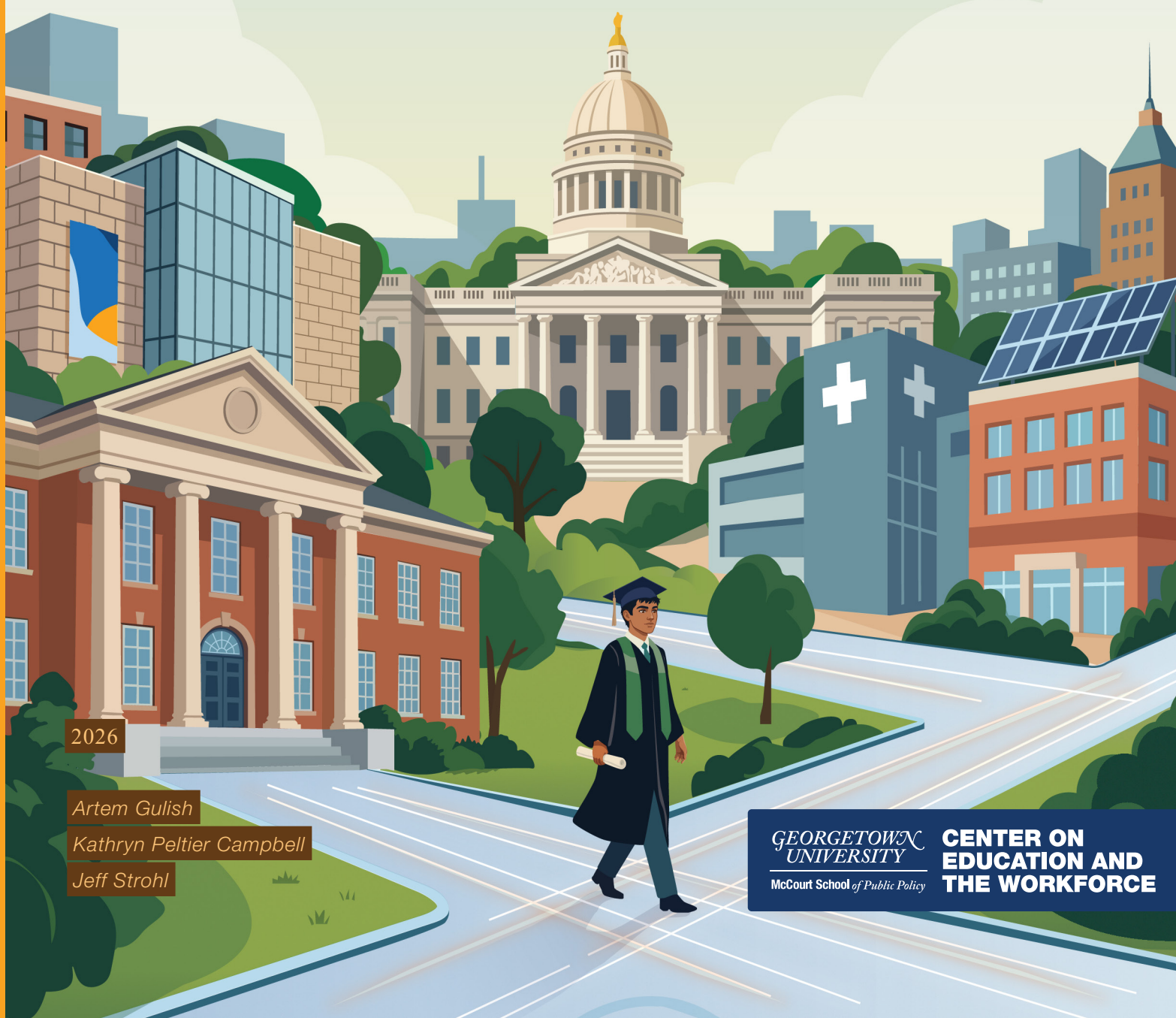


Report 3 in the Postsecondary Value Series

A Framework for Assessing the Value of Postsecondary Education and Training

State Guidance



2026

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McCourt School of Public Policy

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Contents

Introduction	1	Success Indicators.....	42
General Terminology and Recommendations That Apply Across Use Cases.....	3	Completion Rates.....	43
Part 1. Measuring the Broad Value of Postsecondary Education and Training to the States	6	Transfer Rates.....	43
Benefits for Education and Training Participants.....	6	Time to Completion.....	44
Aggregate Monetary Returns.....	7	License and Certification Pass Rates.....	45
Fringe Benefits.....	14	Part 3. Exploratory Considerations	47
Employment Stability and Enhanced Career Navigation Abilities.....	16	Using a Social Impact Rubric to Consider the Nonmonetary Aspects of Value Associated with Individual Institutions.....	47
Individual Nonmonetary Benefits.....	18	Short-Term and Workforce Training Credentials.....	49
Societal Benefits for the States.....	19	Enhancements to ROI.....	51
Broad Economic Benefits and Costs to the State.....	20	Job Quality.....	54
Qualified Talent That Meets Employer Demand.....	24	Accounting for Selectivity and Resources When Evaluating Institutional Performance.....	55
Civic and Social Benefits.....	26	Accounting for Student Access When Evaluating Institutional Performance.....	56
Equity Considerations.....	28	Addressing Programs That Prepare Students for Socially Valuable, Low-Paid Occupations.....	58
Part 2. Establishing Transparency and Accountability	30	Conclusion	62
Monetary Returns – ROI.....	31	References	63
Ability to Repay Student Loans.....	40		

Introduction

State investments in postsecondary education and training can provide opportunity for residents, fuel economic growth for the state, and foster other social and civic benefits. But colleges and universities are currently snared in a public debate about whether they reliably provide broad access to economic opportunity. As the costs associated with postsecondary education have risen, so has the level of scrutiny applied to colleges and universities. People want assurances that a college degree is worth the time, effort, and money required to attain it; state legislatures want assurances that public investments in education are benefiting the state's residents. And while federal policies have progressed toward ensuring that institutions and programs deliver at least minimum economic value to students,¹ state policymaking increasingly has the greatest potential to promote value and ensure accountability in postsecondary education and training.²

In responding to rising demands for postsecondary outcomes transparency and accountability, policymakers and analysts have relied primarily on monetary metrics, such as students' earnings after enrollment and the return on investment (ROI) associated with their credentials. This focus on monetary outcomes is necessary to ensure that colleges and universities deliver on a promise they commonly make to students: that going to college will lead to a rewarding and reasonably high-paying job.³ At the same time, an exclusive focus on monetary outcomes can overshadow the nonmonetary benefits that are also critical aspects of postsecondary value.

In this series, we explore how the nation and states conceptualize and measure the value of postsecondary education and training. In the first report in this series, *From Mann to Markets*, we consider historical views of the monetary and nonmonetary aspects of postsecondary value, and we trace how economic theory influenced the measurement of different aspects of value.⁴ In the second report in the series, *Measuring Postsecondary Value*, we provide an overview of existing frameworks for measuring postsecondary value, and we survey the metrics that may be appropriate for different

1 Recent federal policies in this arena include the 2023 Financial Value Transparency and Gainful Employment (FVT/GE) regulations; the 2025 budget reconciliation bill, also known as the One Big Beautiful Bill Act (OBBBA) or the Working Families Tax Cuts Act (WFTCA); and the 2026 Student Tuition and Transparency System (STATS) and Earnings Accountability rule. See US Department of Education, "Financial Value Transparency and Gainful Employment," 2023; An Act to Provide for Reconciliation Pursuant to Title II of H. Con. Res. 14, Pub. L. No. 119-21, 139 Stat. 72, 2025; and US Department of Education, "Accountability in Higher Education and Access Through Demand-Driven Workforce Pell," 2026.

2 State governments are well positioned to improve transparency and accountability for a variety of reasons, including their knowledge of local labor markets, their access to longitudinal data, their existing regulatory tools, their flexibility to pursue innovation, their proximity to learners, and their potential ability to integrate education and workforce systems. Taylor, *Reimagining Higher Education Accountability*, 2025.

3 While it is reasonable to hold colleges and universities accountable for graduates' outcomes, policymakers should recognize that postsecondary education and training providers do not have full control over graduates' future earnings. Employers and markets play important roles, especially in cases of low-paying occupations that employ significant numbers of workers with postsecondary credentials. Programs whose graduates enter these occupations in large numbers may fail earnings-based accountability tests. When students in these programs lose access to federal loans, some will turn to the private loan markets, which offer fewer consumer protections. Policymakers should be prepared for new accountability standards to affect the supply of workers in these occupations and to heighten the need for consumer protections.

4 Strohl et al., *From Mann to Markets*, 2026.

applications or use cases.⁵ In this report, the third in the series, we provide concrete guidance on conceptualizing and measuring the value of postsecondary education to address the objectives of state postsecondary policy and help state policymakers, policy analysts, researchers, and practitioners define and identify credentials of value.

This report provides guidance on two key areas of importance for state policymakers and analysts:

1. **The broad value that accrues to each state from a robust postsecondary education and training system.** In Part 1, we investigate a wide range of individual and societal benefits, including broad economic impacts and nonmonetary outcomes, that state residents and the state as a whole receive through their investments in state systems of postsecondary education and training. We also discuss the importance of expanding postsecondary access for all state residents to address persistent skills gaps.
2. **Transparency and accountability measures to ensure that programs and institutions deliver the value they promise to create.** In Part 2, we focus on outcomes metrics such as return on investment (ROI), ability to repay student loans (debt to earnings), and other success indicators. While distinguishing among program-level and institution-level transparency and accountability frameworks, we discuss how stakeholders can apply these measures in a state system context.

In both sections, we suggest relevant metrics for measuring different aspects of value using existing data, and we recommend improvements to the data infrastructure that would enable better measurement in the future.

State policymakers must be able to communicate postsecondary value to the public in order to ensure their states offer meaningful educational opportunities, remain economically competitive, and invest state resources wisely. They must also be able to establish guardrails to ensure that institutions deliver on their promises to students, while recognizing that some aspects of postsecondary value are beyond reach of the educational system without the involvement of employers and policymakers (for example, educators cannot control prevailing wages). This report provides practical guidance for a technical audience of policy analysts who support state policymakers in achieving these goals.

5 Engle et al., *Measuring Postsecondary Value*, 2026.

General Terminology and Recommendations That Apply Across Use Cases

Throughout this report we discuss various use cases related to state policy and practice, all of which are subject to the definitions and guidance we describe in this section. Readers can assume the definitions and data guidelines we articulate here apply unless otherwise specified. We have listed these definitions and data guidelines in the order by which they appear in the report.

Broad value: In this report, *broad value* refers to the aggregate monetary and nonmonetary value of postsecondary education and training across all of a state's providers and residents. We use this term to differentiate such value from the value tied to specific credentials associated with particular institutions and programs.

Added value: A value-added approach helps policymakers and analysts pinpoint which credentials contribute the most value relative to a counterfactual scenario in which individuals do not hold these credentials. We recommend considering the earnings of bachelor's degree holders, associate's degree holders, and certificate holders relative to the earnings of high school diploma holders (using a comparison often referred to as the earnings premium). Likewise, we recommend considering the earnings of graduate degree holders relative to those of bachelor's degree holders.

Earnings and taxes: We recommend that state policymakers and analysts use *post-tax earnings* as a measure of financial returns to individuals and consider *state tax revenue* as a separate benefit to the state. Many data sources mentioned in this report provide pre-tax earnings; to calculate the benefits of postsecondary education and training to individuals, state policy analysts should adjust these earnings based either on their own data or on estimates of federal and state taxation reported in the US Census Bureau's American Community Survey (ACS). Both earnings and taxes should be inflation-adjusted to the most recent year available.

Costs and forgone earnings: When calculating net direct educational costs and forgone earnings for student cohorts, we recommend that state policy analysts and researchers use data from the years when the cohort was enrolled, if available. Both direct costs and forgone earnings (how much students would earn if they were working instead of attending college) should be inflation-adjusted to the most recent year available, and forgone earnings should be post-tax.

State-level data: Different states have different data infrastructures and thereby access to different data elements, and no single data recommendation will work for all states. Whenever possible, states should use their own administrative student unit record data, especially when they have access to an advanced Statewide Longitudinal Data System (SLDS) connecting student data (such as enrollment patterns, demographics, programs of study, and employment history while enrolled) with workforce data (such as unemployment insurance, or UI, wage records). When using advanced SLDS data for transparency and accountability purposes, states should seek to incorporate data on the workforce outcomes of former students who subsequently left the state, as possible.⁶

Supplementary and alternative data sources: For state policymakers and analysts who do not have access to advanced SLDS data or who prefer a simplified approach, we recommend alternative and supplementary data sources throughout the report. When using these sources, state policy analysts should use state-level data whenever possible. As applicable, they should also use these alternative and supplementary data sources to incorporate information on private nonprofit and for-profit institutions that is missing from most statewide longitudinal data systems, which often cover only students who attended public institutions.⁷ States can also look to states that have incorporated at least some data from private nonprofit and for-profit institutions into their postsecondary student unit record systems (PSURS) to strengthen their SLDS.⁸ State policymakers should also be aware that while the federal government has historically supported educational data collections recommended in this report, those resources' continued operations and availability are uncertain.

Sample size and statistical significance: When using survey data, especially when disaggregated by demographic characteristics, completion status, or other differentiating factors, state policy analysts need to ensure that there are a sufficient number of observations to perform the recommended analysis (potentially by aggregating data across years, cohorts, programs of study, etc.). State policy analysts should ensure that all estimates meet appropriate statistical significance thresholds.

Occupational data: We recommend that state policymakers follow the lead of a growing number of states (including Alaska, Indiana, Nebraska, South Carolina, Washington,

6 Data on former students who left the state may be available through initiatives such as the US Census Bureau's Post-Secondary Employment Outcomes (PSEO) tool, an experimental data service developed by the bureau's Longitudinal Employer–Household Dynamics (LEHD) program in collaboration with postsecondary institutions and state agencies. US Census Bureau, Longitudinal Employer–Household Dynamics Post-Secondary Employment Outcomes (PSEO), 2025.

7 Mata and Weeden, *Communities of Practice*, 2018.

8 For more information on which states incorporate data elements from independent and proprietary institutions, see State Higher Education Executive Officers Association (SHEEO), "Postsecondary Student Unit Record Systems (PSURS) Data Elements," 2025.

and West Virginia) and endeavor to add occupation to their unemployment insurance (UI) wage records, along with hours worked and primary work location.⁹ For examples of robust workforce data, state policymakers can look to public-private partnerships such as the US Chamber of Commerce Foundation’s Jobs and Employment Data Exchange (JEDx).¹⁰ In addition, because unemployment insurance (UI) wage records exclude some employees (such as federal government employees, self-employed workers, and members of the military),¹¹ we recommend that state policymakers explore privacy-protected ways to interconnect their state’s SLDS with state tax records to build a more robust data infrastructure.

The additional state-level data applications we recommend in this report will require expanded data capacity and additional investments by state policymakers. We recommend focusing first on the changes that are possible with current capacity and resource constraints. Then, in the longer term, we suggest looking for ways to expand capacity and resources, including by building the case for investment on the basis of broad benefits to the state presented in Part 1.

9 States can further enhance their UI wage records by adding the hourly pay rate and worker type (regular, intern, or apprentice). See Hanson, *What States Should Know About Education and Work—but Don’t*, 2025; and Data Quality Campaign, *Enhancing Unemployment Insurance Wage Records*, 2025.

10 US Chamber of Commerce Foundation, “Jobs and Employment Data Exchange (JEDx),” 2026.

11 Data Quality Campaign, *Enhancing Unemployment Insurance Wage Records*, 2025.

PART 1

Measuring the Broad Value of Postsecondary Education and Training to the States

Earnings and return on investment (ROI) have become the go-to metrics for measuring credentials of value. While these metrics are critical elements of educational value, they do not capture the full scope of benefits that credentials generate for individuals and society. To make informed decisions about investments in postsecondary education and training, state policymakers and analysts need to assess the broad value that robust postsecondary education and training systems provide to their states. This broad value includes the value to individuals who pursue postsecondary education and training within the state and the value that state residents share, including the value to those who do not pursue postsecondary education and training. In this part of the report, we discuss ways of assessing these individual and societal benefits for the purposes of **state-level policy and appropriations** and **case-making**.¹² Without assessing the broad value of postsecondary education, state policymakers and analysts cannot make fully informed decisions about how to best invest in their state postsecondary education and training systems for the long term, nor can they understand the full impact of postsecondary education on state economies and state residents.

Benefits for Education and Training Participants

Students who pursue postsecondary education and training start their programs with the reasonable expectation that their educational experiences will produce benefits, both monetary and nonmonetary, that justify their investment of time and resources. These monetary and nonmonetary benefits form the foundation of the broad value of postsecondary education and training for a state's residents. In this section, we walk through a series of questions related to the broad value of education and training to the state and to individuals across the scope of workers' careers and suggest data-informed approaches to answering them.

¹² For more on these and other use cases, see Engle et al., *Measuring Postsecondary Value*, 2026.

Aggregate Monetary Returns

Dimension of value: Aggregate monetary returns		
Major metrics and components	Data sources	Considerations and recommendations
Individual lifetime monetary returns » Lifetime post-tax earnings gains relative to workers with a lower education level » Total cumulative costs (net direct educational costs, including tuition and fees net of grants, books, equipment, and supplies; opportunity costs; and interest on debt)	Statewide longitudinal data systems (SLDS)/Postsecondary student unit record systems (PSURS) American Community Survey (ACS) Current Population Survey (CPS) National Training, Education, and Workforce Survey (NTEWS) Integrated Postsecondary Education Data System (IPEDS) National Postsecondary Student Aid Study (NPSAS)	Evaluate or model outcomes across a 40-year career As the primary analysis group, use workers ages 25–64 who are in the labor force and not enrolled in an academic program Exclude living costs during postsecondary education and training from considerations of educational costs Adjust net direct and opportunity costs by the percentage of full-time equivalent students Weight interest rate costs by share with loans and adjust for inflation

By calculating the aggregate monetary returns of postsecondary education and training within states, state policymakers can make a powerful case for continued investments in postsecondary education and training. As a starting point for calculating these returns, policymakers can multiply (1) the average (mean) returns to various postsecondary credentials by (2) the number of workers with each credential in the state.

Some states are already leading the way with reports on the monetary returns to postsecondary education. For instance, the Kentucky Council on Postsecondary Education published the estimated average earnings gains over a lifetime and the total costs for certificates/diplomas, associate's degrees, and bachelor's degrees, along with the number of completers for each credential type, for the 2009–10 graduating cohort.¹³ Such reports give us valuable, albeit partial, insights into the monetary impact of individual states' investments in postsecondary education.

For a more complete sense of the monetary value of postsecondary education to individuals within a state that expands beyond a single cohort, we recommend that state policy analysts go beyond this kind of cohort-based approach and adopt a framework for estimating the monetary returns for all workers ages 25–64 (in the labor force) in their state. In this section, we walk through the metrics, specifications, and data sources we recommend for state policy analysts to conduct these calculations. We suggest that state policy analysts use the general approach presented in this section to calculate

13 Kentucky Council on Postsecondary Education, *Higher Education's Return on Investment*, 2020.

aggregate monetary returns for each credential by type (professional and doctoral degrees, master's degrees, bachelor's degrees, associate's degrees, and postsecondary certificates).

A Conceptual Framework for Calculating Key Value Metrics

Aggregate monetary returns for credential = individual lifetime monetary returns for that credential * the number of workers in the state with that credential, where

Individual lifetime monetary returns = lifetime earnings gains – total cumulative costs of attaining the credential, where

Lifetime post-tax earnings gains = (annual earnings of workers with the credential – annual earnings of workers with a lower-level credential) * 40 years¹⁴ and

Total cumulative costs of attaining a credential = [(annual net direct educational costs for full-time students + annual opportunity costs for full-time students) * percent of full-time equivalent (% FTE) enrollment * median time to credential] + inflation-adjusted cumulative interest costs, where

Inflation-adjusted cumulative interest costs = nominal cumulative interest costs – (X * nominal cumulative interest costs), where X = annual inflation rate * multiplier (based on amortization period)¹⁵

Recommended Specifications

Lifetime post-tax earnings gains – based on how much more a worker with a particular credential earns relative to a worker without that credential over an entire 40-year career.

Earnings – use the post-tax median earnings for workers ages 25–64 in the labor force (employed and unemployed) in the state.

Earnings of workers with a lower-level credential –

- for undergraduate credentials: use the median earnings of high school graduates in the state;¹⁶
- for graduate credentials: use the median earnings of workers with bachelor's degrees in the same broad field of study.¹⁷

¹⁴ In cases where a more nuanced estimate is needed, state analysts can aggregate lifetime earnings across single-year age bands from ages 25–64, following the methodology from Carnevale et al., *Learning and Earning by Degrees*, 2024.

¹⁵ The multiplier is a fixed constant that changes based on the amortization period: 4.58 for 10-year amortization, 5.37 for 15-year amortization, and 7.4 for 20-year amortization. These multipliers are calculated based on monthly amortization schedules for each amortization period.

¹⁶ This recommendation is consistent with the approach used to calculate the earnings premium in the 2025 One Big Beautiful Bill Act (OBBBA) and the related 2026 regulations. An Act to Provide for Reconciliation Pursuant to Title II of H. Con. Res. 14, Pub. L. No. 119-21, 139 Stat. 72, 2025; and US Department of Education, "Accountability in Higher Education and Access Through Demand-Driven Workforce Pell," 2026.

¹⁷ This recommendation is consistent with the earnings premium in OBBBA and related 2026 regulations. An Act to Provide for Reconciliation Pursuant to Title II of H. Con. Res. 14, Pub. L. No. 119-21, 139 Stat. 72, 2025; US Department of Education, "Accountability in Higher Education and Access Through Demand-Driven Workforce Pell," 2026. It also aligns with the approach by Gulish et al. (2024) and Matsudaira and Turner (2020). Gulish et al., *Graduate Degrees*, 2024; and Matsudaira and Turner, *Towards a Framework for Accountability*, 2020.

Total cumulative costs – include *direct costs*, *opportunity costs*, and *interest on debt*.

Annual net direct educational costs – include the costs of tuition and fees, books, equipment, and supplies, net of any grants and scholarships students received.

Opportunity costs – measure in terms of post-tax forgone earnings:

- for undergraduate credentials: use the median earnings of high school graduates, ages 20–27,¹⁸ who are not enrolled in college, in the labor force within the state;
- for graduate credentials: use the median earnings of bachelor's degree holders, ages 25–37,¹⁹ who are not enrolled in college, in the labor force within the state;
- subtract out the estimated median earnings of full-time students who are enrolled in college in the state (at the undergraduate level for undergraduate credentials and at the graduate level for graduate credentials).²⁰

Percent of full-time equivalent (% FTE) enrollment – divide the median number of credit or clock hours for which students are enrolled by the number of credit or clock hours required for full-time status.

Median time to credential – based on the empirical median time to completion for each credential type in the state.

Cumulative interest costs – estimated interest paid on median student loan debt, weighted by the share of students who take on each type of student debt, with the interest rate discounted by the estimated inflation rate.

- Estimated interest can be calculated using a function (such as CUMIMPT in Microsoft Excel), with the following parameters:
 - For student loan principal: median student loan debt weighted by the share of students who borrow federal student loans

18 This age group is based on the 25th and 75th percentiles of age from Georgetown University Center on Education and the Workforce analysis of data from the US Department of Education, National Center for Education Statistics (NCES), National Postsecondary Student Aid Study (NPSAS): Undergraduate Students, 2020. If states have more specific data on the ages of students enrolled in undergraduate postsecondary education programs in their state, they should substitute that age range instead.

19 This age group is based on the 25th and 75th percentiles of age from Georgetown University Center on Education and the Workforce analysis of data from the US Department of Education, National Center for Education Statistics (NCES), National Postsecondary Student Aid Study (NPSAS): Graduate Students, 2020. If states have more specific data on the ages of students enrolled in graduate programs in their state, they should substitute that age range instead.

20 For some groups of students, it may be possible to have negative forgone earnings because they earn more while enrolled in their studies than the comparison group of students with no more than a high school diploma.

- For student loan interest rates: average²¹ historical interest rates on relevant federal student loans
 - ◆ for undergraduate credentials, based on average annual rates over the past two decades, weighted among Direct Subsidized and Unsubsidized Loans—5.1 percent²² (or an updated value that incorporates the most recent data)
 - ◆ for graduate credentials,
 - for cohorts who completed before the discontinuation of Grad PLUS loans in 2026: based on average annual rates over the past two decades, weighted among Direct Unsubsidized Loans and Grad PLUS loans—6.7 percent²³
 - for cohorts who complete after discontinuation of Grad PLUS loans in 2026: based on average annual rates over the past two decades for Direct Unsubsidized Loans—6.3 percent²⁴ (or an updated value that incorporates the most recent data)
- For the amortization period, use the following based on the approach in the 2023 Financial Value Transparency and Gainful Employment (FVT/GE) regulations:²⁵
 - ◆ for undergraduate certificates and associate’s degrees—10 years
 - ◆ for bachelor’s and master’s degrees—15 years
 - ◆ for professional and doctoral degrees—20 years²⁶

21 In this report we use *average* to refer to the arithmetic average or mean.

22 Based on the weighted average annual interest rates of Direct Subsidized Loans (weight = 47 percent) and Direct Unsubsidized Loans (weight = 53 percent) for the 2006–07 through 2024–25 academic years. Georgetown University Center on Education and the Workforce analysis of data from the US Department of Education, Office of Federal Student Aid, “Interest Rates and Fees for Federal Student Loans,” 2025.

23 Based on the weighted average annual interest rates for Direct Unsubsidized Loans (68 percent) and Direct PLUS Loans for Graduate or Professional Students, commonly referred to as Grad PLUS loans, (32 percent) for the 2006–07 through 2024–25 academic years. Georgetown University Center on Education and the Workforce analysis of data from the Office of Federal Student Aid, “Interest Rates and Fees for Federal Student Loans,” 2025. Eligibility for new Grad PLUS loans was discontinued under the 2025 One Big Beautiful Bill Act (OBBBA) and related 2026 regulations. An Act to Provide for Reconciliation Pursuant to Title II of H. Con. Res. 14, Pub. L. No. 119-21, 139 Stat. 72, 2025; and US Department of Education, “Reimagining and Improving Student Education,” 2026.

24 Based on the average annual interest rates for Direct Unsubsidized Loans for graduate borrowers for the 2006–07 through 2024–25 academic years. Georgetown University Center on Education and the Workforce analysis of data from the US Department of Education Office of Federal Student Aid, “Interest Rates and Fees for Federal Student Loans,” 2025.

25 This approach does not include interest accrued during enrollment for Direct Unsubsidized Loans, which we do not believe will make a substantive difference for this analysis.

26 US Department of Education, “Financial Value Transparency and Gainful Employment,” 2023. In 2026, the FVT/GE regulations were superseded by the US Department of Education, “Accountability in Higher Education and Access Through Demand-Driven Workforce Pell,” 2026.

- To inflation-adjust the nominal cumulative interest on student loans, use a 2.1 percent annual inflation rate²⁷ (or an updated value that incorporates the most recent data), and the *inflation-adjusted cumulative interest cost* equation from the calculations section above with one of the following multipliers based on the amortization period:
 - For 10-year amortization—4.58
 - For 15-year amortization—5.37
 - For 20-year amortization—7.4²⁸

Data Sources

For *earnings data*, states should turn to their own data sources for the most precise estimates whenever possible. Alternatively, both the US Census Bureau’s American Community Survey (ACS) and the US Bureau of Labor Statistics and US Census Bureau’s Current Population Survey (CPS) provide earnings for workers with graduate degrees, bachelor’s degrees, associate’s degrees, and high school diplomas in the labor force by state.

Neither federal source separates out the earnings of workers with postsecondary certificates. Therefore, to estimate the earnings of workers with postsecondary certificates in their state, policy analysts can use the ratio of the median earnings of workers with postsecondary certificates to the median earnings of workers with associate’s degrees at the national level and apply it to the median earnings of workers with associate’s degrees in their state. This ratio is 0.82, based on \$45,000 and \$55,000 median earnings for vocational certificate or diploma and associate’s degree holders, respectively.²⁹

For *direct costs*, states that do not have their own administrative data on costs can obtain the net direct educational costs for full-time students from the National Center for Education Statistics (NCES)’s Integrated Postsecondary Education Data System (IPEDS)³⁰ or the National Postsecondary Student Aid Study (NPSAS).³¹

27 Georgetown University Center on Education and the Workforce analysis of data from the US Bureau of Labor Statistics, R-CPI-U-RS series, 2006–24.

28 These multipliers are calculated based on monthly amortization schedules for each amortization period.

29 Georgetown University Center on Education and the Workforce analysis of data from the National Science Foundation, National Training, Education, and Workforce Survey (NTEWS), experimental pilot release, 2022.

30 IPEDS captures direct costs primarily at the institutional level, based on predominant credential, and includes grants and scholarships primarily for undergraduate students.

31 The actual total costs of attaining postsecondary education and training credentials for workers currently in the state labor force are likely to be lower than the total estimated with the approach presented here because many workers attained their credentials years or decades before the present-day period, when inflation-adjusted costs were lower. However, we posit that our approach yields a reasonably conservative estimate of the individual economic returns at the state level and is more informative for state policymakers because it reflects the current costs of attaining different postsecondary credentials.

For *opportunity costs*, the earnings of enrolled full-time students can be obtained from the state's unemployment insurance (UI) wage records for states with necessary records linkages; from NCES's National Postsecondary Student Aid Study (NPSAS) for the states where NPSAS supports state-level analysis; or from a combination of the American Community Survey (ACS) and the Current Population Survey (CPS).³²

The *median number of credit or clock hours* can be obtained from the state's own postsecondary student unit record system (PSURS) or estimated from NPSAS.³³

The *median time to completion* for each credential type should also be obtained from the state's PSURS when feasible, or can be estimated from NCES data sources including IPEDS and NPSAS-based studies.³⁴

The *median student loan debt* and the *share of students with federal student loans* can be estimated based on NPSAS, using state-representative data for more than half of states³⁵ and national data for others.

Further Considerations and Recommendations

We recommend using a 40-year period to estimate lifetime earnings gains across a full career. This approach assumes that workers earned the credential at a traditional age and worked in the state for the remainder of their careers; however, we encourage policy analysts to use any additional data at their disposal to fine-tune the estimate.³⁶ We recommend using adults ages 25–64, in the labor force, who are not enrolled in further education for earnings gains estimates. However, as we will discuss in Part 2 of this report, a 40-year time horizon is not ideal for program- and institution-level ROI analysis.

32 ACS data do not differentiate between students enrolled full time and part time, whereas CPS data do not differentiate between students enrolled in undergraduate and graduate programs. Also, neither data set allows for disaggregation by the type of credential students are pursuing within undergraduate studies (certificate, associate's degree, or bachelor's degree) or graduate studies (master's degree or professional/doctoral degree). We recommend that state policy analysts and researchers use CPS data to estimate the differences between full-time and all students, with and without bachelor's degrees, in hours worked, and use those to adjust hours worked from ACS data. Analysts and researchers should then examine any differences with undergraduate and graduate studies by type of credential from national NPSAS data and apply any necessary adjustment to ACS data to estimate hours worked by full-time students by type of credential program.

33 The public NCES data tool does not provide the median credit or clock hours students complete annually, so if using this data source, state policy analysts and researchers will need to estimate this number based on student enrollment patterns in the year of the most recent survey (exclusively full-time, exclusively part-time, or mixed).

34 National-level longitudinal studies that use NPSAS as a base include the Beginning Postsecondary Students Longitudinal Study (BPS) and the Baccalaureate and Beyond Longitudinal Study (B&B). In the future, states should seek to develop their own data resources, as these studies will become increasingly out-of-date.

35 The 2019–20 National Postsecondary Student Aid Study (NPSAS:20) was representative at the state level for all undergraduate students in 30 states, for public four-year institutions in 40 states, and for public two-year institutions in 34 states. US Department of Education, National Center for Education Statistics (NCES), National Postsecondary Student Aid Study (NPSAS): State Oversamples, 2026.

36 We realize that this is an oversimplification. People complete credentials at different ages and during different time periods, with different career lengths and direct educational costs. People with different postsecondary credentials also move in and out of the state at various times. Nonetheless, this calculation provides a rough estimate of the private economic value a state's residents accrue from education and training.

For cost calculations, we recommend including *direct educational costs* and *opportunity costs*; we do not recommend including room and board and other costs of living, because students generally face those costs regardless of whether they are enrolled in college.³⁷ The *opportunity costs* capture the value of the time students devote to their studies to obtain a postsecondary credential.³⁸ As is customary in the economics of education, we recommend measuring opportunity costs in terms of forgone earnings, or how much more students would earn if they were working and not attending college.³⁹ For both direct and opportunity costs, we propose using the earnings of full-time students and then adjusting by the share of full-time equivalent (FTE) enrollment.

We also recommend using empirical time to completion, not expected time to completion, in calculations of aggregate monetary returns. We make this recommendation because expected time to completion is based on exclusive full-time enrollment, and many students do not exclusively enroll full time throughout their studies.⁴⁰

We also recommend considering *cumulative interest costs* as part of the ***total cumulative costs*** of attaining each credential. This element of costs is an approximation due to uncertainties and variation around student loan interest rates and repayment policies, but we still suggest including it to account for the additional costs of using student debt to finance education.⁴¹ To the extent possible, state policy analysts should also include interest costs for private loans, which are likely to play a larger role in the financing of postsecondary education going forward due to new limits placed on federal loans for graduate and professional students and parental loans for undergraduate students in the 2025 budget reconciliation bill, also known as the One Big Beautiful Bill Act (OBBBA) or the Working Families Tax Cuts Act (WFTCA).⁴² At the same time, not all students take out student loans, and some interest costs are offset by paying with future dollars discounted by inflation. We recommend that state policy analysts account for both of these factors in their calculations of *cumulative interest costs*.

37 Abel and Deitz, “Is College Still Worth It?,” 2025.

38 Some researchers, especially those investigating the affordability of postsecondary education, focus on living costs instead of opportunity costs, which we recognize is appropriate for certain use cases.

39 Abel and Deitz, “Is College Still Worth It?,” 2025.

40 Nationwide, slightly more than half of undergraduate students attend college exclusively full time over the course of an academic year. The rest are evenly split between exclusively part-time attendance and mixed full-time/part-time attendance. Georgetown University Center on Education and the Workforce analysis of data from the US Department of Education, National Center for Education Statistics (NCES), National Postsecondary Student Aid Study (NPSAS), 2020.

41 The Department of Education’s “Dear Colleague” letter from September 30, 2025, offers guidance on the use and disclosure of financial aid–related information by state agencies, institutions, and contractors that state policymakers seeking to use information on student loans may find helpful. US Department of Education, “Guidance on the Use of Federal Tax Information (FTI), Free Application for Federal Student Aid (FAFSA) Data, and Non-FAFSA Data,” 2025.

42 An Act to Provide for Reconciliation Pursuant to Title II of H. Con. Res. 14, Pub. L. No. 119-21, 139 Stat. 72, 2025; and US Department of Education, “Reimagining and Improving Student Education,” 2026.

Fringe Benefits

Dimension of value: Fringe benefits		
Major metrics and components	Data sources	Considerations and recommendations
Among workers in a given state: » Share with employer-provided health coverage » Share with employer-sponsored retirement plan	National Compensation Survey Current Population Survey Annual Social and Economic Supplement (CPS-ASEC) State data sources	Data on paid leave, holidays, life and disability insurance, educational and professional discounts, wellness programs, and other less-common benefits may be difficult to source, as the availability of such data is limited (especially at the state level) Use National Compensation Survey data to examine fringe benefits as a share of total compensation by earnings levels

While earnings gains are typically the primary focus in evaluating the payoff individuals receive from completing postsecondary education and training credentials, fringe benefits are also part of the economic value tied to workers’ jobs. Fringe benefits include the following:

- health insurance
- retirement savings plans
- paid leave
- paid holidays
- life and disability insurance
- educational and professional development assistance
- dependent care assistance
- wellness programs
- transportation assistance
- employee discounts

At the national level, the US Bureau of Labor Statistics collects information on a wide variety of benefits via the National Compensation Survey.⁴³ But state policymakers generally do not have much information available on access to, generosity of, or use of fringe benefits, especially paid leave, holidays, life and disability insurance, educational and professional discounts, wellness programs, and other less-common benefits. The two types of fringe benefits for which information is available at the state level are health insurance coverage (**share with employer-provided**

43 US Bureau of Labor Statistics, National Compensation Survey, 2024.

health coverage)⁴⁴ and retirement savings plans (**share with employer-sponsored retirement plan**), via the Current Population Survey Annual Social and Economic Supplement (CPS-ASEC). Previous research has established that workers with postsecondary credentials are more likely to have access to both employer-provided health coverage and retirement plans than workers with no more than a high school diploma.⁴⁵ Moreover, college graduates may have better access to these benefits because they earn more on average, and higher earnings tend to be associated with more generous fringe benefits and higher take-up rates.⁴⁶ College graduates are also more likely to hold full-time jobs,⁴⁷ which are associated with greater access to fringe benefits.⁴⁸ We therefore recommend that state policymakers and analysts focus on these two sets of fringe benefits and compare access to these by educational attainment level to capture the additional economic value beyond earnings.

State policy analysts can use National Compensation Survey data to examine fringe benefits as a share of total compensation by earnings levels. They can then apply those shares to state-level earnings premiums and earnings levels by educational attainment to estimate the additional value of more generous fringe benefits.

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- 44 The data on health insurance coverage are available in CPS-ASEC and from the US Census Bureau's American Community Survey (ACS). However, the ACS does not provide enough detail to differentiate among individuals covered by their own employer's health insurance and those covered by another family member's insurance, or to ascertain whether an individual's employer offers health insurance if the individual chooses to waive the employer's coverage.
- 45 Using CPS-ASEC data from 2021, Ma and Pender (2023) found that nationwide, 46 percent of full-time, full-year (FTFY) workers with associate's degrees, 45 percent of FTFY workers with bachelor's degrees, and 47 percent of FTFY workers with advanced degrees in the private sector had access to retirement plans from their employers, compared to 38 percent of FTFY workers with only a high school diploma in the private sector. Similarly, 66 percent of FTFY workers with bachelor's degrees, 59 percent of FTFY workers with associate's degrees, and 68 percent of FTFY workers with advanced degrees had employer-provided health insurance coverage, compared with 53 percent for workers with high school diplomas as their highest level of educational attainment. Ma and Pender, *Education Pays 2023*, 2023.
- 46 For example, among workers in the bottom quartile of occupational wages, 52 percent have access to retirement benefits; of those, 51 percent choose to take up those benefits, resulting in a 27 percent participation rate. Among workers in the top quartile of occupational wages, 92 percent have access to retirement benefits; of those, 89 percent choose to take up those benefits, resulting in an 82 percent participation rate. US Bureau of Labor Statistics, "Employee Benefits in the United States – March 2025," 2025.
- 47 For example, in 2022, 79.8 percent of young workers, ages 25 to 34, with a bachelor's degree held FTFY jobs, compared with 76.2 percent of young workers with associate's degrees and 71.3 percent with some college, no degree. US Department of Education, National Center for Education Statistics (NCES), *Digest of Education Statistics 2023*, Tables and Figures, Table 502.30, 2023.
- 48 For example, in March 2025, 89 percent of full-time workers had access to health care benefits and 83 percent had access to retirement benefits, compared to 25 percent and 46 percent of part-time workers, respectively; US Bureau of Labor Statistics, "Employee Benefits in the United States," 2025.

Employment Stability and Enhanced Career Navigation Abilities

Dimension of value: Employment stability and enhanced career navigation abilities		
Major metrics and components	Data sources	Considerations and recommendations
Year-over-year employment Full-time, full-year (FTFY) employment Occupational change	Statewide longitudinal data systems (SLDS) Current Population Survey (CPS) Job Tenure Supplement and Annual Social and Economic Supplement (ASEC) Brookings Institution's Mobility Pathways tool Résumé and job postings data (from National Labor Exchange and vendors such as Lightcast, Chmura Economics & Analytics, and LinkedIn)	Use quarters with positive earnings and earnings above a set threshold in unemployment insurance (UI) wage records Enhance UI wage records, including by adding work hours and occupation

Earnings and benefits depend on employment, so job disruptions can cause significant financial strain. Postsecondary education helps mitigate this risk, as higher levels of education and training increase the likelihood of stable employment during economic downturns.⁴⁹ Moreover, when workers with postsecondary education and training do change jobs, they are more likely than those with less education to do so voluntarily, suggesting they are changing jobs for better opportunities.⁵⁰

States can use the CPS Employee Tenure and Occupational Mobility Supplement (commonly known as the Job Tenure Supplement) and Annual Social and Economic Supplement (ASEC) to measure **year-over-year employment** and **full-time, full-year (FTFY) employment**. For states with an advanced SLDS, state policymakers and analysts can use *quarters of positive earnings* to measure year-over-year employment by educational attainment and potentially by different types of postsecondary education and training credentials. State policymakers and analysts can also explore an approach of *setting an earnings threshold based on the typical earnings of full-time workers* in their states to examine full-time employment. Going forward, state policymakers should explore adding hours worked to their states' unemployment insurance (UI) wage records to get a more accurate measure of *year-over-year full-time employment* for workers in their states.

In addition to employment stability, state policymakers and analysts may want to examine the extent to which completers of postsecondary education and training programs are able to progress

49 Hoynes et al., "Who Suffers During Recessions?," 2012.

50 Gittleman, "Declining Labor Turnover in the United States," 2019.

in their careers. State policy analysts can use the data from the CPS-ASEC to examine **occupational change**, along with earnings, over the course of a year for workers with different education levels in their states. State policy analysts can use this information in conjunction with career trajectory mapping tools, such as the Brookings Institution’s Mobility Pathways tool,⁵¹ to understand the extent to which workers who complete postsecondary education and training are entering careers with promising trajectories and are then making successful lateral or upward occupational transitions. State policy analysts can also examine pay variation by years of experience (or age as a proxy) within occupations to identify those that offer more opportunities for advancement without switching occupations.

To go beyond this base-level approach and investigate how postsecondary education and training credentials prepare individuals to enter promising “launchpad jobs”⁵² and navigate career pathways across longer longitudinal time horizons, state policymakers need to develop their states’ capabilities to track workers’ occupational mobility. The most direct way of doing so, for states with an advanced SLDS, is to add occupations to state UI wage records. States can also consider merging résumé, job posting, and professional profile data from vendors such as Lightcast, Chmura Economics & Analytics, and LinkedIn.⁵³ However, they should proceed with caution and ensure that these data are representative of workers across all occupations and industries.⁵⁴

51 Escobari and Geismar, “Introducing the Mobility Pathways Tool for Workers, Employers, and Policymakers,” 2020.

52 The Burning Glass Institute popularized the term “launchpad jobs” in a 2024 report by the same name. Eddy et al., *Launchpad Jobs*, 2024. The Georgetown University Center on Education and the Workforce has similarly investigated “springboard occupations” for middle-skills workers. McLeod et al., *Springboards to Opportunity*, 2026.

53 Lightcast, “Job Posting Analytics,” 2025; Chmura Economics & Analytics, “Make Better Labor Market Decisions with JobsEQ,” n.d.; and LinkedIn, “Workforce Data and Research,” n.d.

54 Considerations related to online job postings data include limitations in coverage, representation by industry and region, substantial missingness of certain data fields (such as education and experience requirements), duplication, and alignment with official data sources. Tsvetkova et al., “How Well Do Online Job Postings Match National Sources in Large English Speaking Countries?,” 2024.

Individual Nonmonetary Benefits

Dimension of value: Individual nonmonetary benefits		
Major metrics and components	Data sources	Considerations and recommendations
During program enrollment: » access to extracurricular activities and support services » access to social networks » college amenities Long-term: » health » self-esteem » social capital » happiness » well-being	American Community Survey (ACS) Current Population Survey (CPS) Alumni surveys State data sources	Apply findings from literature and surveys on differences by education level to the educational distribution of state residents

Postsecondary education provides individuals with a variety of nonmonetary benefits. During enrollment, individuals benefit from self-improvement and enjoyment of learning, **access to extracurricular activities and student support services**, and **access to social networks**. In fact, **college amenities** that enhance the student experience—such as recreational and cultural facilities, food, transportation, and auxiliary technologies—have played a growing role in student enrollment, willingness to pay, and institutional investment decision-making in recent years.⁵⁵

In the longer term, individuals with higher educational attainment have better **health**, including *lower mortality rates, higher life expectancy, and greater engagement in healthy behaviors*, as well as increased **self-esteem, higher social capital, and higher levels of happiness and well-being**.⁵⁶

Whether there is a causal link between education and these nonmonetary benefits is not always clear-cut. While higher earnings often contribute to better nonmonetary outcomes like *extended life expectancy* and higher levels of *well-being*, education is thought to have a direct influence on these outcomes as well.⁵⁷ For example, recent research on higher education and *happiness* has identified three distinct pathways through which higher education affects happiness—directly, via increased income, and via occupation—with different pathways being more prominent in different historical periods.⁵⁸

55 McClure, “Examining the ‘Amenities Arms Race’ in Higher Education,” 2019; and Mughan et al., “Build It and Will They Come?,” 2022.

56 For examples, see Trostel, *It’s Not Just the Money*, 2015; Heckman et al., “The Nonmarket Benefits of Education and Ability,” 2018; Heckman et al., “Returns to Education,” 2018; Hummer and Hernandez, “The Effect of Educational Attainment on Adult Mortality in the United States,” 2013; Oreopoulos and Salvanes, “Priceless,” 2011; Carnevale et al., *Learning and Earning by Degrees*, 2024; and Carnevale et al., *The Cost of Economic and Racial Injustice in Postsecondary Education*, 2021.

57 Heckman et al., “The Nonmarket Benefits of Education and Ability,” 2018.

58 Araki and Li, “The Shifting Happiness Return to Higher Education over 50 Years,” 2026.

Earnings don't cover the full scope of value individuals receive from their education. Accounting for nonmonetary benefits to the extent feasible will help ensure that states make adequate investments in postsecondary education and training. Policymakers can apply findings from the literature and analysis of national surveys and alumni surveys, along with available estimates of the share of their state population with different levels of postsecondary education attainment, to approximate the potential nonmonetary benefits enjoyed by their residents with postsecondary education. They should then consider this value when making decisions regarding levels of public investment in postsecondary education and training.⁵⁹

Societal Benefits for the States

Wider economic and societal benefits are part of the justification for state investments in education. State policymakers should consider these public benefits in relation to the public costs, including through state appropriations for public institutions and state financial aid grants for students. The societal benefits of postsecondary education and training also include nonmonetary public and civic benefits, such as a more informed populace, improved public health, lower crime rates, and a greater propensity among those with postsecondary education to vote, volunteer, donate to charity, and engage with their communities.⁶⁰

An important consideration for societal benefits to the state is that graduates of the state's educational system need to live or work in the state for the state to reap these benefits. If the state regularly "exports" those educated in the state more than it "imports" educated workers from other states, it will not reap these benefits to their full potential. States can use data from the US Census Bureau's ACS to examine the mobility in and out of the state by education level and consider including adjustments in future models to distinguish between benefits from graduates who stay in state and those who move out of state, as well as those who migrate in from other states. State policymakers who find that their state is experiencing a "brain drain" of educated workers should examine what drives educated individuals to leave the state.

59 State policymakers need to consider which nonmonetary benefits to emphasize based on the interests and policy landscape in their state.

60 Trostel, *It's Not Just the Money*, 2015; Heckman et al., "The Nonmarket Benefits of Education and Ability," 2018; Baum and Ma, *Education Pays 2007*, 2007; Savage and Norton, *Non-Financial Benefits of Higher Education*, 2012; Carnevale et al., *Learning and Earning by Degrees*, 2024; and Carnevale et al., *The Cost of Economic and Racial Injustice in Postsecondary Education*, 2021.

Broad Economic Benefits and Costs to the State

Dimension of value: Broad economic benefits and costs to the state		
Major metrics and components	Data sources	Considerations and recommendations
Public economic benefits (including higher tax revenue, consumption spillovers, productivity spillovers, and less reliance on public supports), minus costs of state investments in postsecondary education (including appropriations, grants and scholarships, infrastructure investment, tax expenditures, and workforce development support)	State tax rates State budget outlays American Community Survey (ACS) Current Population Survey Annual Social and Economic Supplement (CPS-ASEC) Survey of Income and Program Participation (SIPP) State consumer spending State gross domestic product (GDP)	Estimate costs and benefits to the state annually Use a conservative multiplier of 1.1 to estimate consumption spillovers Use tools such as IMPLAN in consultation with state economic and workforce development professionals to conduct long-term cost-benefit analysis

Having a population with higher levels of education conveys multiple economic benefits that extend beyond students and graduates, which helps justify the investments that states make in postsecondary education. Policymakers should evaluate both the costs and the broad economic benefits on an annual basis when examining public returns on the state’s investment in postsecondary education and training.

Public Economic Benefits for the State

The **public economic benefits** associated with higher levels of postsecondary education and training include the following:

- *higher tax revenue*
- *consumption spillovers* from additional spending (the multiplier effect)
- *productivity spillovers* (for example, higher productivity due to informal learning on-the-job by colleagues of workers with postsecondary education and training; development of more innovative and effective methods and processes)
- *less reliance on public supports* (such as Medicaid and SNAP—the federal Supplemental Nutritional Assistance Program) among residents with postsecondary education and training

We recommend that state policymakers and analysts consider these public economic benefits through an annual frame so they can compare them to annual state investments in postsecondary education and training.⁶¹

61 Note that these public economic benefits do not include the subsidiary benefits of postsecondary institutions as major employers.

To estimate the additional *state and local tax revenue* associated with having a more educated populace, state policy analysts can apply the state and local tax rates, based on state tax records or marginal tax rates by income brackets, to the average earnings at each postsecondary education level (some college, associate's degree, bachelor's degree, master's degree, doctoral degree, and professional degree). They can then estimate the average taxes paid by workers with a high school diploma in the same fashion.

To estimate the *total additional contribution of workers with postsecondary education* to state and local tax revenue, policy analysts should take the difference between the average annual taxes paid by workers at each postsecondary education level and the average for workers with a high school diploma in the state, and multiply that difference by the number of workers with the relevant postsecondary education level in the state. They should then sum the *aggregate additional tax revenue paid by workers with each education level* to calculate the *aggregate annual tax benefit* from having workers with postsecondary education.

To calculate the contributions of credentials at each postsecondary education attainment level, policy analysts should calculate the *average difference in tax revenue* paid relative to the next lowest attainment level, rather than relative to the average state and local taxes paid by workers with a high school diploma. For simplicity, they can compare *the state and local taxes paid by workers with undergraduate credentials or some college* to the *taxes paid by workers with high school diplomas only*, and the *taxes paid by workers with graduate credentials* to the *taxes paid by workers with bachelor's degrees*. They can then multiply these average differences by the *number of workers with credentials* at each education level.

The one attainment category that needs to be treated slightly differently is bachelor's degrees. For bachelor's degrees, the average difference in tax revenues between workers with bachelor's degrees and those with high school diplomas should be multiplied by the *total number of workers with bachelor's degrees or higher* (including those with graduate degrees).⁶² This distinction is necessary to capture the tax revenue benefits of all bachelor's degree completers, including those who later attain a graduate degree.

Higher educational attainment also helps boost consumer spending due to higher incomes among consumers with postsecondary education. This increased spending benefits the state's businesses and workers, who then spend additional income on other goods and services. Economists refer to the resulting economic effects as *consumption spillovers* and approximate their value using a *multiplier*. As a starting point, state policy analysts can use a conservative *multiplier of 1.1*, which implies an extra 10 cents of economic activity for every dollar earned in the economy,⁶³ and can apply this multiplier to the additional income at each education level relative to the lower education level.

62 Gulish et al., *Graduate Degrees*, 2024.

63 This multiplier suggestion is based on Fisher et al., "Estimating the Marginal Propensity to Consume Using the Distributions of Income, Consumption and Wealth," 2020.

In addition, states reap the economic benefits of *consumption by students, faculty, and staff* in and around the communities where colleges and universities are located, as well as the *broader economic activity generated by colleges and universities*.⁶⁴ Out-of-state and international students who attend college in person spend money in and around the campus, bringing *additional consumer spending* to the state. In addition, colleges and universities purchase various goods and services in their local communities to support their operations, further benefiting the state and local economy. Many benefits to local economies of institutional, student, and visitor spending can be captured and analyzed using the IMPLAN tool, an industry impact analysis platform commonly used by state economic and workforce planners as well as institutions.⁶⁵

States with more educated workers also benefit from higher *productivity spillovers* resulting from informal knowledge sharing, on-the-job training, and mentoring that workers offer their colleagues. The impact of these spillovers extends to other businesses that experience secondary benefits from these effects. These spillovers have been shown to be higher for workers with postsecondary education. As a conservative starting point to estimate the gains associated with higher productivity spillovers, states can *assume a 0.5 percent annual boost in local economic output* (which can be applied to state GDP for simplicity) for every 1 percent increase in the share of workers with a bachelor's degree or higher in the state.⁶⁶

Moreover, states benefit from higher levels of postsecondary education and training among their residents through *lower spending on public services programs*, including in the areas of healthcare (Medicaid), food (free and reduced school meals for children, SNAP, and WIC—the Special Supplemental Nutrition Program for Women, Infants, and Children), subsidized housing, and any applicable state tax credits.⁶⁷ Trostel (2015) estimates that the value of the lifetime public assistance provided to individuals with bachelor's degrees (\$14,480) is less than half of the value of public assistance provided to individuals with associate's degrees (\$31,803) or some college education (\$38,617) and less than one-third of the public assistance provided to individuals with a high school diploma alone (\$54,155).⁶⁸

64 In particular, certain colleges and universities serve as anchor institutions for their geographic communities, acting as catalysts for economic, urban, and community development and associated public and private investments. Netter Center for Community Partnerships, *Anchor Institutions Toolkit*, 2008.

65 While the specifics of IMPLAN calculations and the use of the IMPLAN tool are outside the scope of this report, for guidance on the usage of the tool and an example of what may be included in such analysis, see Clouse, "College: Analyzing a Public College using Industry Impact Analysis (Detailed)," 2021.

66 Based on findings in Moretti, "Workers' Education, Spillovers, and Productivity," 2004.

67 For example, Ma and Pender show that adults with a bachelor's degree or higher were approximately one-third as likely as adults with a high school diploma (11 percent vs. 30 percent) to live in a household that participated in Medicaid, one-fifth as likely to live in a household that received housing assistance (1 percent vs. 5 percent), and nearly one-fifth as likely to live in a household that received SNAP benefits (3 percent vs. 14 percent). Ma and Pender, *Education Pays 2023*, 2023. Also see Carnevale et al., *The Cost of Economic and Racial Injustice in Postsecondary Education*, 2021.

68 Trostel includes the following six types of programs within "public assistance": Medicaid, Supplemental Nutritional Assistance Program (SNAP), school lunches for children, cash assistance, housing subsidies, and energy subsidies. Trostel, *It's Not Just the Money*, 2015.

Both Ma and Pender (2023) and Trostel used data from the US Census Bureau and US Bureau of Labor Statistics' Current Population Survey Annual Social and Economic Supplement (CPS-ASEC). This survey contains data that are representative at the state level and thus offers state policymakers and analysts a good starting point to estimate how much their states save in expenditures on public services by having higher levels of postsecondary attainment. Another data source state policymakers and analysts can consult on utilization of public services and supports is the US Census Bureau's Survey of Income and Program Participation (SIPP). In addition, states with an advanced SLDS can get better estimates by connecting their SLDS with administrative data on state public services programs and tax records. This approach will help each state customize estimates to their own state's public services programs, income eligibility thresholds, and income-restricted tax credits that may be provided to workers.

Costs of State Investments in Postsecondary Education and Training

On the other side of the ledger, states make significant investments in postsecondary education and training. Analysts need to subtract out the **costs of state investments in postsecondary education** to estimate the net **broad economic benefits to the state**. These state investments include the following:

- *appropriations* for public higher education institutions
- expenditures for *grants and scholarships*
- college *infrastructure investments*
- *tax expenditures* for postsecondary education and training
- expenditures on *workforce development* and training programs

The most direct way in which states invest in postsecondary education and training is through *state appropriations* for public colleges and universities. In fiscal year 2024, states spent around \$109 billion dollars (approximately \$10,469 per FTE student) to support general operations at public colleges and universities.⁶⁹ States also fund need-based and merit-based *grants and scholarships* that go directly to students. In fiscal year 2024, states spent another estimated \$15 billion on financial aid to students.⁷⁰ Some states have separate *funds for infrastructure projects at public colleges and universities*.⁷¹

States also often offer students tax benefits related to postsecondary education and training, including deductions or credits on tuition and fees, as well as student loan interest payments,⁷² and education

69 State Higher Education Executive Officers Association (SHEEO), *State Higher Education Finance (SHEF): FY 2024, 2025*.

70 This estimate is based on \$12 billion in expenditures for FY2024, constituting 80.8 percent of total state expenditures on financial aid. State Higher Education Executive Officers Association (SHEEO), *State Higher Education Finance (SHEF): FY 2024, 2025*.

71 For example, the Higher Education Capital Matching Grant Program (HECap) in New York provides grants to colleges and universities, including private nonprofit institutions, to support construction and renovation projects and investments in equipment and instructional technologies, with recipients being required to spend three dollars for every dollar provided by the state. New York State Governor's Office, "Governor Hochul Announces \$38 Million in Funding to Support Critical Infrastructure Improvements at New York Colleges and Universities," 2024.

72 Some states that operate student loan programs may see positive margins from those programs that would offset some of the tax expenditures related to student loan interest payments.

savings.⁷³ States should include these *tax expenditures* in their calculations.

Additionally, states spend *funds on workforce development and training programs*. These generally include programs that fall under the Workforce Innovation and Opportunity Act (WIOA),⁷⁴ career and technical education (CTE) programs,⁷⁵ and apprenticeships (including youth apprenticeships),⁷⁶ along with any other smaller training programs that are supported by the state. States should also include these expenditures in their calculations.

State budgets likely have the most precise and up-to-date information on all these state expenditures. State policymakers should turn to state workforce development offices that have the capability to use input/output tools, such as IMPLAN, to conduct long-term cost-benefit analysis and project the returns associated with state investments in postsecondary education and training.

Qualified Talent That Meets Employer Demand

Dimension of value: Qualified talent that meets employer demand		
Major metrics and components	Data sources	Considerations and recommendations
Credential production	Statewide longitudinal data systems (SLDS)	The CIP–SOC Crosswalk offers a starting point for connecting occupations to fields of study, but has significant limitations
Projections of job demand (by industry, occupation, and education)	American Community Survey (ACS)	
In-field employment	Integrated Postsecondary Education Data System (IPEDS)	
	Job postings data (from National Labor Exchange and vendors such as Lightcast, Chmura Economics & Analytics, and LinkedIn)	

Postsecondary education and training also contribute to each state’s economy by preparing a skilled workforce whose capabilities align with employer demand. Having a skilled workforce makes the state more attractive to employers seeking qualified talent with specific skill sets, thereby making the state more competitive in attracting and retaining businesses.

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For more on state income tax deductions and credits, see Davis, *Higher Education Income Tax Deduction and Credits in the States*, 2016.

74

For examples of how states augment federal WIOA funding, see Mikelson, “How Three States Are Supplementing Federal Funds for Workforce Development,” 2018.

75

For more on postsecondary CTE and examples of state funding and policy approaches to it, see National Conference of State Legislatures (NCSL), *Postsecondary CTE*, 2022.

76

For examples of different funding strategies in support of apprenticeships pursued by various states, see Arabandi and Haisma, *Strategic Investments to Advance Apprenticeships in the US*, 2025.

To truly maximize the value of postsecondary education and training to employers, state policymakers need to ensure that credentials produced by the state's postsecondary education and training programs align with employer demand. Currently, this is not the case in many places across the country. A 2024 Georgetown University Center on Education and the Workforce report, *The Great Misalignment*, found that in half of US labor markets, at least 50 percent of middle-skills credential production would need to shift to different fields to meet projected labor-market demand.⁷⁷

To ensure that **credential production** aligns with expected employer demand, state policymakers and analysts should start by examining **projections of job demand by industry**,⁷⁸ **occupation**, and **educational attainment** at the state level.⁷⁹ If such projections are not already available from the state's Department of Labor or another source, state policymakers should consider commissioning them.

After estimating the *occupational demand by education level*, state policymakers and analysts need to compare these calculations with the *number of credentials currently produced*. This comparison will allow them to identify shortfalls in educational supply relative to workforce demand. To determine the number of credentials produced in the state by level and field of study, state policy analysts can consult their state's postsecondary student unit record system (PSURS) or IPEDS. Currently states can use the CIP–SOC crosswalk developed by the Bureau of Labor Statistics at the US Department of Labor and the National Center for Education Statistics (NCES) at the US Department of Education to map field to occupation.⁸⁰

In addition, for assessing supply/demand alignment for workers with bachelor's degrees, state policy analysts can use state-level data from the American Community Survey (ACS) to compare the occupations in which workers are employed and the fields of study in which they majored for their bachelor's degree studies. This analysis will help state policymakers better understand the relationship between employer demand in specific occupations and fields of study in their states, including the prevalence of **in-field employment**. Unfortunately, these data are currently only available for fields of study at the bachelor's degree level, not the sub-baccalaureate or graduate education levels. They are also a lagging indicator, which can limit their usefulness in rapidly changing labor markets. State policy analysts can experiment with using job postings data to examine whether employers seek workers with specific fields of study for specific occupations.⁸¹

77 Strohl et al., *The Great Misalignment*, 2024.

78 Industry is an important component to include because it aligns with sectoral policy and helps facilitate communication with employers and industry groups.

79 If available, policymakers and analysts should also use job projections at the regional and sub-state levels.

80 The CIP–SOC crosswalk connects the National Center for Education Statistics' (NCES) Classification of Instructional Programs (CIP) categories and the US Bureau of Labor Statistics' (BLS) Standard Occupational Classification (SOC) categories. This crosswalk has limitations in that it captures only the theoretical connections between programs of study and occupations. In practice, students with the same major enter a variety of different occupations, and the same occupation can attract students from a variety of majors. US Department of Education, National Center for Education Statistics (NCES), "CIP SOC Crosswalk," 2020.

81 Potential sources of job postings data include National Labor Exchange (NLx), Lightcast, and Chmura Economics & Analytics.

Civic and Social Benefits

Dimension of value: Civic and social benefits		
Major metrics and components	Data sources	Considerations and recommendations
Civic engagement Public health Philanthropy and volunteerism Lower crime and incarceration rates Greater trust and cohesion within communities	Current Population Survey (CPS) supplements on Civic Engagement and Volunteering and on Voting and Registration General Social Survey (GSS) Baccalaureate and Beyond (B&B) Longitudinal Study National Survey of Student Engagement (NSSE) Civic Engagement Topical Module Gallup and Pew Research Center surveys State data sources	Apply findings from literature and analysis of surveys with regard to differences by education level to education distribution of state residents

Postsecondary education has a number of civic and social benefits, including the following:

- a more engaged and informed populace (higher **civic engagement**)
- improved **public health**
- higher levels of **philanthropy and volunteerism**
- **lower crime and incarceration rates**
- **greater trust** among members of the community
- greater engagement and **cohesion** within communities⁸²

Colleges and universities also conduct essential research and contribute to knowledge dissemination. In addition, they contribute to the cultural and social fabric of their local communities, whether by hosting art exhibitions or sporting events or by enabling people to train for jobs that give pride to their community. These nonmonetary outcomes can be difficult to measure, but they should not be overlooked.

82 Heckman et al., “The Nonmarket Benefits of Education and Ability,” 2018; Vila, “The Outcomes of Investment in Education and People’s Well-Being,” 2005; Trostel, *It’s Not Just the Money*, 2015; Owens, *A Review of the Social and Non-Market Returns to Education*, 2004; Wolfe and Haveman, “Social Nonmarket Benefits from Education in an Advanced Economy,” 2002; Lochner, “Nonproduction Benefits of Education,” 2011; and Dee, “Are There Civic Returns to Education?,” 2004.

Several national surveys—including the Civic and Volunteering and the Voting and Registration Supplements of the CPS,⁸³ the University of Chicago National Opinion Research Center’s General Social Survey (GSS), and the 2016/20 Baccalaureate and Beyond Longitudinal Study (B&B:16/20)⁸⁴—collect data on civic attitudes, engagement, and educational attainment. They track activities such as philanthropy and volunteering, voting, and community involvement, offering insights into links between postsecondary education and civic outcomes.⁸⁵ To more fully assess these effects, state policymakers should explore connecting their SLDS with administrative data on health, crime, incarceration, and voting in a privacy-protected way, enabling comparisons of these outcomes by educational credential attainment.

The civic and social benefits of postsecondary education and training are generally nonmonetary, but they can sometimes be monetized for the purpose of better communicating the full scope of the value of postsecondary education and training. Consider, for example, public health expenditures and incarceration expenditures.⁸⁶ Policy analysts can estimate the public health expenditures per person for adults with different levels of educational attainment at the national level using data from the Agency for Healthcare Research and Quality’s Medical Expenditures Panel Survey (MEPS). They can use these figures to estimate the ratios of expenditures of individuals with different levels of postsecondary education to those with high school diplomas. Policy analysts can then use their own state’s administrative data on public health expenditures per person and apply the ratios from national data to estimate public health expenditures by education level in their states. These approximations can in turn be used to estimate how much the state saves from having a population with more postsecondary education and training.

For incarceration expenditures, state policy analysts can apply the incarceration rates for each education level to the population at that education level and compare the results to the incarceration rates for high school graduates applied to each population level. For states that do not have the data necessary to estimate incarceration rates by education level, policy analysts can use data from the National Supplement Prison Study, 2013–14, from the US Program for the International Assessment of Adult Competencies (PIAAC Prison:14), to obtain approximations for these rates at the national level.⁸⁷ This calculation provides an estimate of how many fewer people are incarcerated due to lower incarceration rates among workers with postsecondary education and training. State policy analysts can then use their state’s administrative data on prison populations and prison expenditures

83 CPS supplements on Civic Engagement and Volunteering and on Voting and Registration can be used to produce state-level estimates.

84 Note that continued federal funding for longitudinal educational studies remains uncertain. In the future, states should seek to develop their own data resources, as these studies will increasingly become out-of-date.

85 Gallup and the Pew Research Center also conduct surveys that shed light on these topics. In addition, Indiana University’s National Survey of Student Engagement (NSSE) has a Civic Engagement Topical Module intended to assess the extent to which civic dimensions are incorporated into students’ educational experiences.

86 For example, see Carnevale et al., *The Monetary Value of Economic and Racial Justice in Postsecondary Education*, 2021.

87 For more on the relationship between educational attainment and incarceration, including incarceration rates by education level and race/ethnicity, see Carnevale et al., *The Monetary Value of Economic and Racial Justice in Postsecondary Education*, 2021.

to estimate the average cost per each incarcerated person in the state.⁸⁸ To estimate the total incarceration-related savings to the state generated by postsecondary education and training, state policy analysts would then need to multiply the cost per incarcerated person by the number of people who are not in prison due to *lower incarceration rates* among adults with postsecondary education and training.

Equity Considerations

Dimension of value: Equity considerations		
Major metrics and components	Data sources	Considerations and recommendations
Data disaggregation by » gender » race/ethnicity » socioeconomic background » geography (urban vs. rural and by region) » disability status Adequacy thresholds Gaps in » access » completion » economic returns Intergenerational economic mobility	Statewide longitudinal data systems (SLDS)/Postsecondary student unit record systems (PSURS) American Community Survey (ACS) Current Population Survey (CPS) Integrated Postsecondary Education Data System (IPEDS) National Postsecondary Student Aid Study (NPSAS) Intergenerational mobility data from Opportunity Insights	Explore privacy-protected ways to interconnect state tax records to SLDS data

When postsecondary education delivers on its promise of equal opportunity for all, it can help bolster social cohesion in a diverse democratic society. To evaluate equity and economic mobility at the state system level, we recommend that state policymakers and analysts employ the following approach.

First, to the extent feasible and applicable, collect enrollment, completion, cost, and earnings data disaggregated by the following:

- **gender**
- **race/ethnicity**

88 For example, in 2015, the cost per incarcerated person varied from \$14,780 in Alabama to \$69,355 in New York. Mai and Subramanian, *The Price of Prisons*, 2017.

- ***socioeconomic background***
- ***geography (urban vs. rural and by region)***
- ***disability status***

Then, use disaggregated outcomes data to

- compare outcomes for each group to specified ***adequacy thresholds*** within the state (based on thresholds that state policymakers expect every student enrolled in postsecondary education and training to meet);
- compare outcomes for different groups to identify ***gaps in access, completion, and economic returns***; and
- evaluate ***intergenerational economic mobility***, using data from Raj Chetty and Opportunity Insights⁸⁹ until states can develop their own capabilities to connect student and parent income data.

While the steps above will help state policymakers begin to understand how their states' education systems are performing in providing opportunities to all residents, the longer-term goal for states should be to develop independent and sustainable information systems that help them understand disparities in outcomes and economic mobility. To advance toward that goal, we recommend that state policymakers explore privacy-protected ways to interconnect their SLDS with state tax records.

Following the steps outlined above, state policymakers can assess and communicate about the value of the state's investments in postsecondary education and training. In the next section, we outline comparable steps for a second set of use cases: ensuring transparency and accountability at the institutional and program level to protect potential students from making bad investments in postsecondary programs.

⁸⁹ Chetty, a professor of economics at Harvard University, is director of Opportunity Insights, a nonpartisan, not-for-profit organization that seeks to translate insights from scientific research to policy change. Through their work with IRS tax data, Opportunity Insights maintains a number of datasets on economic mobility at the county/metro area, neighborhood, and postsecondary institution levels. Opportunity Insights, "Opportunity Insights," 2025.

PART 2

Establishing Transparency and Accountability

While the overall value of postsecondary education and training generally justifies the state's investments in the postsecondary system, not all credentials produce monetary value for students. State policymakers need to promote **transparency** and **accountability** among institutions and programs to ensure that all students have the best chances of benefiting from their investments. In this section of this report, we identify the aspects of institutional and program performance that state policymakers should monitor, recommend related metrics, and suggest additional considerations and improvements.⁹⁰

Transparency can serve as a softer approach to support informed decision-making by students and stakeholders.⁹¹ States can leverage user-friendly public dashboards, information portals, and other tools to help students make data-informed decisions about their education and career paths. High school and career counselors can help translate the data and metrics featured in these tools into actionable college and career-planning guidance for students and their families—tailored to students' individual needs, preferences, and profiles.

Accountability measures, on the other hand, create direct regulatory consequences for providers who do not meet established thresholds on outcomes metrics. On the accountability side, states can incorporate the dimensions and metrics presented into decisions about program approval, performance-based funding mechanisms, targeting of state financial aid, and program sunseting decisions.

Ideally, policymakers should use both transparency and accountability to establish minimum standards for state funding support, as well as to provide students and families the information they need to make major life decisions.

90 This discussion builds on the exploration of the transparency use case and the accountability and incentives use case identified in Engle et al., *Measuring Postsecondary Value*, 2026.

91 There is some evidence that transparency is effective in this regard. For example, a 2025 analysis by Preston Cooper argues that student enrollment shifted in response to information about the economic outcomes of various postsecondary education options that became available between 2010 and 2023. Cooper, *Learning with Their Feet*, 2025.

Monetary Returns – ROI

Dimension of value: Monetary returns – ROI		
Major metrics and components	Data sources	Considerations and recommendations
Institutional and program return on investment (ROI) » Total net cumulative earnings gains » Total net cumulative costs (net direct costs, opportunity costs, and interest on debt)	Statewide longitudinal data systems (SLDS)/Postsecondary student unit record systems (PSURS)	For the evaluation period, use 10 years post-exit or 15 years post-initial enrollment
	American Community Survey (ACS)	For noncompleters, use the last declared major at the time of exit for program assignment
	Current Population Survey (CPS)	
	Integrated Postsecondary Education Data System (IPEDS)	For the main analysis group, use former students, in the labor force, not enrolled
	College Scorecard	Living costs should be excluded
	National Postsecondary Student Aid Study (NPSAS)	Adjust net direct and opportunity costs by the percentage of full-time equivalent students Weight interest rate costs by share with loans and adjust for inflation

Postsecondary education and training providers promise access to better opportunities in return for students' investments of time and money. And while postsecondary education and training is a good bet on the whole, not every institution or program produces sufficient value for students.⁹² To protect students from predatory or ineffective programs, the federal government has implemented a number of accountability measures in recent years, including the earnings test in the 2025 One Big Beautiful Bill Act (OBBBA),⁹³ the 2023 Financial Value and Transparency and Gainful Employment (FVT/GE) regulations,⁹⁴ and the 2026 regulations that combined the accountability measures from OBBBA with a revamped version of the FVT/GE regulations.⁹⁵ But no existing federal regulation uses metrics that

92 Carnevale et al., *A First Try at ROI*, 2019; Carnevale et al., *ROI of Liberal Arts Colleges*, 2020; Carnevale et al., *Buyer Beware*, 2020; and Gulish et al., *Graduate Degrees*, 2024.

93 The "low earnings" standard that OBBBA requires programs to meet to maintain access to federal loan financing is based on the earnings of completers four years after graduation relative to the earnings of high school graduates in the state (or nationwide, if fewer than 50 percent of students are from the state) for undergraduate degree programs, and the earnings of bachelor's degree holders or bachelor's degree holders in the same field of study statewide or nationwide for graduate programs. An Act to Provide for Reconciliation Pursuant to Title II of H. Con. Res. 14, Pub. L. No. 119-21, 139 Stat. 72, 2025.

94 The 2023 FVT/GE regulations included an earnings test similar to the "low earnings" standard in the 2025 budget reconciliation bill (OBBBA), with the following differences: (1) the 2023 regulations used earnings three years after graduation, while the 2025 bill used earnings four years after graduation; (2) the 2023 regulations compared graduate program completers' earnings with the earnings of high school graduates in the state, while the 2025 bill compared graduate program completers' earnings with the earnings of bachelor's degree holders (or bachelor's degree holders in the same field of study, where available); and (3) the 2023 regulations included an additional debt-to-earnings test, which indicated that program completers' expected median debt payments should be less than either 8 percent of their total earnings or 20 percent of their discretionary earnings. US Department of Education, "Financial Value Transparency and Gainful Employment," 2023.

95 US Department of Education, "Accountability in Higher Education and Access Through Demand-Driven Workforce Pell," 2026.

completely capture the monetary returns to postsecondary education and training at the institutional and program levels.⁹⁶

To evaluate whether institutions and programs deliver monetary returns for students, we recommend that state policymakers and analysts use a **return on investment (ROI)** metric at the institution and program levels. ROI metrics can involve a variety of approaches and considerations.⁹⁷ In this section, we walk through different elements of ROI metrics and calculations, recommended specifications for these elements, relevant data sources, and further considerations and specifications. State policymakers should aim to examine **institutional and program ROI** separately.⁹⁸ In this section we will present the overall approach to ROI and point out the differences between institutional and program ROI calculations, where relevant.

Major Metrics and Calculations

ROI = Total net cumulative earnings gains (of formerly enrolled students) – Total net cumulative costs (to those students), where

Total net cumulative earnings gains (of formerly enrolled students) =

10 years post-exit or
15 years post-first enrollment

$$\sum_{n=1} \text{(Annual median earnings of former students – annual median earnings of workers at the lower attainment level)}$$

and

Total net cumulative costs = ((Annual direct costs for full-time students [net tuition and fees, books, equipment, and supplies] + Annual opportunity costs for full-time students [based on forgone earnings]) * % FTE enrollment [based on median credit load and full-time credit load] * Median time of enrollment) + Inflation-adjusted cumulative interest costs [based on federal and private student loans], where

Inflation-adjusted cumulative interest costs = Nominal cumulative interest costs – (X * Nominal cumulative interest costs), where

X = Annual inflation rate * Multiplier (based on amortization period)⁹⁹

⁹⁶ Around 40 percent of states also use some form of labor-market ROI outcomes metrics in their performance-based funding; to date, these have not been particularly effective in improving students' economic outcomes. Zahran et al., "The Impact of Workforce-Oriented Performance-Based Funding on Students' Return on Investment," 2025.

⁹⁷ See the second report in this series, *Measuring Postsecondary Value*, for more information on different existing approaches to ROI metrics.

⁹⁸ A separate institutional ROI is important to pick up noncompleters who never declare a major, as well as students in small programs for which data are not publicly released due to privacy considerations.

⁹⁹ The multiplier is a fixed constant that changes based on the amortization period: 4.58 for 10-year amortization, 5.37 for 15-year amortization, and 7.4 for 20-year amortization. These multipliers are calculated based on monthly amortization schedules for each amortization period.

Recommended Specifications

Annual median earnings of former students – based on the actual earnings of students who left the institution/program (including noncompleters), are in the labor force, and are not enrolled in any other postsecondary education or training program 10 years after institution/program exit or 15 years after first enrollment,¹⁰⁰ minus estimated taxes.

Annual median earnings of workers at the lower attainment level – for undergraduate degree and certificate programs and institutions where an undergraduate degree or certificate is the “predominant credential,” use the annual median post-tax earnings of unenrolled high school graduates, with age ranges that match the ages of former students (or ages 25–34, if specification is not possible) in the labor force, in the state or local region;¹⁰¹ for graduate programs, use the median post-tax earnings of workers with bachelor’s degrees in the same broad field of study in the state or local region.¹⁰²

Direct costs – include net tuition and fees, books, and supplies, with tuition and fees weighted by enrollment shares of in-district, in-state, and out-of-state students for public institutions; use program-level costs for program ROI, if available.

Opportunity costs – for forgone earnings, use the post-tax earnings of adults in the labor force,¹⁰³ not enrolled in postsecondary education, in the state with educational attainment that matches that of students when they first enroll in the institution or program and subtract out the earnings of enrolled students.¹⁰⁴ As a starting point, for undergraduate programs and institutions, use the median earnings of high school graduates ages 20–27;¹⁰⁵ for graduate programs, use the median earnings of bachelor’s degree holders in the same broad field of study, ages 25–37.¹⁰⁶

100 In some cases, states may have earnings data only on workers with positive earnings in unemployment insurance (UI) wage records. In those cases, we recommend that states use the share of workers employed within the labor force for the relevant education level to weight the median earnings of former students with positive earnings. Otherwise, for simplicity, states may choose to include only former students with positive earnings. For program ROI, measuring earnings at 15 years after first enrollment is not likely to be a viable option because many students do not declare a major or field of study when they first enroll and can change their field of study at a later date.

101 For more on determining the predominant credential for an institution, see Cheah et al., *Ranking 4,600 Colleges by ROI (2025)*, 2025.

102 For more on the impact of using local-level earnings vs. state-level earnings in ROI calculations, see Hillman et al., *Calculating the Return on Investment in Postsecondary Education*, 2025.

103 We recommend using the earnings of adults in the labor force (those who are working or actively looking for work) rather than the earnings of employed adults to account for the likelihood of unemployment.

104 While the approach to opportunity costs presented here will produce a reasonable estimate in most cases, policymakers and analysts in states with the requisite data capabilities may want to consider a number of enhancements, which we discuss in Part 3.

105 These ages align with the interquartile range of undergraduate students’ ages, based on Georgetown University Center on Education and the Workforce analysis of data from the US Department of Education, National Center for Education Statistics (NCES), National Postsecondary Student Aid Study (NPSAS): Undergraduate Students, 2020. For greater differentiation, state policymakers and analysts can use ages 19–26 for four-year institutions and ages 20–30 for two-year institutions, based on the respective interquartile ranges at these institutional types. State analysts should determine age groups based on the most specific data they have available in the following order of preference: individual institution, institutional sector in the state, institutional level in the state, overall state level, national level differentiated by institutional level, and national level overall.

106 These ages align with the 25th and 75th percentiles of age based on Georgetown University Center on Education and the Workforce analysis of data from the US Department of Education, National Center for Education Statistics (NCES), National Postsecondary Student Aid Study (NPSAS): Graduate Students, 2020. If states have more specific data on the ages of students enrolled in graduate programs in their state, they should substitute an age range from their data instead.

Percent of full-time equivalent (% FTE) enrollment – divide the median number of credit or clock hours for which students are enrolled by the number of credit or clock hours required for full-time status.

Median time of enrollment – based on median time to completion for completers and median time to last stop out or transfer to another institution or program for noncompleters. This serves as a multiplier for annual direct and opportunity costs to estimate cumulative direct and opportunity costs.

Cumulative interest costs – estimated interest paid on median student loan debt, weighted by the share of students who take on each type of student debt (public and private), with the interest rate discounted by the estimated inflation rate. This metric can be estimated using the procedure recommended in Part 1, pages 9–11, with the interest rate and amortization period based on the type of program for program ROI and predominant credential of the institution for institutional ROI.

Data Sources

States with an advanced SLDS should use data from individual records for earnings, costs, cumulative debt balances, and the education and age makeup of enrollees and exiters (both completers and noncompleters) for constructing counterfactual comparison groups. State policy analysts who do not have access to an advanced SLDS will need to rely on data from the US Department of Education’s College Scorecard for former students’ earnings.¹⁰⁷ The College Scorecard does not provide earnings for every year at the institutional level, but analysts can estimate and impute the missing years using the available data.¹⁰⁸ The comparison *annual median earnings of workers at the lower attainment level* can be obtained from the American Community Survey (ACS), including by broad field of study for workers with bachelor’s degrees (as a comparison group for graduate programs).

Tuition and fees, grant amounts, and costs of books and supplies are reported by institutions and available through IPEDS. If state policy analysts do not have such data by program of study, they can use institutional numbers as proxies. The earnings of unenrolled workers and the earnings of enrolled students at undergraduate and graduate levels, necessary to calculate *opportunity costs*, are also available from ACS.

If state policy analysts do not have data on median credits or clock hours for which students are enrolled in specific institutions in their states, they can use the credit hour and clock hour activity

¹⁰⁷ The College Scorecard provides data only for those who received federal financial aid, including completers and noncompleters at the institutional level and only completers at the program level. State policymakers who have an advanced SLDS should be as inclusive as their unemployment insurance (UI) wage records allow in terms of the types of earnings and the number of quarters they include in their calculations.

¹⁰⁸ At the institutional level, the College Scorecard provides earnings data at six years, eight years, and 10 years after first enrollment at the institution. At the program level, the College Scorecard currently provides annual earnings data up to five years after completion, which is expected to be extended to up to 10 years in the future. For more on the availability of earnings data in the College Scorecard and a process for estimating data for years that are not included, see Cheah et al., *Ranking 4,600 Colleges by ROI (2025)*, 2025.

variable from IPEDS (12-Month Enrollment Survey). IPEDS can also be used to estimate time to completion for completers at an institution, using the percent of adjusted cohort receiving an award at four, six, and eight years.¹⁰⁹ For noncompleters, as a proxy for time to exit, data from the Beginning Postsecondary Students Longitudinal Study (BPS) by different institutional sectors and types of undergraduate programs can be used.

The principal median federal student loan balances for Title IV borrowers are available from the College Scorecard. The share with federal student loan debt, private student loan debt, and the median amount of private student loan debt by institutional sector and type of program can be estimated from NPSAS data (using state-level data, where available).¹¹⁰

Further Considerations and Recommendations

One major consideration is the best point in time to evaluate ROI. As noted in Part 1, 40-year career-long returns are an appropriate measure to fully capture the benefits of postsecondary education and training at the state level. But 40 years is not a practical timeframe to use for the purposes of transparency and accountability. At a very fundamental level, state policymakers cannot wait for 40 years after students exit their studies to evaluate whether an institution or program has delivered monetary returns. With a 40-year evaluation timeframe, underperforming institutions and programs would continue to operate for decades. Moreover, the outcomes would depend on factors that likely changed dramatically over the 40-year period, such as the program's curriculum, the institutional leadership, and the economy. Hence, a shorter evaluation timeframe is necessary to effectively achieve policy objectives around ensuring that institutions and programs deliver economic returns.

On the other hand, evaluating ROI too soon after students leave an institution or program can lead to flawed conclusions about performance, with negative consequences for high-quality institutions and programs, including the potential elimination of viable options for students. It often takes time for students to fully integrate into the labor market, find a proper job match, and realize the benefits of their postsecondary education, particularly when they hold bachelor's degrees or graduate degrees.¹¹¹

Examining ROI at different points after students conclude their education can be informative and useful for transparency and ongoing program quality improvement efforts. For accountability purposes, however, we recommend that states pick a point in time by which institutions and programs must meet a defined regulatory threshold—either 10 years post-exit or 15 years post-initial enrollment, depending

¹⁰⁹ Another source of data on enrollment time that policymakers and analysts can consider is the National Student Clearinghouse.

¹¹⁰ The 2019–20 National Postsecondary Student Aid Study (NPSAS:20) was representative at the state level for all undergraduate students in 30 states, for public four-year institutions in 40 states, and for public two-year institutions in 34 states. US Department of Education, National Center for Education Statistics (NCES), National Postsecondary Student Aid Study (NPSAS): State Oversamples, 2026.

¹¹¹ Cohn, *How Do College Graduates' Earnings Change over Time?*, 2024; Deming, "Why Do Wages Grow Faster for Educated Workers?," 2023; and Mabel et al., "The Value of Using Early-Career Earnings Data in the College Scorecard to Guide College Choices," 2020.

on data availability. We recommend that this threshold be a breakeven point—a point at which a program of study’s cumulative earnings benefits are at least equal to its costs.

Multiple entities and states have already adopted 10- to 15-year benchmarks. For instance, the Postsecondary Value Commission (PVC) recommended 10 years after initial enrollment as the point by which students should attain earnings no less than those of high school graduates and earn enough to recoup the cost of their education.¹¹² Texas, which has established a regulatory definition of “credentials of value,” uses 10 years post-completion as the time by which a graduate should reach a breakeven point.¹¹³ Colorado uses 15 years after first enrollment as a breakeven point by which programs must meet a “minimum value threshold” (MVT).¹¹⁴ We think these are reasonable breakeven points that strike a necessary balance between allowing enough time to judiciously evaluate outcomes and ensuring that outcomes are practically actionable.

Which option to choose depends on the data available. If a state can identify when individuals exited a program (regardless of whether they completed it), analysts should use 10 years after the program or institution exit.¹¹⁵ If a state cannot identify the point of exit, then analysts can use 15 years after first enrollment at the institution.

Identifying enrollment at the program level can be challenging. Many institutions do not require undergraduate students to pick a major or field of study until later in their studies, and even if students do select a program of study, they can change it multiple times before exiting the institution. When state policy analysts cannot identify a program of study at the time of enrollment, 10 years post-completion is an appropriate breakeven point to use for program completers. For noncompleters, who can be included in the same cohort as completers if they exited in the same year and did not re-enroll (by 10 years after exit), state policy analysts can use the last declared major or field of study at the time of exit. For noncompleters who never declared a major, state policy analysts can use the median outcomes for all noncompleters at the institution.

Some states have individual-level student data from a postsecondary student unit record system (PSURS) that can be used to calculate individual-level ROI by program. These data can then be aggregated to the institution level for the purposes of privacy-protected public release. In cases where these data are not available, policy analysts will need to identify the “predominant credential” awarded at an institution and use specifications from that credential for institutional ROI calculations.

112 The PVC used 10 years after initial enrollment as an assessment point in their “Threshold 0,” representing a minimum expectation that students should at least be better off financially than if they had not enrolled in postsecondary education. Postsecondary Value Commission, *Equitable Value*, 2021.

113 Texas Higher Education Coordinating Board, “Ensuring Students Attain Credentials of Value,” 2025.

114 ESG, “Colorado Minimum Value Threshold Technical Documentation and Data FAQs,” n.d.

115 A longer-term follow-up period is more important for programs leading to jobs with lower starting earnings and steeper earnings growth. For example, some health professions require individuals to complete residencies and fellowships before becoming fully licensed independent practitioners, at which point they may experience a large earnings boost. Gulish et al., *Graduate Degrees*, 2024.

For estimates of earnings gains, we recommend using the earnings of all formerly enrolled students, rather than just completers, to better capture the full set of outcomes and avoid bias toward the outcomes of completers, which tend to be more favorable.¹¹⁶ States with substantial variation in earnings and cost of living by labor market may want to differentiate the comparison earnings used in earnings gains calculations by the local regions in which former students from the institution are employed, as the data allow.¹¹⁷ Also, for states with individual student unit record data, we recommend using each student's attainment level prior to enrolling in the institution/program to determine their counterfactual earnings and then averaging earnings gains across all undergraduate/graduate students in a cohort in the institution/program. The age range for the counterfactual group used to estimate earnings gains should roughly match the ages of institution/program exiters at the year of comparison. As a starting point, state policy analysts can use ages 25–34 in data from the American Community Survey (ACS), consistent with the age range used in the accountability standards in the 2025 One Big Beautiful Bill Act (OBBBA).¹¹⁸ However, to account for the share of an institution's enrollments that are nontraditional-age students, we recommend obtaining the age ranges for each cohort at the institution or the aggregate cohort age ranges from individual student unit records. When that is not realistic, we recommend grouping institutions by sector or other characteristics that are likely to capture differences in the ages of enrolled students, then selecting the age of the counterfactual group accordingly.¹¹⁹ For example, community and technical colleges in the state may enroll more older students than traditional four-year colleges.

The *annual median earnings of workers with the lower attainment level* should be subtracted from the *annual median earnings of former students* over the selected time period.¹²⁰ The calculations should include both completers and noncompleters to ensure that the ROI metric implicitly reflects not just how well completers are doing, but also how likely students are to complete their credential and how well noncompleters do in the labor market.

One complication affecting this approach is the difficulty of identifying noncompleters. Some states may be able to identify a student's enrollment cohort but not their exit cohort. While the exit point is typically straightforward for completers, it is not so clearcut for noncompleters, as students may stop out at various points and continue their studies at a later date. If state policymakers and analysts adopt a breakeven point at 10 years after exit from the institution, they can choose to include in the exit cohort any students who stopped out 10 years prior to the assessment year and have not re-enrolled in any postsecondary institution since.

116 Delisle and Cohn, *College Completion and Earnings*, 2024.

117 For more on the difference that using local-level earnings as opposed to state-level earnings makes in ROI calculations, see Hillman et al., *Calculating the Return on Investment in Postsecondary Education*, 2025.

118 An Act to Provide for Reconciliation Pursuant to Title II of H. Con. Res. 14, Pub. L. No. 119-21, 139 Stat. 72, 2025; and US Department of Education, "Accountability in Higher Education and Access Through Demand-Driven Workforce Pell," 2026.

119 IPEDS data on credentials conferred by age can also be a helpful source of information when selecting appropriate age ranges for counterfactual groups of workers.

120 As indicated on pages 33–34, we recommend summing these premiums over either the 10 years after exit from the institution or the 15 years after first enrollment in the institution.

On the cost side of the ROI equation, we recommend using net tuition and fees, books, and supplies for estimating *direct costs*.¹²¹ While published tuition and fees are major components of the “sticker prices” that garner significant media coverage due to their substantial long-term growth,¹²² they generally don’t represent what a majority of students actually pay.¹²³ Institutions often offer tuition discounts through grant aid, and students can obtain grants and scholarships from a variety of public and private sources. In order to account for grant funding, policy analysts and researchers need to subtract out all federal, state, local, institutional, and private grant aid from tuition and fees. The result represents an estimate of net tuition and fees that are covered by students. For example, in the 2022–23 academic year, the average published tuition and fees at public four-year colleges and universities were \$12,090, whereas the average net tuition and fees at these institutions were \$2,730.¹²⁴ The cost of books and supplies is also part of direct costs, as students generally bear those expenses in order to successfully complete their coursework. For program ROI, policy analysts need to use program-specific prices, when available, to capture differential tuition and fees by program in some institutions. We do not recommend including living costs, as those can vary widely depending on students’ living situations and would still be borne by students or their families if they did not enroll in postsecondary education.

For the *annual opportunity costs for full-time students*, state policy analysts should use the weighted education level of program entrants to determine the appropriate counterfactual earnings, if available. For graduate programs, if these data are not available, state policymakers and analysts should use the median earnings of bachelor’s degree holders in the same broad field of study in the labor force in the state, as that captures the higher earnings graduate students could command in the labor market relative to undergraduate students.

To get a rough estimate of how much students earn while enrolled, policy analysts can use the earnings of students of the same age group enrolled in college at the undergraduate or graduate level in the state. For a more rigorous estimate, state policymakers can collect data on work hours, hourly wages, or annual earnings of enrolled students from institutions, or use such data if they already have it.

To account for part-time students, the sum of *annual direct costs for full-time students* and *annual opportunity costs for full-time students* needs to be adjusted by multiplying it by the *share of full-time equivalent (% FTE) enrollment*. In states where information on median credit or clock hours

121 Some researchers and states include living costs in ROI calculations. We are not recommending including living costs in the ROI metric because both postsecondary students and those not enrolled in postsecondary education and training incur living costs. Whether these living costs are higher or lower than the counterfactual living costs students would incur if not enrolled varies widely.

122 The average total undergraduate tuition and fees at all institutions have roughly tripled from around \$5,000 in the 1970s and 1980s to around \$15,000 in recent years (in constant 2022–23 dollars), though they have been relatively stable over the past decade. US Department of Education, National Center for Education Statistics (NCES), *Digest of Education Statistics 2023*, Tables and Figures, Table 330.10, 2023.

123 Levine, “Ignore the Sticker Price,” 2024.

124 Ma et al., *Trends in College Pricing and Student Aid 2025*, 2025.

for which students are enrolled is not available, we recommend policymakers consider collecting this information, as it will offer insight into students' actual annual course loads.

Some states may not have data on when noncompleters exit the institution. As noted earlier, in part, this is because institutional exit is not well-defined, and we recommend that states with data available count institutional exit as either completion or stop out without re-enrollment at the institution through the *breakeven point*, 10 years after exit. For states that do not have individual student data on enrollment spells, we recommend collecting such data from institutions, disaggregated by program of study, gender, race/ethnicity, Pell recipient status, and disability status.

For transfer students, time of enrollment can be split among all relevant institutions/programs, with each institution/program assigned the portion of time students were enrolled in that institution for that institution's ROI metric. Note that this would only apply to students who transfer between institutions, including to estimate program ROI for programs at each institution. For students who transfer programs within an institution, all enrollment time and outcomes would count toward the last program where a student is enrolled.

The *cumulative interest on student loan debt* portion of ROI calculations is a more inexact estimate than other elements, but we still recommend including it to address the fact that many students have to borrow funds in order to pay for their postsecondary education.¹²⁵ While people finance the cost of their postsecondary education in many ways, student loans have become a major form of financing for college education.¹²⁶

In examining this dimension of students' costs, there are three factors that states should consider:

1. When calculating costs for the purposes of transparency and accountability, we advise against assuming that federal programs will reduce the cost of repayment for a state's students. Federal programs such as student loan forgiveness and income-based repayments are highly uncertain and should not influence institutional accountability.
2. Not all students take out federal or private student loans. Therefore, any analysis of the interest paid on student loans needs to be weighted by the share of students who take out student loans, calculated separately for federal and private loans, then summed together.
3. While students pay interest on student loans, they also benefit from the opportunity to pay in the future for the postsecondary education and training they receive in the present. Thus, the interest costs need to be discounted by the estimated rate of inflation.

¹²⁵ For more specific suggestions on the parameters and process to use in calculating cumulative interest on student loan debt, see pages 9–11.

¹²⁶ One benefit of including interest costs is that they can indirectly capture overly high room-and-board costs imposed by institutions.

Ability to Repay Student Loans

Dimension of value: Ability to repay student loans		
Major metrics and components	Data sources	Considerations and recommendations
Debt to earnings (DTE) » Annual student loan payments » Annual discretionary income (of student borrowers)	Statewide longitudinal data systems (SLDS)/Postsecondary student unit record systems (PSURS) Integrated Postsecondary Education Data System (IPEDS) College Scorecard Massachusetts Institute of Technology (MIT) Living Wage Calculator University of Washington (UW) Self-Sufficiency Standard	Use no more than 20 percent of discretionary income as the affordability threshold for student loan payments Use earnings of unenrolled student borrowers four years after program exit for debt-to-earnings metric calculation

While the US Department of Education dropped the debt-to-earnings metric in its Student Tuition and Transparency System (STATS) and Earnings Accountability rule,¹²⁷ state policymakers continue to have an interest in whether student loan payments place an excessive financial burden on student borrowers in their states. For students who borrow to attend an institution in the state, we recommend that states assess the ability to repay at the program level,¹²⁸ as the size of loans and duration of repayment can vary substantially by program, with graduate doctoral and professional programs involving higher loan amounts and longer repayment periods.

We suggest that states use a **debt-to-earnings (DTE)** metric, which is conceptually similar to one of the two metrics in the 2023 Financial Value Transparency and Gainful Employment (FVT/GE) regulations,¹²⁹ to assess whether student borrowers enrolled in specific programs can afford their loan payments.

Major Metrics and Calculations

Debt to Earnings (DTE) = Annual student loan payments / Annual discretionary income [of student borrowers]

127 US Department of Education, “Accountability in Higher Education and Access Through Demand-Driven Workforce Pell,” 2026.

128 For noncompleters, states may need to assess the ability to repay at the credential level within an institution if the specific program of study is unknown.

129 US Department of Education, “Financial Value Transparency and Gainful Employment,” 2023.

Recommended Specifications

Annual student loan payments – Estimate based on the median cumulative student loan debt (federal and non-federal, if data allow). Use the same amortization periods and interest rates based on credential level as recommended in Part 1, aggregate monetary returns, pages 10–11.

Annual discretionary income – Use the median annual earnings of student borrowers who are in the labor force and not enrolled in any other postsecondary education programs four years after program exit and subtract out the “sufficient earnings” for a single adult without children in the local area where the student borrower resides.¹³⁰ Base “sufficient earnings” on either the living wage from the MIT (Massachusetts Institute of Technology) Living Wage Calculator or the UW (University of Washington) Self-Sufficiency Standard.¹³¹

Data Sources

The data on median student loan debt by program can be obtained from the state’s postsecondary student unit record system (PSURS) and/or the College Scorecard.¹³² The data on earnings of graduates and/or former students can be obtained from the state’s unemployment insurance (UI) wage records connected to student records via statewide longitudinal data systems (SLDS) and/or the College Scorecard.

Further Considerations and Recommendations

We recommend that states establish the threshold for the ability to repay student loans as a loan repayment amount no greater than 20 percent of student borrowers’ *annual discretionary income*.¹³³ State policy analysts should estimate median *annual student loan payments* based on defined parameters rather than relying on borrowers’ actual payments, which vary under different repayment plans.¹³⁴

In alignment with the specifications used for the OBBBA earnings premium calculations,¹³⁵ we recommend using earnings of unenrolled student borrowers four years after program exit. The one major difference is that the OBBBA earnings premium test uses completers and, therefore, four years

¹³⁰ Some policies define discretionary income as income above the federal poverty level (FPL) or some percentage of the federal poverty level (e.g., 150 percent of FPL or 200 percent of FPL). We do not recommend that approach because it does not account for differences in the cost of living by state or local area.

¹³¹ Glasmeier and MIT, “Living Wage Calculator,” 2026; and University of Washington Center for Women’s Welfare, “Self-Sufficiency Standard,” 2023.

¹³² At the program level, the College Scorecard only provides data on completers’ cumulative federal student loans. If states want to include non-federal loans and noncompleters in this metric, they will need to use their own administrative data.

¹³³ This recommendation parallels the approach in the earlier FVT/GE regulations that have been superseded by the 2026 Student Tuition and Transparency System (STATS) and Earnings Accountability rule. US Department of Education, “Financial Value Transparency and Gainful Employment,” 2023; and US Department of Education, “Accountability in Higher Education and Access Through Demand-Driven Workforce Pell,” 2026.

¹³⁴ The purpose of using the debt-to-earnings metric for accountability is to ensure that programs do not leave borrowers with excessive debt burdens. While income-based repayment plans ease the financial burden on student borrowers, programs should still be held accountable when the federal government steps in to subsidize payments that borrowers cannot afford.

¹³⁵ An Act to Provide for Reconciliation Pursuant to Title II of H. Con. Res. 14, Pub. L. No. 119-21, 139 Stat. 72, 2025.

post-completion, whereas we recommend including noncompleters (hence, four years after program exit). This post-exit period is different than the one we recommend for ROI because the debt-to-earnings metric is intended to capture the affordability of federal student loan payments, not the full economic returns of the education program.

For “sufficient earnings” used in calculating student borrowers’ discretionary income, we recommend using either the living wage from the Massachusetts Institute of Technology (MIT) Living Wage Calculator or the University of Washington (UW) Self-Sufficiency Standard.¹³⁶ Both tools account for a variety of living expenses and adjust for differences in costs of living at the state and local levels.

Success Indicators

Dimension of value: Success indicators		
Major metrics and components	Data sources	Considerations and recommendations
Completion rates	Postsecondary student unit record systems (PSURS)	Use completion rates within 150 percent of normal time (typical time necessary for a full-time student to complete all credential requirements)
Rates of transfer to four-year institutions	Integrated Postsecondary Education Data System (IPEDS)	
Time to completion	National Student Clearinghouse data	It may not be feasible to assess program completion and time to completion for specific undergraduate degree programs
License and certification pass rates	Data from third-party credential providers and state agencies	Transfer is the responsibility of the whole system, including four-year colleges and universities
	Self-reported student data	

ROI and the ability to repay student loans are important high-level performance metrics. However, state policymakers should also use additional metrics to capture the broader value of postsecondary education.

First, as established in the first report of this series, *From Mann to Markets*, postsecondary education produces both monetary and nonmonetary outcomes. Instruments such as the Gallup Alumni Surveys capture some nonmonetary outcomes, including workplace engagement and various dimensions of well-being.¹³⁷ However, these surveys are not employed across a large enough number of providers to support systematic institutional and program assessment, nor

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Glasmeier and MIT, “Living Wage Calculator,” 2026; and University of Washington Center for Women’s Welfare, “Self-Sufficiency Standard,” 2023.

137

Gallup, “Measuring College and University Outcomes,” n.d.

across a sufficient number of students to support institution-level reporting.¹³⁸ Though robust metrics of nonmonetary outcomes at the institutional and program levels do not currently exist, the success indicators recommended below have meaningful implications for both monetary and nonmonetary outcomes.

Second, it takes a decade after students finish their studies to be able to properly assess ROI. Institutions and programs need more proximate feedback for transparency and continuous improvement, and success indicators are useful in this regard.

Completion Rates

The first success indicator that policymakers and analysts may want to consider is **completion rates**. While program completion does not by itself mean that students derive value from their studies, completers tend to have better monetary outcomes than noncompleters.¹³⁹ Research points to a similar correlation between educational attainment and nonmonetary benefits.¹⁴⁰ Among student loan borrowers, noncompletion is also associated with lower levels of financial well-being, lower home ownership rates, higher likelihood of receiving SNAP benefits, and higher rates of regret regarding one's postsecondary education decisions.¹⁴¹ Further, postsecondary education providers themselves often set completion as an objective indicator of success.

Completion rates for undergraduate students, in particular within 150 percent of normal time and at four-, six-, and eight-year increments at the institution level, are available from IPEDS. However, IPEDS doesn't include part-time and transfer students in some of its metrics. Thus, we strongly recommend that states use their own administrative data for these students. For graduate and professional degree programs and certificate programs, we recommend calculating completion rates based on completion within 150 percent of normal time (typical time necessary for a full-time student to complete all requirements for the credential they are pursuing) as derived from individual- or institution-level administrative data.¹⁴²

Transfer Rates

Many students who enroll in two-year colleges intend to transfer and complete their bachelor's degrees at four-year institutions. Hence, for these institutions, transfer to four-year institutions is an important

138 The exception is institutions that partner with Gallup to survey their alumni and compare those results to Gallup's nationally representative sample.

139 Carnevale et al., *The College Payoff*, 2021.

140 Heckman et al., "The Nonmarket Benefits of Education and Ability," 2018; Hummer and Hernandez, "The Effect of Educational Attainment on Adult Mortality in the United States," 2013; and Trostel, *It's Not Just the Money*, 2015.

141 Lockwood and Webber, "Non-Completion, Student Debt, and Financial Well-Being," 2023.

142 We do not currently recommend that policymakers measure completion rates at the program level for undergraduate degrees because students select their majors at different times and may change their majors during enrollment.

indicator of student success. Transfer rates are particularly important for general education associate's degree programs whose graduates may not have sufficient occupation-specific skills to be competitive in the labor market without additional credentials.¹⁴³ Transfer-out rates for cohorts of first-time, full-time students are available from IPEDS at the institution level, but these do not differentiate among transfer to four-year, two-year, or less-than-two-year institutions. The National Student Clearinghouse is another data source capturing transfers between institutions.

States with an advanced SLDS can use their own data to calculate **rates of transfer to four-year institutions**, potentially supplemented with National Student Clearinghouse data to capture transfer to private or out-of-state institutions. As possible, we suggest that states use these data to assess transfer rates at the program level. Policymakers in states without such data should strongly consider either implementing an advanced SLDS or collecting this information administratively from public institutions in their state.

While transfer out to a four-year institution is a success indicator for two-year colleges, it relies on successful transfer in to another institution. State policymakers therefore should not hold community colleges solely responsible for successful transfer, but instead should adopt policies that encourage cross-institutional collaboration.¹⁴⁴ Institutions and systems should strive to make transfer as smooth as possible, whether students engage in horizontal (four-year to four-year institution or two-year to two-year institution), vertical (two-year institution to four-year institution), or reverse (four-year to two-year institution) transfer.

Time to Completion

Time to completion is another important measure of success. The longer it takes students to complete their credentials, the less efficient and more costly their studies are. States without postsecondary student unit record systems (PSURS) can use IPEDS data on completions of degree- and certificate-seeking students at four, six, and eight years to estimate the typical time to completion at an institution.¹⁴⁵

We also recommend that state policy analysts examine enrollment patterns (full time vs. part time) to distinguish among students who take longer to complete a credential because they choose to enroll part-time and students who take longer to complete due to course failures or inefficiencies

143 Strohl et al., *The Great Misalignment*, 2024.

144 The Community College Research Center (CCRC) and the Aspen Institute College Excellence Program's *Tracking Transfer* reports and dashboard, which use data from the National Student Clearinghouse, are useful sources on transfer outcomes for both community colleges and four-year colleges. Velasco et al., "Tracking Transfer," 2024.

145 For more on time-to-completion estimates, see the Postsecondary Value Commission, "Exploring Equitable Postsecondary Value at the University of Texas System," 2021. Note that IPEDS data on completion at four, six, and eight years do not include part-time and transfer students and are not available for certificate-only institutions.

in program administration.¹⁴⁶ However, longer time to completion for part-time students should not be excluded from evaluation. While some students enroll part time for personal reasons, others may do so because of inadequate financial supports or a lack of sufficient course offerings to support full-time enrollment. If data allow, state policymakers may want to examine *time to completion* by type of credential (certificate, associate's degree, bachelor's degree, master's degree, doctoral degree, or professional degree) within each institution.¹⁴⁷

License and Certification Pass Rates

Another success indicator gaining traction in the states is ***license and certification pass rates*** for programs that embed certification preparation in their curricula or prepare students to take licensure exams.¹⁴⁸ To the extent feasible, we recommend that state policymakers attempt to track license and certification pass rates for relevant programs.¹⁴⁹

While license and certification pass rates are important, these rates are not always readily available. Some programs have to report licensure exam completion data to regulators or accreditors,¹⁵⁰ making access relatively straightforward, but others don't have such requirements. While states can generally link data on state-issued licenses and certifications to programs of study, they typically lack access to such information for certifications from third-party professional organizations.

To get a sense of license and certificate pass rates, state policy analysts can use self-reported student data collected through colleges or training providers and sometimes from credential issuers.¹⁵¹ This self-reported data may be limited, as students may no longer be connected to providers when they receive their credential and therefore may not report the credential to the provider. While self-reported data may currently be the most feasible option, state policymakers may want to explore ways to obtain or verify certification data directly from credentialing organizations.¹⁵²

The dimensions, metrics, and considerations we presented in this part of the report form a basis for state transparency and accountability efforts. In Part 3 of this report, we discuss exploratory

146 States that do not have student unit record data, but that collect the institutional administrative data necessary to estimate time to completion, should use those administrative data.

147 As with completion rates, we do not currently recommend that state policymakers and analysts measure time to completion at the program level for undergraduate degrees.

148 Peterson et al., *A Snapshot of State Practices and Plans for Collecting Industry and Certification Data*, 2024.

149 A number of states, including Tennessee, North Carolina, and South Carolina, already include licensure exam pass rates either in their performance-based funding or in other outcomes assessments for community colleges. Tennessee Higher Education Commission, *2025 Outcomes-Based Funding Formula Review*, 2025; North Carolina State Board of Community Colleges, *FY 2024–25 State Aid Allocations and Budget Policies*, 2024; and South Carolina State Board for Technical and Comprehensive Education, *2025 Annual Accountability Report*, 2025.

150 US Department of Education, "Financial Responsibility, Administrative Capability, Certification Procedures, Ability to Benefit (ATB)," 2023.

151 Peterson et al., *A Snapshot of State Practices and Plans for Collecting Industry and Certification Data*, 2024.

152 Because obtaining these data from a large number of providers at once would be challenging, state policymakers may want to begin with a small number of popular credentials and credential providers and slowly expand coverage over time.

considerations that warrant attention but that currently lack a well-established measurement approach or sufficient data for states to fully include them in their considerations of postsecondary value.

PART 3

Exploratory Considerations

The value metrics presented in the previous two parts of this report cover the majority of quantitative and qualitative measures of postsecondary value that policymakers and analysts can evaluate using currently available data as a starting point. But other aspects of postsecondary value that lack well-established metrics and data sources still warrant consideration. This section explores potential enhancements that state policymakers and analysts can consider for future implementation as they advance their credentials-of-value frameworks.

Using a Social Impact Rubric to Consider the Nonmonetary Aspects of Value Associated with Individual Institutions

Although many nonmonetary outcomes associated with postsecondary education and training are not currently measurable at the institution level, state policymakers can build upon existing frameworks to account for these outcomes. For instance, existing accreditation processes already evaluate educational outcomes beyond pure monetary returns. By incorporating a version of these approaches into their own work, state policymakers can explore developing a social impact rubric to assess individual institutions across the following nonmonetary considerations, using a 1–5 point scale (where 1 = not at all, 2 = slightly, 3 = moderately, 4 = very much, 5 = extremely, and N/A = not applicable or unsure).

To what extent does the institution contribute to preparing the workforce to provide critical services (healthcare, law enforcement, firefighting, social services, teaching, and others as determined by state policymakers) in the state and in the local area it serves?

Evaluating an institution's contributions to the welfare of a local area or state involves forecasting workforce needs in critical service areas and then determining the extent to which the institution contributes to meeting them.¹⁵³ One way to assess these contributions is to ask what would happen to the workforce in critical service areas if the institution were to close. Do enough providers in the area offer similar programs to maintain the provision of critical services, or would an institution's closure put significant strain on critical services in the local area or the state more broadly?

¹⁵³ For an example of evaluating institutional contributions to credential production aligned with particular occupations in metro areas, see Mabel et al., *Missed Opportunities*, 2024.

Does the institution help address “education deserts” in the state?

Education deserts are commonly defined as geographic areas with no local colleges or only one broad-access community college.¹⁵⁴ A majority of incoming students at public colleges and universities attend institutions that are within 50 miles of their homes;¹⁵⁵ therefore, institutional closures and reductions in program offerings can immediately limit access to in-person postsecondary education and training for students in an area with few postsecondary offerings. State policymakers should consider the availability of alternatives in the local area when evaluating the contributions of specific institutions to the local community and state.

Does the institution provide healthcare, dental, legal, mental health, or other services to residents, particularly low-income residents, in the local area?

Some universities have an affiliated hospital or medical center that is a major provider of medical services in the local area. Some dental schools offer free or low-cost care provided by dental students to low-income residents who otherwise may not be able to afford it. Some law schools likewise offer free clinics that provide legal services from law students to low-income residents. Thus, when considering the impact of policies on a university, state policymakers may want to consider whether the university offers such services, how many residents benefit in an academic year, and what alternatives might exist for these residents if the university were to close or reduce its offerings. In addition, colleges and universities often provide physical and mental health services to students. In many cases, they also provide high-quality jobs to people who deliver, administer, and support these services for students and communities.

Does the institution play a role in knowledge generation, knowledge dissemination, and innovation through research?

While the value of research and discovery conducted by colleges and universities is beyond the scope of this report, policy decisions that affect individual institutions often have ripple effects on functions beyond the provision of postsecondary education. These include knowledge sharing through libraries and online collections and via conferences, consultations, and technical assistance by faculty and staff for other community organizations and members of the community. They also include the generation of new knowledge via scientific and academic research, as well as the facilitation of innovation by bringing together businesses, academics, and policymakers. Knowledge generation and knowledge sharing can also help enhance the development of K–12 curricula in local schools, thereby bolstering the quality of secondary education.¹⁵⁶ In addition, the

¹⁵⁴ Hillman and Weichman, *Education Deserts*, 2016.

¹⁵⁵ Hillman and Weichman, *Education Deserts*, 2016.

¹⁵⁶ The higher quality of K–12 schools in the state can in turn bolster the productivity of the state workforce and its economic growth. Hanushek et al., *Economic Gains for U.S. States from Educational Reform*, 2015.

presence of top researchers may attract talented students to the university, potentially drawing talent to the state.¹⁵⁷ While state policymakers often focus on the role of colleges and universities in providing postsecondary education, they may also want to consider how policy affects these other functions.

Does the institution play a social and cultural role within its local community?

Beyond education and research, postsecondary institutions play vital social and cultural roles in their communities. These institutions preserve regional knowledge and history, host public events such as political debates and cultural exchanges, and are frequently engaged in local civic life, including through community service. Their innumerable cultural contributions—spanning sports, the arts, and theater—enrich community life and in some cases can generate significant revenue to the community. While such contributions are not always directly tangible in monetary terms, they matter to residents and should be considered qualitatively and as context for the primary metrics discussed in Part 2.

Short-Term and Workforce Training Credentials

Short-term and workforce training credentials are important parts of the postsecondary education and training ecosystem. We discuss two types of short-term credential programs here: training programs that fall under the Workforce Innovation and Opportunity Act (WIOA) and short-term credential programs that have received a boost with the passage of Workforce Pell, which extends Pell Grant eligibility to students enrolling in eligible workforce education and training programs.

WIOA Programs

WIOA programs have an existing accountability structure based on indicators that cover post-completion employment and earnings, credential attainment, enrollment in additional education, measurable skill gains, and effectiveness in serving local employers.¹⁵⁸ In partnership with the federal government, state policymakers play a major role in regulating these programs. WIOA programs generally have a narrower focus and objectives than other types of postsecondary education and training covered in this report. Thus, we do not recommend additional metrics for these programs beyond the existing WIOA performance indicators.

Short-Term Credential Programs

The passage of Workforce Pell as part of the 2025 budget reconciliation act (OBBBA) and related 2026 regulations extend Pell Grant funding to qualifying programs that consist of 150 to 599 clock hours of instruction and take at least eight but less than 15 weeks to complete. To qualify for Workforce Pell, the

¹⁵⁷ A high-quality K–12 education system supported by research and knowledge-sharing of local colleges and universities can also help make the state more attractive to top talent.

¹⁵⁸ Collins, *The Workforce Innovation and Opportunity Act and the One-Stop Delivery System*, 2022.

act requires a 70 percent program completion rate within 150 percent of the normally expected time to completion and 70 percent job placement rate for program completers. It also requires that the program's published tuition and fees do not exceed the difference between completers' earnings, adjusted for cost of living at the metro area level (using the US Bureau of Economic Analysis' regional price parities), and 150 percent of the federal poverty line for a single individual.¹⁵⁹

In addition to requirements in the budget reconciliation act (OBBBA), we recommend consideration of three factors affecting the value of short-term credentials:

1. *The cost of obtaining the credential.* Shorter-term credentials may have lower cumulative costs, including opportunity costs, than longer-term credentials, but they still may not be affordable for low-income students, who in some cases may be the target population.¹⁶⁰
2. *The likelihood of reaching economic self-sufficiency.* State policymakers should treat credentials that improve people's economic situations but do not help them reach economic self-sufficiency as warranting explicit justification to qualify for Workforce Pell funds. Credentials that lead to socially valuable, low-paid occupations—or to other occupations regulated by the state out of health and safety considerations—are one example where such justification may be necessary, though states may also need to consider subsidizing earnings in these occupations to the living wage level.¹⁶¹ In general, though, if people invest time, effort, and resources into pursuing a postsecondary education and training program, they should be able to expect to earn at least a living wage. Training people for subsistence-level jobs is generally a dubious endeavor when their time, effort, and resources could be spent learning skills that are of greater value in the labor market.
3. *The likelihood of an earnings boost.* Ideally, people who complete short-term credentials should receive an earnings boost that, at minimum, covers their direct educational costs.

One challenge in implementing these accountability standards is likely to be the availability of data associated with these programs. We recommend that state policymakers consider using the new federal regulations as an opportunity to build out a broader data infrastructure that encompasses not only the short-term credentials covered by the 2025 budget reconciliation act (OBBBA), but all non-degree credential programs in their states. State policymakers may also want to consider interconnecting data from WIOA, Perkins, and other workforce training programs within their SLDS.

In addition, state policymakers may want to consider the distinct objectives of short-term credentials, which have two major purposes. The first is to serve as an entry point into

159 An Act to Provide for Reconciliation Pursuant to Title II of H. Con. Res. 14, Pub. L. No. 119-21, 139 Stat. 72, 2025; and US Department of Education, "Accountability in Higher Education and Access Through Demand-Driven Workforce Pell," 2026.

160 Bitar et al., "Understanding the Full Cost of Short-Term Credentials," 2024.

161 For more on accountability for programs that prepare students for socially valuable, low-paid occupations, see the discussion on pages 58–61.

postsecondary education and training intended to improve economic opportunities for people who have no prior postsecondary education experience. For this use case, it's important to consider

- whether the credential provides access to work opportunities that people would not otherwise have (measured in part by employment rates and earnings),
- whether the credential provides pathways to additional postsecondary programs where completers can apply their earned credits (measured in part by transfer rates and credit articulation), and
- whether the credential provides durable benefits beyond entry into a new occupation or industry.

The second major purpose of short-term credentials is to complement other forms of postsecondary education, either by building on a prior degree or by embedding short-term credentials within a degree program. In this case, it's important to consider the extent to which the credentials help students develop a specialized skill set:

- Do students with associate's or bachelor's degrees earn more if they complete a technical, specialized short-term credential, especially if their degrees are in the humanities and the liberal arts?
- Do short-term credentials help students access jobs for which they otherwise would not be considered?
- Do short-term credentials help students access advancement opportunities with their current employer or on their current career path?
- Do short-term credentials help dislocated workers secure jobs in different occupations or industries than those where they previously worked?
- Which short-term credentials help achieve these objectives, and which ones do not improve students' prospects beyond the degrees they otherwise hold?

Enhancements to ROI

Return on investment (ROI) is a key metric that state policymakers and analysts use to assess the monetary value of postsecondary institutions and programs. In this section, we suggest potential improvements to ROI calculations and refinements for states with additional data available. We also suggest enhancements that state policymakers and analysts may want to consider as their data and analytical capabilities improve.

Completers and Noncompleters

In Part 2 of this report, we recommend considering the ROI for completers and noncompleters together, to the extent feasible. This approach accounts for the probability that some students enrolling in a particular institution or program of study will not complete. Completers tend to have higher

earnings than noncompleters, but also higher costs.¹⁶² Noncompleters receive a lower earnings boost, but also tend to enroll for less time than completers¹⁶³—though noncompleters, even with low loan balances, are more likely to default on their loans.¹⁶⁴ Thus, it would be valuable for students, providers, and policymakers to be able to distinguish between the ROI for completers and noncompleters.

At present, it is easier to measure the ROI for completers than for noncompleters. Completers' earnings by program are available in the College Scorecard¹⁶⁵ and in many state data systems, as well as in the US Census Bureau's Post-Secondary Employment Outcomes (PSEO) partnership data.¹⁶⁶ In contrast, much needs to be done to improve the data on noncompleters.

State policymakers and analysts can begin by establishing a point in time after stopping out without reenrolling at which a student is classified as a noncompleter. In Part 2 of this report, we suggest setting this time at 10 years following institution and program exit, which coincides with one potential breakeven point for ROI evaluation. Policy analysts can evaluate the annual median earnings of noncompleters at this breakeven point and compare the result to the earnings of those who completed the prior education level but never enrolled in programs at that credential level. For the purposes of ROI calculations, this comparison establishes the appropriate earnings premiums for noncompleters relative to the prior education level.

The program of study for noncompleters can be assigned based on declared major or field of study at the time of exit.¹⁶⁷ The noncompleters who stop out without a declared major or field of study can be included in institutional calculations, but would not be included in program-of-study outcomes metrics, under our recommendations in Part 2. We think this is appropriate for accountability purposes, as it would be dubious to hold programs accountable for the outcomes of students who never officially joined them. However, researchers and practitioners can attempt to understand the intentions of noncompleters who have not declared a major by using course-taking patterns from transcripts of these students, compared with completers and noncompleters with

162 Zhang et al., "Beyond Earnings Premia," 2025; Carnevale et al., *The College Payoff*, 2021; and Delisle and Cohn, *College Completion and Earnings*, 2024.

163 For example, in associate's degree programs, completers enroll for a median of 31 months before completion, whereas noncompleters enroll for a median of 11 months before stopping out. Georgetown University Center on Education and the Workforce analysis of data from the US Department of Education, National Center for Education Statistics (NCES), 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17), 2017.

164 Delisle et al., *Federal Student Loan Defaults*, 2018.

165 US Department of Education, *College Scorecard*, n.d.

166 US Census Bureau, "Post-Secondary Employment Outcomes," 2025.

167 Research more commonly focuses on differences in economic outcomes among graduates than among noncompleters. However, Giani and colleagues show variation in the economic outcomes of noncompleters by credential type, and Bahr shows variation in the economic outcomes of noncompleters by field of study in community colleges. Giani et al., "The Value of an Incomplete Degree," 2020; and Bahr, "The Labor Market Returns to a Community College Education for Noncompleting Students," 2019.

a declared major at the same institution.¹⁶⁸ They can also track the number of major changes among completers and noncompleters to better understand what might prompt students to change majors, as well as how constructive such changes are for positive academic and economic outcomes.

Full-Time and Part-Time Students

Another important distinction for policymakers and analysts to consider is the one between full-time and part-time students. In Part 2 of this report, we recommend adjusting the annual direct and opportunity costs of full-time students by the percent of FTE enrollment, based on the median number of credits or clock hours for which students are enrolled, relative to the credits or clock hours needed to be classified as a full-time student. This simplification is necessary to calculate ROI for an institution or a program. However, in practice, there are major differences between full- and part-time students. Separating these two groups can help state policymakers and analysts better capture the impact of various trade-offs on ROI.

Full-time students generally don't work full time while studying. They typically work part time while bearing the full direct costs of the program every year they are enrolled.¹⁶⁹ Part-time students, on the other hand, often work full time while enrolled and have lower costs per term. The trade-off is that part-time students take longer to complete the credential and thereby to start benefiting from that credential in the labor market. They also have lower completion rates than full-time students.¹⁷⁰

State policy analysts should calculate opportunity costs for each group using their respective median time to completion. For example, among students who attain a bachelor's degree, those who enroll mostly full time are enrolled for a median of 48 months before completion, whereas those who enroll mostly part time are enrolled for a median of 72 months prior to completion.¹⁷¹ Similarly, for students who attain an associate's degree, those enrolled exclusively full time complete their degrees in 23 months at the median, compared to 44 months for those enrolled exclusively part time.¹⁷²

168 For example, Zeidenberg and colleagues use a classification algorithm to group noncompleters at community colleges by course-taking patterns in their transcripts. Zeidenberg et al., "What About the Non-Completers?," 2015. Also, Jenkins and Cho use student course-taking of nine semester hours or three courses in a community college program as a signal of entry into the program. Jenkins and Cho, *Get with the Program*, 2012.

169 At the median, students enrolled exclusively full time work 20 hours per week, whereas those enrolled exclusively part time work 32 hours per week. Georgetown University Center on Education and the Workforce analysis of data from the US Department of Education, National Center for Education Statistics (NCES), National Postsecondary Student Aid Study (NPSAS), 2020.

170 Within five years of first enrollment, roughly 66 percent of students who always attended college full time attained a certificate or higher, compared with roughly 17.5 percent of students who always attended part time. US Department of Education, National Center for Education Statistics (NCES), 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17), 2017.

171 The enrollment patterns are based on how students indicated they were enrolled in the final year before attaining a bachelor's degree. Georgetown University Center on Education and the Workforce analysis of data from the US Department of Education, National Center for Education Statistics (NCES), 2016/20 Baccalaureate and Beyond Longitudinal Study (B&B:16/20), 2020.

172 Georgetown University Center on Education and the Workforce analysis of data from the US Department of Education, National Center for Education Statistics (NCES), 2012/17 Beginning Postsecondary Students Longitudinal Study (BPS:12/17), 2017.

In addition, the opportunity costs associated with the additional time it takes part-time students to complete beyond the median time to completion for full-time students should be based on the median earnings of credential completers rather than the median earnings at the next lowest level of attainment. Once a student crosses the median time to completion for a full-time student, his or her counterfactual is arguably better captured by someone with that credential than by someone with a lower level of education.

Job Quality

Job quality is an important aspect of value that current data only partially captures, with data on benefits such as healthcare coverage and retirement plans being the most available. In 2022, the Urban Institute identified elements of job quality that have been subject to at least some attempts at measurement, such as working conditions, autonomy on the job, meaningfulness and social value, job security, and opportunities for training and advancement.¹⁷³ These elements shape the experience of working in a job, and some workers may view them as more important than earnings. However, information on many of these aspects of job quality is available only in worker surveys that may not be conducted regularly or available at the state level.¹⁷⁴

To better assess job quality, states would need to collect additional data. One exploratory approach is to connect occupation-level data with programs of study that prepare students for occupations. For example, Boar and Lashkari developed an “intrinsic quality” measure for different occupations on the basis of several characteristics that relate to job satisfaction in the General Social Survey.¹⁷⁵ Using this measure, researchers from the Federal Reserve Bank of St. Louis found that college graduates are concentrated in occupations with higher “intrinsic quality,” regardless of whether they have high or low earnings.¹⁷⁶ Short of collecting their own data, states can turn to an existing source on occupational characteristics related to job quality, the US Department of Labor’s Occupational Information Network (O*NET). O*NET collects data at the occupation level from surveys of incumbent workers and field experts; it provides information on the tasks involved in jobs within occupations, on work values and styles, and on the work context in which jobs are performed.¹⁷⁷

173 Katz et al., *Measuring Job Quality*, 2022.

174 Katz et al., *Measuring Job Quality*, 2022.

175 Their work controls for income. Boar and Lashkari, “Occupational Choice and the Intergenerational Mobility of Welfare,” 2025.

176 Leukhina and Smaldone, “How Nonmonetary Job Amenities Improve with Higher Education,” 2024.

177 National Center for O*NET Development, “O*NET,” 2025.

Accounting for Selectivity and Resources When Evaluating Institutional Performance

Part 2 of this report presents the same minimum outcomes thresholds for all institutions, establishing baseline expectations that students will not be made worse off by attending a postsecondary education or training program. This principle has become the bedrock of federal policy on both sides of the aisle.¹⁷⁸ At the same time, as noted in the first report in this series, *From Mann to Markets*, resources and inputs make a difference for outcomes. It is unrealistic to expect an open-access community college with limited funding to achieve the same outcomes as an elite university that spends three times as much per student. Thus, while all institutions and programs should be expected to meet minimum thresholds for accountability, state policymakers and analysts may also want to explore approaches that account for selectivity and resource availability when evaluating institutions for use cases such as performance-based funding.

State policy analysts can start by sorting institutions with outcomes data into three broad selectivity categories: **selective**, **middle tier**, and **open access**, based on Barron's selectivity index.¹⁷⁹ Then, within each selectivity level, they can further divide institutions into three separate groups (*high*, *middle*, and *low*) by instructional and academic support spending per FTE student.¹⁸⁰ Both the annual spending on instructional and academic support and FTE enrollment are available from IPEDS.¹⁸¹

This process would yield nine groupings based on selectivity and instructional and academic spending (***selective high spending, selective middle spending, selective low spending, middle-tier high spending, middle-tier middle spending, middle-tier low spending, open-access high spending, open-access middle spending, and open-access low spending***). Policymakers and analysts may want to explore ways of comparing institutional performance on all metrics presented in Part 2 (ROI, debt-to-earnings, completion rates, time to completion, transfer rates, etc.) to the performance of peer institutions in the same category. In addition, within each of the nine categories, state policymakers may want to identify and publicly recognize the institutions with the highest year-over-year improvement, including through awards of performance-based funding.¹⁸²

178 The new minimum earnings standards in the OBBBA and related 2026 regulations reflect this principle. An Act to Provide for Reconciliation Pursuant to Title II of H. Con. Res. 14, Pub. L. No. 119-21, 139 Stat. 72, 2025; and US Department of Education, "Accountability in Higher Education and Access Through Demand-Driven Workforce Pell," 2026.

179 The selective colleges and universities group would include the institutions that fall in the Barron's selectivity index's top three tiers (most competitive, highly competitive, and very competitive); the middle-tier group would include institutions in the index's fourth tier of selectivity (competitive); and the open-access group would include those in the fifth and sixth tiers of selectivity (less competitive and noncompetitive). For more on defining institutional selectivity using Barron's selectivity index and connecting it to other institutional data using the *NCES-Barron's Admissions Competitiveness Index Files*, see Strohl et al., *Progress Interrupted*, 2024. Alternatively, state policymakers can use admissions rates to separate colleges into three tiers of selectivity.

180 For more on considerations in the use of instructional and academic support spending categories in IPEDS, see Carnevale et al., *Our Separate & Unequal Public Colleges*, 2018.

181 US Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2025.

182 While we recommend a specific approach to considering selectivity and resources, there are other approaches that state policymakers and analysts can consider. For example, the Education Trust's "College Results" data tool constructs "peer groups of 'similar colleges'" and uses those groups to offer a reference point for comparing graduation rates. Education Trust, "College Results," 2026.

Accounting for Student Access When Evaluating Institutional Performance

State policymakers should be wary of criteria that would encourage institutions to meet accountability standards through selective enrollment rather than improved institutional performance.¹⁸³ For instance, institutions could seek to enroll students from higher socioeconomic status (SES) backgrounds in an effort to improve earnings outcomes, as these students tend to perform better in the labor market independent of the quality of their education.¹⁸⁴ Students from underserved populations face systemic barriers throughout their education and career journeys.¹⁸⁵ Policymakers should reward institutions for helping these students overcome barriers rather than for enrolling students for whom such barriers are fewer or less prominent.

Some states that offer performance-based funding may recognize that they could be incentivizing the wrong things. Policymakers may seek to mitigate the risk of perverse incentives by incorporating at least one equity metric within performance-based funding or by separately providing additional funding for institutions that graduate or enroll higher shares of students from underserved backgrounds.¹⁸⁶ Establishing an equity criterion separate from economic or academic outcomes is sensible in that it recognizes the significance of the population institutions serve, but doesn't communicate differential expectations on that basis.

A more sophisticated version of this approach informs the Carnegie Classifications' 2025 Student Access and Earnings Classification (SAEC), which classifies institutions based on

1. how representative the institution's enrollment is relative to the demographic and economic composition in the geographic areas the institution serves, and
2. how much students who attend the institution go on to earn in the labor market relative to similar high school graduates from the geographic areas the institution serves.¹⁸⁷

183 Prior research on performance-based funding has found that these policies may negatively affect access and completion for underrepresented groups. Chan et al., *Incentivizing Equity*, 2020; Gándara and Rutherford, "Completion at the Expense of Access?," 2020; Gándara and Rutherford, "Mitigating Unintended Impacts?," 2018; Hillman et al., "Evaluating the Impact of Performance Funding in Ohio and Tennessee," 2018; and Hillman, "The Equity Implications of Paying for Performance in Higher Education," 2017. For more on the trade-offs between selection and risk adjustment in performance standards in higher education, see Deming and Figlio, "Accountability in US Education," 2016.

184 Scott-Clayton et al., "Who Rides Out the Storm?," 2025.

185 Thiem and Dasgupta, "From Precollege to Career," 2022.

186 Rosinger et al., "Designing State Funding Formulas for Public Higher Education to Center Equity," 2024.

187 American Council on Education and Carnegie Foundation for Advancement of Teaching, *Student Access and Earnings Classifications: Technical Manual*, 2025.

The Carnegie SAEC approach has the advantage of considering access and earnings outcomes as separate dual criteria. It also has a publicly available methodology, which allows complete replication with publicly available data for all public institutions.

The Carnegie SAEC approach adjusts the high school earnings comparison threshold based on the demographic composition of institutional enrollment,¹⁸⁸ which may be controversial because it can be interpreted as implying differential expectations for different groups. However, since the threshold is a composite based on all former students at the institution, we do not believe that it explicitly communicates differential expectations for different groups. Nonetheless, we advise caution in communicating this metric.

State policymakers and analysts can use the Carnegie SAEC approach as a starting point in exploring the relationship between institutions' economic outcomes and the student populations they serve. Policymakers and analysts can adjust the Carnegie SAEC approach based on their policy objectives as well as their state's analytical and data capabilities.

In addition, for states with an advanced SLDS that allows for disaggregation of earnings and costs data by race/ethnicity, gender, and Pell grant receipt, we recommend that policymakers and analysts seek to explore the feasibility of calculating and publishing the transparency and accountability metrics from Part 2 of this report, including ROI, debt-to-earnings, and success indicators, for each gender and racial/ethnic group, as well as for Pell grant recipients by institution.¹⁸⁹ For an example of how states can explore using their disaggregated data to estimate separate outcomes for different demographic groups, state policymakers and analysts can look to the Postsecondary Value Commission's Equitable Value Explorer for the University of Texas System.¹⁹⁰

188 American Council on Education and Carnegie Foundation for Advancement of Teaching, *Student Access and Earnings Classifications: Technical Manual*, 2025.

189 State policy analysts should also investigate the feasibility of disaggregating outcomes by program of study, but this is not likely to be plausible with the available data and analytical capacity in most states.

190 The Postsecondary Value Commission also proposes an Equitable Value Index (EVI), which multiplies the share of students in a subgroup passing an economic outcome threshold by the share of completers represented by that subgroup of students. Postsecondary Value Commission, "Exploring Equitable Postsecondary Value at the University of Texas System," 2021; and Postsecondary Value Commission, "Equitable Value," 2021. Similarly, Third Way has introduced an Economic Mobility Index, which multiplies an institution's percentile rank on a price-to-earnings premium (PEP) for low-income students by the share of Pell grant recipients the institution enrolls. Robinson and Cecil, "2023 Economic Mobility Index," 2023.

Addressing Programs That Prepare Students for Socially Valuable, Low-Paid Occupations

Socially valuable, low-paid occupations, such as education or healthcare support, serve important public purposes but do not provide high earnings. In some cases, they also fail to provide compensation that supports self-sufficiency. Low pay can make recruitment into these occupations challenging, contributing to chronic worker shortages in essential jobs. Low pay can also lead postsecondary education and training programs that prepare students for these occupations to fall short of meeting accountability standards.

The coupling of high social need with low compensation generates two public policy challenges: (1) How can public policy help alleviate shortages in socially necessary, low-paid occupations? and (2) Should the state continue to invest in programs that prepare students to enter these occupations if the programs don't meet economic accountability standards?

When low earnings contribute to critical shortages in socially valuable occupations, the theoretical solution would be to raise earnings in these occupations.¹⁹¹ Yet this solution is not politically or practically feasible in many states, especially with mounting budget pressures from a weakening economy and declining federal support.

While the Public Service Loan Forgiveness (PSLF) Program may encourage some students to pursue professions in the public and nonprofit sectors, it requires students to take on risk upfront. There are no guarantees that the PSLF Program will continue to exist or that it will pay off an individual's loans as expected. Thus, program subsidies such as tuition discounting may be a more dependable way of using public funds to improve ROI for students who choose to enter these occupations. Many such programs already exist; in Maryland, for example, students who pledge to work in high-needs pre-K–12 schools within the state can receive scholarships of up to 100 percent of their college tuition, fees, room, and board through the Teaching Fellows for Maryland Scholarship.¹⁹² State policymakers should assess the potential costs of such programs in balance with the costs associated with occupational shortages. They should also encourage major employers who rely heavily on qualified workers in socially valuable, low-paid occupations to contribute to program subsidies.

In addition, a subset of socially valuable occupations in areas such as healthcare support and early childhood education convey earnings that do not meet a living wage standard, even for students who have no direct education costs. Perpetuating educational programs with such outcomes is a

191 Baum and Espinosa, *Exploring the Importance of Low Wage, High Social Value Careers*, 2021.

192 Maryland Higher Education Commission, "Teaching Fellows for Maryland Scholarship," n.d.

dubious policy, especially considering that women and individuals from lower-income and marginalized backgrounds are more likely to pursue these professions.¹⁹³ Ultimately, increasing wages would be the ideal solution. State policymakers should also consider providing something similar to the federal Earned Income Tax Credit (EITC) to make working in these socially valuable professions more financially viable. For non-federal workers in the public sector, state policymakers should also consider setting minimum wage thresholds for professions essential to providing critical services to state residents.

On the accountability front, programs leading to employment in socially valuable occupations could fail accountability tests for one of two reasons: because completers' earnings do not enable them to recoup the costs of the program, or because completers do not earn a living wage,¹⁹⁴ regardless of program costs. Socially valuable programs that fail will require additional considerations from state policymakers concerned with unmet demand who are reluctant to terminate these programs.

The termination of programs that don't meet accountability standards is generally an intended policy objective when establishing accountability thresholds. Policymakers want to avoid sending student and taxpayer dollars to programs that do not pay off for students. However, for a particular set of programs, this policy objective is in tension with another important policy objective—the need to prepare workers for occupations that provide critical services within the state.¹⁹⁵ Occupations such as early childhood education, public safety, healthcare support, social work, counseling, and religious professions help states meet the social services needs of their residents. Because these occupations tend to be concentrated in the public and nonprofit sectors, their wages tend to reflect policy, political, and nonprofit-sector dynamics. These dynamics tend to result in underinvestment in earnings of workers in these professions.¹⁹⁶ In fact, research suggests that there is a negative correlation between positive social externalities (that is, the wider benefits to society) of some occupations and the earnings associated with those occupations.¹⁹⁷

In addition, some low-paid occupations are regulated by the state to protect public health and safety (for example, cosmetology). State policymakers need to coordinate with employers and industry organizations to ensure that workers in these occupations have access to the training necessary to meet state requirements, and to provide this training without placing undue financial burden

193 Baum and Espinosa, *Exploring the Importance of Low Wage, High Social Value Careers*, 2021.

194 The “living wage” earnings mentioned here refer to those based on thresholds in the MIT Living Wage Calculator or the UW Self-Sufficiency Standard. Glasmeier and MIT, “Living Wage Calculator,” 2026; and University of Washington Center for Women's Welfare, “Self-Sufficiency Standard,” 2023.

195 For more on how community colleges increasingly face this tension and approaches that some have taken to address it, see Masterson, “Low Pay in ‘Helping’ Professions Creates a Moral Dilemma for Colleges,” 2022.

196 Bublitz and Regner demonstrate that in an experimental setting where subjects can choose both the level of taxation and the level of voluntary transfers to those in socially valuable, low-paid roles, the social pay gap is reduced, but never closed, and over time a “low-level equilibrium” emerges as donors reduce voluntary transfers and social workers reduce social effort and switch into other occupations. Bublitz and Regner, “The Social Pay Gap Across Occupations,” 2022.

197 Lockwood et al., “Taxation and the Allocation of Talent,” 2017.

on workers. State policymakers should not direct federal financial aid to this type of training if completers are not expected to meet the economic outcomes benchmarks for postsecondary education and training programs.

The challenges associated with programs leading to socially valuable, low-paid occupations have been further complicated by the new earnings standards in the 2025 budget reconciliation act (OBBBA). These standards require that graduates of undergraduate degree programs earn no less than the median earnings of high school graduates in their state in order for students to qualify for federal loans.¹⁹⁸ It is likely that some programs aligned with particularly low-wage professions will lose Title IV loans because they will not meet these minimum earnings standards.

For programs that meet federal standards but do not meet state-established thresholds on ROI or other economic outcomes metrics, we recommend that state policymakers employ the following considerations, in the order presented below:

1. *Ask whether the program meets the state completion rate threshold.* Preparing students for socially valuable, low-wage occupations should not exempt the program from meeting completion standards. While colleges don't control the labor market, they still have a responsibility to ensure that students in these programs have a reasonable likelihood of graduating.
2. *Ask whether completers are able to repay the costs of the program, including through student loan payments, without undue financial burden.* Providers should not put students in financially precarious positions by charging more for an educational program than students can reasonably be expected to pay back based on the earnings in associated occupations. States need to consider providing more direct subsidies to lower the costs borne by students.
3. *Ask whether completers earn a living wage for the state or the local area where they live.* As we indicated above, preparing people for careers resulting in poverty and financial struggle is a dubious policy.
4. *Ask whether total compensation for completers is equivalent to a living wage.* In socially valuable professions, non-wage benefits, such as health insurance coverage, retirement plans, paid holidays, paid time off, and flexible scheduling, can account for a large part of the total compensation.¹⁹⁹ Policymakers could consider total compensation (provided it exceeds a living wage) to make the case for programs that meet critical social needs in the state.
5. *Ask whether the program can put completers on a pathway toward achieving a living wage, even if the entry wage falls short.* State policymakers need to carefully examine the career pathways of completers to ensure that they are experiencing upward mobility. While even advanced SLDS data in most states do not currently capture workers' occupations via

198 An Act to Provide for Reconciliation Pursuant to Title II of H. Con. Res. 14, Pub. L. No. 119-21, 139 Stat. 72, 2025.

199 Baum and Espinosa, *Exploring the Importance of Low Wage, High Social Value Careers*, 2021.

unemployment insurance (UI) wage records, states can still use these data to examine whether completers in the relevant programs remain in the public or nonprofit sector and attain a living wage within a reasonable time.²⁰⁰

Identifying which occupations are socially valuable and may require additional considerations for accountability can be a tricky exercise. Yet it is an important exercise nonetheless, as low earnings disincentivize people from working in these occupations. If occupations are truly socially valuable, policymakers need to incentivize workers to enter them. To address this problem, policymakers need to identify which occupations are worth public investment. Yet there is no clear consensus about which occupations should be included in a list of socially valuable, low-paid occupations.²⁰¹

One prior attempt to think about socially valuable occupations that is informative for state policymakers and analysts was developed by Whitfield and colleagues as part of constructing a “social utility index.” This approach involved the use of job families created in O*NET to define career pathways associated with providing “caretaking” services to individuals or broader communities.²⁰² The authors also used a location quotient to measure the importance of occupations to local economies based on the relative concentrations of specific jobs, and they accounted for the subjective meaning that incumbent workers assigned to an occupation.²⁰³

This preliminary effort provides a thoughtful starting point for defining socially valuable occupations by taking local labor-market data into account. Nonetheless, any selection of socially valuable occupations involves some subjective assessment. Hence, we recommend that state policymakers start by considering health and human services, education, public safety, and religious vocations. From this starting point, policymakers should consider whether additional criteria are appropriate to identify socially valuable occupations in their states, and then consider whether shortages exist in these occupations. When shortages do exist, policymakers should investigate the degree to which low earnings or an inability to pay back education debts may be contributing to the shortages.

200 Enhancing unemployment insurance (UI) wage records with occupation would enable state policymakers to develop a much better understanding of the career pathways of students who complete relevant programs and begin their careers with an entry wage that is below a living wage.

201 Baum and Espinosa, *Exploring the Importance of Low Wage, High Social Value Careers*, 2021.

202 Whitfield et al., “A Social Utility Index,” 2016.

203 Whitfield et al., “A Social Utility Index,” 2016.

Conclusion

The value of postsecondary education and training is multifaceted, and measuring it is not always straightforward, as discussed throughout this three-report series. In this report, the third in the series, we have focused on two key aspects of value that hold particular importance for state policymakers and analysts:

(1) The broad value that accrues to each state from a robust postsecondary education and training system. State residents and the state as a whole receive a wide range of individual and societal benefits, including broad economic impacts and nonmonetary outcomes, as a result of their investments in state systems of postsecondary education and training. Broad access to postsecondary education and training among residents increases the value of such education and training to the state.

(2) Transparency and accountability measures to ensure that programs and institutions deliver the value they promise to create. Outcomes metrics such as return on investment (ROI), ability to repay student loans (debt to earnings), and other success indicators are crucial measures of postsecondary value. Stakeholders can apply these measures in a state system context to implement institution-level and program-level transparency and accountability frameworks. These frameworks can be used to protect students and taxpayers against the worst potential outcomes and to maximize the benefits of postsecondary education and training for all.

We have also explored elements of value whose measurement will require creative approaches and improvements to emerging and existing data, but that are no less important to a thriving society. We encourage policymakers and other stakeholders to take these elements of value seriously when considering what postsecondary programs and providers contribute to their communities, states, and the nation.

We hope this report helps guide state analysts and policymakers as they explore ways to conceptualize and measure value in the context of their policy goals. While federal policy establishes minimum accountability standards for programs and institutions, there is an imperative for the states to take a strong leadership role in ensuring postsecondary value.

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