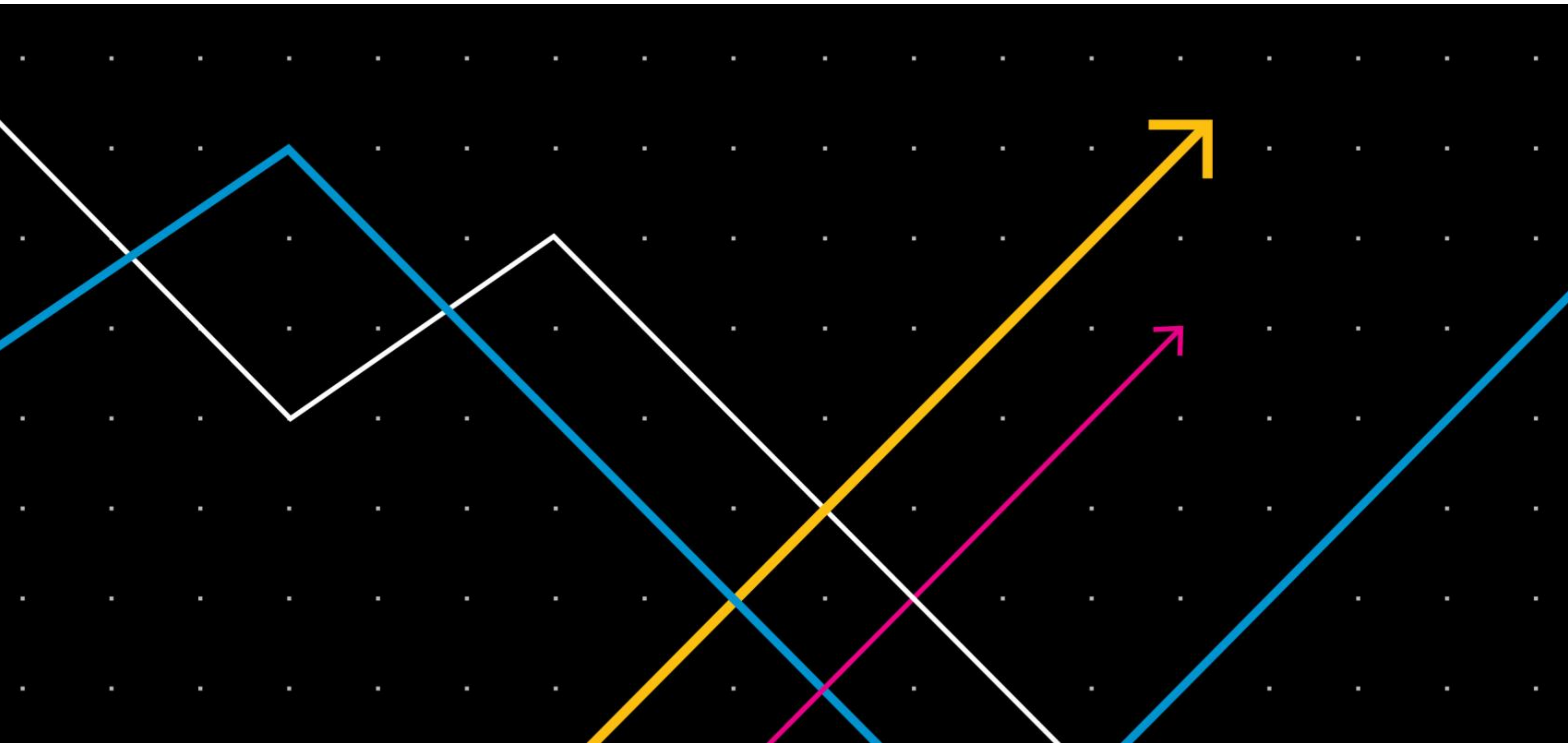

RESEARCH REPORT

Master's Degree Debt and Earnings

New Federal Data Expose Risks for Students and the Government

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December 2022

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Executive Summary

In the mid-2000s, Congress enacted new policies that changed how the government supports graduate education. The first change, which occurred in 2006, removed annual and lifetime borrowing limits in the student loan program for students pursuing graduate degrees.[1] Shortly thereafter, policymakers enacted an income-driven repayment (IDR) program that lets borrowers repay their loans based on their incomes, not how much they owe, and offers loan forgiveness for unpaid balances as early as 10 years after repayment begins. Subsequent reforms made the IDR program more beneficial, particularly for borrowers with higher debts from graduate school, requiring lower payments and providing earlier loan forgiveness. The Biden administration has announced plans to further reduce payments in IDR for all borrowers starting in 2023.

Taken together, IDR and loans that cover the full cost of attendance should increase access to graduate programs and the economic opportunity they provide. The programs guarantee financing for the entire cost of a degree and ensure loan payments will never exceed a share of a borrower's postenrollment income. But these policies also entail risks. They reduce incentives for institutions to price programs in line with what graduates earn in a particular field. And large mismatches between debt and earnings increase loan forgiveness costs for the government under IDR.

Against this policy backdrop, access to master's degrees has increased. More students are earning master's degrees as a share of the overall population and as a share of those who received bachelor's degrees. The diversity of master's degree recipients has also increased. Yet prices for these degrees have increased, along with student debt and IDR enrollment, at rates that far outpace those at the undergraduate level. Some observers have also raised concerns that federal policies have enabled universities to recruit students to expensive master's degree programs mainly to generate revenue, with little regard for what graduates will eventually earn.[2]

Policies to sanction institutions or programs where master's degree recipients take on debt that far exceeds their earnings could gain traction in response to these dynamics. The same is true for reforms that would limit federal loans for graduate school or reduce loan forgiveness benefits in IDR.

To inform these and other potential reforms, we analyze debt and earnings data for master's degree programs reported in the US Department of Education's College Scorecard. Other research has examined debt and earnings data from the College Scorecard using formulas to gauge return on investment or the value added from the advanced degree, but we take a more straightforward approach and base our analysis on the ratio of graduates' debt and earnings after completing their degrees.

Summary of Key Findings

We find that master's degrees in social work, counseling, and mental health are the most common among degrees with high debt-to-earnings (DTE) ratios. These degrees account for about half of master's degrees with the highest DTE ratios in the College Scorecard data. Music and fine arts degrees are also prevalent among this group, but they make up a smaller share (7 percent) of programs with the highest DTE ratios than social work, counseling, and mental health degrees. Master's degrees that are in high demand but that cause policymakers to worry about unaffordable debts, such as those in teaching and nursing, are far less likely to result in high DTE ratios than other masters' degrees. In fact, DTE ratios for teaching are in line with what is typical for master's degrees generally, and nursing degrees tend to result in some of the lowest DTE ratios.

Private nonprofit institutions are heavily overrepresented among master's degree programs that lead to high DTE ratios. These institutions provide about 44 percent of master's degrees in the College Scorecard overall, weighted by borrowers, but account for nearly 80 percent of the master's degrees that result in the highest DTE ratios.

Looking at race, ethnicity, and gender among master's degree recipients, we find that Black and Hispanic students and women are overrepresented in programs with the highest DTE ratios. Students who received Pell grants as undergraduates because their families have low or moderate incomes are not, however, overrepresented in master's degree programs with high DTE ratios.

In assessing the potential effects of a quality assurance policy that sanctions programs with high debts relative to graduate earnings, we find that many programs would be affected by a DTE limit that might seem reasonable at first glance. For example, nearly a quarter of students who borrow for master's degrees were enrolled in programs where debt exceeded their earnings shortly after completing the degrees. A high DTE limit, such as one that sanctions programs with DTE ratios of at least 150 percent, would affect programs that enroll about 7 percent of master's degree borrowers.

Policies that would limit how much students can borrow in the federal loan program for master's degrees could also have surprisingly broad effects, and those effects would not be limited to only programs with high debt relative to borrowers' earnings. Restoring the annual limit of approximately $20,000 that was in place before 2006 would affect about half of master's degree programs. Most programs in fields with high DTE ratios, such as those in counseling and mental health, would be constrained by that limit, but programs in nursing and other high-earning health care fields would also be heavily affected. Most of these degrees lead to debts significantly exceeding what a $20,000 annual limit would allow. A higher annual limit, such as $30,000, would better target programs with the highest

DTE ratios without being overly broad, though even that limit would still affect many master's degrees in high-earning health care fields.

Attainment, Prices, and Debt for Master's Degrees

Federal student loan policies are meant to support broad access to graduate degrees, and although we do not attempt to measure the causal link between aid and access, data show that master's degree attainment has increased significantly in recent years. Two longitudinal studies show that about 19 percent of those who earned bachelor's degrees in 2003 went on to earn master's degrees within 10 years.[3] Among students who earned their bachelor's degrees in 2008, 26 percent earned master's degrees in the following 10 years.[4] But those data understate attainment growth because an increasing share of the population earned bachelor's degrees. US Census Bureau data provide a broader perspective. Thirteen million people older than 25 held master's degrees in 2006. By 2021, that figure had nearly doubled to 24 million people, far outpacing nationwide population growth.[5]

Diversity among master's degree recipients has also increased in the past two decades. In the 1995–96 academic year, about 85 percent of students earning master's degrees were white.[6] In the 2017-18 year, that figure had dropped to 55 percent.[7] The share of master's degree recipients who come from a low-income household has also increased. Among those who earned master's degrees in the 1990s and early 2000s, about 8 percent came from low-income families. That figure had increased to 15 percent among those earning master's degrees between 2008 and 2018.[8]

Prices and Debt Have Increased More for Master's Degrees Than for Undergraduate Degrees

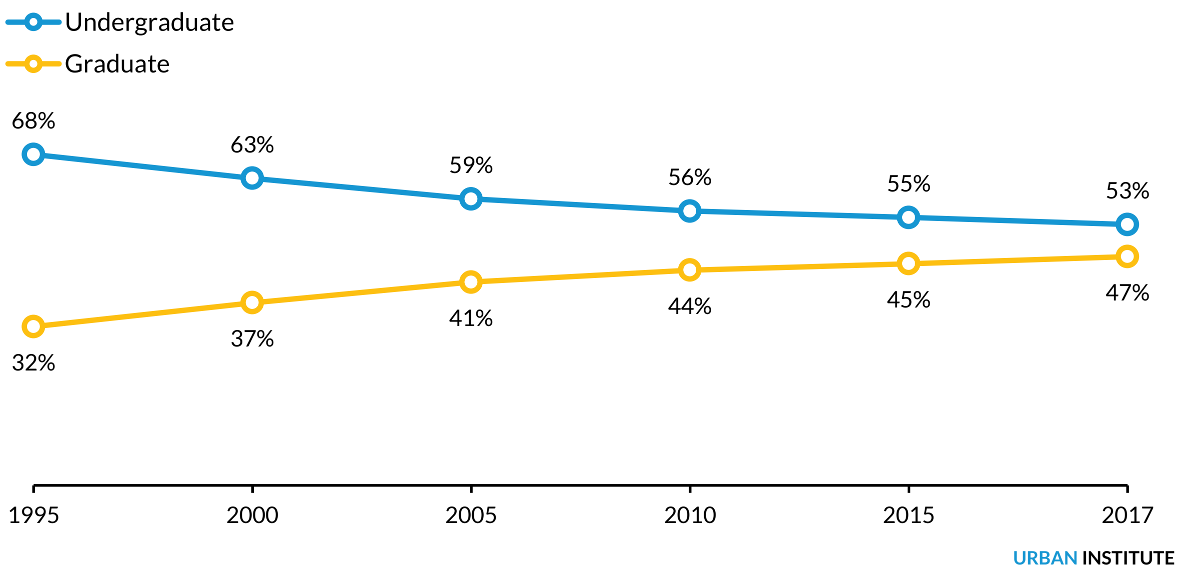
A greater share of the population is earning master's degrees, and the group is becoming increasingly diverse, but prices and debt burdens are rising faster for these degrees than for bachelor's degrees. Those trends threaten to erode the payoff for master's degrees (Blagg 2022).

For full-time master's degree students, the average price for tuition and fees net of grant aid increased 79 percent from 1996 to 2016 after adjusting for inflation, compared with a 47 percent increase for bachelor's degrees (Blagg 2018). Average annual tuition and fees net of grant aid for a master's degree in 2016 was $15,600, up from $8,700 in 1996 in inflation-adjusted dollars. Including living expenses brings the annual price to $32,550 in 2016, about $10,000 more than in 1996 after factoring in inflation (Blagg 2018). Among master's degree recipients in 2018 who took out federal student loans, the median amount borrowed for that degree was $39,300, up from $27,700 in 2004, after adjusting for inflation.[9] Median federal debt among bachelor's degree recipients increased by about half as much during that period.[10] The share of master's degree completers who took out federal loans, however, was about the same in those years (54 percent in 2004 and 52 percent in 2018).

Data also reveal a major increase in the share of debt in the federal loan program issued for graduate degrees (figure 1). About a third of the dollars issued in the program were for graduate and professional degrees in the 1990s. Graduate loans accounted for nearly half the debt as of 2017 (data for only master's degrees are not available) (Burk and Perry 2020). The federal program issues about $40 billion in loans for graduate education annually (CBO 2022).

FIGURE 1

Undergraduate and Graduate Debt as Shares of the Federal Student Loan Portfolio



Source: Authors' calculations using data from David Burk and Jeffrey Perry, "The Volume and Repayment of Federal Student Loans: 1995 to 2017" (Washington, DC: Congressional Budget Office, 2020).
Notes: Reflects outstanding debt. Undergraduate debt includes Parent PLUS loans. Graduate loans include loans for graduate and professional degrees.

Graduate Borrowers Rely Heavily on Income-Driven Repayment

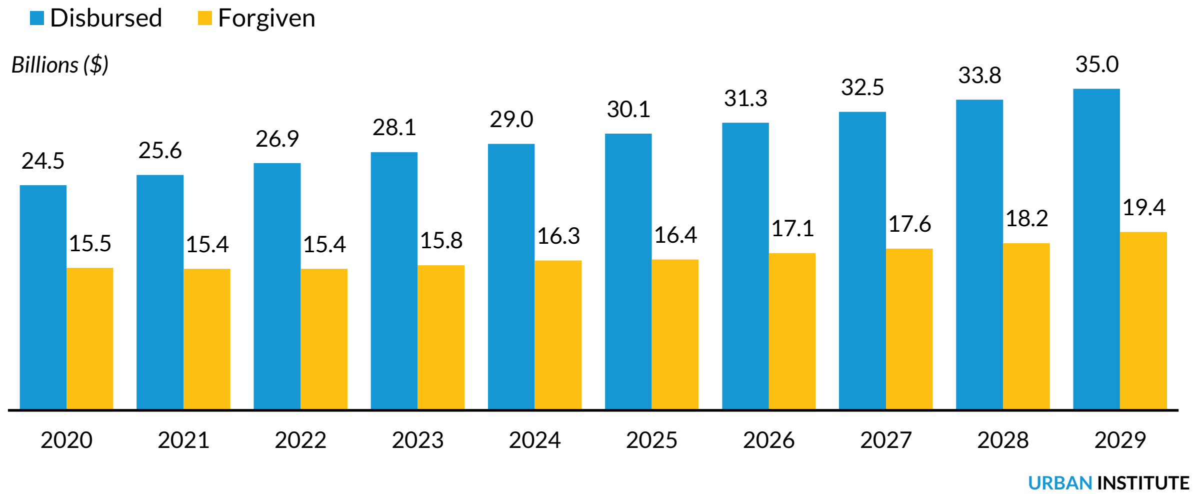
The federal IDR program offers several income-based repayment options for undergraduate and graduate borrowers.[11] Until recently, the most generous plan set payments equal to 10 percent of a borrower's income above 150 percent of the federal poverty level. Remaining balances are forgiven after 20 years of payments or after 10 years under the Public Service Loan Forgiveness (PSLF) Program.[12]

The Biden administration announced a new IDR plan in 2022 that reduces payments but leaves loan forgiveness terms unchanged except for borrowers with low initial balances. The amount of income exempt from the payment calculation will increase from 150 percent of the federal poverty level to 225 percent. Borrowers will continue to pay 10 percent of income on loans from graduate school.[13]

Enrollment in IDR has increased rapidly since first becoming available in 2009, and it is particularly popular among students with debt from graduate studies, who account for about two-thirds of the debt enrolled in the program (US Department of Education, n.d.). The Congressional Budget Office estimates that more than half of all debt that graduate and professional students took out in recent years is being repaid through IDR (Karamcheva, Perry, and Yannelis 2020). The Congressional Budget Office projects that the federal government will forgive about $17 billion annually for current cohorts of graduate borrowers repaying through IDR. That is about half what the government will disburse to these borrowers (and forgiven debt for graduate borrowers accounts for about 80 percent of debts that will be forgiven in the programs). Per borrower, the projected loan forgiveness figures are large, with the Congressional Budget Office projecting that average balances canceled for graduate borrowers will be about $52,000 (Karamcheva, Perry, and Yannelis 2020). These estimates do not reflect the Biden administration's new IDR plan, which, according to a White House press release, reduces payments for graduate borrowers and therefore increases the amount of debt they stand to have forgiven (figure 2).[14]

FIGURE 2

Projected Borrowing and Loan Forgiveness for Graduate Loans Repaid in Income-Driven Repayment



Source: Authors' calculations using data from Nadia Karamcheva, Jeffrey Perry, and Constantine Yannelis, *Income-Driven Repayment Plans for Student Loans: Budgetary Costs and Policy Options* (Washington, DC: Congressional Budget Office, 2020), table 3-3.
Notes: Graduate loans include loans for graduate and professional degrees. Dollar amounts are not adjusted for inflation.

Debt and Earnings for Master's Degree Programs

The statistics we have discussed so far illustrate broad trends regarding enrollment, prices, and debt for master's degrees (and graduate degrees broadly, in some cases). College Scorecard data provide additional perspective. These relatively new data, collected from government tax and loan records, provide debt and graduate earnings information for individual degree programs at each higher education institution. The data thus offer a more precise look at borrowing patterns among different master's degrees and institutions than national statistics can provide, and, crucially, they can shed light on how much graduates earn and whether they will repay their federal loans.

Several features of the Scorecard data bear on our analysis and findings. Only graduates with positive earnings are included in the cohorts, and students enrolled in further postsecondary education are excluded, and we cannot observe information about noncompleters or noncompletion rates.[15] Only the earnings of students who used federal student aid are reported in the Scorecard, and small programs are excluded for privacy protection.[16] Earnings data reported in the Scorecard are medians from 2017 and 2018 for the pooled 2014–15 and 2015–16 cohort, adjusted to 2019 dollars.[17]

We use earnings data for the second year after a cohort completes their degrees in this analysis. Although the College Scorecard has recently added earnings data for graduates' third-year earnings, data are missing for many programs, and our central findings are similar for both years of earnings data.[18] Observing earnings early in master's degree graduates' careers could affect our results, particularly in fields where graduates' initial earnings are low. For example, graduates with certain master's degrees may need to complete supervised work experience before obtaining a professional license or similar credential. Their earnings during that period may be lower than their earnings after they complete that process. Our findings should be interpreted with this limitation in mind, as we do not identify each master's degree where this may be the case or project long-term earnings for various professions.

Debt statistics in our analysis understate borrowers' actual debts and DTE ratios because we do not include undergraduate loans and cannot observe interest accrued during enrollment.[19] Although median debts are a more accurate representation of typical debt, we use average loan disbursements because there are fewer missing observations. Debt data are for the pooled 2017–18 and 2018–19 cohort of graduates.[20]

To account for size differences among master's degree programs, we weight programs by the number of borrowers in the cohort of graduates, unless otherwise noted. Thus, larger programs are weighted more heavily than smaller programs in the results.[21]

We find that, overall, the Scorecard data in our analysis are aligned with statistics on the broader population of recent master's degree recipients who have student debt, but there is some variation. Debt per student is about $3,700 higher in the Scorecard data, and private nonprofit institutions are slightly overrepresented compared with national survey data.[22]

DTE Groups and Estimated Loan Repayment

Graduates' earnings after completing a master's degree are supposed to be sufficient to repay the debt they incurred to obtain that credential. If earnings are low relative to what students must repay, the program may be overpriced, and graduates may struggle to afford their loans. The program may also pose risks for the government. Graduates with high debts relative to their earnings are likely to use IDR and qualify for loan forgiveness.

The College Scorecard data can help identify the programs and institutions where graduates take on the highest debts relative to their earnings, which reveals where government subsidies under IDR and loan forgiveness are largest. To this end, we assign all the master's degree programs in the College Scorecard into one of four groups based on how much debt students take on relative to what they earn.[23] We calculate this DTE ratio for all master's degree programs that have data reported in the College Scorecard using median earnings and the average federal loan disbursement for the master's degree to students who completed degrees.[24] We then divide programs into four DTE groups:

- **Low:** DTE ratios below 50 percent (i.e., students borrowed less than 50 percent of what they earn annually two years after completing the degree)
- **Moderate:** DTE ratios from 50 to 100 percent
- **High:** DTE ratios from 100 to 150 percent
- **Very high:** DTE ratios of at least 150 percent

Table 1 shows the share of master's degree programs, weighted by number of borrowers, in each DTE group and the average debt and average of the median earnings for those programs.[25] These DTE groups do not include an equal number of programs.[26]

TABLE 1

Key Statistics for the Four Master's Degree DTE Groups

DTE group	Share of master's degree programs	Average debt	Median earnings
Low	23%	$29,228	$75,806
Moderate	54%	$43,481	$62,674
High	16%	$59,428	$50,721
Very high	7%	$80,875	$41,097
All	100%	$45,458	$62,198

Source: Urban Institute analysis of College Scorecard data.

Notes: DTE = debt-to-earnings. Master's degree programs are weighted by the number of federal student loan borrowers. Data include only graduates who borrowed federal student loans and completed the degree. Average debt excludes undergraduate loans and is calculated by taking the average of the mean debt disbursed at the program level and reflects the pooled 2017–18 and 2018–19 cohort of graduates. Median earnings are observed two years after graduates complete their degrees and are calculated by taking the average of the median earnings among graduates reported at the program level for the pooled 2014–15 and 2015–16 cohort of graduates and reported in 2019 dollars.

It is helpful to establish what master's degree recipients in each of these groups would have to pay on their loans, how likely they are to use IDR, and how much loan forgiveness they are likely to receive under IDR. This information provides a sense of how affordable debt burdens are for each group and how much risk each poses to the federal government in unpaid debts. Overall, we find that master's degree borrowers in the low and moderate DTE groups are unlikely to benefit much from IDR and may not even see their payments reduced by enrolling, but borrowers in the high and very high DTE groups will see large reductions in their monthly payments under IDR and are unlikely to fully repay their debts if they use the program, thereby qualifying for loan forgiveness.

We gauge each group's debt burden by comparing what a typical borrower in the group would pay monthly on a 10-year fixed payment plan—the default option in the loan program under which borrowers must fully repay their loans—and what they would pay initially on the loan using IDR. We also estimate what each borrower would pay in total under IDR and how much they would have forgiven according to new IDR terms the Biden administration announced in August 2022 (figure 3).[27] We include only debts from the borrowers' master's degrees. Our analysis therefore understates borrowers' actual payments and projected loan forgiveness.

The typical borrower in the low DTE group would pay $325 a month on their loans under the 10-year plan, which is lower than what they would pay using IDR, suggesting the loan is affordable. Borrowers in this group are thus unlikely to use IDR and are likely to fully repay their loans.[28]

The moderate DTE group, which makes up about half of all master's degree borrowers, would benefit from IDR initially but would be unlikely to have significant shares of their debts forgiven because they would earn enough over time to fully repay.[29] Monthly payments under the 10-year plan are $483 for the typical borrower in this group, and though IDR cuts their initial payments to $288, their payments will increase as their income grows, and based on our assumptions, borrowers will likely repay the loan well before the 20-year loan forgiveness term. Typical borrowers in the moderate DTE group are, however, likely to have some of their debt forgiven under PSLF if they work in government or nonprofit jobs because it provides loan forgiveness after only 10 years of payments.

FIGURE 3A

Estimated Amount Repaid and Forgiven in IDR with 20-Year Loan Forgiveness Benefit

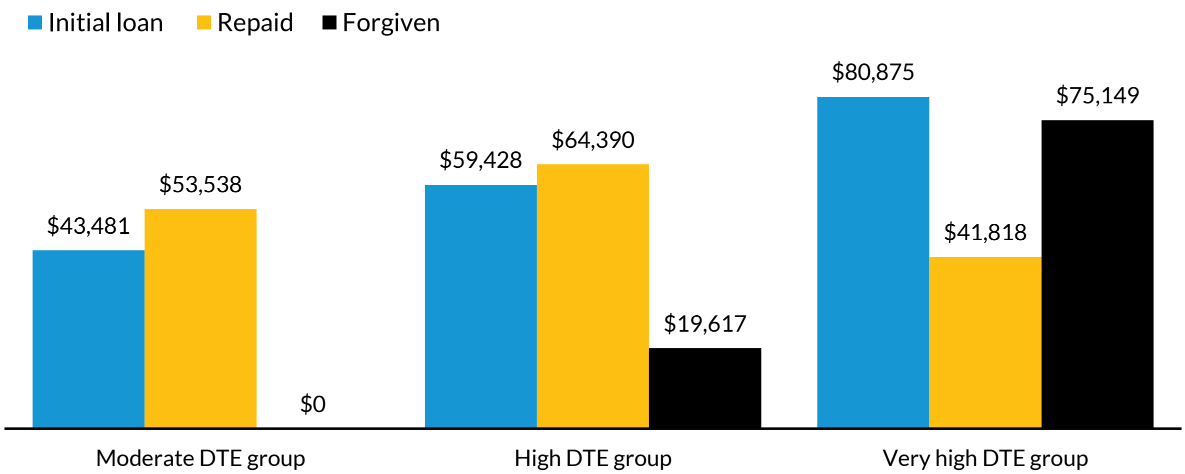
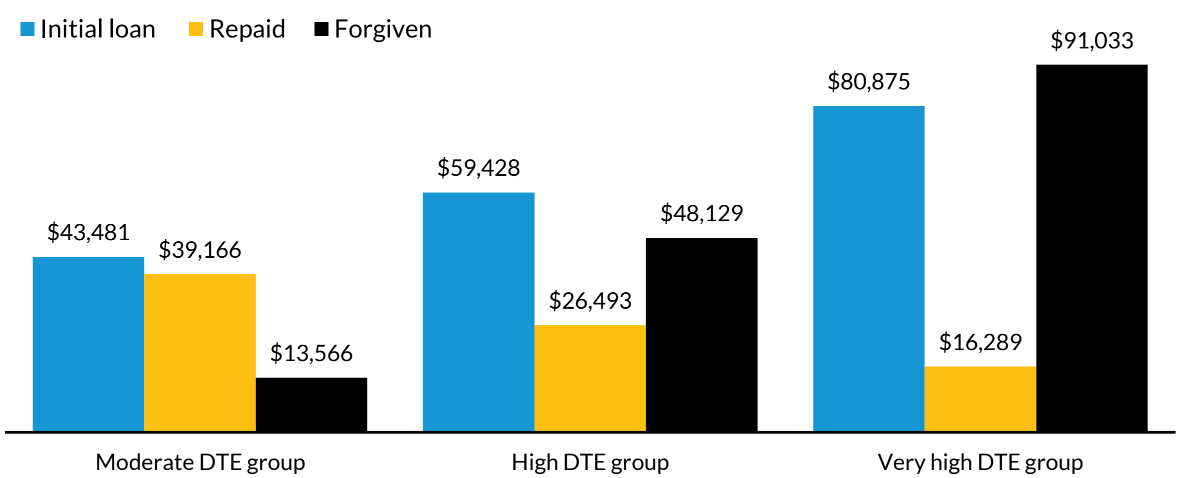


FIGURE 3B

Estimated Amount Repaid and Forgiven in IDR for Borrowers Eligible for Public Service Loan Forgiveness



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Source: Urban Institute estimates.

Notes: DTE = debt-to-earnings; IDR = income-driven repayment. We exclude the low DTE group because IDR does not reduce these borrowers' payments, and they cannot benefit from the program. All amounts are discounted to present values using a 3 percent discount rate. Forgiven amounts include any unpaid interest that is waived during repayment because payments could not cover all accruing interest. Initial loan amount does not include any debt from undergraduate studies; only debt from the master's degree is included. See endnote 27 for additional details.

For borrowers in the high DTE group, monthly payments on the 10-year standard plan are $660, but initial payments drop to just $188 under IDR, which is low relative to what would be needed to fully repay the debt before loan forgiveness occurs.[30] Borrowers in the high DTE group would likely have some debt forgiven after 20 years in IDR but still repay at least all the principal balance they borrowed and some interest. If they qualify for PSLF, however, they would have particularly large amounts forgiven and would repay less than half their original disbursement.

The very high DTE group would receive large benefits from IDR and would receive substantial loan forgiveness after either 10 or 20 years.[31] Monthly payments under the 10-year standard plan for borrowers in the very high DTE group would be $898, but under IDR, payments drop to just $108 initially. That is not enough to cover even the accruing interest on typical debts for these borrowers. As a result of such low payments, borrowers in the very high DTE group would repay only about half their original disbursement after 20 years of payments in IDR. If they qualify for PSLF, these borrowers would repay just $16,000 of the approximately $81,000 they originally borrowed.

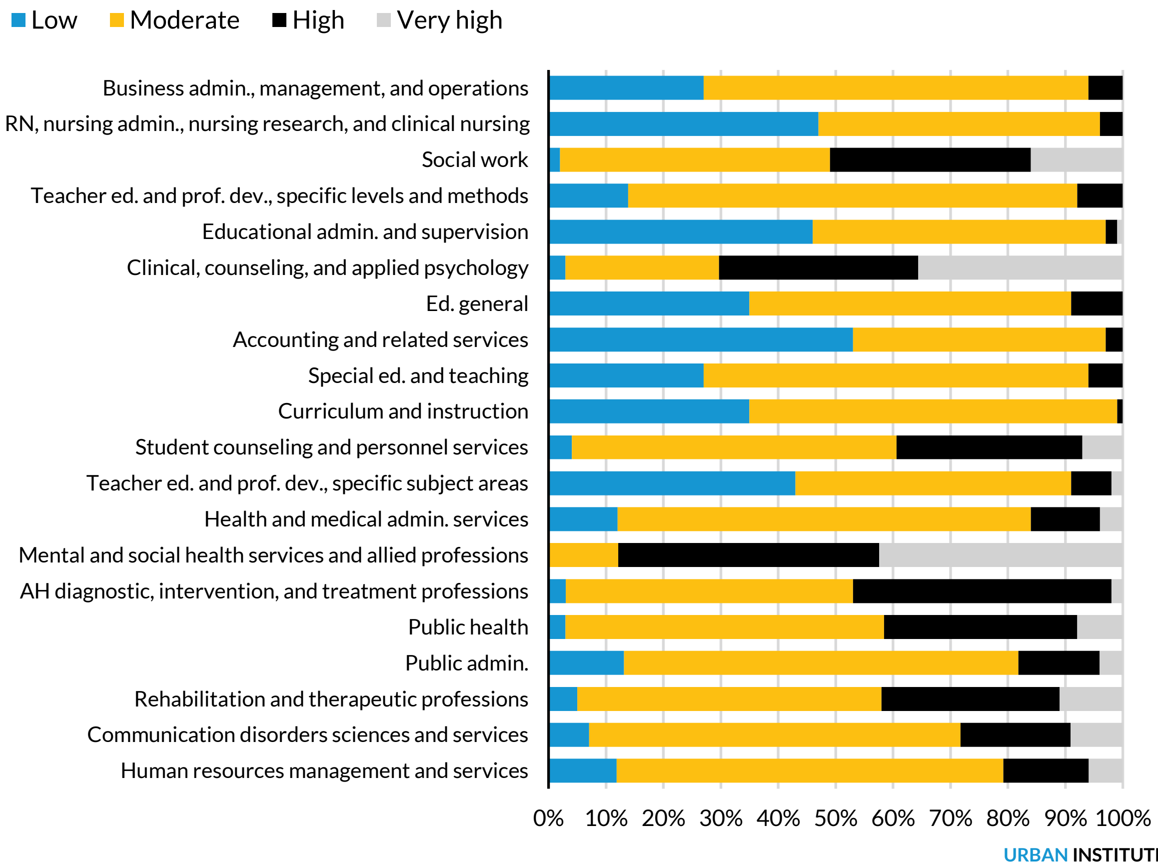
DTE Ratios among the Most Common Master's Degrees

Examining DTE ratios for the most common master's degrees provides a useful starting point for understanding which degrees result in unmanageable repayment burdens and pose the greatest risks to the student loan system. Twenty master's degrees account for about three-quarters of the programs (weighted by borrowers) reported in the College Scorecard, with the largest being business administration, nursing, social work, and education, in that order.[32] Some degrees fall entirely within the low and moderate DTE groups, revealing that regardless of where the degree is offered, graduates tend to have low debts relative to their earnings. But other degrees show highly varied results, meaning student outcomes are highly dependent on where the degree is earned. Still other degrees fall almost exclusively in the high and very high DTE groups, suggesting they are likely to lead to unaffordable debts, regardless of the specific institution where they are offered (figure 4).

It will come as no surprise that almost all the degrees in business and accounting fall within the low and moderate DTE groups, as these graduates tend to have high earnings shortly after leaving school relative to what they borrowed. More than half of master's degrees in accounting are in the low DTE group, the highest share among the 20 largest degrees (figure 4). Appendix table A.1 includes a list of average debt and median earnings for each of the 20 largest master's degrees.

FIGURE 4

Share of Master's Degree Programs in Each Debt-to-Earnings Group for the 20 Largest Degrees



Source: Urban Institute analysis of College Scorecard data.
Notes: admin. = administration; AH = allied health; ed. = education; prof. dev. = professional development. Programs are ordered largest to smallest from top to bottom and are weighted by the number of federal student loan borrowers.

A somewhat surprising finding, however, is that master's degrees for nursing produce some of the best outcomes, even better than those in business. Some observers and policymakers have argued that the government should forgive debt for nurses, and some states have adopted such policies.[33] One rationale for loan forgiveness for nurses is to increase recruitment and fill labor shortages, but the policies could imply that nurses have high debts and unaffordable payments. For the 15 percent of nurses with master's degrees, however, the Scorecard data show that they typically have debt from their master's degrees that is low or moderate relative to their earnings, at least when compared with all other master's degrees.[34] About 96 percent of master's degrees in nursing fall within the low and moderate DTE groups. Although average debt among borrowers completing master's degrees in nursing ($51,000) is slightly above the median for all master's degrees, typical earnings are $97,000, far higher than nearly all other master's degrees among the 20 largest degrees. The only other degrees with higher earnings, on average, are also in the health care professions.

Master's degrees in education also produce better results than popular narratives sometimes suggest.[35] Nearly all these degrees are awarded at programs in the low and moderate DTE groups; only a very small share appear in the high DTE group. Typical debts for master's degrees in education are about $30,000, well below what is common for master's degrees generally. Earnings for education master's degree recipients are $45,000 to $55,000, depending on the specific type of degree. That is below what is typical for master's degrees in the Scorecard data, but the lower-than-average debt these students accumulate keeps nearly all these programs well within the low and moderate DTE groups.

Master's of social work programs are widely dispersed among the DTE groups, suggesting that student outcomes for these degrees vary considerably based on the institution that offers them. Almost half of graduates with these degrees attended programs in the moderate DTE group, meaning their debts are affordable. But about one-third of social work graduates attended programs in the high DTE group, and another 16 percent attended programs in the very high DTE group.

Programs that offer master's degrees in mental health and counseling are most likely to end up in the high and very high DTE groups. In particular, master's degrees in mental and social health services and allied professions have some of the most concerning DTE ratios, and as a result, these programs fall into the very high DTE group at the highest rate among the 20 largest master's degrees. Forty-two percent of graduates with this degree attended a program in the very high DTE group. Degrees in clinical, counseling, and applied psychology are also likely to lead to high debts relative to graduates' incomes. More than one in three graduates with these degrees attended a program in the very high DTE group, and another third attended a program in the high DTE group.

Notably, master's degrees in the fine arts, which often feature in discussions about master's degrees that lead to high debt relative to graduates' earnings, are not large enough to be included in figure 4. They are not among the 20 most commonly earned master's degrees and account for only about 1 percent of the master's degree recipients in the Scorecard data (weighted by borrowers). Fewer students receive these degrees than popular discussions sometimes imply. That said, we include these degrees in the next section because they still account for a meaningful share of the very high DTE group.

Programs with Very High DTE Ratios

In this section, we examine the programs in the very high DTE group, which are those where borrowers take on debt that is at least 150 percent of annual earnings two years after graduating. Master's degrees awarded from programs in this group typically lead to debts of about $81,000 and annual earnings of just $41,000.[36] About 7 percent of master's degree programs (weighted by borrowers) in the Scorecard fall into the very high DTE group.

The very high DTE group is dominated by social work, counseling, and mental health degrees, which combine to account for nearly half the programs in this group (table 2). Degrees in education and nursing, which share some attributes with social work and mental health fields (e.g., high rates of government and nonprofit employment and requirements for advanced degrees), are almost nonexistent in the very high DTE group. Here again, the data suggest that teachers and nurses with master's degrees are not the groups most likely to have high DTE ratios relative to other master's degrees. Programs that provide degrees in music and the fine arts are, however, among the five largest in the very high DTE group, which aligns with popular perceptions about these degrees. Even so, they account for a smaller share of this group than the mental health and social work degrees, offering further evidence that these programs are still a small share of those that lead to degrees with high debt and low earnings.

TABLE 2

Largest Master's Degree Programs in the Very High DTE Group

	Share of all very high DTE programs
Social work	18%
Clinical, counseling, and applied psychology	16%
Mental and social health services and allied professions	13%
Music	4%
Fine and studio arts	3%
Total	55%

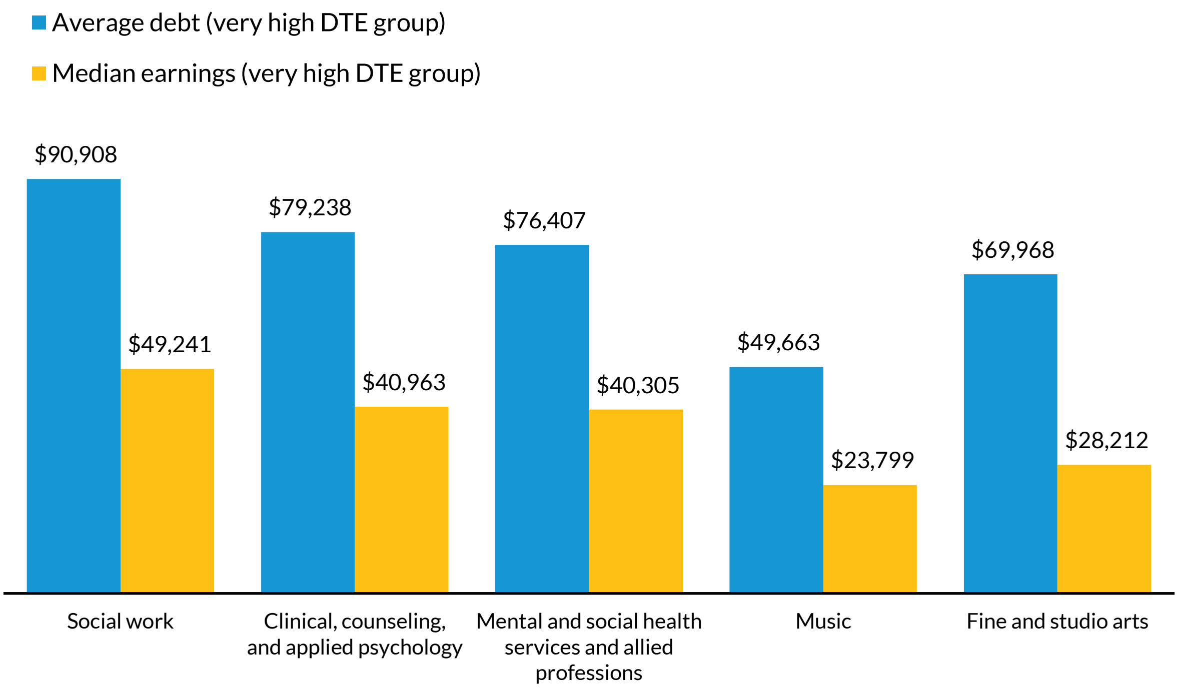
Source: Urban Institute analysis of College Scorecard data.

Notes: DTE = debt-to-earnings. DTE ratios are above 150 percent among typical graduates for programs in the very high DTE group. Master's degree programs are weighted by the number of federal student loan borrowers. Total differs from the sum because of rounding.

Figure 5 shows the median earnings and average debts for the largest programs in the very high DTE group. Debt among the social work and mental health degrees in this group typically exceeds $75,000, while typical earnings range between $40,000 and $50,000.[37] The music and fine arts programs in the very high DTE group result in lower debts than the social work and mental health programs, especially music ($49,663 average debt). But earnings for those programs in the very high DTE group are much lower than for the others, less than $30,000 typically, which results in very high DTE ratios.

FIGURE 5

Typical Debt and Earnings for Social Work, Mental Health, and Fine Arts Master's Degrees in the Very High DTE Group



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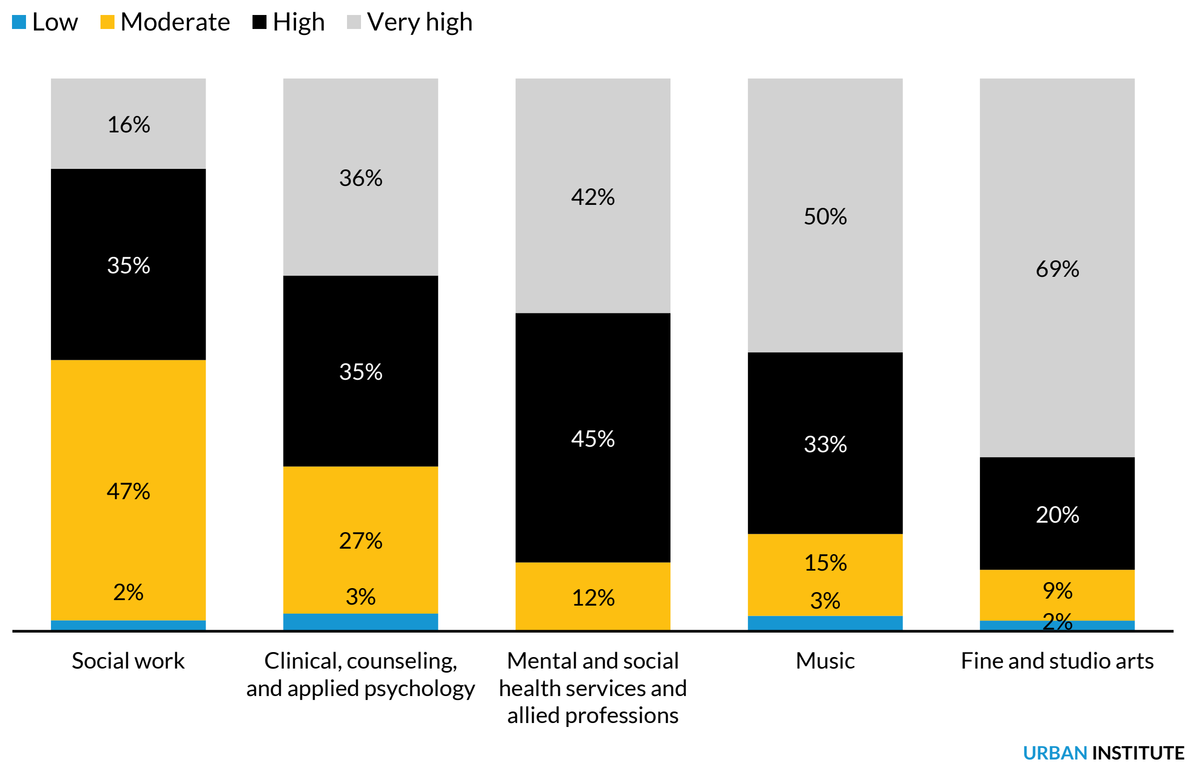
Source: Urban Institute analysis of College Scorecard data.
Notes: DTE = debt-to-earnings. DTE ratios are above 150 percent among typical graduates for programs in the very high DTE group. Average debt is calculated by taking the average of the mean debt disbursed at the program level. Median earnings are calculated by taking the average of the median earnings among graduates reported at the program level.

We note that not all mental health, social work, and fine arts degrees result in high DTE ratios. Figure 6 shows the share of programs offering mental health, social work, and fine arts degrees in each DTE group. Among all programs offering social work degrees (weighted by borrowers), only 16 percent land in the very high DTE group. But because there are many master's of social work programs, the small share that lands in the very high DTE group is enough to make it the largest degree in the very high DTE group. Other programs, such as those in counseling and mental health, land in the very high DTE group more consistently; more than a third of these programs in the College Scorecard data end up in the very high DTE group. And at least half of all music and fine arts programs end up in that group.

FIGURE 6

Distribution of Social Work, Mental Health, and Fine Arts Master's Degrees, by Debt-to-Earnings Group



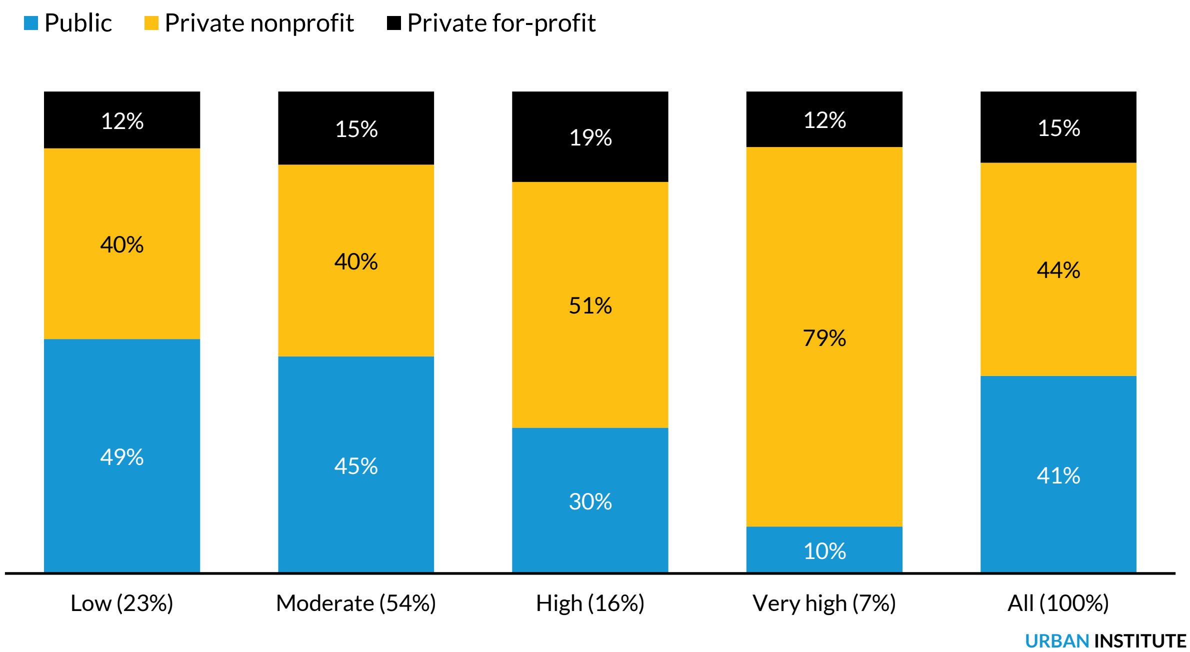
Source: Urban Institute analysis of College Scorecard data.
Note: Master's degree programs are weighted by the number of federal student loan borrowers.

Master's Degree DTE Groups, by Sector

We can also use Scorecard data to examine how programs in different DTE groups are distributed across different types of institutions. Most programs in the very high DTE group are concentrated at private nonprofit institutions (figure 7). But that does not mean most programs offered at private nonprofit institutions lead to high DTE ratios. In fact, 40 percent of programs in the low and moderate DTE groups are also offered at private nonprofit institutions. That means that even though private nonprofit institutions account for most programs that lead to degrees with high DTE ratios, they also provide many programs that lead to low and moderate DTE ratios.

FIGURE 7

Debt-to-Earnings Group, by Sector

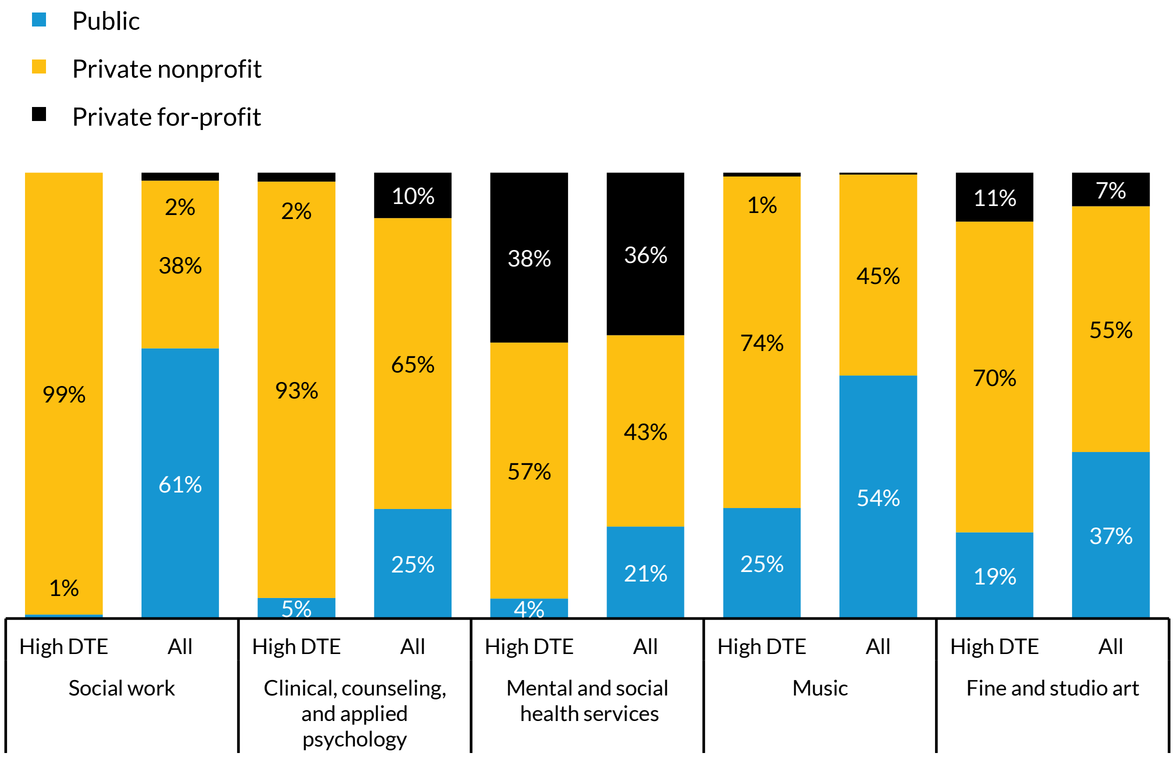


Source: Urban Institute analysis of College Scorecard data.
Notes: The share of all master's degrees that each debt-to-earnings group makes up is noted in parentheses. Master's degree programs are weighted by the number of federal student loan borrowers.

Given that we have established that private nonprofit institutions account for the bulk of programs in the very high DTE group, it is no surprise these institutions dominate the five most common master's degrees in this group (figure 8). The two most common degrees in the very high DTE group, master's of social work and master's of psychology, are almost entirely offered at private nonprofit institutions. Master's degrees in mental and social health services are an exception. It is the only degree in this group where for-profit institutions offer a large share of programs, though private nonprofit institutions still account for more than half. The music and fine arts programs in this group are also largely offered by private nonprofit institutions.

FIGURE 8

Distribution of Social Work, Mental Health, and Fine Arts Master's Degrees, by Sector



URBAN INSTITUTE

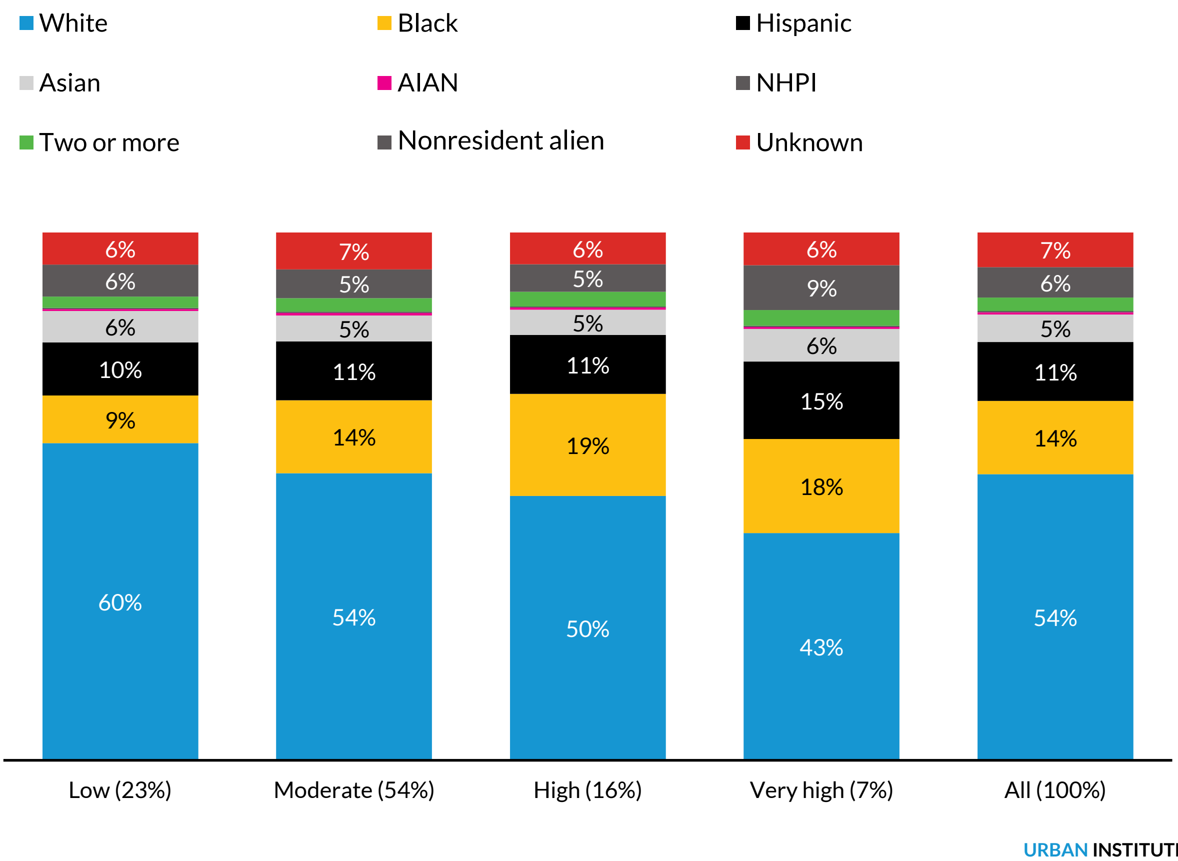
Source: Urban Institute analysis of College Scorecard data.
Notes: DTE = debt-to-earnings. Master's degree programs are weighted by the number of federal student loan borrowers. DTE ratios are above 150 percent among typical graduates for programs in the very high DTE group.

DTE Groups by Race and Ethnicity, Gender, and Low-Income Status

In this section, we assess the makeup of the DTE groups by race and ethnicity, gender, and low-income status.[38] This allows us to gauge whether certain groups are more likely to earn master's degrees that result in low or high DTE ratios. Overall, we find that the share of nonwhite students and women is higher among master's degrees that lead to high DTE ratios. But we do not see a similar pattern for students from low- and moderate-income families (those who received federal Pell grants as undergraduates). Pell grant recipients do not make up a disproportionate share of any DTE group.

FIGURE 9

Racial and Ethnic Composition of DTE Groups



Source: Urban Institute analysis of College Scorecard and IPEDS data.

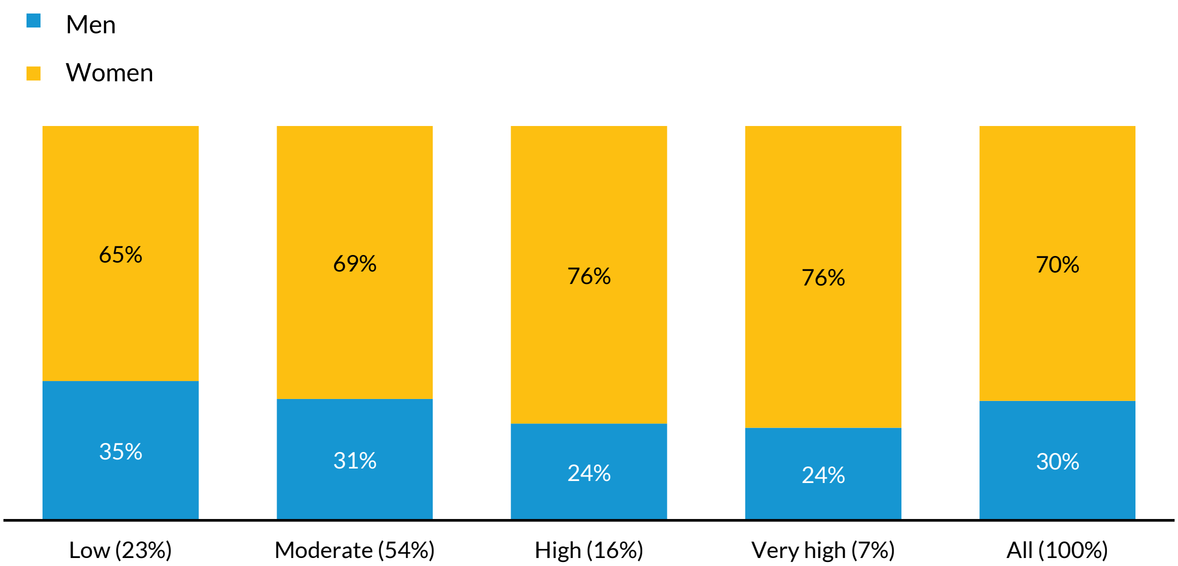
Notes: AIAN = American Indian or Alaska Native; DTE = debt-to-earnings; IPEDS = Integrated Postsecondary Education Data System; NHPI = Native Hawaiian or other Pacific Islander. The IPEDS dataset defines "nonresident alien" as "a person who is not a citizen or national of the United States and who is in this country on a visa or temporary basis and does not have the right to remain indefinitely." The share of all master's degrees that each DTE group makes up is noted in parentheses. Master's degree programs are weighted by the number of federal student loan borrowers. IPEDS awards data on race or ethnicity are for the pooled 2016–17 and 2017–18 cohort, which is one year earlier than the pooled debt cohort.

Figure 9 shows the makeup of each DTE group and all master's degrees in our analysis by race and ethnicity. With each successively higher DTE group, the proportion of white graduates declines, and the proportion of nonwhite graduates increases. We also find that disproportionately large shares of Black students attended programs in the high DTE group, and disproportionately large shares of Hispanic and Black students attended programs from the very high DTE group. Black students make up 14 percent of master's degree recipients in our data, but they account for 19 percent and 18 percent of graduates in the high and very high DTE groups, respectively. Hispanic students make up 11 percent of master's degree recipients in our analysis but make up 15 percent of those in the very high DTE group.

Women disproportionately earn master's degrees from programs with high DTE ratios. Women hold about 70 percent of master's degrees reported in the Scorecard data but account for 76 percent of the master's degrees awarded at programs in the very high DTE group and only 65 percent of degrees in the low DTE group (figure 10).[39]

FIGURE 10

Gender Composition of DTE Groups



Source: Urban Institute analysis of College Scorecard and IPEDS data.
Notes: DTE = debt-to-earnings; IPEDS = Integrated Postsecondary Education Data System. The share of all master's degrees that each DTE group makes up is noted in parentheses. Master's degree programs are weighted by the number of federal student loan borrowers. IPEDS awards data on gender are for the pooled 2016–17 and 2017–18 cohort, which is one year earlier than the pooled debt cohort.

Assessing what share of the graduates in the DTE groups are from low-income families is challenging because the Scorecard and other sources do not include this information directly. But the Scorecard does report the share of students in each master's degree program who received federal Pell grants when they were undergraduates. Pell grants are generally restricted to students from low- and moderate-income households and can be used as a proxy for low- or moderate-income status, but it has limitations (Delisle 2017).

Overall, 55 percent of master's degree recipients in our analysis (which includes only those who borrowed federal loans) received federal Pell grants, which is in line with national survey data for master's degree recipients who borrowed federal loans for those degrees but is higher than for all master's degree recipients, regardless of borrowing status.[40] Fifty-three percent of graduates who attended programs in the low DTE group received Pell grants as undergraduates, as did 58 percent who attended programs in the high DTE group and 55 percent who attended programs in the very high DTE group. In other words, the share of graduates who received Pell grants in each DTE group does not deviate much from the figure for all master's degrees, regardless of DTE group, suggesting that household income during a student's undergraduate study may not be strongly associated with DTE ratios for different master's degrees.

One notable pattern in the data, however, is that Pell grant recipients who attended programs in the very high DTE group tend to borrow substantially more (about $9,000, on average) than students attending those programs who did not receive Pell grants as undergraduates. This large gap in debt among Pell recipients and non–Pell recipients occurs only in the very high DTE group. It suggests that the students from low-income backgrounds who pursue master's degrees with the highest DTE ratios are prone to borrowing considerably more than their peers who also pursue master's degrees from the very high DTE group.

Debt-to-Earnings Accountability Policies

As the availability of data on debt and earnings for higher education institutions has increased, federal policymakers and advocates have proposed using the data to enact quality assurance policies for federal aid programs. This idea began in the 2010s, with the Obama administration's "gainful employment" regulation that would have made career-oriented certificate programs and degrees at for-profit institutions where graduates had low earnings relative to their debts ineligible for federal aid.[41] Although that policy was repealed, policymakers, researchers, and advocates have since proposed a wide range of accountability policies that would restrict access to federal grants and loans based on what students at institutions or specific programs earn after leaving school. None of these, however, have been enacted, and there are no policies in the federal aid programs that require institutions or undergraduate and graduate programs to meet any debt, earnings, or DTE thresholds. Although the Biden administration has announced plans to reinstate its own version of the gainful employment regulation, the regulation will not apply to most undergraduate or graduate degrees, leaving broader accountability policies based on debt and earnings open for debate and future action.[42]

Just as the discussion around debt and earnings accountability policies has centered on undergraduate degrees or for-profit institutions, most analyses of the effects of various proposals also focus on these credentials and institutions. As a result, there is little information about the implications of such a policy for graduate degrees. In this section, we use Scorecard data to assess the ramifications of debt and earnings tests for master's degree programs and consider whether these programs' unique characteristics could complicate such policies.

Our analysis raises at least one issue that could make implementing a DTE accountability test difficult for master's degrees and graduate and professional degrees broadly. Scorecard data do not report earnings for individual programs beyond graduates' second year or third year out of school. For some graduate and professional degrees, a student's earnings may be low during those first two or three years as they complete additional requirements for their careers but increase sharply afterward (this is one reason our analysis excludes professional degrees such as those for law and medicine). This earnings pattern may be less likely for the subbaccalaureate and undergraduate degrees that have been the focus of other DTE policy discussions, so it makes sense that it has not received much consideration. But in the case of advanced degrees, the government will need to collect earnings data later in graduates' careers, as part of any DTE accountability policy that would apply to graduate and professional degrees. Our analysis should be interpreted with this limitation in mind.

DTE Thresholds for Master's Degrees

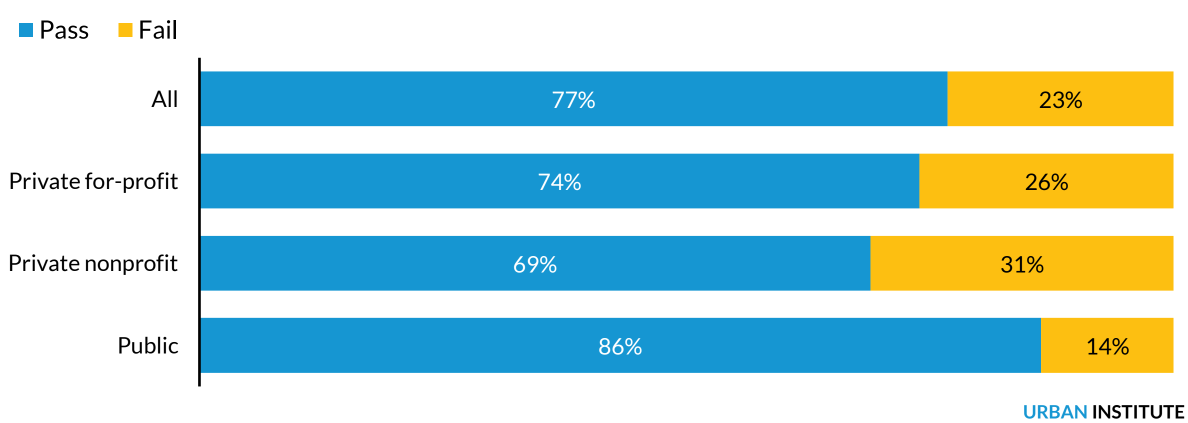
Although there are several ways to structure an accountability policy, we examine the effects of a hypothetical policy whereby programs would have to pass a DTE test expressed as a simple ratio like the DTE groups in this analysis. Under such a policy, graduates' average DTE ratios must remain below a certain threshold, or the program would face sanctions or lose eligibility for federal loans.

First, we consider the effects of a 100 percent threshold (programs where graduates, on average, borrow more than their annual earnings two years after completing their degrees). One possible rationale for establishing a 100 percent DTE threshold is that the risks that a borrower does not repay their loan when using IDR emerge around this point.

Under a 100 percent DTE threshold, all programs in the high and very high DTE groups in our analysis would fail the accountability test. Programs in these DTE groups award about 23 percent of master's degrees in our analysis, meaning that such a threshold would have broad effects on the master's degree market. Private nonprofit institutions would bear the brunt of the policy, with 31 percent of their programs (weighted by borrowers) failing the test, the highest share among the sectors (figure 11).[43]

FIGURE 11

Share of Master's Degree Programs Passing or Failing a 100 Percent Debt-to-Earnings Threshold, by Institution Type



Source: Urban Institute analysis of College Scorecard data.
Note: Master's degree programs are weighted by the number of federal student loan borrowers.

Master's of social work and the mental health and counseling degrees discussed earlier would be particularly affected by the policy. More than half of all degrees in these fields are awarded at programs that would fail this accountability test. Despite the large effects for these degrees, they make up only a third of the programs failing a 100 percent DTE test. A diverse set of master's degrees account for the rest, and none of these other degrees accounts for more than 4 percent of the group, illustrating that a 100 percent threshold affects a wide range of programs, including business, education, public health, and ministerial and theological degrees. Appendix table A.2 shows the share of each of the 20 largest master's degrees that pass and fail the 100 percent threshold.

Some observers may consider a 100 percent DTE ratio too stringent because it affects such a large share of graduates and programs. In that case, establishing a 150 percent threshold may be more appropriate, which would mean the programs in the very high DTE group in our analysis would fail to pass that test. These programs account for about 7 percent of master's degrees in our analysis.

One justification for setting a DTE threshold to target this group is that these borrowers will surely struggle to afford their debts without using IDR and stand to have substantial debt forgiven. We estimate that borrowers in this group would typically repay less than half their original loan disbursement when using IDR.

We reiterate that programs in the very high DTE group are predominantly in the social work and mental health and counseling fields, but music and fine arts degrees are also prominent. The impact this higher DTE threshold would have on these degrees is far less severe than a 100 percent DTE test, however, and suggests this threshold would better target outliers for these degrees rather than the majority of programs. For example, most master's of social work degrees are awarded at programs that pass this threshold, but only slightly more than half of degrees in mental and social health services are awarded at programs that would pass, highlighting that these degrees more consistently lead to high DTE ratios. Half of master's degrees in music and 70 percent in fine arts are awarded at programs that would not pass this threshold. Appendix table A.2 also shows the share of each of the 20 largest master's degrees that pass and fail the 150 percent threshold.

Nonwhite students and women disproportionately earn master's degrees from programs in the highest DTE groups. An accountability policy that sanctions these programs would thus disproportionately affect nonwhite students and women. That may be a desired outcome if policymakers believe these students have been harmed by these programs. But if these students face barriers to enrolling in programs with better outcomes, the accountability policy could reduce access to degrees that are more popular among nonwhite students and women in favor of degrees that are more likely to attract white students and men. Such an outcome could be an unintended consequence of an accountability standard based on debt and earnings ratios that merits further consideration among policymakers.

Comparing Loan Limits with DTE Thresholds

Some policy experts have proposed reinstating limits on federal student loans for graduate degrees as a quality assurance policy. Under this approach, students and taxpayers would be protected from programs that result in high DTE ratios by simply limiting how much federal loan debt students could take on.

Loan limits can result in a less precise accountability policy than a DTE test. If the loan limit is set too low, programs where earnings are high enough to easily support more debt would still face borrowing restrictions, potentially reducing access to degrees with high payoffs. And programs with very low earnings might still have access to unaffordable borrowing levels even if loan limits are low. On the other hand, if the loan limit is set high enough to accommodate high-earning degrees, it will inadvertently accommodate low-earning programs as well. A DTE threshold addresses these issues because it effectively allows for loan limits tailored to each degree—higher-earning degrees are afforded higher loan limits and vice versa.

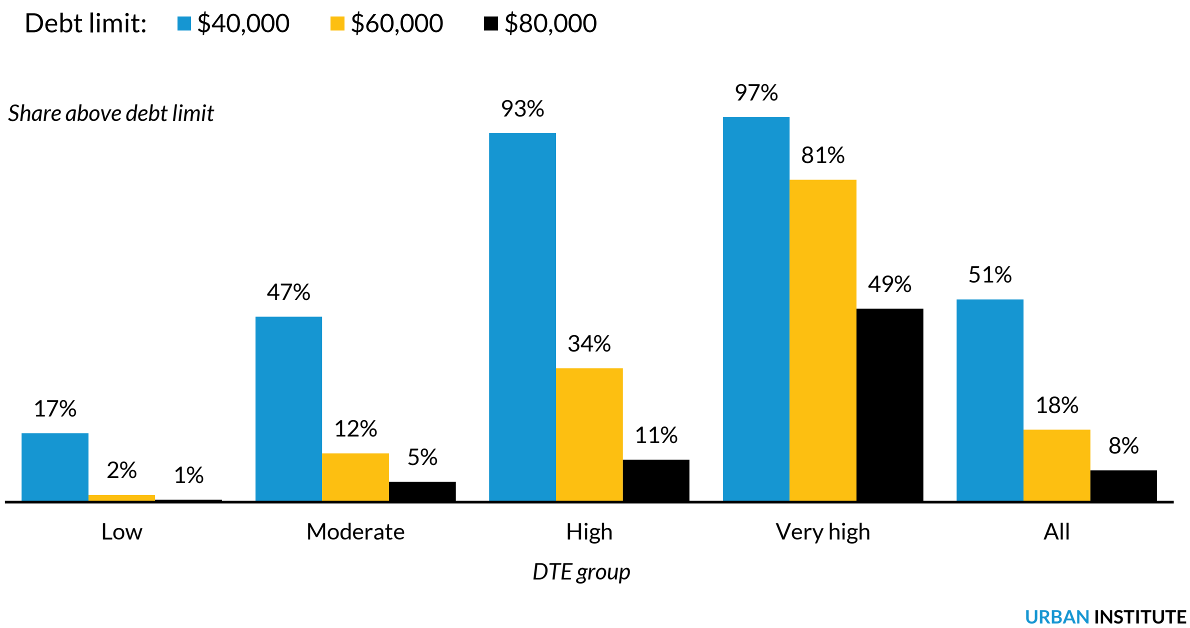
To assess how well borrowing limits would target master's degrees with high DTE ratios, we consider the effects of three potential loan limits for master's degree borrowers: $40,000, $60,000, and $80,000. These could be structured as lifetime limits for borrowers or divided in half and serve as annual limits for the two years of full-time enrollment most master's degrees require.

Before the 2006 policy shift that lifted annual and lifetime loan limits for these degrees, most graduate and professional students could borrow $20,500 per year.[44] Thus, the lowest limit in our analysis ($40,000) approximates returning to that policy in nominal terms. The $60,000 limit approximates what the prior loan limit would be in today's dollars after adjusting for inflation (a $30,000 annual loan limit).

Figure 12 shows the share of master's degree programs (weighted by borrowers) whose graduates borrow above the three loan limits, on average. The Scorecard data report average debts among graduates, not the share borrowing above a certain amount. Our analysis is therefore based on the share of programs with graduates whose *average* debts exceed a specified loan limit.

FIGURE 12

Share of Master's Degree Programs in Each DTE Group with Average Student Debt above Hypothetical Borrowing Limits



Source: Urban Institute analysis of College Scorecard data.
Notes: DTE = debt-to-earnings. Because Scorecard data report average debts among a program's graduates, the data reflect programs where graduates' average debts exceed each loan limit. Master's degree programs are weighted by the number of federal student loan borrowers.

Looking at the share of all master's degrees that exceed the $40,000 limit, it is clear that reinstating the pre-2006 federal limits would have widespread effects. Among students who take on federal loans for these degrees, about half attended programs where total borrowing exceeds $40,000, on average. Programs where debts exceed the limit would not lose eligibility for aid; instead, students would simply have been prevented from accumulating that much debt. That might reduce the debt students take on for these degrees, but students may find these degrees unaffordable with access to only $40,000 in federal loans, and universities could be pressured to lower prices, or they might discontinue these programs. Students might also turn to more expensive private loans for additional financing to pursue these degrees.

A $40,000 loan limit would also affect a significant share of programs in each DTE group (figure 12). Not surprisingly, students at nearly all the programs in the high and very high DTE groups borrow more than this amount, on average. But even programs that result in low DTE ratios would be affected by that loan limit.

Among the most common master's degree programs, a $40,000 loan limit would likely have the most widespread effects on those in the allied health diagnostic, intervention, and treatment professions. Students at 96 percent of these programs take on average debt that exceeds $40,000 (the average is about $98,000), but these degrees also produce some of the highest earnings among master's degrees, typically exceeding $100,000. Students attending nearly three-quarters of master's degrees in nursing, which also result in some of the highest earnings, borrow well in excess of $40,000 for their degrees, on average. Most programs that result in low earnings, such as social work and counseling and mental health degrees, also lead to debts over $40,000. Notably, most master's degrees in education do not result in average debts that exceed $40,000, and they would be largely unaffected by a $40,000 borrowing limit. Appendix table A.3 shows the share of programs among the 20 largest degrees where average borrowing exceeds the three limits.

In contrast to a $40,000 limit, a $60,000 loan limit would better target programs with the highest DTE ratios. This limit would affect just over 80 percent of programs in the very high DTE group but almost none in the low DTE group (figure 12).

Some programs with high earnings, however, would still be disproportionately affected by even a $60,000 loan limit. Almost 90 percent of master's degrees in allied health diagnostic, intervention, and treatment professions, which is one of the 20 largest degree programs and produces some of the highest earnings, lead to debts in excess of $60,000. This highlights one of the advantages of a DTE threshold over a borrowing limit. The DTE threshold allows for higher debts if earnings are also higher, whereas a loan limit affects programs regardless of what graduates earn.

An even higher loan limit would accommodate these high-earning programs, but it would also allow more programs that lead to unaffordable debts to continue operating in their current form. For example, only about half the programs in the very high DTE group lead to debts that exceed $80,000, meaning that instating an $80,000 loan limit would allow most of these programs to continue operating in their current form. Nevertheless, an $80,000 loan limit would still produce a meaningful reduction in the number of programs and degrees that result in high DTE ratios relative to current policy, which allows for virtually unlimited borrowing.

Conclusion

The federal role in financing master's degrees has grown considerably. Since the mid-2000s, students have been able to finance their entire graduate education with federal student loans, regardless of the program or the price. Policymakers have paired this benefit with increasingly generous IDR terms and loan forgiveness benefits. About half of all federal loans issued for graduate and professional degrees in recent years are enrolled in IDR, with the government projected to forgive about $17 billion of these debts annually.

New College Scorecard data on borrowing and earnings among master's degree students reveals where these benefits are most concentrated and where costs and risks for taxpayers are highest. The College Scorecard data show that at least 7 percent of master's degrees are awarded at programs with debt and earnings levels that are likely to result in substantial loan forgiveness under the IDR program, with typical borrowers expected to repay no more than half of what they borrowed. These programs are dominated by master's of social work degrees and degrees in the mental health and counseling fields, particularly those offered at private nonprofit institutions.

Yet there are programs offering these degrees where graduates do not end up with high debt relative to their earnings, mainly because graduates' debts are lower, suggesting there are other models for offering degrees in social work and mental health. For example, about half of master's degrees in social work are offered in programs in the lowest two DTE groups. The same is true for about a third of master's degrees in clinical, counseling, and applied psychology.

The College Scorecard data also reveal that master's degrees that are often associated with high or unaffordable debts in media stories or in policy debates, such as nursing and teaching, actually result in low or moderate debts, on average, relative to what graduates go on to earn, at least when compared with other master's degrees. And although the Scorecard data confirm that many fine arts degrees do indeed result in high DTE ratios, these programs represent less than 1 percent of master's degrees.

Our analysis also illustrates how potential quality assurance policies that cut off financial aid to programs for master's degrees with high DTE ratios would largely affect social work and mental health and counseling degrees. That might give some policymakers pause in advancing such reforms, as these degrees are socially valuable even if they result in low earnings. Policymakers and researchers might consider how alternative pathways to these fields could substitute for costly master's degrees. Policymakers and university leaders might also consider how public universities could serve additional students in these fields, as public institutions provide these credentials at substantially lower prices than their nonprofit peers.

We also show that imposing federal loan limits would be an imprecise quality assurance policy. These limits could reduce access to (or require private borrowing for) many programs that leave students with high earnings. Furthermore, borrowing limits may fail to protect students from programs that lead to low earnings.

Our finding that nonwhite graduates and women are overrepresented among the programs with the highest DTE ratios complicates the case for tighter quality assurance standards for master's degrees. DTE thresholds could disproportionately reduce access to degrees that Black students, Hispanic students, and women pursue, but such policies might force institutions to lower prices for these degrees. DTE thresholds might also help these students avoid taking on high debts relative to their potential earnings, and the policy would check any predatory practices where institutions target these students for recruitment into programs with low earnings.

The debt and earnings data in the College Scorecard are a vital new source of information on master's degree outcomes and potential repayment patterns in the federal loan program and IDR. Policymakers should look to expand the earnings data collected for the Scorecard beyond the second and third years graduates are out of school (and work to fill in missing data), which will not only improve our understanding of outcomes for these credentials but may be necessary to implement any quality assurance policy based on earnings.

Appendix

TABLE A.1

Typical Debt and Earnings for Master's Degree Borrowers, by Field

Degree type	Debt	Earnings	Share of all master's degrees
Business administration, management, and operations	$45,692	$75,776	17%
Registered nursing, nursing administration, nursing research, and clinical nursing	$50,955	$97,267	10%
Social work	$50,917	$46,815	8%
Teacher education and professional development, specific levels and methods	$31,749	$46,028	4%
Educational administration and supervision	$30,778	$55,422	4%
Clinical, counseling, and applied psychology	$57,492	$44,371	3%
Education, general	$30,757	$51,763	3%
Accounting and related services	$31,438	$60,222	3%
Special education and teaching	$32,159	$50,483	3%
Curriculum and instruction	$26,263	$49,860	2%
Student counseling and personnel services	$43,528	$45,004	2%
Teacher education and professional development, specific subject areas	$29,338	$49,794	2%
Health and medical administrative services	$47,813	$63,076	2%
Mental and social health services and allied professions	$59,851	$41,586	2%
Allied health diagnostic, intervention, and treatment professions	$98,605	$100,267	2%
Public health	$52,673	$45,052	2%
Public administration	$43,241	$56,824	2%
Rehabilitation and therapeutic professions	$59,078	$60,144	2%
Communication disorders sciences and services	$50,043	$56,336	2%
Human resources management and services	$44,029	$58,058	1%

Source: Urban Institute analysis of College Scorecard data.

Notes: Master's degree programs are weighted by the number of federal student loan borrowers. Data include only graduates who borrowed federal student loans and completed the degree. Average debt is calculated by taking the average of the mean debt disbursed at the program level. Earnings are calculated by taking the average of the median earnings among graduates reported at the program level.

TABLE A.2

Share of Programs That Exceed Potential Debt-to-Earnings Thresholds, by Field

Degree type	Share of programs over a 100 percent threshold	Share of programs over a 150 percent threshold
Business administration, management, and operations	6%	0%
Registered nursing, nursing administration, nursing research, and clinical nursing	4%	0%
Social work	51%	16%
Teacher education and professional development, specific levels and methods	8%	0%
Educational administration and supervision	3%	1%
Clinical, counseling, and applied psychology	70%	36%
Education, general	9%	0%
Accounting and related services	3%	0%
Special education and teaching	7%	0%
Curriculum and instruction	1%	0%
Student counseling and personnel services	40%	7%
Teacher education and professional development, specific subject areas	9%	2%
Health and medical administrative services	16%	4%
Mental and social health services and allied professions	88%	42%
Allied health diagnostic, intervention, and treatment professions	47%	2%
Public health	41%	8%
Public administration	19%	4%
Rehabilitation and therapeutic professions	42%	11%
Communication disorders sciences and services	28%	9%
Human resources management and services	20%	6%

Source: Urban Institute analysis of College Scorecard data.

TABLE A.3

Share of Programs Whose Graduates Borrow above Potential Loan Limits, on Average, by Field

Degree type	Share of programs with average debt over $40,000	Share of programs with average debt over $60,000	Share of programs with average debt over $80,000
Business administration, management, and operations	54%	18%	8%
Registered nursing, nursing administration, nursing research, and clinical nursing	73%	23%	9%
Social work	64%	21%	11%
Teacher education and professional development, specific levels and methods	15%	1%	0%
Educational administration and supervision	13%	3%	1%
Clinical, counseling, and applied psychology	81%	35%	21%
Education, general	16%	0%	0%
Accounting and related services	24%	2%	0%
Special education and teaching	16%	2%	0%
Curriculum and instruction	5%	0%	0%
Student counseling and personnel services	55%	12%	3%
Teacher education and professional development, specific subject areas	14%	7%	1%
Health and medical administrative services	64%	15%	5%
Mental and social health services and allied professions	89%	41%	16%
Allied health diagnostic, intervention, and treatment professions	96%	89%	76%
Public health	70%	28%	7%
Public administration	49%	12%	2%
Rehabilitation and therapeutic professions	79%	47%	15%
Communication disorders sciences and services	61%	22%	12%
Human resources management and services	56%	10%	1%

Source: Urban Institute analysis of College Scorecard data.

Notes: Because Scorecard data report average debts among a program's graduates, the statistics shown here reflect programs where graduates' average debts exceed each loan limit. Master's degree programs are weighted by the number of federal student loan borrowers.

Notes

[1] Deficit Reduction Act of 2005, Pub. L. No. 109-171, 120 Stat. 4 (2006).

[2] Jordan Weissmann, “Master’s Degrees Are the Second Biggest Scam in Higher Education,” Slate, July 16, 2021, https://slate.com/business/2021/07/masters-degrees-debt-loans-worth-it.html.

[3] Urban Institute analysis of 1993/03 Baccalaureate and Beyond Longitudinal Study data from National Center for Education Statistics PowerStats table tumzdu.

[4] Urban Institute analysis of 2008/18 Baccalaureate and Beyond Longitudinal Study data from National Center for Education Statistics PowerStats table rmcjhr.

[5] “A Higher Degree,” US Census Bureau, February 24, 2022, https://www.census.gov/library/visualizations/2022/comm/a-higher-degree.html.

[6] Urban Institute analysis of 1995–96 National Postsecondary Student Aid Study data from National Center for Education Statistics PowerStats table eawtlp.

[7] Urban Institute analysis of 2017–18 National Postsecondary Student Aid Study, Administrative Collection data from National Center for Education Statistics PowerStats table lumkcp.

[8] We define low income as income in the lowest two quintiles for US households. Income is observed among the 1993 and 2008 cohorts of bachelor’s degree recipients in the year before the year the student completes the bachelor’s degree. Only dependent undergraduates are included. If independent students were included, 24 percent of master’s degree recipients from the 1993 cohort were from low-income families and 34 percent of master’s degree recipients from the 2008 cohort were from low-income families. Income for dependent students is the parents’ income; for independent students, it is the student’s own household income. Income quintiles are from “Household Income Quintiles,” Urban-Brookings Tax Policy Center, last updated January 25, 2022, https://www.taxpolicycenter.org/statistics/household-income-quintiles. Urban Institute analysis of 1993/03 Baccalaureate and Beyond Longitudinal Study data from National Center for Education Statistics PowerStats table yvvbdc and 2008/18 Baccalaureate and Beyond Longitudinal Study data from National Center for Education Statistics PowerStats table zwdwrn.

[9] Urban Institute analysis of 2003–04 through 2015–16 National Postsecondary Student Aid Study data from National Center for Education Statistics PowerStats table pudqet and 2018 National Postsecondary Student Aid Study, Administrative Collection data from National Center for Education Statistics PowerStats table ektprq. Figures are adjusted for inflation using the Personal Consumption Expenditures Price Index (see “Personal Consumption Expenditures,” Federal Reserve Bank of St. Louis, last updated October 28, 2022, https://fred.stlouisfed.org/series/PCE).

[10] Excludes Parent PLUS loan debt. Urban Institute analysis of 2003–04 National Postsecondary Student Aid Study data from National Postsecondary Education Data System PowerStats table flwzty and 2018 National Postsecondary Student Aid Study, Administrative Collection data from National Center for Education Statistics PowerStats table mjlcnd.

[11] “Income-Driven Repayment Plans,” US Department of Education, Office of Federal Student Aid, accessed November 5, 2022, https://studentaid.gov/manage-loans/repayment/plans/income-driven.

[12] “Public Service Loan Forgiveness,” US Department of Education, Office of Federal Student Aid, accessed November 5, 2022, https://studentaid.gov/manage-loans/forgiveness-cancellation/public-service#qualify.

[13] The Biden administration has issued only a press release and a fact sheet outlining the terms of the new IDR plan. Our description of the plan and the terms we use in our analysis are based on those documents, which require us to make some assumptions about the exact terms and how they apply to graduate school debt. The

administration has yet to put forth an official proposal of this plan in the Federal Register but plans to do so sometime in 2022. We assume the 225 percent exemption rate applies to all borrowers regardless of the type of debt they hold. We assume the 10 percent payment rate applies to all graduate debt, and because we estimate effects only for debt from graduate school, our analysis uses the 10 percent rate throughout (borrowers would pay 5 percent on their undergraduate debts, and the two rates would be weighted by the type of debt borrowers held). The new IDR plan would also waive any unpaid interest for borrowers whose payments do not cover all accruing interest. We assume this applies to graduate school debts in our analysis. See White House, "Fact Sheet: President Biden Announces Loan Relief for Borrowers Who Need It Most," press release, August 24, 2022, https://www.whitehouse.gov/briefing-room/statements-releases/2022/08/24/fact-sheet-president-biden-announces-student-loan-relief-for-borrowers-who-need-it-most/.

14 White House, "Fact Sheet: President Biden Announces Loan Relief."

15 Earnings data include the wages of full- and part-time employees, and it is not possible to distinguish between the two.

16 Programs with a small number of graduates who received aid are excluded from the data for privacy protection. We exclude from our analysis programs with missing borrower counts. Because of these limitations, data on earnings and debt are missing for about 76 percent of master's degree programs listed in the Scorecard. That sounds high, but these missing programs likely account for only a small share of the total number of borrowers completing master's degrees, as the limitation applies to the smallest programs. Missing earnings data do not substantially alter the distribution of degree programs by sector.

17 Unlike data reported in the College Scorecard for entire institutions, data on the distribution of earnings among graduates of individual programs are not available. For example, the data for institutions provide statistics for graduate earnings at various percentiles, but the program-level data include only median earnings for graduates.

18 Our analysis includes data for 7,275 master's degree programs using graduates' second-year earnings. The College Scorecard includes third-year earnings data for 6,022 master's degree programs. Median earnings for the programs that include data are about 8 percent higher in real terms in the third year compared with the second year.

19 Data from a representative sample of graduate students show that borrowers typically accrue about $1,000 on loans they borrow for a master's degree while enrolled. Urban Institute analysis of 2018 National Postsecondary Student Aid Study, Administrative Collection data from National Center for Education Statistics PowerStats table xfdexr.

20 Data on undergraduate debt are not widely available in the Scorecard dataset for master's degree graduates. According to national survey data, the median undergraduate debt among master's degree recipients who took out federal student loans for their graduate degrees was about $16,000 in 2017–18. See National Center for Education Statistics PowerStats table odkwls.

21 Although the Scorecard also includes award counts, we weight by borrower counts because the debt and earnings data are only for students who received federal aid through Department of Education programs (student loans are the only form of such aid for graduate education).

22 Using US Census Bureau data, we find that typical initial earnings for borrowers with master's degrees are about $61,000, nearly the same as the median earnings for master's degree programs in the College Scorecard included in this analysis ($62,198) (see US Census Bureau, Current Population Survey, 2020 Annual Social and Economic Supplement). Student debt data in the Scorecard are less accurate than the income data. Data from a nationally representative survey, the 2017–18 National Postsecondary Student Aid Study (NPSAS), show that students who completed a master's degree and borrowed a federal loan borrowed $49,130, on average, for their graduate degree (see National Center for Education Statistics PowerStats table nspkdv). That is higher than the $45,458 average debt we calculate for master's degree recipients in the Scorecard data. The distribution of master's degrees across sectors of higher education in the Scorecard deviates slightly from the nationally

representative NPSAS data: public institutions are undercounted, and private nonprofit institutions are overcounted, which likely explains why average debts are higher in the Scorecard data. Public institutions are slightly underrepresented in the Scorecard data (41 percent of borrowers who completed degrees versus 45 percent in the NPSAS), and private nonprofit institutions are overrepresented (45 percent versus 41 percent in the NPSAS). For-profit institutions account for a nearly identical share of students in both data sources (about 15 percent). See National Center for Education Statistics PowerStats table puelem. The Scorecard data for master's degrees also include a higher share of students who received Pell grants as undergraduates than the NPSAS reports (55 percent versus 39 percent), which may be because the Scorecard data are reported only for students who used federal aid for their graduate degrees and these students may have been more likely to be from low-income families as undergraduates. Among only borrowers, however, the NPSAS and Scorecard report a nearly identical share of Pell grant recipients. See 2017–18 National Postsecondary Student Aid Study data from National Center for Education Statistics PowerStats table zhvwkg.

[23] Although the College Scorecard also includes data on loan repayment rates for master's degree programs, we do not focus on these data, as they are difficult to interpret and more limited than the debt and earnings data. The repayment rate data generally align with our analyses in that repayment rates decline as DTE ratios increase. The loan repayment rate data report the share of program completers who have paid down at least $1 of the loan's principal balance within the early years of repayment. These data are not available for all the programs with debt and earnings data. Only about half the master's degree programs we include have data for loan repayment.

[24] "Data Home: Download the Data," US Department of Education College Scorecard, last updated September 14, 2022, https://collegescorecard.ed.gov/data.

[25] Median earnings are about 8 percent higher in real terms for the programs for which third-year earnings data are reported. In dollar terms, third-year earnings are $5,000 to $6,000 higher in real terms than second-year earnings for each DTE group.

[26] Unweighted shares of master's degree programs in the low, moderate, high, and very high DTE groups are 26 percent, 52 percent, 15 percent, and 7 percent, respectively.

[27] Estimates for loan payments are based on the following assumptions and parameters. Payments under the 10-year standard plan are based on loans with a 6 percent fixed interest rate. IDR payments are calculated using the newest plan announced by the Biden administration in an August 2022 press release that we expect will become available to borrowers in 2023, but the terms may change when it is finalized. Under that plan, borrowers' payments are 10 percent of income over 225 percent of the federal poverty level, loan forgiveness occurs after 20 years or after 10 years for PSLF, and unpaid interest is forgiven monthly. We use the federal poverty level from 2019 to correspond to the students in this analysis and assume a single-person household size throughout the repayment term. The interest rate on the loan repaid in IDR is a 6 percent fixed rate. We use borrowers' second-year earnings as reported in the College Scorecard as their initial earnings for the repayment period and assume incomes increase 5 percent annually. The federal poverty level increases 3 percent a year for inflation. Loan forgiveness amounts and total payments are converted to present values using a 3 percent discount rate. Calculations for loan forgiveness include any interest that would be forgiven in IDR when a borrower's payment does not cover unpaid interest each month. PSLF payments and forgiveness assume the borrower works in an eligible job for 10 consecutive years starting with the first year of repayment. These estimates do not include any debt from undergraduate studies. See White House, "Fact Sheet: President Biden Announces Loan Relief."

[28] Data on loan repayment for programs in the low DTE group show that 31 percent of borrowers had reduced their loan balances two years into repayment, faster than the overall average of 22 percent for all master's degree programs.

[29] Data on loan repayment for programs in the moderate DTE group show that 21 percent of borrowers had reduced their loan balances two years into repayment, in line with the average of 22 percent for all master's degree programs.

[30] Data on loan repayment for programs in the high DTE group show that 16 percent of borrowers had reduced their loan balances two years into repayment, slower than the overall average of 22 percent for all master's degree programs.

[31] Data on loan repayment for programs in the very high DTE group show that 10 percent of borrowers had reduced their loan balances two years into repayment, much slower than the overall average of 22 percent for all master's degree programs.

[32] The Scorecard reports degree types using four-digit Classification of Instructional Programs codes, and we use that level of classification throughout our analysis. There is some disaggregation in degree categories in the Scorecard, making them appear smaller in size than under a broader categorization. This effect is most pronounced for master's of education degrees, which appear here as at least three separate degrees.

[33] "PHEAA Is Urging Selected Student Loan Relief for Nurses Applicants to Submit Final Documents to Maintain Eligibility; Must Respond by September 24," PennWatch, September 15, 2022, https://pennwatch.org/pheaa-is-urging-selected-student-loan-relief-for-nurses-applicants-to-submit-final-documents-to-maintain-eligibility-must-respond-by-september-24/.

[34] "Nursing Fact Sheet," American Association of Colleges of Nursing, accessed November 5, 2022, https://www.aacnnursing.org/News-Information/Fact-Sheets/Nursing-Fact-Sheet.

[35] Mary Ellen Flannery, "The Depth of Educators' College Debt," National Education Association, July 27, 2021, https://www.nea.org/advocating-for-change/new-from-nea/depth-educators-college-debt.

[36] For programs in this DTE group that include data for third-year earnings, median earnings are about $5,000 higher after adjusting for inflation.

[37] For programs with third-year earnings data reported in the College Scorecard, median earnings for these programs in the very high DTE group are about $3,500 higher after adjusting for inflation.

[38] Data on race and gender are from the Integrated Postsecondary Education Data System. Data on low-income status is based on students receiving federal Pell grants as undergraduates and are included in the Scorecard data.

[39] The Scorecard data slightly overcount the share of women among master's degree recipients. According to the 2017–18 National Postsecondary Student Aid Study, Administrative Collection, women account for 67 percent of master's degree recipients. See National Center for Education Statistics PowerStats table jeewuc.

[40] The share of master's degree recipients in the Scorecard data (which includes only student loan borrowers) who received Pell grants (55 percent) is nearly identical to the share reported for this population (56 percent) in the 2017–18 National Postsecondary Student Aid Study, which suggests that the Scorecard data are highly accurate and reliable on this metric among borrowers who received master's degrees. The share of all master's degree recipients, regardless of borrowing status, who received Pell grants as undergraduates is 39 percent, according to 2017–18 National Postsecondary Student Aid Study, Administrative Collection data from National Center for Education Statistics PowerStats table zhvwkg.

[41] Program Integrity: Gainful Employment, 79 Fed. Reg. 64890 (Oct. 31, 2014).

[42] "Negotiated Rulemaking for Higher Education 2021–22," US Department of Education, last updated October 31, 2022, https://www2.ed.gov/policy/highered/reg/hearulemaking/2021/index.html?src=rn.

[43] Fifty-nine percent of failing programs are offered at nonprofit institutions, 24 percent are offered at public institutions, and 17 percent are offered at private for-profit institutions. Typical debt among the programs that fail is about $66,000. Typical earnings are $48,000.

[44] Deficit Reduction Act of 2005, Pub. L. No. 109-171, 120 Stat. 4 (2006). Annual and lifetime loan limits were higher for medical students.

References

Blagg, Kristin. 2018. “The Rise of Master’s Degrees: Master’s Programs Are Increasingly Diverse and Online.” Washington, DC: Urban Institute.

———. 2022. “Have Earnings for Graduate Degree Recipients Changed? Using Multiple Datasets to Describe Typical Graduate Degree Earnings.” Washington, DC: Urban Institute.

Burk, David, and Jeffrey Perry. 2020. “The Volume and Repayment of Federal Student Loans: 1995 to 2017.” Washington, DC: Congressional Budget Office.

CBO (Congressional Budget Office). 2022. “Federal Student Loan Programs.” Washington, DC: CBO.

Delisle, Jason. 2017. “The Pell Grant Proxy: A Ubiquitous but Flawed Measure of Low-Income Student Enrollment.” Washington, DC: Brookings Institution.

Karamcheva, Nadia, Jeffrey Perry, and Constantine Yannelis. 2020. *Income-Driven Repayment Plans for Student Loans: Budgetary Costs and Policy Options*. Washington, DC: Congressional Budget Office.

US Department of Education. n.d. “Comparison of Total Originations to the Net Present Value of Payments in Each IDR Repayment Plan.” Washington, DC: US Department of Education.

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