

USING EARNINGS METRICS FOR ACCOUNTABILITY



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The main reason why most students go to college is for a better future, including better labor market outcomes and higher wages. A national survey of full-time students entering four-year colleges shows that 85 percent of respondents considered getting a better job to be a very important reason to attend college and 73 percent also considered making more money to be crucial.¹ Particularly among today's students—many of whom are returning adults, the first in their family to attend college, and attending part-time—making a better life for themselves and their families is the main reason they make sacrifices to attend college.²

Now, in the midst of the deepest economic crisis the United States has faced in decades, higher education's role in fostering social mobility is more important than ever. During recessions, unemployment rates increase at a much faster rate for adults with lower education levels. During the Great Recession, students placed even greater importance on the economic benefits of higher education.³ And in the economic expansion that followed, nearly all of the jobs created went to individuals with at least some college education.⁴ A similar situation is likely over the next decade following the coronavirus pandemic and ensuing deep recession.

But the benefits of higher education are not clear to all students, regardless of research that has consistently shown they are substantial.⁵ In order for college to be worth it, students must graduate, and often must do so in certain fields; dropouts see much smaller benefits than graduates, and the economic returns to higher education also vary considerably

by field of study. Rising college tuition prices and student debt burdens also contribute to pressures for students to earn more money after attending college.⁶ And students who attended a substantial number of colleges earn less than the average high school graduate six years after enrolling, raising questions about the quality of those institutions.⁷

Though student success varies greatly, the federal government does relatively little to hold colleges accountable for their former students' outcomes, despite providing nearly \$140 billion in financial aid to students.⁸ The only current federal accountability mechanism that is directly tied to student outcomes is a requirement that colleges keep cohort default rates below a certain threshold. However, due to the presence of income-driven repayment plans and the short time period being tracked, most students remain above the threshold during the time that is counted and only a few small colleges are at serious risk of losing federal financial aid.⁹

This lack of accountability for colleges combined with concerns about student outcomes has led to calls for the federal government to develop earnings-based metrics of student success and tie them to federal financial aid eligibility. However, decades of research on state efforts to tie funding to student outcomes highlights concerns about disproportionately affecting minority-serving institutions and colleges attempting to game performance metrics.¹⁰ Therefore, earnings metrics that are used for either consumer information or high-stakes accountability should be designed with caution and with students from traditionally underrepresented groups in mind.



CHALLENGES:

1 Not all students are included

These metrics cover all undergraduate students who ever received federal Pell Grants or student loans, which covers approximately 70% of all undergraduate students, with the highest coverage rate in the for-profit sector (90%) and the lowest among community colleges (63%). Students who do not receive federal financial aid tend to be from higher-income families than those who receive federal aid.¹¹ However, a sizable number of students from lower-income families do not complete the Free Application for Federal Student Aid (FAFSA) and forgo receiving Pell Grants that may help them persist in college.¹²

2 No distinction between graduates and drop-outs

Institution-level earnings metrics combine students who graduated with those who dropped out due to historical data limitations. Until recently, the graduation flag in the National Student Loan Data System, the federal repository of information on students receiving federal financial aid, was of low quality and not a required element for colleges to accurately report. Future updates to the College Scorecard may include separate earnings metrics for dropouts and graduates, but the current metrics understate earnings for graduates and overstate earnings for dropouts.

The federal government has released earnings metrics at the institution and program levels through the **College Scorecard** and has made other metrics possible through supporting state data systems and the Census Bureau's analytic capacities. This paper discusses these currently available metrics, poses questions to consider regarding earnings metrics, and reviews recommendations on how such metrics could be designed and used for accountability purposes.

CURRENT DATA SOURCES

Over the last decade, several new data sources have been released that include earnings-based metrics. Each of these data sources comes with its own strengths and weaknesses regarding the share of students covered and the length of time during which students are tracked.

SOURCE #1: COLLEGE SCORECARD

Earnings data first came to the U.S. Department of Education's College Scorecard website in September 2015. The Obama administration's initial effort to tie federal financial aid to student outcome measures failed, but the result was an update to the College Scorecard that created consumer-facing and researcher-facing websites with data on the institution-level earnings of former undergraduate students. In 2019, the Trump administration added earnings data by field of study for both undergraduate and graduate programs. This update removed institution-level earnings information from the public-facing College Scorecard site in favor of program-level data, but institution-level data are still available on the researcher-facing site.

The College Scorecard includes the following institution-level earnings metrics:

- Mean, median, 25th, and 75th percentile earnings: 6, 8, and 10 years after starting college
- Percent earning more than a high school graduate (currently \$28,000): 6, 8, and 10 years after starting college
- Mean earnings by dependency status, family income tercile, and gender: 6 and 10 years after starting college

3 Some large universities' campus information is not clear

The College Scorecard earnings metrics also use a definition of "institution" that differs from what most policymakers or families would use. Colleges report data such as graduation rates and enrollment to the U.S. Department of Education using a UnitID variable that uniquely identifies most main campuses within a system of higher education. However, earnings data from the College Scorecard are reported based on the Office of Postsecondary Education identification number (OPEID) from the Office of Federal Student Aid. Some systems of higher education report multiple UnitIDs under one OPEID, combining earnings data for a number of campuses.¹³ This issue means that large university systems such as Rutgers, Ohio State, and Penn State combine earnings data from the main campus and branch campuses, while Indiana and Wisconsin do not due to their OPEID reporting arrangements. Overall, this reporting issue affects about 20% of all campuses (at the UnitID level), with this being a more common concern in the for-profit sector (36%) than the public (6%) and private nonprofit sectors (8%).¹⁴

4 Reported earnings are too close to graduation to be meaningful

In 2019, the U.S. Department of Education released outcomes data by field of study through the College Scorecard for the first time. Unlike the institution-level dataset, the program-level dataset contained information on graduates only and also covered both undergraduate and graduate programs. This dataset contained one earnings measure: median earnings measured roughly one year after graduation. For example, for the cohort that graduated in the 2014-15 academic year, earnings data from 2016 were used. The Department of Education plans to report longer-term earnings data in future years as more data become available.¹⁵

5 Data is often combined across programs

Although this data release is often referred to as program-level data, it combines information across multiple programs at the same credential level at the same college in an effort to meet sample size requirements (which are not published but appear to be 20 graduates receiving federal financial aid). Individual programs are typically classified using the six-digit Classification of Instructional Programs (CIP) code, while the College Scorecard uses four-digit CIP codes.

EXAMPLE OF COLLEGE SCORECARD PROGRAM-LEVEL DATA:

Dr. Kelchen, the paper's author, teaches in a program classified as "Higher Education Administration" (CIP code 13.0406) at Seton Hall University. This is combined with up to ten other six-digit CIP codes into the broader "Educational Administration and Supervision" CIP code reported in the College Scorecard (13.04). The College Scorecard earnings data for my university and field of study combines an EdD K-12 education, a PhD in higher education, and an EdD in K-12 education. This combining of programs helps increase the percentage of programs covered in the dataset to 28%, but this includes approximately 70% of all graduates. Coverage rates are the highest for professional degrees such as law and medicine (66% of programs) and are the lowest for PhD programs (9%) due to the low share of students taking on student debt and small cohort sizes.¹⁶

SOURCE #2: POST-SECONDARY EMPLOYMENT OUTCOMES

First released in March 2018 by the U.S. Census Bureau, the **Post-Secondary Employment Outcomes** (PSEO) database contains longer-term data on the earnings of graduates at the program level. This program currently covers 47 colleges from 2001 through 2016: the University of Texas system (15 colleges), public colleges in Colorado (30 colleges), the University of Wisconsin-Madison, and the University of Michigan-Ann Arbor. Participation in the PSEO program requires data sharing agreements between colleges, their states, and the Census, and this is still considered to be an experimental program.¹⁷

The focal earnings measures are the 25th, 50th, and 75th percentiles of earnings measured one, five, and ten years after graduation. Unlike the College Scorecard, the PSEO data does not restrict the sample to students who received federal financial aid. The underlying dataset covers about 96% of employment in the United States, primarily excluding independent contractors. However, the PSEO data excludes individuals who reported zero earnings in three or more quarters of the measured calendar year.

Like the College Scorecard, the PSEO reports data at the OPEID level. Most programs are also reported at the four-digit CIP level, but master's and PhD programs are reported at the two-digit CIP to allow for more programs to be reported.¹⁸ The PSEO appears to require minimum cell sizes of 30 graduates to report earnings, and also reports data for three combined cohorts for bachelor's degree recipients and five cohorts for other credential levels. This compares to the two cohorts combined in the College Scorecard.

SOURCE #3: STATE DATA SOURCES

Over the last two decades, most states have developed robust student-level longitudinal data

systems that allow students to be tracked from P-12 education through higher education and into the workforce. This work has been supported by more than \$800 million in funding distributed by the U.S. Department of Education since 2006. Every state except New Mexico has received federal funds to develop a data system and approximately 41 states have active data systems.¹⁹

Some states with longstanding data systems have published information about their former students' outcomes.

EXAMPLES:

Florida and Utah: The Launch My Career project in Florida and Utah is a partnership between state education agencies and the American Institutes for Research, College Measures, and Burning Glass that provides estimates of long-term earnings using program-level data on student earnings up to ten years after graduating from college.²⁰



Virginia: Virginia has published detailed outcome data on graduates of public and private nonprofit colleges since 2012.²¹ These measures go as far back as the 1992-93 graduating cohort and also include a measure of sustainable wages earned (above 200% of the federal poverty line).²²



Texas: The Texas State Technical Colleges have nearly all of their state appropriations tied to the success of their graduates in the Texas labor market. The system's Returned Value Formula uses the state's longitudinal data system to tie appropriations to 36% of the tax revenue that the system's former students generate based on their earnings above the minimum wage. The state's legislature has fully funded this formula in two of the four budget cycles since initial implementation in 2014.²³



 **CHALLENGES:**

These state-level datasets cover all students enrolled in public higher education (as well as private colleges in some states), but they generally do not cover students who leave the state after college. This makes it hard to tell whether a student struggled to find employment in the state or left the state for another job.

The Texas State Technical Colleges found earnings data for 72% of their students following college, while new research from Georgia shows that there is a strong relationship between pre-college academic preparation and the likelihood of leaving the state after college.²⁴ The Western Interstate Commission for Higher Education is developing a partnership for at least ten states to share workforce data, but working out data agreements has been a slow process.²⁵

QUESTIONS REGARDING EARNINGS METRICS

While an increasing number of earnings metrics are being developed and released by a range of stakeholders, a number of questions remain about measurement, the mission of higher education, and keeping equity in focus.

Question 1: What types of earnings metrics are appropriate?

Median or mean earnings?

At this point, median earnings are the most commonly reported measure across different data systems. Median earnings are generally more appropriate to use than mean earnings because mean earnings are often skewed by a small percentage of individuals with extremely high incomes. But a measure of median earnings may not provide information on how many former students are struggling to survive financially without receiving public benefits.

Focus on financially vulnerable students

In addition to a median earnings measure, there should be two measures that focus on financially vulnerable students. The first measure would provide information about the 10th or 25th percentiles of the income distribution, as this would show students and policymakers a reasonable worst-case scenario alongside the more likely outcome of median earnings. This could be combined with measures about the top end of the income distribution (75th or 90th percentiles) to give students and policymakers more information about the range of potential outcomes.

The second measure would focus on whether colleges generate a return on investment or economic self-sufficiency. The appeal of this measure is that it does not punish students for pursuing lower-paid but socially-valuable fields to the same extent that a median earnings measure does since the bar to clear would be relatively modest. The College Scorecard's measure of the percentage of students earning more than \$28,000 (the typical high school graduate nationwide) is one possibility, as is a more nuanced measure that uses more local estimates of earnings for high school graduates. Other options include setting thresholds at certain percentages of the federal poverty line (such as 150% or 200%) or taking into account a student's financial investment in their education.²⁶

Possible limitations:

These measures, along with nearly any other measures of earnings, come with some substantial limitations.

The first limitation is that earnings measures can be strongly influenced by economic conditions and labor market discrimination outside the control of the college. Earnings metrics used for high-stakes accountability purposes may need to be tied to state or national economic conditions facing the types of students who attend that particular college. In certain programs of study, such as cosmetology, tips are a substantial portion of income and are not always reported to the federal

government. Cosmetology programs successfully sued the U.S. Department of Education in 2017 to block the enforcement of gainful employment regulations over this issue, so it needs to be considered going forward.²⁷

Another limitation is the extent to which observed earnings reflect a college's effect on student outcomes relative to the types of students that it enrolls. In K-12 education, value-added models are commonly used to estimate a teacher's contribution to student test scores. There has been research in higher education to estimate a college's contribution to student graduation rates and earnings, but this method is rarely used in the policy process.²⁸ The Texas State Technical Colleges use a form of value-added in their funding request, but it is easier to do for a single college than when comparing Ivy League institutions with regional public universities.

Finally, for older students with a prior employment history, value-added measures comparing pre-college and post-college earnings may overestimate the college's contribution to earnings. This is because of what is known as Ashenfelter's dip in the economics literature: people choose to take up job training programs or higher education because they had a period of low earnings.²⁹ This would especially affect earnings estimates for community colleges and for-profit institutions.

Question 2: When should earnings be measured? Should earnings metrics vary over time?

Ideally, a combination of shorter-term and longer-term earnings should be used for accountability purposes. Given the current level of economic uncertainty and concerns about managing student loan debt, students and their families are very interested in what earnings are soon after leaving college. While the question of interest may be how much money students are making within six months of leaving college, data limitations and challenging labor market conditions require a somewhat longer time period. For example, the program-level College

Scorecard measures graduates in the calendar year following their academic year of completion (2015-16 academic year graduates measured in 2017 to allow students to have the full calendar year in the labor market. This is the earliest time period to use and could be supplemented with an intermediate (3-5 year) measure to capture trajectories.

From a societal perspective, the lifetime benefits of higher education are far more important than short-term outcomes. However, measuring earnings 10, 20, or even 30 years after entering college create the possibility that the institution's contribution to student outcomes may be different today than for prior cohorts. When combined with lags in calculating and reporting outcomes, data may be even more out of date. For example, the College Scorecard's current measure of median earnings ten years after college entry is calculated using students who began in the 2003-04 and 2004-05 academic year. Research suggests that traditional-age students' earnings profiles stabilize by their early 30s, so there is less of a need to look more than ten years after leaving college.³⁰ However, policymakers should be aware of changes to institutions made since the measured cohort entered college, which requires also using shorter-term earnings measures (2-4 years after leaving college).

Question 3: Should credential level or field of study be taken into account?

Should there be variation in when earnings are measured?

The first issue is whether there should be variation in when earnings are measured. Shorter-term measures are more appropriate for shorter credentials that are designed to lead to immediate employment in a particular field of study and result in flatter earnings trajectories over time. At the undergraduate level, the growth in earnings over time is substantially higher from bachelor's degrees than associate degrees or certificates.³¹ This means that short-term measures would substantially understate the overall return on investment for longer credentials.

There is also precedent for using different periods of time for different credential levels within federal higher education policy. The gainful employment regulations used different amortization periods by credential type for calculating debt-to-earnings ratios, with periods ranging from ten years for associate degree and certificate programs to 20 years for doctoral programs.³² A range of time periods should be presented for informational purposes, but there is an argument to use shorter time periods holding shorter credential programs accountable.

Certain fields of study are not well suited for short-term earnings metrics. In the program-level College Scorecard dataset, the 131 medical schools with sufficient data reported median earnings of \$55,600 in the calendar year following completion along with very little variation across programs. This is because medical students generally pursue residencies of two to four years immediately after graduation, and salaries are nearly uniform across programs. Law school graduates may have lower earnings due to bar exam preparation and clerkships, and other professional fields may require a longer time period before earnings data provide a clear picture of outcomes.

Should earnings thresholds vary across fields and credential levels?

The second issue is whether earnings thresholds or other metrics should vary across field of study or credential level. Metrics based on economic self-sufficiency generally should be the same across all programs, with the caveat that certain fields (such as cosmetology and massage therapy) need to report tips as income in order to be appropriately counted. At the very least, programs should be evaluated based on a relatively modest baseline measure to protect students and taxpayers.

There can be more flexibility for return on investment or value-added metrics across programs to allow for socially valuable but lower-paid positions that meet the modest self-sufficiency threshold to exist. A return on investment measure otherwise helps to create higher expected earnings for more advanced credentials, with short-term certificates passing

the measure for earnings barely above high school graduates and professional master's programs requiring larger increases in earnings.

Question 4: Should metrics reflect all students, or just graduates only?

Students and their families tend to prefer measures that are based solely on graduates because they expect to graduate. Yet while 90 percent of first-year students at four-year colleges expect to graduate in four years, the nationwide four-year graduation rate is just 44 percent.³³ This provides a strong case for including all students in earnings metrics (as is done in the institution-level College Scorecard), or at the very least publishing separate measures for graduates and dropouts to highlight the economic returns to completing college. Another argument for including all students is that it increases the sample size, allowing for estimates by student subgroup.

At the program level, it is easiest to focus on graduates at many colleges than to try to include dropouts.³⁴ One reason is that for many associate and bachelor's degree programs, students do not enter college with a field of study in mind and choose majors later on. This makes identifying dropouts difficult, and can also create opportunities for colleges to game metrics by having students declare their major immediately before graduation. This is not a concern for many certificate and graduate programs, in which students are admitted directly to that field of study at the institution.

Taken together, institution-level measures at the undergraduate level should include all students as well as separate reports for graduates and dropouts that would mainly be used for consumer information purposes. Most program-level metrics at the undergraduate level would need to be for graduates only due to data limitations. Graduate program metrics could be presented for all students in a particular program and separately for completers only, with the realization that completers-only metrics may need to combine additional programs at the same institution for sample size purposes.

Question 5: How should debt be factored into earnings metrics, if at all?

This was a key question during the gainful employment debates of the early 2010s, with the Obama administration's first attempt at regulations being struck down in court due to the lack of justification for its choice of debt-to-earnings thresholds.³⁵ The second attempt at creating debt-to-earnings thresholds survived a legal challenge, and research suggests that the existence of this policy resulted in for-profit colleges closing low-performing programs even without federal sanctions being likely to occur.³⁶

Types of loans included:

One challenge with metrics that factor in debt is the types of debt that can be included. The College Scorecard excludes Parent PLUS, Perkins, and private loans, which can be substantial sources of debt for some students. There is a strong case to exclude private and Parent PLUS loans for undergraduate students since these loans are based on the parent's income instead of the student's income. But this debt still affects the family's return on investment and may merit consideration in any metrics.

Repayment periods:

The repayment period for student debt and the presence of income-driven repayment are additional complicating factors. The College Scorecard uses the standard ten-year payment plan to calculate monthly payments, but income-driven repayment plans allow students to pay based on their income for up to 20 years. If a student's income is below 150 percent of the federal poverty line, they do not have to pay anything at that time. This shifts much of the cost of the loan onto taxpayers, and an accountability mechanism should guard against excessive use of income-driven repayment plans that fail to repay any principal.

To some extent, economic self-sufficiency measures (earning above a certain threshold or multiplier of the federal poverty line) alleviate the most serious concerns about using income-driven repayment. Student loan debt could still be factored into return on investment metrics that would be secondary to self-sufficiency measures. Colleges and programs could be held accountable for separate repayment metrics to better capture concerns about excessive student debt.

Question 6: How should earnings metrics be used during recessions?

A key challenge with earnings-based accountability metrics is that colleges' performance is influenced by the strength of the broader economy. Median household income fell by about four percent during the Great Recession before adjusting for inflation, and the civilian unemployment rate rose from five percent to ten percent. As a result of the 2020 pandemic, unemployment spiked from 3.5 percent in February 2020 to 14.7 percent just two months later.³⁷ However, there can still be some value in an earnings-based measure that adjusts for economic conditions. This is even more important as the cohort default rate—currently the primary federal accountability measure—was rendered useless in most of 2020 due to the federal government's suspension of student loan payments.

Any adjustments to accountability metrics should automatically occur based on predefined triggers, such as unemployment reaching a given threshold or declines in economic output. At that point, acceptable earnings levels could be adjusted downward to still identify the lowest-performing programs while not unnecessarily punishing colleges for factors outside of their control. These adjustments could also be applied on a regional basis to reflect differences in local economic conditions.

CONCLUSION

Given rising student loan debt and concerns about students' economic security during the current global crisis, the earnings of former college students are getting more attention now than ever before. But policymakers also need to proceed with caution, given that earnings are just one of the goals of higher education and inappropriate metrics could make colleges and universities less accessible for traditionally underrepresented groups of students.

The federal government can fill two separate roles regarding earnings metrics. The first is to provide a range of consumer information metrics that are of interest to students, their families, and colleges. This is what the current version of the College Scorecard does, but research suggests that the information is primarily being used by more affluent families in their college choice decisions.³⁸ The second is to hold colleges and programs accountable for their performance to protect students and taxpayers alike.

Historically, the federal government has set relatively modest performance thresholds to access federal financial aid dollars. This level of caution is appropriate for considering earnings metrics since colleges only have limited control over their students' future earnings and shifts in the economy could threaten a college's ability to meet the performance metrics and stay open. Accountability metrics must be flexible during economic crises while still identifying and sanctioning colleges that are doing harm to their students.

Going forward, high-stakes accountability efforts are more likely to be at the program level and for graduates only, while institutional earnings metrics will be used more for consumer information. These metrics should focus on identifying programs in which students either cannot be economically self-sufficient or are not providing tremendous societal value through their work. Setting a relatively low performance bar that is consistent across sectors of higher education creates an opportunity for bipartisan legislation that would seek to protect students from attending the lowest-quality programs.

ENDNOTES

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