are at preparing students for transfer and helping transfer students succeed. The Community College Research Center has proposed a set of five metrics for transfer success, including the percentage of students entering a community college who go on to earn a bachelor’s degree and the percentage of students transferring into a college or university who graduate with a four-year degree.¹⁵ These metrics can be produced without infringing on students’ privacy.

Recommendation 1.2: Publish employment outcomes by major.

States should use the data they already possess to publish earnings outcomes for all colleges and majors in their state, including private and for-profit colleges. They can calculate accurate figures, while protecting student privacy, by linking wage and student records.

Nearly all students enroll in college with the goal of finding a self-supporting job.¹⁶ Graduates’ earnings vary widely not only from college to college but also from major to major.¹⁷

In recent years, a number of states have begun calculating and publishing employment outcomes

13. Gigi Jones, “Expanding Student Success Rates to Reflect Today’s College Students,” NCES Blog, October 10, 2017. <https://ies.ed.gov/blogs/nces/post/expanding-student-success-rates-to-reflect-today-s-college-students>.

14. Voluntary System of Accountability (2017) <http://www.voluntarysystem.org/>. American Association of Community Colleges, Voluntary Framework of Accountability (2017) <https://vfa.aacc.nche.edu>.

15. David Jenkins and John Fink, “Tracking Transfer: New Measures of Institutional and State Effectiveness in Helping Community College Students Attain Bachelors Degrees.” (Community College Research Center, 2017). <https://ccrc.tc.columbia.edu/publications/tracking-transfer-institutional-state-effectiveness.html>

16. Kevin Eagan et al., *The American Freshman: National Norms Fall 2016* (Los Angeles: Higher Education Research Institute, UCLA, 2017). <https://www.heri.ucla.edu/monographs/TheAmericanFreshman2016.pdf>.

17. For more discussion, see James Kvaal and John Bridgeland, “Moneyball for Higher Education: How Federal Leaders Can Use Data and Evidence to Improve Student Outcomes.”

for college graduates.¹⁸ These data are generally calculated by matching college enrollment records with state unemployment insurance records, and they are published only at an aggregated level that fully protects student privacy.

Useful earnings data include median wages and additional information on the variation of those earnings, such as earnings quintiles. One potentially useful metric is the percentage of recent graduates earning at least \$25,000 or \$30,000 a year, which measures the extent to which graduates are reliably finding jobs that allow them to remain out of poverty, without penalizing programs leading to typically lower-earning careers such as teaching. Florida uses such a metric when determining university funding allocation.¹⁹

One challenge in measuring employment outcomes is that career trajectories vary widely over time. For example, some credentials do not provide a substantial immediate increase in earnings but lead to rapid growth over time (including many bachelor's degrees), while others lead to high initial earnings but not later growth (such as associate degrees in mechanics and construction).²⁰ For this reason, employment data should complement short-term measures with longer-term employment outcomes, such as earnings 10 years after graduation. In recognition of ongoing labor market discrimination, it should also be disaggregated by race, ethnicity, and gender to accurately depict these disparities.

When state policy makers focus only on graduation rates (or other completion data)—without measuring whether students are finding jobs or reaching their other goals—they risk encouraging colleges to produce low-cost but low-value credentials.²¹ Reliable data on employment outcomes can create incentives to focus on ultimate outcomes, increase transparency about those outcomes, and empower colleges to make powerful decisions to improve their programs.

Recommendation 1.3: Develop measures of learning and civic outcomes.

States should support efforts to quantify other goals of higher education, including student learning and civic education. This will help colleges ensure that they are serving the broader goals of higher education in addition to promoting economic opportunity.

Although employment and earnings are an important goal for students, higher education has other goals also. Universities aspire to make students better human beings who contribute to society, foster a lifelong interest in learning, and equip young people to become informed participants in our democracy. Colleges are also important engines of economic development, bringing benefits to their communities that include economic growth, tax revenue, and a reduced burden on public benefit programs.

18. Workforce Data Quality Campaign (2017). <http://www.workforcedqc.org/state-solutions>

19. Florida Board of Governors, State University System, Performance Funding Model Overview (2017). http://www.flbog.edu/board/office/budget/doc/performance_funding/Overview-Doc-Performance-Funding-10-Metric-Model-Condensed-Version.pdf

20. Shanna Smith Jaggars and Di Xu, “Examining the Earnings Trajectories of Community College Students Using a Piecewise Growth Curve Modeling Approach.” (Center for Analysis of Postsecondary Education and Employer, 2017). <https://ccrc.tc.columbia.edu/media/k2/attachments/earnings-growth-curve-modeling-approach.pdf>

21. Diane Jones, “The Path Less Taken: Barriers to Providing Career and Technical Education at Community Colleges.” (American Enterprise Institute, 2017). <https://www.aei.org/publication/the-path-less-taken-barriers-to-providing-career-and-technical-education-at-community-colleges/>

As noted by the Commission on the Future of Undergraduate Education chaired by Roger Ferguson and Michael McPherson, “valid and reliable measures of student learning within and across colleges and universities are lacking” and therefore “it is difficult to put learning front and center amid calls for institutional reform and the creation of accountability measures.” It suggests that department-level assessments may provide the most value in defining learning goals, encouraging collaboration, and promoting innovation in teaching methods.²²

States could support efforts by academic disciplines to define and measure the key learning concepts they teach. They could also gather data on students’ voting behavior, volunteering rates, levels of social and institutional trust, and subsequent participation in national service programs (some of which help to defray the cost of college) or entry into military or public service careers.

STEP 2: HELP COLLEGES ANALYZE AND ACT ON DATA

Generating and collecting better data is an important first step, but it is only the first step. States must also help colleges use data and evidence to improve student outcomes and earn performance bonuses. Colleges and universities need help using data to diagnose the challenges their students face, building evidence of promising and evidence-based practices to address those challenges, and financing the upfront costs of those evidence-based approaches.

Recommendation 2.1: Invest in the data capacities of colleges.

States should provide dedicated funding to help colleges collect and analyze the data on obstacles to student success so that they can design solutions that improve outcomes and address disparities facing disadvantaged students.

In recent years, universities like Georgia State University and Arizona State University have used sophisticated data analysis, including predictive analytics, to diagnose the reasons students are not graduating on time, design new approaches to advising and financial aid, and to continue to monitor and improve student outcomes.²³ Groups like Achieving the Dream, the Carnegie Foundation for the Improvement of Teaching, and the University Innovation Alliance also work with colleges to use data to drive continuous improvement.

Many colleges, universities, and systems offices lack the technical and staff capacity to use data to diagnose problems, identify and implement evidence-based solutions, and monitor their progress in order to promote continuous improvement. As Kevin Dougherty and his colleagues at the Community College Research Center note, “a major obstacle that institutions encounter in responding to performance funding pressures is insufficient capacity to analyze data on their performance, determine the causes of and solutions to performance gaps, and implement solutions.”²⁴

22. The Commission on the Future of Undergraduate Education, “The Future of Undergraduate Education, The Future of America” (American Academy of Arts and Sciences, 2017). https://www.amacad.org/multimedia/pdfs/publications/researchpapersmonographs/CFUE_Final-Report/Future-of-Undergraduate-Education.pdf

23. See Georgia State University, Student Success Programs, <http://success.gsu.edu/approach>; “ASU 4-year Graduation Rate up 20 Points since 2002,” ASU Now, January 26, 2015. <https://asunow.asu.edu/content/asu-4-year-graduation-rate-20-points-2002>.

24. Kevin Dougherty, Sosanya Jones, Hana Lahr, Rebecca Natow, Lara Pheatt, and Vikash Reddy, Performance Funding in Higher Education (John Hopkins University Press, Baltimore, 2016).

High-growth industries invest 10 to 20 percent of sales revenues in research and development, according to one estimate, while many mature industries invest 2 to 3 percent.²⁵ Colleges and universities themselves support advanced research of many kinds. When it comes to strategies to help students learn and graduate, however, state policy makers and education leaders often do not know how to achieve their goals.

Evaluation should include randomized control trials, which remain the gold standard for determining the impact of programs and practices, as well as new forms of evaluation that draw on administrative data, machine learning, and “A/B testing” (rapid testing of two alternatives, such as language used in student communication). All offer faster, cheaper, and more actionable guidance and enable continuous improvement.

States should also require state higher education systems, coordinating boards, scholarship agencies, and individual colleges to adopt learning agendas, structured processes that promote continuous improvement. They require government agencies to identify and prioritize the most important questions to improving performance, design and implement the most appropriate methods to answer those questions, and then disseminate and act upon the findings.²⁶

Recommendation 2.3: Kickstart evidence-based improvements.

States should create a dedicated funding stream to help colleges implement or expand evidence-based approaches to helping students learn, graduate, and find jobs.

Most states now allocate at least some funding based on colleges’ outcomes. However, these systems create a timing mismatch: colleges need to invest more now in new interventions they hope will produce better outcomes—and therefore more revenue—months or years in the future. As a result, even under the best-designed performance funding systems, the most successful initiatives require colleges to spend more now in the hopes of greater performance bonuses in future years.

States should help colleges begin new efforts to help students succeed, such as using technology, providing emergency scholarships, or expanding student counseling. The state grants would be awarded based upon the strength of the evidence that plans would improve student outcomes and help colleges earn performance rewards. For example, Tennessee has awarded \$1.6 million over two years to help colleges improve their performance on state performance metrics.²⁷

States could also require colleges to adopt certain proven practices, award extra points in grant competitions or bonus dollars to institutions that use evidence-based practices, and require education agencies to justify their budget requests with information about the evidence base of their higher education programs and practices.

25. Jim Shelton (2013). “Raising the Bar: How Education Innovation Can Improve Student Achievement: Testimony before the U.S. House of Representatives, Committee on Education and Workforce, Subcommittee on Early Childhood, Elementary, and Secondary Education.” https://edworkforce.house.gov/uploaded_files/shelton.pdf

26. Office of Management and Budget, Building And Using Evidence to Improve Government Effectiveness (2018). https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/budget/fy2018/ap_6_evidence.pdf

27. Tennessee Higher Education Commission (2017). <https://www.tn.gov/thec/article/institutional-out-come-improvement-fund-grant-competition>

STEP 3: ALIGN RESOURCES BEHIND STUDENT SUCCESS

States should fund colleges in a way that not only provides an incentive for them to prioritize student success but also makes investments financially sustainable. Efforts to improve teaching, use technology effectively, increase financial aid, and expand student advising typically carry higher costs. So while they help students, they carry a higher price tag for colleges.

In many places, colleges are funded on an incremental basis: policy makers base each year's budget on the prior budget, making adjustments they view as appropriate. Some states now use funding formulas based on student enrollment. These systems are predictable and related to costs of educating students, but they fail to help colleges sustain initiatives that have a higher cost but also generate better outcomes.

There is tension between the resulting financial incentives and colleges' efforts to improve student outcomes. For example, the University of Texas at Austin has raised its four-year graduation rate from 51 percent to 66 percent, allowing it to enroll an additional 1,000 students a year. It attributes this success to trimming unnecessary classes, supporting at-risk students, and creating a culture of on-time graduation. The increase in on-time graduation is producing more graduates at lower cost to students and taxpayers but—because Texas universities are funded primarily based upon course enrollment—it will actually result in less state funding per student for UT-Austin.

Obviously, educators are committed to student success and many—like UT-Austin—will pay the cost to achieve stronger outcomes. But improvement in quality requires them to overcome financial disincentives. While efforts to increase enrollment may generate offsetting revenues, a focus on quality must trade off with other priorities and potential investments.

In an effort to correct misaligned incentives, roughly half of states now fund their colleges at least partially based on performance. To be clear, the evidence on past efforts in this area is mixed. (See the Appendix for a more detailed discussion of this research.) Some studies have found positive impacts on student outcomes, while others have found no effect or the unintended but negative consequence of greater selectivity and fewer opportunities for disadvantaged students. However, most research precedes the most recent and promising approaches. There is also reason to believe that outcomes-based funding has impacted colleges' priorities and accelerated efforts to use data to help students succeed, making it an important component of other efforts to improve college quality. We believe that well-designed efforts can also encourage colleges to enroll more disadvantaged students and close achievement gaps.

Across many areas of domestic policy, policy makers from both political parties are discarding old approaches that fund specific activities and prescribe rules in favor of new “pay for success” approaches that give providers flexibility to use the most effective practices in

pursuit of defined outcomes.²⁸ Health care is a particularly notable example.²⁹

In higher education well-designed outcomes-based funding policies can make investments in quality cost-beneficial, giving colleges both the motive and the means to expand them. At the same time, because this strategy is new and existing approaches have had mixed impacts, states must monitor the impact of their financing systems, watch for unintended consequences, and maintain the political will and flexibility to improve the systems over time.

The following recommendations improve on existing efforts to help colleges and universities better achieve their goals.

Recommendation 3.1: Make pay-offs clear and certain.

States should design outcomes-based funding (OBF) formulas that are sufficiently transparent and certain in order to financially support colleges that improve performance. Sending a clear signal requires that the formulas be as simple as possible, without an excessive number of factors or weights, and that future payoffs do not depend on the performance of other institutions or the health of the economy. This principle -- that the formula should be stable and simple in order to incent desired behavior from institutions -- has been advanced by the National Conference of State Legislatures, the National Center for Higher Education Management Systems, and researchers.³⁰

State funding should be designed to provide the resources needed to sustain specific practices that will impact student success. Ideally, colleges could calculate a proposal's upfront cost, anticipated impact on student outcomes, and resulting increase in funding. This simple cost-benefit calculation would give colleges the assurance they need that investments in quality will be sustainable or even strengthen their financial stability.

Under many existing OBF formulas, colleges do know that they will eventually be somehow rewarded for investments in increased retention and graduation rates. Unfortunately, the formulas are often not clear enough to help them make a cost-benefit calculation.

Consider the formula used by Tennessee, a state whose formula is rightfully considered a national leader but is nonetheless opaque. Funding is based on nine specified outcomes, divided by scales that are different for each outcome, multiplied by weights that are different for each outcome and institution, and compared to the results of other Tennessee institutions on an overlapping set of outcomes, scales, and weights. Colleges that improve outcomes can still lose funding if other

28. America Forward and Results for America, Funding What Works: Incorporating Pay for Success Language in Federal Legislation (2017). <https://results4america.org/tools/funding-works-incorporating-pay-success-language-federal-legislation/>

29. Rushika Fernandopulle, "Breaking the Fee-for-Service Addiction: Let's Move to a Comprehensive Primary Care Payment Model," Health Affairs Blog, August 17, 2015. <http://www.healthaffairs.org/doi/10.1377/hblog20150817.049985/full/>.

30. For example, see: National Conference of State Legislatures, Performance-Based Funding for Higher Education (2015). <http://www.ncsl.org/research/education/performance-funding.aspx>; Martha Snyder & Brian Fox, Driving Better Outcomes: Fiscal Year 2016 State Status and Typography Update (HCM Strategists, 2015) <http://hcmstrategists.com/wp-content/uploads/2016/03/2016-Report.pdf>; Kevin Dougherty, Sosanya Jones, Hana Lahr, Rebecca Natow, Lara Pheatt, and Vikash Reddy, Performance Funding in Higher Education; Dennis Jones, Outcomes-Based Funding: The Wave of Implementation (Complete College America, National Center for Higher Education Management Systems, 2013). [https://www.insidehighered.com/sites/default/server_files/files/Outcomes-Based%20Funding%20Report%20\(Final\).pdf](https://www.insidehighered.com/sites/default/server_files/files/Outcomes-Based%20Funding%20Report%20(Final).pdf).

colleges improve more than they do. The result is that no university can predict the financial impact of an improved student outcome.

Suppose a Tennessee university planned to increase on-time graduation through a new initiative that it expected, based upon evidence, to increase the graduation rate by five percentage points at a cost of \$1,000 per student. It would have no way of knowing how much that investment will ultimately be rewarded by performance funding and, therefore, whether it is cost-beneficial for the universities. If investments in quality are not self-sustaining efforts that strengthen the university over time, then they are only another meritorious idea that must compete against other good ideas for priority among limited budgets.

The uncertainty colleges face is compounded by the risk of an economic downturn, which historically has led to state cuts in higher education budgets. A survey conducted in the late 1990s found 40 percent of college officials in five states with OBF systems “rated budget instability as an extensive or very extensive problem of performance funding in their state.”³¹

Advocates of existing state systems point out that higher education must fit into states’ balanced budget requirements. There may be political realities that prevent certainty around future performance bonuses. Nonetheless, states should provide as much clarity as possible about how improved student outcomes will affect their funding. Formulas should be based on as few metrics as possible and minimize the use of weights. Funding incentives need to be large enough to make investments in quality cost beneficial.

States should protect outcomes bonuses from cuts during economic downturns. In part, this requires overall fiscal prudence. Leading states are replenishing their rainy day funds by following evidence-based rules that guide their contributions and withdrawals.³² Colleges and universities can also receive special protection. Maryland developed—but never implemented—a trust fund specifically to protect higher education from budget cuts during recessions.³³ Finally, states need to be willing to increase higher education funding if, as hoped, colleges improve student outcomes.

Recommendation 3.2: Prioritize equity.

States should ensure that colleges are rewarded for enrolling and graduating low-income and disadvantaged students, since educating these students often requires additional supports and investments. Educating students from all backgrounds should continue to be a moral and economic imperative for states. This principle is supported by the National Conference of State Legislatures, the National Center for Higher Education Management Systems, and researchers.³⁴

31. Kevin Dougherty and Vikash Reddy, “The Impacts of State Performance Funding Systems on Higher Education Institutions: Research Literature Review and Policy Recommendations,” CCRC Working Paper No. 37 (December 2011). <https://ccrc.tc.columbia.edu/media/k2/attachments/impacts-state-funding-higher-education.pdf>.

32. The Pew Charitable Trusts, *State Rainy Day Funds in 2017: How states are improving the way they prepare for the next recession* (2017). <http://www.pewtrusts.org/en/research-and-analysis/fact-sheets/2017/07/state-rainy-day-funds-in-2017>

33. Jane Wellman and Darcie Harvey, *Recent Statewide Reforms in Higher Education Financing and Accountability: Emerging Lessons from the States*. (College Futures Foundation, 2016). http://www.higheredfinance.org/cf-content/uploads/Lessons-Learned-From-Other-States_2016.pdf.

34. For example, see: National Conference of State Legislatures, *Performance-Based Funding for Higher Education*; Martha Snyder & Brian Fox, *Driving Better Outcomes: Fiscal Year 2016 State Status and Typography Update*; Kevin Dougherty, Sosanya Jones, Hana Lahr, Rebecca Natow, Lara Pheatt, and Vikash Reddy, *Performance*

Despite recent progress, substantial socioeconomic and racial gaps persist in degree attainment. For instance, six-year completion rates are much higher for Asian and white students (63 percent and 62 percent, respectively) than for Hispanic and black students (46 percent and 38 percent).³⁵ Similarly, research links socioeconomic disparities in higher education with declining national economic mobility rates.³⁶ As discussed in the appendix, one consequence of poorly designed outcomes-based funding may be to discourage colleges from attempting to serve students from disadvantaged backgrounds who typically cost more to graduate.

Despite these findings, a recent survey by the Education Trust found that only eight states have made racial diversity and equity a core component of their OBF schemes.³⁷ The survey concludes that “done well,” OBF “can be a strong catalyst for greater equity in higher education” by providing needed resources and incentives.³⁸ Similarly, the Center for Law and Social Policy concluded that, “when done right,” outcome-based funding “can motivate institutions to target resources to underserved populations.”³⁹

States should create funding formulas that reward colleges for successfully serving disadvantaged students. One critical element is to reward colleges for the number of students they graduate, not their success rate. Using percentages punishes colleges for taking a chance on a student who does not succeed. Absolute numbers gives them a reason to take a chance because there is only an upside.

Second, states should explicitly reward progress toward greater equity by giving extra weight to the success of disadvantaged students or by setting explicit targets for closing disparities. Due to a lack of research and experience on the additional cost of serving these students, states should monitor data on equity very closely and retain the flexibility to adjust incentives to serve these students. Adding these elements may increase complexity, but it is essential to achieving our policy goals.

Finally, states should not assume that outcomes-based approaches will compensate for decades of funding inequities impacting institutions serving low-income students and students of color. Complementary investments in underfunded institutions that serve large numbers of students of color or low-income students may be needed to ensure they have a base level of capacity to improve outcomes and qualify for outcomes-based rewards.⁴⁰

Funding in Higher Education; Dennis Jones, Outcomes-Based Funding: The Wave of Implementation.

35. Doug Shapiro, et al., A National View of Student Attainment Rates by Race and Ethnicity – Fall 2010 Cohort (National Student Clearinghouse Research Center, Herndon, VA, 2017). <https://nscresearchcenter.org/wp-content/uploads/Signature12-RaceEthnicity.pdf>.

36. Raj Chetty, et al., Mobility Report Cards: The Role of Colleges in Intergenerational Mobility (2017). http://www.equality-of-opportunity.org/papers/coll_mrc_paper.pdf.

37. Tiffany Jones et al, Outcomes-Based Funding and Race in Higher Education: Can Equity Be Bought? (The Education Trust, 2017). http://www.springer.com/us/book/9783319494357?wt_mc=GoogleBooks.Google-Books.3.EN&token=gbgen#otherversion=9783319494364

38. Tiffany Jones, Can Equity Be Bought? Five Components of a Smart Outcomes-Based Funding Policy (The Education Trust, 2017). <https://edtrust.org/the-equity-line/five-components-smart-outcomes-based-funding-policy/>

39. Anna Cielinski and Duy Pham, Equity Measures in State Outcomes-Based Funding: Incentives for public colleges to support low-income and underprepared students (Center for Postsecondary and Economic Success, 2017). <https://www.clasp.org/sites/default/files/public/resources-and-publications/publication-1/Equity-Measures-in-State-Outcomes-Based-Funding.pdf>

40. Tiffany Jones, Can Equity Be Bought? Five Components of a Smart Outcomes-Based Funding Policy.

Box 1: Weighted Student Funding in K-12 Education

Numerous K-12 school districts across the nation have experimented with weighted student funding, including New York City, Boston, Baltimore, Seattle, San Francisco, Houston, and Denver.⁴¹ They provide funding to elementary and secondary schools based on the number of students, with each student receiving a “weight” based upon his or her need. For example, a school district might provide each school with \$5,000 per student and an additional \$1,000 for each student who is an English learner.

Since at least 2006, there has been bipartisan support for K-12 weighted student funding models.⁴² The Every Student Succeeds Act of 2015 created a pilot program that allows 50 school districts across the country to direct federal, state, and local K-12 dollars towards weighted funding for up to three years. The program will expand to an unlimited number of school districts by the 2019-2020 school year.⁴³

Given their newness, there is limited evidence on the impact of K-12 weighted student funding policies in the United States. However evidence from other nations such as the Netherlands suggest such policies can positively impact equity.⁴⁴

Recommendation 3.3: Consider post-graduation goals.

States should reward colleges for not only helping students graduate but also for helping them achieve their post-graduation goals.

Our nation invests in higher education not simply to hand out diplomas, but to transform lives after earning a degree or credential. States that reward colleges for helping more students graduate—but not what happens next—conflate the means and the ends, and risk encouraging colleges to water down academic standards.⁴⁵

As described in the Appendix, only seven states incorporate any post-completion metrics into their OBF formulas.

41. Christina Samuels, Districts Experiment With ‘Weighted’ Funding: Student numbers, needs drive dollars (Education Week, 2017). <https://www.edweek.org/ew/articles/2012/06/13/35weighted.h31.html#>; Rod Paige, For School Equality, Try Mobility (The New York Times, 2006). <http://www.nytimes.com/2006/06/27/opinion/27paige.html>.

42. David Hoff, Call for ‘Weighted’ Student Funding Gets Bipartisan Stamp of Approval (Education Week, 2006). <https://www.edweek.org/ew/articles/2006/07/12/42finance.h25.html>.

43. Andrew Ujifusa, Funding Flexibility Enhanced Under New K-12 Law (Education Week, 2017). <https://www.edweek.org/ew/articles/2016/01/06/funding-flexibility-enhanced-under-new-k-12-law.html>; Matthew Joseph, Follow the money: ESSA's weighted student funding pilots (Thomas B. Fordham Institute, 2016). <https://edexcellence.net/articles/follow-the-money-essas-weighted-student-funding-pilots>.

44. Helen Ladd & Edward Fiske, Weighted Student Funding in the Netherlands: A Model for the U.S.? Journal of Policy Analysis and Management 30, no 3 (2011): 470-498. <https://files.eric.ed.gov/fulltext/ED507401.pdf>

45. Kevin Dougherty, Sosanya Jones, Hana Lahr, Rebecca Natow, Lara Pheatt, and Vikash Reddy, Performance Funding in Higher Education.

One outcome that can be measured is employment outcomes. Getting a better job is the most widely shared goal among incoming freshmen, according to the annual UCLA study.⁴⁶ And yet, earnings among graduates vary widely from college to college and from major to major. For instance, among workers aged 35 to 44, 10 percent of those with a bachelor's degree earn \$20,000 or less.⁴⁷

States should explicitly reward colleges for not just graduating students but helping them to find jobs. As described above, a metric that is based on the share of recent graduates earning above a threshold, such as \$25,000 or \$30,000, would reward colleges for consistently helping students achieve economic self-sufficiency without penalizing lower-earning professions such as teaching. As described above, states can calculate these outcomes, while protecting student privacy, with records from the unemployment insurance programs.

A second important measure is subsequent educational success. Community colleges were established primarily as reliable routes to four-year degrees. But while 81 percent of entering community college students aspire to a four-year degree or higher, only 14 percent earn one within six years.⁴⁸ Similarly, some four-year programs may seek to prepare students for graduate school.

State OBF formulas should encourage community colleges and universities to work together to help students begin at community colleges and earn degrees from four-year universities. Community college funding should be based in part on whether their students seeking four-year degrees reach that goal.

Because universities' indifference can stymie efforts to make community colleges effective launchpads to four-year degrees, they also should be rewarded for accepting and graduating transfer students. These payments should be high enough to compensate for the higher cost of teaching upper-division classes. In some cases, it may also be appropriate to consider graduate degree completion as well.

Over time, as states develop new metrics on the non-economic outcomes of colleges, they should consider including them in performance funding systems as well. Learning outcomes are currently not directly incorporated in any state. Policy makers may wish to reward colleges for effectively preparing students for graduate school or military or civilian public service.

Recommendation 3.4: Consider additional strategies to help low-performing colleges.

Rather than cutting their funding, states should require low-performing colleges to develop and implement improvement plans.

Some policy makers envision higher education as a competitive marketplace, with higher-performing colleges winning out over time. For many students, however, the reality is different, and geography plays a central role in college choice.

46. Kevin Eagan et al., *The American Freshman: National Norms Fall 2016*.

47. James Kvaal and John Bridgeland, "Moneyball for Higher Education: How Federal Leaders Can Use Data and Evidence to Improve Student Outcomes."

48. David Jenkins and John Fink, *Tracking Transfer: New Measures of Institutional and State Effectiveness in Helping Community College Students Attain Bachelor's Degrees* (Community College Research Center, 2016).

<https://ccrc.tc.columbia.edu/publications/tracking-transfer-institutional-state-effectiveness.html>

More than half—57 percent—of first-year students at four-year public colleges enroll within 50 miles of their home.⁴⁹ Because regional universities and community colleges serve specific regions, cutting funds could exacerbate the problems of communities that lack quality college opportunities.

We describe above the need for outcomes-based funding to be designed carefully to promote greater equity. While these measurements are still in development, it is more prudent to use them for financial bonuses than for financial penalties.

States should consider the lessons learned from recent efforts to revamp high schools that are so-called “dropout factories” because 60 percent or fewer of their 9th grade students are promoted to the 12th grade or 67 percent or fewer of their students fail to graduate on time. Rather than cutting their funding, states are required to develop plans to improve those schools such as changing leadership, revamping curriculum, or improving teacher professional development. Since 2002, the number of students attending large high schools with very low graduation rates has fallen from 2.5 million to 900,000.⁵⁰ A focus on these schools has helped drive the national high school graduation rate to 84 percent in 2016, up four percentage points in only five years and up 13 percentage points since 2001.⁵¹ These gains have come at a time when many states have been raising academic standards. And, while more is needed to ensure that high school graduates are college- and career-ready, the increase in graduation rates has been accompanied by gains in postsecondary enrollment.⁵²

A similar focus could benefit low-performing colleges. States should work with them to develop and implement remediation plans. These plans may require colleges to reallocate their resources. Where appropriate, states should consider the funding inequities facing some colleges that serve large numbers of low-income students and students of color.

49. Nicholas Hillman & Tyler Weichman, *Education Deserts? The Continued Significance of “Place” in the Twenty-First Century* (American Council on Education, 2016). <http://www.acenet.edu/news-room/Documents/Education-Deserts-The-Continued-Significance-of-Place-in-the-Twenty-First-Century.pdf>

50. Jennifer DePaoli, Robert Balfanz, and John Bridgeland, *Grad Nation, Building a Grad Nation Report: Progress and Challenge in Raising High School Graduation Rates* (2017). <http://gradnation.americaspromise.org/report/2017-building-grad-nation-report>

51. Moriah Balingit, *U.S. high school graduation rates rise to new high* (The Washington Post, 2017). https://www.washingtonpost.com/news/education/wp/2017/12/04/u-s-high-school-graduation-rates-rise-to-new-high/?utm_term=.b98b57ba019a

52. Jennifer DePaoli, Robert Balfanz, and John Bridgeland, *Grad Nation, Building a Grad Nation Report: Progress and Challenge in Raising High School Graduation Rates* (2017).

CONCLUSION

Effective state investments in higher education are more important now than ever. Colleges and universities strengthen their communities by creating opportunities for students to gain economic security, benefit from a growing economy, and participate in a more civically engaged society. These institutions are particularly needed in this time of economic change and growing social divisiveness.

Unfortunately, colleges and universities are not yet able to reliably help students reach their goals. Too few students graduate, and too many default on their student loans.

To take full advantage of our investments in higher learning, state policy makers need to help colleges and universities better serve students. They can do this by sharing more data on student outcomes, such as graduation rates, learning, and employment; building and applying evidence on how colleges can help students succeed; and ensuring that investments in student quality are sustainable.

We don't have a moment to lose.

APPENDIX: APPROACHES TO FINANCING HIGHER EDUCATION AND RELATED RESEARCH

The State Role

In our federalist system of government, states are primarily responsible for all levels of education. Since the mid-twentieth century, states have built large systems of community colleges and public universities that now enroll nearly 15 million students. These institutions are typically overseen by appointed or elected trustees. Every state has a governing board, coordinating board, or statewide association, but the degree of campus autonomy varies widely from state to state.

States also play a central role in funding higher education. Higher education represents the third largest area of state funding, after elementary and secondary education and Medicaid. Only since the Great Recession—when federal investments such as Pell Grants grew while state spending fell—have the federal and state governments become equal partners in financing higher education. However, while federal funds largely go to student aid and research, state funds largely go to institutions.⁵³

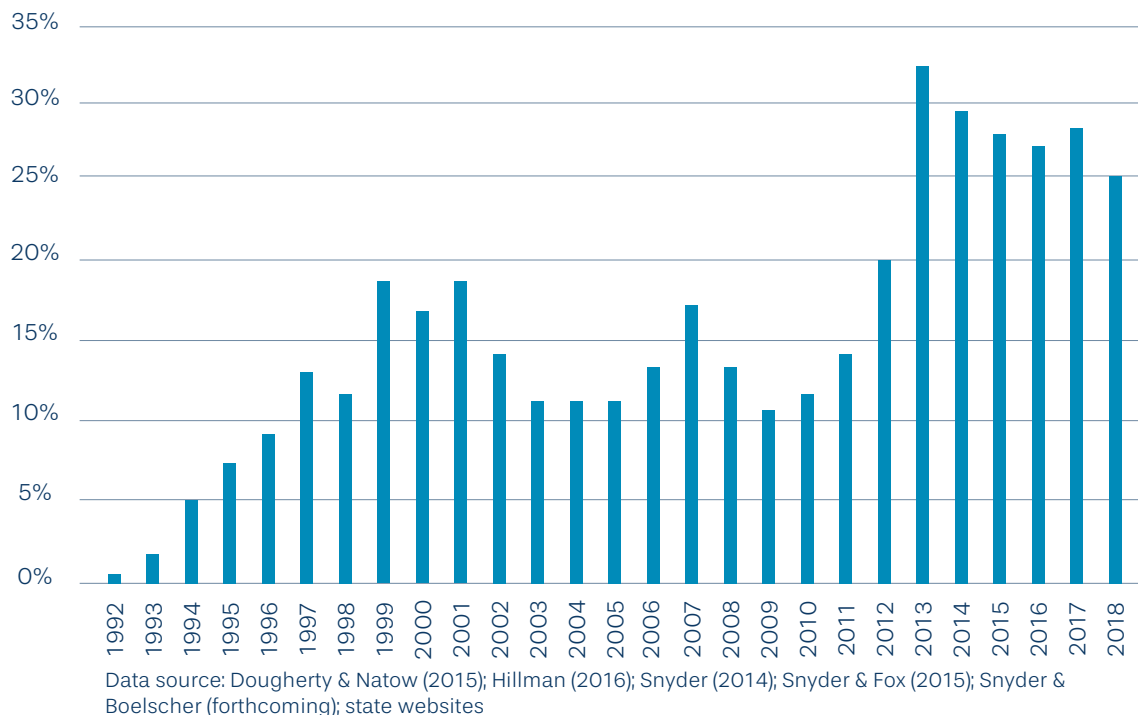
Historically, states have allocated higher education funding based on either incremental budgeting or enrollment-based funding. Under incremental or “base-plus” budgeting, policy makers fund each college based upon how much it received in the previous year, making adjustments after considering revenue growth, cost growth, and enrollment shifts.

After World War II, some states began adopting formula-funding models based on estimated costs, often using student enrollment as a key factor. This shift was driven by growing enrollment, pressure to better allocate public resources, and greater data and bureaucratic capabilities.

In 1979, Tennessee became the first state to experiment with performance-based funding. Under this approach, colleges and universities could receive bonuses based upon student outcomes such as retention, completion, and job placement. While a total of 19 states adopted similar systems over the next two decades, these efforts were small in magnitude and were scaled back during the recession and political turnover in the early 2000s (figure 1).

53. The Pew Charitable Trusts, Federal and State Funding of Higher Education: A changing landscape (2015). <http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2015/06/federal-and-state-funding-of-higher-education>; Lovey Cooper, States Are Investing More in Higher Education (The Atlantic, 2017). <https://www.theatlantic.com/education/archive/2017/02/a-higher-investment-in-higher-education/516513/>

Figure 1: Number of States With Outcomes-Based Funding Policies, 1992-2018



In the last decade, states launched a second wave of financing reform led by Washington, Indiana, Ohio, and Tennessee. Now called outcomes-based funding (OBF), these new efforts are characterized by a greater emphasis on producing more college graduates over broader, mostly loose goals. They also build performance incentives into the formula, rather than creating a bonus pot, in the hopes that the incentives will survive the cycle of budget cuts caused by the economic cycle.⁵⁴

Twenty-five states use OBF systems as of fiscal year 2018. They employ a diverse set of metrics (see Table 1). Twenty-four states include some measure of graduation or completion. Twenty-two states incorporate some measure of student progression toward degrees. Only seven include post-graduation outcomes such as job placement rates, licensure test passing rates, or earnings. And 19 explicitly include equity, including race, income, and other measures of educational disadvantage.

There is also substantial variation in other aspects of OBF systems. Three states only use OBF for four-year schools, and five states use it only for two-year schools. While most states allocate between 5 and 25 percent of higher education spending towards OBF, this share varies from less than 1 percent in Illinois to as much as 100 percent (by some calculations)

54. James Hearn, *Outcomes-Based Funding in a Historical and Comparative Context* (Lumina Foundation, 2015). <https://www.luminafoundation.org/files/resources/hearn-obf-full.pdf>; Kevin Dougherty, Sosanya Jones, Hana Lahr, Rebecca Natow, Lara Pheatt, and Vikash Reddy, *Performance Funding in Higher Education*; Martha Synder and Brian Fox, *Driving Better Outcomes: Fiscal Year 2016 State Status and Typology Update* (HCM Strategists, 2016). <http://hcmstrategists.com/drivingoutcomes/report/>

in Tennessee.⁵⁵ The remaining share may be allocated based on a variety of inputs ranging from enrollment to college building square footage.⁵⁶

Table 1: OBF Metrics by State

Metric	Number of States	States
<i>Any Outcome-Based Metric</i>	25	AR, CO, FL, HI, IL, IN, KY, LA, ME, MI, MT, MIT, NV, NM, NY, NC, ND, OH, OR, PA, TN, TX, UT, VA, WA, WI
4-Year Schools	20	AR, CO, FL, HI, IL, IN, KY, LA, ME, MI, MT, MIT, NV, NM, ND, OH, OR, PA, TN, UT, VA
2-Year Schools	22	AR, CO, FL, HI, IL, IN, KY, LA, MI, MT, NV, NM, NY, NC, ND, OH, TN, TX, UT, VA, WA, WI
Retention/Progression	22	AR, CO, FL, IL, IN, KY, LA, ME, MT, NV, NM, NY, NC, ND, OH, OR, PA, TN, TX, VA, WA, WI
Includes weight for underserved populations*	5	AR, CO, IL, MT, OH
Learning	1	PA
Completion**	24	AR, CO, FL, HI, IL, IN, KY, LA, ME, MI, MT, NV, NM, NY, NC, OH, OR, PA, TN, TX, UT, VA, WA, WI
Includes weight for underserved populations*	19	AR, CO, FL, HI, IL, IN, KY, LA, MI, MT, NV, NM, NY, OH, OR, PA, TN, UT, VA
Affordability/Efficiency	7	AR, FL, IL, LA, MI, PA, UT
Employment/Earnings	7	FL, LA, NY, NC, PA, TN, WI
Research and Development	11	AR, IL, LA, ME, MI, MT, NV, NM, OH, TN, UT

*Underserved populations may include minority, low-income, first-generation, transfer, or non-traditionally aged students
 **For 2-year schools, this may include transfers
 Snyder & Boelscher (forthcoming)

Evidence on Outcomes-Based Funding

Research into the impact of OBF is mixed (see Table 2). Various studies find that OBF improves student outcomes, generates adverse outcomes, has no statistically significant effects, or a combination of the above. Surveys of officials in OBF states suggest that it motivates colleges to attempt to improve student outcomes.⁵⁷

Critics of OBF policies sometimes fail to distinguish between studies finding no impact on student outcomes (which could imply that approach is misguided or just that the particular incentives are too small) and those finding unintended consequences such as greater selectivity (which could imply that the incentives are effective but poorly designed). Table 2 distinguishes between positive findings on institutional practice and student outcomes, mixed and negative findings of unintended consequences, and findings of no impact.

55. Kevin Dougherty, Sosanya Jones, Hana Lahr, Rebecca Natow, Lara Pheatt, and Vikash Reddy, Performance Funding in Higher Education.

56. States' Methods of Funding Higher Education: Report for the Nevada State Legislature's Committee to Study the Funding of Higher Education (2012). https://www.sri.com/sites/default/files/brochures/revised-sri_report_states_methods_of_funding_higher_education.pdf

57. Kevin Dougherty, Sosanya Jones, Hana Lahr, Rebecca Natow, Lara Pheatt, and Vikash Reddy, Performance Funding in Higher Education.

Table 2: Evidence on State Higher Education Outcomes-based Fundings

State	Author	Years Studied	Outcome	Impact
Positive Impact				
Multiple	Rabovsky (2012)	1998-09	Financing	Some influence on spending priorities, particularly for public research universities
Multiple	Tandberg & Hillman (2014)	1990-10	Completion	Limited positive impact on baccalaureate completion over time
WA	Hillman, Tandberg, & Fryar (2015)	2002-12	Retention & completion	Improved short-term certificate completion; little effect on retention rates or associate degree completion
Mixed Impact				
Multiple	Rutherford & Rabovsky (2014)	1993-10	Persistence & completion	Older policies negatively impact completion, new ones may positively impact; little effect on retention rates
Multiple	Tandberg, Hillman & Barakat (2015)	1990-10	Completion	Lower completion in 6 states, greater in 4, and null in 9
Multiple	Kelchen & Stedrak (2016)	2003-12	Financing	Limited impact on revenue and spending priorities, reduces Pell Grant revenue
TN & IN	Hillman, Tandberg, and Crespín-Trujillo (2017)		Completion	Improved certificate completion at community colleges; slight negative impacts on associate and bachelor degree completion
Negative Impact				
IN	Umbricht, Fernandez & Ortagus (2015)	2003-12	Completion, diversity, & admissions	Did not increase graduation; led to declining admission rates and increasing selectivity
Null Impact				
Multiple	Shin & Milton (2004)	1997-01	Completion	No difference between states with and without OBF
Multiple	Volkwein & Tandberg (2008)	2000-06	Accountability score	Did not substantially impact state performance grades
Multiple	Shin (2010)	1997-07	Completion & research funding	No difference between states with and without OBF
TN	Sanford & Hunter (2011)	1995-09	Retention & completion	Not associated with changes at 4-year public colleges
PA	Hillman, Tandberg, & Gross (2014)	1990-10	Completion	Did not significantly increase undergraduate completion

Conceptual Challenges

OBF is a difficult subject to study. In Don Berwick’s phrase, randomized control trials are best suited to “conceptually neat” problems, such as whether a particular intervention has a particular impact on a specific population. Systemic change of a larger and diverse system of higher education, pursuing many goals, is the furthest thing from conceptually neat.

State OBF formula vary greatly: states choose different outcome measurements, vary them from college to college, change them over time, and invest greater or lesser amounts in OBF. The literature has not yet had time to assess the effectiveness of recent, more sophisticated OBF models that address the design flaws of earlier efforts, and even these new OBF models could be improved.

Researchers have struggled to isolate the impact of OBF from other, simultaneous reform efforts. For this reason, Kevin Dougherty and his colleagues concluded that OBF has failed to demonstrate its effectiveness. However, their surveys in OBF states found some evidence that OBF increased college’s focus on student outcomes and accelerated the progress of related reforms.⁵⁸ For policy makers, the question is not whether OBF is a silver bullet but whether it accelerates and reinforces other efforts that lead to student success.

Interviews with higher education officials suggest the lack of effects may be partially because OBF funding is too small to drive changes in overall institutional behavior.⁵⁹ Interestingly, this might argue for greater investment in OBF, if it is done well.

58. Kevin Dougherty, Sosanya Jones, Hana Lahr, Rebecca Natow, Lara Pheatt, and Vikash Reddy, Performance Funding in Higher Education.

59. Kevin Dougherty, Sosanya Jones, Hana Lahr, Rebecca Natow, Lara Pheatt, and Vikash Reddy, Performance Funding in Higher Education.

Intended and Unintended Impacts on Student Outcomes

The goal of OBF is to help more students earn degrees. Potential unintended consequences include discouraging colleges from enrolling students with academic and financial challenges and diluting academic quality.

There is mixed evidence from the thirteen empirical studies listed in Table 2. Looking at multiple states, Rutherford and Rabovsky find older OBF models negatively impacted completion rates while Umbricht, Fernandez, and Ortagus find negative impacts on admission rates and selectivity in Indiana.⁶⁰ Kelchen and Stedrak find that “colleges subject to [OBF] receive less Pell Grant revenue than colleges not subject to [OBF], suggesting colleges may strategically alter their behavior to target students from higher-income families.”⁶¹

On the other hand, Hillman, Tandberg, and Fryar find increased short-term certificates at community colleges in Washington, and Hillman, Tandberg, and Crespín-Trujillo find the same in Tennessee and Indiana.⁶² Tandberg and Hillman find some evidence that older OBF models increased baccalaureate completion over time, driven largely by results in Pennsylvania, but the authors find null impact in a follow-up study of Pennsylvania.⁶³ Finally, in a study of 19 states, Tandberg, Hillman, and Barakat find positive impacts on completion in four states, negative impacts in six states, and null impacts in nine states.⁶⁴

The five final studies in the table find largely null impacts.⁶⁵

60. Rutherford, Amanda and Thomas Rabovsky, “Evaluating Impacts of Performance Funding Policies on Student Outcomes in Higher Education,” *The ANNALS of the American Academy of Political and Social Science* 655.1 (2014): 185–208. <http://journals.sagepub.com/doi/abs/10.1177/0002716214541048>; Umbricht, Mark R., Frank Fernandez, and Justin C. Ortagus, “An Examination of the (Un) Intended Consequences of Performance Funding in Higher Education,” *Educational Policy* (2015). <http://journals.sagepub.com/doi/abs/10.1177/0895904815614398>.

61. Kelchen, Robert and Luke J. Stedrak, “Does Performance-Based Funding Affect Colleges’ Financial Priorities?” *Journal of Education Finance* 41.3 (2016): 302–21. <https://muse.jhu.edu/article/613777>.

62. Hillman, Nicholas W., David A. Tandberg, and Alisa H. Fryar, “Evaluating the Impacts of ‘New’ Performance Funding in Higher Education,” *Educational Evaluation and Policy Analysis* (January, 2015). <http://www.era.net/Newsroom/Recent-AERA-Research/Evaluating-the-Impacts-of-New-Performance-Funding-in-Higher-Education>; Hillman, Nicholas W., Alisa Hicklin Fryar, Valerie Crespín-Trujillo. “Evaluating the Impact of Performance Funding in Ohio and Tennessee,” *American Educational Research Journal* (2017). <http://journals.sagepub.com/doi/abs/10.3102/0002831217732951#articleCitationDownloadContainer>.

63. Tandberg, David and Nicholas Hillman, “State Higher Education Performance Funding: Data, Outcomes and Policy Implications,” *Journal of Education Finance* 39.1 (2014): 222–43. <https://muse.jhu.edu/article/539805/summary>.

64. Tandberg, David, Nicholas Hillman, and Mohamed Barakat, “State Higher Education Performance Funding for Community Colleges: Diverse Effects and Policy Implications,” *Teacher’s College Record* 116.12 (2015). <https://eric.ed.gov/?id=EJ1044657>.

65. Shin, Jung-Cheol and Sande Milton, “The Effects of Performance Budgeting and Funding Programs on Graduation Rate in Public Four-Year Colleges and Universities,” *Education Policy Analysis Archives* 12.22 (2004). <https://epaa.asu.edu/ojs/article/view/177>; Volkwein, Fredericks and David A. Tandberg, “Measuring up: Examining the Connections among State Structural Characteristics, Regulatory Practices, and Performance,” *Research in Higher Education* 49.2 (2008): 180–97. <https://link.springer.com/article/10.1007/s11162-007-9066-3>; Shin, Jung Cheol, “Impacts of Performance-Based Accountability on Institutional Performance in the U.S.,” *Higher Education* 60.1 (2010): 47–68. <https://link.springer.com/article/10.1007/s10734-009-9285-y>; Sanford, Thomas and James M. Hunter. “Impact of Performance-Funding on Retention and Graduation Rates,” *Education Policy Analysis Archives* 19.33 (2011): 1–30. <http://epaa.asu.edu/ojs/article/view/949>; Hillman, Nicholas, David Tandberg, and Jacob Gross, “Performance Funding in Higher Education: Do Financial Incentives Impact College Completions?” *Journal of Higher Education* 85.6 (2014): 826–57. <https://eric.ed.gov/?id=EJ1043674>.

In addition, some observers have expressed concern that that an emphasis on completion will lead to a dilution in academic standards. However, to date, observers in OBF states phrase these concerns as a potential rather than actual problem.⁶⁶ While the issue merits close ongoing observation, there is not yet any empirical evidence of weaker standards.

The policy recommendation section above describes steps states should take to make OBF more effective and to reduce the risk of unintended consequences.

Impact on Institutional Funding

States implementing OBF rely on the assumption that it will incentivize changes in institutional behavior, improving outcomes. A necessary intermediate effect is that, as outcomes change, each institution's state appropriations will change based on the funding formula. Interestingly, empirical research on this topic finds little evidence that this occurs.⁶⁷ One possibility is that legislative politics may protect institutions from significant changes in funding.

Impact on Institutional Practices

There is minimal rigorous research on the impact of OBF policies on institutional practices. Rabovsky, as well as Kelchen and Stedrak, find limited evidence that colleges facing OBF reallocate dollars between expenditure categories, although Rabovsky does find stronger evidence of impacts when only considering public research universities.⁶⁸

Drawing on case studies and anecdotal evidence, Dougherty et. al find suggestive evidence that OBF policies may improve awareness of state priorities, improve institutions' understanding of their own performance and increase the use of data in institutional planning. Changes include institutional organization, curricula, student services including counseling and advising, financial aid, and job placement.⁶⁹ Other qualitative studies find similar results.⁷⁰

66. Kevin Dougherty, Sosanya Jones, Hana Lahr, Rebecca Natow, Lara Pheatt, and Vikash Reddy, Performance Funding in Higher Education.

67. Rabovsky, Thomas M., "Accountability in Higher Education: Exploring Impacts on State Budgets and Institutional Spending Patterns," *Journal of Public Administration Research and Theory* 22.4 (2012): 675–700. <https://academic.oup.com/jpart/article-abstract/22/4/675/945262?redirectedFrom=fulltext>; Kelchen & Stedrak (2016).

68. Rabovsky (2012); Kelchen & Stedrak (2016)

69. Rabovsky (2012); Kelchen & Stedrak (2016)

70. For example, see Erik Ness, Mary Deupree, and Denisa Gandara, "Campus Responses to Outcomes-Based Funding in Tennessee: Robust, Aligned, and Contested." <http://www.denisagandara.com/docs/FordFoundationPaper.pdf>

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