

# THE STUDENT DEBT CRISIS, LABOR MARKET CREDENTIALIZATION, AND RACIAL INEQUALITY

How the Current Student Debt Debate Gets the  
Economics Wrong



## **ABOUT** THE ROOSEVELT INSTITUTE

**Until the rules work for every American, they're not working.**

The Roosevelt Institute asks: What does a better society look like?

Armed with a bold vision for the future, we push the economic and social debate forward. We believe that those at the top hold too much power and wealth, and that our economy will be stronger when that changes.

Ultimately, we want our work to move the country toward a new economic and political system: one built by many for the good of all.

It will take all of us to rewrite the rules. From emerging leaders to Nobel laureate economists, we've built a network of thousands. At Roosevelt, we make influencers more thoughtful and thinkers more influential.

We also celebrate—and are inspired by—those whose work embodies the values of both Franklin and Eleanor Roosevelt and carries their vision forward today.

## ABOUT THE AUTHORS

**Julie Margetta Morgan** is a Fellow at the Roosevelt Institute, and she most recently served as a senior program officer at the Bill & Melinda Gates Foundation. Prior to joining the Gates Foundation, she was a senior policy advisor to Sen. Elizabeth Warren (D-MA), for whom she developed and implemented policy proposals on a range of education issues, including student loan refinancing, college affordability, and student loan servicing reform. Margetta Morgan previously served as director of postsecondary access and success at the Center for American Progress, and she holds a PhD in higher education and a JD from Boston College.

**Marshall Steinbaum** is the Research Director and a Fellow at the Roosevelt Institute, where he researches market power and inequality. He focuses on tax policy, antitrust and competition policy, and labor market issues. He is a coeditor of *After Piketty: The Agenda for Economics and Inequality*, and his work has appeared in *Democracy*, *Boston Review*, *Jacobin*, the *Journal of Economic Literature*, *Industrial and Labor Relations Review*, and *ProMarket*. Steinbaum earned a PhD in economics from the University of Chicago.

## ACKNOWLEDGMENTS

The authors thank Matt Bruenig, Seth Frotman, and Ben Miller for their comments and insight. Roosevelt staff Adil Abdela, Nell Abernathy, Kendra Bozarth, Jess Forden, Jenny Sherman, and Victoria Streker all contributed to the project.

# Executive Summary

As tuition has risen over the last several decades in the U.S., student loan debt has ballooned. Despite growing debt loads, federal policy encourages the use of loans for financing higher education, based on the assumption that student debt supports increased postsecondary attainment—and, in turn, improved outcomes for individuals and our economy as a whole. This paper investigates the individual and societal effects of student loan debt by focusing on trends in student debt and labor market outcomes. Findings include:

- **More education has not led to higher earnings over time.** Given rising student debt and postsecondary attainment, we would expect to see improvements in earnings. However, the distribution of earnings in the labor market has remained relatively unchanged over time. And to the extent that individuals see an income boost based on college attainment, it is only relative to falling wages for high school graduates.
- **Student debt is a burden for a growing share of young adults.** Traditional metrics, such as median student debt over time and the median debt payment-to-income ratio, fail to consider the changing distribution of debtors or the changes in the ways that borrowers repay their loans. Once these factors are accounted for, the data show that many more Americans have debt, and the burden of that debt is more significant now than for previous generations.
- **Credentialization better explains these dynamics than the “skills gap.”** Although the country’s populace is becoming more educated, each educational group is becoming less well paid. This is a result of declining worker power, which allows employers to demand a higher level of educational attainment for any given job, not a broken link between workforce skills and labor market demands.
- **These trends have had particularly negative impacts on Black and brown Americans.** Credentialization is compounded for people of color, who already have to pursue more education than their peers for the same or similar positions. Given that people of color have less individual and community wealth, students of color take on a disproportionate amount of student debt, further contributing to disparities in debt by race and exacerbating economic disadvantages.

It is crucial to understand these dynamics of student debt, labor markets, and race, as well as how they interact and intersect, in order to inform better public policy that lifts students up, rather than maintain a system that holds them back.



# Introduction

Outstanding student loan debt now stands at \$1.5 trillion, with 44 million Americans responsible for paying off student loans. Despite broad consensus among the general public that we are in the midst of a student debt crisis, experts continue to debate whether student loan debt is indeed a problem. A vocal group of higher education policy experts tries to mitigate concerns by arguing that more student loans means more education, and more education means better labor market outcomes for individuals and for the economy as a whole. More recently, experts have argued that there is a crisis among student loan borrowers, but that it is limited to severely distressed borrowers who did not complete their degree programs, particularly at for-profit institutions.

Is student debt a problem? If so, for whom? This persistent debate is hindering progress on policy solutions. We cannot solve a problem that we do not understand. Given that the terms “crisis” and “problem” are subjective, it seems futile to try to characterize just how bad our student debt woes have become in those terms. We can, however, investigate the extent to which rising student debt is having its intended effects of improving the lives of individual Americans and helping to create a more prosperous society. This paper seeks to add to our collective understanding of student debt by directly addressing the question of whether more student loan debt really does mean better outcomes for individuals and the economy as a whole.

Our answer to that question is a definitive no. Instead, labor market data indicate that younger adults—those aged 25 to 40—have not achieved earnings increases that would justify the debt they hold. Debt and debt payment levels have increased for a growing share of the population, while wages have been stagnant. In fact, the evidence suggests that student debt is compounding the phenomenon of “credentialization,” in which employers demand higher levels of educational attainment for a given job.

Further, several researchers have interpreted household wealth data to show that the current generation of student borrowers is no worse off than previous ones. But analyses comparing today’s cohort of borrowers to older generations miss key factors: the set of people who have student debt today is very different from past decades, and, partly as a result of this first factor, patterns of repayment are changing over time as well.

The findings of this paper are summarized as follows:

- Despite improved educational attainment for every race group in the Current Population Survey (CPS), earnings have been either stagnant or declining for every level of educational attainment during the last 18 years. More education over time has not



resulted in higher earnings over time—only in higher earnings relative to those who did not attain a postsecondary credential. As successive cohorts have climbed further up the ladder of higher education, the ladder itself is subsiding, resulting in no upward progress in household income for anyone other than the top 1 percent.

- Student debt affects a much larger share of the young adult population than it used to, and this expansion is particularly evident among people of color.
- The increasing prevalence of student debt in the population, alongside stagnant earnings, helps explain the public’s view that student debt is a crisis.
- Several experts have pointed to the constant student debt payment-to-income ratio among borrowers with student debt to suggest that the public’s concern with the issue is overstated relative to the actual scale of the problem. We find that this interpretation suffers from two fatal flaws: First, it fails to account for the changing, and expanding, distribution of people carrying student debt at all; and second, it also fails to account for changing repayment behavior that shows that an increased share of borrowers with positive debt balances aren’t making any payments or are making payments that won’t be sufficient to retire their debt (and that are inconsistent with household economic health in the long term). In fact, for many borrowers making payments under income-based repayment programs, which limit payments to a percentage of current income, the principal balance on their debt is increasing over time even without increasing their level of education.
- These two fundamental changes in the student debt phenomenon are, in turn, caused by a labor market that hasn’t been working well enough to make the higher education credentials necessary to enter it affordable, given that the burden of paying for them has been shifted away from states, higher education institutions, and employers and on to individual students and workers.
- Overall, our findings on educational attainment, earnings, and student debt distributions suggest that the popular narrative of a “skills gap” is an incorrect understanding of these labor market and household wealth phenomena.
- Instead, we propose that declining worker power causes the credentialization or “upskilling” of the labor market. With outsized power, employers can demand a higher level of educational attainment for a given job or a given salary.
- Credentialization particularly harms students and workers of color, who are forced to acquire more credentials—and, therefore, increased debt—to access a given job because of racial discrimination and inequalities in household wealth.



- The credentialization dynamic implies that the conventional wisdom that higher education should serve the needs of the labor market is, in fact, counter-productive. If higher education is to play a role in rectifying the labor market's ailments, then it should be separated further from the discretion of employers, not tied more closely to them.

This paper proceeds as follows: Section 1 examines the question of whether more education—and, relatedly, more debt—has in fact produced greater earnings for individuals and the economy as a whole, using educational attainment and labor market outcomes for young workers between 2000 and 2017, as measured by the Current Population Survey. Section 2 explores whether the burden of student debt has changed over time, focusing on the evolution of student debt and debt payments as a component of household wealth and income in the Survey of Consumer Finances. Section 3 offers an explanation for the trends we observe in Sections 1 and 2, outlining our theory of labor market credentialization and its relation to the student debt and earnings data. Throughout this paper, we break out our charts by race group, to the extent possible, because we consider it impossible to paint an accurate picture of the role that student debt plays in the economy without paying specific attention to the ways that it is mediated by race—the subject we analyze in Section 4.

Overall, this paper suggests that the common wisdom about student debt as a benign mechanism for improving the lives of average Americans is deeply flawed. To ensure that our nation's higher education system is part of building an inclusive economy rather than undermining it, policymakers must take steps to drastically limit the use of student debt and alleviate its burden on existing borrowers.



## SECTION ONE

# More Education Does Not Mean Higher Earnings

One of the most commonly cited benefits of higher education is increased earnings potential. Experts often cite the college earnings premium, or the difference between the average salary for those with and without a college degree, as evidence that college is worthwhile, despite its high price and most students' increasing reliance on student debt to obtain a degree. When examined this way, a college credential is more valuable than it was a few decades ago: College graduates make upwards of 50 percent more than their counterparts who did not earn a baccalaureate degree. But this earnings premium was mostly driven by a drop in wages for workers with only high school educations rather than substantial increases in wages for those with college credentials. In other words, the value of a college degree increased because the cost of not having one increased.

Reliance on the college earnings premium as the sole measure of whether or not college is worthwhile is problematic for a few reasons. Because it measures only the difference between college graduates and nongraduates, it masks crucial factors that provide context for how individuals are faring. First, the college earnings premium does not take into account changes in the debt students must incur to benefit from the earnings premium. And second, reliance on the college earnings premium can mask important trends in the factors that comprise the earnings premium measure: the average earnings of those who don't have college degrees and those who do. For example, one could observe a steady, or even growing, college earnings premium even as both nongraduate and graduate earnings fall.

Another problem with reliance on the college earnings premium is that it focuses primarily on the individual benefit of educational attainment, implying that college is worthwhile as long as individuals are making more than they would have otherwise. But in the context of public investment in higher education, we need to know not only how individuals are faring but also how investments in higher education are affecting our workforce and the economy as a whole. The federal government invests billions of dollars in federal student financial aid each year, with the idea that these funds will support a more educated, and ultimately more prosperous, society. Therefore, it is important to evaluate not only the individual returns to an education but also how rising attainment—and rising debt—affect the distribution of earnings in the workforce. If the only function of that public investment is to increase the credentialization of the labor market and enrich academic institutions that are best able to provide those credentials to students looking to differentiate themselves (at great expense)





in a rat race, it's hard to conclude that the public investment is paying off, even if the college earnings premium is growing and individual students and workers are earning more money than they would have without their degree.

There's another way to assess whether, on the whole, increased college attainment is serving the public: we can look at how the distribution of earnings changed as the workforce became more educated. The Current Population Survey provides a repeated cross-section of the U.S. workforce, including its demographic and economic characteristics. Thus, we can focus on a given age group—young adults aged 25 to 40—and how successive cohorts of young adults have fared in the labor market as they inhabit that age group.

## Inverse Cumulative Distribution Functions: Mapping Earnings and Student Debt Over Time

In this paper, we represent the distribution of earnings, the distribution of student debt, and the distribution of student debt payments-to-income ratios as mathematical and graphical objects known as inverse cumulative distribution functions (CDFs). For each dollar amount on the vertical axis, we plot the share of the population (on the horizontal axis) that earns that amount or less—or, alternatively, that holds that amount of student debt or less.

Studies of student debt often look at specific statistical “moments” over time—for example, the median debt level during a particular period. But this analysis can mask patterns that are crucial for analyzing the causes of student debt accumulation and distress. Instead, inverse CDFs allow us to visualize an entire distribution and its evolution over time.

For example, one outcome that we note is that the share of Black and Hispanic young adults earning zero dollars—that is, no income from their labor—has increased between 2000 and 2017. This can be seen from the inverse CDFs of income for those two race groups: There is a larger interval on the horizontal axis between zero and the population share that has a positive earnings level in 2017 relative to 2000. This rising share of the population with zero earnings is consistent with observed declines in labor force participation and employment rates for this population discussed elsewhere (Black et al. 2016). This outcome would not be noticeable if we looked only at the median earnings for individuals who earn a positive amount.

The ability to see zeroes in our distributions becomes even more important when we consider student debt rather than income. An important dynamic driving the student debt crisis, and one that we highlight in this paper, is that the share of the population with any student debt is rising, and it is also diversifying. Consequently, the interval on the horizontal axis between zero and a positive student debt amount is decreasing over time. (We also



depict this as the time series of the share of the population with no student debt, which is declining.) If we only considered moments of the student debt distribution for people who have student debt—for example, the average debt level or the average debt-payment level—we would miss this crucial fact.

We choose inverse CDFs (with income on the vertical axis and population share on the horizontal axis), as opposed to regular CDFs or other distributional representations, because we consider them to be intuitive. If the inverse CDF of income is higher in 2017 than in 2000 for a population, that means that people at that quantile of the earnings distribution were earning more. If the inverse CDF of student debt was higher in 2016 than in 2001, that means that a given quantile of the population had more student debt.

Figure 1 shows the overall labor income distribution by racial group in that age bracket, in the benchmark years 2000, 2008, and 2017. These distributions are represented in Figure 1 as inverse CDFs. In other words, a level of income is shown on the vertical axis, and the corresponding point on the graph indicates the share of the population with income at or below that number.

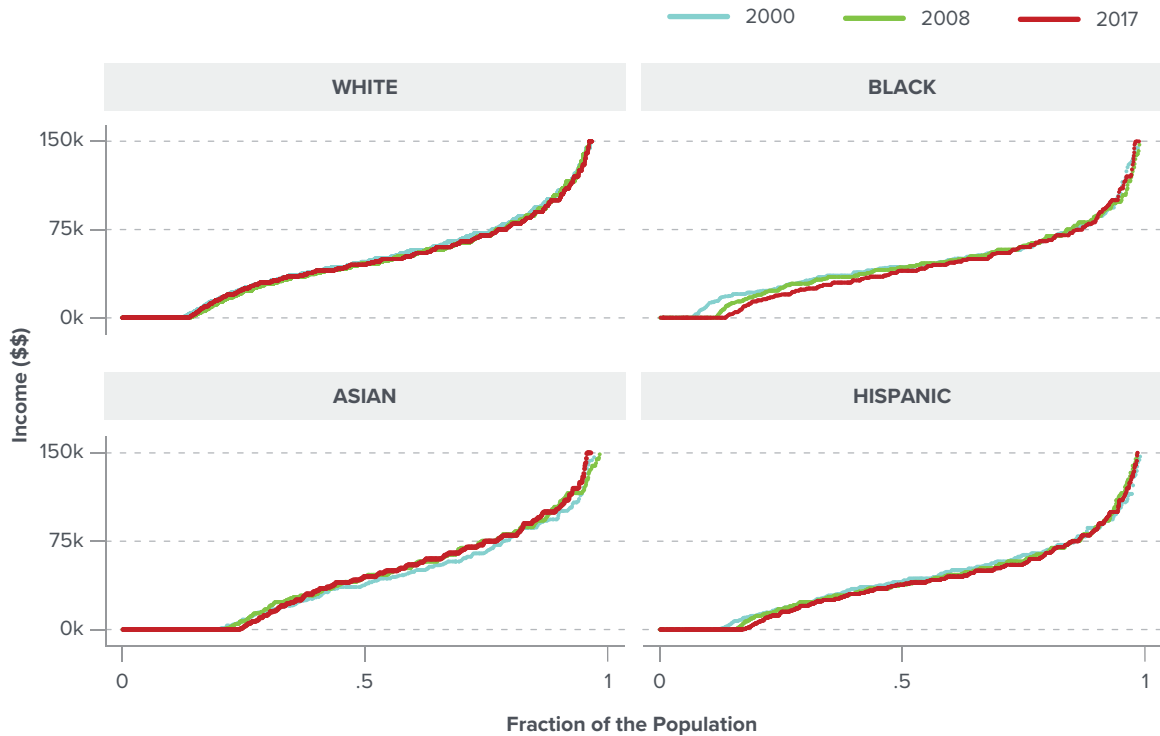
The most important aspect of this comparison is simply that the income distribution has not changed very much over that time, which is exactly the period during which postsecondary educational attainment increased by more than 6 percent (NCES 2017). Further, the total amount of student debt outstanding skyrocketed from less than \$200 billion to more than \$1.4 trillion during that time period, and median student debt increased from roughly \$10,000 to more than \$20,000. None of the race groups achieved substantially higher incomes at any quantile of the distribution, despite that increase in education and in debt.<sup>1</sup> If the debt had bought an education that in turn paid off in the labor market, we would expect to see these distributions shift upward as the people they represent became more educated (and thus more indebted). Instead, as the supply of workers with more credentials went up, the earnings to be had from any given credential went down. The population as a whole became more educated, but those incremental increases in education resulted only in lower earnings for each educational attainment group. This going-up-the-down-escalator dynamic gives rise to the mostly constant earnings distributions in Figure 1.

---

<sup>1</sup> CPS data are relatively poor at capturing incomes at the very top of the income distribution, so these charts do not tell us much about the vaunted rise in the top 1 percent income or income share.



## EARNINGS DISTRIBUTION BY RACE, 2000-2017 (INDIVIDUALS AGES 25-40)



**FIGURE 1** The earnings distribution by race for individuals between the ages of 25 and 40, in the years 2000, 2008, and 2017. We show those years because they represent business cycle peaks. All dollar amounts are in 2017 dollars. Source: Current Population Survey Annual Social and Economic Supplement. All dollar amounts are in 2017 dollars.

Figure 2 offers another look at how median earnings and educational attainment changed during the last two decades. Across all race groups, educational attainment increased during that time period: We see a loss in the share of those with low educational attainment and an increase in the share of those with high attainment. (Individuals with less than a high school education are not depicted in this chart, which is why it appears that every education group among Hispanic individuals has gained share. In reality, they have all gained share relative to those with less than a high school degree. For all other race groups, the share with less than a high school education has also fallen.)

***Despite the rise in educational attainment over the last 20 years, median earnings have declined across almost every group in the same time period.***

But, despite the rise in educational attainment over the last 20 years, median earnings have declined across almost every group in the same time period. They have declined least for higher levels of educational attainment, but only Asians with a bachelor's degree or greater and Hispanics with a postgraduate degree saw an increase. From Figure 2, we can see why younger cohorts would go to great lengths (and accumulate higher debt loads) in order to add to their educational credentials. The decline in earnings for lower levels of education makes the choice to seek advanced education much more consequential than it was for people in prior cohorts.

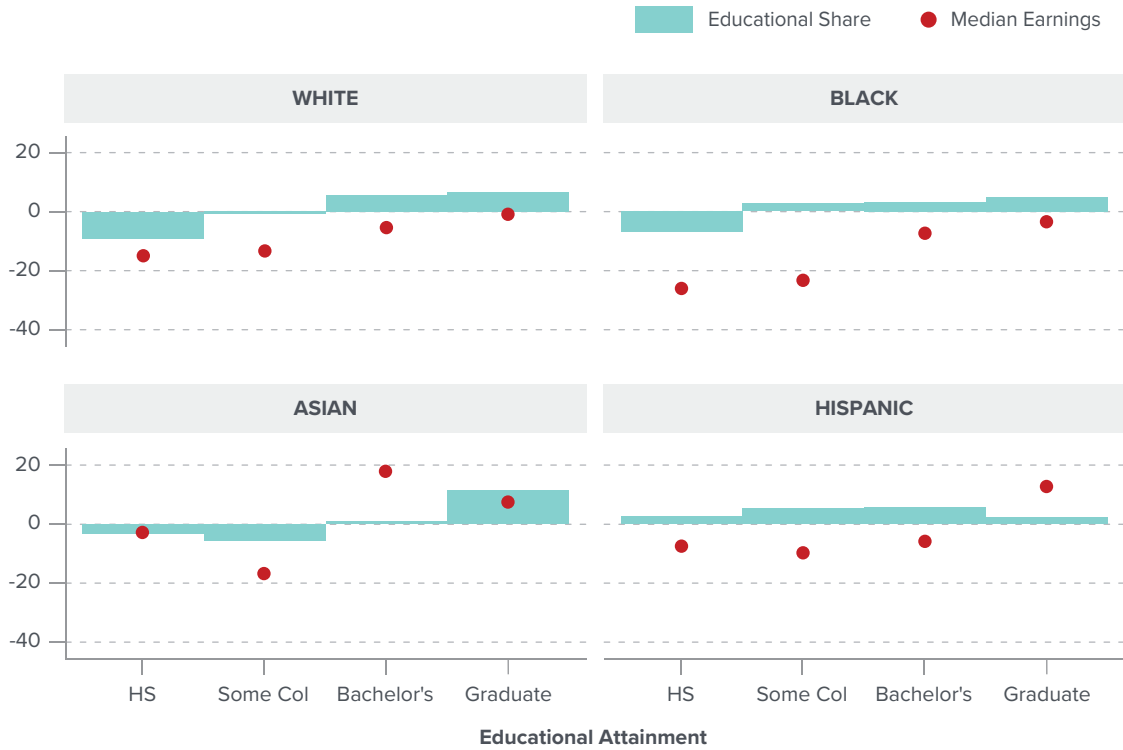
If higher education and the student debt needed to obtain it were paying off, then we would expect to see positive earnings changes (red dots above zero) for increasingly credentialed workers. The reality depicted in Figure 2 highlights the degree to which higher educational attainment is being counteracted by greater labor market credentialization—the diminishing market value of any given degree. We return to this interpretation in Section 3.

The evidence presented here illustrates the divide between the way that higher education experts talk about the value of a college degree and the way that Americans experience the outcomes of their educational attainment in the labor market. By focusing almost exclusively on the earnings premium, higher education experts view a college credential as something of certain value, as it provides substantial additional lifetime earnings. But because this premium has been sustained solely because of falling wages for lower levels of education, the experience for average Americans is one of running in place rather than getting ahead, as they are forced to pursue additional education to achieve the same earnings that previous generations would get with lower levels of credentials. Increasing reliance on student debt is layered on top of this phenomenon, further compounding the difficulties modern college students, graduates, and workers face.

***The evidence presented here illustrates the divide between the way that higher education experts talk about the value of a college degree and the way that Americans experience the outcomes of their educational attainment in the labor market.***



**CHANGES IN EDUCATION & EARNINGS FROM 2000 TO 2017 (INDIVIDUALS AGES 25-40)**



**FIGURE 2** For each race group, the panels depict both the change in the share of the population with a given educational attainment (blue bars) and the change in median earnings for those with that level of attainment (red dots), between 2000 and 2017. Source: Current Population Survey Annual Social and Economic Supplement

## SECTION TWO

# Borrowers Have Changed—and so Has Their Ability to Repay

Even if borrowers are not getting the earnings payoff that they may have expected from their increased education, one might argue that student debt is still not a problem if their debt loads are not negatively affecting household wealth. Under this theory, student loan debt is not a problem because it is not burdening households any more than it did in the past. When advocates raise concerns about the effect of debt on individual borrowers, experts often use household wealth data to show that the current generation of borrowers is no worse off than previous ones (Akers and Chingos 2016, 2014a, 2014b; Baum 2016). To take one representative interpretation (Akers and Chingos 2014a):

“We examine how the financial well-being of borrowers has evolved over time, using data on monthly payments and incomes. We find that, on average, increases in lifetime incomes among households with student loan debt more than offset increases in borrowing. We also find that the average burden of monthly payments for student loans has not increased over time, likely due to the fact that borrowers are repaying debts over longer periods of time. Taken together, these findings suggest that although there are surely individual borrowers facing financial hardship due in part to their student loans, the overall health of the student loan market is not nearly as dire as many popular narratives seem to suggest.”

To study the implications of student debt and labor market credentialization for household wealth, we use the Survey of Consumer Finances (SCF), a triennial representative survey of American households conducted by the Federal Reserve Board and designed to create detailed household balance sheets for individual households as well as the economy as a whole.

It’s important to recognize that the SCF is a less-than-ideal dataset for this project because households are becoming less and less representative of the young adult population and its lifestyle as its household formation rate has declined. Moreover, this decline in the household formation rate is itself endogenous to the dynamics of student debt. In short, because young people are increasingly burdened by their debt, they are increasingly unable to form independent households and thus be represented by the SCF sample frame (Dettling and Hsu 2013; Bleemer et al. 2017). This, in turn, skews the young people who do appear in the SCF toward the relatively well-off among that group: those who can form



households and, thus, who are likely to be less burdened by their student debt.<sup>2</sup>

Figure 3 illustrates this point. It compares the total amount of student debt outstanding, as tabulated by the Federal Reserve Bank of New York from credit reporting data—probably the most comprehensive public data that exist regarding the prevalence of student debt—to the total amount of student debt outstanding, according to the SCF. The latter is a much lower number, and the gap between the two is increasing over time as the type of people who take on student debt is increasingly the type of people who are not represented by the SCF sample frame—namely, younger adults who have not formed independent households.



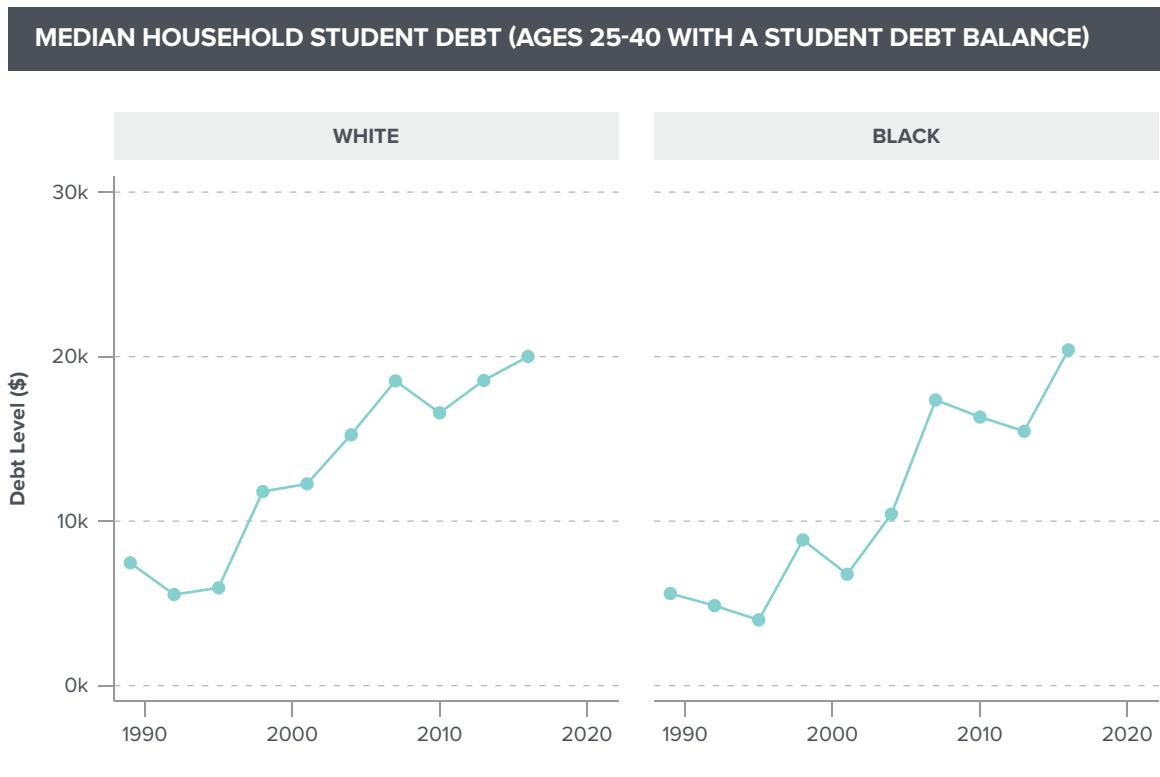
**FIGURE 3** Total amount of student debt outstanding, according to the Federal Reserve Bank of New York and the Survey of Consumer Finances. The divergence between the two series illustrates the extent to which the SCF is less and less representative of the student debt problem as borrowers become less and less likely to appear in independent households. This is likely, in part, because their student debt is reducing household formation rates, hence student debtors represented in SCF data are likely to be more affluent than the true population of student debtors.

<sup>2</sup> Dettling and Hsu (2014) analyze the financial well-being of young adults in the 2013 SCF in comparison to older cohorts in both the same survey and previous ones, when they were of comparable age. They write, “Over the period studied, young adults were increasingly unlikely to live independently and thus to be a member of the SCF sample. This suggests that the SCF may have become increasingly unrepresentative of all young adults over the past decade.” They also find that median income for young adults sampled by the SCF is approximately \$10,000 higher than those sampled by the Current Population Survey Annual Social and Economic Supplement, which is designed to be representative of the noninstitutional population, not of households (Dettling and Hsu 2013).



Given this skew, all of our analysis of student debt distributions tabulated from the SCF constitutes a selective and overly rosy picture of the burden of student debt for young people.

Throughout the remainder of this section, we compare time series of particular moments of student debt-related data series from the SCF with the evolution of distributions of that same data series, by race. (See the earlier text box on inverse CDFs for why we depict the distributions this way and how to read those figures.) To begin our inquiry into how debt affects the current generation of borrowers compared with previous ones, we look at the median level of student debt for households in which the head of the household is between 25 and 40 years old, conditional on having any student debt. (In other words, the households in a given race-by-age group that do not have student debt are dropped, and we report median debt for everyone else, over successive waves of the SCF.) Sample sizes for race groups other than white and Black are too small to reliably report statistics and particularly whole distributions, so we omit them in our discussion of the SCF.



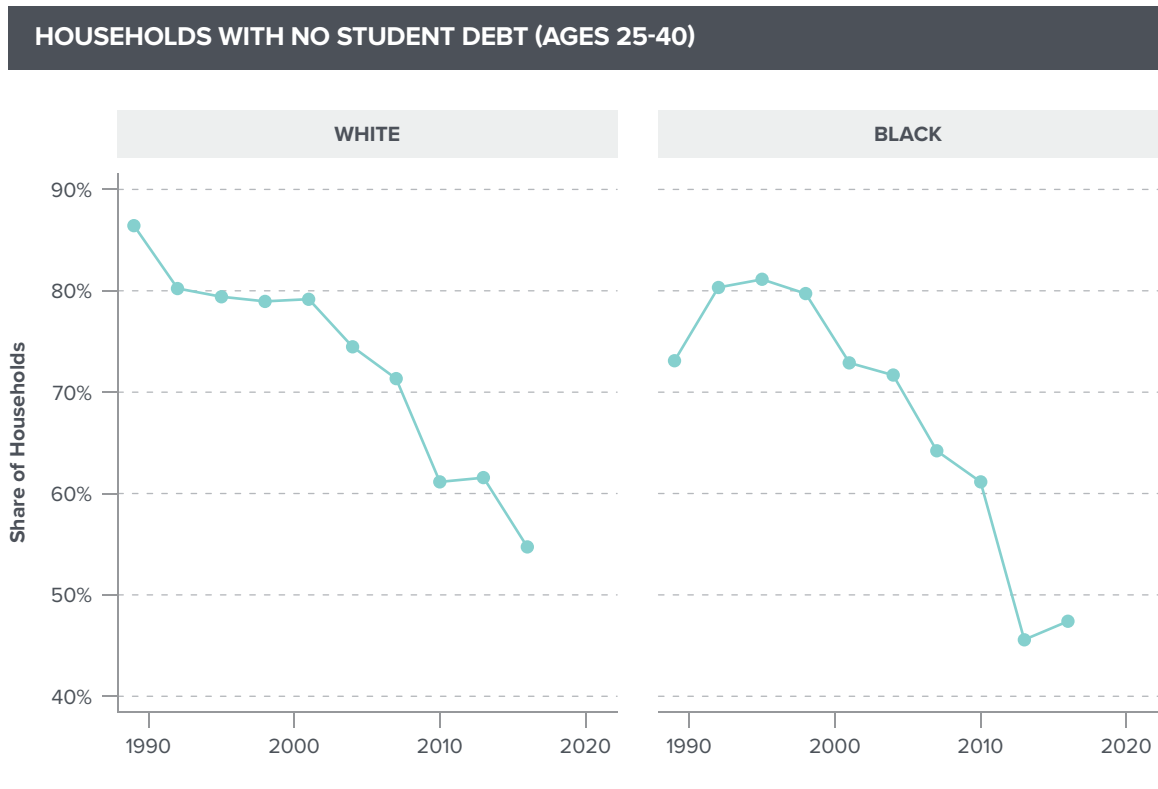
**FIGURE 4** Median outstanding student debt (assuming student debt > 0) across successive waves of the SCF, in 2016 dollars. Source: Survey of Consumer Finances





Not surprisingly, as the total amount of student debt outstanding captured by the SCF has gone up, the median amount of debt for households that have any debt has also increased. This holds true for both white and Black households.

However, this does not tell the whole story. It shows us that individuals with debt have higher balances on average, but it does not tell us how the proportion of households with debt has changed over time. In fact, a larger share of households has any debt at all. The next figure shows that the share of young-adult-led households in each racial group that has no outstanding student debt is declining over time.



**FIGURE 5** The share of households without student debt is falling over time. Source: Survey of Consumer Finances

Because the share of young-adult households with any amount of debt is increasing, the overall distribution of student debt is changing, too. The amount of debt “necessary” to qualify for a given quantile of the debt distribution has increased across the whole distribution. For example, as Figure 4 shows, the median (i.e., the 50th centile) amount of student debt used to be \$10,000; it is now approximately \$20,000.



The following two figures illustrate this point across the entire distribution of student debt, showing how the two dynamics of increasing student debt—an increasing number of borrowers and increasing individual debt loads—play out. As with the labor income distributions presented in the previous section, these figures are inverse CDFs. So, for a given dollar value on the vertical axis, the point on the graph is the share of households with student debt less than or equal to that amount.

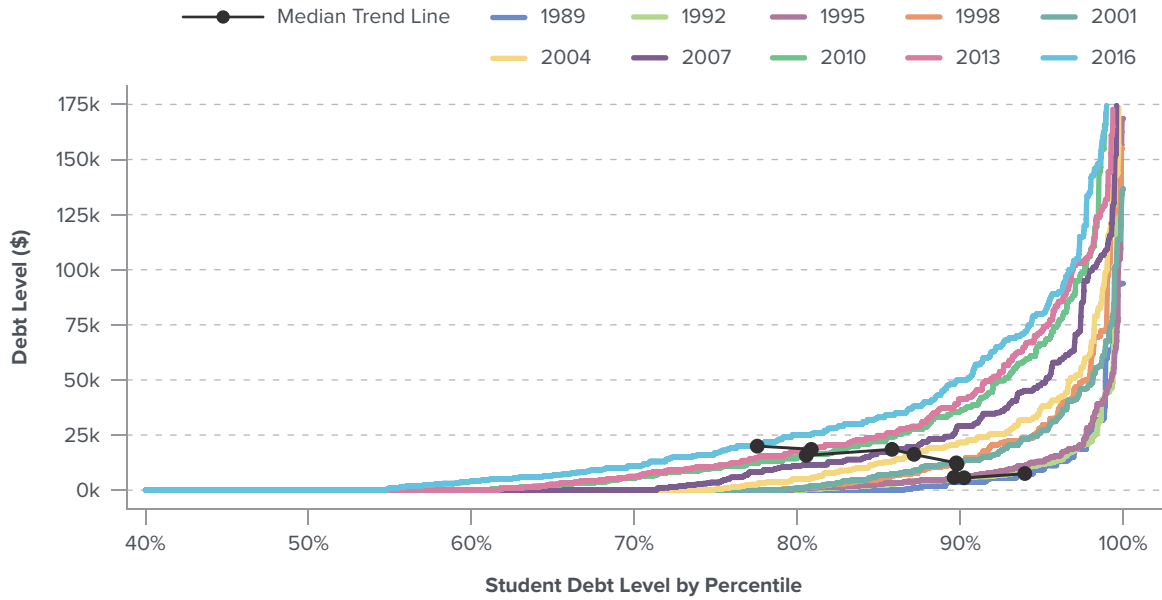
The share of households that have no student debt—the number plotted in Figure 5—corresponds to the point at which each of the inverse CDFs plotted here intersects the horizontal axis. In later years, that point of intersection is nearer the left side of the horizontal axis, meaning that a smaller and smaller proportion of households had no debt. Further, at any given point on the horizontal axis (say, the 80th percentile), the amount of debt increases over time.

Superimposed on Figure 6 is the plotted median household student debt shown in Figure 4. This shows that increases in the median debt level over time arise from two basic causes: More people have any student debt (the distributions are shifting to the left, over time), and anyone with student debt has more of it (the distributions are shifting up, over time).

This expansion of the student debt distribution at all quantiles reconciles some of the controversy that has played out in the student debt-related policy debate. Press coverage of high-balance borrowers has sparked a debate about whether their situation is truly representative of the problems with student debt—and, by implication, whether or not they deserve any degree of public sympathy or policy remediation. In one sense, these high-balance borrowers are very much not representative of the student debt phenomenon. At the other end of the distribution, there are many young adults who now have some student debt, whereas if they had been born in an earlier cohort, they likely would not, and studies have shown that these low-balance borrowers are most likely to default on their debt (Looney and Yannelis 2016). But in another sense, high-balance borrowers are representative of the overall rise in student debt: A larger share of households today has a great deal of student debt, and the largest balances are bigger now than they were in previous generations.

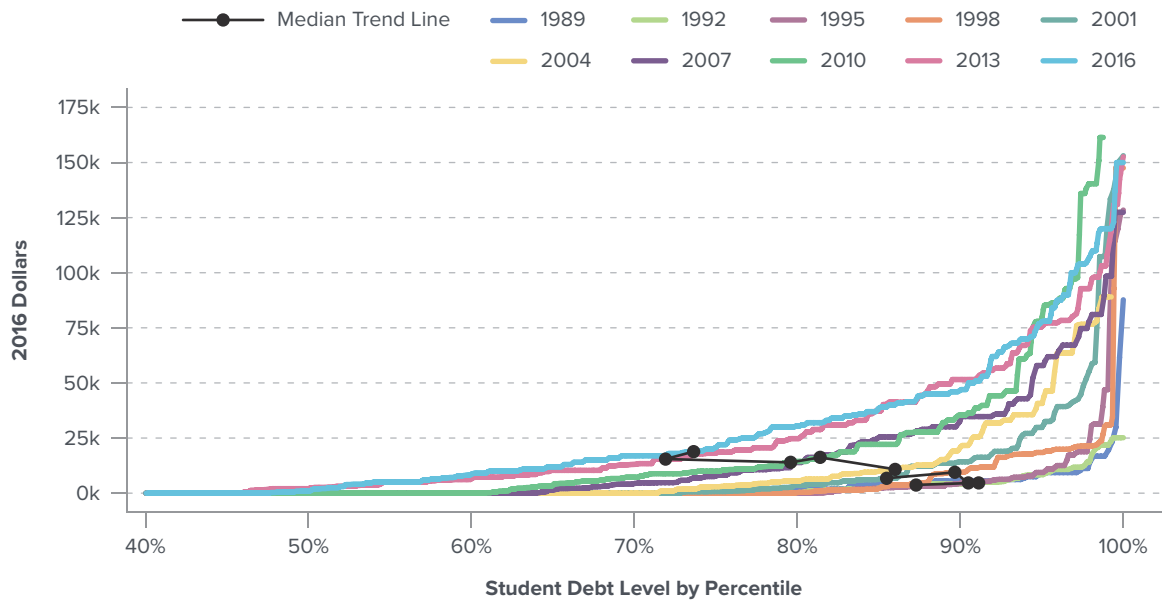


### CUMULATIVE DISTRIBUTION OF STUDENT DEBT LEVELS FOR WHITES (WHITE HOUSEHOLDS AGES 25-40)



**FIGURE 6** Inverse CDFs of student debt levels for successive waves of the SCF, for white households (in 2016 dollars). The line superimposed on the distributions is the series of conditional median debt levels for each SCF wave depicted in Figure 4. Source: Survey of Consumer Finances. All dollar amounts in 2016 dollars.

### CUMULATIVE DISTRIBUTION OF STUDENT DEBT LEVELS FOR BLACKS (BLACK HOUSEHOLDS AGES 25-40)

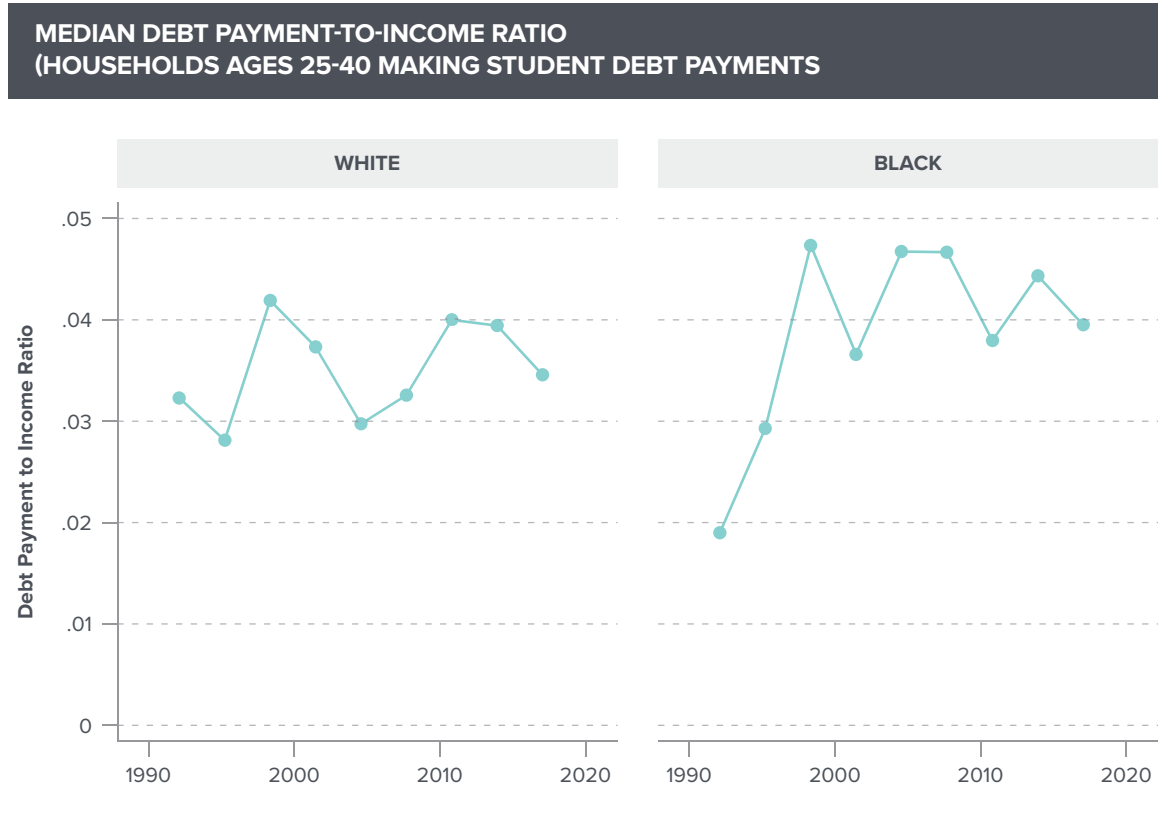


**FIGURE 7** Inverse CDFs of student debt levels for successive waves of the SCF, for Black households (in 2016 dollars). The line superimposed on the distributions is the series of conditional median debt levels for each SCF wave depicted in Figure 4. Source: Survey of Consumer Finances. All dollar amounts in 2016 dollars.



Another way to assess the impact of student debt is to focus on its “burden”—the share of income that those who have student debt spend on their debt payments. The assumption of the analysis of debt burdens described above is that even though debt levels are rising, so are incomes for debtors, hence the student debt crisis is overblown.

We have a different interpretation of the data on student debt payment-to-income ratios. In Figure 6, we calculate the median for that number across successive waves of the SCF and plot it by race.



**FIGURE 8** Median debt payment-to-income ratio over time. The stability of these time series motivates Akers and Chingos (2016) to conclude that the burden of student debt in the population isn’t rising, even though the total outstanding balance of debt is. Source: Survey of Consumer Finances

Figure 8 shows that the ratio of actual debt payments (not payment obligations) to income is relatively stable over time. Akers and Chingos (2016) interpret this stability, calculated from the same data, as evidence that even as more individuals are taking on more student debt, increasing the numerator of the debt burden ratio, that investment is paying off through higher earnings, thus increasing the denominator as well. Their interpretation assumes that the mechanism underlying federal student debt and higher education policy—more debt begets more education, which causes higher income—is actually true (Akers and Chingos 2016).



Unfortunately, as we saw in the previous section, that is not a valid interpretation of labor market dynamics over the past two decades, which show that, as student debt burdens have increased, wages have remained stagnant or fallen. And that interpretation has additional problems. Akers and Chingos acknowledge that one cause of the stability of the debt burden distribution is that even as debt levels rose, repayment periods lengthened. This is influenced by several factors.

First, increasingly available income-based repayment options mean that debt payments need not rise, nor rise as fast, as debt levels precisely because income does not. To interpret that as confirming that student debt is not a burden is to reverse cause and effect; student debt is a burden, and therefore it induces borrowers to partake of income-based repayment, reducing measured debt payment-to-income ratios.

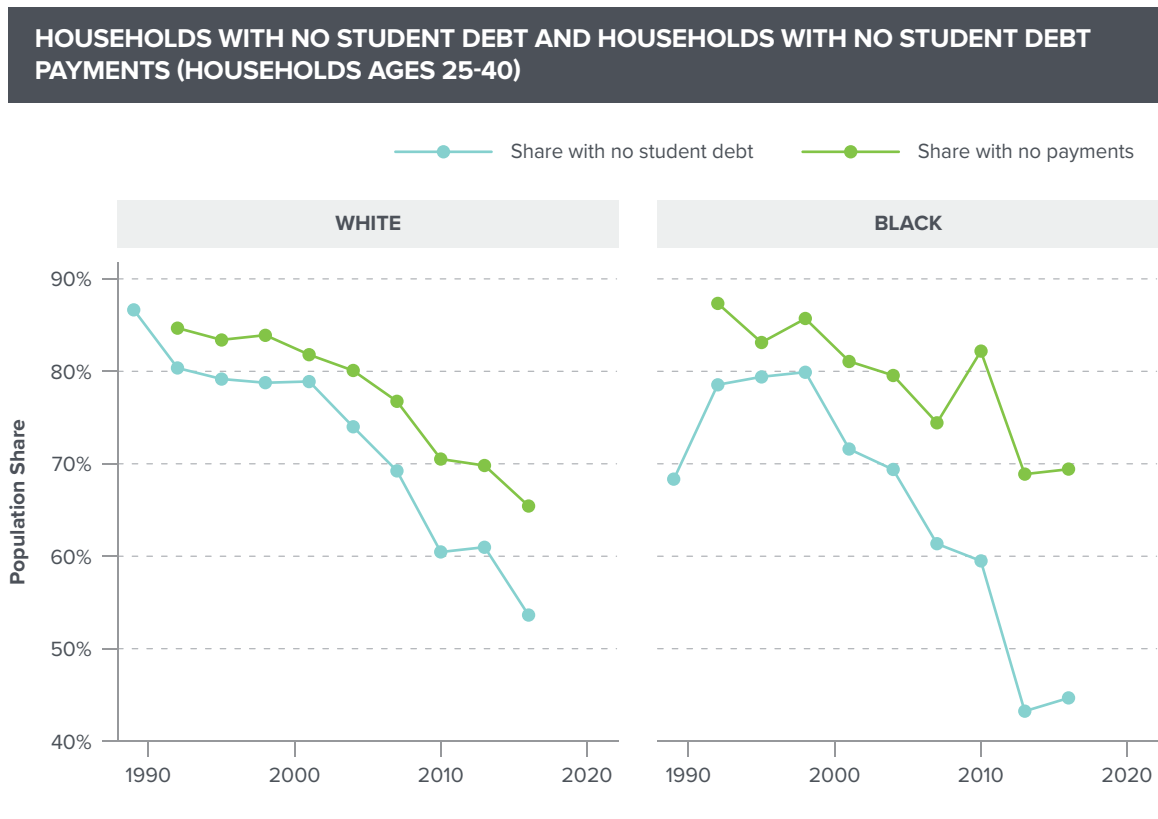
Second, more people are acquiring higher education credentials, including graduate degrees. Akers and Chingos treat this as at least partial proof that student debt is “paying off” by assuming that those credentials lead to higher income. We discuss how credentialization causes this phenomenon in greater detail in the next section, but for the moment we focus on its implications for repayment. Students enrolled in graduate programs can enter forbearance on their existing student loans, which means that they need not make payments while they are in school and can carry their balance for a longer period. As time spent in forbearance mounts, student debt burdens, as colloquially understood, also mount; borrowers accumulate more debt without paying it off. But this exact dynamic makes student debt payment-to-income ratios lower, making it seem as though borrowers have less debt (when measured by payments) even as it grows (when measured by overall balance).

***For all of these reasons, pointing to the stability of the debt payment-to-income ratio as evidence of the benignity of student debt as a policy problem is a faulty interpretation of household wealth dynamics.***

Finally, delinquency and default on student debt are increasingly common. From 2013 to 2018, the proportion of outstanding Federal Direct student loans in default rose from 7.5 percent to 13 percent. These phenomena arguably reflect exactly the question at issue: rising debt burdens, relative to the ability to pay. And yet they register as a reduced payment, thereby reducing the debt burden, as measured by Akers and Chingos.



For all of these reasons, pointing to the stability of the debt payment-to-income ratio as evidence of the benignity of student debt as a policy problem is a faulty interpretation of household wealth dynamics. We offer another way to look at the burden of debt: how the share of households that are not making payments on student debt compares to the share of households with no debt. Not surprisingly, since fewer households have no debt than previous generations, a smaller share of households is also not making payments on debt. But the share of households making no payments is higher, in general, than the share of households with no debt. In Figure 9, we compare the two. This gap between the (lower) share with no debt and the (relatively higher) share of households not making payments on debt is likely evidence of both increasing use of forbearance and even income-based repayment. The gap could also be caused by rising delinquency and default among a subset of households that have student debt and are, in general, accumulating more of it rather than paying it down.

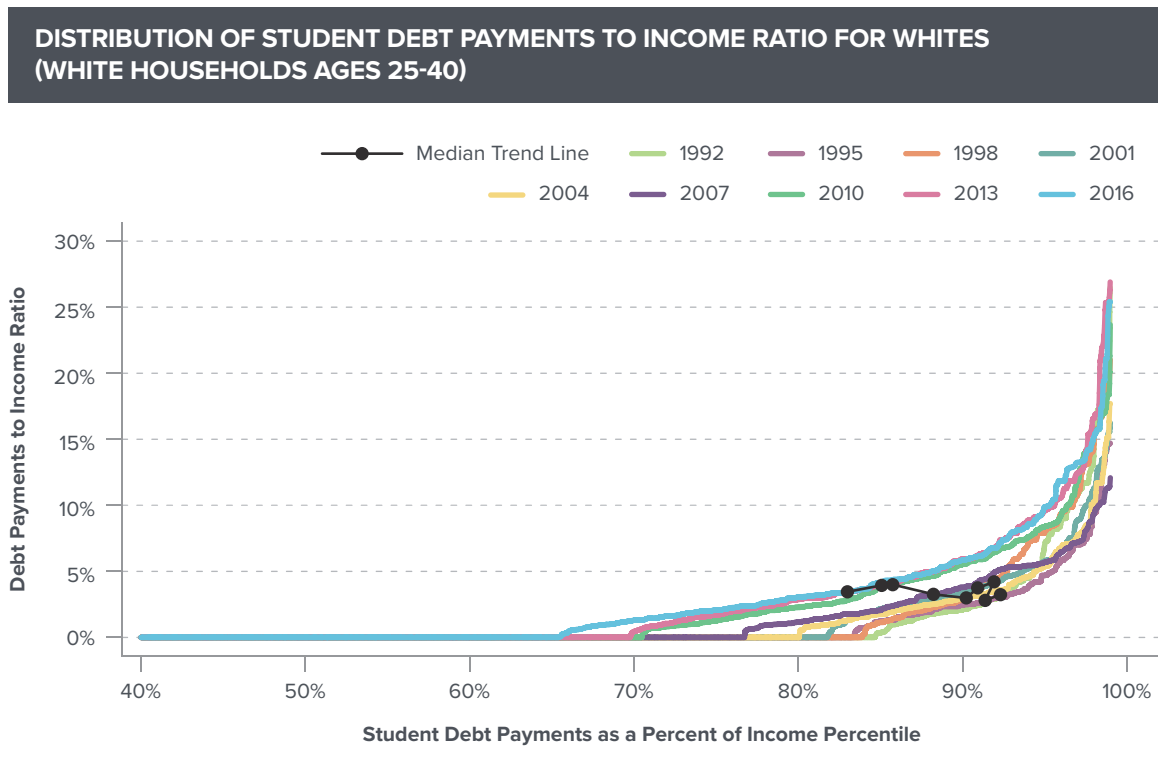


**FIGURE 9** This graphic plots both the share of households with no student debt (repeated from Figure 5) and the share of households making no payments, distributed by race. The share of households making no student debt payments is declining—which is not surprising, given that the share of households with no debt is declining. But the share of households making no payments is higher than the share of households with no debt, probably because income-based repayment, forbearance, delinquency, and default make up the difference. This widening gap is evidence that the real burden of student debt is increasing, not that it is constant because median payment-to-income ratios are constant. Source: Survey of Consumer Finances



We then plot the inverse CDFs of the payments-to-income ratio, just as we did with the debt levels above. Again, we superimpose the time series of the conditional median on those unconditional distributions, just like we did in depicting the inverse CDFs of debt levels.

Contrasting the constant debt payment-to-income ratio (conditional on making payments) with the outward-shifting unconditional distribution of debt payment-to-income ratios reveals that the Akers-Chingos thesis is a mistaken inference. The unconditional distribution of borrowers has changed a great deal over time; as more people take on debt, they assume debt burdens throughout the entire distribution, which keeps the conditional median constant even as the overall burden of student debt on the economy expands. In other words, as the unconditional distribution of borrowers has shifted up and outward, a higher debt burden is required to qualify for any given quantile. This is why we plot the median debt burden on the same graph as the expanding unconditional distribution, which illustrates that considering only the time series of the conditional median gets this crucial dynamic wrong—leading to the mistaken economic interpretation that student debt pays for itself by “buying” more education and, therefore, higher income.

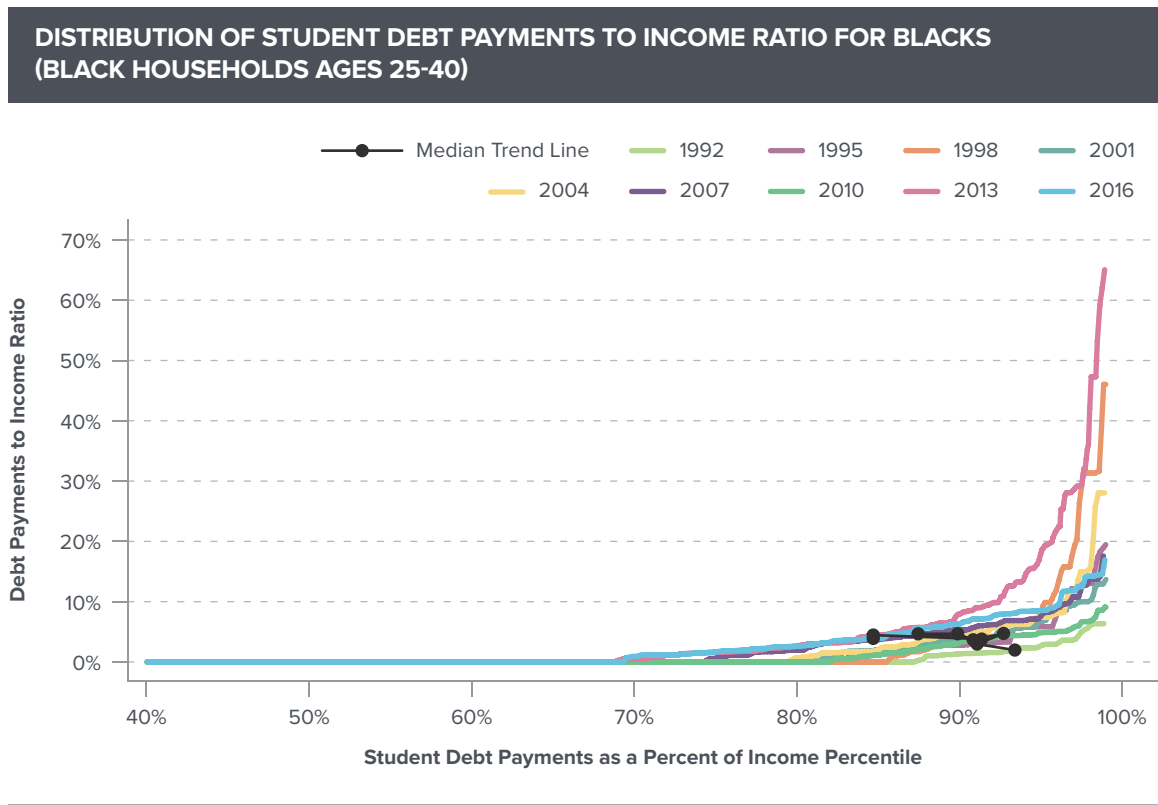


**FIGURE 10** The inverse CDF of debt payment- to- income ratios for white households. Like the inverse CDF of debt levels, this is shifting out over time, but many of the households that have debt are not making payments on it. And the superimposed time series of median debt payment-to-income ratios reveals the economic reality that is overlooked by focusing on the fact that that time series is constant. Source: Survey of Consumer Finances



What does this shifting-out of the distribution of debt payment-to-income ratios mean in real-world terms? The expansion of the pool of borrowers means that the type of person who has student debt today is very different from past borrowers. In 2000, less than 33 percent of student-loan borrowers came from for-profit colleges and community colleges. By 2014, this group represented almost 40 percent of borrowers. Borrowers attending these types of institutions tend to be older and have fewer resources than other college students (Looney and Yannelis 2016). Given their individual characteristics, these borrowers tend to be more likely to be at risk of default or delinquency.

In the following section, we analyze why such individuals increasingly need to obtain more credentials than would be necessary were the labor market functioning properly, and in Section 4, we discuss the racialized impact of these trends.



**FIGURE 11** The distribution of student debt payment-to-income ratios is similarly shifting out to encompass a larger share of Black households than it once did. Note that the vertical axis for Figure 11 is twice the length of the vertical axis for Figure 10, revealing that the extent of extreme encumbrance with student debt is more acute for Black households than white. Source: Survey of Consumer Finances

The fact that delinquency and default rates continue to rise even as the economy improves provides further confirmation that the share of income devoted to student debt payments





does not tell the whole story on whether one is burdened by student debt. Indeed, one clear implication of the data on repayment is that successive cohorts are becoming worse and worse at keeping up with the supposedly standard 10-year amortization schedule, either because they don't earn sufficiently to pay off the debt that they already have, they avail themselves of income-based repayment options or other lengthened repayment plans that limit their obligation while pushing repayment into the future, or they return to school to attain further credentials, thus not only delaying repayment but also adding to their principal (Gibbs 2017; Looney and Yannelis 2018). The focus on debt-to-income ratios may count people with limited payments as unburdened, when it is in fact precisely because they are burdened that their payments are low.

***The fact that delinquency and default rates continue to rise even as the economy improves provides further confirmation that the share of income devoted to student debt payments does not tell the whole story on whether one is burdened by student debt.***

In sum, the evidence we present here suggests that the fundamental assumption that student loan debt results in better outcomes for individuals and the economy is incorrect. Rising levels of student debt have not resulted in higher earnings. Despite this, an increasing share of young households are taking on student debt. Further, the commonly cited assurance that rising student debt levels are not a burden turns out to be fundamentally flawed. An increasing share of borrowers are holding debt but not making payments on it, suggesting that they are dealing with the burden of their debt through forbearance, default, or repayment plans designed to reduce monthly burden.

***In sum, the evidence we present here suggests that the fundamental assumption that student loan debt results in better outcomes for individuals and the economy is incorrect.***

These trends are important in and of themselves, but they take on added significance when we look at their cause. In the next section, we examine the phenomenon of credentialization and its effect on student debt.



### SECTION THREE

## Credentialization and the Shift in Labor Market Bargaining Power

The evidence presented above suggests that the population is becoming more educated, but at the same time, each education group is becoming relatively worse off, given stagnant or falling earnings and rising debt. This reality flies in the face of one of the most commonly cited rationales for government investment in higher education: the skills gap. Economists such as Anthony Carnevale argue that increasing educational attainment is essential to providing workers with the skills necessary to meet the economy's needs (Carnevale, Smith, and Strohl 2010; Carnevale, Jayasundera, and Gulish 2016). If it were true that the economy suffered from a skills gap (and that skills were commensurate with educational attainment), we would expect rising earnings for both jobs with a greater share of credentialed workers and workers with higher credentials, because credentials would be increasingly valuable (Capelli 2015).

Instead, insofar as there is rising earnings inequality on the basis of educational attainment, that inequality is between lower levels of education, where median earnings have declined precipitously, and higher levels, where they have declined less dramatically, as shown in Figure 2. This pattern typifies the economy's game of musical chairs: Jobs are scarce, so they go to the credentialed, and individual workers obtain credentials (using student debt) to ensure that they can get a job. So, for example, individuals with bachelor's degrees take jobs that would not have previously required one, but those jobs do not pay any better despite the fact that the people doing them are better educated. Similarly, individuals who would once have stopped with a baccalaureate now obtain master's degrees or other post-graduate credentials.

This observation highlights one of the key interpretative errors made by Akers and Chingos: Rising graduate-level attainment doesn't mean that increasing student debt is a policy success because it results in a more educated workforce; rather, it means that undergraduate degrees are less valuable. Indeed, universities have responded to this incentive structure by creating a plethora of new graduate degrees that ostensibly serve to distinguish their graduates in a crowded labor market but, in fact, work to extract yet more tuition from students while cheapening the value of the credentials they supersede.

Credentialization represents not only the fact that employers can be more selective among potential job applicants, but it also shows that, as part of this power shift, employers can transfer the cost of training for a given job onto workers. Individuals who would once have



acquired a significant portion of the skills needed for today's jobs on their employer's dime now must shoulder that burden themselves—a reality represented by the expansion of the distribution of debt burdens over time.

***Credentialization represents not only the fact that employers can be more selective among potential job applicants, but it also shows that, as part of this power shift, employers can transfer the cost of training for a given job onto workers.***

A recent working paper lends credence to this credentialization (or upskilling) interpretation. Hershbein and Macaluso (2018) find that, in labor markets with a greater degree of employer concentration, employers include higher skill requirements in the text of their job ads. The researchers interpret this as validating a “market power” explanation of the rising demand for workers with particular skills—not that the skill requirements of jobs have changed, but rather that employers are in a better position to demand that workers have a given skill (at no cost to the employer) and still receive sufficient interest from workers who have taken it upon themselves to obtain the needed credentials.

In addition to the paper by Hershbein and Macaluso, much recent scholarship has covered the issue of labor market monopsony<sup>3</sup> and its role in explaining wage stagnation and other emergent patterns in labor data, such as declining rates of business dynamism and job-to-job mobility and interfirm earnings inequality (Azar, Marinescu, and Steinbaum 2017; Azar et al. 2018; Song et al. 2016; Decker et al. 2015). The implication of a monopsonized labor market is that by giving further discretion to employers to set higher education policy and curricula, and forcing students to take on and pay down a lifetime's worth of student debt, the extent to which workers are locked into particular jobs and to the labor market as a whole has worsened (Luo and Mongey 2016). This increases employers' autonomy to extract wages and shift training costs to their workforce without fear that workers might leave for a better offer.

Credentialization caused by employers' monopsony power has engendered significant changes in the distribution of borrowers who are represented in the student debt distribution. Whereas student debt was once more or less confined to those who attended

---

<sup>3</sup> We define “monopsony” as the increasingly concentrated power that employers use to shape the broader labor market to their own advantage. For further information, see <http://rooseveltinstitute.org/missing-link/>.

graduate and professional programs in order to pursue careers with high earnings potential, due to rising tuition and labor market credentialization for nonprofessional job opportunities, it is now difficult for many to obtain a credential without resorting to borrowing. People who would have once stopped at an associate degree or a bachelor's degree now seek further education—all at a significant cost.

At the same time, routes into the labor market, and to economic stability that avoids higher education and student debt, are increasingly attenuated, ensuring that a larger share of entering cohorts takes on student debt in order to pay the toll to get to the middle class—a toll that is especially steep when one lacks access to traditional institutions of higher education that serve residential, full-time students immediately following high school. Given that many such nontraditional students have been put in the position of needing higher education credentials later in life, when they have other responsibilities, while state funding to traditional institutions has declined relative to demand, these students seek out the high-cost for-profit sector, which has specialized in serving that population—albeit not very well, and for a steep price. Another area of concern is certificates and other industry credentials designed to qualify people for particular jobs where no such qualification is really necessary, other than serving as a means to extract payments from anyone wishing to enter those often poorly paid occupations. Altogether, the outcome is credentialization, and therefore student debt, across a wider population, encompassing people who, in the past, would have avoided student debt altogether or would have acquired fewer degrees and less debt.

***Student debt is not a mark of the elite—rather, not having student debt is a mark of privilege.***

What this credentialization means is that now, student debt is no longer a mark of affluence—it is a mark of deprivation, at least relative to the population of debtors in an earlier era. Studies that look at the population of people who don't have debt confirm this. Once relatively poor, this population is now relatively rich, compared to student debtors, because they have families that can make substantial contributions to their children's higher education and thus shelter them from having to take on student debt. Student debt is not a mark of the elite—rather, not having student debt is a mark of privilege. For all of these reasons, complacency about the economic reality experienced by student debtors is unwarranted.



The most worrisome policy implication of all of this is that student debt itself contributes to the credentialization of the labor market, rather than merely serving as evidence of it. The story of public disinvestment from higher education is well known as a cause of rising debt. What has been less studied is education attainment rising as a result of the incentives created by the availability of student loans to induce institutions to offer a wider range of profitable graduate degrees at the same time as employers are increasingly choosy about whom they hire. This is a variant on the Bennett Hypothesis, except that instead of a given program's tuition increasing in response to federal loan availability, tuition is increasing by raising the number of programs eligible for such funding. Colleges thus increase their revenue, since they know that demand will be forthcoming from students with no other option if they want to get a job.

The poor labor-market performance of the past 10 years, but especially the acute unemployment crisis during the Great Recession, probably also contributed to these incentives facing institutions. Many unemployed or underemployed workers, in various stages of their careers, looked to higher education as the route out of their problems, and institutions rushed to meet the demand—all financed by relatively generous credit terms from the federal government, which actively encouraged this dynamic.

Paradoxically, privatizing and individualizing higher education finance may have made the market less responsive to the actual skill needs of today's jobs than it was to the monopsony power of employers to demand that workers finance their own job training, since such a financing mechanism has been increasingly available in the form of rising federal loan limits and institutions eager to replace dwindling public funding streams with private ones.

If accurate, this mechanism implies a flaw woven into the basis of many proposals for higher education policy reform: Making higher education more responsive to the stated needs of employers worsens, rather than rectifies, the student debt crisis by reducing workers' power in facing a labor market where employers hold all the cards.



## SECTION FOUR

# Student Debt Disadvantages Black and Brown Americans

Throughout this paper, we have reported our findings broken out by race. This is because the differential impact of student debt on communities of color is a key factor in assessing the extent to which rising student debt is problematic. Though higher education as an overall institution in American life has diversified radically in recent decades (as the country itself has diversified, albeit more quickly than high-status institutions, such as colleges and universities), higher education itself is still highly segregated, and the incidence and pathologies of student debt are highly racialized. Note that in Figure 11, which depicts the evolving distribution of debt payment-to-income ratios for Black households, the vertical axis scale is double that of the scale for whites in Figure 10. The outliers when it comes to Black households are paying a much, much higher percentage of their income toward student debt than white households are. And in Figure 9, the gap between the share of the population with no debt and the share making no payments is larger and growing faster for Black households than for white—evidence that delinquency, default, and other forms of nonpayment are especially severe among Black borrowers.

***Though higher education as an overall institution in American life has diversified radically in recent decades, higher education itself is still highly segregated, and the incidence and pathologies of student debt are highly racialized.***

Recent work confirms that Black borrowers are struggling to manage their student debt burdens (Scott-Clayton 2018; Miller 2017). Almost 40 percent of Black borrowers who left school in 2004 defaulted on their debt within 12 years, and by 20 years out, it is likely that 70 percent will do so. Attaining a bachelor's degree is no guarantee against default for Black borrowers; they are more than five times as likely to default as white borrowers with undergraduate degrees. One recent paper observes “That college-educated [Black Americans] have more debt, but may not reap similar economic benefits of a college degree as their white counterparts, raises important questions about whether rising debt may



be contributing to the economic fragility of the [B]lack middle class and racial inequality among college educated populations more generally” (Houle and Addo 2018).

Why is it that borrowers of color have much higher delinquency, higher debt levels for a given level of education, and worse repayment schedules? There are four general reasons why student debt is such a racialized problem. First, the existing racial wealth gap limits the extent to which families of color can contribute to their children’s education, as well as their ability to help children and other family members having difficulty making payments. Not only is the racial wealth gap a significant cause of racial inequality in student debt-related economic outcomes, but student debt itself also contributes significantly to racial inequality (Steinbaum 2018).

Second, discrimination in the credit market means that people of color enjoy less advantageous terms on private loans. One effect is that families with less household wealth must take on Parent PLUS loans to cover the costs of higher education—and these loans are not eligible for income-based repayment and other elements of generosity built into the federal loan system. Though the public nature of the student loan program and its underlying rationale that credit should be made freely available to enhance access to education mean that origination of student debt is relatively less racially discriminatory, on its face, than other unsecured credit markets, collection is highly predatory and aggressive, and it targets minority borrowers just as onerously as elements of the payday lending market, especially considering that borrowers in collection often did not complete their degree program and are frequently victimized by predatory for-profit institutions (Waldman and Kiel 2015).

Third, racial discrimination in the labor market means that workers from minority backgrounds need to have more credentials, and therefore more debt, than white workers. Racialized social and professional networks often work to channel white students into employment more easily than students of color, who rely on expensive educational credentials to make up the difference (McMillan Cottom 2017). This translates into widening gaps in student debt burden postgraduation. One study found that, whereas Black graduates have, on average, \$7,400 more in debt upon attaining a baccalaureate, relative to white graduates, that gap grows five years later to \$25,000. The reason is that white graduates can more easily get a job and start paying down debt, whereas nonwhite students often get paid less and therefore have to go back to school and take on more debt (Scott-Clayton and Li 2016). This is a major reason why delinquency is so prevalent among minority student debtors—even those who do obtain degrees—and why repayment schedules are so much worse (Scott-Clayton 2018).





Finally, the higher education sector is itself highly segregated. This is particularly true when considering for-profit versus traditional nonprofit institutions, but even within nonprofit higher education, nontraditional students systematically lack access to the best institutions with the most direct entrée into well-paid jobs. This systematic inequality in institutional access on the basis of race interacts with labor market discrimination and unequal social networks to ensure that higher education largely replicates and widens disparities rather than narrowing them (Chetty et al. 2017). Reductions in state funding for public university systems, which historically had the highest rates of social mobility of any higher education institutions, threaten to deny access to in-state residents from less-advantaged backgrounds in favor of out-of-state, better-off applicants who can pay higher tuition.

The focus on higher-education segregation in policy circles has tended to focus exclusively on for-profits, but these institutions are symptomatic of the fact that workers increasingly need degrees to get work, even while traditional nonprofit institutions are ill-positioned to fulfill that function. Even if for-profits were more rigorously regulated, the underlying economics would tend to make nonprofits (at least the ones most in need of funding) more like today's for-profits, dependent on credentialization as their business model and particularly on their ability to extract tuition from a population with the fewest outside options—namely, minority and other nontraditional students.

***The student debt crisis is a profound policy failure for everyone, but denying its existence is a particular injustice to racial minorities who have borne the brunt of that failure, as they previously did of the housing bubble and its deflation in the 2000s.***

Altogether, given the historical racial inequities in higher education and the economy as a whole, credentialization as a labor market trend threatens communities of color disproportionately and underlies the sharp racial inequalities observed in student debt-related economic outcomes. The student debt crisis is a profound policy failure for everyone, but denying its existence is a particular injustice to racial minorities who have borne the brunt of that failure, as they previously did of the housing bubble and its deflation in the 2000s.





The student debt policy failure fundamentally arises from the confusion of correlation with causation; because people with higher-education credentials are wealthier than those without, policymakers assumed that the relationship was causal, and moreover, they prescribed going into debt in order to finance the acquisition of those “human capital” assets as a means of closing gaps in outcomes. Unfortunately, that assumption, and the resulting policy prescription, were premised on a mistaken inference. The same was true of housing; homeownership is a constituent of middle-class status, so we prescribed individual-level, federally supported debt as a means of attaining it, overlooking the historical reasons why homeownership had been out of reach for disadvantaged communities and neglecting them once the true scope of the policy failure was obvious. Given the current debate about whether or not there really is a student debt crisis, there appears to be a significant danger that the same policy failure will be repeated.



# Conclusion

With the Higher Education Act overdue for reauthorization, it is inevitable that policymakers will be rewriting federal higher education policy in the next few years. But new policies based on the same flawed assumptions about the individual and economic benefits of debt-financed education will only continue to fuel credentialization, deepen our country's student debt crisis, and exacerbate racial and economic inequality. This paper shows how increasing student debt is holding back borrowers, who are already squeezed by stagnant or declining wages, and burdening an increasing share of borrowers. It also offers an explanation for why the labor market has not rewarded an increasingly educated population with higher earnings—evidence of credentialization—and how student debt helps fuel that phenomenon.

The recent scholarship on labor market monopsony and credentialization represents a sea change in how we think about the role that higher education and student debt play in society and in the labor market. Continuing to believe that the fundamental aim of higher education policy is to fill in a skills gap merely threatens to worsen the labor market's real problems: credentialization and structurally declining worker power. Instead, insofar as there is an economic role for higher education, it should be to equip workers to operate independently, not lock them into a particular job or employer, and student debt should not remain an albatross around the necks of generations of entering cohorts and their families.



# References

- Akers, Beth, and Matthew Chingos. 2014a. "Is a Student Debt Crisis on the Horizon?" Brown Center on Education Policy. Brookings Institution.
- . 2014b. "Student Loan Update: A First Look at the 2013 Survey of Consumer Finances." Brown Center on Education Policy. Brookings Institution.
- . 2016. *Game of Loans: The Rhetoric and Reality of Student Debt*. Princeton: Princeton University Press.
- Azar, José, Ioana Marinescu, and Marshall Steinbaum. 2017. "Labor Market Concentration." NBER Working Papers, no. 24147.
- Azar, José, Ioana Marinescu, Marshall Steinbaum, and Bledi Taska. 2018. "Concentration in US Labor Markets: Evidence from Online Vacancy Data." NBER Working Papers, no. 24395.
- Baum, Sandy. 2016. *Student Debt: Rhetoric and Realities of Higher Education Financing*. Palgrave Pivot.
- Black, Sandra, Jason Furman, Emma Rackstraw, and Nirupama Rao. 2016. "The Long-Term Decline in US Prime-Age Male Labour Force Participation." VoxEU (blog). July 6, 2016. <https://voxeu.org/article/long-term-decline-us-prime-age-male-labour-force-participation-and-policies-address-it>.
- Bleemer, Zachary, Meta Brown, Donghoon Lee, Katherine Strair, and Wilbert van der Klaauw. 2017. "Echoes of Rising Tuition in Students' Borrowing, Educational Attainment, and Homeownership in Post-Recession America." Federal Reserve Bank of New York Staff Reports, no. No. 820.
- Capelli, Peter. 2015. "Skill Gaps, Skill Shortages, and Skill Mismatches: Evidence and Arguments for the United States." *ILR Review* 68 (2): 251–90.
- Carnevale, Anthony, Tamara Jayasundera, and Artem Gulish. 2016. "America's Divided Recovery: College Haves and Have-Nots." Georgetown University Center on Education and the Workforce.
- Carnevale, Anthony, Nicole Smith, and Jeff Strohl. 2010. "Help Wanted: Projections of Jobs and Education Requirements Through 2018." Georgetown University Center on Education and the Workforce.
- Chetty, Raj, John N. Friedman, Emmanuel Saez, Nicholas Turner, and Danny Yagan. 2017. "Mobility Report Cards: The Role of Colleges in Intergenerational Mobility." NBER Working Papers, no. 23618.
- Decker, Ryan, John Haltiwanger, Ron Jarmin, and Javier Miranda. 2015. "Where Has All the Skewness Gone? The Decline in High-Growth (Young) Firms in the U.S." NBER Working Papers, no. 21776.
- Detting, Lisa J., and Joanne W. Hsu. 2013. "The State of Young Adults' Balance Sheets: Evidence from the Survey of Consumer Finances." *Federal Reserve Bank of St. Louis Quarterly Review* 96 (4): 305–30.
- Gibbs, Christa. 2017. "CFPB Data Point: Student Loan Repayment." CFPB Office of Research.
- Houle, Jason N., and Fenaba Addo. 2018. "Racial Disparities in Student Loan Debt and the Reproduction of the Fragile Black Middle Class." University of Wisconsin Center for Demography and Ecology Working Paper, no. 2018–02.
- Looney, Adam, and Constantine Yannelis. 2016. "How Useful Are Default Rates? Borrowers with Large Balances and Student Loan Repayment." *Economics of Education Review*.
- . 2018. "Borrowers with Large Balances: Rising Student Debt and Falling Repayment Rates." Brookings



- Institution.
- Luo, Mi, and Simon Mongey. 2016. "Student Debt and Job Choice: Wages vs. Job Satisfaction." Working Paper.
- McMillan Cottom, Tressie. 2017. *Lower Ed: The Troubling Rise of For-Profit Colleges in the New Economy*. New York: The New Press.
- Miller, Ben. 2017. "New Federal Data Show a Student Loan Crisis for African American Borrowers." Center for American Progress (blog). October 16, 2017. <https://www.americanprogress.org/issues/education-postsecondary/news/2017/10/16/440711/new-federal-data-show-student-loan-crisis-african-american-borrowers/>.
- NCES. 2017. "Digest of Education Statistics: 2016." 2017–094. National Center for Education Statistics. [https://nces.ed.gov/programs/digest/d17/tables/dt17\\_104.20.asp](https://nces.ed.gov/programs/digest/d17/tables/dt17_104.20.asp).
- Scott-Clayton, Judith. 2018. "The Looming Student Loan Default Crisis Is Worse Than We Thought." 34. Evidence Speaks Reports. Brookings Institution.
- Scott-Clayton, Judith, and Jing Li. 2016. "Black-White Disparity in Student Loan Debt More Than Triples After Graduation." 3. Evidence Speaks Reports. Brookings Institution.
- Song, Jae, David J. Price, Fatih Guvenen, Nicholas Bloom, and Till von Wachter. 2016. "Firming Up Inequality." Working Paper.
- Steinbaum, Marshall. 2018. "A Radical Solution to the Student Debt Crisis." The Next New Deal (blog). February 6, 2018. <http://rooseveltinstitute.org/radical-solution-student-debt-crisis/>.
- Waldman, Annie, and Paul Kiel. 2015. "Racial Disparity in Debt Collection Lawsuits: A Study of Three Metro Areas." ProPublica.



