



# The Surprising Role of High-Income Families in Student Debt Trends: Examining Undergraduate Borrowing by Income, 1995–96 to 2015–16

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## Key Points

- Some of the biggest and most consistent changes in student borrowing patterns over the past two decades have occurred among students from higher-income families.
- In the 2015–16 academic year, students from higher-income families were just as likely to take on debt for an initial year of an undergraduate education as were students from low-income families.
- Undergraduates from higher-income families take on the largest debts, while those from the lowest-income families take on the smallest debts.
- The share of low-income students earning bachelor's degrees with debt has been remarkably consistent (75 percent) for 20 years, while the share of high-income students borrowing has doubled to 60 percent.

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Observers from across the ideological spectrum argue that the US is in the midst of a student debt crisis. This view is largely motivated by the fact that student debt now totals \$1.5 trillion after rising rapidly in the past decade, particularly during the last economic recession.<sup>1</sup> In 2003, outstanding debt was just \$311 billion after adjusting for inflation.<sup>2</sup>

These trends have prompted several Democratic presidential candidates to propose that the federal government forgive most or all outstanding student debt (the vast majority of which was issued through federal programs).<sup>3</sup> They argue that the debt is unaffordable for many and is the result of

severe inequities in our higher education system. Concern about inequitable student debt extends beyond public policy. A growing number of private employers now repay a share of their employees' student loans in part out of concern that students from disadvantaged backgrounds are the ones most likely burdened by debt.<sup>4</sup>

In light of these loan forgiveness proposals, employer-sponsored benefits, and the broader concerns about rising student debt, understanding who takes on student loans is important. A clearer picture of who borrows will help identify the beneficiaries of broad loan forgiveness proposals and

the more limited employer repayment benefits, or any other policy aimed at reducing student debt and repayment obligations. It can also help gauge the extent to which student debt burdens reflect inequities in the US higher education system.

Prior analyses on this topic focus on the demographics of borrowers who currently hold the \$1.5 trillion in outstanding debt. For example, researchers at the Urban Institute show that higher-income households hold a disproportionately large share of all student debt.<sup>5</sup> Using different data, the Federal Reserve Bank of New York reports similar findings but also concludes that relative to household earnings, debt is higher among lower-income households.<sup>6</sup>

This report takes a different approach to understanding who holds student debt. It examines borrowers' characteristics when the loans were originated, whereas the studies mentioned above capture borrowers at any point during repayment. Both perspectives are useful, but the former is less common in policy discussions. Moreover, previous research on income characteristics at loan origination appears at odds with data on borrowers in repayment. Some analyses focused on demographics at loan origination conclude that low- and middle-income students are "more than twice as likely as other students to have student loans" or that "high student debt goes hand in hand with low income."<sup>7</sup>

To help fill the void in the research, this analysis focuses on borrowing patterns among students who enrolled in an institution of higher education in the 1995–96 and 2015–16 academic years. (It includes data points for the intervening years in an appendix.) The analysis is limited to two main statistics for undergraduates by family income: the share of students who took on debt and the amount they borrowed. These statistics are reported for two distinct groups of students at different points in their enrollment: first-year undergraduates and students who earned a bachelor's degree in the years covered in this analysis.<sup>8</sup> Data for the analysis come from the US Department of Education's National Postsecondary Student Aid Study (NPSAS), which provides a representative sample of the undergraduate population for the 1995–96, 1999–2000, 2003–04, 2007–08, 2011–12, and 2015–16 academic years.<sup>9</sup>

While debt from graduate and professional students makes up a large share of all outstanding student debt (approximately 40 percent), this analysis excludes these students.<sup>10</sup> The income information included in the NPSAS is difficult to interpret for these students because it reflects the student's own income (and income from a spouse) while enrolled as a graduate student. The undergraduate data include parental income for dependent students or the student's own income if he or she is an independent. This analysis includes both dependent and independent undergraduate students despite this difference because the overall findings are similar when only dependent students are included in the analysis.

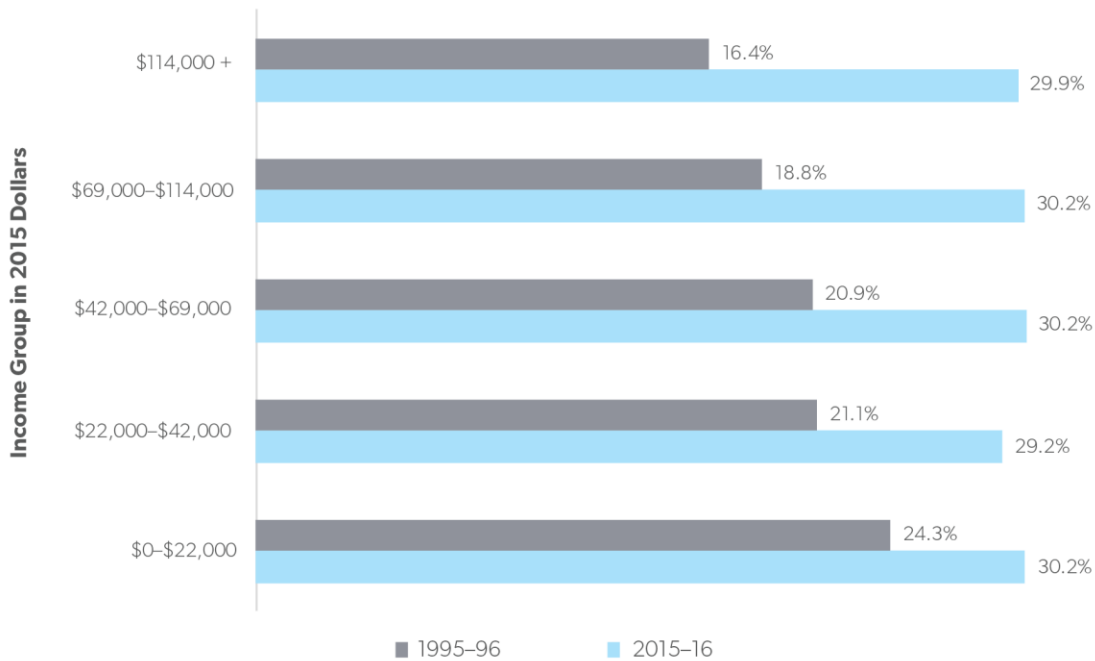
Note that independent students, who tend to have low incomes and make up about half of undergraduates, skews the income distribution of the undergraduate population in this analysis (shown in Appendix C). Debt figures for this analysis include the amount of principal borrowed for all types of student debt (federal student and parent loans, private, state, etc.). They do not show unpaid interest. The 1995–96 and 1999–2000 data sets include loans that a student received from a family member in aggregated borrowing figures, but later data sets exclude these loans. To be consistent, this analysis excludes family loans from earlier data sets.<sup>11</sup> Borrowers are grouped into five income categories that approximate the US household income quintiles for the last year in the analysis, 2015–16.<sup>12</sup> All figures hereafter are in 2015 dollars unless otherwise noted.<sup>13</sup>

## First-Year Undergraduate Borrowing

Figure 1 shows the share of students enrolled in the first year of any undergraduate program (certificate, associate degree, bachelor's degree, or nondegree program) who took out any type of student loan that year. (Figure A1 includes the intervening years.) Consistent with media reports and concern among policymakers about a student debt crisis, the share of students borrowing increased across all income groups between the two years studied.

Contrary to what some accounts imply, borrowing rates among low-income students increased the

**Figure 1. Share of All First-Year Undergraduates Borrowing in Any Degree or Certificate Program by Academic Year and Income Group**



Source: Author's calculation using the National Postsecondary Student Aid Study.

least, rising from 24.3 percent in 1995-96 to 30.2 percent in 2015-16. That is because borrowing rates among these students actually declined markedly in the most recent year in this analysis after increasing during the earlier years. Had there been no decline in 2015-16, it would be accurate to say that borrowing rates increased the most among low-income students. In other words, the popular view that low-income students have turned to debt more than other groups was correct up until recently.

Due to the drop-off on borrowing among low-income students, it is actually students from the highest income groups who increased their borrowing rates most. Just 16.4 percent of first-year students in the highest income group took on debt in 1995-96, a figure that nearly doubled by 2015-16. And unlike the case of low-income students, trends for students from the highest two income groups are more consistent from 1995-96 to 2015-16. In short, the largest and most consistent changes in borrowing rates among first-year undergraduates have occurred not among students from the poorest families but among students from families with the highest incomes.

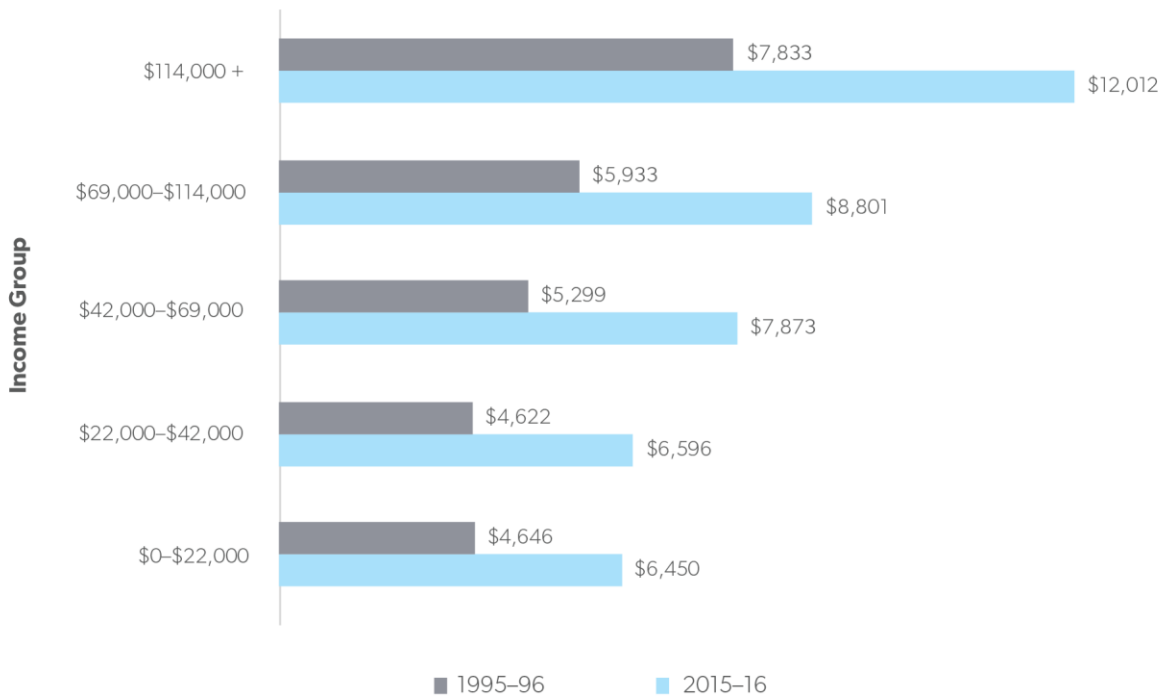
Furthermore, borrowing rates among high-income families are now on par with students from low-

income families, at 29.9 percent. Put another way, family income was a somewhat reliable predictor of whether a first-year undergraduate would take out a loan to pay for higher education in the mid-1990s. The higher the family income, the less likely a student was to borrow. By the 2015-16 academic year, however, students from all income groups were just as likely to take out a loan.

Again, data for the intervening years in Figure A1 paint a more complicated picture. Borrowing rates among low-income students increased rapidly in earlier years, peaked in 2007-08 and 2011-12, and then declined sharply by the last year of analysis. Moreover, the 2015-16 figures show the least amount of variation in borrowing rates among income groups. Without data for additional years, it is difficult to gauge whether the 2015-16 academic year was anomalous or the start of a more sustained trend in student borrowing.

Looking at changes in the amounts that first-year students borrow reveals several clear patterns. Figure 2 shows the amount of debt on average borrowers in each income group took on in their first year of school in 1995-95 and 2015-16. One clear trend is that students across all income groups borrowed substantially more for their first year of

**Figure 2. Average Amount Borrowed Among All First-Year Undergraduates Who Borrowed in Any Degree or Certificate Program by Academic Year and Income Group (2015 Dollars)**



Source: Author’s calculation using the National Postsecondary Student Aid Study.

higher education in 2015–16, even after adjusting for inflation. Adding this finding to the previous figure shows that more students across all income groups are turning to loans, and they are borrowing more when they do so.

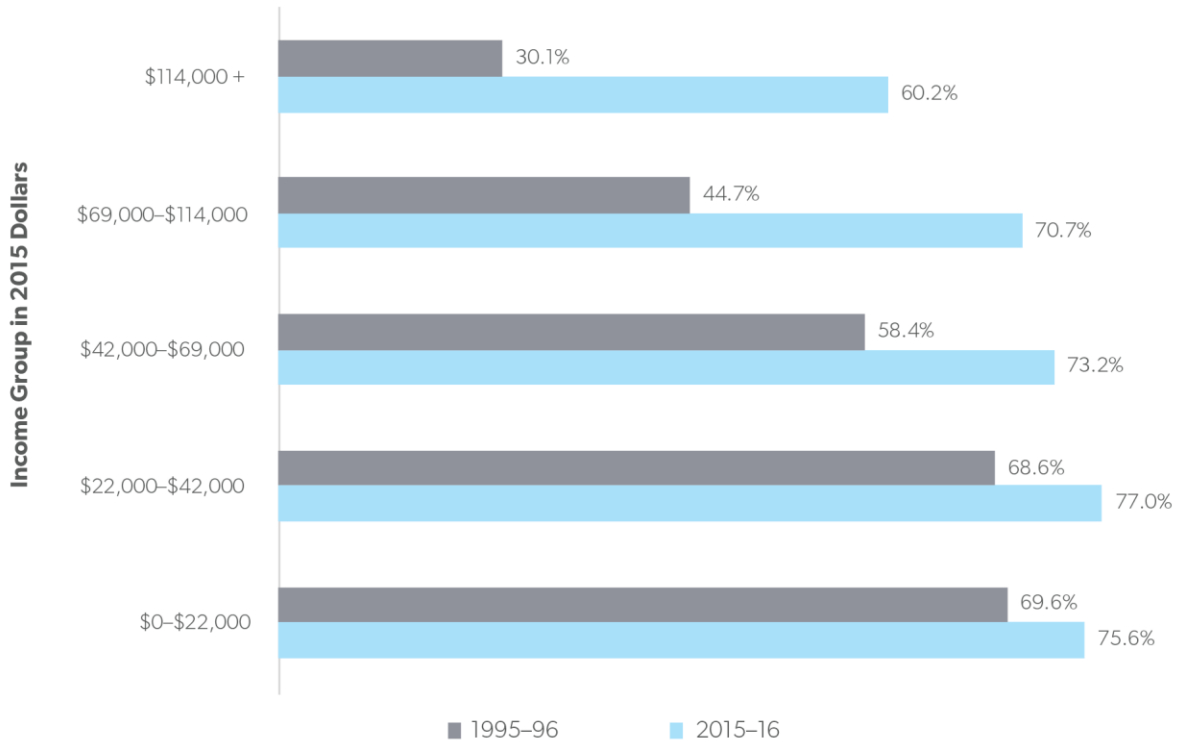
Another important finding is that the largest changes in the amount of debt students take on have occurred among the highest income groups. Students from the lowest two income groups borrowed about \$2,000 more for a year of higher education in 2015–16 than they did in the mid-1990s, after adjusting for inflation. Students in the highest income group borrowed about \$4,000 more. This is similar to the trend in Figure 1 showing the share of students who borrow.

Figure 2 also reveals a pattern among high-income students that has been consistent for decades. Among undergraduates who borrow, those from families with higher incomes take out larger loans than do students from lower-income families, and the gap has grown over time. This partly reflects the fact that students from higher-income families are more likely to enroll in the most expensive programs

(bachelor’s degrees) at the highest-priced institutions, whereas their low-income peers are more likely to pursue certificates or associate degrees at institutions with relatively low tuition, such as two-year community colleges. Higher-income families are also more likely to take on private student loans and federal parent PLUS loans, which are not subject to annual and aggregate borrowing limits. Those two types of loans account for much of the higher loan amounts for these families.

The borrowing trends among students from high-income families have been large enough to change the total distribution of debt among first-year undergraduates since the mid-1990s. Because undergraduates from high-income families borrow the most and now borrow at equivalent rates to their low-income peers, the total amount of undergraduate debt issued in recent years is now skewed more toward higher-income households. In the mid-1990s, students from the highest income group accounted for about 10 percent of debt borrowed among first-year undergraduates. That figure

**Figure 3. Share of Bachelor’s Degree Completers Borrowing by Academic Year and Income Group**



Source: Author’s calculation using the National Postsecondary Student Aid Study.

increased to nearly 18 percent in 2015–16, as shown in Figure C2.

That is not to say, however, that higher-income households take on the most debt in absolute terms. They do not, as they are still a relatively small share of total enrollment among first-year undergraduates (especially when including independent students). The point is that their debt makes up a disproportionately large share of the total amount borrowed among first-year students, and that share has grown over time.

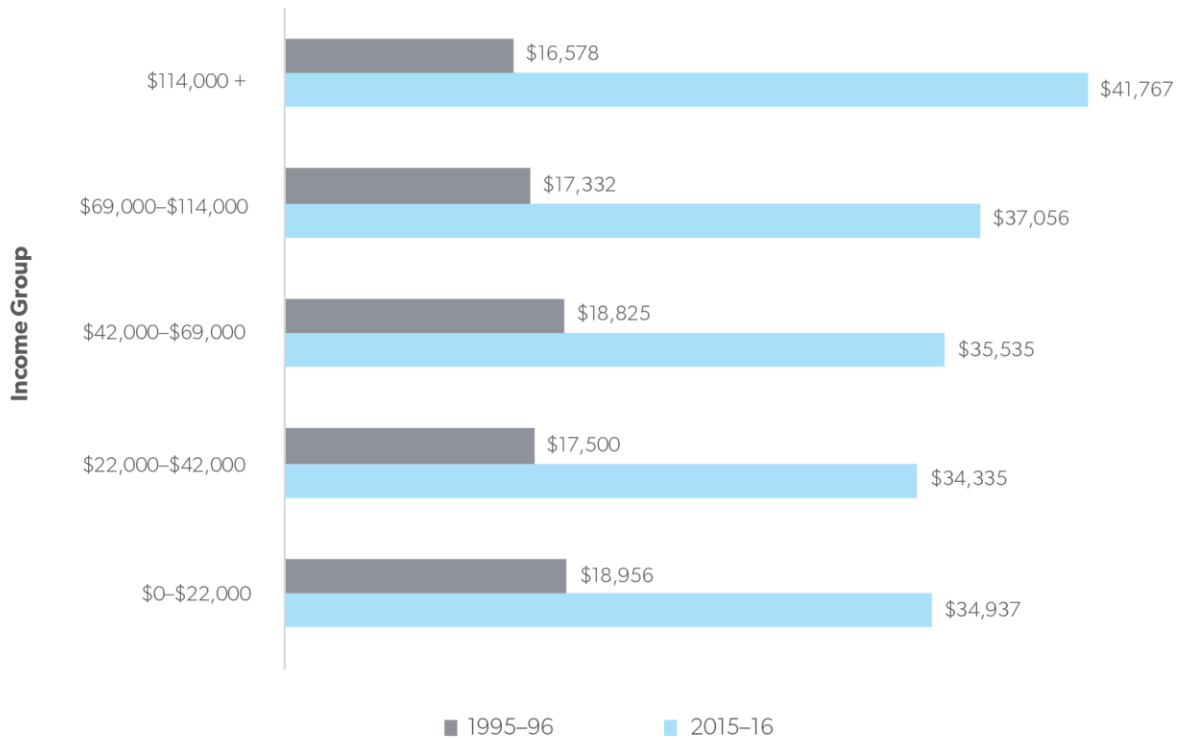
### **Borrowing Among Bachelor’s Degree Recipients**

This next section uses the same analytical framework for students who completed a bachelor’s degree in the academic years that this analysis covers. Debt is measured as the cumulative amount borrowed during students’ undergraduate enrollment. These amounts may not match what students owe upon completion because interest is excluded and students may have paid off debt before completing.

While the first part of this analysis is useful for showing the total distribution of borrowing among all undergraduates at a given point in time (the first year of a program), it cannot show us how much debt students ultimately accumulate. Focusing on degree completers can provide that perspective, in this case bachelor’s degree completers, which is a popular measure that journalists and analysts use to summarize student indebtedness.<sup>14</sup> Unfortunately, the data for this analysis are not longitudinal so they cannot show how much debt non-completers accumulate.

Figure 3 shows the share of bachelor’s completers from each income group who borrowed at any point during their undergraduate enrollment. One clear trend is that students from all income groups are more likely to take on debt while earning a bachelor’s degree today than they were in the mid-1990s. A more surprising finding is that students from the lowest two income groups are only slightly more likely to borrow to finance a bachelor’s degree today than in the mid-1990s. Middle- and high-income students, on the other hand, are much more likely to borrow. In the 1995–96 academic

**Figure 4. Average Amount Borrowed Among Bachelor’s Degree Completers Who Borrowed by Academic Year and Income Group (2015 Dollars)**



Source: Author’s calculation using the National Postsecondary Student Aid Study.

year, just 30.1 percent of students from the highest income group who earned a bachelor’s degree had taken on debt. By 2015-16, about 60 percent of these students borrowed. The change for the second-highest income group is almost as large.

Figure B2 displays the data for the intervening years and shows that the share of students from the lowest two income groups who take on debt for a bachelor’s degree has been remarkably stable for 20 years. Put another way, low-income students earning a bachelor’s degree are about as likely to have debt today as they were 20 years ago—although the next section will show that the amount is much higher. Meanwhile, the highest income group shows a strong and consistent upward trend in borrowing rates. As a result, borrowing rates have converged across income groups. Students from the lowest four income groups are almost equally likely to borrow for a bachelor’s degree, and the highest income group is now not far behind.

These findings add new information to the commonly cited statistic that a greater proportion of students are borrowing to complete a bachelor’s

degree: A large share of that increase has been driven not by the lowest-income students but by those from families with the highest incomes. Figures C3 and 4 show the distribution of enrollment, total borrowing, and debt by income group for the two years of the analysis.

A number of findings—both expected and unexpected—emerge when examining the amount of debt that bachelor’s degree recipients take on during their education. Figure 4 shows the cumulative debt among students who borrowed at any point and completed their degrees in 1995-96 and 2015-16. The most obvious finding here is that students from all income groups who borrow take on substantially more debt (after adjusting for inflation) now than they did in the mid-1990s.

Average debt loads have roughly doubled regardless of income, except for the highest income group, which has seen an even larger increase. This group used to borrow the least, but by 2015-16, these students were taking out the largest loans, racking up \$41,767 on average, or about \$6,000 more than students in the other income groups. As was



the case when looking at only first-year students, the higher debt levels are due mostly to these families taking on much larger federal parent PLUS loans on average and, to a lesser extent, private student loans.

One factor that may be driving the increase in debt among high-income families is that this income group has seen the largest increases in tuition over the period studied, which may be due to pricing practices of colleges and universities or because these students are opting to attend more expensive institutions. Average annual tuition after all grants and scholarships are factored in was \$13,604 in 2015–16 for students from the highest income group, which is a \$4,400 increase from the mid-1990s, after adjusting for inflation. It is also about twice as large as the increase students in all other income groups experienced.<sup>15</sup>

Figure 4 also shows how little debt burdens among the other income groups differ. In fact, the differences are actually too small to be statistically significant. In other words, students who borrow tend to accumulate about the same amount of debt on average for a bachelor’s degree regardless of their household income—except for the highest-income students, who borrow more.

This may be because most student debt is issued through the federal loan program, which, except for parent PLUS loans, includes limits on annual and aggregate undergraduate borrowing.<sup>16</sup> The aggregate limits in the 2015–16 academic year were \$31,000 for dependent undergraduates and \$57,500 for independent undergraduates.<sup>17</sup> The average debt levels shown here suggest that students today tend to borrow at or near federal loan limits but typically do not seek debt beyond those limits from other sources.

### **Low- and Middle-Income Students Are Not Twice as Likely as Other Students to Have Loans, as a Widely Cited Statistic Claims**

Several advocacy and research organizations report that students from low- and middle-income families are “more than twice as likely as other students to have student loans.”<sup>18</sup> This figure has been repeated in major media outlets to illustrate how low- and middle-income students are struggling the most to

finance a higher education.<sup>19</sup> Another organization reached a similar conclusion, reporting that “low-income graduates (those who received a Pell Grant while in school) borrow at far higher rates—and in higher amounts—than their middle- and upper-income counterparts at both two- and four-year institutions, regardless of the type of institution attended, and despite receiving thousands of dollars in grant aid.”<sup>20</sup>

The analysis in this report is at odds with these conclusions. In fact, this analysis finds that among first-year undergraduates in 2015–16, low-income students were no more likely to borrow than their high-income peers. Data from 2011–12 show that first-year students were somewhat more likely to borrow than other students, but the difference is still much smaller than two to one. And among bachelor’s degree completers, low-income students in 2015–16 were about as likely to have debt as students from all other income groups, except those in the highest group—and even then, the gap is not as large as the sources above suggest. Data from 2011–12 show a slightly larger gap but still not nearly as large as the sources above claim. How do these organizations arrive at such different conclusions?

The difference appears to be the result of using the Pell Grant program as a proxy for low- and middle-income students rather than using a family’s actual income. While it is accurate to say that the Pell Grant program targets students from low- and middle-income families, Pell Grant recipients are far more likely to borrow than students without Pell Grants, *regardless of family income*.<sup>21</sup> Pell Grant receipt most likely correlates with borrowing because students with Pell Grants have sought out and applied for aid and they are attending institutions eligible for federal aid, making them likely candidates for loans, which the federal government offers through the same administrative process.

Another dynamic causes the Pell Grant proxy to overcount borrowing rates among low- and middle-income students. Many low- and middle-income students do not receive Pell Grants, and some students from the highest income groups do.<sup>22</sup> Using the Pell Grant as a proxy for income thereby excludes virtually all low- and middle-income students who do not borrow from the very statistic meant to

measure the share of low- and middle-income students who borrow, dramatically inflating the share of those students who appear to take on debt. It also includes higher-income students who are likely to borrow.

This can be seen clearly in the data, which ironically are the same data behind the claim that low- and middle-income students who receive Pell Grants are much more likely to borrow. Nearly 20 percent of bachelor's degree recipients in 2015–16 who are from the lowest two income groups in this analysis did not receive a Pell Grant at any point in their undergraduate educations.<sup>23</sup> Most of these students did not take on loans.<sup>24</sup> Meanwhile, roughly 18 percent of students from the highest two income groups earning bachelor's degrees received a Pell Grant at some point in their educations.<sup>25</sup> Nearly 90 percent of them borrowed.<sup>26</sup> These figures are similar for the 2011–12 academic year.

Pell Grant receipt can in some ways be a better measure of a family's ability to pay for college than income in some circumstances. Pell Grant eligibility takes family size into account and the number of children in college simultaneously. The program also disqualifies families with substantial financial assets but relatively low incomes. These advantages are, however, unlikely to outweigh the disadvantages discussed here that arise when using the Pell Grant as a proxy for family income.

## Conclusion

Policymakers, advocacy groups, and even employers have expressed increasing interest in programs to help borrowers repay their student loans—or forgive the debt entirely in some cases. They are motivated in part by the view that there is a national student loan crisis and that debt burdens have become inequitable and unaffordable—especially for low-income students. Analyses of the available data can help inform these views and related policies. As this report shows, borrowing patterns among undergraduates of different income groups have indeed changed since the mid-1990s. But the data also reveal some patterns that do not fit common narratives about student debt burdens, especially the most recent data.

Undergraduates are now more likely to take on student debt today than 20 years ago. About one in five students in their first year of any undergraduate program took out a student loan in the mid-1990s. Today, about one in three take on debt. The trend is even more pronounced among bachelor's degree completers. Just over half of these students took on debt in the mid-1990s. Today, 71 percent borrow at some point during their education.

These findings are well-known in the policy discussion already. Less understood is that the biggest and most consistent changes have occurred among students from middle- and high-income families, not students from low-income families. While first-year students from low-income families saw large increases in borrowing rates for much of the period in this analysis, the most recent year shows a major reversal in that pattern. Meanwhile, borrowing rates among higher-income students have crept steadily higher. Among bachelor's degree recipients, a large share of the overall changes in borrowing patterns can be attributed to middle- and high-income families. In fact, the share of bachelor's degree recipients from the lowest two income groups who take on debt has not changed much over two decades, holding steady at about 75 percent of students across all years in the analysis.

While the amount that students borrow has increased substantially among first-year students and bachelor's degree recipients, this report highlights another less-understood trend. Rising debts have occurred uniformly across all income groups, and in the case of the highest-income students, debt increased *even more*. Among all first-year undergraduates in any program who borrow, students from the highest income group take on almost twice as much debt (\$12,000) for one year of enrollment compared with students from the lowest income groups.

Higher-income students who complete bachelor's degrees and borrow also take on more debt than their peers in other income groups do, which is a change from 20 years ago. Cumulative borrowing among these high-income students was \$42,000 on average in 2015–16 and about \$35,000 among lower-income students. Despite that difference, there is surprisingly little variation among all other



income groups in the amount that bachelor's degree recipients borrow.

These findings have a number of implications for how policymakers and other audiences understand student debt. For instance, this analysis shows there is little correlation between family income and taking on debt to pay for an undergraduate education. This suggests that policies meant to forgive or repay student debt as a means of addressing income inequality may miss their mark. Such policies may even run counter to that goal. Similar to several other studies on student debt, this analysis shows that students from the highest-income families take out the largest debts.

On the other hand, this analysis reveals that even though first-year undergraduates from all income groups were equally likely to borrow in recent years, students from low- and middle-income families still take on the most debt in absolute terms (Appendix C). That is because these students make up such a large share of all first-year

undergraduates across all degree types, especially when independent students are included. From this perspective, one could argue that mass loan forgiveness proposals or even more limited employer-sponsored repayment plans will benefit more of these borrowers than those from high-income families, at least when looking at only undergraduates.

Even so, these findings suggest that student debt has become less of a proxy for inequality in our higher education system that many observers assume, especially if borrowing patterns from the most recent data hold up in future years. If anything, this analysis shows that, at least among undergraduate students, debt has become more equally distributed across all income groups over time. That is because middle- and high-income families are now much more likely to take on student debt than they were 20 years ago. Perhaps that is the real trend driving concerns about a student debt crisis.

## **Acknowledgments**

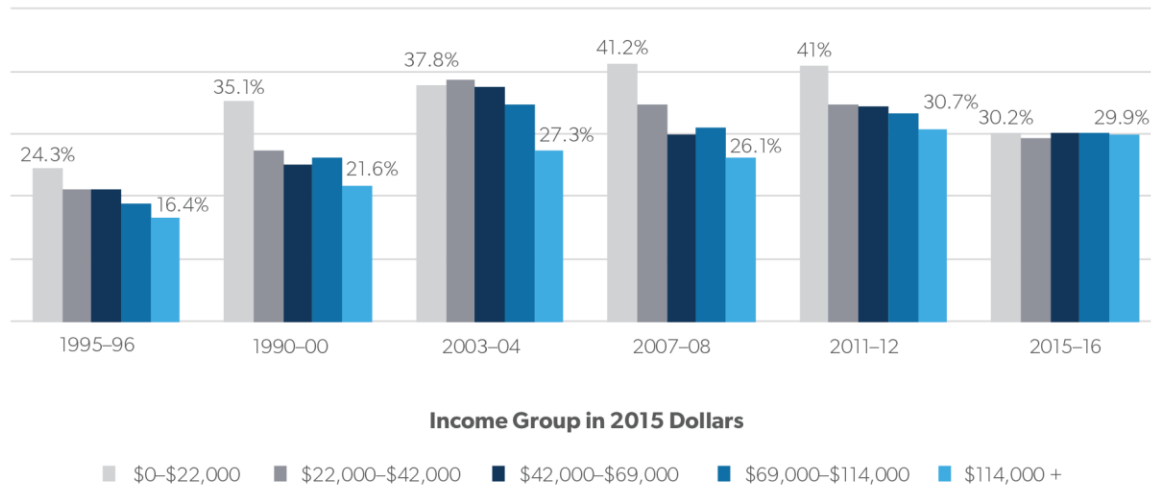
I would like to thank Ben Miller (Center for American Progress) and Kristin Blagg (Urban Institute) for their thoughtful comments and review of this report. Of course, the views expressed are my own, and I take full responsibility for any errors that remain.

## **About the Author**

**Jason D. Delisle** is a resident fellow at the American Enterprise Institute, where he works on higher education financing with an emphasis on student loan programs.

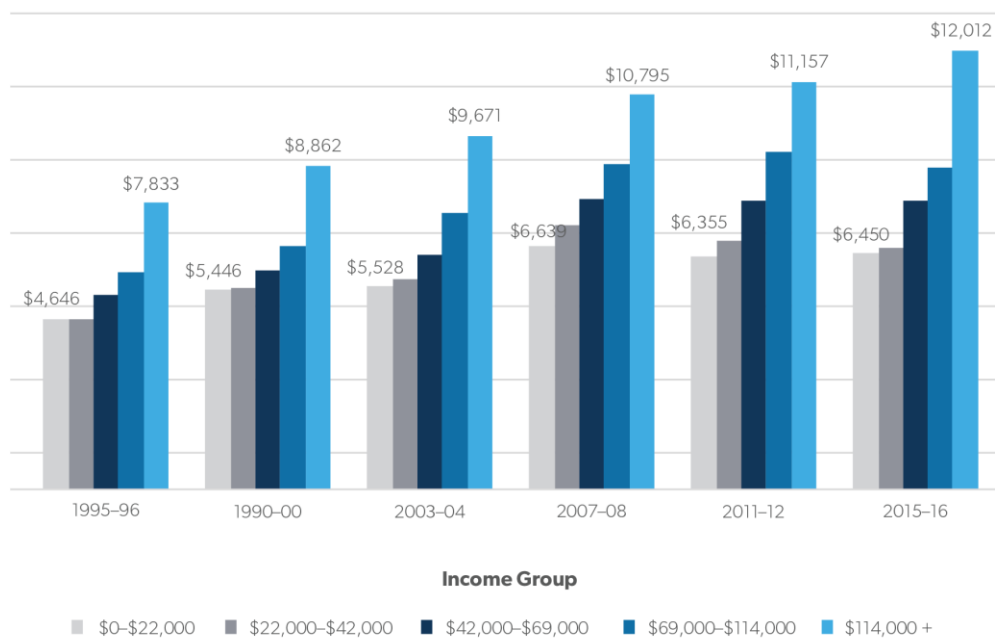
## Appendix A

**Figure A1. Share of All First-Year Undergraduates Borrowing in Any Degree or Certificate Program by Academic Year and Income Group**



Source: Author's calculation using the National Postsecondary Student Aid Study.

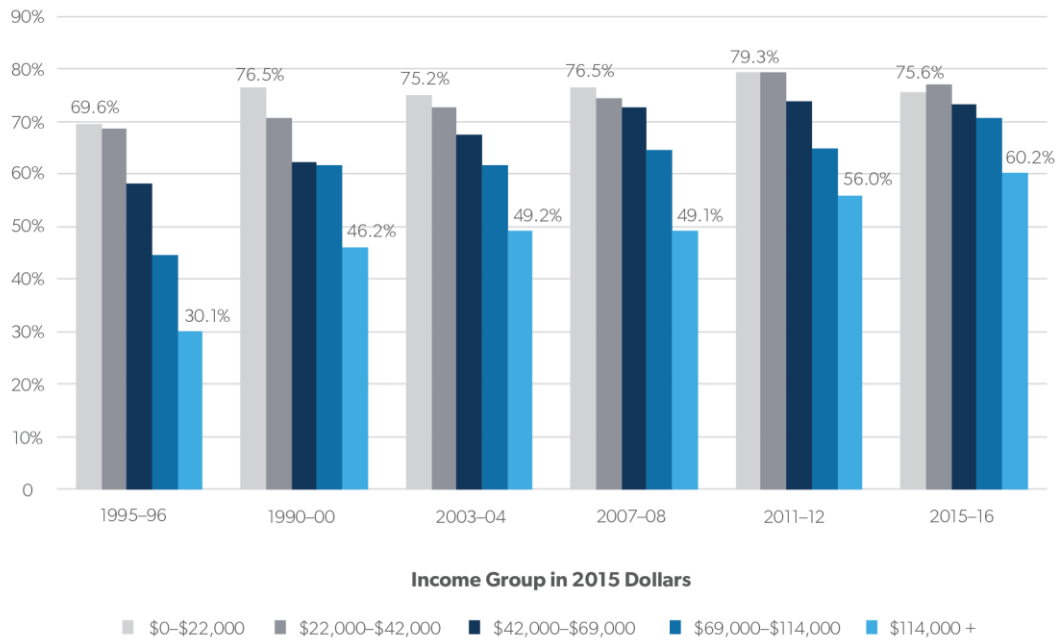
**Figure A2. Average Borrowed Among First-Year Undergraduate Borrowing for Any Degree or Certificate Program by Academic Year and Income Group (2015 Dollars)**



Source: Author's calculation using the National Postsecondary Student Aid Study.

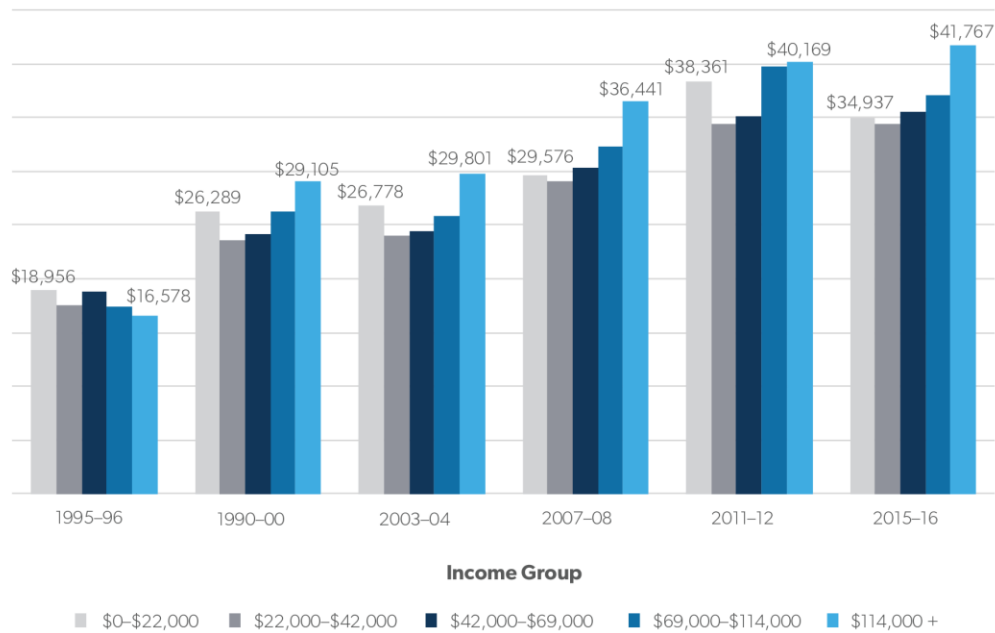
## Appendix B

**Figure B1. Share of Bachelor's Degree Completers Borrowing by Academic Year and Income Group**



Source: Author's calculation using the National Postsecondary Student Aid Study.

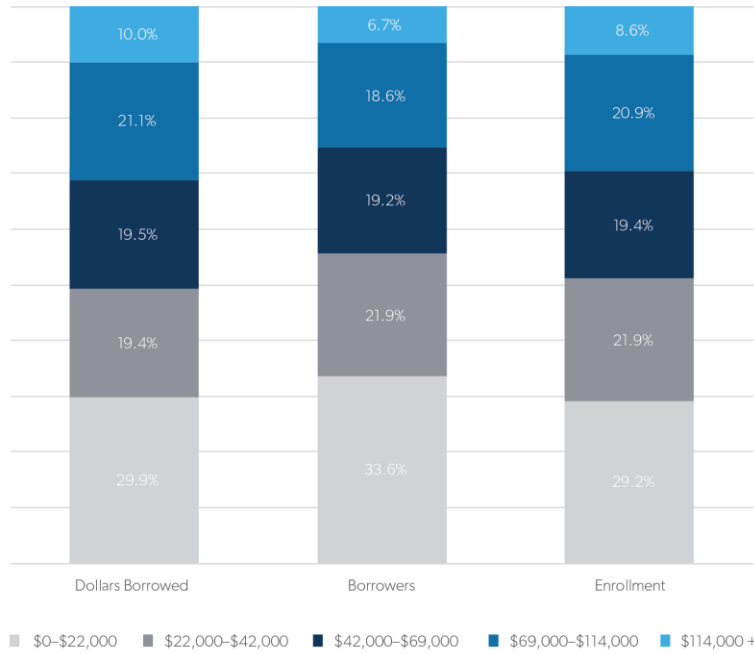
**Figure B2. Average Amount Borrowed Among Bachelor's Degree Completers Who Borrowed by Academic Year and Income Group (2015 Dollars)**



Source: Author's calculation using the National Postsecondary Student Aid Study.

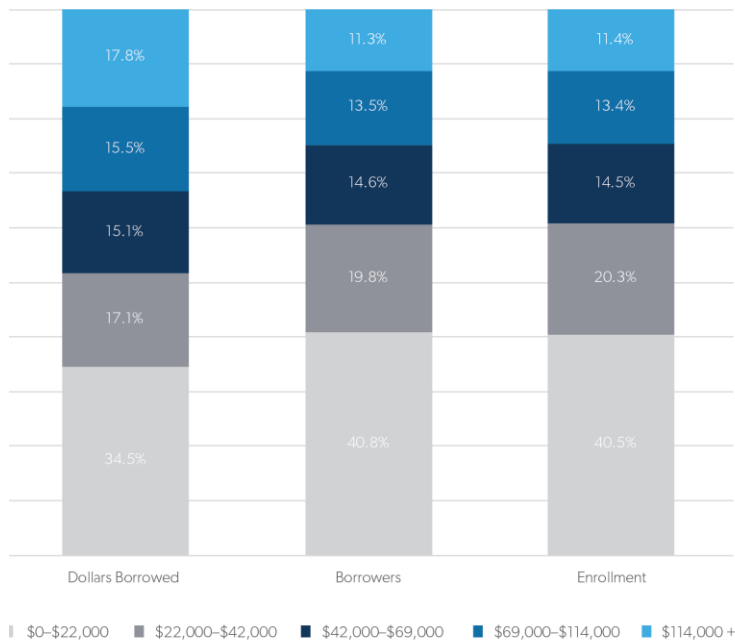
## Appendix C

**Figure C1. Distribution for First-Year Undergraduate Students in a Degree or Certificate Program by Income Group, 1995–96**



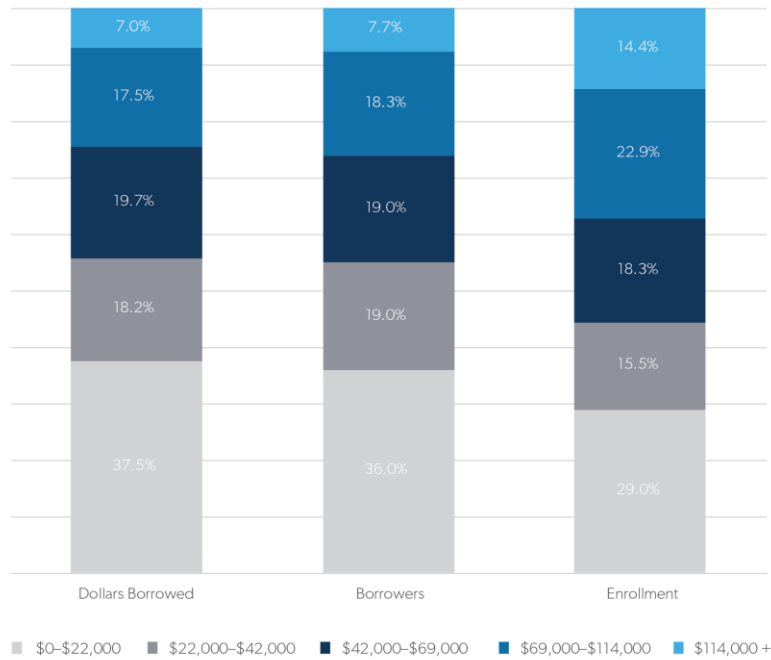
Note: Income is in 2015 dollars.  
Source: Author's calculations using the National Postsecondary Student Aid Study.

**Figure C2. Distribution for First-Year Undergraduate Students in a Degree or Certificate Program by Income Group, 2015–16**



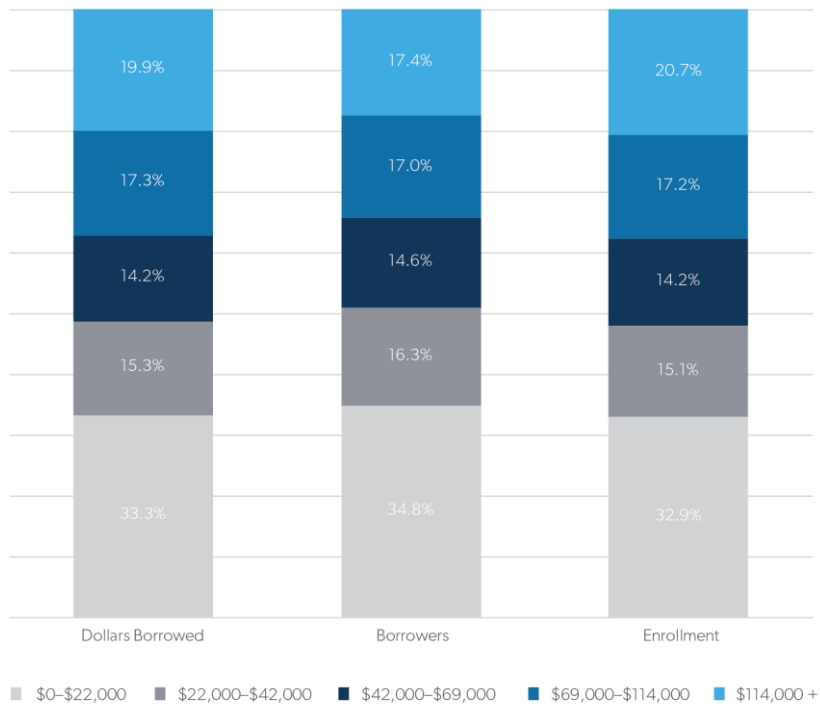
Note: Income is in 2015 dollars.  
Source: Author's calculations using the National Postsecondary Student Aid Study.

**Figure C3. Distribution for Bachelor’s Degree Completers by Income Group, 1995–96**



Note: Income is in 2015 dollars.  
Source: Author’s calculations using the National Postsecondary Student Aid Study.

**Figure C4. Distribution for Bachelor’s Degree Completers by Income Group, 2015–16**



Note: Income is in 2015 dollars.  
Source: Author’s calculations using the National Postsecondary Student Aid Study.



## Notes

1. Federal Reserve Bank of New York, Research and Statistics Group, *Quarterly Report on Household Debt and Credit*, August 2019, [https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/pdf/hhdc\\_2019q2.pdf](https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/pdf/hhdc_2019q2.pdf).
2. This was adjusted for inflation using the personal consumption expenditures price index. Federal Reserve Bank of New York, “Quarterly Report on Household Debt and Credit,” May 2019, [https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/xls/hhd\\_c\\_report\\_2019q1.xlsx](https://www.newyorkfed.org/medialibrary/interactives/householdcredit/data/xls/hhd_c_report_2019q1.xlsx).
3. Jeff Stein, “Sanders Proposes Canceling Entire \$1.6 Trillion in U.S. Student Loan Debt, Escalating Democratic Policy Battle,” *Washington Post*, [https://www.washingtonpost.com/business/economy/sanders-to-propose-canceling-entire-16-trillion-in-us-student-loan-debt-escalating-democratic-policy-battle/2019/06/23/1eed053a-9561-11e9-aadb-74e6b2b46f6a\\_story.html](https://www.washingtonpost.com/business/economy/sanders-to-propose-canceling-entire-16-trillion-in-us-student-loan-debt-escalating-democratic-policy-battle/2019/06/23/1eed053a-9561-11e9-aadb-74e6b2b46f6a_story.html); Elizabeth Warren, “I’m Calling for Something Truly Transformational: Universal Free Public College and Cancellation of Student Loan Debt,” Medium, April 22, 2019, <https://medium.com/@teamwarren/im-calling-for-something-truly-transformational-universal-free-public-college-and-cancellation-of-a246cdf910f>; and US Department of Education, Office of Federal Student Aid, “Federal Student Aid Portfolio Summary,” <https://studentaid.ed.gov/sa/sites/default/files/fsawg/datacenter/library/PortfolioSummary.xls>.
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10. The Congressional Budget Office estimates that 42 percent of annual loan disbursements measured in dollars are for students attending graduate and professional school. Federal budget tables do not include figures for the share of outstanding debt used to finance graduate and professional educations. An Urban Institute study finds that 48 percent of outstanding student debt is held by households that include someone with a master’s or professional degree. This debt, however, includes loans that financed an undergraduate education. For more information, see Congressional Budget Office, “Student Loan Programs—CBO’s May 2019 Baseline,” May 2019, <https://www.cbo.gov/system/files/2019-05/51310-2019-05-studentloan.pdf>; and Sandy Baum, Victoria Lee, and Alexandra Tilsley, “Which Households Hold the Most Student Debt?,” Urban Institute, May 20, 2019, <https://www.urban.org/urban-wire/which-households-hold-most-student-debt>.
11. About 15 percent of undergraduates reported these family loans at an average of about \$3,700 in 1995 dollars. See variables FAMLOAN and FAMOWE in the 1995–96 NPSAS at National Center for Education Statistics PowerStats, “National Postsecondary Student Aid Study: 1996 Undergraduates,” November 2009, [https://nces.ed.gov/datalab/powerstats/pdf/npsas1996ug\\_subject.pdf](https://nces.ed.gov/datalab/powerstats/pdf/npsas1996ug_subject.pdf).
12. The income quintiles are for 2014 but are adjusted for inflation and converted to 2015 dollars using the personal consumption expenditures price index. This means that the income groups do not match household income quintiles for years before 2014. Instead, income groups are constant throughout the analysis after adjusting for inflation. The income information for the 2015–16 NPSAS reflects earnings in 2014 as it generally relies on the respondents’ most recently filed federal income tax return for this information. The income groups therefore reflect the household income quintiles in 2014 but are shown in 2015 dollars throughout this analysis. See National Center for Education Statistics PowerStats, “National Postsecondary Student Aid Study: 2016 Undergraduates,” January 2018, [https://nces.ed.gov/datalab/powerstats/pdf/npsas2016ug\\_subject.pdf](https://nces.ed.gov/datalab/powerstats/pdf/npsas2016ug_subject.pdf).
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15. Author's calculation. National Center for Education Statistics, "National Postsecondary Student Aid Study: 1996 and 2016 Undergraduates." Prices are for net tuition regardless of attendance intensity. Figures are for all bachelor's degree completers, including borrowers and non-borrowers.
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23. National Center for Education Statistics, "National Postsecondary Student Aid Study: 2016 Undergraduates." There are numerous reasons why low-income students would not receive a Pell Grant. It may be that they did not apply for the aid or that despite their low income they have sufficient financial assets to make them ineligible. They may also be attending programs ineligible for federal aid. Students with a drug conviction are also ineligible for federal aid.
24. National Center for Education Statistics, "National Postsecondary Student Aid Study: 2016 Undergraduates."
25. National Center for Education Statistics, "National Postsecondary Student Aid Study: 2016 Undergraduates."
26. National Center for Education Statistics, "National Postsecondary Student Aid Study: 2016 Undergraduates."

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