



Dollars and Sense

Measuring the Value of Postsecondary Pathways

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April 2023





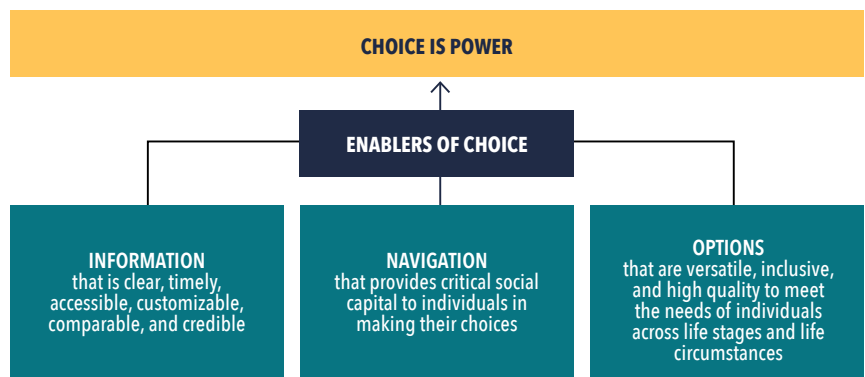
Introduction

In Admission, Beta by Bellwether explores how to create a more equitable and effective system of postsecondary pathways for systemically marginalized communities (Sidebar). Despite being marketed as a crucial investment in economic mobility, the existing postsecondary system is a *high-stakes gamble* for many.

Challenges facing U.S. postsecondary pathways (inequity in completion, the variable and opaque value provided by pathways even when completed, and the corresponding burden of cost and debt) contribute to a system that deprives many people of the ability to exercise their power of choice in pursuing a successful postsecondary education.

Choice is power, and exercising choice is a critical part of any equitable system. In the case of postsecondary pathways, **three enablers of choice** — information, navigation, and options — are too often lacking for students from systemically marginalized communities (Figure 1). The first enabler provides individuals with clear, timely, accessible, customizable, comparable, and credible **information**. The second provides **navigation** support as social capital from advisers who are trusted, informed, culturally inclusive, and unbiased. Information and navigation build the agency of individuals to exercise their power of choice — but they still need **versatile, inclusive, and high-quality postsecondary options** that can meet people across a range of life stages and life circumstances, with on-ramps and off-ramps that individuals can continually return to for professional advancement.

Figure 1: Enablers of Choice



To build a postsecondary system that is equitable and effective in creating value, we must first decide how to measure that value.

This is an important step not only for individuals making choices but also for institutions providing postsecondary pathways and the policymakers who hold them accountable (both of whom are responsible for providing information on value to individuals).

Details matter in a system that influences the choices and life outcomes of tens of millions of people as well as the policy and practice decisions that shape hundreds of billions of dollars in annual spending by individuals, the government, postsecondary institutions, and employers. Providing the right level of detail requires quantifying postsecondary measures of value at two levels of granularity:

- **Specific postsecondary pathways** (e.g., a degree, credential, or certificate), and not an overall institution's average. Different fields of study may have radically different earning outcomes based on the strength (or weakness) of a specific institution's pathway offerings as well as the wide variations in earning based on industries.
- **Specific disaggregation by race, gender, income, and/or first-generation status** so individuals can assess a pathway's value for people who share their background, and because inequity cannot be addressed without understanding where it occurs and which pathways successfully close gaps in performance.

The analysis below offers a framework for measuring the value of different postsecondary pathways that attempts to strike a balance between monetary and nonmonetary measures of value.

Money isn't everything, but it's something. One crucial component of measuring the value of a postsecondary pathway is the monetary return it can provide students after completion.

The purpose of U.S. education in all its forms and places is to enable individuals to achieve economic independence, fully participate in democracy, and pursue happiness as *they* define it. Money is an

important motivator and means of unlocking economic independence — and it can influence, though not necessarily determine, happiness. In 2019, 73% of first-year students at four-year colleges reported that being “able to make more money” was “very important” in deciding to go to college; 88% of those attending historically Black colleges and universities agreed. Polled students also ranked income-related outcomes high, including “to be able to get a better job” (84%) and “to get training for a specific career” (79%) (Table 1).¹

Sidebar: Core Terms

- **What is the difference between a postsecondary pathway and a higher education degree?** We define a higher education degree as a conventional two- or four-year degree coming from one of the approximately 3,900+ public nonprofit, private nonprofit, and private for-profit institutions classically offering accredited degrees.² We define postsecondary pathways to include a broader universe of units of postsecondary value that include not only conventional two- and four-year degrees but also credentials, certificates, badges, assessments, apprenticeships, licensures, portfolios, etc. This definition includes a broad array of providers beyond colleges and universities to include other nonprofits, noncollege for-profits, government, and employers.
- **How is systemically marginalized defined in this analysis?** In Beta by Bellwether's Admission initiative, we define systemically marginalized communities as those students and families who are first-generation, low-income, and/or students who are Black, Hispanic, and/or Native American living in a range of urban, suburban, and/or rural settings. We refer to both Hispanic and Latino students depending on the terminology used by the sources we are citing.

It's also worth noting that these freshman students ranked "to learn more about things that interest me" (83%) and "to gain a general education and appreciation of ideas" (75%) high in their perception of value. There are other measures of value that students seek from a postsecondary pathway beyond money — but money is such an important and tangible measure that it makes sense to focus here first.³

Table 1: Cooperative Institutional Research Program Freshman Survey, 2019

The following reasons were "Very Important" in deciding to go to college:	ALL BACCALAUREATE INSTITUTIONS	ALL HISTORICALLY BLACK COLLEGES AND UNIVERSITIES
To be able to get a better job	84%	88%
To gain a general education and	75%	80%
To make me a more cultured person	50%	59%
To be able to make more money	73%	88%
To learn more about things that interest me	83%	84%
To get training for a specific career	79%	86%
To prepare myself for graduate or professional school	60%	74%
To please my family	37%	54%

Source: Ellen Bara Stolzenberg et al., *The American Freshman: National Norms Fall 2019*

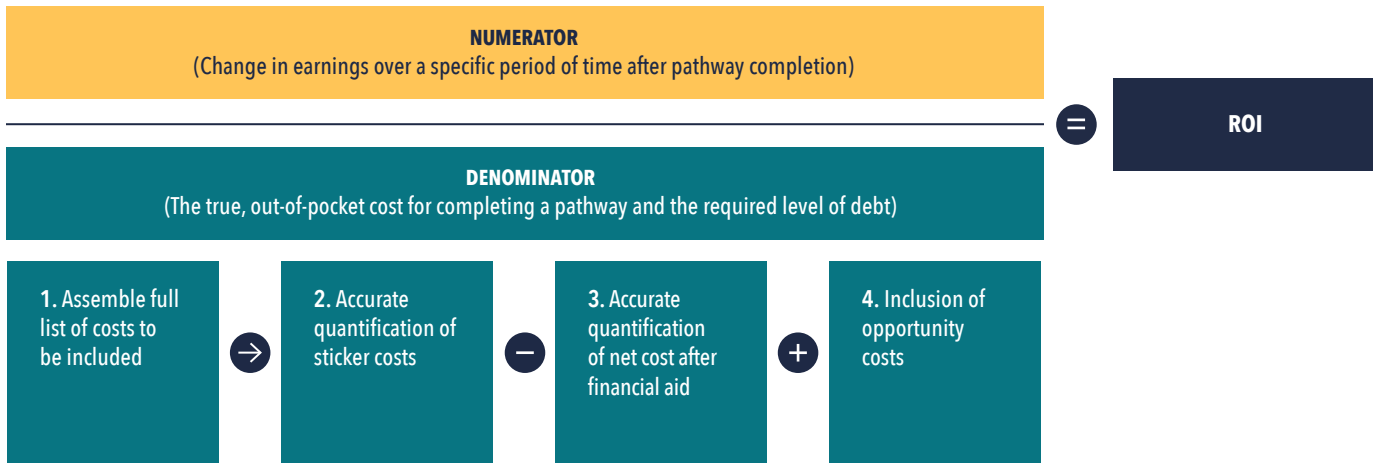
Measuring the monetary value of postsecondary pathways is simple in theory but complicated in practice

The standard starting point for measuring a postsecondary pathway's value is **calculating a student's earning potential as monetary dollar earnings** upon completing a postsecondary pathway (e.g., projected salaries for a K-12 teacher) and/or as a **change in earnings pre- and post-pathway completion** (e.g., projected change in salary upon completing a certificate or bootcamp).

Time is also a key variable in measuring value.

There is a range of different time frames to apply to calculating earning potential. Is it within six to 12 months of completing a pathway? Three to five years? 10+ years? All of the above? The monetary value for some pathways and corresponding professions can change significantly over time. For example, while STEM jobs are often promoted due to short-term higher earning potential, some research shows that the advantage of STEM-related degrees over liberal arts degrees fades, on average, over time.⁴ David Deming, a professor at the Harvard Kennedy School, wrote in 2019 that this happens because "hard" technical skills (like knowing a particular coding program) become obsolete relatively quickly, whereas "soft skills" that are emphasized in liberal arts, such as problem-solving and critical thinking, are more enduring and have more value in helping individuals advance into more senior management roles in the workplace.⁵ (Delivering and measuring skills, particularly "soft skills," is revisited later in this analysis.) However, many individuals from systemically marginalized communities must focus on immediate earnings to support themselves and their families due to precarious financial health.⁶ Postsecondary pathways should better enable individuals to make a choice based on short-term priorities and constraints that don't preclude them from being able to pursue other long-term opportunities.

Figure 2: Measuring Monetary Return on Investment (ROI) From Postsecondary Pathway Completion



Many individuals, institutions, and policymakers consider the **monetary return on investment (ROI) from completing a postsecondary pathway**, which requires not only calculating what earnings are in the numerator but also the full, quantifiable, and accurate out-of-pocket or “true” costs that go into the denominator and corresponding requirement to take on debt (Figure 2).

Arriving at a specific, useful number that can inform pathway choices requires cutting through layers of complexity — particularly around their true cost.

It’s also vital to differentiate the “sticker” or “list” cost of a pathway from its “true” net, out-of-pocket cost. Unfortunately, many information sources do not clearly make this differentiation.

Developing an accurate true-cost denominator requires the following:

1. Assembling the full list of costs that must be factored into completing a postsecondary pathway.
2. Quantifying each of these costs as the starting sticker cost based on an estimate of the true time frame to complete a pathway.

3. Quantifying the net cost of a pathway after financial aid, and what an individual must cover out of pocket and by taking on debt.
4. Factoring opportunity cost (lost earnings due to pursuing a postsecondary pathway) into the total true cost of pursuing that pathway.

Without accurate information on the true cost of a postsecondary pathway, individuals from systemically marginalized communities are confronted with a dual risk. Some may proceed into a pathway whose true cost is more than they can afford, setting them up to exit a pathway before completion. Others may not pursue a pathway that would be a good fit because they assume it’s too expensive.

1. Assembling the full list of costs that must be factored into completing a postsecondary pathway.

While tuition, fees, room, board, and textbooks represent a significant portion of postsecondary costs, they do not reflect the full costs that many students have in pursuing a pathway.

In May 2021, the Postsecondary Value Commission completed a two-year, extensive exploration of how to consider measuring the value of postsecondary pathways, underscoring the multitude of factors that go into compiling a total cost of attendance (COA).⁷

This full, expanded list of costs — many of which are required while pursuing an education — is a crucial starting point in understanding the ROI denominator (Table 2).

However, a number of these costs are not consistently included in the COA estimates that postsecondary providers make publicly available to students. There is also variability in what is tracked and reported to the federal government. For example, some of these costs

are only tracked by the U.S. Department of Education’s Integrated Postsecondary Education Data System (IPEDS) for students living on their own, but not for students living with their families.

The Postsecondary Value Commission noted that “a large share of students living at home still contribute to rent and food costs Even if students do not pay for these costs themselves, their families are still responsible for them, and therefore, they represent a real student expense. This omission deflates COA at colleges with large shares of students living with family, making the institutions look more affordable than they are in reality.”⁸

Higher Learning Advocates estimates that only 16% of students live on campus, with the rest residing off campus, either independently or with their families.⁹ There is also consistent anecdotal evidence that people from systemically marginalized communities are more likely to be living at home while pursuing a postsecondary pathway because of their personal financial constraints and/or the need to support family members.

Table 2: Postsecondary Value Commission Costs to Include in Total Cost of Attendance (COA)

COSTS FOR ALL POSTSECONDARY STUDENTS	COSTS THAT MAY APPLY TO SOME BUT NOT ALL STUDENTS	COSTS NOT INCLUDED IN THE FEDERAL COA DEFINITION
<ul style="list-style-type: none"> • Tuition and fees (including required equipment rental or purchase) • Room (on-campus or off-campus housing) • Board (food) • Books and supplies (including allowance for rental/purchase of computer) • Transportation (can include operating and maintenance costs but not purchase of a vehicle) • Miscellaneous personal expenses 	<ul style="list-style-type: none"> • Dependent care expenses (including child care) • Disability-related expenses • Cooperative education program expenses • Study abroad expenses • Cost of first professional credential • Educational loan fees 	<ul style="list-style-type: none"> • Health insurance and health care costs • Internet costs • Cell phone plan costs • Room and board for students living with family

Source: *Equitable Value: Promoting Economic Mobility and Social Justice Through Postsecondary Education*, Postsecondary Value Commission

2. Quantifying each of these costs as the starting sticker cost based on an estimate of the true time frame to complete a pathway.

Many postsecondary institutions don't provide a clear, accurate quantification of the complete cost of a pathway, including many essential costs.

A June 2020 report by uAspire found that students often don't have full knowledge of the nontuition or indirect costs that can represent more than half the total cost for a student, such as "textbooks, laptops, transportation, off-campus housing, and food." The report found that, "In a sample of 820 college websites, 39% did not include any indirect expense information at all. Among those that did, [there were] 58 different terms for 'indirect expenses.'"¹⁰

Excluding or obscuring these costs can add up to a lot of unanticipated expenses for students (Figure 3). In a 2022 College Board analysis of college pricing, the average published sticker price of tuition and fees for public, two-year community colleges in the U.S. was \$3,860. However, the room and board estimate was \$9,610 — approximately 2.5 times more than the tuition and fees estimate.¹¹ And this does not include costs for books and supplies, transportation, and other expenses, which add \$5,760 more to the total sticker price.

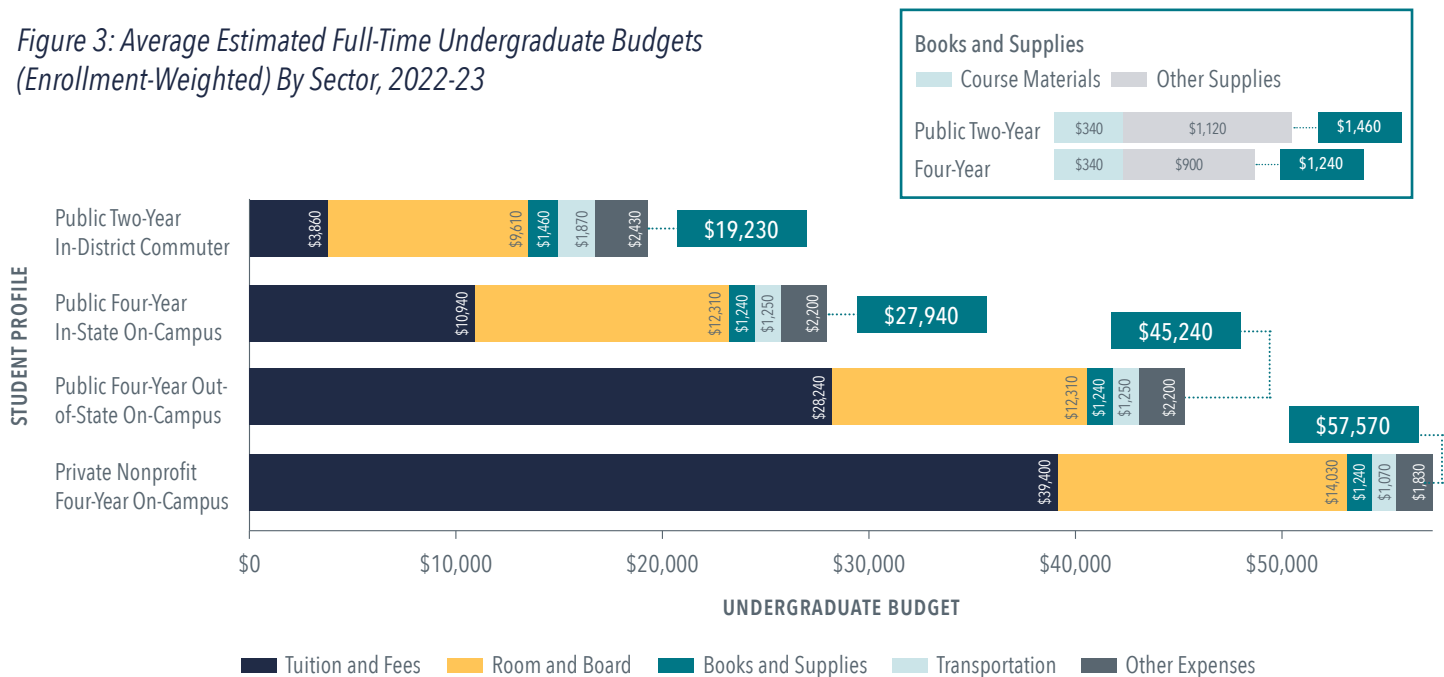
All told, the total amount of additional costs (\$15,370) is nearly four times more than the initial tuition and fees estimate (\$3,860).¹²

Hidden costs like these place an especially high burden on systemically marginalized students. People with wealth and privilege are better equipped to absorb unexpected costs. People who live in poverty have low or no margin for error; they are one unexpected financial event away from calamity — and certainly one unexpected event away from having their postsecondary plans derailed.¹³

The uAspire report noted how hidden costs created hardships for students: "51% paid more for indirect expenses than they anticipated, and 53% changed food shopping or eating habits when faced with unexpected expenses."¹⁴

Accurately calculating costs also means being accurate about the cost of living for housing, food, and transportation for specific geographies. However, that information is also often inaccurate. An analysis of college cost-of-living allowances by the University of Wisconsin's HOPE Lab found that nearly half of colleges provide COA guidance that is either 20% above or below their county's estimate of costs.¹⁵

Figure 3: Average Estimated Full-Time Undergraduate Budgets (Enrollment-Weighted) By Sector, 2022-23



Source: Jennifer Ma and Matea Pender, Trends in College Pricing and Student Aid 2022, College Board

Costs also need to be quantified to reflect the actual time it takes to complete a pathway. While most traditional pathways market themselves as “two-year” or “four-year” programs, a 2016 report demonstrated that the “the average time enrolled for associate and bachelor’s degree earners was 3.3 years and 5.1 years, respectively,” assuming full-time enrollment.¹⁶ The average cost of completing either degree requires more than an additional year’s worth of costs (assuming costs per year are the same year over year and acknowledging that some costs could be offset by a student’s part-time status in pursuing a longer timeline to graduation).

On average, it takes longer for some students to graduate. Only 30% of Black students graduate from a bachelor’s degree program within four years. Similarly, only 31% of Hispanic students graduate from a bachelor’s degree program within four years.¹⁷ Numbers for Pell Grant recipients are only slightly better, with 34% completing a bachelor’s degree in four years at public institutions and 41% at private, nonprofit institutions.¹⁸

The National Center for Education Statistics tracks six- and eight-year completion rates as an expectation of actual timelines for associate’s and bachelor’s degree completion, respectively.

3. Quantifying the net cost of a pathway after financial aid, and what an individual must cover out of pocket and by taking on debt.

A full understanding of all the costs required to attend a postsecondary pathway isn’t enough to determine ROI — because the sticker or list price of many of these costs often differs dramatically from the net cost after financial aid. But many pathways make this net cost opaque, particularly in differentiating among grants awarded and loans. Students and their families need to understand exactly how much of the net cost of a pathway they will need to cover through out-of-pocket payments or debt.

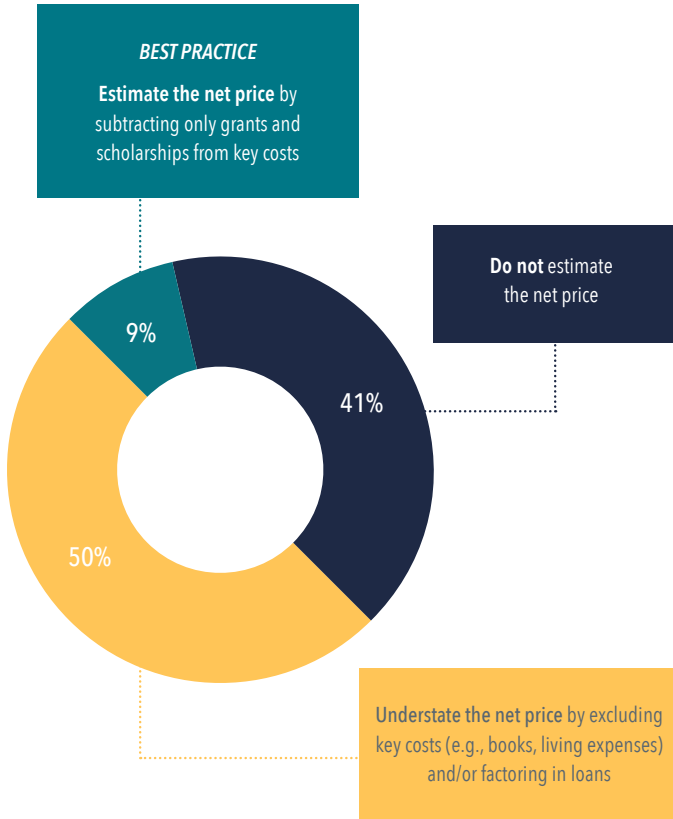
However, students and families from all backgrounds often struggle to understand the net costs and corresponding debt when considering various pathways. A 2018 analysis of 515 student financial aid letters by

New America and uAspire found that these letters vary between difficult to understand, incomprehensible, and in some cases, deceptive, noting:

- **“Confusing Jargon and Terminology:** Of the 455 colleges that offered an unsubsidized student loan, we found 136 unique terms for that loan, including 24 that did not include the word ‘loan.’
- **Omission of the Complete Cost:** Of our 515 letters, more than one-third did not include any cost information with which to contextualize the financial aid offered.
- **Failure to Differentiate Types of Aid:** Seventy percent of letters grouped all aid together and provided no definitions to indicate to students how grants and scholarships, loans, and work-study all differ.
- **Misleading Packaging of Parent PLUS Loans:** Nearly 15 percent of letters included a PLUS loan as an ‘award,’ making the financial aid package appear far more generous than it really was.
- **Vague Definitions and Poor Placement of Work-Study:** Of institutions that offered work-study, 70 percent provided no explanation of work-study and how it differs from other types of aid.
- **Inconsistent Bottom Line Calculations:** In our sample, only 40 percent calculated what students would need to pay, and those 194 institutions had 23 different ways of calculating remaining costs.
- **No Clear Next Steps:** Only about half of letters provided information about what to do to accept or decline awards, and those that did had inconsistent policies.”¹⁹

A similar November 2022 report from the U.S. Government Accountability Office noted that of the 522 financial aid award letters it reviewed from 176 institutions, 41% did not include an estimate of the net cost (or price) and 50% understated this cost by excluding key costs like books and living expenses. Only 9% were estimated to have included the most accurate net price (Figure 4).²⁰

Figure 4: Estimated Extent Colleges Follow Best Practice To Inform Students How Much They Will Need To Pay (the Net Price) in Financial Aid Offers



Source: *Financial Aid Offers 2022*, Government Accountability Office

Financial aid packages can also fluctuate over the course of completing a degree, increasing the costs a student must assume to graduate. Some financial aid in an initial acceptance letter may only be awarded for a student's first year.²¹ Other aid may have a GPA requirement or minimum number of credits that trigger a loss of award. If family income increases, financial aid decreases. Certain classes or programs of study can have significant additional fees, such as lab fees or textbooks, and failure to complete the annual Free Application for Federal Student Aid (FAFSA) can also place students at risk of losing aid.

Currently, "No federal policy exists that requires standardized terminology, consistent formatting, or critical information on every financial aid award letter."²² The only exception to this is a recently passed statute (part of the American Rescue Plan) that grants the U.S. Department of Education the authority to

define "cost of attendance," a process slated to begin this year.

4. Factoring opportunity cost (lost earnings due to pursuing a postsecondary pathway) into the total true cost of pursuing that pathway.

Lost earnings are typically not formally factored into an ROI analysis, at least for institutions and policymakers, though it's something many individuals consider. Time is money, and time spent pursuing many postsecondary pathways is time not spent working (note: 40% of 2020 full-time undergraduates and 74% of part-time undergraduates work to some extent while in school).²³ Lost earnings, even for a short time, can significantly affect a person's standard of living — particularly for those who live paycheck to paycheck.

That doesn't mean opportunity costs should dissuade people from pursuing a postsecondary pathway. But it underscores the importance of designing postsecondary pathways that allow students to earn money while enrolled — including enabling individuals with full- or part-time jobs to participate in postsecondary education outside of their working hours to improve their future earning potential.

Measures of value (earnings and/or ROI) aren't the same as an individual's specific goals. It's helpful to think of a "measure" as a unit of quantifiable value and a "target" (or "goal") as the specific change in performance for a given measure. A target of monetary value can be as simple as meeting a certain absolute threshold, such as a specific living wage, and can vary over a period of time. A target can also be a specific level of change in earnings (absolute or as a percentage) before or after completing a pathway. For example, Strada Education Network has used a 20% earnings premium above the median high school graduate as a starting target to assess a postsecondary pathway's economic value.²⁴

A target can also be set around a gradation of different tiers of performance, including ROI. For example, the Postsecondary Value Commission has developed a sophisticated set of thresholds by which to assess the value of a pathway (Table 3).²⁵

Table 3: Postsecondary Value Commission – Measuring Economic Returns Via Thresholds

THRESHOLD	
0	Minimum Economic Return: A student meets this threshold if they earn at least as much as a high school graduate plus enough to recoup their total net price plus interest within 10 years.
1	Earnings Premium: A student meets this threshold if they reach at least median earnings in their field of study (or, if field of study data is unavailable, the median earnings for the institution's predominant degree type).
2	Earnings Parity: This threshold measures whether students of color, students from low-income backgrounds, and women reach the median earnings of their systemically more advantaged peers (white students, high-income students, or men).
3	Economic Mobility: This threshold measures whether students reach the level of earnings needed to enter the fourth (60th to 80th percentile) income quintile, regardless of field of study.
4	Economic Security: While sufficient earnings can create a stable life, wealth is key to building the type of security needed to withstand life's financial shocks. This threshold therefore measures whether students reach median levels of wealth.
5	Wealth Parity: Mirroring the earnings parity threshold, this threshold measures whether students of color, students from low-income backgrounds, and women reach the level of wealth attained by their more privileged white, high-income, or male peers.

Notes: Thresholds 0-3 can be estimated at the national level using College Scorecard data with some caveats. Institutions and systems with advanced data collections can measure these thresholds with greater specificity. Due to a lack of quality data to measure wealth, Thresholds 4 and 5 are currently understood as conceptual goals rather than operable analyses.

Source: [Equitable Value Report, Postsecondary Value Commission](#)

Money isn't the only thing individuals value and shouldn't be the only thing society uses to measure the value of postsecondary pathways. Human potential, after all, cannot be reduced strictly to maximizing earning potential (in which case, we might cease to have a functioning democracy or society as fewer people would voluntarily work in public service, in police or fire departments, in social services, in the nonprofit sector, or in teaching).

Every individual sets unique monetary targets in measuring the value of a postsecondary pathway, potentially influenced by nonmonetary targets that might rank higher than maximizing earnings. Individuals may have other things they value that inform or offset their specific monetary goals.

Measures of postsecondary value beyond monetary value

While education has intrinsic value, it ultimately serves to achieve three fundamental ends: to enable individuals to achieve economic independence, to fully participate in democracy, and to pursue happiness as *they* define it.²⁶

We've discussed the first.

Many individuals don't pursue a postsecondary pathway explicitly to become more engaged in democracy. However, democracy is not a spectator sport; participating in it requires understanding the

rules and building individual agency, both of which education develops. Bachelor's degree graduates had higher voting rates in the 2020 election cycle (74%) compared with high school graduates (51%) as one measure of democratic participation.²⁷

The pursuit of happiness is subjective and nuanced (how many people achieve it?). A central tenet of choice as a centerpiece of equity is the ability of all individuals, regardless of background, to exercise their own power to pursue a definition of happiness that meets their needs. This makes it complex to measure.

In July 2022, Strada Education Network asked a simple yet profound question: Are students who graduated from four-year college pathways **fulfilled**? In its analysis, Strada defined fulfillment as follows:

“Students’ perspective on whether their education delivered the outcomes they sought and the influence that education had on multiple dimensions of their lives beyond their finances. In this analysis, agreement with the statement ‘my education helped me achieve my goals’ is used to indicate personal fulfillment.”²⁸

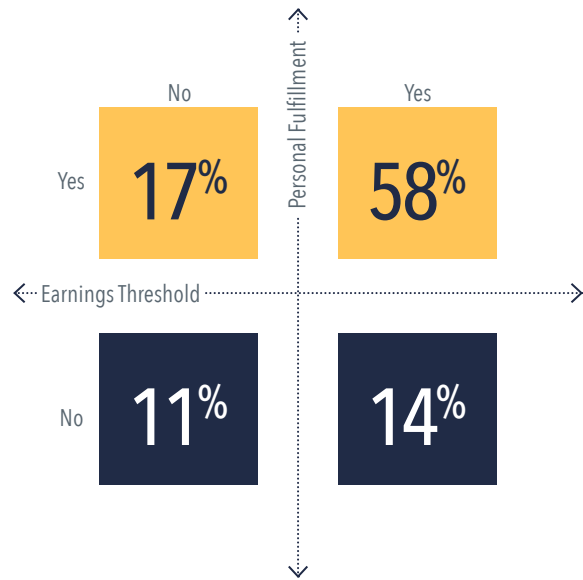
Strada found that fulfillment, postsecondary pathway completion, and corresponding positive economic advancement are interrelated (Figure 5).

But there were also people who did not meet Strada’s earning target who still reported fulfillment, just as there were those who did achieve Strada’s earning target but did not report fulfillment.

Strada’s research also found that fulfillment — and economic value — differed by bachelor’s degree major (Figure 6).²⁹

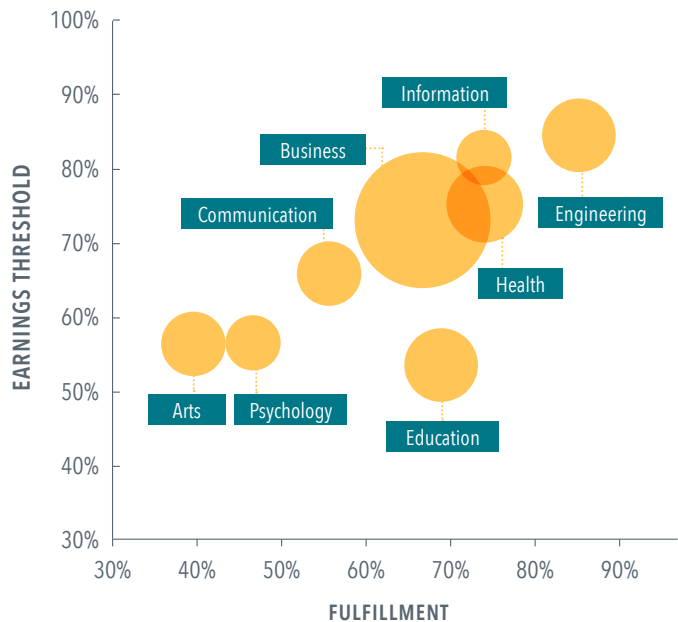
No postsecondary pathway can promise an economic or noneconomic outcome, but individuals should have access to credible information to know the probabilities of a pathway achieving the value they desire. This information alone will not determine an individual’s fulfillment. But what it can do, if measured widely by demographics and by each specific postsecondary pathway, is allow individuals to assess a general level of fulfillment for different postsecondary pathways and professions to inform their choices.

Figure 5: Share of Working-Age Adults Employed Full Time, Year-Round By Earnings Threshold and Personal Fulfillment



Source: [Success Beyond Completion, Strada](#)

Figure 6: Outcomes By (Bachelor’s Degree) Major



Source: [Success Beyond Completion webinar, July 2022, Strada](#)

Skills as a measure of value. A November 2022 Strada analysis explored a critical set of drivers of both fulfillment and economic returns: the perception by bachelor’s degree graduates about whether their degree equipped them with a set of critical skills.

Bachelor's degree completers who rated skills acquisitionⁱ highly were 57 percentage points more likely to agree or strongly agree that their education helped them to achieve their goals, 50 percentage points more likely to agree or strongly agree that their education was worth the cost, and 71 percentage points more likely to be in the top ranking of positive life impact from completing their postsecondary pathway.³⁰ Achieving strong skills development was also strongly associated with achieving one's personal goals and boosting earnings.³¹

Skills are important to students and employers, both of whom are frustrated with skills acquisition. A 2021 poll of Generation Z high school students found that 61% agree that a skill-basedⁱⁱ education “makes sense in today's world.”³² Previously, a 2017 survey by Strada and Gallup reported that student confidence in the value of a bachelor's degree was eroding, with only 34% of students believing they would graduate with “the skills and knowledge to be successful in the job market.”³³

Similarly, a 2020 survey of employers by the American Association of Colleges and Universities revealed that “just six in ten employers believe that college graduates possess the knowledge and skills needed to succeed in entry-level positions, and just over half (55 percent) believe they possess the knowledge and skills required for advancement and promotion.”³⁴

This survey further breaks down a comparison of skills employers think recent graduates are “very well prepared” for in the workplace (Table 4).³⁵

Skills could be measured as an end and as a means to achieve other economic and noneconomic measures of value. But it's easier said than done.

The U.S. doesn't have a common definition for a broad category of these skills. Some call them “human skills,” “workplace skills” (though they can drive benefits outside of work), “executive skills” (despite driving value for those outside of executive positions),

Table 4: Employer View of Postsecondary Graduate Preparedness

SHARE OF EMPLOYERS WHO REPORT THAT RECENT GRADUATES ARE “VERY WELL PREPARED” ON A PARTICULAR SKILL	
Ability to work effectively in teams	48%
Critical thinking skills	39%
Analyze and interpret data	41%
Application of knowledge/skills in real-world settings	39%
Digital literacy	49%
Communicate effectively through writing	44%
Ethical judgment and reasoning	41%
Demonstrate complex problem-solving skills	39%
Communicate/work with people from different cultural backgrounds	43%
Locate, evaluate, and use information in decision-making	42%
Creative thinking	46%
Communicate effectively through speaking/presentation skills	41%
Work with numbers and statistics	44%
Integrate ideas/information across different settings and contexts	39%
Civic skills/civic engagement	44%

Source: Ashley Finley, *How College Contributes to Workforce Success*, Association of American Colleges and Universities

i Strada referred to skills as including “general and interpersonal skills such as critical thinking, problem-solving, communications, and teamwork.” They also included specialized skills like data analysis and digital literacy.

ii The survey referred to skills-based education such as trade skills, nursing, and STEM.

or “soft skills” (though there is nothing soft about skills like working across lines of difference, critical thinking, or problem-solving). They are also frequently referred to as “21st century skills,” though many of these skills (e.g., communications and teamwork) have been fundamental to human success since the dawn of our species.

There also isn’t a common language to articulate the actual, detailed skills that would fall into this broad category.

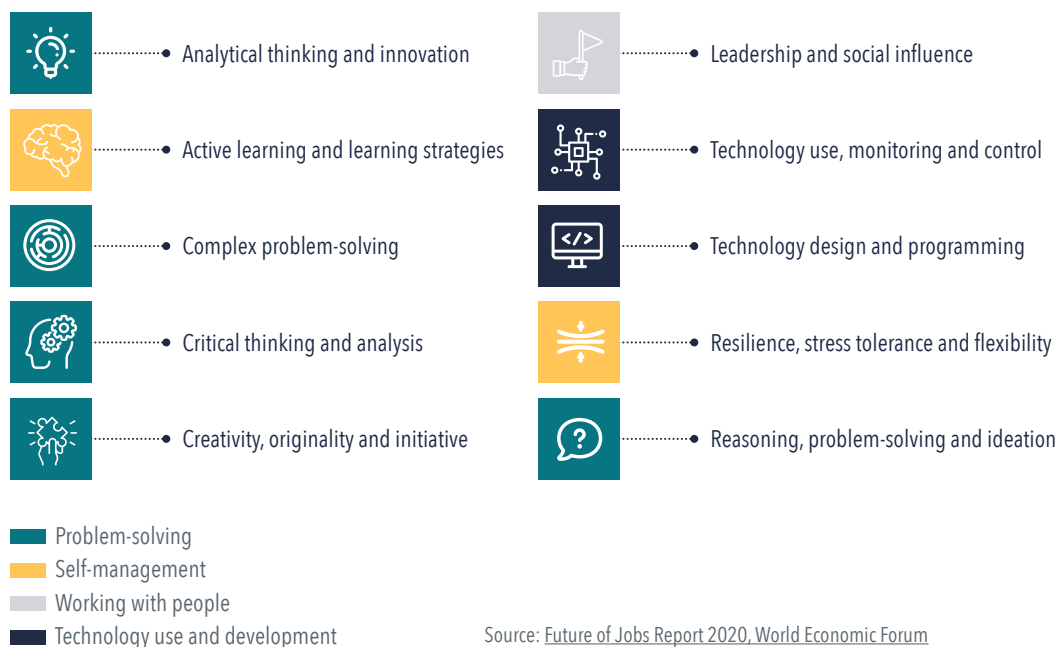
Some sources provide a narrow framework of skills, while others provide increasingly complex frameworks. Illustrative examples include the World Economic Forum³⁶ and McKinsey & Company (Figures 7, 8).³⁷

Further complicating matters, **many of these skills frameworks overlap heavily with social-emotional learning frameworks**, which can politicize any discussion about skills. And these skills frameworks are increasingly important in K-12 education, where they are also proliferating under different names and frameworks.

We are also separating these from technical skills specific to professions, like knowing how to write computer code as a computer programmer or knowing anatomy as a nurse. There may be additional career readiness skills, like preparing for an interview, that some may include in the previously mentioned skills categories or in a *different* skills category.

Another complicating factor is ensuring that the naming and definitions of these skills are accessible and understandable not only to educators, employers, policymakers, and researchers but also to students and parents. In 2017, Learning Heroes surveyed more than 2,000 K-8 parents and asked them to pick the Top 10 skills and traits they would prioritize from a list of 60 options. Parents rated respect, self-esteem, confidence, problem-solving, social skills, and responsible decision-making highest. It’s also instructive to note the skills and traits that parents rated lowest, such as grit, executive functioning, self-regulation, and growth mindset, which are used frequently by educators and researchers.³⁸ Some terms were “simply unfamiliar or too academic for parents, while others elicit an unintended, negative response.”³⁹

Figure 7: World Economic Forum Top 10 Skills of 2025



Source: [Future of Jobs Report 2020, World Economic Forum](#)

Words matter. As Learning Heroes concluded, “While parents prioritize many of the concepts backed by science, they don’t use the same language and often plead for more common vocabulary. Parents strongly prefer everyday talk to terms for skills and traits that they view as academic, technical, or simply unfamiliar. Many conclude that such language is just not intended for them, and, as a result, will ignore communications that use it or will make up a definition if they think they are supposed to know the meaning.”⁴⁰

This is equally applicable to students.

According to this Learning Heroes survey, the most popular “meta-name” for these skills from parents was “**Life Skills**” because it’s “simple,” “all encompassing,” and “because you use them everyday [sic] in life, schools, jobs and family.”⁴¹

Figure 8: McKinsey & Company 56 Foundational Skills That Will Help Citizens Thrive in the Future of Work

COGNITIVE		INTERPERSONAL	
Critical thinking <ul style="list-style-type: none"> • Structured problem-solving • Logical reasoning • Understanding biases • Seeking relevant information 	Planning and ways of working <ul style="list-style-type: none"> • Work-plan development • Time management and prioritization • Agile thinking 	Mobilizing systems <ul style="list-style-type: none"> • Role modeling • Win-win negotiations • Crafting and inspiring vision • Organizational awareness 	Developing relationships <ul style="list-style-type: none"> • Empathy • Inspiring trust • Humility • Sociability
Communication <ul style="list-style-type: none"> • Storytelling and public speaking • Asking the right questions • Synthesizing messages • Active listening 	Mental flexibility <ul style="list-style-type: none"> • Creativity and imagination • Translating knowledge to different contexts • Adopting a different perspective • Adaptability • Ability to learn 	Teamwork effectiveness <ul style="list-style-type: none"> • Fostering inclusiveness • Motivating different personalities • Resolving conflicts • Collaboration • Coaching • Empowering 	
SELF-LEADERSHIP		DIGITAL	
Self-awareness and self-management <ul style="list-style-type: none"> • Understanding own emotions and triggers • Self-control and regulation • Understanding own strengths • Integrity • Self-motivation and wellness • Self-confidence 		Digital fluency and citizenship <ul style="list-style-type: none"> • Digital literacy • Digital learning • Digital collaboration • Digital ethics 	
Entrepreneurship <ul style="list-style-type: none"> • Courage and risk-taking • Driving change and innovation • Break orthodoxies • Energy, passion, and optimism 		Software use and development <ul style="list-style-type: none"> • Programming literacy • Data analysis and statistics • Computational and algorithmic thinking 	
Goal achievement <ul style="list-style-type: none"> • Ownership and decisiveness • Achievement orientation • Coping with uncertainty • Grit and persistence • Self-development 		Understanding digital systems <ul style="list-style-type: none"> • Data literacy • Smart systems • Cybersecurity literacy • Tech translation and enablement 	

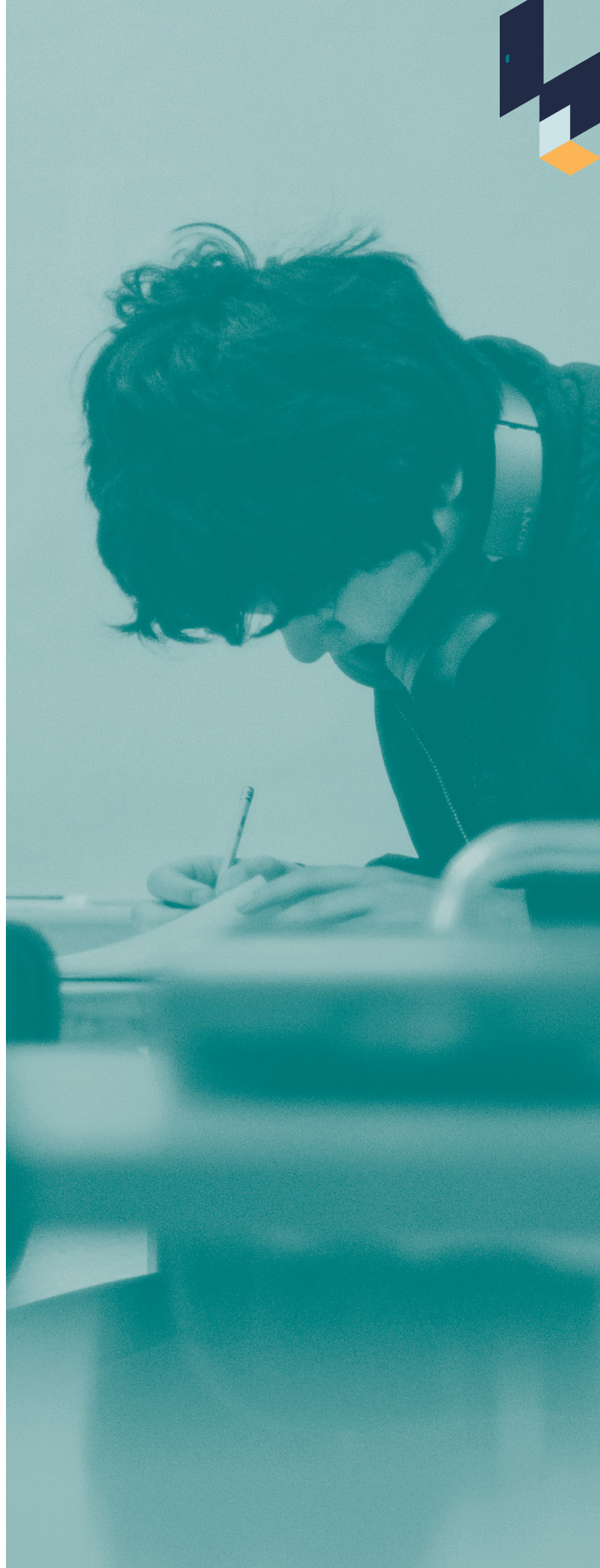
Source: Marco Dondi et al., “Defining the Skills Citizens Will Need in the Future World of Work,” McKinsey & Company

Conclusion

Measuring the monetary and nonmonetary value of a postsecondary pathway is admittedly complex — and making both easier to understand is a crucial step in building a system that offers students true choice.

All three enablers of choice introduced in Admission play a critical role in helping individuals better understand and apply the value of different postsecondary pathways. People need clear, timely, accessible, customizable, comparable, and credible **information** on the value of pathways they're considering; **the social capital of navigation** to understand and apply this information in making their choices; and versatile, inclusive, and high-quality **pathway options** that offer the value they're seeking.

Subsequent Admission analyses will explore the existing innovations, challenges, and opportunities in bringing these enablers to life for more individuals at scale. ✨



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Beta by Bellwether is an initiative to jump-start bold solutions to structural problems in the education sector. Beta moves beyond imagining a new sector by bringing together viewpoint- and experience-diverse teams from across education to create blueprints and tools for leaders around the United States. Our goal is to help build an education system that better serves all young people — particularly those from systemically marginalized communities — and models a new way forward for the sector. For more, visit bellwether.org/beta.



Bellwether is a national nonprofit that exists to transform education to ensure systemically marginalized young people achieve outcomes that lead to fulfilling lives and flourishing communities. Founded in 2010, we work hand in hand with education leaders and organizations to accelerate their impact, inform and influence policy and program design, and share what we learn along the way. For more, visit bellwether.org.

Acknowledgments

We would like to thank the many individuals who gave their time and shared their knowledge with us to inform our work on this project, including Alexandra Bernadotte, Melissa Connelly, Bryan Contreras, Bill DeBaun, Susan Goldberger, Jorge Ochoa, Jaclyn Piñero, Norma Rey-Alicea, Aneesh Sohoni, Ruth Bauer White, and Brittani Williams for their Working Group participation in Beta by Bellwether's Admission initiative. We are particularly grateful to the Carnegie Corporation of New York and the Suder Foundation for their financial support of this work.

We would also like to thank our Bellwether colleagues Andrew J. Rotherham, Nick Lee, Kateland Beals, Brian Robinson, Shruti Nagarajan, and Tanvi Kodali for their input as well as Lindsay Kim for her support. Thank you to Valentina Payne, Christina Segura, Alyssa Schwenk, Abby Marco, Andy Jacob, Zoe Campbell, Julie Nguyen, and Amber Walker for shepherding and disseminating this work and to ThompsonStenning Creative Group and Super Copy Editors.

The contributions of these individuals and entities significantly enhanced our work; however, any errors in fact or analysis remain the responsibility of the authors.

Endnotes

- 1 Ellen Bara Stolzenberg et al., *The American Freshman: National Norms Fall 2019*, Higher Education Research Institute, UCLA, 2020, 42, <https://www.heri.ucla.edu/monographs/TheAmericanFreshman2019.pdf>.
- 2 “Fast Facts: Educational Institutions,” National Center for Education Statistics, <https://nces.ed.gov/fastfacts/display.asp?id=1122>.
- 3 Stolzenberg et al, *The American Freshman: National Norms Fall 2019*.
- 4 This is not equally true for people from systemically marginalized communities, and it varies significantly by a given pathway.
- 5 David Deming, “In the Salary Race, Engineers Sprint but English Majors Endure,” *The New York Times*, Sept. 20, 2019, <https://www.nytimes.com/2019/09/20/business/liberal-arts-stem-salaries.html>.
- 6 *Economic Well-Being of U.S. Households in 2021*, Board of Governors of the Federal Reserve System, May 2022, 36, <https://www.federalreserve.gov/publications/files/2021-report-economic-well-being-us-households-202205.pdf>: “Lower-income adults were especially likely to face difficulty paying bills. Half of adults with a family income less than \$25,000 had one or more bills that they were unable to pay in full that month or were one \$400 financial setback away from being unable to pay them, compared with 5 percent for adults with a family income of \$100,000 or more. Black and Hispanic adults were much more likely than White or Asian adults to face difficulty paying bills, and these differences were present at all income levels (figure 21). Forty percent of Black adults and 35 percent of Hispanic adults had, or were close to having, difficulty paying bills, compared with 19 percent of White adults and 11 percent of Asian adults.”
- 7 *Equitable Value: Promoting Economic Mobility and Social Justice Through Postsecondary Education*, Postsecondary Value Commission, 2021, 35, <https://postsecondaryvalue.org/wp-content/uploads/2021/07/PVC-Final-Report-FINAL-7.2.pdf>.
- 8 *Ibid.*, 36.
- 9 “Today’s Students,” Higher Learning Advocates, <https://higherlearningadvocates.org/policy/todays-students/>.
- 10 “Report: For Low-Income Students, Hidden College Costs Create Hardships, Barriers to Degree Completion,” uAspire, June 23, 2020, https://www.uaspire.org/BlankSite/media/uaspire/Beyond-the-College-Bill-Press-Release_6-23-20.pdf; this is a press release referring to the full report: Ann Coles, Laura Keane, and Brendan Williams, *Beyond the College Bill: The Hidden Hurdles of Indirect Expenses*, uAspire, June 2020, <https://www.uaspire.org/BlankSite/media/uaspire/Beyond-the-College-Bill.pdf>.
- 11 Jennifer Ma and Matea Pender, *Trends in College Pricing and Student Aid 2022*, College Board, October 2022, 11, <https://research.collegeboard.org/media/pdf/trends-in-college-pricing-student-aid-2022.pdf>.
- 12 *Ibid.*
- 13 *Economic Well-Being of U.S. Households in 2021*, Board of Governors of the Federal Reserve System.
- 14 “Report: For Low-Income Students, Hidden College Costs Create Hardships,” uAspire.
- 15 Robert Kelchen, Sara Goldrick-Rab, and Braden Hosch, “The Costs of College Attendance: Examining Variation and Consistency in Institutional Living Cost Allowances,” *The Journal of Higher Education* 88, no. 6 (2017): 947–971, https://www.researchgate.net/publication/319026460_The_Costs_of_College_Attendance_Examining_Variation_and_Consistency_in_Institutional_Living_Cost-Allowances.
- 16 Doug Shapiro et al., *Time to Degree: A National View of the Time Enrolled and Elapsed for Associate and Bachelor’s Degree Earners*, National Student Clearinghouse Research Center, September 2016, 1, <https://nscresearchcenter.org/wp-content/uploads/SignatureReport11.pdf>.
- 17 “Fast Facts: Time to Degree,” National Center for Education Statistics, <https://nces.ed.gov/fastfacts/display.asp?id=569>.
- 18 “Number of degree/certificate-seeking undergraduate students entering a postsecondary institution and percentage of students 4, 6, and 8 years after entry, by completion and enrollment status at the same institution, institution level and control, attendance level and status, Pell Grant recipient status, and acceptance rate: Cohort entry year 2012.” Table 326.27, National Center for Education Statistics, https://nces.ed.gov/programs/digest/d21/tables/dt21_326.27.asp.
- 19 Stephen Burd et al., *Decoding the Cost of College: The Case for Transparent Financial Aid Award Letters*, New America and uAspire, June 2018, 2, https://d1y8sb8igg2f8e.cloudfront.net/documents/Decoding_the_Cost_of_College_Final_6218.pdf.
- 20 “Financial Aid Offers: Action Needed to Improve Information on College Costs and Student Aid,” GAO-23-104708, U.S. Government Accountability Office, November 2022, GAO Highlights page, <https://www.gao.gov/assets/gao-23-104708.pdf>.
- 21 Timothy Pratt, “College ‘bait and switch,’” *The Hechinger Report*, April 20, 2015, <https://hechingerreport.org/in-a-college-bait-and-switch-financial-aid-often-declines-after-freshman-year-2/>.
- 22 Burd et al., *Decoding the Cost of College*, 7.
- 23 Percentage of 16- to 64-year-old undergraduate students who were employed, by attendance status, hours worked per week, and selected characteristics: 2010, 2015, and 2020,” Table 503.40, National Center for Education Statistics, https://nces.ed.gov/programs/digest/d21/tables/dt21_503.40.asp.
- 24 “Success Beyond Completion: How Can We Best Measure Student Outcomes?” Strada Education Network, July 20, 2022, <https://stradaeducation.org/report/pv-release-july-20-2022/>.
- 25 *Equitable Value*, Postsecondary Value Commission, 40.
- 26 We recognize that there are other population-level measures of the benefit of achieving postsecondary success related to health outcomes, home ownership, civic participation, and even charitable giving. However, we consider these measures that are tracked for society. At the individual level, many of these measures are also secondary benefits of economic value that are achieved as a result of increased earnings due to postsecondary success.
- 27 “Voting Historical Time Series,” Table A-2, U.S. Census Bureau, Oct. 28, 2021, <https://www2.census.gov/programs-surveys/cps/tables/time-series/voting-historical-time-series/>.

- ²⁸ "Success Beyond Completion," Strada Education Network.
- ²⁹ Success Beyond Completion Public Viewpoint Webinar Series, slide deck, Strada Education Network, July 20, 2022, 10, <https://stradaeducation.org/wp-content/uploads/2022/07/072022-pv-charts.pdf>.
- ³⁰ Nichole Torpey-Saboe, *Value Beyond the Degree: Alumni Perspectives on How College Experiences Improve Their Lives*, Strada Education Network, Nov. 16, 2022, <https://stradaeducation.org/report/pv-release-nov-16-2022/>.
- ³¹ "Value Beyond the Degree: Alumni Perspectives on How College Experiences Improve Their Lives," Public Viewpoint, slide deck, Strada Education Network, November 2022, 16, <https://stradaeducation.org/wp-content/uploads/2022/11/111622-PV-charts.pdf>.
- ³² "Today's Teens Questioning the Status Quo When It Comes to College," Cision PR Newswire, Feb. 18, 2021, <https://www.prnewswire.com/news-releases/todays-teens-questioning-the-status-quo-when-it-comes-to-college-301230744.html>.
- ³³ *Crisis of Confidence: Current College Students Do Not Feel Prepared for the Workforce*, Strada Education Network and Gallup, 2018, <http://stradaeducation.org/press-release/new-survey-reveals-crisis-of-confidence-in-workforce-readiness-among-college-students/>.
- ³⁴ Ashley Finley, *How College Contributes to Workforce Success: Employer Views on What Matters Most*, Association of American Colleges and Universities, 2021, 15, <https://dgm81phvh63.cloudfront.net/content/user-photos/Research/PDFs/AACUEmployerReport2021.pdf>.
- ³⁵ *Ibid.*, 16.
- ³⁶ Kate Whiting, "These Are the Top 10 Job Skills of Tomorrow — And How Long It Takes to Learn Them," World Economic Forum, Oct. 21, 2020, <https://www.weforum.org/agenda/2020/10/top-10-work-skills-of-tomorrow-how-long-it-takes-to-learn-them/>.
- ³⁷ Marco Dondi, Julia Klier, Frédéric Panier, and Jörg Schubert, "Defining the Skills Citizens Will Need in the Future World of Work," McKinsey & Company, June 25, 2021, <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/defining-the-skills-citizens-will-need-in-the-future-world-of-work>.
- ³⁸ "Developing Life Skills in Children: A Road Map for Communicating With Parents," slide deck, Learning Heroes, June 2018, 9–11, https://bealearninghero.org/wp-content/uploads/2018/03/DLS-CommunicationsPlaybook-PPT_final.pdf.
- ³⁹ *Developing Life Skills in Children: A Road Map for Communicating With Parents*, Learning Heroes, March 2018, 29, <https://bealearninghero.org/wp-content/uploads/2018/05/DLS-Report-2018-for-distribution-single-pages.pdf>.
- ⁴⁰ *Ibid.*, 32.
- ⁴¹ *Ibid.*, 31.



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