Bipartisan Policy Center

Which Colleges Are Worth the Cost?

INSTITUTION-LEVEL RETURN
ON INVESTMENT FOR STUDENTS
AND TAXPAYERS

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Introduction

- The federal government disburses nearly $150 billion in higher education student aid annually; regulations that hypothetically prevent low-quality institutions from benefiting from this aid rarely function as intended.

- Researchers have made progress in measuring the return on investment (ROI) of enrollment in higher education, but obstacles to using these measures to hold institutions accountable remain.

- In this study, BPC outlines an improved methodology for estimating the return on investment of college enrollment that may point the way toward better regulation of higher education institutions.

On average, a college degree is worthwhile: By some estimates, a diploma increases lifetime earnings by $1.2 million.[1] Too often, however, students receive a poor return on their invested time and money when pursuing a college education. Moreover, publicly available data on student outcomes are often challenging to understand or narrow in scope, making it difficult for prospective students to compare programs and institutions in a way that helps them make informed enrollment decisions. Existing efforts by the U.S. Department of Education to prevent low-quality programs from wasting students' time and taxpayers' dollars have been largely ineffective. Few institutions are ever disqualified from disbursing federal student aid, while nearly all are offered an implicit mark of approval: If an institution can distribute federal grants and loans, consumers might understandably assume that it meets some baseline standard of quality.

In this report, we present a new comprehensive metric of student ROI that addresses deficiencies in existing metrics as well as concerns about how to account for disparate labor market outcomes across gender, race, and ethnicity. The metric is based on a cost-benefit analysis derived from a model of the total lifelong student financial gains (or, in some cases, losses) produced by a student's enrollment at a particular institution. Our models go further than most other estimates of college ROI both by including an adjustment for labor market discrimination—improving accuracy when comparing the relative value of enrollment at predominantly white institutions and enrollment at minority-serving institutions—as well as by more precisely estimating the true costs of attendance.

The likely benefits of college education for individuals and communities go beyond increased earnings—research has found that a postsecondary degree is associated with lower likelihood of unemployment, longer life expectancy, increased educational attainment by one's children, higher taxes paid,

decreased use of government supports, increased philanthropic behaviors, and heightened civic engagement—but these effects are likely interdependent, and in some cases, are difficult to quantify.[2] Unsurprisingly, most evaluations of the costs and benefits of higher education or the value of a particular institution restrict themselves to individual financial outcomes, with little attempt at a holistic evaluation of the impact of enrollment. The models presented in this study largely do the same, but it is important to acknowledge the broader benefits of education.

This introduction first assesses existing student outcome metrics and the rules used by the Department of Education to restrict institutional access to federal funds. Next, the case is made that the models discussed in this report might expand and improve upon existing measures and could be used to enhance institutional accountability.

HOW ARE STUDENT OUTCOMES MEASURED?

Though many institutions may fail to provide students with a positive return on their investment, current student outcome data are sparse, leaving prospective students without critical information to guide them to programs or institutions in which student outcomes are generally good. Below we review the landscape of publicly available data on student outcomes and explore the limitations of each measure.

Completion Rates

Perhaps the simplest student outcome—and one that has been available for many years—completion rates measure the portion of an institution's students that receive a degree within a certain number of years, usually measured relative to the expected time required to complete a program (e.g., two years for an associate degree and four years for a bachelor's degree). Completion rates at many institutions of higher education are surprisingly low. Among first-time, full-time students who began pursuing a bachelor's degree in 2012, only 44% completed it within four years, and only 62% completed it within six years.[3] While these topline averages are low enough to raise alarm bells, completion rates are even lower for students of color: Just 43% of Black students and 57% of Hispanic students complete a bachelor's degree within six years.[4]

Although completion rates may be a good starting place for assessing how well an institution graduates its students, they provide no information on how well students learn, and importantly, how well students fare in the job market following graduation. Unable to assess post-graduation outcomes, completion rates provide little information about program quality or value.

Student Loan Default and Repayment Rates

Outcomes for student loan borrowers are often considered indicators of institutional quality, in part because the status of their loans serve as a proxy for the earnings and economic stability of those former students. Cohort default rates—the portion of borrowers at an institution that default on their student loans—are used as an accountability metric by the Department of Education (see below), but they only capture the worst outcome for student borrowers.

In contrast, repayment rates represent the percentage of borrowers that reduce their federal student loan principal by at least one dollar within a given period.[i] Like completion rates, the low repayment rates at many institutions suggest that their student outcomes are lackluster. Five years after entering repayment, only about half of first-time borrowers were able to reduce their principal balance.[5] As with completion, racial disparities are apparent in repayment rates: 32% of Black and 50% of Hispanic borrowers made progress repaying their loans a year after graduating compared to 56% of white borrowers.[6] Discrepancies persist long after students leave an institution: Twenty years after starting college, the median white student borrower had paid off all but 6% of their student loan debt, while the median Black student borrower still owed 95% of their student loan debt.[7]

Unlike completion rates, repayment rates provide insight into student outcomes after graduation. A borrower's ability to repay their loans is highly correlated with both their earnings and the amount of debt disbursed to the student at the institution. But the repayment rate metric also has shortcomings. First, it only reflects outcomes for students who take out federal student loans. Second, short-term repayment rates can be skewed by failing to account for students who continue their education and therefore receive in-school deferments, a group that comprises about half of nonpayers.[8] Additionally, while repayment rates are correlated with earnings, they are not actually estimates of earnings. Finally, ability to repay loans also correlates with family wealth and other income, so repayment may reflect demographic background and access to family financial resources as much as it does success in the labor market due to an academic degree. Indeed, institutions enrolling students from low-income backgrounds tend to have lower repayment rates and higher default rates, making it difficult to discern whether such outcomes reflect the value of an institution and its academic programs.[9]

Earnings

For many prospective students, as well as for policymakers, a key outcome measure is the earnings of students who enroll in a credential-granting higher education program. In 2015, as part of its new College Scorecard, the

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i   More recently, the Department of Education has produced repayment rate estimates that capture the percentage of loan principal repaid for an entire cohort.

Department of Education began publishing earnings data for students by institution, combining data for those who did and did not graduate. Data on earnings are shared by the IRS and matched with Department of Education data. More recently, College Scorecard data have been broken down at the level of degree and field of study for each institution (e.g., a bachelor's degree in business administration), allowing prospective students and researchers to look up the earnings of graduates one or two years after completion of a particular program.

Earnings data provided in the College Scorecard receive much attention but have limited utility for assessing the quality of instruction and specific programs at higher education institutions. While data at the institution level is robust—including completers as well as non-completers and tracked out six, eight, or 10 years after students enroll—program-level data includes only those students who completed a program and are only available for one or two years after graduation, a point at which many graduates may not have entered the workforce in their planned field and may not have earnings representative of their future earnings.[10] Moreover, the shift to providing earnings data by field of study has meant that the institution-level earnings data are not being updated. Earnings data in the College Scorecard are further limited to students who received Title IV aid (typically student loans or Pell Grants); this may result in an understatement of actual earnings, especially at institutions where most students do not receive Title IV aid.[11] College Scorecard earnings data are also not broken down by race, ethnicity, and gender, making it difficult for prospective students to see how students like them fare after attending a particular institution.

Return on Investment

The limited data currently available on student outcomes make it challenging for students to predict their ROI from pursuing a degree and hinder the study of how student characteristics and demographics might explain some variation across institutions. Despite these limitations, researchers have sought to estimate the ROI of a college education even before the Department of Education made comprehensive earnings data widely available via the College Scorecard. Much of this research, while interesting, was only able to examine economy-wide impacts or certain subgroups of students or institutions.[12, 13, 14]

The release of earnings data in the College Scorecard has facilitated broader and more-robust estimates of ROI that allow for comparisons across institutions. Price-to-Earnings Premiums (PEPs), developed by the organization Third Way, estimate the number of years needed for a student to recoup the net cost of earning a credential.[ii] Under the PEP method, most institutions that receive

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federal student aid (63%) provide students with strong enough outcomes to recoup the cost of earning a credential within five years. Fourteen percent of institutions, however, provide such poor outcomes that their students will never be able to recoup their cost of attendance.[15]

PEPs provide a simple and useful way to compare outcomes across institutions, but do not indicate the dollar value of ROI and instead focus on how long it takes a student to earn back the net price of attendance. In another analysis, the Center for Education and Workforce at Georgetown University created a measure of long-term ROI by estimating the lifelong earnings of students, though this analysis had some shortcomings.[iii, 16]

These models represent important steps toward a more comprehensive analysis of the value of college for students, but a robust assessment of the ROI of college enrollment should include nuanced assumptions about earnings growth and incorporate indirect and opportunity costs. Further, to move toward a broader understanding of the value of college, encompassing variables of interest to both prospective students and policymakers, one could attempt to account for the demographic makeup of and the amount of government support received by an institution. Assessments or calculations with more complexity, however, may be more difficult to communicate clearly to target audiences.

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iii   The Center assumed that students have no earnings growth beyond 10 years after graduation, which may not accurately reflect a student's earning pattern over their lifetime. For more on the life cycle of earnings, see the St. Louis Federal Reserve's report, "Earnings Growth Over a Lifetime: Not What It Used to Be," available at: https://www.stlouisfed.org/publications/regional-economist/april-2012/earnings-growth-over-a-lifetime--not-what-it-used-to-be.

Why not just directly assess whether programs are high quality?

Assessing program quality is easier said than done. There may be more than 250,000 distinct higher education programs in the U.S. across thousands of institutions, with many hosting dozens of programs varying by level of degree and field of study.[17] Due to this diversity, it is unlikely that any measure of student learning or competency could meaningfully assess all programs, even those at the same credential or degree level. For programs with a direct connection to professional licensing—such as programs in medical fields or law programs where most graduates take a bar exam—there may be clear outcomes that can be used to determine whether the school adequately prepared its graduates to meet a certain professional standard. Some programs are accredited by professional entities: For instance, the Council on Social Work Education is the sole accrediting body for academic programs resulting in degrees in the field of social work. But most higher education institutions are accredited by regional or national bodies that accredit entire institutions, and the breadth of programs and educational models within a college or university—and the fact that accrediting bodies consist largely of representatives of the same institutions that they accredit—means that institution-level accreditation provides little information about the quality of instruction or programmatic offerings.

WHAT MEASURES DOES THE DEPARTMENT OF EDUCATION USE TO HOLD INSTITUTIONS ACCOUNTABLE?

Despite providing $146 billion to students through federal student aid programs in 2021, the Department of Education conducts minimal oversight on the institutions that receive these funds.[18] Instead, the Department uses a handful of narrowly defined accountability measures to determine eligibility for federal aid. These accountability measures rarely exclude institutions from eligibility and often have little connection to institutional quality, allowing federal funds to flow largely unimpeded to institutions that leave students worse off than if they had not attended college at all. Below we explore current and former metrics the U.S. Department of Education has used to determine institutional eligibility for federal student aid.

Financial Responsibility Scores

Financial responsibility scores evaluate the financial strength of private and for-profit institutions that receive federal student aid. These scores are meant to reflect a school's financial health and act as an early warning sign of financial mismanagement or possible school closure. Scores range from -1.0 to 3.0; institutions that score below 1.5 are considered to be financially irresponsible and are subject to additional oversight. For example, they must provide assurance to the federal government that they will cover a specified portion of the costs associated with student loan discharges should the institution close. Failing institutions also become subject to heightened cash monitoring, meaning the disbursement of federal student aid is controlled to limit the government's exposure in the event of closure.

Financial responsibility scores have limited efficacy. The scores are based solely on an institution's financial health, which, while important, does not connect to student outcomes, and therefore these scores do little to protect students from attending low-quality programs. In addition, a long lag in the reporting of data used to construct financial responsibility scores means that warning signs of financial instability often come too late—a Government Accountability Office (GAO) report found that the scores failed to predict half of college closures between 2010 and 2016.[19] Research also shows that institutions do not respond to low financial responsibility scores by changing their financial priorities.[20]

Cohort Default Rates

Cohort default rates (CDRs) measure the percentage of borrowers who default within a given number of years after entering repayment. If an institution's CDR exceeds 40% for a single cohort of borrowers or 30% for three consecutive cohorts, the institution can lose eligibility for federal aid.

The CDR metric is meant to assess whether a school's value is so low that it sends a large share of its students into default, but borrowers have an array of options for avoiding default—including forbearance, deferment, and enrollment in income-driven repayment plans.[iv] Hence, even when a large share of an institution's borrowers fail to make progress on loan repayment, the CDR test can be passed. Institutions can usher students into available relief options to avoid default until after the official three-year measurement window passes, thereby evading a loss of aid eligibility without addressing student outcomes in a meaningful way. The measure therefore produces minimal institutional accountability. In 2020, just 12 postsecondary institutions were sanctioned

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iv   Deferment and forbearance allow federal student loan borrowers who are struggling with repayment, continuing their education, or who meet other criteria to temporarily suspend or decrease their monthly payments without entering delinquency or default. Income-driven repayment plans adjust borrowers' monthly student loan payments based on their income and family size—with payments set at $0 for some low-income borrowers—and forgive the remaining balance after a certain period, usually 20 or 25 years.

because of high default rates.[21] Furthermore, given the pause in student loan repayments during the COVID-19 pandemic, CDRs will be all but useless for several years to come.

CDRs also do not account for the demographics of an institution's student body. First-generation students and students of color have higher default rates on average: Twelve years after enrolling, first-generation students were 64% more likely to default than non-first-generation students.[22] Black students were three times more likely than their white peers to default.[23] As a result of this discrepancy, institutions that expand access for underserved populations may face unwarranted scrutiny around their CDR.

90/10 Rule

To be eligible for federal funds, a for-profit college must collect at least 10% of its revenue from sources other than the federal government. If more than 90% comes from students' federal aid for two consecutive years, the school loses eligibility to receive federal loans and grants. This requirement, referred to as the 90/10 rule, is intended to identify institutions for which government funding makes up the vast majority of income—the idea being that if students and those who fund their education (e.g., parents or employers) do not see the institution as a worthwhile investment of their own money, it should not be collecting taxpayer dollars.

Several factors have limited the rule's efficacy. Until 2021, the rule only counted federal financial aid from the U.S. Department of Education, excluding from the calculation any federal student aid offered by other departments, such as G.I. Bill benefits from the U.S. Department of Veterans Affairs. Moreover, the rule rarely results in loss of eligibility, in part because of the high 90% threshold, but also because an institution only loses eligibility to offer student aid if it fails the rule for two consecutive years.[v, 24]

Gainful Employment Rule

Although the Higher Education Act of 1965 required that career education programs receiving federal student aid "prepare students for gainful employment in a recognized occupation," no regulations regarding this rule

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v   The rule originally limited to 85% the share of revenue that a for-profit institution could receive from federal financial aid programs. The limit was raised to 90% in 1998. After the first year that an institution fails to pass the 90/10 rule, it is placed on a provisional eligibility status for two years, during which time the Department of Education may require the institution to meet further conditions, such as additional reporting requirements. If an institution violates the 90/10 rule for two consecutive years, it loses its federal aid eligibility for at least two years. Of the 1,764 institutions of higher education reporting revenues for purposes of the 90/10 rule during the 2016-17 academic year, a total of 12 had Title IV revenues that were greater than 90%, and all remained Title IV eligible because they satisfied the 90/10 rule in the previous year. For more information, see the Congressional Research Service report, "Institutional Eligibility for Participation in Title IV Student Financial Aid Programs," available at: https://sgp.fas.org/crs/misc/R43159.pdf.

were defined until 2014. The rule was intended to prevent federal loans and grants from funding programs in which more than half of borrowers had particularly high debt-to-earnings ratios soon after graduating. To promote transparency and accountability, the rule also required that programs provide prospective students with information about graduate earnings, debt, and employment rates.

The rule applied to all programs at for-profit schools as well as vocational certificate programs at public and private nonprofit institutions. The exclusion of degree-granting programs at public and nonprofit schools prompted complaints that it was designed to target the for-profit sector, which led to delays in implementation and to the Department of Education under the Trump administration rescinding the rule in 2019.

Despite being applied unevenly across sectors, the gainful employment rule provided a more stringent standard compared to other accountability metrics. Data released by the Department of Education in 2017 showed that, among all students completing a program covered by the rule, 10% graduated from a program that failed the test and another 20% graduated from programs that fell in the warning zone.[25] Although the rule was never fully enforced, one study found that institutions were more likely to end low-performing programs that just barely failed gainful employment standards than those that just barely passed, suggesting that institutions did respond to the publication of gainful employment data.[26] The gainful employment rule constituted an important attempt at an accountability regime based on students' ROI, designed to weed out programs that were saddling students with earnings too low to allow them to repay their student debt.

TOWARD GREATER TRANSPARENCY AND ACCOUNTABILITY

Given the lack of data on post-graduation outcomes, prospective students may struggle to project or compare their expected ROI from attending higher education institutions. Worse, current accountability measures used by the federal government do little to protect these students from fraudulent and low-quality programs that leave them no better off after graduation—assuming they complete a credential at all. Moving toward greater transparency and accountability for higher education institutions will require careful accounting for the costs and benefits of college attendance, while also considering how to generate metrics that address concerns about equity.

Designing a New Estimate of ROI

Data constraints limit the scope of any ROI estimate that can be conducted without fundamental changes in data collection or reporting by higher

education institutions. Nonetheless, it is useful to articulate some of the features that a comprehensive ROI estimate for postsecondary institutions should include:

- Uses data that meet baseline standards of validity and reliability

- Makes reasonable assumptions about the direct and indirect costs of attending college (including opportunity costs)

- Assesses monetary benefits in a comprehensive way that simulates how earnings vary over the life span

- Accounts for gender, race, and ethnicity in enrollments

- Provides results in a way that regulators and prospective students can understand

Understanding Equity and Potential Harm Caused by Poorly Designed Metrics

Although this study's modeling of the ROI of college enrollment is partly intended to be an empirical investigation of student outcomes, another major goal is to present ROI models that can lead to the development of new metrics for policymakers looking to hold higher education institutions accountable for their student outcomes. But when considering new accountability metrics for higher education, policymakers should have a nuanced understanding of economic opportunity and equity. Regulators enforcing institutional accountability should appropriately support—not penalize—institutions that primarily serve underrepresented students. These institutions often have fewer resources at their disposal. For historically Black colleges and universities (HBCUs) in particular, a historical and ongoing pattern of underfunding has left institutions doing more with less.[27] HBCUs and other minority-serving institutions enroll students who are more likely to be first-generation and low-income, and many of their students need additional support. A comprehensive analysis of ROI should therefore account for the composition of an institution's student body—including gender, income, race, and ethnicity—or, if possible, break down results across subsets of students. Beyond their different background circumstances, after graduating, some of these students may encounter labor market bias, discrimination, and harassment that limit their opportunities and suppress their earnings.

In addition to accounting for these factors, policymakers proposing accountability metrics should be aware of—and strive to avoid creating—incentives for institutions to alter recruitment and admissions behavior away from accepting underserved students to meet new requirements more easily. Indeed, research on state accountability policies for higher education—such as performance funding—has found evidence of these institutional responses, especially when institutions lack incentives to enroll a diverse student body.[28, 29]

Methodology

- Our models estimate the benefits to a student's earnings from postsecondary education—a college earnings premium—for students at thousands of institutions in the United States. This estimate is compared with the various costs of attending each school.

- Adjustments are made to the models to more accurately assess the costs and benefits of enrollment; the public subsidy provided via local, state, and federal supports for institutions; and the negative effect of labor market discrimination.

The overall goal of this study is to provide improved estimates of the financial benefits of postsecondary education relative to the costs of attaining said education—estimates of ROI. The first distinctive step in creating these improved estimates of ROI includes making adjustments to better estimate the true costs of higher education. The second step moves beyond a generic individual calculation of ROI by adding public costs and an adjustment for labor market discrimination. This can enhance the utility of the estimates for prospective students and for policymakers looking to hold higher education institutions accountable for student outcomes across demographics as well as their reliance on public funds.

A useful starting place is to imagine the ideal dataset for producing these estimates. In a perfect world (from a researcher's perspective), individual-level longitudinal data would be available in a way that links a student's college record with earnings from every year they were in the labor force. With such a dataset, earnings could be evaluated at every age, students could be grouped by the institution they attended, and then these results could be compared to a counterfactual population that did not attend college. As anyone who works with higher education data knows, however, this ideal dataset does not exist, nor does any single existing source come close to containing the information necessary to make the relevant calculations.

Given the scale of public interest (both from individuals and policymakers) over the question of ROI in higher education, it is worthwhile to approximate this ideal dataset, bringing together data from various sources and making reasonable assumptions to fill in the gaps. The core of our analysis in this report is thus producing estimates of lifetime earnings for people who attend (and for comparison purposes, those who do not attend) college.

The two main data sources for this portion of the analysis are the College Scorecard and the American Community Survey (ACS). The College Scorecard provides aggregate earnings data for students at every school that receives

Title IV funding, following students for up to 10 years after initial enrollment. Importantly, some College Scorecard data include not just average earnings, but detailed distributional information about reported earnings (10th, 25th, 50th, 75th, and 90th percentiles). This supports informed projections about the entire distribution of student outcomes because, for instance, knowing what the 75th and 90th percentile students earned provides a good idea of what the 79th percentile student likely earned.

The ACS, conducted by the U.S. Census Bureau, boasts sample sizes in the millions, which allow for precise measurement of any population parameter. For this analysis, the ACS is used to estimate the shape of the age-earnings profile for the typical worker. To construct lifetime earnings projections, take each percentile (or projected percentile) from every college, and assume that workers at that percentile will have their earnings evolve throughout their life in the same shape as the average American worker.[vi, 30] For example, the median student attending the University of Michigan-Ann Arbor earned $63,400 at age 30 (10 years after the average age at entry of 20), while the median student attending Michigan State University earned $53,600 at the same age. From the ACS, we might find that earnings at age 31 are 6% greater than at age 30, and earnings at age 32 are 11% greater than at age 30, and so on. Thus, we can construct projected lifetime earnings for the median (and every other percentile) student at these institutions by applying these estimated growth rates to the Scorecard's earnings data.

There are, of course, several caveats to this analysis. First and foremost, it assumes that life cycle earnings patterns observed over the past several decades will persist for recent students. This seems like a reasonable assumption, but it is a major source of uncertainty. Moreover, the models assume that earnings growth rates are identical across schools. This assumption will be right on average, but will likely be wrong for some predictions. Some schools might operate in an area of the country with a faster or slower earnings growth rate, and thus, estimates based on national trends will under- or over-predict lifetime earnings for students enrolling at those institutions. Unfortunately, insufficient data exist to confidently relax this assumption of common growth trends.

Notably, College Scorecard earnings metrics include all students who received some type of Title IV funding (e.g., student loans, Pell Grants) regardless of whether they graduated but exclude students who did not receive any Title IV funding. This has implications for any analysis. First, using earnings data that include students who graduated as well as those who did not implicitly accounts for a school's graduation rate. For instance, assume that 25% of students do not graduate from a given school—this will be reflected via lower reported earnings

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vi   This is a modified approach of Doug Webber's past modeling of earnings premiums. Here, the modeling estimates the earnings premium from enrollment at individual institutions rather than the earnings premium for all students nationally by field of study.

outcomes for that institution's students. When viewing the results, which are expressed as the return to the average student, it is thus important to keep in mind that these figures represent the average return to *attending* a given school, not *graduating* from a given school. Second, the earnings patterns for students receiving Title IV funding may differ from those of their peers. Indeed, research finds that students who do not receive Title IV funding tend to have higher subsequent earnings.[31] For schools with particularly low rates of federal student loan borrowing and receipt of need-based aid (e.g., highly selective private schools), model results are likely understating the future earnings of students. Given that this understatement is at least partly due to family wealth and connections rather than value-added from the school, however, it may be more of a feature than a bug for purposes of this analysis.

Once projected lifetime earnings are generated for every percentile of an institution's student body, the Baseline Model compares them with estimates of the net price of attending an institution.[vii] To account for the fact that many students take longer to complete a program than its stated duration, we assume that: individuals at four-year institutions spend five years enrolled in school and out of the labor force; individuals at two-year institutions spend three years enrolled; and individuals at certificate-granting institutions spend one year enrolled.[viii] Because institutions may offer more than one level of credential (e.g., both four-year and two-year degrees), institutions are classified by the predominant undergraduate credential they award. All students are assumed to pay the average net price at their institution for each year in school.[ix]

The Baseline Model compares the earnings of postsecondary students to the earnings of the median high school graduate in order to estimate the college earnings premium: the net lifetime benefit of enrollment in an institution versus the counterfactual of median high-school-graduate earnings (expressed in constant 2021 dollars). If a student's projected annual earnings in the model are less than that of the median high school graduate, however, those are not counted as "negative benefits," but rather counted as zero. The underlying assumption is that enrolling in an institution of higher education cannot adversely impact an individual's earning potential. Nonetheless, it is important to acknowledge that by enrolling in college, a student is also forgoing some earnings during that period (though many students work while enrolled), so this opportunity cost is also incorporated into the Baseline Model alongside the actual net price of attending college.

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vii   Net price is the actual price paid by students to attend an institution, generally calculated as the cost of tuition, fees, books, and living expenses minus any aid from the institution (e.g., tuition discounts or institutional grants) and grant aid from other sources (e.g., Pell Grants).

viii   Students who do not graduate presumably spend less time enrolled, on average, than students who graduate, but data on duration of enrollment for students who drop out are not available by institution.

ix   Net prices are provided by institutions via the Integrated Postsecondary Education Data System (IPEDS).

Below is a list of model outputs and the adjustments from the baseline that they include:

Baseline Model – An estimate of the total ROI of attending an institution for a median student, consisting of the estimated lifetime college earnings premium minus the net price of attendance, using the methodology and assumptions above. Values are in constant 2021 dollars.

Intermediate Model – The Baseline Model supplemented by adjustments for selection, discount rate, and state-specific opportunity costs:

- *Selection Adjustment* – Adjusts the model by assuming that only two-thirds of the college earnings premium is causal. People from higher-income families are more likely to pursue a postsecondary education, and there is a longstanding debate over how much of the college earnings premium is due to the accrual of valuable skills, knowledge, and connections in college versus how much is due to the fact that these students would have earned more than the typical high school graduate even without attending college thanks to their family resources and connections. A fair characterization of the extensive empirical literature on this question is that roughly two-thirds of the college earnings premium is causal.[32]

- *Discount Rate Adjustment* – Adjusts the model by applying a 2% annual discount rate to account for other ways that the money invested in attending college might have been used. This correction, also called a discounted rate of return, may be appropriate because a college education is an investment that pays off over a long time horizon, but requires significant up-front investment. A discount rate of 2% assumes that if the money used to enroll at an institution had instead been invested or used productively in some other way, those benefits would have accrued at a 2% rate of return. In this adjustment, the college earnings premium is calculated to represent the net benefit of postsecondary enrollment in excess of that 2% annual rate of return. (For more discussion of the discount rate used and an alternative calculation, see the Appendix.)

- *State-Specific Opportunity Costs Adjustment* – Adjusts the model by making the opportunity cost state-specific rather than national. Using the median earnings for high school graduates nationwide may not accurately represent the labor market facing students within a particular state. In this correction, the state where a school's main campus is located is assumed to be the relevant labor market counterfactual, which affects the calculation of the college earnings premium.

Full Model – The Baseline Model supplemented by all the adjustments in the Intermediate Model above, as well as adjustments for government subsidies and labor market discrimination:

- *Government Subsidies Adjustment* – Adjusts the model by adding costs paid by the government (e.g., subsidies) to the net price of attendance, providing a more complete picture of what it costs to educate the student. Government subsidies include local, state, and federal appropriations to institutions and grants to students, as well as implicit tax subsidies for nonprofit schools.[x]

- *Discrimination Adjustment* – Adjusts the model with a discrimination correction. Demographic corrections are applied for underrepresented minority and female students based on the earnings gaps observed in the overall population of college graduates. For example, say Black male college graduates have annual earnings equal to 75% of white male college graduates, and Black female college graduates have annual earnings equal to 65% of white male college graduates. Each institution in the sample would then have its projected earnings scaled up by (100/75) multiplied by the percentage of Black men who attend the school and (100/65) multiplied by the percentage of Black women who attend, and so on for other groups.[xi]

The Intermediate Model produces estimates of the ROI for individuals attending each institution, accounting for factors often not included in previous estimates of the ROI of college enrollment. The adjustments for selection and discount rate are each likely to produce substantial decreases in estimates relative to the Baseline Model by more accurately modeling the benefit of enrollment relative to the counterfactual of not having attended college.

The Full Model goes further, making additional adjustments that reflect costs and benefits in a broader way that may be of particular interest to policymakers. Accounting for the government funding invested in each student's enrollment is a step toward a more complete accounting of the costs of a college education at a particular institution. Likewise, scaling up the estimated college earnings premium based on the enrollment of women and underrepresented minorities generates estimates that may more accurately assess how much value is being created at an institution.[xii]

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x   Data on local, state, and federal appropriations are reported by institutions in IPEDS. The implicit tax subsidy for nonprofit schools was calculated using institution-reported revenue and expenditure data from IPEDS, measuring the taxes that nonprofit institutions would have owed had their revenues in excess of expenditures been taxed as profit.

xi   Annual earnings of college graduates by race and gender were calculated using data from the American Community Survey.

xii   The adjustment for labor market discrimination is excluded from the Intermediate Model, which produces estimates of ROI from the perspective of a generic student, because that adjustment would depend on the demographics of the individual. The Full Model provides an estimate of the value created by an institution but similarly does not represent a typical ROI for every student who attends that institution.

Findings

- We estimate that most institutions typically provide a positive ROI for their students, and it is noteworthy that the vast majority of students nationwide attend these institutions. Nonetheless, hundreds of institutions are estimated to provide no ROI to most of their students.

- Public institutions are the most likely to provide a positive estimated median ROI, followed by private nonprofit institutions and then private for-profit institutions, many of which are estimated to provide little value to their students.

- The largest estimated ROIs are found among prestigious private institutions as well as institutions with a focus on high-earning technical fields.

In total, our models were used to analyze ROI at 3,349 institutions for which data were available, with a total enrollment of 15.6 million undergraduate students **(Table 1)**. Most institutions show a positive median ROI estimate for student enrollment in the Baseline Model, as well as when modeling various adjustments (see Appendix for detailed results). For these schools, the average student is deriving value from enrolling at the institution. In all the models, however, some institutions do show a median negative ROI.

Table 1. Number of Institutions Included in Modeling and Their Undergraduate Enrollment

Sector	Number of Institutions	Undergraduate Enrollment
All Institutions	**3,349**	**15,596,332**
Public	**1,562**	**11,703,197**
4-Year	502	5,802,981
2-Year	699	4,665,806
<2-Year	361	1,234,410
Private Nonprofit	**995**	**2,508,819**
4-Year	890	2,372,267
2-Year	73	112,419
<2-Year	32	24,133
For-Profit	**792**	**1,384,316**
4-Year	60	649,632
2-Year	157	325,006
<2-Year	575	409,678
HBCUs	**89**	**242,270**

Source: Author analysis of Integrated Postsecondary Education Data System data

The findings in this section focus on three models: a Baseline Model with no adjustments; an Intermediate Model that adjusts for several financial and statistical factors affecting ROI; and a Full Model that also includes an adjustment for labor market discrimination and the cost of government subsidies.

BASELINE MODEL

In the Baseline Model without any adjustments, 98% of students attend the 86% of institutions that are estimated to generate positive returns to their typical student. Virtually all public and private nonprofit schools generate large returns, with median estimated returns by institution type ranging between -$7,073 for the small number of predominantly certificate-granting private nonprofit institutions to over $500,000 for predominantly bachelors-granting public institutions. Many for-profit institutions perform poorly, with the median school having an estimated return of -$3,820. But because larger institutions have better student earning outcomes on average, 81% of students attending for-profit schools are enrolled at an institution estimated to have positive returns. HBCUs on the whole have positive outcomes in this model, with 98% of students attending institutions with positive returns, and the median institutions providing an estimated benefit of roughly $125,000.

Table 2. Baseline Model Return on Investment

Sector	Percentile Distribution Within Sector			Share of Institutions in Sector with Positive Median ROI	Share of Students in Sector Attending Institutions with Positive Median ROI
	25th	50th	75th		
All Institutions	**$64,052**	**$225,498**	**$460,603**	**85.5%**	**98.0%**
Public	**$143,501**	**$245,838**	**$417,322**	**98.5%**	**99.9%**
4-year	$320,231	$504,520	$737,090	99.8%	99.9%
2-year	$156,462	$225,293	$315,973	99.3%	99.9%
<2-year	$50,016	$116,349	$200,964	95.3%	98.8%
Private Nonprofit	**$222,425**	**$451,708**	**$809,954**	**95.2%**	**98.7%**
4-year	$258,392	$490,157	$855,753	97.4%	99.1%
2-year	$78,227	$259,927	$435,811	89.0%	96.8%
<2-year	-$34,715	-$7,073	$149,903	46.9%	66.1%
For-Profit	**-$30,260**	**-$3,820**	**$85,175**	**47.7%**	**81.3%**
4-year	$20,834	$147,039	$254,816	78.3%	97.5%
2-year	-$16,226	$36,714	$136,031	61.8%	83.7%
<2-year	-$32,639	-$12,900	$45,296	40.7%	53.7%
HBCUs	**$38,934**	**$125,058**	**$243,793**	**94.4%**	**98.2%**

INTERMEDIATE MODEL

After making corrections for the self-selection of people from higher-income backgrounds into college, discount rates, and state-specific opportunity costs, estimated returns are lower on average than in the Baseline Model. But overall, positive benefits are estimated for most students: 91% of students attended schools with positive returns for their typical student, and the median institution had a return of $52,638. Like the Baseline Model, estimated returns varied considerably by sector, with the vast majority of students in the public and private nonprofit sector attending schools that generate positive returns in this model. In contrast, only 21% of for-profit institutions delivered positive estimated returns, and only 38% of students in that sector attended these schools. The estimates produced by this model show that most HBCUs did not provide a positive ROI for their typical student, although 67% of HBCU students attended a school that did. Moreover, this model run does not account for labor market discrimination.

Table 3. Intermediate Model Return on Investment

Sector	Percentile Distribution Within Sector			Share of Institutions in Sector with Positive Median ROI	Share of Students in Sector Attending Institutions with Positive Median ROI
	25th	50th	75th		
All Institutions	**-$10,979**	**$52,638**	**$126,883**	**71.4%**	**90.6%**
Public	**$34,643**	**$73,020**	**$126,479**	**93.4%**	**98.5%**
4-year	$65,215	$127,141	$230,210	94.4%	98.5%
2-year	$44,448	$72,803	$105,971	97.7%	99.7%
<2-year	$8,897	$31,126	$63,965	83.7%	94.5%
Private Nonprofit	**$8,425**	**$95,676**	**$227,120**	**77.3%**	**82.5%**
4-year	$14,268	$104,010	$246,315	79.2%	83.0%
2-year	$1,330	$80,317	$144,763	75.3%	83.5%
<2-year	-$41,095	-$26,774	$27,072	28.1%	32.3%
For-Profit	**-$44,629**	**-$32,336**	**-$8,686**	**20.6%**	**38.2%**
4-year	-$88,749	-$53,888	-$28,449	16.7%	39.7%
2-year	-$37,389	-$16,308	$18,461	36.9%	50.7%
<2-year	-$44,137	-$33,286	-$14,609	16.5%	25.8%
HBCUs	**-$40,463**	**-$4,059**	**$40,835**	**48.3%**	**67.4%**

After building on the Intermediate Model to account for government subsidies and labor market discrimination, the estimated return for the median institution more than doubles, from $52,638 to $106,508. The addition of these new adjustments extends the findings of the Full Model to represent a broader conceptualization of value for students, taxpayers, and policymakers. Ninety-six percent of students attended the 81% of institutions with positive estimated returns, and returns were large for the public and private nonprofit sectors (excluding predominantly certificate-granting private nonprofit schools). The average for-profit institution generated a median estimated loss of $8,937, although 69% of students in the sector attended schools with positive benefits. Finally, the median HBCU generated an estimated return of $72,574.

Table 4. Full Model Return on Investment/Value

Sector	Percentile Distribution Within Sector			Share of Institutions in Sector with Positive Median ROI/Value	Share of Students in Sector Attending Institutions with Positive Median ROI/Value
	25th	50th	75th		
All Institutions	**$24,958**	**$106,508**	**$203,874**	**81.2%**	**95.6%**
Public	**$72,132**	**$124,484**	**$193,721**	**96.3%**	**99.5%**
4-year	$124,521	$202,327	$312,842	97.6%	99.4%
2-year	$83,798	$122,733	$163,747	98.9%	99.8%
<2-year	$25,177	$62,657	$107,990	89.5%	98.3%
Private Nonprofit	**$82,063**	**$197,262**	**$362,821**	**89.5%**	**92.7%**
4-year	$98,351	$214,085	$384,327	92.0%	93.1%
2-year	$33,503	$139,395	$216,549	83.6%	89.5%
<2-year	-$40,497	-$26,077	$69,622	34.4%	62.7%
For-Profit	**-$31,872**	**-$8,937**	**$35,562**	**41.0%**	**68.8%**
4-year	-$56,982	$1,776	$42,216	51.7%	75.9%
2-year	-$23,618	$14,778	$64,942	58.6%	82.9%
<2-year	-$32,501	-$12,986	$23,707	35.1%	46.4%
HBCUs	**$19,966**	**$72,574**	**$137,249**	**88.8%**	**94.7%**

To put some context behind the numbers, we present findings for a few example institutions.

We first show Miles College, a private nonprofit HBCU in Alabama. Its ROI findings under the three main models are as follows:

- Baseline Model: $52,940
- Intermediate Model: -$50,018
- Full Model: $37,048

As an HBCU in a state with lower-than-average earnings, Miles College sees typical decreases after the adjustments in the Intermediate Model, but gains a large boost from the labor market discrimination adjustment.

Second, we show American InterContinental University, a four-year for-profit institution with about 12,000 undergraduates. Its ROI findings under the three main models are as follows:

- Baseline Model: $9,807
- Intermediate Model: -$60,279
- Full Model: -$53,618

After the adjustments in the Intermediate Model, American InterContinental's ROI falls considerably. But unlike Miles College, it regains little return for the discrimination adjustment.

Finally, we show Milwaukee Area Technical College, a public two-year institution that serves a diverse student body. Its ROI findings under the three main models are as follows:

- Baseline Model: $150,405
- Intermediate Model: $33,124
- Full Model: $70,644

As a low-tuition institution with strong labor market outcomes, Milwaukee Area Technical College has positive returns under all three models.

Certain patterns are apparent across sectors. Public institutions are the most likely to have a positive median ROI estimate across models (96% of institutions have positive values in the Full Model), and nonprofit institutions are a close second (90%), while for-profit institutions are the least likely to have a positive median ROI (41%). Within each sector, a larger proportion of students attend institutions with a positive median ROI estimate than the proportion of institutions with a positive return, indicating that all else equal, institutions with fewer students are less likely to show a positive median ROI of enrollment.

In the Full Model, four-year public and nonprofit institutions show the highest median ROI estimates, though nonprofit schools have a wider range of returns. Two-year public institutions—community colleges—are the type of institution most likely to carry a positive median ROI estimate, with 99.8% of students in that sector enrolled at positive median ROI institutions. Non-degree-granting for-profit institutions are the least likely to have an estimated positive median ROI of enrollment (35%) and are the only type of institution at which most enrolled students are attending a school with a negative median ROI. In the full set of model estimates available on the Bipartisan Policy Center website, the institutions with the largest estimated benefits of attendance tend to be highly selective private nonprofit four-year universities, as well as four-year public and nonprofit institutions with training focused in high-earning fields.

The institutions with significantly negative median estimated ROIs are varied and include for-profit colleges, religious and secular nonprofit institutions, and public vocational institutions. Some schools have a negative median ROI estimate in the Baseline Model, showing that their net costs of attendance alone are greater than any long-term benefit, while others have positive Baseline Model estimates, but a more thorough accounting of the costs and benefits of attendance push their median ROI into the negative. For some particular institutions with negative median ROI estimates, labor market outcomes may not be of great concern; for instance, religious institutions may not believe that preparing their students for the workforce is part of their institutional mission. Many institutions with negative median ROI estimates, however, are explicitly promoted as providing vocational training or a pathway to higher-earning jobs, raising questions about the costs and benefits for their students as well as taxpayers.

DISCUSSION AND LIMITATIONS

The modeling in this study goes further than other estimates of higher education ROI by including a fuller accounting of the costs of attendance, adjusting for the likely reality that not all benefits of enrollment are causal, and making a novel adjustment for labor market discrimination experienced by students after they depart an institution. The Baseline Model strongly

resembles existing estimates of college ROI, but by providing a more complete accounting of the costs of enrollment in higher education as well as assuming that only two-thirds of the apparent benefit of enrollment is causal, our Intermediate Model estimates of college ROI are, in many cases, significantly lower than existing models. Even in this harsher accounting, 91% of postsecondary students still attend institutions with a positive median ROI, but this is substantially lower than the 98% of students in the Baseline Model.

The Full Model, which adds an accounting for government investment in education as well as an adjustment for labor market discrimination, serves as a broader assessment of the value of the education that institutions are providing. Individual students may not care which institutions are dependent on state appropriations, student aid, or tax benefits, but such information is relevant when assessing the broader social value of higher education. Meanwhile, the adjustment for labor market discrimination helps address one of the key problems with metrics of college ROI as a regulatory tool: the need to avoid punishing institutions that enroll students from demographics with lower average earnings. Full Model estimates incorporating this adjustment are a better benchmark for an accountability metric evaluating the full range of higher education institutions that serve widely varying student populations. Despite adjusting college earnings premiums upward to account for job market discrimination, the Full Model still assigns a median negative ROI of enrollment to many more institutions than does the Baseline Model.

Although the proportion of students attending institutions with a positive median estimated ROI of enrollment exceeds 90% in all three models presented, a substantial number of institutions produce a negative ROI for their typical undergraduate student. Indeed, the Full Model estimates that more than 600 institutions failed to produce a positive median ROI despite receiving federal student aid. This should be of concern to all stakeholders: prospective students and their families, taxpayers, and policymakers.

It is important to note that there are limitations to the outputs and metrics provided here. By necessity, estimates are based on data for students whose enrollment began more than 10 years ago; this excludes newer institutions entirely and means that ROI estimates may be particularly outdated for institutions whose enrollment or instructional models have changed. The models require data from sources that the federal government is not updating as of the publication of this study; as such, they cannot serve as the basis for ongoing regulation of higher education institutions unless that changes.

Policy Recommendations

U.S. higher education consists of a diverse array of institutions with varying missions, funding models, and student bodies. These institutions offer degrees and certificates at various levels, train students for a wide variety of vocations, and prepare students to take on advanced professional and academic training. The one element that most of these institutions have in common is a reliance on public funding and student aid. Even private religiously affiliated institutions often rely on federal student aid dollars via grant and loan programs. Eligibility to disburse this aid may lend institutions an implicit aura of trustworthiness with students who assume that these schools meet baseline standards of quality. Federal student aid's central role in financing American higher education gives policymakers and taxpayers a strong interest in assessing and regulating the industry, especially the thousands of institutions that disburse federal dollars.

As noted in the introduction, existing metrics available to prospective students for assessing the quality and value of institutions, as well as to the Department of Education for determining whether institutions are a risk to taxpayers, are limited in their usefulness. The Full Model in this study provides a metric that addresses concerns about the precision and accuracy of other approaches. It can inform both the discussion about how to meet public needs for transparency and consumer information as well as the debate around how the federal government might more effectively evaluate institutions and hold them accountable for their student outcomes.

The complexity and data constraints of the model, however, suggest the need for substantial improvements to how the federal government collects and analyzes higher education data. Better data is a necessary but insufficient step toward a more accountable higher education system that generates positive outcomes for as many students as possible while ensuring that taxpayer funding is directed effectively.

Moving forward, policymakers should work to improve accountability in postsecondary education by pursuing the following approaches:

- Improve data availability and transparency for the public, policymakers, and researchers by eliminating the student unit record ban, providing a wider array of student outcome metrics, facilitating the sharing of data across federal agencies, and requiring institutions to provide clearer data on their student services spending.

- Standardize how institutions calculate the cost of college attendance, and assist prospective students and their families in understanding the costs

and benefits of college enrollment so that they can make fully informed decisions.

- Better regulate institutions that pose a risk to students and taxpayers through new accountability metrics, and direct additional resources to institutions serving under-resourced students to help them achieve these standards.

IMPROVE DATA AVAILABILITY AND TRANSPARENCY

End the Student Unit Record Ban

At present, student outcome data are reported to IPEDS only at the institution level. Breakdowns of student outcomes by race, ethnicity, gender, and income are reported to IPEDS only for certain statistics that institutions are required to report, such as graduation rate by race and ethnicity; outside those reported metrics, there is no way for the Department of Education or consumers to assess how students from a particular subgroup are served across institutions. For instance, because institutions are required to produce estimates of the average net price of attendance—the total cost of attendance for a student after considering grant aid—for several ranges of family incomes, policymakers can use these data to assess how well a school is targeting institutional aid to low-income students. On the other hand, because institutions are not required to report graduation rates across income levels, policymakers have less ability to understand how well an institution is helping those same low-income students graduate.

A conceptually simple solution is to instead require institutions to report data for each individual student rather than as averages or totals for the whole institution. This would enable the Department of Education to create outcome metrics across institutions and demographics. The Department could then provide breakdowns that allow policymakers, institutional leaders, and researchers to better assess outcomes for specific sets of students, such as the graduation rate, post-graduation earnings, or loan repayment outcomes for Black students who received Pell Grants at a particular institution. These calculations would be an important part of determining which services or decisions by institutions are creating better outcomes for specific subgroups of students. Breakdowns using these data would also be useful for the public: Prospective students could investigate which schools provide the best outcomes for students like them, such as student veterans, students from their racial or ethnic group, or other characteristics.

Unfortunately, a 2008 amendment to the Higher Education Act forbids the Department of Education from developing or maintaining a database that

contains student-level data. This ban on collecting data at the student unit level prevents the Department from creating detailed, anonymized breakdowns of student outcomes by subgroup that would help policymakers and practitioners improve the quality of student services and evaluate institutional performance on a more granular level. With student-level data, the Department of Education could produce these breakdowns without requiring institutions to perform new calculations, avoiding additional institutional burden.

To improve data availability and allow for the measurement of more in-depth student outcomes, this ban should be repealed, and the Department of Education should be directed to collect student unit data in a manner that appropriately protects the privacy and security of individual students.[33] These records should also include data for students not receiving federal aid; otherwise, measured outcomes will continue to be unrepresentative of the whole student body.

Expand and Update Available Outcome Metrics

Although ending the student unit record ban would be the most efficient way to facilitate the production of a wider range of more granular student outcome metrics, some elected officials and institutions of higher education have opposed ending the ban. With or without an end to the student unit record ban, however, the Department of Education as well as individual institutions can improve their reporting of outcomes for students. One critical unmet need is the analysis of a wider range of student outcomes by race, ethnicity, and gender. At present, most analyses and metrics broken down by these demographic characteristics are only available in infrequently-produced studies conducted by the National Center for Education Statistics (NCES), which have limited sample sizes, resulting in conclusions limited to national or sector-wide levels and which cannot be used to assess institutions. These studies are valuable for helping policymakers and researchers understand how demographics are related to student outcomes at the national level, but without data or metrics produced at the institutional level, there is limited information about how well particular schools are serving these populations.

The public interest demands better information about the performance of institutions. Eliminating the student unit record ban would facilitate the creation of better metrics by subgroup, but some additional analysis may be feasible even without that step. For instance, recently passed legislation will add race and ethnicity questions to the Free Application for Federal Student Aid (FAFSA), meaning that the Department of Education and institutions will have greater access to these data, making it more feasible to produce outcome breakdowns by race and ethnicity.[34]

In the absence of ending the student unit record ban, institutions should be required to produce a wider array of breakdowns for student outcomes—such

as persistence and graduation by income in addition to the already-reported gender, race, and ethnicity—and to report those breakdowns to IPEDS.[xiii] The Department of Education should expand the metrics produced for the College Scorecard to include breakdowns by gender, race, and ethnicity where feasible, and expand on the selection of metrics currently broken down by income level. Unless the student unit record ban is lifted, however, these metrics will likely continue to be calculated using data only from students who received federal student aid.

Facilitate Data Sharing Across Federal Agencies

The Department of Education has already used data matching with the IRS to create earnings metrics for the College Scorecard. Now, while upholding privacy standards, the Department should implement and streamline sustained interagency data sharing to facilitate a greater understanding of postsecondary student outcomes. For instance, data sharing with the U.S. Department of Defense and the Department of Veterans Affairs would allow for a more complete assessment of the use of military and veterans benefits in higher education and the outcomes for these students. Several different agencies collect and analyze data regarding employment and income—the Census Bureau, the IRS, the Bureau of Labor Statistics, and the Social Security Administration, among others—and facilitating data sharing across these agencies would deepen understanding of the long-term labor market outcomes of students and whether institutions are successful at improving them across demographic and socioeconomic backgrounds.

Require Institutions to Report More-Accurate Information About Their Spending

Institutions report their spending to IPEDS, but in some cases, the reporting categories are so broad as to provide little information about what an institution is prioritizing. Spending on student services is particularly opaque, as the reporting category includes tutoring and counseling services but also recreational services and, most problematically, marketing spending. This makes it difficult for regulators as well as prospective students to assess which campuses are investing in direct services to support student success versus those investing primarily in recruiting more students without prioritizing student completion.

NCES should reform the existing student services spending category in IPEDS to encompass all supports designed to help students succeed but not spending

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on marketing and recruitment, athletics, and other activities designed to attract additional revenues—those should be classified separately. Given suggestive evidence that institutions sometimes revise their IPEDS reporting to avoid negative scrutiny, GAO should conduct an audit of IPEDS data quality to assess whether any changes are needed to improve data reliability and accuracy.[35]

HELP PROSPECTIVE STUDENTS UNDERSTAND THE COSTS AND BENEFITS OF COLLEGE

Provide Enhanced Guidance for Institutional Estimates of Cost of Attendance

The total cost of attending an institution includes tuition and fees, books and supplies, room and board, and other living expenses. Institutions estimate the total cost of attendance for their students, and these estimates can be highly inconsistent, even for institutions in the same county. The cost of attendance may also vary greatly depending on the living situation of students, whether they have dependent children, and other factors. Thus, these aggregate figures may be misleading for prospective students. Additionally, because the cost of attendance estimate is part of calculating financial aid packages (including student loan amounts), overestimates or underestimates of these values can lead to students and their families taking on larger loans than they need or receiving insufficient aid packages.

The Department of Education should enhance its guidance for institutional estimates of cost of attendance. This might include pointing institutions to the best sources of data on student costs or providing data directly in partnership with federal, state, or local agencies.

Simplify and Standardize Student Aid Disclosures and Counseling

It is critical for prospective students to receive clear information about the costs and benefits of their enrollment at an institution as well as the details of their financial aid packages, such as student loan amounts and terms. First-generation students and older students in particular may be making enrollment decisions mostly on their own, often with little understanding of how higher education institutions vary in reputation, price, and student outcomes. Similarly, clear and complete information is needed for student loan borrowers who are exiting school, whether they are completing their education or not, as they face making payments on their student loans for the first time.

The Department of Education should take an evidence-based approach to assessing which formats of disclosures and trainings are most effective at

educating prospective students about their financial aid packages and exiting students about their loan repayment realities. Disclosures of financial aid packages for prospective students should be standardized across all institutions that disburse federal student aid and should undergo extensive consumer testing to ensure clarity.[36]

BETTER REGULATE INSTITUTIONS THAT PUT STUDENTS AND TAXPAYERS AT RISK

Tighten Eligibility Standards for Disbursing Federal Student Aid

Although prospective students and their families should be provided with the information to make informed decisions, consumer preferences alone are insufficient to ensure that institutions provide a quality education, particularly when taxpayer dollars are at stake. As noted earlier, existing regulatory standards for federal student aid programs preclude very few institutions from participation—even those with poor outcomes can access the revenue source. Federal aid eligibility may also convey to prospective students that the federal government considers these institutions to be a good investment.

Policymakers should tighten standards for the disbursement of federal student aid. Specifically, they should consider new metrics to exclude institutions from eligibility, with a focus on discerning a positive ROI for government resources and students' time and money. The Full Model presented in this study demonstrates one option for a metric that goes beyond the easily gamed CDR to consider multiple factors regarding institutional performance while also adjusting for an institution's demographic makeup.

Require Institutions Disbursing Federal Student Aid to Pay a Premium Tied to Student Outcomes

Even if the Department of Education significantly tightens institutional eligibility standards for student aid, most schools will continue to meet that basic threshold. As evidence, this report's models show that the vast majority of higher education institutions produce net benefits for their students on average, even accounting for an array of costs. Thus, absent further reform, most institutions would still lack a concrete financial incentive to improve the outcomes of their students: Whether their students can find good jobs or pay off their loans has no direct impact on the institution's budget as long as it remains well above any hypothetical cutoff point for eligibility.

To address this gap, institutions should be charged a small premium to participate in the federal student aid system. The premium would be

proportional to the amount of student debt issued by the institution that has not seen any reduction in loan principal (i.e., the "non-repayment balance") after a period of time. The premium would be capped at a certain percentage of an institution's revenue to avoid an overly punitive charge.

One critical issue for such a program would be ensuring that it does not punish institutions simply because they serve vulnerable populations. As such, the premium should be adjusted for low-income enrollment and spending on instruction and student services as an indicator of effort to improve student outcomes.

The goal of this system would be to give institutions a direct incentive to provide high-quality instruction and student services that improve student outcomes.[37]

Provide Resources to Institutions That Serve Minority and Low-Income Students

Existing federal grant programs provide funding for institutions that serve low-income and historically disadvantaged students—such as HBCUs, Hispanic-Serving Institutions, other minority-serving institutions, and community colleges. As part of an improved accountability system, these grant programs should be expanded. Providing additional resources would help address longstanding inequities in the funding of many of these institutions, improve outcomes for the students they serve, and help these schools meet new accountability standards.

Conclusion

The costs and benefits of college enrollment is a topic that has justifiably drawn a great deal of interest and scrutiny from researchers and policymakers. It is well-established that there is substantial variation in value across U.S. postsecondary institutions. According to our models, most institutions typically provide net benefits to the students who enroll, yet a substantial number show a negative return on investment for many of their students.

Although the Full Model outlined above provides a methodologically ambitious and comprehensive attempt at capturing the costs and benefits of college enrollment, it remains limited in some respects. For example, some data sources used in the modeling are not being regularly updated. Moreover, the approach is based on existing data from the Department of Education, and as noted above, those data are constrained both by statute and political realities, as presidential administrations may decide to begin collecting new data or cease publishing existing metrics.

If legislation ended the student unit record ban, and the Department of Education expanded data matching with other departments and agencies, it would be possible to produce new metrics of greater precision than those currently available. Those metrics could render the modeling in this report obsolete—a welcome outcome. Until then, the Department should at least continue updating data sources for the benefit of prospective students and their families as well as policymakers seeking to base their decisions on the best available information.

Higher education institutions in the United States rely heavily on a constant flow of federal student aid dollars—financing that comes with few strings attached. This lack of accountability has adverse consequences for prospective students trying to make informed enrollment decisions, for borrowers saddled with student loans that they are unable to repay, and for taxpayers who are left footing the bill.[38] Without stronger safeguards on the distribution of federal dollars in higher education, this trend will continue. Greater accountability is needed, and the pillars of an effective system are clear: Measures of institutional performance must be based on thorough, reliable data, and standards must be enforced in a manner that promotes equity and recognizes the institutions that best serve students.

Appendix

DISCOUNT RATES AND SENSITIVITY ANALYSIS

Discount rates are frequently used in cost-benefit analyses to account for when the benefits of an investment or policy are substantially delayed from the time of the initial cost or investment. The discount rate is an attempt to acknowledge that, even after adjusting for inflation, money in hand today is more valuable than money in hand tomorrow, because the former can be invested or used for other purposes.

In the models presented in this study, the benefits to the student are assumed to accrue over an entire career, while the costs of college enrollment occur upfront. As such, applying a discount rate is appropriate.

In this study, the modeling adjustment uses a discount rate of 2%. This matches the rate used in an Organisation for Economic Co-operation and Development (OECD) study of the financial returns on investment in higher education, which itself was based on average real interest rates on government bonds in OECD countries.[39]

The Office of Management and Budget recommends either a 3% or 7% discount rate for most analyses, with 7% the default rate for regulatory analyses and 3% recommended for regulation that primarily affects private consumption.[40] A version of the Full Model using a 7% discount rate was produced to conduct a sensitivity analysis to assess the impact of using a different discount rate. The table below summarizes the results.

A 7% discount rate results in much lower estimates in the Full Model for most institutions across sectors. Though institutions with large positive median ROI estimates in the Full Model using a 2% discount rate largely retain a positive return, in total across all sectors, the proportion of higher education institutions with a positive estimate drops from 81% to 24%.

Sector	Discount Rate: 2%		Discount Rate: 7%	
	Institutions with Positive ROI – Full Model	Institutions with Positive ROI – Intermediate Model	Institutions with Positive ROI – Full Model	Institutions with Positive ROI – Intermediate Model
All Sectors	**81.2%**	**71.4%**	**24.3%**	**16.6%**
Public	96.3%	93.4%	34.4%	26.4%
Private Nonprofit	89.5%	77.3%	25.9%	13.4%
For-Profit	41.0%	20.6%	2.3%	1.1%

BASELINE MODEL WITH ADJUSTMENTS

Selection Adjustment

Sector	Percentile Distribution Within Sector			Share of Institutions in Sector with Positive Median ROI	Share of Students in Sector Attending Institutions with Positive Median ROI
	25th	50th	75th		
All Institutions	**$23,467**	**$126,717**	**$271,364**	**80.6%**	**95.7%**
Public	**$81,822**	**$149,144**	**$254,854**	**96.4%**	**99.4%**
4-year	$172,860	$295,895	$444,991	98.2%	99.7%
2-year	$93,402	$141,344	$202,097	98.4%	99.7%
<2-year	$23,540	$67,602	$121,389	90.0%	97.2%
Private Nonprofit	**$99,365**	**$250,854**	**$478,664**	**89.8%**	**94.1%**
4-year	$118,114	$273,405	$508,331	92.2%	94.6%
2-year	$38,027	$155,444	$272,584	87.7%	95.5%
<2-year	-$35,755	-$14,865	$83,791	28.1%	32.3%
For-Profit	**-$35,222**	**-$18,166**	**$34,721**	**37.8%**	**67.6%**
4-year	-$36,075	$40,708	$103,219	63.3%	81.9%
2-year	-$29,403	$6,366	$67,765	54.1%	68.9%
<2-year	-$36,522	-$22,416	$14,477	30.6%	43.8%
HBCUs	**-$5,822**	**$48,362**	**$117,023**	**68.5%**	**84.7%**

Discount Rate Adjustment

Sector	Percentile Distribution Within Sector			Share of Institutions in Sector with Positive Median ROI	Share of Students in Sector Attending Institutions with Positive Median ROI
	25th	50th	75th		
All Institutions	**$14,497**	**$112,776**	**$246,648**	**78.6%**	**94.9%**
Public	**$71,114**	**$135,507**	**$233,361**	**95.6%**	**99.3%**
4-year	$154,960	$273,576	$417,655	98.2%	99.7%
2-year	$83,906	$128,562	$186,293	98.1%	99.6%
<2-year	$17,643	$58,878	$108,173	87.3%	96.0%
Private Nonprofit	**$75,731**	**$224,316**	**$450,789**	**87.6%**	**91.5%**
4-year	$94,515	$240,133	$478,865	90.1%	92.3%
2-year	$26,319	$138,260	$248,921	83.6%	87.4%
<2-year	-$38,228	-$20,049	$70,383	28.1%	32.3%
For-Profit	**-$38,880**	**-$23,504**	**$21,245**	**33.7%**	**63.9%**
4-year	-$48,018	$11,301	$63,391	56.7%	80.0%
2-year	-$33,626	-$1,422	$55,870	49.0%	65.0%
<2-year	-$40,129	-$26,275	$6,439	27.1%	37.6%
HBCUs	**-$17,647**	**$32,951**	**$103,326**	**66.3%**	**83.8%**

State-Specific Opportunity Cost Adjustment

Sector	Percentile Distribution Within Sector			Share of Institutions in Sector with Positive Median ROI	Share of Students in Sector Attending Institutions with Positive Median ROI
	25th	50th	75th		
All Institutions	**$75,031**	**$227,789**	**$456,177**	**85.7%**	**98.1%**
Public	**$150,422**	**$244,614**	**$409,280**	**99.2%**	**99.9%**
4-year	$336,642	$491,435	$728,924	99.6%	99.9%
2-year	$157,224	$221,752	$300,619	99.7%	100.0%
<2-year	$67,569	$127,710	$206,867	97.5%	99.5%
Private Nonprofit	**$241,600**	**$453,004**	**$778,199**	**95.0%**	**98.7%**
4-year	$272,032	$488,765	$833,934	97.4%	99.2%
2-year	$77,795	$260,727	$433,339	89.0%	99.6%
<2-year	-$36,852	-$18,408	$145,069	40.6%	62.7%
For-Profit	**-$29,104**	**-$6,024**	**$79,534**	**47.5%**	**81.5%**
4-year	$7,958	$134,753	$240,787	78.3%	97.9%
2-year	-$13,886	$37,018	$132,209	64.3%	86.3%
<2-year	-$31,455	-$14,794	$38,736	39.7%	51.6%
HBCUs	**$81,150**	**$145,019**	**$247,745**	**95.5%**	**98.2%**

Government Subsidies Adjustment

Sector	Percentile Distribution Within Sector			Share of Institutions in Sector with Positive Median ROI	Share of Students in Sector Attending Institutions with Positive Median ROI
	25th	50th	75th		
All Institutions	**$47,436**	**$205,697**	**$438,657**	**82.9%**	**97.1%**
Public	**$121,003**	**$228,501**	**$389,982**	**95.7%**	**99.4%**
4-year	$280,013	$462,155	$676,668	98.2%	99.8%
2-year	$141,660	$209,881	$299,673	97.9%	99.7%
<2-year	$33,807	$92,015	$183,072	88.1%	97.0%
Private Nonprofit	**$209,395**	**$441,623**	**$796,822**	**93.1%**	**97.9%**
4-year	$239,775	$475,337	$841,436	95.6%	98.4%
2-year	$69,441	$237,497	$424,311	89.0%	96.8%
<2-year	-$43,401	-$17,183	$141,569	31.3%	60.2%
For-Profit	**-$37,164**	**-$10,032**	**$77,906**	**44.8%**	**76.5%**
4-year	$9,403	$144,831	$242,879	75.0%	95.5%
2-year	-$26,717	$30,371	$132,796	58.6%	70.0%
<2-year	-$39,800	-$16,891	$38,364	37.9%	51.4%
HBCUs	**$10,291**	**$69,088**	**$188,919**	**75.3%**	**87.4%**

Discrimination Adjustment

Sector	Percentile Distribution Within Sector			Share of Institutions in Sector with Positive Median ROI	Share of Students in Sector Attending Institutions with Positive Median ROI
	25th	50th	75th		
All Institutions	**$182,705**	**$399,015**	**$715,951**	**95.2%**	**99.6%**
Public	**$279,457**	**$419,222**	**$641,209**	**99.9%**	**100.0%**
4-year	$547,596	$790,186	$1,037,448	100.0%	100.0%
2-year	$291,102	$380,211	$491,255	100.0%	100.0%
<2-year	$142,895	$227,767	$350,269	99.7%	100.0%
Private Nonprofit	**$433,539**	**$727,138**	**$1,149,400**	**98.4%**	**99.7%**
4-year	$484,140	$778,560	$1,216,084	99.7%	99.9%
2-year	$197,897	$452,108	$650,761	97.3%	99.5%
<2-year	-$23,789	$35,277	$272,174	65.6%	83.2%
For-Profit	**$13,287**	**$77,937**	**$210,668**	**81.8%**	**96.0%**
4-year	$140,236	$298,062	$480,078	96.7%	99.8%
2-year	$37,132	$136,832	$264,380	88.5%	97.8%
<2-year	$4,758	$58,864	$160,453	78.4%	88.4%
HBCUs	**$275,434**	**$404,704**	**$625,496**	**100.0%**	**100.0%**

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