

Rethinking Underemployment

Are College Graduates Using Their Degrees?

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EDUCATION AND
THE WORKFORCE

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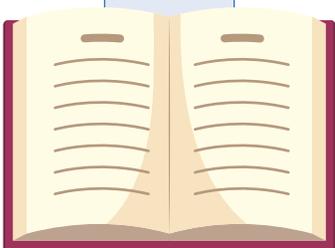
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Introduction

Skepticism about the value of a bachelor’s degree has grown in recent years, fueled by the high cost of obtaining a four-year degree and the worsening employment prospects of recent college graduates. Observers frequently point to underemployment—which occurs when workers have more education or skills than their jobs require—as evidence that higher education is failing to deliver on its promises. Underemployment is a valid concern, especially in light of the time and financial investment involved in earning a bachelor’s degree. Yet while most would agree that underemployment is a problem, there is no broad consensus on how to measure it.

One widely cited data point in the current conversation about underemployment comes from the 2024 *Talent Disrupted* report by Burning Glass Institute and Strada Institute for the Future of Work. *Talent Disrupted* estimates that more than half (52 percent) of recent college graduates were working in jobs that did not require a four-year degree.¹ This figure has captured the attention of the media and policymakers and is influencing the public narrative about underemployment.

Yet *Talent Disrupted* offers just one lens through which to view underemployment.² In fact, estimates of underemployment vary widely depending on the methodology used and the population surveyed.³ For instance, a separate analysis from the Federal Reserve Bank of New York of workers with a bachelor’s degree or higher shows underemployment at 42 percent for recent graduates in 2025, compared with approximately 34 percent for all college graduates.⁴ The discrepancy among different researchers’ findings highlights an important—yet seldom addressed—issue about underemployment: How we define and measure underemployment is not settled.

While underemployment is a meaningful concern, some of the current headlines miss important labor-market dynamics that add nuance to our understanding of this problem. For example, the 52 percent statistic cited in *Talent Disrupted* pertains to graduates within the first year of completing their degrees, and the report shows that the underemployment rate diminishes for workers 10 years after graduation, to 45 percent.⁵ In other words, even with higher-end estimates of underemployment, the data indicate that bachelor’s degree holders’ career prospects typically improve with more experience in the workforce. With roughly 3 million recent graduates entering the labor market with four-year degrees each spring,⁶ it is not unreasonable to expect that a meaningful share would need a few months—or longer—to land their first career-track jobs.

In fact, allowing workers to settle into the workforce before evaluating their labor-market outcomes can substantially change the picture of underemployment, as job matching in the US labor market often happens

1 The 52 percent underemployment rate applies to workers who completed their undergraduate degree in 2011–12 and were employed for at least six months in 2013; Burning Glass Institute and Strada Institute for the Future of Work, *Talent Disrupted*, 2024.

2 While underemployment can occur at most levels of educational attainment, we focus on underemployment among bachelor’s degree holders in this report. For a discussion of methodology, see Appendix A.

3 For an overview of estimates of underemployment in the literature, see Appendix B.

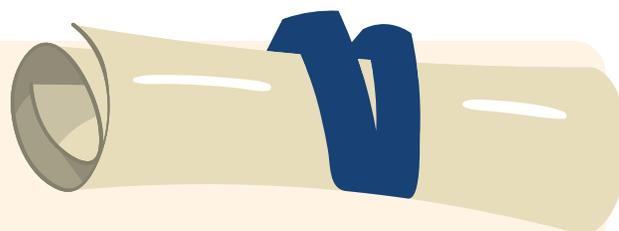
4 The Federal Reserve Bank of New York uses ages 22–27 for recent college graduates and 22–65 for all college graduates. Federal Reserve Bank of New York, “The Labor Market for Recent College Graduates,” 2025.

5 Burning Glass Institute and Strada Institute for the Future of Work, *Talent Disrupted*, 2024.

6 In prior Georgetown University Center on Education and the Workforce (CEW) research, we examined the pace at which the US labor market absorbs the flood of new graduates and found that unemployment among recent college graduates peaks in August and settles down by late autumn. Carnevale et al., *The Summer Surge in College Unemployment*, 2013.

through job churn.⁷ On average, workers go through 12.7 job changes across their careers,⁸ with college graduates enjoying higher rates of wage growth once they settle into the labor market.⁹ Increases in unemployment have historically correlated with rising underemployment, as college graduates compete for jobs with lower skills requirements.¹⁰ Underemployment rates also rise and fall according to broader economic factors, such as the business cycle and the extent to which degree production aligns with employer demand.¹¹ Prior research shows that college enrollment cycles can lag behind business cycles, resulting in the overproduction of some degrees when supply catches up with demand.¹² This dynamic can lead to higher unemployment and underemployment among graduates in overenrolled fields.

The method used to estimate underemployment matters.



The fact that economic downturns are typically temporary may be cold comfort for recent graduates entering one of the most challenging job markets in years. In 2025, the unemployment rate for recent college graduates reached 5.8 percent, the highest it has been since 2013, excluding the spike during the pandemic.¹³ Meanwhile, unemployment is gradually ticking up for all workers,¹⁴ with broader uncertainties contributing to slowing economic growth and reduced hiring.¹⁵ At the same time, artificial intelligence (AI) is reshaping the job market,¹⁶ with particular implications for recent graduates seeking entry-level, white-collar job opportunities.¹⁷ In such a difficult labor market, it is understandable that recent graduates might find themselves needing to take a job that doesn't align with their skills and education over no job at all.

Underemployment is an important social problem, representing a loss of human capital and the potential misallocation of educational resources. The authors of reports like *Talent Disrupted* deserve credit for bringing this issue into sharper focus. However, the methodological approach used to measure underemployment warrants closer scrutiny.

7 For an interesting comparison of job churn in the US and in Europe, see *The Economist*, "Why European Workers Need to Switch Jobs," 2025. For a discussion of how early-career unemployment affects skill development and may in turn affect mid-career underemployment, see Arellano-Bover, "The Effect of Labor Market Conditions at Entry on Workers' Long-Term Skills," 2022.

8 US Bureau of Labor Statistics, "Number of Jobs, Labor Market Experience, Marital Status, and Health for Those Born 1957–1964," 2023; and Mincer and Jovanovic, "Labor Mobility and Wages," 1981.

9 The bachelor's degree wage premium doubles from 27 percent at age 25 to 60 percent at age 55; Deming, "Why Do Wages Grow Faster for Educated Workers?," 2023.

10 Barnichon and Zylberberg, "Under-Employment and the Trickle-Down of Unemployment," 2019. Researchers at the World Economic Forum discuss the problem of underemployment as "filtering down"; Clemens, "Why College-Educated Workers Are Taking Low-Paid Jobs," 2015.

11 Barnichon and Zylberberg, "Under-Employment and the Trickle-Down of Unemployment," 2019.

12 Freeman, "Overinvestment in College Training?," 1975.

13 The Federal Reserve Bank of New York defines recent college graduates as workers ages 22–27 with a bachelor's degree or higher. Federal Reserve Bank of New York, "The Labor Market for Recent College Graduates," 2025.

14 US Bureau of Labor Statistics, "Civilian Unemployment Rate," 2025.

15 Karma, "The Job Market Is Frozen," 2025; Thompson, "Something Alarming Is Happening to the Job Market," 2025; and Rinehart, "Are Software Jobs Collapsing?," 2025.

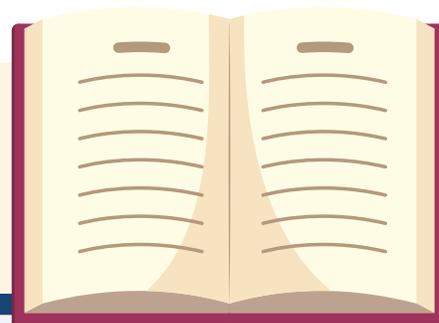
16 Ellis et al., "Tens of Thousands of White-Collar Jobs Are Disappearing as AI Starts to Bite," 2025.

17 Thompson, "Something Alarming Is Happening to the Job Market," 2025; Ellis and Bindley, "AI Is Wrecking an Already Fragile Job Market for College Graduates," 2025; and Eckhardt and Goldschlag, "AI and Jobs," 2025.

Several commonly cited estimates of underemployment among bachelor's degree holders rely on the Bureau of Labor Statistics' (BLS) entry-level education assignments.¹⁸ As the name implies, these assignments categorize occupations by the minimum education level required to land an entry-level job in a given occupation. While the BLS assignments are a useful starting point to frame preliminary analyses of underemployment, relying on them alone presents several critical limitations that we will explore throughout this report.

An alternative or supplement to the BLS entry-level education assignments would be to consider how the college earnings premium reflects the value of a bachelor's degree. As we explore in Part 3 of this report, after taking the bachelor's degree earnings premium into account, we find that underemployment is 25 percent among recent graduates (those ages 22–23) who are employed full time¹⁹—far lower than the underemployment rate suggested by approaches that rely on BLS entry-level education assignments alone, such as *Talent Disrupted*.

What the BLS Entry-Level Education Assignments Don't Tell Us



Relying on entry-level education assignments alone masks the following considerations:

- 1. Educational diversity within occupations:** The BLS entry-level education assignments reflect the minimum education level necessary to enter a given occupation. The entry-level education assignment therefore may not reflect the predominant level of educational attainment among workers within an occupation. Among workers in occupations with lower assigned education levels than their own level of attainment, some may indeed be underemployed. Others might occupy more senior, specialized, or skilled positions requiring higher levels of education and training, despite working in occupations that require a lower educational attainment level for many entry-level roles.²⁰
- 2. The bachelor's degree earnings premium:** Workers with a bachelor's degree generally earn more than those with a high school diploma alone, even in occupations the BLS classifies as requiring less education than a bachelor's degree. We posit that earnings premiums reflect the relative productivity of bachelor's degree holders employed in these occupations and can be used to improve measurement of underemployment.

18 The BLS assigns a typical level of education needed to enter a given occupation among eight possible education levels, ranging from “no formal educational credential” to “doctoral or professional degree.” For more detail on the BLS entry-level education assignments, see Appendix A.

19 Georgetown University Center on Education and the Workforce analysis of data from the US Census Bureau, American Community Survey (ACS) 2018–22 (five-year sample); and the US Bureau of Labor Statistics (BLS), Employment Projections (EP), 2023–33, 2024.

20 Detailed occupations do not necessarily capture the differences among individual job titles. In the past, the BLS attempted to capture more detailed and specific job titles in its *Dictionary of Occupational Titles* (which contained more than 12,000 jobs). The BLS eventually replaced the classifications outlined in the *Dictionary of Occupational Titles* with those articulated in the Occupational Information Network (O*NET) and created broader occupational aggregations of jobs. US Bureau of Labor Statistics, “Classifying Jobs,” 2025.

Throughout this report we focus on the strengths and weaknesses of three potential methodological approaches to measuring underemployment.²¹ Our goal is not to endorse a specific approach, but rather to demonstrate the extent to which each methodological lens can color our understanding of underemployment. As noted above, depending on methodology, recent estimates put the rate of underemployment among bachelor's degree holders anywhere from 25 percent to 52 percent.²²

We should be concerned that the highest-end estimate of underemployment is becoming cemented in the public discourse, just as we would be concerned if an unreasonably low estimate were driving the conversation. Relying too heavily on a single statistic distorts our understanding of the issue. If we aim to reduce underemployment, we need a better understanding of underemployment that accounts more fully for whether workers are using their skills. A clearer understanding of underemployment is especially urgent now, in a context of rising unemployment and diminished job prospects for recent college graduates.



²¹ See Part 1 for a description of each approach.

²² Rose, *Mismatch*, 2017; and Burning Glass Institute and Strada Institute for the Future of Work, *Talent Disrupted*, 2024. For more detail on the full range of estimates available in the literature, see Appendix B.

Part 1. What Is Underemployment, and What Factors Should We Consider When Evaluating It?

At its core, underemployment measures the underutilization of human capital or the degree of mismatch between workers' educational attainment and the education requirements of their jobs.²³ While underemployment affects workers at most education levels,²⁴ this report focuses specifically on underemployment among bachelor's degree holders.

Many commonly cited measures of underemployment among workers with bachelor's degrees rely on the Bureau of Labor Statistics' "typical education needed for entry" occupational categories.²⁵ The BLS assignments categorize occupations by their typical entry-level education requirements, with eight education levels ranging from "no formal credential" to "doctoral degree," on the basis of qualitative expert input and quantitative labor-market analyses.²⁶

Estimates of underemployment that primarily rely on entry-level education assignments overlook the educational diversity within occupations and the bachelor's degree earnings premium.



The BLS assignments present researchers with a seemingly straightforward path to measure underemployment: If a worker with a bachelor's degree is employed in an occupation designated as requiring less than a bachelor's degree for entry, that worker is underemployed. If the occupation requires a bachelor's degree or higher for entry, the worker is considered not underemployed.²⁷ While entry-level education assignments are a useful starting point for measuring underemployment, relying solely on these assignments to define underemployment excludes some important considerations, including educational diversity within occupations and the implications of the bachelor's degree earnings premium.

23 Other measures of labor utilization, such as the US Bureau of Labor Statistics' U-6 series, track people marginally attached to the labor force and those employed part-time for economic reasons. Those measures are outside the scope of our focus in this paper.

24 It is not possible for workers with the lowest level of education to be underemployed under the education-based definition of underemployment used in this report.

25 For more detail on prior BLS entry-level educational categorizations, see Carnevale et al., *Help Wanted*, 2010.

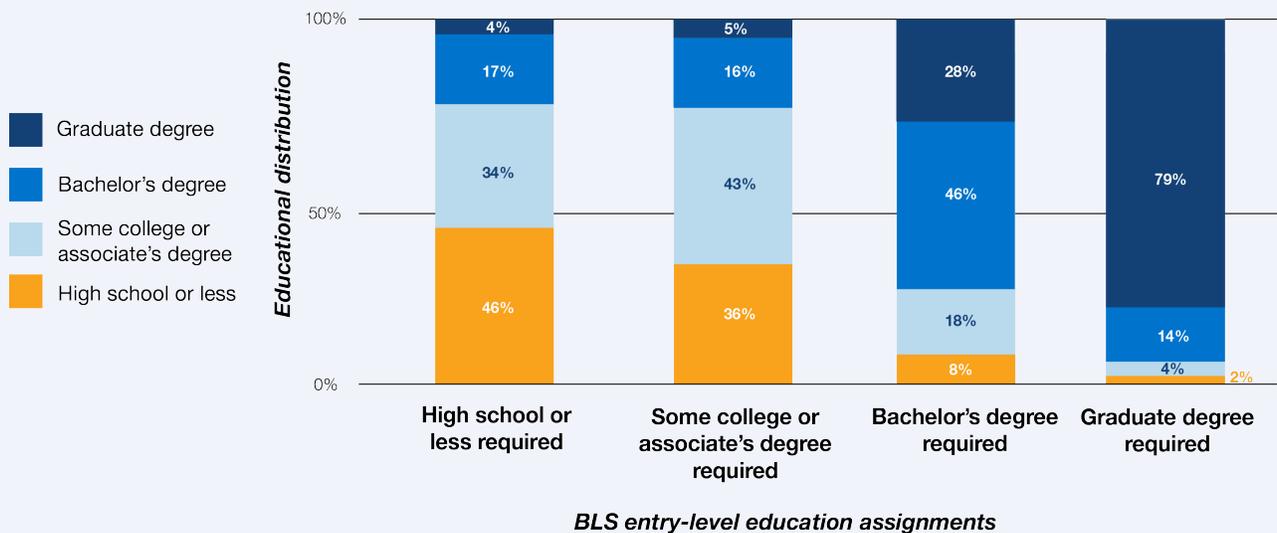
26 For more detail on the BLS entry-level education assignments, see US Bureau of Labor Statistics, "Measures of Education and Training," 2025.

27 This approach to assessing underemployment can be applied to other education levels.

Consideration 1: Educational Diversity within Occupations

The BLS entry-level education assignments are designed to identify the minimum education typically required to enter a given occupation. However, they do not capture the full range of roles, job functions, or educational requirements within each occupation. In fact, 27 percent of occupations categorized as “high school level” actually employ more workers with a bachelor’s degree than workers with a high school diploma. While some of these workers with bachelor’s degrees are underemployed, others are not. The BLS acknowledges that entry-level education assignments may not reflect the actual educational distribution within some occupations, and that a bachelor’s degree may be necessary to access some occupations classified as requiring less education due to changing entry requirements related to upskilling.²⁸ Job qualifications may also vary across sectors and regions. The gaps between the actual educational distribution and the entry-level education assignments across occupations are not negligible: Just over one in five workers in occupations categorized as requiring a high school diploma or less for entry hold a bachelor’s degree or higher (Figure 1). It is difficult to imagine all these workers are underemployed.

FIGURE 1. The actual distribution of educational attainment across occupations is more diverse than the BLS entry-level education assignments imply.



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Census Bureau, American Community Survey (ACS) 2018–22 (five-year sample); and the US Bureau of Labor Statistics (BLS), Employment Projections (EP), 2023–33, 2024.

Note: This analysis is based on full-time, full-year workers, ages 25–54. Values may not sum to 100 percent due to rounding.

Consideration 2: The Bachelor’s Degree Earnings Premium

Four-year college graduates earn more, on average, than workers with lower levels of education, even in occupations that the BLS categorizes as requiring less than a bachelor’s degree. For example, workers with bachelor’s degrees in occupations the BLS categorizes as “high school level” earn 38 percent more on average than workers with a high school diploma alone.²⁹ This suggests that employers are willing to pay higher wages for the enhanced productivity or skill sets that workers with bachelor’s degrees bring to these roles—indicating that at least some workers with bachelor’s degrees in high school–level occupations are appropriately employed.

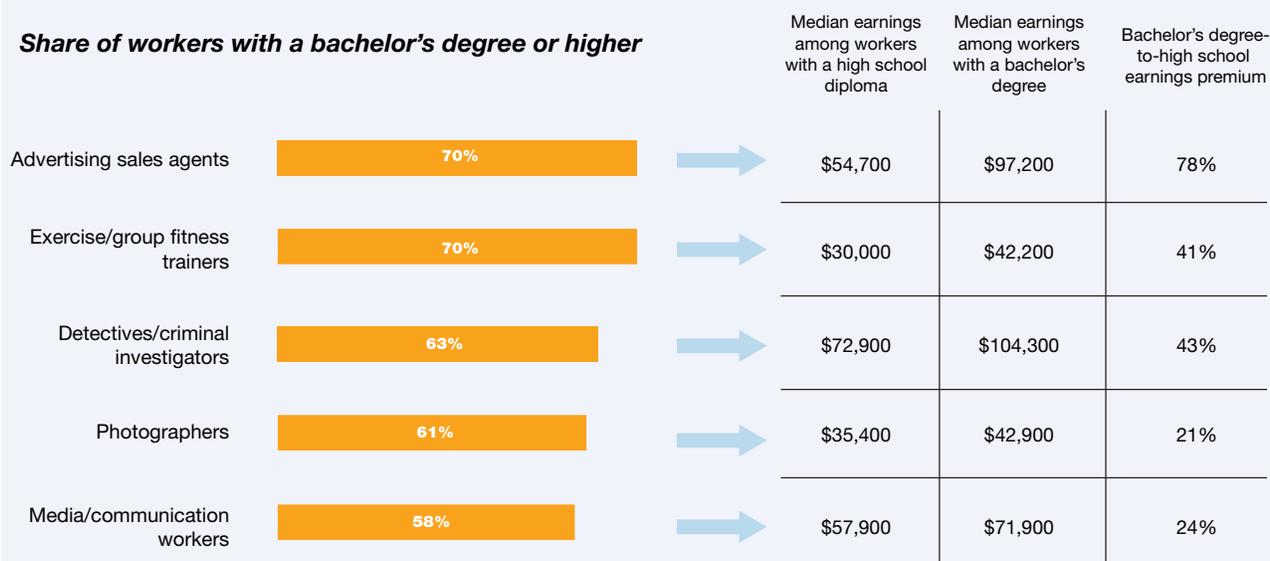
²⁸ US Bureau of Labor Statistics, “Measures of Education and Training,” 2025.

²⁹ Georgetown University Center on Education and the Workforce analysis of data from the US Census Bureau, American Community Survey (ACS) 2018–22 (five-year sample); and the US Bureau of Labor Statistics (BLS), Employment Projections (EP), 2023–33, 2024.

Some analysts may interpret the presence of a large share of workers with bachelor's degrees in high school-level occupations as proof that those workers are underemployed. However, a review of the bachelor's degree-to-high school earnings premiums in the five high school-level occupations with the largest share of workers with a bachelor's degree or higher indicates that high school-level occupations can offer a meaningful financial return to workers with bachelor's degrees. In other words, not only do employers hire workers with bachelor's degrees in these occupations, they also pay some of them significantly more than workers with less education in the same occupations.

For instance, among advertising sales agents, 70 percent of prime-age workers hold a bachelor's degree or higher; in this occupation, the median earnings of workers with a bachelor's degree are 78 percent higher than those of their counterparts with a high school diploma alone (\$97,200 compared to \$54,700). This earnings premium indicates that workers with bachelor's degrees are being rewarded for their higher-level education. High bachelor's degree earnings premiums do not exist in all occupations where workers with a bachelor's degree or higher account for a majority of workers, though. For example, photographers and media/communications workers see relatively modest bachelor's degree earnings premiums—just 21 percent and 24 percent, respectively (Figure 2).

FIGURE 2. The bachelor's degree-to-high school earnings premium ranges from 21 percent to 78 percent across the five high school-level occupations with the largest share of workers with a bachelor's degree or higher.



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Census Bureau, American Community Survey (ACS) 2018–22 (five-year sample); and the US Bureau of Labor Statistics (BLS), Employment Projections (EP), 2023–33, 2024.

Note: These values reflect outcomes among full-time, full-year workers ages 25–54. The occupations shown represent five of 58 occupations classified as high school level according to BLS entry-level education assignments that employ more workers with a bachelor's degree or higher than workers with a high school diploma or less. See Table C1 of Appendix C for a full list of these 58 occupations. The earnings are for full-time, full-year workers ages 25–54, in 2024\$, and have been rounded to the nearest hundred; the earnings premiums are calculated based on unrounded numbers.

Relying on entry-level education assignments alone provides an incomplete understanding of underemployment, leaving many questions unanswered. In this report we explore the problem of underemployment through multiple lenses or approaches, beginning with an approach that relies on the BLS entry-level education assignments.³⁰

30 For more detail on the BLS “typical education needed for entry” occupational assignments, see Appendix A.

We refer to our use of BLS entry-level education assignments to analyze underemployment as the “BLS-based” approach throughout this report. We investigate two additional approaches, one that relies on employer hiring patterns (referred to as realized matches), and another that relies on a combination of the BLS-based approach and an evaluation of the bachelor’s degree earnings premiums within occupations.

1. The BLS-based approach

As noted earlier, workers can be classified as underemployed using the BLS “typical education needed for entry” occupational assignments if they hold a bachelor’s degree but are working in an occupation that the BLS designates as requiring less than a bachelor’s degree. While widely used as the basis for many estimates of underemployment, this method does not account for the variation in educational attainment within occupations and overlooks other important proxies for worker productivity, such as wages.³¹

2. Educational attainment within occupations (realized matches)

In this approach, we classify occupations based on the actual share of workers with a bachelor’s degree within each occupation rather than using the BLS entry-level assignments. We use two variations of this approach (majority and plurality). If a majority or plurality of workers in an occupation holds a bachelor’s degree, the occupation is categorized as bachelor’s degree level, even if the BLS entry-level assignments identify it as less than bachelor’s degree level.

3. The BLS-based approach plus the bachelor’s degree earnings premium

This approach layers consideration of the bachelor’s degree earnings premium onto the standard BLS entry-level education assignments. Empirically, each year of postsecondary education typically generates approximately 10 percent higher earnings than a high school diploma alone.³² Based on this finding, we assert that earnings premiums of around 40 percent (relative to workers with high school diplomas) and 20 percent (relative to workers with some college or associate’s degrees) provide reasonable proxies for bachelor’s degree-level productivity. We use an earnings premium threshold as one of the possible methods to determine whether workers with bachelor’s degrees are underemployed.³³

We posit that the earnings premium approach captures variation in productivity by education within occupations. While further research is needed to test this hypothesis, the observed earnings premiums suggest that workers with bachelor’s degrees could transform their jobs—even those in occupations that do not require a bachelor’s degree for entry—into “bachelor’s degree-level” jobs.³⁴ Each methodology has its own strengths and weaknesses and produces different estimates of the underemployment rate. In the next section, we explore how these estimates shift across methodologies.

31 In standard microeconomic theory, wages equal the marginal product of labor (MPL) in a perfectly competitive market. In such a market, firms will hire and retain workers only as long as the productivity gains associated with their employment outweigh the costs of their wages. In a less-than-perfectly competitive market—where factors like monopsony power, bargaining, or institutional constraints exist—wages may diverge from the MPL. However, even in such a setting, wages tend to track to productivity, making them a useful, though imperfect, proxy for comparing productivity across individuals or groups and for identifying patterns of underemployment or mismatch in the labor market. Van Biesebroeck, “How Tight Is the Link between Wages and Productivity?,” 2015; and Stansbury and Summers, “Productivity and Pay,” 2018.

32 Deming, “Four Facts About Human Capital,” 2022; Gunderson and Oreopoulos, “Returns to Education in Developed Countries,” 2020; and Psacharopoulos and Patrinos, “Returns to Investment in Education,” 2018.

33 In addition, under this approach, we classify as underemployed all workers with bachelor’s degrees who are in occupations that require “no formal educational credential” according to the BLS entry-level education assignments.

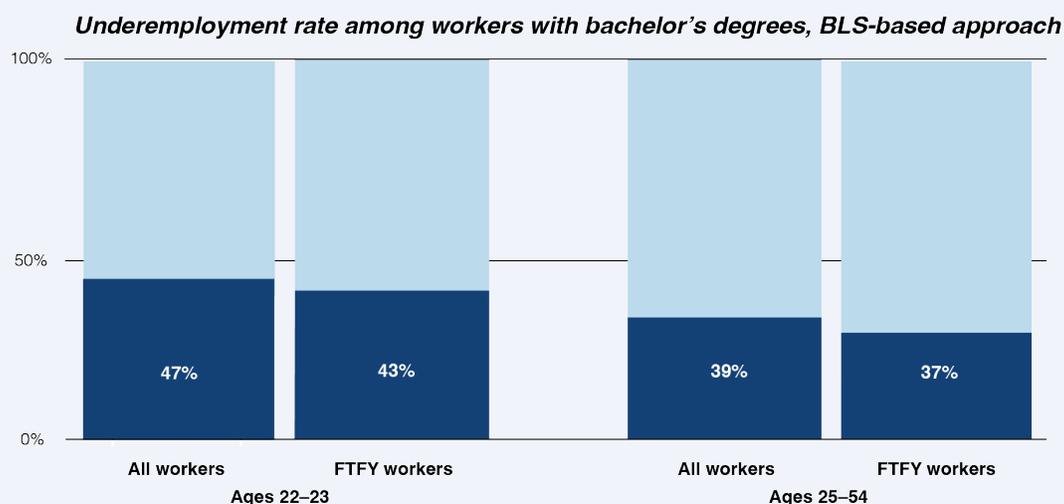
34 Importantly, BLS education and training requirements are “entry level” and are not meant to reflect “appropriate” education levels later in the career cycle, even though researchers have used these requirements to measure college graduates’ underemployment. An earlier CEW analysis suggests that roughly two-thirds of the growth in education requirements reflects upskilling within occupations. Carnevale et al., *Help Wanted*, 2010.

Part 2. Relying Solely on Entry-Level Education Assignments Can Result in Misleadingly High Estimates of Underemployment.

The Bureau of Labor Statistics' (BLS) typical entry-level education categories provide a useful reference point for preliminary analyses of underemployment. However, relying on BLS entry-level education assignments alone leads to overestimates of underemployment.

We began our analysis of underemployment by using the BLS entry-level education assignments to determine whether workers are underemployed, paralleling other estimates that have used a similar approach.³⁵ We consider workers to be underemployed if they work in occupations requiring less education for entry than their own level of educational attainment. Using this BLS-based approach, among prime-age workers (ages 25–54) with bachelor's degrees, the underemployment rate is 39 percent overall and 37 percent among those employed full time, full year. Among workers with bachelor's degrees ages 22–23, the underemployment rate is 47 percent overall and 43 percent among those employed full time, full year (Figure 3).³⁶

FIGURE 3. Nearly half of recent graduates are underemployed when measured using the BLS-based approach.



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Census Bureau, American Community Survey (ACS) 2018–22 (five-year sample); and the US Bureau of Labor Statistics (BLS), Employment Projections (EP), 2023–33, 2024.

Note: “All workers” refers to workers who are employed full time, full year, as well as those who are employed part time and who do not work full year. “FTFY workers” refers to workers who are employed full time, full year.

³⁵ Reports and articles that use the BLS entry-level education assignments to measure underemployment include Burning Glass Institute and Strada Institute for the Future of Work, *Talent Disrupted*, 2024; and Vedder et al., *Why Are Recent College Graduates Underemployed?*, 2013. For further detail on the differences between the methodological approach of *Talent Disrupted* and this analysis, see Appendix A.

³⁶ In Figure 3 and Figure 5, we demonstrate the differences in underemployment estimates for all workers with bachelor's degrees and for full-time, full-year workers with bachelor's degrees. In the rest of the analysis, we use full-time, full-year workers to avoid confounding the impact of part-time and seasonal work with the impact of being underemployed.

The BLS-based approach presents a straightforward means of measuring underemployment by using entry-level education assignments developed by BLS economists. However, these assignments do not always reflect the most common education level held by workers within each occupation.

The fact that bachelor's degree holders are employed in occupations typically requiring less than a bachelor's degree at entry does not necessarily mean they are not using their college-level skills.³⁷ Occupations are not monolithic; each generally encompasses a range of jobs employing workers with diverse skills, productivity levels, and earnings potential.³⁸ Focusing on entry-level requirements overlooks some of the variation that can occur in different labor markets across the country. Entry-level education requirements also do not capture employer preferences for workers with a bachelor's degree and the demand for higher levels of education in more senior positions.



Employer hiring reflects “realized matches” that can improve how we measure underemployment.

Estimates of underemployment that rely on entry-level education assignments do not fully account for how employer demand for skills and educational qualifications can shift in response to rapid technological and economic changes.³⁹ Entry-level education assignments may lag behind or fail to fully capture these trends.⁴⁰ Educational attainment within an occupation may also vary by sector and region in ways that a single national standard cannot capture.⁴¹

One way to account for these factors when assessing underemployment is through a realized matches approach. This method categorizes occupations as bachelor's degree level or high school level based on the actual educational attainment of workers employed in each occupation.⁴² Considering realized matches more directly reflects the revealed preferences⁴³ of employers than the BLS's entry-level education assignments. Additionally, a realized matches approach is better suited to capturing the dynamics of a rapidly evolving labor market, as it can be updated with new employment data—in contrast to entry-level education assignments, which rely on less frequent updates by BLS economists and other experts.⁴⁴

37 As stated by Attewell and Witteveen, “The argument that one-third or more of baccalaureates are underemployed is founded upon a misperception about occupations having specific educational requirements and an under-appreciation of the high degree of educational diversity within the occupations in which the large majority of college graduates work.” Attewell and Witteveen, “Occupational Marginalization, Underemployment, and Earnings Inequality among College Graduates,” 2023.

38 A 2017 Urban Institute report notes that in occupations where the range of responsibilities is more monolithic, earnings vary less across education groups. Rose, *Mismatch*, 2017.

39 Compared with the realized matches approach, the BLS entry-level education assignment system is more subjective, as BLS economists assign educational requirements to each occupation rather than relying on employment data to determine the correct educational category. US Bureau of Labor Statistics, “Measures of Education and Training,” 2025.

40 Majority or plurality representation of workers with a bachelor's degree or higher in high school-level occupations may also reflect credential inflation or weak labor markets rather than real skill needs in those occupations.

41 Capsada-Munsech indicates that job analysis indicators, including the BLS entry-level education assignments, have certain limitations: They are difficult to keep up-to-date (meaning that they risk becoming obsolete due to occupational change), and they can be too rigid to account for the true diversity of jobs within an occupation. Capsada-Munsech, “Measuring Overeducation,” 2019.

42 See Appendix A for more methodological detail.

43 While there are competing theories that can explain the distributions of educational attainment within occupations, including credential inflation and labor supply dynamics, we hold that these distributions reflect the evolution of employer preferences over time.

44 As Capsada-Munsech states, the realized matches approach “easily adapts to skills upgrading due to technological change or new formal qualification requirements.” At the same time, Capsada-Munsech notes that one major downside to this approach is its susceptibility to credential inflation. Capsada-Munsech, “Measuring Overeducation,” 2019.

Earlier researchers used a variation of the realized matches approach, analyzing underemployment based on the deviation from the typical (average, median, or mode) number of years of schooling completed by workers in an occupation.⁴⁵ However, metrics based on years of education do not necessarily reflect workers' educational attainment. More recent variations of the realized matches approach categorize workers based on their levels of educational attainment to address this shortcoming.⁴⁶

In this report, we examine two variations of the realized matches approach:

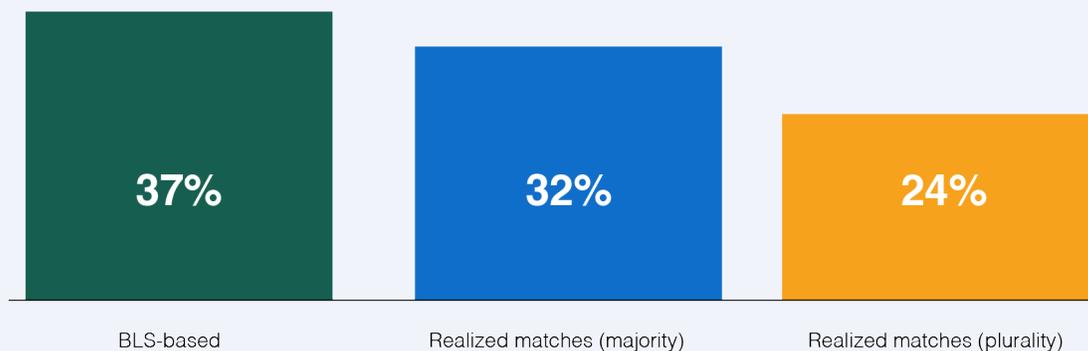
Majority realized matches: This variation classifies occupations as bachelor's degree level if a majority of workers employed in a given occupation hold a bachelor's degree or higher.

Plurality realized matches: This variation adjusts the threshold from a majority to a plurality, reflecting the fact that bachelor's degree holders make up a plurality, not a majority, of the workforce.⁴⁷

The plurality variation addresses the limited supply of college graduates in the labor market, which implies a natural constraint to meeting the majority threshold across all occupations. In other words, even if employers demand that the majority of workers within an occupation have a bachelor's degree or higher, there may be too few workers with the relevant credentials to meet employer demand.⁴⁸ Both approaches—majority and plurality—lead to lower estimates of underemployment than that of the BLS-based approach. The majority realized matches variation indicates that 32 percent of prime-age workers with a bachelor's degree are underemployed (versus 37 percent using the BLS-based approach for all prime-age workers). The plurality realized matches variation suggests that 24 percent are underemployed (Figure 4).

FIGURE 4. Estimates of underemployment based on realized matches are lower than those derived from the BLS-based approach.

Underemployment rate among prime-age workers with bachelor's degrees



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Census Bureau, American Community Survey (ACS) 2018–22 (five-year sample); and the US Bureau of Labor Statistics (BLS), Employment Projections (EP), 2023–33, 2024.

Note: These values reflect outcomes among full-time, full-year workers ages 25–54.

45 The approach that relies on the number of years of schooling completed was predominant in the 20th century, while the educational categorization approach became more prevalent beginning in the 2000s and continuing to the current day. Capsada-Munsech, "Measuring Overeducation," 2019.

46 Employers are also more likely to use educational attainment qualifications rather than years of education as a proxy for job candidates' skills. Capsada-Munsech, "Measuring Overeducation," 2019.

47 Workers with a bachelor's degree or higher currently make up approximately 36 percent of the workforce, although this share is expected to grow into the next decade. Carnevale et al., *Learning and Earning by Degrees*, 2024.

48 Research suggests that the undersupply of college graduates relative to demand resulted in rapid growth in the college wage premium between the 1970s and 2010s. Carnevale and Rose, *The Undereducated American*, 2011; and Goldin and Katz, *The Race between Education and Technology*, 2008.

In summary, the lens through which we view underemployment significantly shapes the outcomes, with the potential approaches discussed so far resulting in rates of underemployment that range from 24 percent to 37 percent among prime-age, full-time, full-year workers with bachelor's degrees. However, analyses of underemployment that rely on entry-level education assignments and the observed educational distribution of workers within occupations do not account for benefits that some bachelor's degree holders experience—such as higher earnings—even in occupations that are classified as requiring less than a bachelor's degree to enter. In the next section, we will consider the differences in earnings among bachelor's degree holders and high school graduates employed in the same occupation.



Part 3. The Rate of Underemployment Declines After Accounting for the Bachelor’s Degree Earnings Premium.

Across occupations, workers with a bachelor’s degree generally benefit from an earnings premium relative to workers with lower levels of education. This benefit accrues even to those workers with a bachelor’s degree who are employed in occupations that the Bureau of Labor Statistics (BLS) classifies as requiring less than a bachelor’s degree. For example, our analysis finds that, at the median, workers with a bachelor’s degree receive an earnings premium of 38 percent in high school–level occupations and 37 percent in bachelor’s degree–level occupations relative to the earnings of high school graduates in those occupations (Table 1).⁴⁹ This roughly aligns with the expected 10 percent earnings premium associated with each additional year of education,⁵⁰ and we believe it calls into question whether all these workers are underemployed.

TABLE 1. Workers with bachelor’s degrees who are employed in high school–level occupations benefit from a 38 percent earnings premium at the median.

Earnings at	High school–level occupations			Bachelor’s degree–level occupations		
	Worker education level		Bachelor’s degree earnings premium	Worker education level		Bachelor’s degree earnings premium
	High school	Bachelor’s degree		High school	Bachelor’s degree	
25th percentile	\$32,000	\$42,000	31%	\$43,000	\$59,000	37%
Median	\$45,000	\$62,000	38%	\$63,000	\$86,000	37%
75th percentile	\$63,000	\$96,000	52%	\$91,000	\$124,000	36%

Source: Georgetown University Center on Education and the Workforce analysis of data from the US Census Bureau, American Community Survey (ACS) 2018–22 (five-year sample); and the US Bureau of Labor Statistics (BLS), Employment Projections (EP), 2023–33, 2024.

Note: The earnings are for full-time, full-year workers ages 25–54. Earnings have been rounded to the nearest thousand and are inflation adjusted to 2024\$. The bachelor’s degree education level denotes workers with a bachelor’s degree only. Bachelor’s degree–level occupations are those classified as requiring a bachelor’s degree under the BLS entry-level education assignments. The high school education level denotes workers with a high school diploma or equivalent. High school–level occupations are those classified as requiring a high school diploma or equivalent according to the BLS entry-level education assignment.

These findings have two important implications.

- First, the bachelor’s degree earnings premium suggests that workers with bachelor’s degrees are appropriately productive and rewarded for their college-level skills.
- Second, the range of earnings within occupations reflects the range of different roles within occupations with the same entry-level education assignment. In some cases, the actual roles

49 See Table 2 for the bachelor’s degree earnings premiums among early-career, mid-career, and late-career workers.

50 See Deming, “Four Facts about Human Capital,” 2022; and Zhang et al., “Degrees of Return,” 2024.

filled by workers require a bachelor’s degree–level skill set and thus carry higher earnings potential, even if the assigned BLS entry-level education category for the occupation is at a lower level of educational attainment.

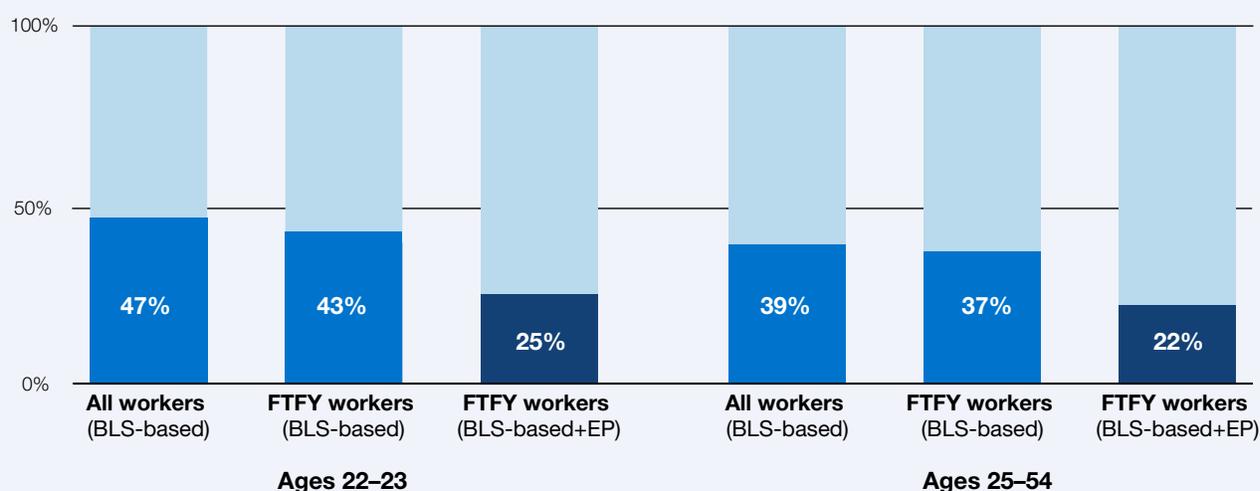
To the latter point, research shows that workers with bachelor’s degrees tend to earn more in occupations that involve a varied range of responsibilities. Workers in occupations where the responsibilities are more homogenous (such as taxi drivers) tend to see similar earnings regardless of their educational background.⁵¹

After accounting for the bachelor’s degree earnings premium, the underemployment rate among recent graduates falls to 25 percent.



Accounting for both the BLS entry-level education assignments and the earnings premium reduces the underemployment rate among full-time, full-year workers ages 22–23 with a bachelor’s degree from 43 percent to 25 percent. Meanwhile, among prime-age workers (those ages 25–54) with a bachelor’s degree who are employed full time, full year, the rate of underemployment falls from 37 percent to 22 percent (Figure 5).⁵²

FIGURE 5. Underemployment drops dramatically when combining the BLS-based and earnings premium approaches.



Source: Georgetown University Center on Education and the Workforce analysis of data from the US Census Bureau, American Community Survey (ACS) 2018–22 (five-year sample); and the US Bureau of Labor Statistics (BLS), Employment Projections (EP), 2023–33, 2024.

Note: “All workers” includes workers who are employed full time or part time, irrespective of whether they work full year. “FTFY workers” refers to workers who are employed full time, full year. “BLS-based” refers to our analysis of underemployment using the Bureau of Labor Statistics’ entry-level education assignments, which categorize occupations by their typical entry-level education assignments, with eight education levels ranging from “no formal credential” to “doctoral degree.” “EP” stands for earnings premium.

51 Rose, *Mismatch*, 2017.

52 Georgetown University Center on Education and the Workforce analysis of data from the US Census Bureau, American Community Survey (ACS) 2018–22 (five-year sample); and the US Bureau of Labor Statistics (BLS), Employment Projections (EP), 2023–33, 2024. We focus on full-time, full-year workers in this section to avoid confounding the impact of part-time and seasonal work on annual earnings with the impact of being underemployed.

While a joint BLS-based and earnings premium approach arguably does a better job of capturing whether workers' education aligns with their jobs than the BLS-based approach alone, it is still a somewhat blunt instrument for determining whether college graduates are appropriately employed. The preceding analysis focuses on outcomes in the aggregate, but the bachelor's degree earnings premium can vary significantly at different stages of workers' careers. The point at which underemployment is measured makes a difference because the bachelor's degree earnings premium tends to grow over time: As workers gain experience, the bachelor's degree earnings premium generally increases (Table 2).

TABLE 2. The bachelor's degree-to-high school earnings premium increases for each age cohort.

Age range	Median earnings among workers with a high school diploma	Median earnings among workers with a bachelor's degree	Bachelor's degree-to-high school earnings premium
Early career (ages 25–34)	\$40,300	\$66,500	65%
Mid career (ages 35–44)	\$47,600	\$85,700	80%
Late career (ages 45–54)	\$50,100	\$92,700	85%

Source: Georgetown University Center on Education and the Workforce analysis of data from the US Census Bureau, American Community Survey (ACS) 2018–22 (five-year sample).

Note: The earnings are for full-time, full-year workers, have been rounded to the nearest hundred, and are inflation adjusted to 2024\$. These earnings and earnings premiums include all occupations, regardless of entry-level education assignments.

Additionally, earnings vary by geography, experience, worker characteristics, and industry. Workers in lower-paying occupations may therefore appear to be underemployed despite the occupation aligning with their education level or requiring a bachelor's degree or higher.



Conclusion

Assessing whether college graduates are making use of their skills is important; however, measuring underemployment is far less straightforward than measuring unemployment or wages. According to higher-end estimates of underemployment, more than half of recent graduates cannot find work that requires their college-level skills. Such estimates have shed light on a critically important issue, capturing the attention of journalists, researchers, and the public alike.

At the same time, these estimates can obscure some important nuances because they rely on methodologies that overlook two key points. First, roles within occupations are diverse and can require different education levels. Second, bachelor's degree holders typically earn more than workers with no more than a high school diploma in the same occupations. For these reasons, the conversation about underemployment should not be treated as settled. More research is needed to sort out how to determine if workers are using their skills. Given the wide range of estimates and methodologies, it is clear that the field has not yet arrived at a universal standard determining whether workers with bachelor's degrees are using their college-level skills.

The policy research community needs to adopt a research agenda focused on establishing consensus about how best to measure underemployment. Developing an actionable definition of underemployment is urgently needed at a time when major skills shortages loom on the horizon and college graduates face increasing difficulty in finding jobs. Compounding these issues, the economy is cooling off,⁵³ and a weaker labor market typically affects workers at every education level.⁵⁴

While it is important to acknowledge the flaws in our postsecondary system—high costs, high debt, and noncompletion being just a few examples—we should not overlook the overall value of higher education. Earning a bachelor's degree still offers the surest path to economic security. Overstating the problem of underemployment for bachelor's degree holders distracts from the urgent problems currently facing workers at all levels of education.

Skepticism about the bachelor's degree has been building for years, and with it, waves of media reporting highlighting the aforementioned risks of a four-year education.⁵⁵ In a weakening labor market, it may be even easier to lose sight of the long-term benefits and potential of higher education. Given the systemic problems facing higher education—and the current economic slowdown—we need to do a better job of helping college graduates find their best niche in the labor market. Developing a common approach to evaluating underemployment will be a necessary first step before the field can begin to sort out how to better align education and training, and to ensure that students make the most of their educational investments.

Our understanding of underemployment is incomplete if we do not consider factors such as the bachelor's degree earnings premium and the actual distribution of educational attainment within an occupation. When accounting for these considerations, we see that more workers with bachelor's degrees are benefiting from their education than the highest numbers might suggest. However, the fact that the precise extent of underemployment remains under debate does not change the fact that excess underemployment is a significant social issue, representing lower earnings for individuals and a misallocation of human capital within the broader economy. In the end, all estimates of underemployment illustrate the need for improved efforts to help students and graduates navigate their college-to-career transitions so that they are better able to find jobs that make good use of their education.

53 O'Trakoun, "July's Labor Market," 2025.

54 US Bureau of Labor Statistics, "Civilian Unemployment Rate," 2025.

55 Berman, "There's a War on the Bachelor's Degree," 2025.

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Appendix A. Data and Methodology

Data Source and Sample Construction

The primary data source for this report is the US Census Bureau's American Community Survey (ACS) (five-year sample) microdata, from 2018 through 2022. The data reflect earnings and employment within occupations among prime-age workers (ages 25–54) and recent college graduates (ages 22–23) with positive earnings. We adjusted earnings to 2024 dollars using the Consumer Price Index Research Series.

Underemployment Approaches and Methodologies

In this report, we explored three approaches to evaluating underemployment. We analyzed the educational distribution and earnings of full-time, full-year workers with a bachelor's degree in two age groups (ages 22–23 and ages 25–54) as well as all workers with bachelor's degrees in these age groups (including part-time and seasonal workers).¹ While irregular and temporary employment are both features of underemployment, we chose to evaluate outcomes among full-time, full-year workers to avoid the confounding impact of part-time or seasonal work on annual earnings.

The BLS-Based Approach

The BLS-based approach evaluates underemployment by considering the entry-level education categorizations assigned to each detailed occupation by BLS economists. The assignments are released annually with the BLS's employment projections. To determine entry-level education assignments for each detailed occupation in the National Employment Matrix, BLS economists use a combination of quantitative data from the US Census Bureau's American Community Survey (ACS), the US Department of Labor's Occupational Information Network (O*NET), and the US Department of Education's National Center for Education Statistics (NCES), as well as qualitative information collected from education and training experts, employers, unions, and professional associations.²

For the BLS-based analysis in this report, we use the American Community Survey (ACS) 2018–22 five-year sample data for employed workers with positive earnings who are not in the military and are not enrolled in school or college. We combine these data with the BLS-assigned educational requirements³ (using a BLS-provided crosswalk)⁴ to determine the share of workers with bachelor's degrees⁵ who work in occupations that the BLS interprets as requiring an associate's degree or less.⁶ We classify these workers as underemployed under the BLS-based approach. Some ACS occupational codes map to multiple education requirements; we weight these occupations by employment share to calculate the most relevant match.

1 We chose to evaluate workers ages 22–23 in order to approximate earnings for workers within one year of graduation and workers ages 25–54 to capture earnings among prime-age workers.

2 US Bureau of Labor Statistics, "Measures of Education and Training," 2025.

3 US Bureau of Labor Statistics, Employment Projections, Table 6.2, 2024.

4 Some ACS occupational codes map to multiple standard occupational classification (SOC) codes with different BLS-assigned requirements. In those cases, we weight each occupation by its share of employment (using 2023 employment numbers from the US Bureau of Labor Statistics, Employment Projections, Table 6.2, 2024) within the ACS occupational category to which it maps, and we assign the educational requirement with the largest weight to the ACS occupational category.

5 Workers with a graduate degree are not included in this analysis. Workers with a graduate degree tend to see an even higher earnings premium relative to workers with a high school diploma.

6 Occupations requiring an associate's degree or less include those requiring no formal educational credential; a high school diploma or equivalent; some college, no degree; a postsecondary nondegree award; and an associate's degree.

For some analyses in this report, such as those reported in Figure 1, we aggregate the BLS entry-level educational assignments into larger categories for simplicity of presentation and parallelism with the educational attainment groupings based on ACS data. Table A1 below describes how we group the BLS entry-level education assignments into larger education categories for these analyses.

TABLE A1. Four education categories based on BLS entry-level education assignments

Education category	BLS entry-level education assignments
High school or less	No formal educational credential
	High school diploma or equivalent
Some college or associate's degree	Some college, no degree
	Postsecondary nondegree award
	Associate's degree
Bachelor's degree	Bachelor's degree
Graduate degree	Master's degree
	Doctoral or professional degree

Source: Bureau of Labor Statistics, Employment Projections, Table 6.2, 2024.

The BLS recognizes that its entry-level education assignments do not always match the predominant level of educational attainment among workers in a particular occupation. As noted by the BLS, potential reasons for the discrepancy include “underemployment, individual choice, and the trend of ‘upskilling,’ in which the educational attainment of workers continues to rise over time. Also, because of changing entry requirements, individuals entering an occupation may need a higher level of formal education than for those persons who are already working in it.”⁷

Contrasting the Results of *Talent Disrupted* and the BLS-Based Analysis Used in This Report

Our report refers to the 2024 Burning Glass Institute and Strada Institute for the Future of Work report *Talent Disrupted*. The authors report that their methodology relies on

1. BLS data on the educational attainment of workers within occupations,
2. BLS assessments of the typical educational attainment required to enter a given occupation, and
3. Vendor-provided job postings data indicating the education level employers are seeking.

While we are unable to fully replicate the methodology of *Talent Disrupted* due to its use of employment information from Lightcast professional profiles, the report’s authors acknowledge that their methodology yields occupational categorizations similar to those arising from the BLS entry-level education assignments.⁸ Although full replication of the *Talent Disrupted* methodology was not the goal of this report, the results of the analysis of underemployment using a BLS-based approach closely mirror those of the *Talent Disrupted* approach. We found, using a BLS-based approach, that 47 percent of all workers with a bachelor’s degree ages 22–23 were underemployed in 2018–22. *Talent Disrupted* found that the underemployment rate among the graduating cohort of 2011–12 was 52 percent in 2013 (one year after graduation), 45 percent in 2017 (five years after graduation), and 45 percent in 2022 (10 years after graduation).⁹

⁷ US Bureau of Labor Statistics, “Measures of Education and Training,” 2025.

⁸ As stated in *Talent Disrupted*, the methodological approach “yielded the same occupational classification as the method used for the Bureau of Labor Statistics for their typical education assignments by detailed occupation.” Burning Glass Institute and Strada Institute for the Future of Work, *Talent Disrupted*, 2024.

⁹ Burning Glass Institute and Strada Institute for the Future of Work, *Talent Disrupted*, 2024.

The Realized Matches Approach

The realized matches approach is a statistical method of conceptualizing and measuring underemployment that is similar to approaches used to classify “overeducation” (an alternative term for underemployment based on education level).¹⁰ This approach uses the distribution of workers’ educational attainment within the detailed occupation and classifies workers as underemployed if their education level is substantively higher than that of typical workers within that occupation. Traditionally, some researchers have used mean, median, or mode years of education completed for these calculations. However, the data on degree attainment have improved significantly. Today, researchers recognize that attainment level is a more reliable measure of educational qualifications than years of education. Thus, recent research has employed education level–based approaches.¹¹

For our realized matches approach, we group workers by three education levels within each occupation: a high school diploma or less, some college or an associate’s degree, and a bachelor’s degree or higher. Given the range in the distribution of educational attainment across occupations, we opt for two versions of the realized matches approach:

1. **Majority realized matches:** If more than 50 percent of workers in an occupation have a bachelor’s degree or higher, we define the occupation as majority bachelor’s degree level.
2. **Plurality realized matches:** If workers with a bachelor’s degree or higher hold the plurality of employment within an occupation, we define the occupation as plurality bachelor’s degree level.

The BLS-Based Approach with an Earnings Premium Adjustment

The earnings premium adjustment modifies the BLS-based approach to account for the earnings premium that workers with bachelor’s degrees often receive when working in occupations with educational requirements that are less than a bachelor’s degree under the BLS-based approach alone. This approach starts with an evaluation based on the BLS entry-level education assignments, but adds an adjustment by which any worker with a bachelor’s degree who earns a “sufficient” premium over workers with the “required” level of education is reclassified from underemployed to adequately employed.

To delineate a “sufficient” premium, we use an earnings premium of at least 40 percent over the earnings of workers with a high school diploma alone in occupations that require a high school diploma or equivalent according to the BLS entry-level education assignments. We use an earnings premium of at least 20 percent over the earnings of workers with some college or an associate’s degree in occupations that require some college or an associate’s degree under the BLS-based approach.¹² We selected these premium amounts based on literature identifying a 10 percent expected earnings premium over the earnings of workers with a high school diploma alone per each additional year of education beyond high school.¹³ We considered all workers with bachelor’s degrees who are employed in occupations classified as requiring “no formal educational credential” to be underemployed, as the literature does not establish an expected earnings premium for workers with bachelor’s degrees relative to workers with no formal educational credential.

10 Capsada-Munsech, “Measuring Overeducation,” 2019.

11 Capsada-Munsech, “Measuring Overeducation,” 2019.

12 Occupations requiring some college or an associate’s degree include those requiring some college, no degree; a postsecondary nondegree award; or an associate’s degree.

13 Deming, “Four Facts about Human Capital,” 2022.

Appendix B. Additional Estimates of Underemployment

Researchers have evaluated the problem of underemployment using a diverse set of approaches. We outline a few key examples here:

- The Federal Reserve Bank of New York, using a methodology developed by Jaison Abel and others in 2014, classifies an occupation as requiring a bachelor's degree if at least 50 percent of workers in the O*NET survey report that it does. By this measure, underemployment among adults ages 22–65 with a bachelor's degree or higher has ranged from 31 percent to 35 percent since 1990. The Federal Reserve Bank of New York finds higher underemployment rates among recent graduates with a bachelor's degree or higher (those ages 22–27), ranging from 38 percent to 48 percent over the same time frame.¹⁴
- In a 2011 paper, “Rising Mal-Employment and the Great Recession: The Growing Disconnection between Recent College Graduates and the College Labor Market,” authors Neeta Fogg and Paul Harrington combine O*NET's job analysis data from workers, supervisors, and experts with a realized matches approach when O*NET data are unclear. They find that the underemployment rate, which they refer to as “mal-employment,” stood at 31 percent in 2009.¹⁵
- In their 2023 paper, “Occupational Marginalization, Underemployment, and Earnings Inequality among College Graduates,” Paul Attewell and Dirk Witteveen apply another variation of the realized matches approach, classifying college graduates as underemployed if they work in an occupation where the median or modal education level is less than a bachelor's degree. By this metric, they find the underemployment rate among college graduates to be 37 percent, although a significant share of underemployed college graduates work in an occupation where the typical education level is an associate's degree or some college.¹⁶
- In *Mismatch: How Many Workers with a Bachelor's Degree Are Overqualified for Their Jobs?*, an Urban Institute report, author Stephen Rose delineates underemployment using a model that considers the concentrations of bachelor's degree holders within occupations, earnings premiums, earnings levels, and whether jobs are in intellectual or caring professions. His analysis also accounts for the gender wage gap. Using this approach, he finds that underemployment among workers with bachelor's degrees was approximately 25 percent in 2014 and was as low as 21 percent in 2000.¹⁷

14 Federal Reserve Bank of New York, “The Labor Market for Recent College Graduates,” 2025; Abel et al., “Are Recent College Graduates Finding Good Jobs?,” 2014; and Abel and Dietz, “Underemployment in the Early Career of College Graduates Following the Great Recession,” 2018.

15 Fogg and Harrington, “Rising Mal-Employment and the Great Recession,” 2011.

16 Eighty-six percent of underemployed college graduates were working in occupations where the typical education level is an associate's degree or some college. Attewell and Witteveen, “Occupational Marginalization, Underemployment, and Earnings Inequality among College Graduates,” 2023.

17 Rose, *Mismatch*, 2017.

Appendix C. Distribution of Education within High School–Level Occupations

Fifty-eight occupations categorized as high school level using the BLS entry-level education assignments actually employ more workers with a bachelor’s degree or higher than workers with a high school diploma or less.

TABLE C1. Occupations classified as high school level that employ a higher share of workers with a bachelor’s degree or higher than workers with a high school diploma or less.

Occupation	Education distribution				
	High school or less	Some college or associate’s degree	Bachelor’s degree	Graduate degree	Bachelor’s degree or higher
Advertising sales agents	10%	22%	57%	11%	68%
Media and communication workers, all other	10%	23%	45%	23%	68%
Detectives and criminal investigators	8%	29%	43%	20%	63%
Exercise trainers and group fitness instructors	11%	27%	48%	15%	62%
Photographic process workers and processing machine operators	17%	23%	46%	15%	61%
Tax preparers	13%	28%	36%	24%	60%
Private detectives and investigators	14%	27%	41%	18%	58%
Sales representatives of services, except advertising, insurance, financial services, and travel	15%	27%	47%	10%	57%
Library assistants, clerical	13%	32%	41%	14%	55%
Photographers	14%	32%	47%	8%	55%

Real estate sales agents	14%	32%	43%	12%	54%
Social and human service assistants	15%	31%	38%	16%	54%
Claims adjusters, examiners, and investigators	13%	33%	43%	11%	54%
Tour and travel guides	21%	25%	41%	13%	54%
Financial clerks, all other	16%	31%	36%	17%	53%
Sales representatives, wholesale and manufacturing, except technical and scientific products	19%	29%	44%	9%	52%
Sales and related workers, all other	23%	27%	40%	10%	50%
Executive secretaries and executive administrative assistants	13%	37%	40%	9%	50%
Eligibility interviewers, government programs	14%	37%	40%	9%	49%
Insurance sales agents	17%	36%	40%	8%	48%
First-line supervisors of police and detectives	13%	40%	34%	13%	47%
Procurement clerks	18%	35%	35%	13%	47%
Communications equipment operators, all other	20%	33%	34%	13%	47%
Lodging managers	20%	34%	36%	10%	46%
Umpires, referees, and other sports officials	26%	29%	29%	16%	45%
First-line supervisors of non-retail sales workers	25%	30%	34%	11%	45%
Flight attendants	14%	41%	37%	8%	45%
Office and administrative support workers, all other	19%	37%	32%	12%	44%

Property, real estate, and community association managers	23%	34%	33%	10%	43%
Information and record clerks, all other	19%	39%	31%	11%	42%
Police and sheriff's patrol officers	13%	46%	34%	7%	41%
Travel agents	23%	36%	34%	7%	41%
Production, planning, and expediting clerks	24%	36%	31%	9%	40%
Recreation workers	26%	34%	31%	9%	40%
Residential advisors	29%	31%	26%	13%	39%
Parking enforcement workers	25%	35%	32%	7%	39%
Animal trainers	31%	31%	33%	5%	38%
First-line supervisors of office and administrative support workers	22%	39%	29%	9%	38%
Title examiners, abstractors, and searchers	26%	36%	27%	10%	37%
First-line supervisors of security workers	21%	41%	27%	10%	37%
Bailiffs	18%	47%	28%	8%	36%
Merchandise displayers and window trimmers	30%	35%	31%	4%	35%
Credit authorizers, checkers, and clerks	26%	40%	29%	6%	35%
Payroll and timekeeping clerks	22%	45%	28%	5%	33%
Transportation security screeners	25%	43%	26%	6%	32%
Loan interviewers and clerks	24%	45%	27%	4%	31%
Court, municipal, and license clerks	24%	45%	26%	6%	31%
Construction and building inspectors	28%	42%	24%	6%	30%
Insurance claims and policy processing clerks	25%	45%	24%	6%	30%
Interviewers, except eligibility and loan	26%	44%	22%	8%	30%

New accounts clerks	26%	44%	26%	4%	30%
Secretaries and administrative assistants, except legal, medical, and executive	26%	44%	25%	5%	30%
Veterinary assistants and laboratory animal caretakers	28%	42%	27%	3%	30%
Word processors and typists	28%	43%	23%	6%	29%
Legal secretaries and administrative assistants	20%	51%	25%	4%	29%
Cargo and freight agents	28%	43%	25%	4%	29%
File clerks	27%	44%	23%	6%	29%
First-line supervisors of correctional officers	26%	46%	22%	6%	28%

Source: Georgetown University Center on Education and the Workforce analysis of data from the US Census Bureau, American Community Survey (ACS) 2018–22 (five-year sample); and the US Bureau of Labor Statistics (BLS), Employment Projections (EP), 2023–33, 2024.

Note: Values represent the share of full-time, full-year workers ages 25–54 with the stated education level who are employed in occupations classified as “high school level.” Values may not sum to 100% due to rounding.

Appendix D. Bachelor's Degree Earnings Premium by Occupation

The bachelor's degree earnings premium varies by occupational group. Full-time, full-year, prime-age workers (ages 25–54) with a bachelor's degree who work in healthcare professional and technical occupations benefit from the largest bachelor's degree-to-high school earnings premium. Workers with a bachelor's degree in installation, maintenance, and repair occupations see the smallest benefit.

TABLE D1. The bachelor's degree-to-high school earnings premium among prime-age workers, by occupational group

Occupational group	Median earnings of FTFY workers with a high school diploma	Median earnings of FTFY workers with a bachelor's degree	Bachelor's degree-to-high school earnings premium
Healthcare professional and technical	\$41,300	\$81,100	96%
Sales and related	\$42,600	\$78,000	83%
Social science	\$42,700	\$75,800	78%
Computer and mathematical	\$48,200	\$80,000	66%
Architecture and engineering	\$60,000	\$99,400	66%
Education, training, and library	\$31,500	\$52,100	65%
Management	\$64,900	\$97,300	50%
Business and financial operations	\$68,900	\$101,000	47%
Arts, design, entertainment, sports, and media	\$56,300	\$81,800	45%
Protective service	\$49,000	\$70,000	43%
Office and administrative support	\$51,000	\$70,300	38%
Production	\$29,000	\$37,800	30%
Legal	\$40,200	\$51,900	29%
Building and grounds cleaning and maintenance	\$31,700	\$40,900	29%
Farming, fishing, and forestry	\$44,400	\$56,700	28%
Food preparation and serving	\$36,300	\$45,300	25%
Community and social services	\$32,900	\$40,800	24%
Life and physical science	\$33,700	\$41,800	24%

Personal care and services	\$57,300	\$70,000	22%
Construction and extraction	\$42,000	\$51,200	22%
Transportation and material moving	\$41,900	\$51,000	22%
Healthcare support	\$54,000	\$63,100	17%
Installation, maintenance, and repair	\$51,400	\$58,900	15%

Source: Georgetown University Center on Education and the Workforce analysis of data from the US Census Bureau, American Community Survey (ACS) 2018–22 (five-year sample); and the US Bureau of Labor Statistics (BLS), Employment Projections (EP), 2023–33, 2024.

Note: The earnings are for full-time, full-year workers ages 25–54 and have been rounded to the nearest hundred and inflation-adjusted to 2024\$; the earnings premiums are based on unrounded numbers.



Rethinking Underemployment

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