

U.S. Department of Education
An Overview of Graduate Borrowing and
Outcomes



Office of the Chief Economist

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1. Introduction

Graduate school attendance has risen dramatically in recent decades, as has borrowing for graduate school. The shares of adults holding a master's degree and a doctoral degree both doubled since 2000.¹ Correspondingly, graduate borrowing increased 150% between 2003 and 2023. Graduate students borrowed nearly \$39 billion in federal loans in 2023, nearly the level of borrowing for undergraduate education (\$44 billion), despite graduate students making up only about 21 percent of all borrowers.² Graduate degree attainment is a pathway to lucrative careers for many, and much of the rise of graduate debt reflects greater levels of attainment, particularly for women and students who identify as a racial and ethnic minority.³ Moreover, the average earnings premium for graduate degrees has remained stable and substantial over the past two decades.⁴

Nonetheless, concerns about graduate borrowing have grown in light of the rise in the number of federal borrowers with six-digit debt levels and growing awareness that the economic returns to graduate credentials varies substantially across fields and institutions. One recent study intensified that concern, suggesting that increased access to graduate loans may have led some institutions to increase program prices, without creating more access or improving graduate students' outcomes.⁵

In this report, we present new data on graduate borrowing and outcomes. We first provide an overview of graduate borrowing and debt accumulation using the U.S. Department of Education administrative data from recent award years, illustrating differences in the number of borrowers and the distribution of annual and cumulative borrowing levels across different types of institutions and programs. Relative to data already available publicly, we provide more detail on the distribution of borrowing levels, rather than presenting only medians, to shed light on the prevalence of especially high debts.

We then focus on one dimension of this concern—students who do not complete their credentials. More graduate students do not complete programs than most people realize, and these students may be particularly at risk of poor student loan repayment outcomes. We construct a cohort of graduate students who started their studies in 2015 and compare overall completion rates across credential types and different time horizons. We then study the share of loan funding that goes to students who do not ultimately earn a graduate credential, and how this varies by field of study and type of institution.

Next, we show how borrowing patterns for students who complete graduate programs compare to earnings. The fields driving much of the growth in graduate debt over the last 9 years, and which make up a large share of borrowers with cumulative debt over \$100,000, are professional and master's credentials in health professions fields, such as students in medical school, dentists and pharmacists in training, and

¹ Per internal data analysis and see Monarrez, Tomas and Jordan Matsudaira (2023), Trends in Federal Student Loans for Graduate School, among ages 25 to 54. (https://sites.ed.gov/ous/files/2023/08/OCE_GraduateDebtReport202308.pdf).

² Monarrez, Tomas and Jordan Matsudaira (2023), Trends in Federal Student Loans for Graduate School, among ages 25 to 54..

³ Ibid.

⁴ Altonji, Joseph G., and Ling Zhong. "The labor market returns to advanced degrees." *Journal of Labor Economics* 39.2 (2021): 303-360.

⁵ Black, Sandra E., Lesley J. Turner, and Jeffrey T. Denning. *PLUS or Minus? The Effect of Graduate School Loans on Access, Attainment, and Prices*. No. w31291. National Bureau of Economic Research, 2023.

master's students in allied health.⁶ These are fields where students typically experience relatively high earnings. However, among fields with relatively high debt, including in health care fields, there is wide variation in the typical earnings across programs.

To accompany this report we also created an aggregated dataset at the program and year level. This dataset contains many of the measures described in further detail in this report, including total debt volume and the number of students by program. This dataset is available for download at <https://sites.ed.gov/ous/office-of-the-chief-economist/oce-data-available-for-download/>.

2. Background on Graduate Borrowing

Borrowing for graduate degrees in the United States is different than for undergraduate students in several important ways. Undergraduate students can borrow both Direct Subsidized and Unsubsidized Loans from the federal government, where Subsidized loans do not accumulate interest while the student is enrolled.⁷ Undergraduate loans have lower interest rates than graduate loans and are subject to both annual and cumulative borrowing limits that prevent dependent students from taking out more than \$31,000 over their entire time in school.⁸

Graduate borrowers can access the Direct Unsubsidized Loan program and the Direct PLUS loan program, but are not eligible for Subsidized loans.⁹ Loan limits for the graduate borrowers under the Direct Unsubsidized Loan program prevents borrowing more than \$20,500 in any academic year and more than \$138,500 over their lives, including any Direct Loan borrowing they may have done as undergraduates.

Functionally, the limits of the Unsubsidized Loan program do not bind, however, since Graduate PLUS loans are limited only by the cost of attendance (COA) at the programs that students attend.¹⁰ Some have argued that this lack of a universal cap has driven growth in graduate program borrowing in the years following the program's inception (Black, Turner, Denning, 2023).¹¹ There has been little data or research, however, on the expansion of graduate loans across different fields of study or how this growth relates to the earnings of students who attend graduate programs with high levels of borrowing. In this report, we aim to fill some of these gaps.

⁶ Professional degrees, sometimes referred to as “First Professional” degrees, are terms that refer to degrees that are used for specific fields. Examples include Doctor of Medicine (MD), Juris Doctor (JD), and Doctor of Pharmacy (PharmD).

⁷ For ease of exposition, we refer to loans as part of the Direct Unsubsidized Loan program as “unsubsidized loans.”

⁸ Independent undergraduate students are capped at \$57,500. See <https://studentaid.gov/understand-aid/types/loans/subsidized-unsubsidized> for additional detail.

⁹ Direct PLUS loans for graduate students are often referred to as “grad PLUS” loans, to distinguish them from parent borrowing through Direct PLUS. Subsidized loans for graduate and professional students were discontinued effective in 2012. In the past, there have been other loan programs available to graduate students, including the Health Education Assistance Loan (HEAL) program that made credit available for students in health fields like medicine, dentistry, and pharmacy.

¹⁰ Grad PLUS loans also typically have higher interest rates and a larger origination fee than loans for undergraduate students. See <https://studentaid.gov/understand-aid/types/loans/plus/grad> for additional detail.

¹¹ Black et al (2023) also found that while borrowing did grow for students who had previously been borrowing at the limit once access to Grad PLUS was available, those same students did not experience any increase in the chance that they graduate from their program or earn more once they left school

3. Data and sample

We use four overlapping sets of data in the analyses shown below. All the data are based on administrative records on the universe of federal student aid recipients maintained by U.S. Department of Education's Office of Federal Student Aid (FSA). Most analyses are based on individual records from the National Student Loan Data System (NSLDS), which contains information on student borrowing. Since the 2014-15 award year, NSLDS also contains information on borrower's program of enrollment, defined by the combination of credential level and 6-digit CIP code, and whether they complete their programs. We present these data at various levels of aggregation to summarize the very granular underlying data. A dataset presenting some of these aggregates is available as an accompaniment to this report.

The four overlapping datasets are the following. We describe the technical details of each dataset in the Data Appendix.

- a) **Annual Data for All Borrowers:** this dataset contains counts and loan volume for all students who borrow for graduate programs between 2015 and 2023.
- b) **Completers Data:** this dataset is a subset of the Annual Data, with cohorts of program completers based on the year they completed.
- c) **Entrants Data:** this dataset contains enrollment and loan information for the 2015 cohort of new graduate students.
- d) **National Program-Specific Earnings Outcomes:** this dataset comes from the IRS and contains program-level information on the distribution of earnings outcomes for program completers.

4. Total annual volume to all enrolled students

This section presents patterns in annual student borrowing. For this analysis we use our Annual Dataset of all graduate student borrowers in each year.

In Table 1, we show the total number of borrowers and disbursements on average each year between 2020-2023. We then show the average, median, and 75th and 95th percentile annual disbursement amount per borrower. We show these statistics for all graduate borrowers, as well as broken out by whether students only borrowed unsubsidized Stafford loans or if they also borrowed PLUS loans. In the typical year in the period examined, 1.4 million graduate borrowers received a total of \$37 billion in federal student loans.¹² On average, these borrowers took out \$26,776, with the median borrower receiving the unsubsidized loan annual loan limit amount of \$20,500 and the borrower at the 95th percentile borrowing \$76,136. Between 2015 and 2023, the number of borrowers who took out federal loans of more than \$100,000 in a single year grew from half a percent in 2015 to 1.8% in 2023. These especially high-borrowing students are concentrated in certain fields, with over half (54%) of total borrowing accounted for by the top 3 programs: professional dentistry (26%); professional medicine (18%), doctoral dentistry and (10%).

¹² These values differ from the Title IV program volume for the same period, which shows an average annual total disbursement volume of \$38 billion provided to 1.35 million students, for a few reasons. Most importantly, our numbers are calculated on an Academic Year rather than Award Year basis. Some other small differences in data exclusions, such as for students who withdrew or were deceased, and our treatment of consolidation loans, may also account for some of the difference. Nevertheless, the similarity between our aggregate averages and quantiles and those available through the National Postsecondary Student Aid Study reassure us that our version of these numbers allow us to provide accurate characterizations of patterns in the data.

Because the terms of unsubsidized loan limits are generally more favorable than those of Graduate PLUS loans, borrowers typically choose to exhaust their eligibility for unsubsidized loans before turning to Graduate PLUS loans. Therefore, it is not surprising that students who borrow only unsubsidized loans take on less debt than their peers who also use the Grad PLUS program. Borrowers with only unsubsidized loans borrow an average of approximately \$16,000, while those with both unsubsidized and PLUS loans typically take out more than three times that amount.

Table 1: Total Borrowers, Volume, and Distribution of Annual Loan Amounts, Academic Years 2020-2023, by Combination of Loan Types Used

| | Average # of Annual Borrowers | Average Total Disbursements (\$Millions) | Distribution of Disbursements Per Borrower (\$) | | | |
|---------------------------|-------------------------------------|--|---|--------------------|--------------------|--------------------|
| | | | Mean | 50th percentile | 75th percentile | 95th percentile |
| All Graduate Borrowing | 1,396,977 | 37,009 | 26,776 | 20,500 | 33,592 | 76,136 |
| Only Unsub Loans, no PLUS | 969,546 | 15,512 | 15,999 | 16,061 | 20,500 | 33,000 |
| Both Unsub Loans & PLUS | 393,645 | 20,512 | 52,869 | 49,081 | 68,120 | 99,336 |

Notes: Data for all loans disbursed (in nominal dollars) to students in graduate programs in Academic Years 2020-2023. Average amounts and quantiles are calculated for annual amounts, so each student's borrowing amount in each award year is counted separately. Average annual numbers of borrowers and disbursements are the simple average of the annual amounts in each Academic Year in the 2020-2023 period.

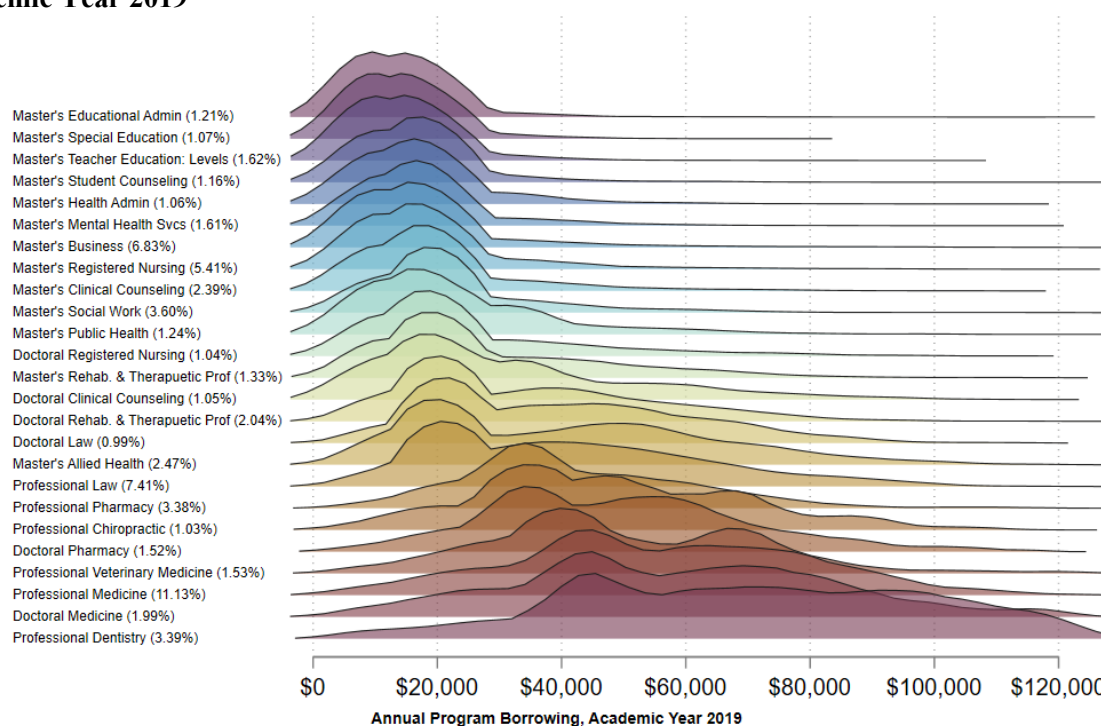
Though Table 1 shows the aggregate for all borrowers, Figure 1 allows us to see the wide variation in borrowing patterns across fields of study. The figure shows how annual debt levels differ for students in the most popular graduate programs, here defined at the 4-digit CIP and credential level. The figure limits the data to students borrowing for graduate school in academic year 2019 in the top 25 fields in terms of annual loan volume, accounting for close to 70% of all graduate loan volume each year.¹³ Professional programs in medicine (such as MDs) alone accounted for about 11% of all annual graduate lending by the federal government in 2019.

Figure 1 shows considerable variation in the distributions of annual borrowing levels across these programs with the largest total loan volume. Table 2 shows the number of students and statistics on total and per-student disbursements for these programs for each award year from 2015 through 2023. Note that programs with high total loan volume may be characterized by high average borrowing levels, or by high numbers of student borrowers, or both. Some programs, like professional veterinary programs, have very high average borrowing amounts. Others, such as Master's programs in education, have more modest borrowing levels, but large numbers of student borrowers. Even as they account for a sizable share of all graduate borrowing in each year, areas of study such as Master's programs in Business (7% of all volume), Registered Nursing (5%), and Social Work (4%) have typical borrowing levels on the lower end of the graduate borrowing spectrum, with many borrowers taking on \$20,000 or less per year. By contrast, programs that prepare students to become health professionals such as doctors, pharmacists, and dentists typically have much higher annual borrowing levels, as well as much more variation in borrowing across students in those programs.

A feature of the distribution of debt levels within many fields at the Master's level is the relative rarity of students borrowing over the unsubsidized loan limit of \$20,500. For professional programs, higher levels of borrowing facilitated by the Grad PLUS loan program are much more common, and annual borrowing levels can vary dramatically within a field. In Professional Dentistry programs, for example, about one-quarter of borrowers borrow less than \$47,500, while one-quarter borrow more than \$102,000.

¹³ We show 2019 because it is the last pre-pandemic year, though existing trends do not seem to have a clear change in trajectory coinciding with the pandemic.

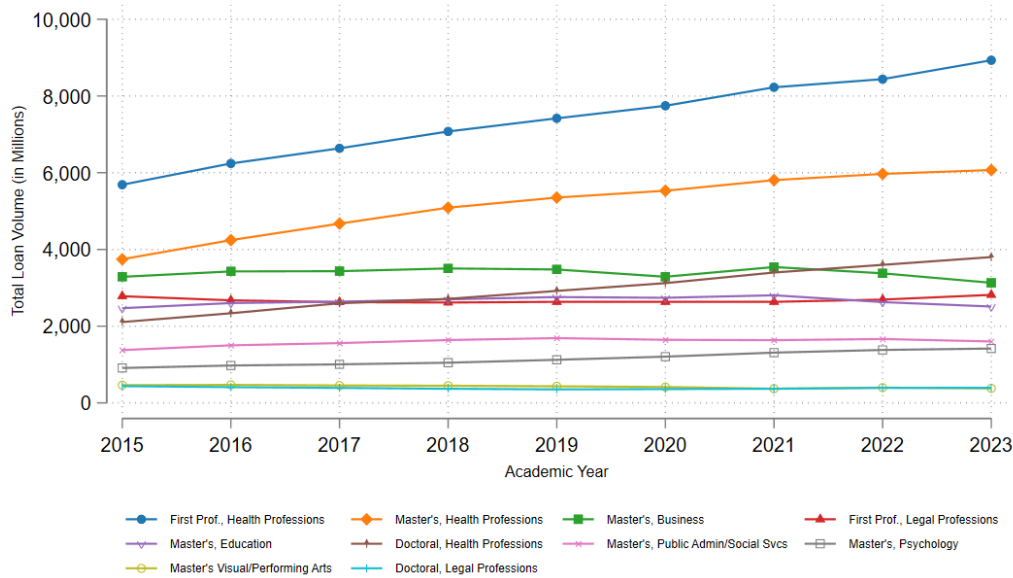
Figure 1: Distribution of Program Annual Debt by Field (4-digit CIP x Credential Level), Academic Year 2019



Notes: Figure includes the top 25 4-Digit CIP & Credential Level Credentials in Terms of Annual Volume, Ordered by Mean Per-Student Borrowing Amount. Each credential's share of total graduate loan volume in academic year 2019 listed in parentheses after field label. Debt distributions truncated at \$125,000.

Health fields are notable not only for the level of borrowing and the volume of debt for which they account, but because they have experienced rapidly growing graduate debt over the last 9 years. In Figure 2, we show the volume of annual debt going to students in programs in each 2-digit CIP and credential level category by academic year. These trends show that the health professions fields have exhibited the most growth in loan volume over the period between 2015 and 2023, in sheer volume of loans as well as a percent change. Health Master's and Professional programs occupied the top two positions in terms of loan volume at the beginning of the period and also exhibited the fastest growth over the period. The ensuing growth in loan volume has left these fields accounting for a much larger share of all federal graduate borrowing in recent years.

Figure 2: Growth in Annual Loan Volume Across Graduate Fields



Notes. Figure includes academic Years 2015-2023, by 2-Digit CIP Group and Credential Level Combination.

In Table 2, we display the annual loan volume and number of borrowers by program and field type. Across Professional, Master's, and Doctoral programs, health professions account for almost half of all annual loan borrowing. Professional health programs have the highest average and median annual amount borrowed, while Master's health programs have the largest number of borrowers but a lower typical borrowing amount than programs that grant Professional and Doctoral health credentials. Master's programs in business and education fields also have relatively large numbers of borrowers, but median annual loan amounts at or below the unsubsidized loan maximum. Law schools (which appear as professional programs in legal studies) also account for a large share of annual graduate borrowing, with a comparable annual volume to Masters programs in education, despite having about a third the borrowers.

Table 2: Average Annual Total Volume, Borrowers, & Distribution of Loan Amounts, Academic Years 2020-2023, by Field of Study (CIP2) & Credential Level

| | Total Annual Volume (\$Millions) | Share of All Annual Grad Borrowing (%) | Number of Borrowers (Thousands) | Average | Annual Amount Borrowed (\$) | | |
|------------------------------------|----------------------------------|--|---------------------------------|---------|-----------------------------|-----------------|-----------------|
| | | | | | Average Median | 75th Percentile | 90th Percentile |
| Professional Health Professions | 8,477 | 23 | 153 | 55,461 | 50,922 | 73,405 | 92,045 |
| Master's Health Professions | 5,800 | 16 | 248 | 23,431 | 20,500 | 26,909 | 48,838 |
| Doctoral Health Professions | 3,482 | 9 | 81 | 43,009 | 36,845 | 60,422 | 82,734 |
| Master's Business/Mgmt/Mktg | 3,301 | 9 | 176 | 18,763 | 16,421 | 20,500 | 34,134 |
| Professional Legal Prof/Studies | 2,690 | 7 | 65 | 41,375 | 38,262 | 56,554 | 73,167 |
| Master's Education | 2,648 | 7 | 180 | 14,693 | 13,636 | 20,500 | 20,500 |
| Master's Public Admin/Soc Svc | 1,630 | 4 | 79 | 20,614 | 20,500 | 20,500 | 37,378 |
| Master's Psychology | 1,318 | 4 | 65 | 20,232 | 19,971 | 20,500 | 38,399 |
| Doctoral Psychology | 507 | 1 | 17 | 30,261 | 21,388 | 39,679 | 61,749 |
| Professional Agriculture & Vet Sci | 479 | 1 | 9 | 51,698 | 46,946 | 69,400 | 80,225 |
| Master's Biological/Biomed Sci | 470 | 1 | 17 | 27,302 | 20,500 | 36,912 | 57,668 |
| Doctoral Education | 426 | 1 | 22 | 19,027 | 19,388 | 20,500 | 33,670 |
| Master's Visual/Performing Arts | 391 | 1 | 16 | 24,822 | 20,500 | 30,494 | 50,948 |
| Master's Computer & Info Sci | 384 | 1 | 22 | 17,433 | 15,802 | 20,500 | 30,941 |
| Doctoral Legal Prof/Studies | 380 | 1 | 10 | 38,873 | 35,452 | 53,974 | 68,747 |

Notes: Largest 15 programs in terms of total annual loan volume. Data for all loans disbursed to students in graduate programs in Academic Years 2020-2023. All values are calculated for annual amounts, so each student's borrowing amount in each award year is counted separately. All statistics are simple averages of that statistic for the annual amount in nominal dollars in each academic year for each field across the period 2020-2023. For this table, fields of study are defined at the 2-digit CIP level.

4. Cumulative borrowing among graduate program completers

This section uses our Completer Data to present information on the total debt levels of graduate borrowers who complete their programs of study between 2020 and 2023. Table 3 shows that the approximately 286,000 graduate students completing their degrees each year between 2020 and 2023 left school with a median level of federal graduate loans (not including any undergraduate debt) of \$73,904.

As shown above for annual borrowing, there is a considerable gap in cumulative borrowing between students who borrow Grad PLUS loans and those who do not. While the median borrower who uses only unsubsidized loans has less than \$35,000 in total graduate debt upon completing their program, typical borrowers with both graduate PLUS and unsubsidized loans borrowed about \$100,000.

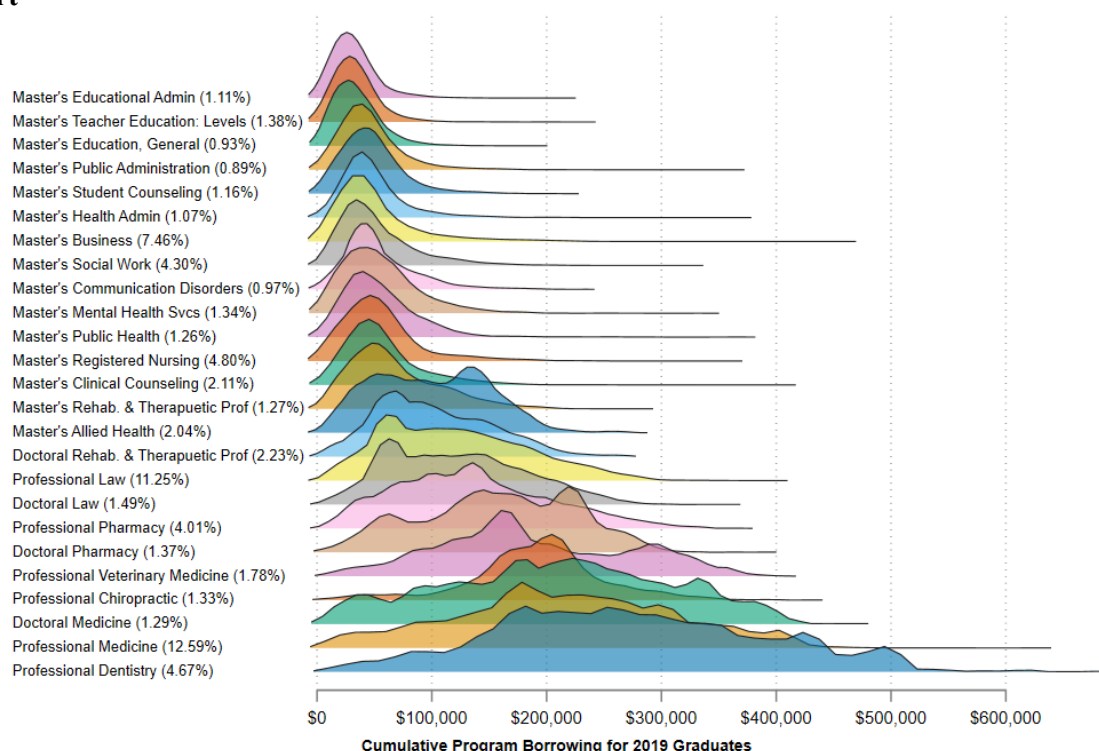
Table 3: Number of Borrowers, Total Volume, and Select Quantiles of Cumulative Loan Amounts, Averages Across Graduating Cohorts 2020-2023, by Combination of Loan Types Used

| | Number of Completers | Total Volume (\$Millions) | Cumulative Loan Dollars Disbursed (\$) | | | |
|---------------------------|----------------------|---------------------------|--|---------|-----------------|-----------------|
| | | | Average | Median | 75th Percentile | 95th Percentile |
| All Graduate Borrowing | 285,965 | 21,136 | 73,904 | 47,491 | 87,760 | 232,191 |
| Only Unsub Loans, no PLUS | 175,037 | 6,895 | 39,389 | 34,671 | 49,283 | 84,584 |
| Both Unsub Loans & PLUS | 109,929 | 14,192 | 129,067 | 101,826 | 173,214 | 309,430 |

Notes: This table displays the simple average across graduating cohorts of each statistic reported, so that each statistic can be interpreted as the average of that statistic across the 2020 through 2023 graduating cohorts. While only data for students who graduated from 2020 through 2023 is reported, all loans they borrowed on or after 2010 are considered. Graduation cohorts determined as the year the institution reported the student completing that program. Therefore, while a student can appear in more than one cohort (or more than once in a given cohort), their debt is allocated to a specific program, and they have only one graduation cohort assigned for that program.

As with annual borrowing, the distribution of cumulative debt across programs is highly uneven. Figure 3 shows the distribution of cumulative debt for completers in 2019 for the top 25 fields of study in terms of cumulative loan volume accrued for the program at completion for their graduates. Again, these fields are defined by their 4-digit CIP code and credential level and together accounted for over 70% of all cumulative loan volume for completers in 2019.

Figure 3: Distribution of Program Cumulative Debt for Completers by Field, 2019 Graduation Cohort



Notes: The figure shows 4-Digit CIP & Credential Level Combinations with at Least \$200 Million in Cumulative Borrowing for 2019 Graduates. Each credential's share of total graduate cumulative loan volume for the cohort that completed their program in 2019 is listed in parentheses after the field label.

As with overall borrowing, health professions dominate in terms of the average debt their students accumulate over their time in school, with large shares of students in programs that train doctors and dentists borrowing between \$200,000 and \$400,000 for their studies. Notably, Master's graduates have consistently lower sums borrowed to complete their degrees, likely owing to the shorter length of their programs. Even still, the large number of MBA students means that even their relatively smaller cumulative debt amounts still sum together to account for a considerable share (7.5%) of cumulative federal lending to graduate borrowers.

Figures 1 and 3 also help us visualize how much loan volume there is in different parts of the borrowing distribution and how this varies by field of study and credential type. This allows us to see, for example, that while a relatively small share of all master's students in registered nursing finish their programs having borrowed more than \$100,000 cumulatively for their program, very few dentists end up with *less* than that amount. This type of cross-field variation in borrowing makes clear that borrowing large amounts varies substantially across graduate programs in different fields of study. In Table 4, we show the fraction of borrowers and loan volume that have borrowing above certain loan amounts. For example, if a borrower has \$41,000 of debt, 50% of their debt would be above the \$20,500 limit, but 0% of their debt would be above the \$41,000 limit. These tables simply aggregate those borrower level volumes above the limit to make it possible to understand the fraction of loan volume affected.

Table 4: Total Volume, Borrowers, and Shares above Various Loan Amounts, by Field of Study (CIP2) & Credential Level, Academic Years 2020-2023

| | Average Annual Total Amount Disbursed (\$Millions) | Average Annual Number of Borrowers (Thousands) | % of Borrowers with Loans Above... | | | % of Loan Volume Above... | | |
|------------------------------------|---|---|---------------------------------------|----------|----------|---------------------------|----------|----------|
| | | | \$20,500 | \$41,000 | \$61,500 | \$20,500 | \$41,000 | \$61,500 |
| Professional Health Professions | 8,477 | 153 | 88 | 66 | 38 | 64 | 35 | 16 |
| Master's Health Professions | 5,800 | 248 | 30 | 13 | 6 | 31 | 12 | 4 |
| Doctoral Health Professions | 3,482 | 81 | 66 | 44 | 24 | 56 | 29 | 13 |
| Master's Business/Mgmt/Mktg | 3,301 | 176 | 17 | 7 | 3 | 22 | 9 | 3 |
| Professional Legal Prof/Studies | 2,690 | 65 | 70 | 45 | 19 | 53 | 23 | 7 |
| Master's Education | 2,648 | 180 | 9 | 2 | 0 | 9 | 2 | 0 |
| Master's Public Admin/Soc Svc | 1,630 | 79 | 23 | 7 | 2 | 21 | 6 | 1 |
| Master's Psychology | 1,318 | 65 | 21 | 8 | 3 | 22 | 7 | 2 |
| Doctoral Psychology | 507 | 17 | 51 | 23 | 10 | 42 | 16 | 5 |
| Professional Agriculture & Vet Sci | 479 | 9 | 92 | 57 | 33 | 61 | 29 | 11 |
| Master's Biological/Biomed Sci | 470 | 17 | 41 | 21 | 8 | 38 | 15 | 4 |
| Doctoral Education | 426 | 22 | 21 | 5 | 1 | 18 | 4 | 1 |
| Master's Visual/Performing Arts | 391 | 16 | 33 | 16 | 6 | 32 | 11 | 3 |
| Master's Computer & Info Sci | 384 | 22 | 16 | 5 | 1 | 17 | 4 | 1 |
| Doctoral Legal Prof/Studies | 380 | 10 | 66 | 42 | 16 | 50 | 21 | 5 |

Notes: Largest 15 credentials in terms of annual loan volume. Data for all loans disbursed to students in graduate programs in Academic Years 2020-2023. Averages and shares are calculated for annual disbursements, so each student's borrowing amount in each award year is counted separately. All statistics are simple averages of that statistic for the annual amount in nominal dollars in each academic year for each field across the period 2020-2023. Percentage of loan volume above each amount is the aggregated percentage of dollars that are above the relevant amount for each individual.

Here we can see that more than half of students in six of the top 15 fields in a typical year across the 2020-2023 period had loan amounts greater than the current unsubsidized annual maximum amount of \$20,500. Large fractions of students and loan volume are also above double the current unsubsidized limit. Borrowers who have annual borrowing above \$61,500 – three times the current unsubsidized annual loan limit – are more common in health and legal fields.

We present a similar table in Table 5, but this time across public, private non-profit, and for-profit institutions. Professional programs in across public, private non-profit, and for-profit institutions have more than one in five students borrowing above \$61,500 on annual basis. Non-profit doctoral and professional programs and for-profit professional programs (the last of these representing a relatively small share of annual loan volume and borrowers) have close to 15% of their loan volume each year above this \$61,500 level.

Table 5: Total Annual Volume, Borrowers, and Shares above Various Loan Amounts, by Control and Credential Level, Academic Years 2020-2023

| | Average Annual Total Amount Disbursed (\$Millions) | Average Annual Number of Borrowers (Thousands) | % of Borrowers with Loans Above... | | | % of Loan Volume Above... | | |
|-------------------------|---|--|---------------------------------------|----------|----------|---------------------------|----------|----------|
| | | | \$20,500 | \$41,000 | \$61,500 | \$20,500 | \$41,000 | \$61,500 |
| Public Master's | 6,787 | 391 | 16 | 4 | 1 | 15 | 4 | 1 |
| Public Doctoral | 1,297 | 50 | 41 | 18 | 5 | 34 | 11 | 2 |
| Public Professional | 4,622 | 105 | 80 | 50 | 21 | 55 | 24 | 8 |
| Non-Profit Master's | 9,549 | 419 | 26 | 13 | 6 | 31 | 13 | 4 |
| Non-Profit Doctoral | 3,400 | 83 | 60 | 40 | 23 | 55 | 29 | 13 |
| Non-Profit Professional | 5,854 | 107 | 84 | 65 | 39 | 64 | 35 | 15 |
| For-Profit Master's | 2,136 | 131 | 14 | 2 | 1 | 13 | 3 | 1 |
| For-Profit Doctoral | 554 | 22 | 36 | 16 | 7 | 35 | 14 | 5 |
| For-Profit Professional | 282 | 8 | 43 | 35 | 24 | 55 | 33 | 16 |
| All Other | 1,699 | 40 | 50 | 38 | 28 | 60 | 39 | 23 |

Notes: Data for all loans disbursed to students in graduate programs in Academic Years 2020-2023. Average and quantile values are calculated for annual amounts, so each student's borrowing amount in each award year is counted separately. All statistics are simple averages of that statistic for the annual amount in nominal dollars in each academic year for each field across the period 2020-2023. Percentage of loan volume above each amount is the aggregated percentage of dollars that are above the relevant amount for each individual.

5. Completion outcomes for aided graduate borrowers

Among all student borrowers, it is increasingly well known that those with debt but no degree often have the highest prevalence of student loan default. The issue of noncompletion has largely been ignored, however, among graduate borrowers.¹⁴ Here we present provisional analyses of graduation rates for nearly all Title IV graduate student loan borrowers. For this analysis we use our Entrants Data, which includes approximately 350,000 students who began graduate work in the 2015 award year and received funding through FSA. The majority, approximately three quarters, are Master's students. The remaining students are split between the other types of graduate programs: 10% in Doctoral programs, 11% in Professional programs, and 3% in graduate certificate programs. To the extent that students may enroll and not rely on funding from FSA, we may understate the true completion rates, and withdrawal rates may be overstated.

To examine completion rates, we account for differences in program length. The data include measures of the program length, which are available for most students and programs. Table 6 shows the program length by credential type.¹⁵ About half of Master's programs require two years or more of study. Most doctoral programs require at least four years of study. Professional programs tend to require three years. Graduate certificate programs are generally short, with more than three quarters of them requiring at most 2 years of study.

¹⁴ Denning and Turner (2024), "The Graduation Part II: Graduate School Graduation Rates," *NBER Working Paper 32749* is a recent exception, documenting completion rates among graduate students attending various graduate programs at public institutions in Texas.

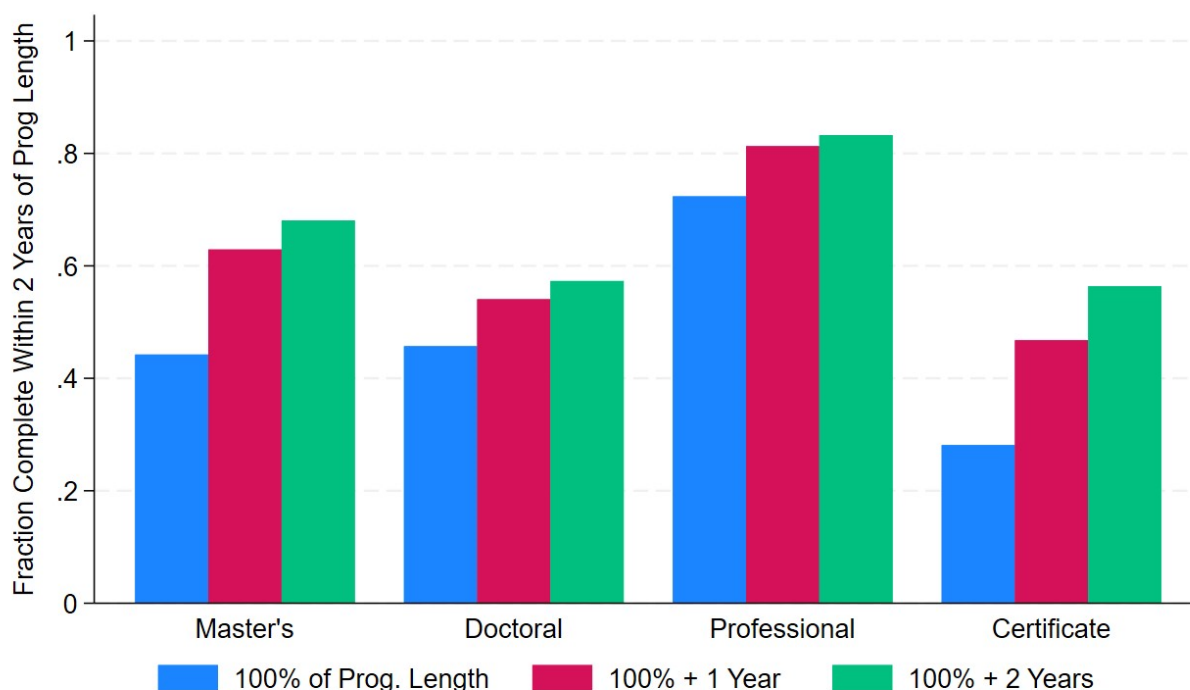
¹⁵ Program length is reported to the Department by institutions. The program length variable is defined at the individual level and sometimes varies across students within a program or is missing for a subset of students. We assign all students within a program the mean program length of the students in that program. For programs that have missing program lengths for all students, we assign the mean program length for the same program the following year, if available.

Table 6. Programs by Length, by Credential Type, 2015 Entering Cohort

| | Programs | % of Programs of with Length of... | | | | | | Missing |
|--------------|----------|------------------------------------|--------|---------|---------|---------|----------|---------|
| | | <1 Year | 1 Year | 2 Years | 3 Years | 4 Years | 5+ Years | |
| Master's | 13,736 | 1 | 47 | 21 | 12 | 7 | 4 | 9 |
| Doctoral | 3,055 | 0 | 3 | 8 | 19 | 15 | 43 | 12 |
| Professional | 669 | 1 | 3 | 19 | 46 | 7 | 10 | 13 |
| Certificate | 1,290 | 29 | 38 | 9 | 3 | 1 | 1 | 19 |

Notes: Sample includes all programs with positive enrollment of new students in the 2015 academic year. The columns show the fraction of programs, unweighted by student enrollment, that had stated program lengths of the given number of years.

Figure 4 shows the fraction of incoming students of the 2015 cohort who completed their programs within the program's stated length, as well as the fraction completing within one or two years later.¹⁶ Overall, almost half of students completed their program within the stated program length. Completion rates varied by credential type, however. Completion rates in Professional programs, most of them law schools, were the highest. Almost 70% of Master's students, who comprise the largest share of graduate students, completed their program within two years of their program's length.

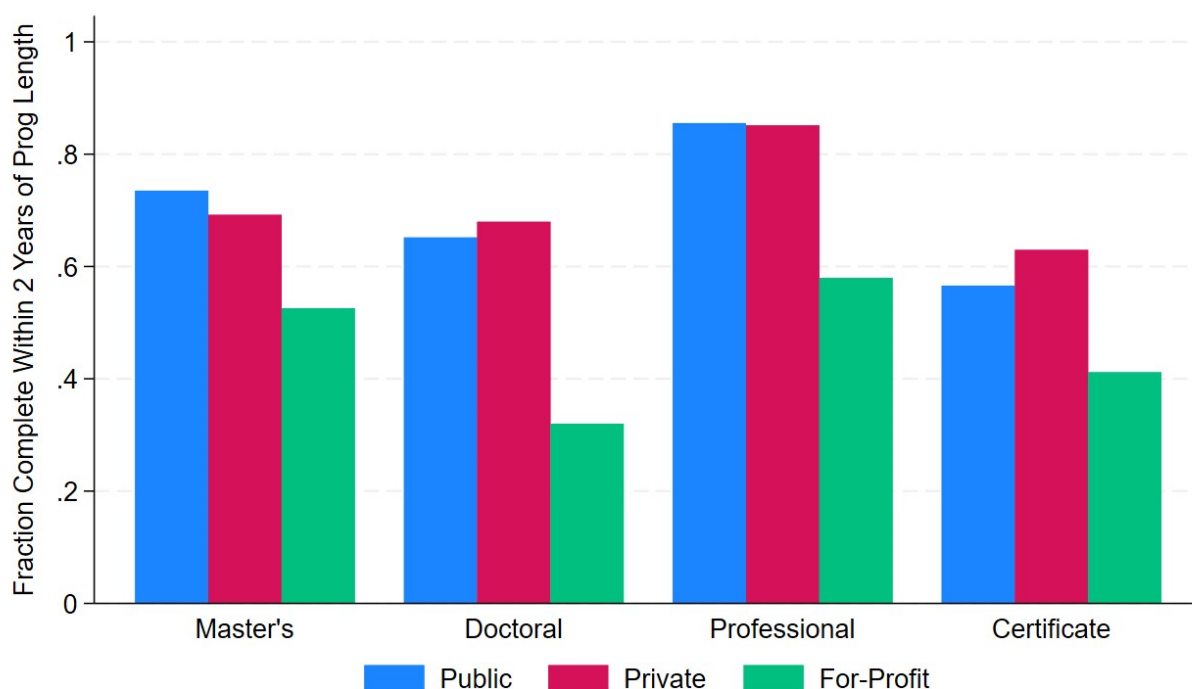
Figure 4. Completion Rates within 2 Years of Program Length, by Years Relative to Program Length

Notes: Sample includes all enrolled aided graduate students in the 2015 academic year, broken out by their intended credential. The different bars correspond to the fraction of students who complete their program within the stated program length, or one or two years later.

¹⁶ We focus on the fraction completing within one or two years of the stated program length in order to have a uniform metric when accounting for long programs. Some doctoral programs, in particular, have long program lengths such that we would not have been able to calculate a different metric like 150% of the program length.

Figure 5 shows completion rates by credential level and the control of the institution where students enroll. The figure reports the fraction of the 2015 cohort that completes within two years of the stated program length. Public and private not-for-profit institutions have comparable completion rates across credential types. For some credentials, like Master's and Professional programs, public institutions have slightly higher completion rates, while for others private institutions do. In all cases, though, completion rates are much lower in for-profit colleges – with less than half of graduate borrowers in doctoral and credential programs completing.

Figure 5. Completion Rates within 2 Years of Program Length, by Credential Level and Institution Control



Notes: Sample includes all enrolled aided graduate students in the 2015 academic year, broken out by their intended credential and the control of their institution. The outcome is the fraction of students who complete their program within 2 years of the stated program length.

Further, in Appendix Figure A1 we show withdrawal rates. For all credential types, the withdrawal rates during the first year are substantial—20% on average—and rise in the first years, though they level off after the second year. Doctoral programs are an exception, where students continue to withdraw into the third and fourth years.

6. Debt and No Degree Among Graduate School Non-completers

The preceding analyses shows that noncompletion is more common among graduate student borrowers than may be conventional wisdom. In the 2015 entry cohort, 71% of students who took out federal graduate loans completed a program within five years. This means that a substantial share of student loans was disbursed to students who did not earn a degree within 5 years. Given the high levels of debt some

students can acquire while enrolled, such students may be at high risk for poor repayment outcomes or loan default if their labor market prospects aren't meaningfully improved by attending but withdrawing prior to earning a graduate credential.

Table 7 illustrates how much debt is acquired by graduate students who do not ultimately complete their degree. The first column of Table 5 below shows the median disbursement in the entry year across all students (including those who eventually complete and those that do not) in the sample. Professional degree completers take on more debt than Master's students and other graduate students. The second column shows the fraction of entry year disbursements that went to students who ultimately did not complete. The third column of the table gives a sense of scale to the amount of graduate debt held by students who did not earn a graduate degree. Overall, \$1.5 billion in student loans, or about 23% of the total disbursements to students in this entry cohort in their first year, were disbursed in the entry year to students who never completed. Master's programs are responsible for 61% of first-year disbursements, which is lower than their fraction of total enrollment (76%).

The final column shows the total amount of disbursements over seven years, from 2015 to 2022, to students who would not eventually complete the program. Over these seven years, more than \$3 billion was disbursed to these students, over half of which was at Master's programs. Non-completers accounted for 20% of the loans disbursed to the 2015 entering cohort of graduate students over the seven years.

Table 7. Loan Disbursements, 2015 Entering Cohort

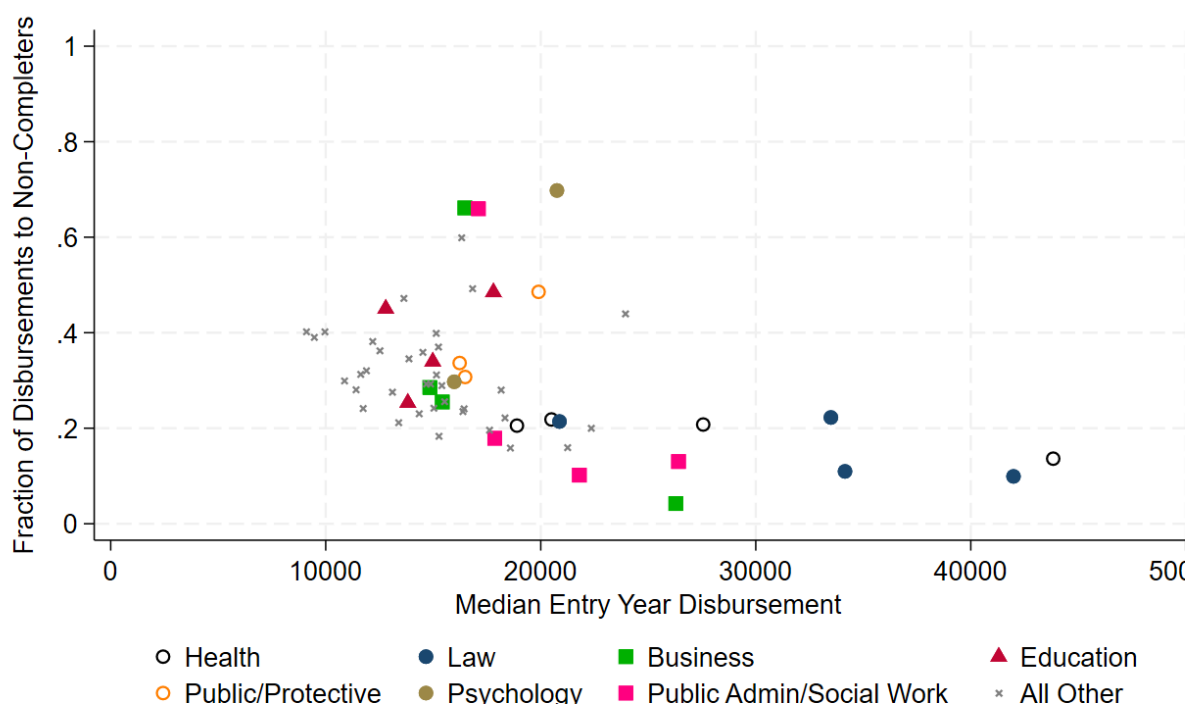
| | Median Entry Year Loan (\$) | Disbursement to Non-Completers | | |
|-----------------------|--------------------------------|--------------------------------|----------------------------------|------------------------------|
| | | Entry Year Share (%) | Entry Year Total (\$Millions) | 7-Year Total (\$Millions) |
| Master's | 15,798 | 19 | 1,031 | 1,738 |
| Doctoral | 19,147 | 33 | 258 | 764 |
| Professional | 39,379 | 4 | 201 | 497 |
| Grad/Prof Certificate | 16,223 | 22 | 51 | 90 |

Notes: Sample includes all enrolled aided graduate students in the 2015 academic year, broken out by their intended credential. The first column shows the median disbursements in the initial year of study across all students in the cohort. The next three columns show the disbursements that go to students who do not complete within seven years: their fraction of the first-year disbursements, and the total disbursements in the entry year and the first seven years.

We next discuss how these numbers vary across fields of study. Figure 6 below relates the median entry year disbursement to the share of first-year loans disbursed to non-completers in some of the most common fields of study.¹⁷ Each point represents one combination of 2-digit CIP code and credential type (for example, a Master's in Education). Medical school is the farthest outlier in the median entry year disbursements, at more than \$45,000. However, the shares of entry year disbursements to medical school non-completers are below 20%. Other medical degrees have similarly low shares of loans to non-completers. Law school, while not quite as expensive, shows a similar pattern. The median amount of loans to students with MBA's represents the lowest fraction of loans to non-completers in the figure. A few other programs that stand out for having high loan amounts and high fractions to non-completers are doctoral programs in Psychology and Social Work.

¹⁷ The figure limits the data to credential-field cells that have at least 100 incoming students nationwide.

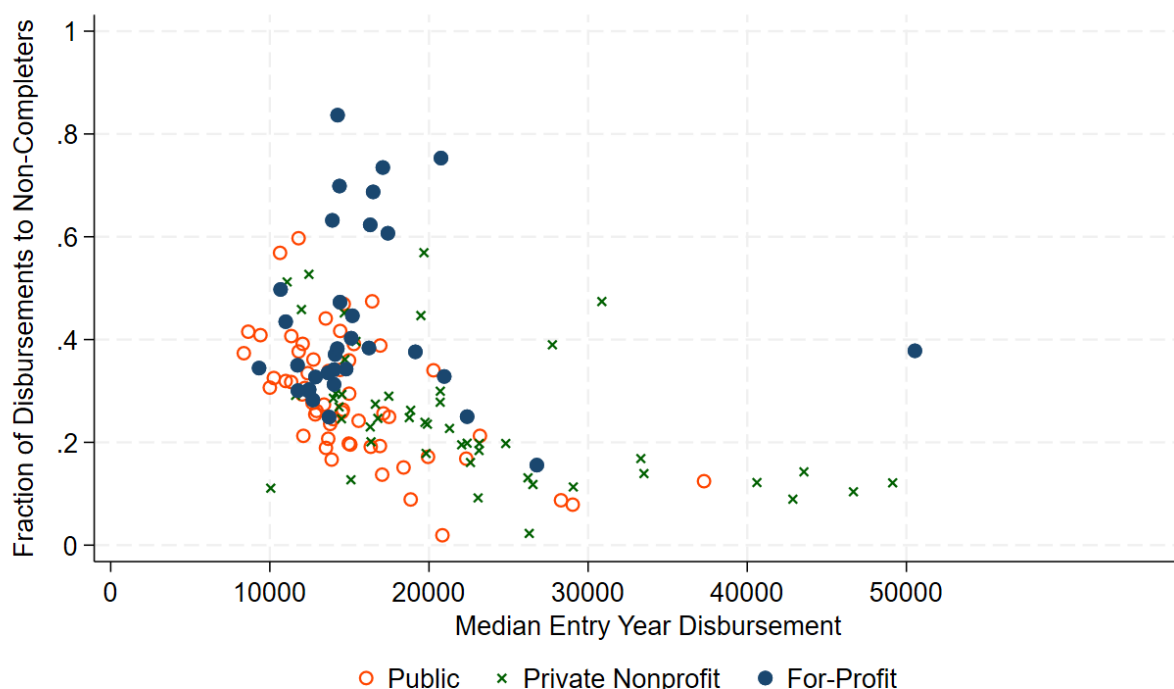
Figure 6. Median Loan Amount and Share of Loans to Non-Completers, by 2-Digit CIP Code, 2015 Entering Cohort



Notes: Sample includes all enrolled aided graduate students in the 2015 academic year, aggregated by the 2-digit CIP code and credential level of their program, and the control of the institution. The horizontal axis shows the median entry year loan disbursement of the program, and the vertical axis shows the fraction of those disbursements that go to students who do not complete within seven years of starting the program.

We also split out the programs by the type of institution. Figure 7 shows the median first year disbursement and the share of loans to non-completers by field of study and by control of the institution. Public institutions tend to have the lowest loan amounts, though they vary in their share of loans to non-completers. In 51% of all fields and credential levels, the median entry year disbursement at public institutions is lower than at the other two types of institutions. In general, private non-profits tend have higher disbursements than public institutions, while for-profits have a wide range of disbursement values. For-profits account for the highest shares of loans to non-completers across almost all fields, and have higher non-completer loan shares than the other two sectors in 90% of programs.

Figure 7. Median Loan Amount and Share of Loans to Non-Completers, by Control of Institution, 2015 Entering Cohort



Notes: Sample includes all enrolled aided graduate students in the 2015 academic year, aggregated by the 2-digit CIP code and credential level of their program, and the control of the institution. The horizontal axis shows the median entry year loan disbursement of the program, and the vertical axis shows the fraction of those disbursements that go to students who do not complete within seven years of starting the program.

As a final analysis in this section, Table 8 shows comparisons of various program characteristics and outcomes across institution control, holding constant field of study and credential level. The estimates are expressed as differences relative to public institutions.¹⁸ For example, the first column shows that, in general, private and for-profit programs are longer than public programs. Public institutions tend to have \$4,800 lower loan amounts in the first year relative to private institutions. However, public and for-profit programs tend to disburse fairly similar amounts of loans in the first year. Completion rates at private institutions are fairly comparable to public completion rates, but for-profit completion rates are 15 percentage points lower. The final column shows that public and private institutions fund a similar share of their loans toward students who do not eventually complete, while for-profits have a much higher share. Overall, these results suggest that for-profits lead to overall higher rates of student debt through keeping students enrolled for longer, and potentially reducing their ability to repay their loans once they leave the institution, more often without a credential.

¹⁸ The sample is limited to programs that have a stated program length, in order to keep the number of observations consistent across columns. Results that do not impose this restriction are qualitatively similar.

Table 8. Differences in Program Characteristics Across Institution Control

| | Program Length (Years) | Entry Year Disbursement | Completions in 150% Time | 7-Year Completion Rate | Share of Loans to Non- Completers |
|--------------|---------------------------|----------------------------|--------------------------------|---------------------------|---|
| Private | 0.128*** (0.022) | 4821.4*** (876.300) | -0.0366** (0.013) | -0.0212 (0.011) | 0.00778 (0.011) |
| For-Profit | 0.298** (0.112) | -878.5 (725.100) | -0.153*** (0.028) | -0.148*** (0.016) | 0.0755*** (0.015) |
| Outcome Mean | 2.415 | 16929.2 | 0.429 | 0.569 | 0.295 |
| N | 8151 | 8151 | 8151 | 8151 | 8151 |

Notes: Sample includes all programs with enrolled aided graduate students in the 2015 academic year, aggregated by the 6-digit CIP code, credential level, and control, and the control of the institution. Coefficients and standard errors come from a regression of the stated outcome variable on the control of the institution, where the omitted category is public institutions. Sample is limited to programs that have a stated program length. * p<0.05, ** p<0.01, *** p<0.001

7. Graduate Borrowing Amounts Relative to Earnings Outcomes

As shown above, in some fields graduate borrowers leave their programs with very high levels of debt. Moreover, within those fields there are often large differences across programs offered by different institutions in debt levels. This section presents evidence on whether these differences in borrowing levels are related to differences in early career earnings outcomes for students. We start with analyses summarizing the relationship between median borrowing and earnings 3 years after completion at the field of study level, defined by all programs at any institution with the same 6-digit CIP code and credential level, and then present analyses of heterogeneity in outcomes across programs in the same field offered by different institutions.

In Figure 8, we show how median debt for graduates in each field of study compares to the median earnings of graduates in the same cohorts measured 3 years after completion. The figure includes all fields of study with at least 500 completers in the combined 2017 and 2018 academic year graduation cohorts.¹⁹ Broadly, professional and doctoral field graduates have both higher debt levels and higher earnings compared to students earning master's degrees.

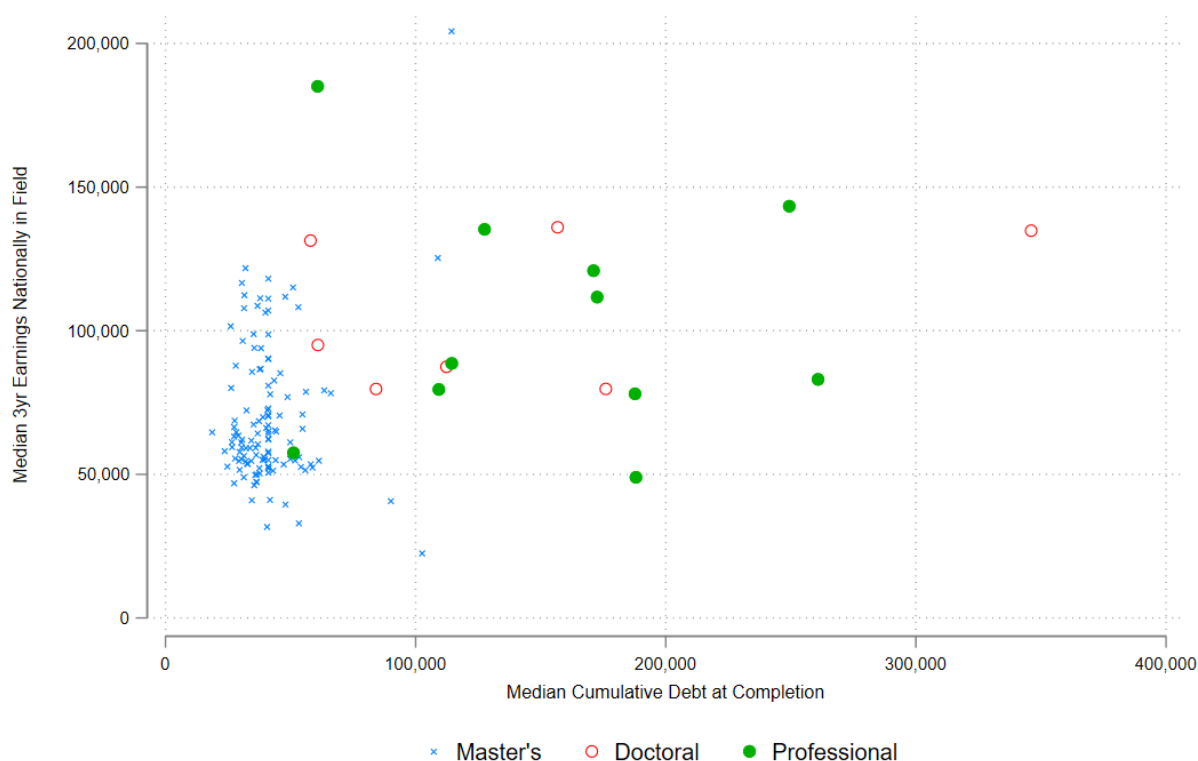
Within each type of credential, the association between median debt levels of borrowers in a field and the median earnings of those borrowers is weak: fields with high borrowing do not consistently have higher earnings outcomes than fields where debt levels are much lower. As evident in the figure, and in simple regressions that show a small, albeit statistically significant, relationship between a program's median earnings and its debt levels.²⁰ This finding is contrary to arguments that all borrowers in fields with high debt levels will have earnings sufficient to manage their debt, and suggests that additional scrutiny of

¹⁹ These data provide nationally aggregated versions of similar earnings measures available at the institution-by-program level through the College Scorecard. That is, it provides the median earnings for students who borrowed to attend a program at any institution, graduated, and are not subsequently enrolled three years after completing their degree.

²⁰ Results are available upon request. The regression coefficients suggest that programs with double the debt level as other programs only have 10-20% higher median earnings.

borrowing in particular fields and in particular programs at institutions with high debt and low earnings outcomes is warranted.

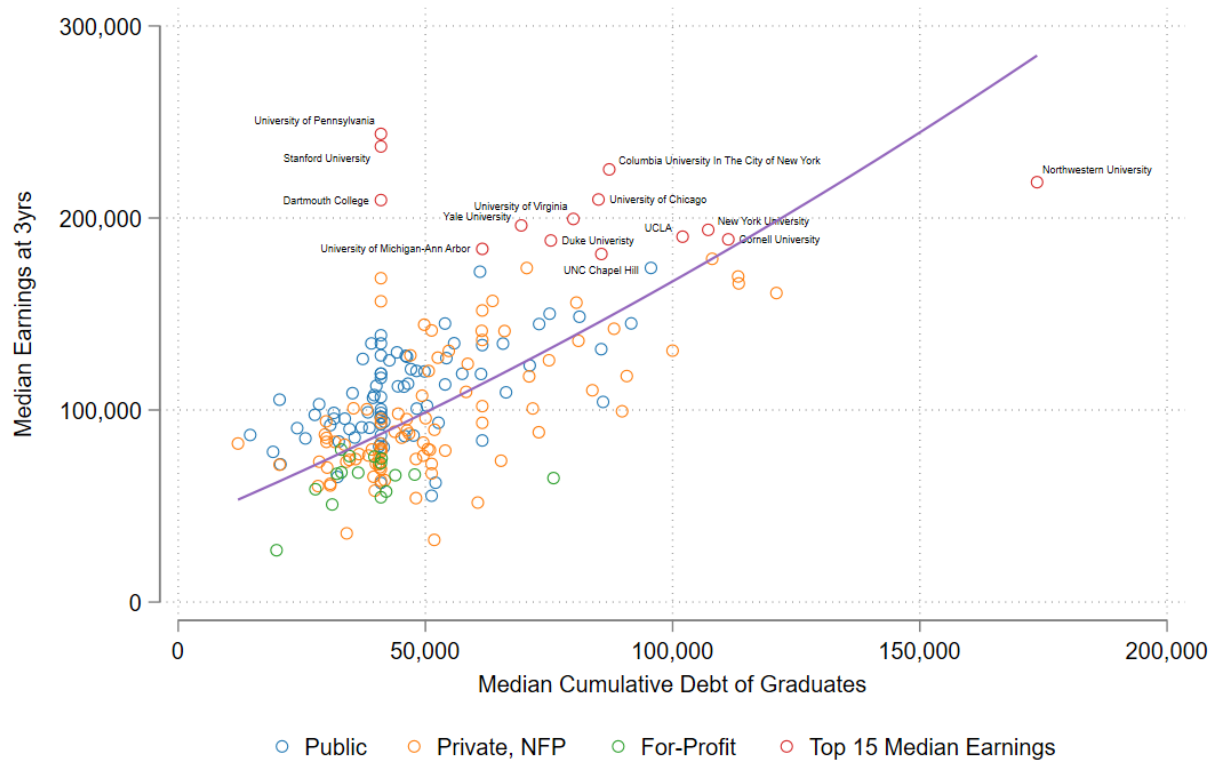
Figure 8. Relationship Between Field-Level Earnings and Field-Level Debt, For Graduates in 2017-18 Cohorts at the CIP6-by-Credential Level for Fields with More than 500 Students



Notes: This figure depicts the median 3-year earnings and cumulative debt at completion for each credential (defined as a CIP6 and credential level combination) with at least 500 students. The earnings measure is the median earnings available to the Treasury in administrative data following the Gainful Employment Rule informational rate methodology. It is therefore reported for all graduates in the 2017 and 2018 who are not enrolled in the 2020 and 2021 calendar years. Cumulative debt is the amount of debt a student accrues across all years we observe them in their program of study (CIP6 x Credential Level) at a given institution.

These national aggregates can obscure important differences in program performance within the same field across different institutions. For example, Figure 9 shows how the earnings for graduates of MBA programs relate to cumulative debt amounts for students in those same programs. For MBA programs, there is generally a strong positive relationship between earnings and debt, with the graduates of the lowest earnings programs taking on much less debt in general than those in the highest earnings programs. There is still, however, wide variation in borrowing levels across programs that have similar earnings outcomes. For example, among the top 15 earning programs (those labeled and with red circles), where the median graduate earns in excess of \$175,000 per year three years after they finish their program, median cumulative debt loads vary widely, with some programs leaving at least half of their graduates with less than \$50,000 in debt, while others have half of graduates taking on more than \$100,000 across their time in the program.

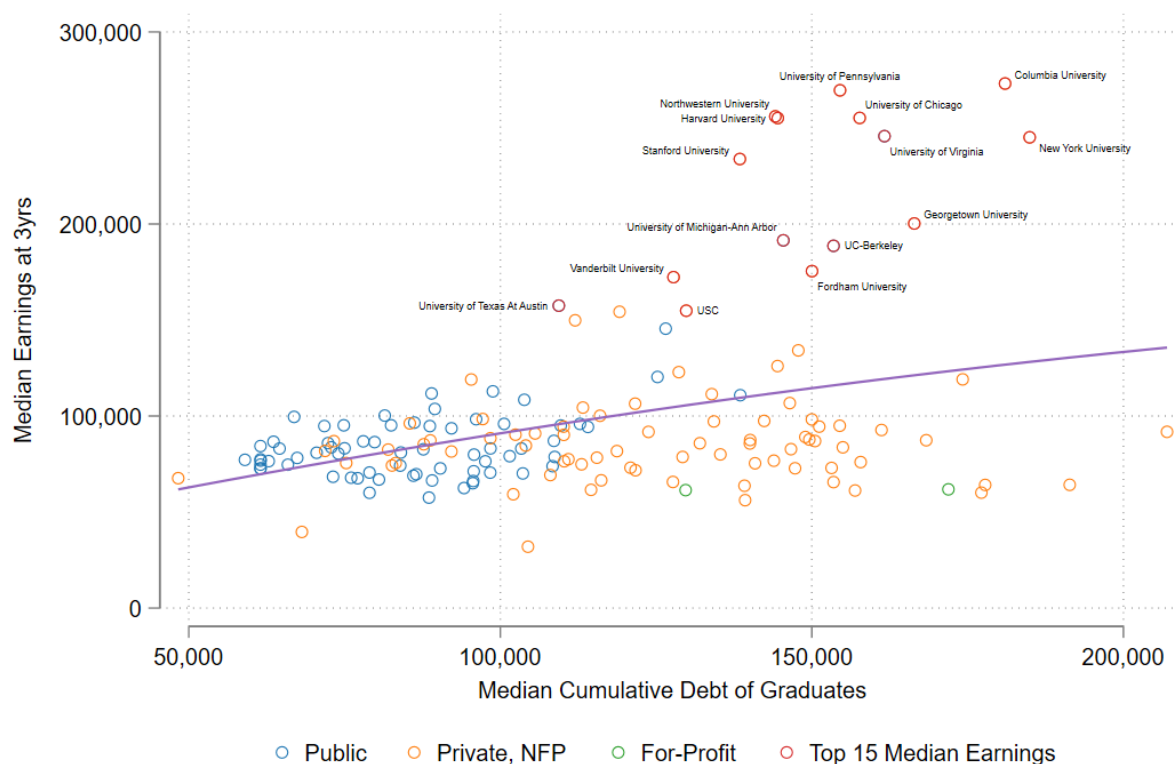
Figure 9: Relationship Between Median Earnings at 3 Years and Median Cumulative Debt for Program in MBA Programs, Combined Completion Cohorts of 2017 and 2018.



Notes: Programs pictured are Master's Programs in Business Administration (CIP = 52.0201) with more than 50 borrowers who completed their program in academic years 2017 or 2018. Top 15 programs in terms of earnings have labeled red dots. Quadratic line of best fit for relationship between debt and earnings, weighted by number of completers in each program.

Next, we display law in Figure 10. The relationship between earnings and cumulative debt is quite weak everywhere except among the top earning programs. Among the programs outside the top 15 earning programs, median earnings tend to range between \$75,000 and \$100,000, with little apparent relationship to median debt levels. Among top earning programs, where earnings can reach levels twice as high as the other law schools, lower earning programs tend to leave their graduates with less debt though this relationship is still noisy.

Figure 10: Relationship Between Median Earnings at 3 Years and Median Cumulative Debt for Program in Law Schools, Combined Completion Cohorts of 2017 and 2018.



Notes: Programs pictured are Professional Programs in Law (CIP = 22.0101) with more than 50 borrowers who completed their program in academic years 2017 or 2018. Top 15 programs in terms of earnings have labeled red dots. Quadratic line of best fit for relationship between debt and earnings, weighted by number of completers in each program.

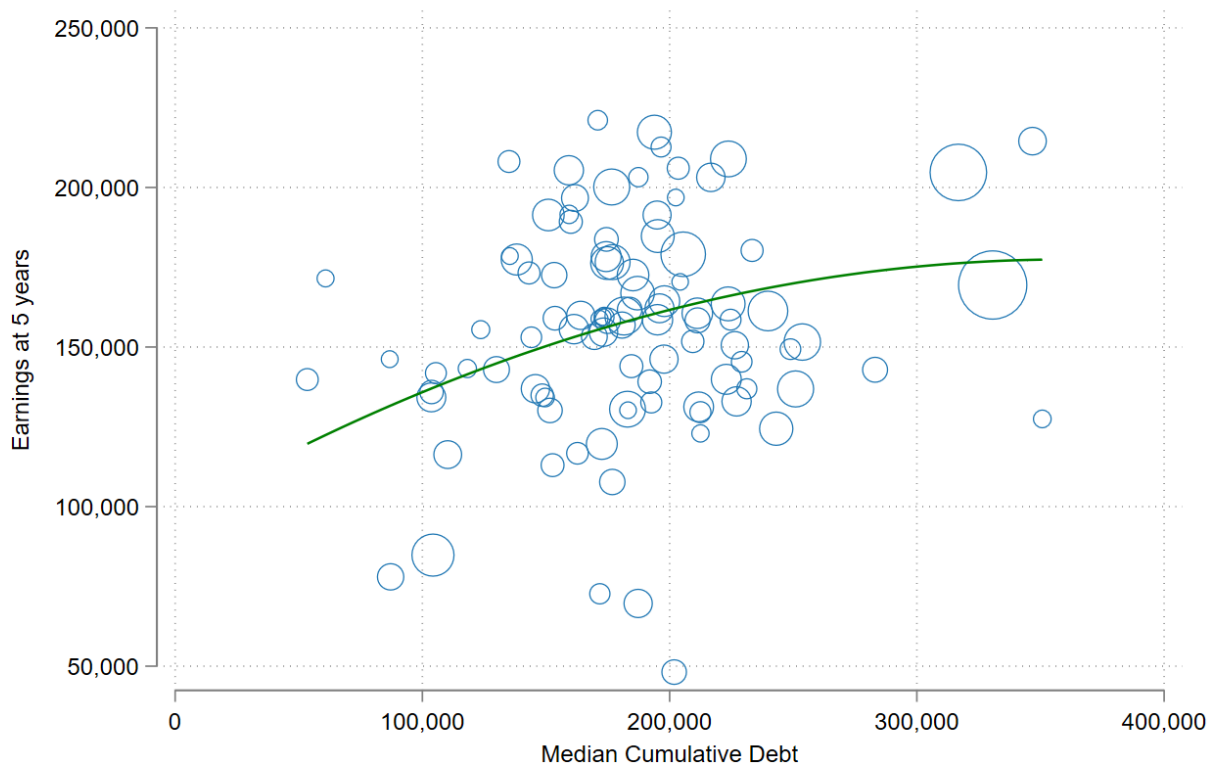
Medical schools are somewhat unique. In general, there is quite a bit of uniformity among residency salaries.²¹ However, medical salaries grow quite rapidly after residency. As shown in Figure 11, by the fifth year after program completion typical earnings at most programs ranges between \$100,000 and \$200,000.²² There are also generally higher earnings for graduates in programs with higher debt levels. This rapid growth in earnings for medical school graduates after their third year suggests that

²¹ The AMA advises prospective medical students: “As a physician, you will not maximize your earnings until the completion of your graduate medical education. The average first-year resident physician makes about \$60,000, and there’s not much wiggle room. Resident salaries are determined by an institution and correlate with training year rather than specialty.” See: <https://www.ama-assn.org/medical-students/specialty-profiles/6-things-medical-students-should-know-about-physician>

²² This graph is constructed slightly differently from the previous few in order to take advantage of the longer earnings horizon available through the most recent College Scorecard Field of Study data, which reports median earnings at 5 years for programs at the 4-digit rather than 6-digit CIP level. Our cumulative debt measure remains the same, though it too is changed to be measured at the 4-digit CIP level. The cohorts available for 5-year earnings are also slightly different than for the previous graphs, so we show the values for the 2015 and 2016 graduation cohorts rather than the 2017 and 2018 groups.

understanding the relationship between earnings and debt has an important time component for programs with residency-style training programs.

Figure 11: Relationship Between Median Earnings at 5 Years and Median Cumulative Debt for Program in Medical Schools (at the 4-Digit CIP Level), Combined Completion Cohorts of 2015 and 2016.



Notes: Programs pictured are Professional Programs in Medicine (CIP = 51.12) with more than 50 borrowers who completed their program in academic years 2015 or 2016. Circle size is proportional to the number of students in the program. Quadratic line of best fit for relationship between debt and earnings, weighted by number of completers in each program, pictured in green.

8. Conclusion

In this report, we present new data on the borrowing and outcomes of students at graduate programs. The data presented here illustrate some important facts that should be kept in mind when considering the value of graduate programs, and how much debt borrowed at these programs could be considered excessive. Perhaps the most salient feature that the data illustrate is the heterogeneity in both borrowing and earnings outcomes across fields, and across programs offered by institution within the same field. Closely related is the frequent lack of correlation between debt and earnings levels.

Given the variety across fields of study and across fields within fields, universal blunt limits on borrowing could bind students from access to a variety of programs with diverse typical debt and earnings outcomes. Borrowing limits that do not differentiate across fields of study will likely have the greatest impacts at in fields such as dentistry and medicine where many, though not all, programs have very high borrowing levels. While some of the fields with the highest borrowing levels correspondingly have high earnings

that could make high debt payments affordable, this is not universally true. Within many fields, there is also wide variation in earnings and debt levels meaning that some of the programs with high typical borrowing may lead to excellent labor market outcomes, while others do not.

A1. Data Appendix

This appendix describes the four overlapping datasets that we use throughout the report. A version of these data, suppressed for small cells, is available on the Department of Education Office of the Chief Economist's website.

a. Annual Data for All Borrowers

First, we create an “Annual Data” set that gives us an overall picture of the total borrowing for graduate school across fields of study and institutions. The Annual Data consists of all students who borrow for a graduate program between academic years 2015 and 2023.²³ Programs are defined as the 6-digit CIP and credential level that a student is enrolled in at a given institution. We organize students into cohorts by the academic year in which the enrollment spell for their borrowing occurred. We include all these borrowers in the Annual Data regardless of completion status. We then calculate the borrowing and debt for all students in the Annual Data and allocate debt to enrollment spells by date of disbursement.

b. Completers Data

Second, we create a file of “Completers Data” that we use to characterize cumulative borrowing outcomes for graduate program completers. The Completers Data consists of the subset of students in the Annual Data who complete a graduate program between academic years 2016 and 2023. We organize students into cohorts by the academic year in which their institution reports they completed a graduate program. For each student in the Completers Data we calculate cumulative debts as all graduate debt accrued for a specific program. If students complete multiple programs in our sample period, each of their cumulative debt values are placed into the cohort corresponding to the academic year in which they completed that program.

c. Entrants Data

To study graduate completion rates we create an “Entrants Data” set based on incoming new graduate students in the 2015 academic year. Each cohort is defined by institution, credential, and program of study (6-digit CIP code). To create the analytic sample, we observe the first award year for which a student filed a graduate FAFSA. We then assemble academic information including program of study and credential level from NSLDS and loan information from FSA for these students before and after this first aided year of graduate study.²⁴

For each student we identify the institution, credential, and 6-digit CIP in their first year of graduate study.²⁵ We then observe their academic outcomes afterwards, including whether and when they ever withdrew from the program. We also observe whether they graduated, in which year, and the credential (level and CIP code) of the program they graduated from. From this graduation information, we create completion rates. We separately identify program completions within the same degree and credential level, as well as any other completions, understanding that students may transfer across or switch to lower level programs, and that some may also earn intermediate credentials as they go along.

²³ Academic years are the time horizon against which annual unsubsidized borrowing limits are enforced. Academic years are defined by colleges and so vary from institution to institution, but we assign loans to academic year labels by determining which award year the academic year most overlaps. See Appendix A2 for more details.

²⁴ Approximately 1.5% of the sample received aid at two different institutions in the same award year and grade level. Moreover, 0.1% of graduate students or receive two credential in multiple areas of study in the same year.

²⁵ We assign entering CIP and credential level from first FAFSA linked to nearest appearance in NSLDS.

We also compile loan outcomes for each student in the Entry Data. Since many students took out loans prior to graduate school, we calculate the total balance and outstanding loans in the December of their first year of graduate school. We then observe these same outcomes each December going forward. We measure annual cumulative loan disbursements in each subsequent year beginning in the first year of graduate school enrollment. This measure provides an understanding of the total cost of graduate education apart from progress toward repayment.

d. National Program-Specific Earnings Outcomes

In addition to debt information, we also use newly created information about program-level earnings measured in the 2020-21 calendar years for students who finished their program in the 2017-18 award year. This earnings information comes from IRS data for national completion cohorts of all federally aided students who finished a program (defined as a 6-digit CIP field of study at a specific credential level) at any institution in the US. Different from the College Scorecard, these data are not specific to a particular institution but rather illustrate the distribution of earnings outcomes across all students earning a particular credential in a particular area of study regardless of the institution. In particular, for each program of study the data contain estimates of the 25th, 50th, and 75th percentiles of the earnings distribution for graduates who were not enrolled three years after completion (including graduates with zero earnings).

A2: Technical Appendix

In order to analyze program-level borrowing patterns and how they relate to the enforcement of annual borrowing limits, we needed to make various assumptions in the data. This technical appendix outlines our assumptions for the purposes this analysis and for combining otherwise disparate data sources in the Department's administrative data. The annual unsubsidized loan limit of \$20,500 is enforced within Academic Years (a curricular concept defined by institutions to measure when an annual period of study begins and ends), not Award Years (a student aid concept that defines the period in which students receive aid for their studies). While the Award Year is consistent across institutions and years (spanning from July 1 of each year to June 30 of the following year), Academic Years can vary greatly but are often the traditional academic period from the start of the fall semester to the end of the spring or summer semester. Institutions vary in how they allocate summer semesters to academic years, and those with non-traditional calendars may have their entire academic year occur within a single calendar year. Some even have multiple academic years that start and end within a single calendar year.

Because the administrative data stores enrollment spells and program information separately from loan information (which contains the academic year dates to which the loan applies), we are faced with the challenge of determining which loans pertain to which program enrollment spells. Furthermore, grouping academic years together under a single year label is difficult because they often overlap multiple calendar years and do not cover uniform periods. For the purposes of this paper, we do the following:

- **Matching loans to program enrollments:** First, to match loans to enrollment spells we begin by finding all enrollment spells that overlap the loan date (i.e. where the loan date occurs during the enrollment spell) for the same institution where the loan was issued. Then, if students have multiple enrollment spells that overlap a loan disbursement, we assign loans to enrollment spells in the following priority order: students are first assigned to the program with the highest 3-year Scorecard earnings; then first professional programs are prioritized over Master's programs which are prioritized over Doctoral programs which are prioritized over graduate certificates; finally, programs are prioritized by enrollment intensity and enrollment spell length, with higher intensity and longer spells being given priority over lower-enrollment spells.
- **Grouping academic years together across institutions:** Because we would like to show trends over time in annual borrowing amounts and construct cohorts for the cumulative borrowing patterns, we need to determine which academic years will be grouped together under, for example, the label of "2023." Because the academic year construct is meant to reflect when school calendars begin and end, we chose to try to assign students to a uniform period that stretches from the middle to late period of one calendar year to the early to middle period of the next calendar year, reflecting the general pattern of school years. For this paper, we used Award Years as the benchmark period to help classify Academic Years. To that end, we give Academic Years the label of the Award Year with which they most overlap. Award Years are referred to by the second calendar year (e.g. the AY2024 runs from July 1, 2023 through June 30, 2024), and we follow the same convention.

A3. Appendix Tables and Figures

Table A1: Total Volume, Borrowers, and Distribution of Annual Loan Amounts, in Academic Year 2016, by Field of Study (CIP4) & Credential Level

| | Number of Borrowers | Annual Borrowing Amounts | | | | Total Annual Loan Volume (Millions) |
|---|---------------------|--------------------------|-----------------|-----------------|-----------------|-------------------------------------|
| | | Mean | 50th percentile | 75th percentile | 95th percentile | |
| Top 25 Credentials in Terms of Annual Loan Volume | | | | | | |
| Professional Dentistry (3.19%) | 14,807 | 67,938 | 64,950 | 88,815 | 121,599 | 1,006 |
| Doctoral Medicine (1.83%) | 10,714 | 54,021 | 52,136 | 70,567 | 92,000 | 579 |
| Professional Medicine (10.44%) | 62,063 | 53,142 | 50,730 | 68,547 | 88,000 | 3,298 |
| Professional Veterinary Medicine (1.48%) | 9,424 | 49,577 | 44,000 | 63,758 | 95,980 | 467 |
| Doctoral Pharmacy (1.66%) | 11,704 | 44,755 | 42,564 | 56,586 | 79,227 | 524 |
| Professional Chiropractic (0.93%) | 6,584 | 44,552 | 43,462 | 57,776 | 80,031 | 293 |
| Professional Law (8.40%) | 66,445 | 39,918 | 37,532 | 53,974 | 77,786 | 2,652 |
| Doctoral Law (1.30%) | 10,448 | 39,271 | 37,000 | 54,028 | 75,464 | 410 |
| Professional Pharmacy (3.37%) | 27,149 | 39,205 | 35,777 | 49,500 | 70,047 | 1,064 |
| Master's Allied Health (1.97%) | 16,477 | 37,708 | 35,000 | 52,999 | 80,461 | 621 |
| Doctoral Clinical Counseling (0.99%) | 10,063 | 31,136 | 28,189 | 41,924 | 67,167 | 313 |
| Doctoral Rehab. & Therapeutic Prof (1.74%) | 17,768 | 30,895 | 25,076 | 41,000 | 65,378 | 549 |
| Master's Rehab. & Therapeutic Prof (1.21%) | 15,452 | 24,715 | 20,500 | 31,315 | 58,290 | 382 |
| Master's Social Work (3.36%) | 48,742 | 21,789 | 20,500 | 23,611 | 50,500 | 1,062 |
| Master's Public Health (1.16%) | 16,895 | 21,724 | 20,084 | 28,758 | 51,300 | 367 |
| Master's Clinical Counseling (2.21%) | 36,622 | 19,061 | 19,332 | 20,500 | 43,084 | 698 |
| Master's Registered Nursing (4.64%) | 77,860 | 18,836 | 17,453 | 20,500 | 45,463 | 1,467 |
| Master's Business (7.66%) | 134,050 | 18,035 | 16,400 | 20,500 | 42,475 | 2,418 |
| Master's Mental Health Svcs (1.52%) | 26,547 | 18,023 | 17,375 | 20,500 | 39,807 | 478 |
| Master's Health Admin (1.10%) | 19,830 | 17,580 | 16,782 | 20,500 | 37,200 | 349 |
| Master's Student Counseling (1.14%) | 22,977 | 15,703 | 15,797 | 20,500 | 29,999 | 361 |
| Master's Education, General (1.09%) | 23,375 | 14,781 | 13,667 | 20,500 | 28,918 | 346 |
| Master's Teacher Education: Levels (1.64%) | 36,816 | 14,070 | 13,362 | 20,500 | 27,735 | 518 |
| Master's Educational Admin (1.27%) | 29,431 | 13,581 | 12,644 | 20,499 | 25,371 | 400 |
| Master's Special Education (1.03%) | 23,937 | 13,550 | 12,500 | 20,500 | 25,400 | 324 |
| Note: This table shows information about annual borrowing amounts for the top 25 credential types (4-digit CIP-by-credential level) in terms of annual loan volume across all borrowers in that program. Each credential's share of total annual graduate borrowing is noted in parentheses. Credentials are listed in descending order of average borrowing amounts for their academic year. | | | | | | |

Table A2: Total Volume, Borrowers, and Distribution of Annual Loan Amounts, in Academic Year 2017, by Field of Study (CIP4) & Credential Level

| | Number of Borrowers | Annual Borrowing Amounts | | | | Total Annual Loan Volume (Millions) |
|---|---------------------|--------------------------|-----------------|-----------------|-----------------|-------------------------------------|
| | | Mean | 50th percentile | 75th percentile | 95th percentile | |
| Top 25 Credentials in Terms of Annual Loan Volume | | | | | | |
| Professional Dentistry (3.30%) | 15,417 | 70,684 | 68,321 | 91,385 | 122,866 | 1,090 |
| Doctoral Medicine (2.04%) | 11,810 | 57,068 | 55,691 | 74,342 | 103,682 | 674 |
| Professional Medicine (10.53%) | 63,723 | 54,490 | 53,010 | 71,004 | 89,442 | 3,472 |
| Professional Veterinary Medicine (1.50%) | 9,781 | 50,676 | 46,000 | 64,328 | 99,108 | 496 |
| Doctoral Pharmacy (1.61%) | 11,286 | 47,192 | 45,948 | 58,863 | 83,000 | 533 |
| Professional Chiropractic (0.96%) | 6,899 | 45,768 | 43,820 | 60,419 | 83,295 | 316 |
| Professional Pharmacy (3.40%) | 27,842 | 40,337 | 37,000 | 50,876 | 71,662 | 1,123 |
| Professional Law (7.89%) | 64,756 | 40,213 | 37,700 | 54,468 | 79,208 | 2,604 |
| Doctoral Law (1.18%) | 9,936 | 39,270 | 36,987 | 53,711 | 77,226 | 390 |
| Master's Allied Health (2.14%) | 18,188 | 38,735 | 37,000 | 53,660 | 78,298 | 705 |
| Doctoral Clinical Counseling (1.05%) | 10,779 | 32,224 | 28,739 | 43,929 | 71,260 | 347 |
| Doctoral Rehab. & Therapeutic Prof (1.85%) | 19,113 | 31,870 | 26,757 | 42,854 | 66,500 | 609 |
| Master's Rehab. & Therapeutic Prof (1.25%) | 16,022 | 25,683 | 20,500 | 33,500 | 60,500 | 411 |
| Master's Public Health (1.21%) | 17,835 | 22,409 | 20,500 | 30,000 | 54,208 | 400 |
| Master's Social Work (3.47%) | 51,946 | 22,052 | 20,500 | 24,068 | 51,500 | 1,146 |
| Master's Clinical Counseling (2.23%) | 37,910 | 19,406 | 19,178 | 20,500 | 46,143 | 736 |
| Master's Registered Nursing (5.04%) | 87,315 | 19,033 | 17,600 | 20,500 | 45,578 | 1,662 |
| Master's Business (7.33%) | 133,636 | 18,093 | 16,301 | 20,500 | 43,972 | 2,418 |
| Master's Mental Health Svcs (1.56%) | 28,554 | 18,061 | 17,151 | 20,500 | 40,759 | 516 |
| Master's Health Admin (1.06%) | 20,201 | 17,347 | 16,434 | 20,500 | 38,160 | 350 |
| Master's Student Counseling (1.13%) | 23,445 | 15,929 | 15,900 | 20,500 | 30,750 | 373 |
| Master's Education, General (1.08%) | 23,563 | 15,090 | 13,808 | 20,500 | 30,750 | 356 |
| Master's Teacher Education: Levels (1.59%) | 37,398 | 14,067 | 13,250 | 20,500 | 27,819 | 526 |
| Master's Special Education (1.02%) | 24,502 | 13,801 | 12,594 | 20,500 | 26,500 | 338 |
| Master's Educational Admin (1.23%) | 29,803 | 13,587 | 12,345 | 20,448 | 25,142 | 405 |
| Note: This table shows information about annual borrowing amounts for the top 25 credential types (4-digit CIP-by-credential level) in terms of annual loan volume across all borrowers in that program. Each credential's share of total annual graduate borrowing is noted in parentheses. Credentials are listed in descending order of average borrowing amounts for their academic year. | | | | | | |

Table A3: Total Volume, Borrowers, and Distribution of Annual Loan Amounts, in Academic Year 2018, by Field of Study (CIP4) & Credential Level

| | Number of Borrowers | Annual Borrowing Amounts | | | | Total Annual Loan Volume (Millions) |
|--|---------------------|--------------------------|-----------------|-----------------|-----------------|-------------------------------------|
| | | Mean | 50th percentile | 75th percentile | 95th percentile | |
| Top 25 Credentials in Terms of Annual Loan Volume | | | | | | |
| Professional Dentistry (3.34%) | 15,878 | 72,262 | 70,191 | 94,334 | 124,169 | 1,147 |
| Doctoral Medicine (2.01%) | 12,018 | 57,377 | 57,167 | 74,868 | 97,949 | 690 |
| Professional Medicine (10.89%) | 66,216 | 56,480 | 55,077 | 72,907 | 93,971 | 3,740 |
| Professional Veterinary Medicine (1.51%) | 10,170 | 51,135 | 46,500 | 65,379 | 95,909 | 520 |
| Doctoral Pharmacy (1.51%) | 10,890 | 47,496 | 46,116 | 59,575 | 85,457 | 517 |
| Professional Chiropractic (0.98%) | 7,216 | 46,656 | 44,000 | 62,336 | 83,668 | 337 |
| Professional Pharmacy (3.43%) | 28,365 | 41,552 | 37,167 | 52,914 | 73,231 | 1,179 |
| Professional Law (7.59%) | 63,912 | 40,812 | 38,136 | 55,000 | 81,192 | 2,608 |
| Master's Allied Health (2.34%) | 20,257 | 39,651 | 37,983 | 54,825 | 81,378 | 803 |
| Doctoral Law (1.07%) | 9,328 | 39,438 | 36,552 | 53,598 | 79,500 | 368 |
| Doctoral Rehab. & Therapeutic Prof (1.90%) | 19,825 | 32,910 | 28,500 | 44,440 | 68,290 | 652 |
| Doctoral Clinical Counseling (1.05%) | 11,441 | 31,543 | 27,408 | 42,240 | 71,350 | 361 |
| Master's Rehab. & Therapeutic Prof (1.29%) | 16,586 | 26,641 | 20,500 | 35,500 | 62,902 | 442 |
| Master's Public Health (1.24%) | 18,571 | 22,910 | 20,500 | 31,000 | 54,553 | 425 |
| Master's Social Work (3.55%) | 55,293 | 22,081 | 20,500 | 24,287 | 51,629 | 1,221 |
| Master's Clinical Counseling (2.29%) | 39,943 | 19,697 | 19,576 | 20,500 | 46,827 | 787 |
| Master's Registered Nursing (5.31%) | 95,010 | 19,193 | 17,486 | 20,500 | 46,460 | 1,824 |
| Master's Business (7.21%) | 135,162 | 18,313 | 16,054 | 20,500 | 46,195 | 2,475 |
| Master's Mental Health Svcs (1.60%) | 30,719 | 17,938 | 16,802 | 20,500 | 40,468 | 551 |
| Master's Health Admin (1.08%) | 21,132 | 17,524 | 16,500 | 20,500 | 39,205 | 370 |
| Master's Student Counseling (1.15%) | 23,872 | 16,554 | 16,500 | 20,500 | 33,000 | 395 |
| Master's Education, General (1.02%) | 23,250 | 15,081 | 13,676 | 20,500 | 31,316 | 351 |
| Master's Teacher Education: Levels (1.59%) | 38,738 | 14,095 | 13,556 | 20,500 | 27,603 | 546 |
| Master's Special Education (1.03%) | 25,687 | 13,812 | 12,933 | 20,500 | 26,236 | 355 |
| Master's Educational Admin (1.20%) | 30,196 | 13,690 | 12,662 | 20,500 | 26,317 | 413 |
| Note: This table shows information about annual borrowing amounts for the top 25 credential types (4-digit CIP-by-credential level) in terms of annual loan volume across all borrowers in that program. Each credential's share of total annual graduate borrowing is noted in parentheses. Credentials are listed in descending order of average borrowing amounts for their academic year. | | | | | | |

Table A4: Total Volume, Borrowers, and Distribution of Annual Loan Amounts, in Academic Year 2019, by Field of Study (CIP4) & Credential Level

| | Number of Borrowers | Annual Borrowing Amounts | | | | Total Annual Loan Volume (Millions) |
|---|---------------------|--------------------------|-----------------|-----------------|-----------------|-------------------------------------|
| | | Mean | 50th percentile | 75th Percentile | 95th percentile | |
| Top 25 Credentials in Terms of Annual Loan Volume | | | | | | |
| Professional Dentistry (3.39%) | 16,088 | 74,652 | 72,882 | 97,696 | 129,290 | 1,201 |
| Doctoral Medicine (1.99%) | 12,047 | 58,652 | 57,452 | 76,167 | 102,521 | 707 |
| Professional Medicine (11.13%) | 68,865 | 57,293 | 55,754 | 74,203 | 97,223 | 3,945 |
| Professional Veterinary Medicine (1.53%) | 10,427 | 52,010 | 47,167 | 67,025 | 96,659 | 542 |
| Doctoral Pharmacy (1.52%) | 10,891 | 49,400 | 48,000 | 62,079 | 87,984 | 538 |
| Professional Chiropractic (1.03%) | 7,660 | 47,842 | 45,137 | 64,300 | 87,201 | 366 |
| Professional Pharmacy (3.38%) | 28,352 | 42,300 | 37,167 | 54,114 | 74,483 | 1,199 |
| Professional Law (7.41%) | 64,085 | 40,992 | 38,110 | 55,246 | 82,512 | 2,627 |
| Master's Allied Health (2.47%) | 21,589 | 40,623 | 38,856 | 56,187 | 82,770 | 877 |
| Doctoral Law (0.99%) | 8,917 | 39,371 | 36,664 | 53,575 | 75,889 | 351 |
| Doctoral Rehab. & Therapeutic Prof (2.04%) | 21,281 | 33,967 | 29,174 | 46,215 | 70,719 | 723 |
| Doctoral Clinical Counseling (1.05%) | 12,230 | 30,570 | 24,178 | 40,500 | 71,799 | 374 |
| Master's Rehab. & Therapeutic Prof (1.33%) | 16,977 | 27,722 | 20,500 | 37,500 | 65,500 | 471 |
| Doctoral Registered Nursing (1.04%) | 14,909 | 24,765 | 20,500 | 30,400 | 63,500 | 369 |
| Master's Public Health (1.24%) | 19,334 | 22,784 | 20,500 | 31,039 | 55,894 | 441 |
| Master's Social Work (3.60%) | 57,474 | 22,178 | 20,500 | 23,897 | 52,133 | 1,275 |
| Master's Clinical Counseling (2.39%) | 42,657 | 19,887 | 19,726 | 20,500 | 47,012 | 848 |
| Master's Registered Nursing (5.41%) | 102,360 | 18,724 | 17,044 | 20,500 | 43,890 | 1,917 |
| Master's Business (6.83%) | 133,399 | 18,161 | 15,770 | 20,500 | 45,698 | 2,423 |
| Master's Mental Health Svcs (1.61%) | 32,612 | 17,536 | 16,000 | 20,500 | 40,166 | 572 |
| Master's Health Admin (1.06%) | 21,549 | 17,421 | 16,400 | 20,500 | 38,484 | 375 |
| Master's Student Counseling (1.16%) | 24,567 | 16,692 | 16,500 | 20,500 | 33,936 | 410 |
| Master's Teacher Education: Levels (1.62%) | 40,020 | 14,305 | 13,666 | 20,500 | 28,500 | 572 |
| Master's Special Education (1.07%) | 27,118 | 14,016 | 13,000 | 20,500 | 27,042 | 380 |
| Master's Educational Admin (1.21%) | 30,850 | 13,936 | 13,000 | 20,500 | 26,924 | 430 |
| Note: This table shows information about annual borrowing amounts for the top 25 credential types (4-digit CIP-by-credential level) in terms of annual loan volume across all borrowers in that program. Each credential's share of total annual graduate borrowing is noted in parentheses. Credentials are listed in descending order of average borrowing amounts for their academic year. | | | | | | |

Table A5: Total Volume, Borrowers, and Distribution of Annual Loan Amounts, in Academic Year 2020, by Field of Study (CIP4) & Credential Level

| | Number of Borrowers | Annual Borrowing Amounts | | | | Total Annual Loan Volume (Millions) |
|--|---------------------|--------------------------|-----------------|-----------------|-----------------|-------------------------------------|
| | | Mean | 50th percentile | 75th Percentile | 95th percentile | |
| Top 25 Credentials in Terms of Annual Loan Volume | | | | | | |
| Professional Dentistry (3.50%) | 16,454 | 76,196 | 74,944 | 99,794 | 128,103 | 1,254 |
| Doctoral Medicine (2.14%) | 12,938 | 59,263 | 58,254 | 78,413 | 106,978 | 767 |
| Professional Medicine (11.69%) | 71,736 | 58,389 | 57,000 | 75,500 | 98,228 | 4,189 |
| Professional Veterinary Medicine (1.59%) | 10,719 | 53,282 | 47,167 | 69,243 | 103,555 | 571 |
| Doctoral Pharmacy (1.49%) | 10,665 | 49,995 | 48,890 | 63,201 | 89,541 | 533 |
| Professional Chiropractic (1.04%) | 7,938 | 46,732 | 44,000 | 59,175 | 87,708 | 371 |
| Professional Pharmacy (3.35%) | 27,882 | 43,043 | 38,000 | 54,982 | 77,884 | 1,200 |
| Professional Law (7.33%) | 63,203 | 41,571 | 38,750 | 56,345 | 83,418 | 2,627 |
| Master's Allied Health (2.65%) | 23,148 | 41,053 | 39,146 | 58,228 | 83,862 | 950 |
| Doctoral Law (1.01%) | 9,336 | 38,756 | 35,400 | 53,146 | 76,418 | 362 |
| Doctoral Rehab. & Therapeutic Prof (2.20%) | 22,725 | 34,701 | 30,250 | 47,500 | 72,453 | 789 |
| Doctoral Clinical Counseling (1.13%) | 12,410 | 32,689 | 28,500 | 43,167 | 76,119 | 406 |
| Master's Rehab. & Therapeutic Prof (1.29%) | 16,629 | 27,699 | 20,500 | 36,982 | 66,765 | 461 |
| Doctoral Registered Nursing (1.16%) | 16,269 | 25,618 | 20,500 | 31,500 | 67,786 | 417 |
| Master's Public Health (1.21%) | 19,124 | 22,593 | 20,500 | 30,550 | 54,598 | 432 |
| Master's Social Work (3.50%) | 57,375 | 21,881 | 20,500 | 22,789 | 51,000 | 1,255 |
| Master's Clinical Counseling (2.56%) | 45,251 | 20,301 | 20,104 | 20,500 | 49,534 | 919 |
| Master's Registered Nursing (5.49%) | 104,146 | 18,904 | 17,150 | 20,500 | 45,349 | 1,969 |
| Master's Mental Health Svcs (1.72%) | 33,469 | 18,412 | 18,830 | 20,500 | 41,000 | 616 |
| Master's Business (6.25%) | 125,538 | 17,842 | 15,490 | 20,500 | 43,618 | 2,240 |
| Master's Health Admin (1.01%) | 20,755 | 17,361 | 16,500 | 20,500 | 38,722 | 360 |
| Master's Student Counseling (1.15%) | 24,514 | 16,801 | 16,584 | 20,500 | 34,780 | 412 |
| Master's Special Education (1.17%) | 28,916 | 14,513 | 13,666 | 20,500 | 29,962 | 420 |
| Master's Teacher Education: Levels (1.64%) | 40,783 | 14,390 | 13,666 | 20,500 | 27,682 | 587 |
| Master's Educational Admin (1.18%) | 30,394 | 13,947 | 13,000 | 20,500 | 27,549 | 424 |
| Note: This table shows information about annual borrowing amounts for the top 25 credential types (4-digit CIP-by-credential level) in terms of annual loan volume across all borrowers in that program. Each credential's share of total annual graduate borrowing is noted in parentheses. Credentials are listed in descending order of average borrowing amounts for their academic year. | | | | | | |

Table A6: Total Volume, Borrowers, and Distribution of Annual Loan Amounts, in Academic Year 2021, by Field of Study (CIP4) & Credential Level

| | Number of Borrowers | Annual Borrowing Amounts | | | | Total Annual Loan Volume (Millions) |
|---|---------------------|--------------------------|-----------------|-----------------|-----------------|-------------------------------------|
| | | Mean | 50th percentile | 75th percentile | 95th percentile | |
| Top 25 Credentials in Terms of Annual Loan Volume | | | | | | |
| Professional Dentistry (3.58%) | 17,049 | 78,379 | 76,374 | 102,011 | 137,794 | 1,336 |
| Professional Medicine (12.23%) | 77,557 | 58,920 | 57,006 | 76,334 | 100,640 | 4,570 |
| Doctoral Medicine (2.22%) | 14,201 | 58,375 | 57,167 | 77,500 | 102,915 | 829 |
| Professional Veterinary Medicine (1.62%) | 11,242 | 53,790 | 47,167 | 70,500 | 105,007 | 605 |
| Doctoral Pharmacy (1.40%) | 10,629 | 49,269 | 47,517 | 63,028 | 88,940 | 524 |
| Professional Chiropractic (1.13%) | 8,617 | 49,172 | 47,560 | 66,000 | 87,538 | 424 |
| Professional Pharmacy (3.11%) | 27,149 | 42,739 | 37,167 | 54,590 | 78,209 | 1,160 |
| Master's Allied Health (2.81%) | 25,611 | 41,010 | 38,400 | 58,023 | 83,470 | 1,050 |
| Professional Law (7.03%) | 64,885 | 40,480 | 37,274 | 55,178 | 81,980 | 2,627 |
| Doctoral Rehab. & Therapeutic Prof (2.47%) | 25,175 | 36,580 | 30,800 | 49,634 | 77,300 | 921 |
| Doctoral Clinical Counseling (1.11%) | 12,895 | 32,030 | 27,500 | 42,101 | 75,015 | 413 |
| Master's Mgmt Sciences & Quant. Methods (1.05%) | 12,465 | 31,447 | 20,500 | 41,105 | 87,459 | 392 |
| Master's Rehab. & Therapeutic Prof (1.22%) | 16,330 | 27,849 | 20,500 | 37,429 | 66,519 | 455 |
| Master's Communication Disorders (1.01%) | 14,048 | 26,934 | 20,500 | 34,662 | 64,242 | 378 |
| Doctoral Registered Nursing (1.23%) | 17,750 | 25,973 | 20,500 | 32,417 | 68,800 | 461 |
| Master's Public Health (1.29%) | 21,337 | 22,649 | 20,500 | 30,661 | 53,820 | 483 |
| Master's Social Work (3.37%) | 59,267 | 21,245 | 20,500 | 20,500 | 48,339 | 1,259 |
| Master's Clinical Counseling (2.68%) | 49,288 | 20,289 | 20,462 | 20,500 | 49,914 | 1,000 |
| Master's Registered Nursing (5.25%) | 104,659 | 18,741 | 16,922 | 20,500 | 43,965 | 1,961 |
| Master's Mental Health Svcs (1.80%) | 36,504 | 18,444 | 19,479 | 20,500 | 41,000 | 673 |
| Master's Business (5.98%) | 126,997 | 17,582 | 15,550 | 20,500 | 42,003 | 2,233 |
| Master's Student Counseling (1.12%) | 24,697 | 16,955 | 17,000 | 20,500 | 35,190 | 419 |
| Master's Teacher Education: Levels (1.66%) | 42,318 | 14,653 | 13,666 | 20,500 | 28,563 | 620 |
| Master's Special Education (1.14%) | 29,305 | 14,525 | 13,666 | 20,500 | 29,100 | 426 |
| Master's Educational Admin (1.14%) | 29,788 | 14,269 | 13,181 | 20,500 | 28,313 | 425 |
| Note: This table shows information about annual borrowing amounts for the top 25 credential types (4-digit CIP-by-credential level) in terms of annual loan volume across all borrowers in that program. Each credential's share of total annual graduate borrowing is noted in parentheses. Credentials are listed in descending order of average borrowing amounts for their academic year. | | | | | | |

Table A7: Total Volume, Borrowers, and Distribution of Annual Loan Amounts, in Academic Year 2022, by Field of Study (CIP4) & Credential Level

| | Number of Borrowers | Annual Borrowing Amounts | | | | Total Annual Loan Volume (Millions) |
|---|---------------------|--------------------------|-----------------|-----------------|-----------------|-------------------------------------|
| | | Mean | 50th percentile | 75th percentile | 95th percentile | |
| Top 25 Credentials in Terms of Annual Loan Volume | | | | | | |
| Professional Dentistry (3.68%) | 17,160 | 80,779 | 78,494 | 105,517 | 141,965 | 1,386 |
| Doctoral Medicine (2.38%) | 14,830 | 60,478 | 60,412 | 80,500 | 106,420 | 897 |
| Professional Medicine (12.59%) | 79,591 | 59,516 | 57,652 | 76,700 | 101,482 | 4,737 |
| Professional Veterinary Medicine (1.71%) | 11,823 | 54,438 | 48,000 | 71,176 | 103,282 | 644 |
| Doctoral Pharmacy (1.31%) | 9,801 | 50,129 | 47,700 | 64,717 | 92,685 | 491 |
| Professional Chiropractic (1.17%) | 9,024 | 48,658 | 46,444 | 65,450 | 89,813 | 439 |
| Professional Pharmacy (2.94%) | 25,891 | 42,730 | 37,167 | 54,754 | 79,140 | 1,106 |
| Master's Allied Health (3.14%) | 27,893 | 42,423 | 39,631 | 60,534 | 86,997 | 1,183 |
| Professional Law (7.14%) | 65,728 | 40,878 | 37,500 | 56,027 | 83,246 | 2,687 |
| Doctoral Law (1.04%) | 10,104 | 38,846 | 35,500 | 54,031 | 76,000 | 392 |
| Doctoral Rehab. & Therapeutic Prof (2.71%) | 27,360 | 37,308 | 32,500 | 51,782 | 78,261 | 1,021 |
| Master's Mgmt Sciences & Quant. Methods (1.21%) | 13,710 | 33,319 | 20,500 | 45,000 | 92,246 | 457 |
| Doctoral Clinical Counseling (1.15%) | 13,416 | 32,294 | 27,105 | 42,440 | 77,098 | 433 |
| Master's Rehab. & Therapeutic Prof (1.22%) | 15,777 | 29,185 | 20,500 | 40,500 | 71,580 | 460 |
| Master's Communication Disorders (1.11%) | 15,016 | 27,806 | 20,500 | 35,500 | 69,768 | 418 |
| Doctoral Registered Nursing (1.31%) | 18,373 | 26,838 | 20,500 | 34,097 | 71,211 | 493 |
| Master's Public Health (1.37%) | 22,016 | 23,454 | 20,500 | 33,000 | 56,932 | 516 |
| Master's Social Work (3.45%) | 60,649 | 21,380 | 20,500 | 20,500 | 49,053 | 1,297 |
| Master's Clinical Counseling (2.84%) | 51,880 | 20,580 | 20,500 | 20,500 | 52,516 | 1,068 |
| Master's Registered Nursing (4.92%) | 96,677 | 19,154 | 16,938 | 20,500 | 47,340 | 1,852 |
| Master's Mental Health Svcs (1.97%) | 39,521 | 18,780 | 19,588 | 20,500 | 41,000 | 742 |
| Master's Business (5.55%) | 116,815 | 17,891 | 15,664 | 20,500 | 44,754 | 2,090 |
| Master's Student Counseling (1.12%) | 24,259 | 17,302 | 17,178 | 20,500 | 36,722 | 420 |
| Master's Teacher Education: Levels (1.55%) | 40,011 | 14,605 | 13,666 | 20,500 | 28,784 | 584 |
| Master's Special Education (1.04%) | 27,307 | 14,350 | 13,252 | 20,500 | 28,500 | 392 |
| Note: This table shows information about annual borrowing amounts for the top 25 credential types (4-digit CIP-by-credential level) in terms of annual loan volume across all borrowers in that program. Each credential's share of total annual graduate borrowing is noted in parentheses. Credentials are listed in descending order of average borrowing amounts for their academic year. | | | | | | |

Table A8: Total Volume, Borrowers, and Distribution of Annual Loan Amounts, in Academic Year 2023, by Field of Study (CIP4) & Credential Level

| | Number of Borrowers | Annual Borrowing Amounts | | | | Total Annual Loan Volume (Millions) |
|--|---------------------|--------------------------|-----------------|-----------------|-----------------|-------------------------------------|
| | | Mean | 50th percentile | 75th percentile | 95th percentile | |
| Top 25 Credentials in Terms of Annual Loan Volume | | | | | | |
| Professional Dentistry (3.86%) | 17,418 | 83,970 | 81,350 | 108,133 | 147,913 | 1,463 |
| Doctoral Medicine (2.59%) | 15,124 | 64,787 | 65,100 | 87,062 | 112,445 | 980 |
| Professional Medicine (13.49%) | 81,695 | 62,544 | 61,500 | 81,567 | 105,667 | 5,110 |
| Professional Veterinary Medicine (1.86%) | 12,389 | 56,814 | 50,590 | 76,032 | 101,780 | 704 |
| Doctoral Pharmacy (1.20%) | 8,869 | 51,409 | 48,992 | 67,882 | 96,693 | 456 |
| Professional Chiropractic (1.24%) | 9,179 | 51,297 | 49,500 | 66,000 | 94,583 | 471 |
| Master's Allied Health (3.54%) | 30,202 | 44,432 | 41,000 | 64,328 | 90,813 | 1,342 |
| Professional Pharmacy (2.77%) | 23,866 | 43,997 | 37,167 | 56,505 | 81,850 | 1,050 |
| Professional Law (7.42%) | 65,853 | 42,687 | 39,735 | 58,744 | 86,975 | 2,811 |
| Doctoral Law (1.04%) | 9,822 | 40,218 | 37,022 | 55,858 | 79,385 | 395 |
| Doctoral Rehab. & Therapeutic Prof (2.96%) | 28,966 | 38,707 | 33,918 | 54,032 | 80,142 | 1,121 |
| Doctoral Clinical Counseling (1.17%) | 13,028 | 33,872 | 28,988 | 45,742 | 81,165 | 441 |
| Master's Mgmt Sciences & Quant. Methods (1.22%) | 13,867 | 33,375 | 20,500 | 44,694 | 94,746 | 463 |
| Master's Rehab. & Therapeutic Prof (1.20%) | 14,978 | 30,264 | 20,500 | 41,000 | 72,813 | 453 |
| Doctoral Registered Nursing (1.44%) | 19,243 | 28,288 | 20,500 | 36,930 | 76,091 | 544 |
| Master's Communication Disorders (1.13%) | 15,194 | 28,226 | 20,500 | 36,119 | 69,064 | 429 |
| Master's Public Health (1.27%) | 20,169 | 23,846 | 20,500 | 33,000 | 59,478 | 481 |
| Master's Social Work (3.36%) | 59,980 | 21,204 | 20,500 | 20,500 | 47,948 | 1,272 |
| Master's Clinical Counseling (2.93%) | 52,729 | 21,072 | 20,500 | 20,500 | 55,627 | 1,111 |
| Master's Mental Health Svcs (2.13%) | 41,508 | 19,385 | 20,500 | 20,500 | 43,314 | 805 |
| Master's Registered Nursing (4.62%) | 90,495 | 19,335 | 16,700 | 20,500 | 49,270 | 1,750 |
| Master's Business (5.10%) | 108,689 | 17,763 | 15,605 | 20,500 | 43,150 | 1,931 |
| Master's Student Counseling (1.08%) | 23,477 | 17,399 | 17,510 | 20,500 | 36,818 | 408 |
| Master's Teacher Education: Levels (1.48%) | 37,366 | 14,954 | 13,667 | 20,500 | 29,797 | 559 |
| Master's Special Education (1.04%) | 26,959 | 14,575 | 13,666 | 20,500 | 29,105 | 393 |
| Note: This table shows information about annual borrowing amounts for the top 25 credential types (4-digit CIP-by-credential level) in terms of annual loan volume across all borrowers in that program. Each credential's share of total annual graduate borrowing is noted in parentheses. Credentials are listed in descending order of average borrowing amounts for their academic year. | | | | | | |

Table B1: Total Volume, Borrowers, and Distribution of Cumulative Loan Amounts, Graduation Cohort 2016, by Field of Study & Credential Level

| | Number of Completers | Cumulative Borrowing Amounts for Program | | | | Total Cumulative Loan Volume (Millions) |
|---|----------------------|--|-----------------|-----------------|-----------------|---|
| | | Mean | 50th percentile | 75th percentile | 90th percentile | |
| Top 25 Credentials in Terms of Cumulative Volume | | | | | | |
| Professional Dentistry (4.13%) | 3,150 | 235,030 | 227,040 | 310,176 | 380,746 | 740 |
| Professional Medicine (12.53%) | 11,191 | 200,642 | 197,758 | 263,846 | 321,974 | 2,245 |
| Doctoral Medicine (1.30%) | 1,241 | 187,716 | 181,987 | 261,651 | 317,152 | 233 |
| Professional Veterinary Medicine (1.81%) | 1,774 | 182,515 | 171,314 | 243,399 | 297,420 | 324 |
| Professional Chiropractic (1.06%) | 1,116 | 170,977 | 174,657 | 199,768 | 217,919 | 191 |
| Doctoral Pharmacy (1.59%) | 2,024 | 141,264 | 140,256 | 190,940 | 225,830 | 286 |
| Professional Pharmacy (4.58%) | 6,682 | 122,826 | 120,129 | 162,674 | 207,662 | 821 |
| Professional Law (14.00%) | 20,943 | 119,850 | 116,437 | 161,485 | 200,260 | 2,510 |
| Doctoral Law (2.16%) | 3,287 | 117,958 | 113,317 | 159,038 | 196,916 | 388 |
| Master's Allied Health (1.59%) | 3,055 | 93,431 | 90,704 | 129,500 | 155,915 | 285 |
| Doctoral Rehab. & Therapeutic Prof (1.78%) | 3,626 | 87,865 | 78,511 | 116,790 | 151,824 | 319 |
| Master's Rehab. & Therapeutic Prof (1.19%) | 3,652 | 58,298 | 51,250 | 75,408 | 105,878 | 213 |
| Master's Mental Health Svcs (1.18%) | 3,627 | 58,294 | 55,220 | 75,167 | 95,505 | 211 |
| Master's Clinical Counseling (1.82%) | 5,899 | 55,416 | 51,250 | 69,418 | 94,889 | 327 |
| Master's Registered Nursing (3.88%) | 13,026 | 53,374 | 47,832 | 63,705 | 94,798 | 695 |
| Master's Public Health (1.13%) | 3,802 | 53,080 | 46,837 | 66,000 | 89,952 | 202 |
| Master's Social Work (4.13%) | 15,153 | 48,875 | 41,000 | 61,500 | 89,884 | 741 |
| Master's Business (7.61%) | 28,274 | 48,264 | 41,000 | 57,732 | 88,771 | 1,365 |
| Master's Health Admin (0.94%) | 3,527 | 47,839 | 41,000 | 58,137 | 81,000 | 169 |
| Master's Public Administration (0.95%) | 3,757 | 45,256 | 41,000 | 56,661 | 78,786 | 170 |
| Master's Student Counseling (1.17%) | 4,739 | 44,310 | 41,000 | 57,902 | 74,429 | 210 |
| Master's Special Education (0.89%) | 4,744 | 33,488 | 30,750 | 41,382 | 57,736 | 159 |
| Master's Teacher Education: Levels (1.45%) | 7,860 | 33,082 | 31,433 | 41,000 | 54,165 | 260 |
| Master's Educational Admin (1.07%) | 6,177 | 30,967 | 28,821 | 39,937 | 51,359 | 191 |
| Master's Accounting (0.90%) | 5,314 | 30,403 | 27,092 | 40,022 | 51,782 | 162 |
| Note: This table shows information about cumulative borrowing amounts for the top 25 programs (4-digit CIP-by-credential level) in terms of cumulative loan volume across all the completers who borrowed for that program. Each credential's share of total cumulative graduate program borrowing is noted in parentheses. Credentials are listed in descending order of average cumulative borrowing for the cohort. | | | | | | |

Table B2: Total Volume, Borrowers, and Distribution of Cumulative Loan Amounts, Graduation Cohort 2017, by Field of Study & Credential Level

| | Number of Completers | Cumulative Borrowing Amounts for Program | | | | Total Cumulative Loan Volume (Millions) |
|---|----------------------|--|-----------------|-----------------|-----------------|---|
| | | Mean | 50th percentile | 75th percentile | 90th percentile | |
| Top 25 Credentials in Terms of Cumulative Volume | | | | | | |
| Professional Dentistry (4.51%) | 3,296 | 253,618 | 244,121 | 335,555 | 403,891 | 836 |
| Professional Medicine (12.70%) | 11,667 | 201,788 | 196,041 | 260,852 | 321,798 | 2,354 |
| Doctoral Medicine (1.52%) | 1,439 | 195,912 | 188,231 | 266,672 | 321,181 | 282 |
| Professional Veterinary Medicine (1.78%) | 1,808 | 182,122 | 168,667 | 242,116 | 299,576 | 329 |
| Professional Chiropractic (1.18%) | 1,215 | 180,068 | 185,185 | 208,146 | 233,712 | 219 |
| Doctoral Pharmacy (1.53%) | 1,871 | 151,979 | 153,236 | 204,155 | 232,540 | 284 |
| Professional Pharmacy (4.22%) | 6,207 | 126,186 | 123,554 | 168,248 | 212,883 | 783 |
| Doctoral Law (2.02%) | 3,112 | 120,263 | 115,214 | 161,033 | 202,194 | 374 |
| Professional Law (12.55%) | 19,590 | 118,794 | 114,264 | 160,873 | 200,444 | 2,327 |
| Master's Allied Health (1.63%) | 3,153 | 95,997 | 95,703 | 134,306 | 160,046 | 303 |
| Doctoral Rehab. & Therapeutic Prof (2.02%) | 4,136 | 90,638 | 82,000 | 119,008 | 153,500 | 375 |
| Master's Rehab. & Therapeutic Prof (1.22%) | 3,787 | 59,941 | 52,352 | 78,490 | 109,764 | 227 |
| Master's Clinical Counseling (1.94%) | 6,307 | 57,004 | 51,250 | 71,000 | 100,765 | 360 |
| Master's Mental Health Svcs (1.21%) | 3,994 | 56,307 | 52,516 | 73,688 | 96,473 | 225 |
| Master's Public Health (1.22%) | 4,138 | 54,568 | 47,000 | 67,992 | 92,150 | 226 |
| Master's Registered Nursing (4.36%) | 15,062 | 53,631 | 47,450 | 65,436 | 95,189 | 808 |
| Master's Communication Disorders (0.94%) | 3,469 | 50,369 | 41,000 | 62,110 | 89,234 | 175 |
| Master's Social Work (4.17%) | 15,694 | 49,248 | 41,000 | 61,500 | 89,978 | 773 |
| Master's Health Admin (1.00%) | 3,800 | 48,959 | 43,000 | 59,762 | 81,344 | 186 |
| Master's Business (7.39%) | 28,237 | 48,529 | 41,000 | 59,606 | 89,081 | 1,370 |
| Master's Student Counseling (1.16%) | 4,763 | 44,993 | 41,276 | 58,666 | 75,260 | 214 |
| Master's Public Administration (0.90%) | 3,734 | 44,752 | 40,783 | 56,866 | 78,000 | 167 |
| Master's Teacher Education: Levels (1.44%) | 8,132 | 32,845 | 30,750 | 41,000 | 55,296 | 267 |
| Master's Educational Admin (1.06%) | 6,290 | 31,189 | 28,401 | 40,026 | 52,260 | 196 |
| Master's Accounting (0.90%) | 5,488 | 30,528 | 26,742 | 40,500 | 54,795 | 168 |
| Note: This table shows information about cumulative borrowing amounts for the top 25 programs (4-digit CIP-by-credential level) in terms of cumulative loan volume across all the completers who borrowed for that program. Each credential's share of total cumulative graduate program borrowing is noted in parentheses. Credentials are listed in descending order of average cumulative borrowing for the cohort. | | | | | | |

Table B3: Total Volume, Borrowers, and Distribution of Cumulative Loan Amounts, Graduation Cohort 2018, by Field of Study & Credential Level

| | Number of Completers | Cumulative Borrowing Amounts for Program | | | | Total Cumulative Loan Volume (Millions) |
|--|----------------------|--|-----------------|-----------------|-----------------|---|
| | | Mean | 50th percentile | 75th percentile | 90th percentile | |
| Top 25 Credentials in Terms of Cumulative Volume | | | | | | |
| Professional Dentistry (4.44%) | 2,980 | 269,000 | 256,306 | 356,528 | 426,522 | 802 |
| Doctoral Medicine (2.03%) | 1,654 | 221,358 | 222,266 | 303,313 | 348,674 | 366 |
| Professional Medicine (12.06%) | 10,415 | 209,123 | 207,164 | 270,681 | 331,778 | 2,178 |
| Professional Chiropractic (1.25%) | 1,195 | 188,555 | 191,251 | 215,612 | 247,955 | 225 |
| Professional Veterinary Medicine (1.91%) | 1,833 | 187,817 | 175,865 | 253,806 | 298,974 | 344 |
| Doctoral Pharmacy (1.42%) | 1,628 | 157,349 | 158,676 | 207,322 | 236,265 | 256 |
| Professional Pharmacy (3.86%) | 5,205 | 134,123 | 130,800 | 179,553 | 226,167 | 698 |
| Professional Law (11.68%) | 17,558 | 120,198 | 114,593 | 163,529 | 205,229 | 2,110 |
| Doctoral Law (1.44%) | 2,260 | 115,092 | 108,889 | 152,282 | 196,278 | 260 |
| Doctoral Rehab. & Therapeutic Prof (2.10%) | 3,927 | 96,556 | 89,158 | 127,000 | 161,164 | 379 |
| Master's Allied Health (1.79%) | 3,428 | 94,328 | 92,480 | 132,832 | 157,849 | 323 |
| Master's Rehab. & Therapeutic Prof (1.24%) | 3,546 | 63,373 | 55,112 | 84,062 | 118,340 | 225 |
| Master's Clinical Counseling (1.97%) | 6,284 | 56,728 | 49,962 | 70,514 | 101,940 | 356 |
| Master's Public Health (1.29%) | 4,181 | 55,770 | 47,666 | 68,840 | 95,530 | 233 |
| Master's Registered Nursing (4.68%) | 15,522 | 54,462 | 47,960 | 67,136 | 97,607 | 845 |
| Master's Mental Health Svcs (1.28%) | 4,280 | 53,868 | 48,752 | 71,779 | 95,228 | 231 |
| Master's Communication Disorders (1.00%) | 3,485 | 51,724 | 42,500 | 64,423 | 91,172 | 180 |
| Master's Social Work (4.35%) | 15,385 | 51,056 | 41,000 | 64,023 | 95,829 | 786 |
| Master's Business (7.76%) | 28,059 | 49,945 | 41,000 | 61,258 | 92,893 | 1,401 |
| Master's Health Admin (1.02%) | 3,807 | 48,331 | 42,056 | 58,314 | 81,269 | 184 |
| Master's Student Counseling (1.19%) | 4,625 | 46,382 | 42,762 | 59,966 | 78,826 | 215 |
| Master's Special Education (0.92%) | 4,837 | 34,255 | 31,840 | 43,280 | 57,734 | 166 |
| Master's Education, General (0.94%) | 5,171 | 32,998 | 30,500 | 41,000 | 57,332 | 171 |
| Master's Teacher Education: Levels (1.41%) | 7,760 | 32,914 | 30,750 | 41,000 | 54,753 | 255 |
| Master's Educational Admin (1.07%) | 6,160 | 31,394 | 28,444 | 40,696 | 52,624 | 193 |
| Note: This table shows information about cumulative borrowing amounts for the top 25 programs (4-digit CIP-by-credential level) in terms of cumulative loan volume across all the completers who borrowed for that program. Each credential's share of total cumulative graduate program borrowing is noted in parentheses. Credentials are listed in descending order of average cumulative borrowing for the cohort. | | | | | | |

Table B4: Total Volume, Borrowers, and Distribution of Cumulative Loan Amounts, Graduation Cohort 2019, by Field of Study & Credential Level

| | Number of Completers | Cumulative Borrowing Amounts for Program | | | | Total Cumulative Loan Volume (Millions) |
|--|----------------------|--|-----------------|-----------------|-----------------|---|
| | | Mean | 50th percentile | 75th percentile | 90th percentile | |
| Top 25 Credentials in Terms of Cumulative Volume | | | | | | |
| Professional Dentistry (4.67%) | 3,341 | 274,612 | 265,495 | 353,854 | 434,228 | 917 |
| Professional Medicine (12.59%) | 11,385 | 217,025 | 215,333 | 284,543 | 347,764 | 2,471 |
| Doctoral Medicine (1.29%) | 1,212 | 209,198 | 212,528 | 281,556 | 339,797 | 254 |
| Professional Chiropractic (1.33%) | 1,366 | 191,632 | 194,518 | 220,809 | 262,638 | 262 |
| Professional Veterinary Medicine (1.78%) | 1,857 | 188,476 | 172,296 | 255,600 | 304,818 | 350 |
| Doctoral Pharmacy (1.37%) | 1,699 | 157,920 | 160,306 | 212,781 | 239,165 | 268 |
| Professional Pharmacy (4.01%) | 5,833 | 135,034 | 131,331 | 177,167 | 229,833 | 788 |
| Doctoral Law (1.49%) | 2,393 | 121,964 | 117,900 | 163,776 | 205,292 | 292 |
| Professional Law (11.25%) | 18,265 | 120,864 | 114,172 | 163,751 | 208,962 | 2,208 |
| Doctoral Rehab. & Therapeutic Prof (2.23%) | 4,312 | 101,367 | 94,376 | 136,297 | 171,878 | 437 |
| Master's Allied Health (2.04%) | 4,012 | 99,758 | 98,162 | 137,414 | 162,622 | 400 |
| Master's Rehab. & Therapeutic Prof (1.27%) | 3,701 | 67,302 | 59,096 | 89,126 | 122,955 | 249 |
| Master's Clinical Counseling (2.11%) | 7,355 | 56,197 | 49,218 | 68,629 | 101,270 | 413 |
| Master's Registered Nursing (4.80%) | 17,163 | 54,884 | 49,356 | 67,315 | 95,498 | 942 |
| Master's Public Health (1.26%) | 4,527 | 54,616 | 47,833 | 68,256 | 96,283 | 247 |
| Master's Mental Health Svcs (1.34%) | 4,825 | 54,385 | 48,905 | 71,130 | 97,885 | 262 |
| Master's Communication Disorders (0.97%) | 3,554 | 53,559 | 44,072 | 67,440 | 95,510 | 190 |
| Master's Social Work (4.30%) | 16,526 | 51,058 | 41,000 | 64,476 | 95,615 | 844 |
| Master's Business (7.46%) | 29,251 | 50,059 | 41,000 | 60,845 | 95,098 | 1,464 |
| Master's Health Admin (1.07%) | 4,403 | 47,822 | 41,000 | 57,191 | 80,839 | 211 |
| Master's Student Counseling (1.16%) | 4,823 | 47,113 | 43,025 | 60,118 | 78,887 | 227 |
| Master's Public Administration (0.89%) | 3,847 | 45,204 | 41,000 | 56,356 | 76,956 | 174 |
| Master's Education, General (0.93%) | 5,317 | 34,235 | 30,750 | 42,613 | 60,019 | 182 |
| Master's Teacher Education: Levels (1.38%) | 8,273 | 32,772 | 30,750 | 41,000 | 54,987 | 271 |
| Master's Educational Admin (1.11%) | 6,861 | 31,637 | 28,310 | 40,999 | 53,600 | 217 |
| Note: This table shows information about cumulative borrowing amounts for the top 25 programs (4-digit CIP-by-credential level) in terms of cumulative loan volume across all the completers who borrowed for that program. Each credential's share of total cumulative graduate program borrowing is noted in parentheses. Credentials are listed in descending order of average cumulative borrowing for the cohort. | | | | | | |

Table B5: Total Volume, Borrowers, and Distribution of Cumulative Loan Amounts, Graduation Cohort 2020, by Field of Study & Credential Level

| | Number of Completers | Cumulative Borrowing Amounts for Program | | | | Total Cumulative Loan Volume (Millions) |
|---|----------------------|--|-----------------|-----------------|-----------------|---|
| | | Mean | 50th percentile | 75th percentile | 90th percentile | |
| Top 25 Credentials in Terms of Cumulative Volume | | | | | | |
| Professional Dentistry (5.07%) | 3,611 | 284,558 | 273,722 | 370,229 | 450,946 | 1,028 |
| Professional Medicine (13.48%) | 12,491 | 218,979 | 217,122 | 285,669 | 351,545 | 2,735 |
| Doctoral Medicine (1.51%) | 1,407 | 218,200 | 218,456 | 300,994 | 354,180 | 307 |
| Professional Chiropractic (1.34%) | 1,361 | 199,294 | 204,261 | 232,827 | 269,352 | 271 |
| Professional Veterinary Medicine (1.81%) | 1,885 | 194,702 | 177,345 | 269,030 | 321,010 | 367 |
| Doctoral Pharmacy (1.24%) | 1,574 | 159,342 | 157,812 | 216,027 | 246,633 | 251 |
| Professional Pharmacy (4.13%) | 5,793 | 144,530 | 138,500 | 187,074 | 236,767 | 837 |
| Professional Law (11.21%) | 18,560 | 122,505 | 116,912 | 165,988 | 210,650 | 2,274 |
| Doctoral Law (1.36%) | 2,542 | 108,309 | 98,783 | 150,590 | 192,252 | 275 |
| Doctoral Rehab. & Therapeutic Prof (2.34%) | 4,472 | 106,298 | 98,156 | 141,758 | 179,919 | 475 |
| Master's Allied Health (2.13%) | 4,255 | 101,590 | 102,750 | 143,128 | 165,863 | 432 |
| Master's Rehab. & Therapeutic Prof (1.20%) | 3,480 | 69,927 | 61,500 | 93,600 | 129,912 | 243 |
| Master's Clinical Counseling (2.14%) | 7,713 | 56,394 | 48,474 | 68,435 | 101,380 | 435 |
| Master's Communication Disorders (1.05%) | 3,815 | 56,063 | 46,145 | 70,846 | 102,500 | 214 |
| Master's Public Health (1.24%) | 4,513 | 55,788 | 47,552 | 69,552 | 98,254 | 252 |
| Master's Registered Nursing (4.73%) | 17,482 | 54,894 | 48,438 | 65,845 | 95,000 | 960 |
| Master's Mental Health Svcs (1.32%) | 4,980 | 53,935 | 48,524 | 70,036 | 94,482 | 269 |
| Master's Social Work (4.23%) | 16,679 | 51,423 | 41,000 | 65,195 | 96,317 | 858 |
| Master's Student Counseling (1.19%) | 4,970 | 48,535 | 42,756 | 61,497 | 82,000 | 241 |
| Master's Business (6.43%) | 27,381 | 47,645 | 40,769 | 58,192 | 89,311 | 1,305 |
| Master's Health Admin (0.98%) | 4,280 | 46,681 | 41,000 | 56,641 | 78,680 | 200 |
| Master's Education, General (0.85%) | 5,014 | 34,220 | 31,322 | 42,751 | 60,708 | 172 |
| Master's Special Education (0.99%) | 5,899 | 33,972 | 31,400 | 42,696 | 58,272 | 200 |
| Master's Teacher Education: Levels (1.40%) | 8,407 | 33,731 | 31,022 | 41,681 | 56,799 | 284 |
| Master's Educational Admin (1.11%) | 6,912 | 32,565 | 29,178 | 41,000 | 56,822 | 225 |
| Note: This table shows information about cumulative borrowing amounts for the top 25 programs (4-digit CIP-by-credential level) in terms of cumulative loan volume across all the completers who borrowed for that program. Each credential's share of total cumulative graduate program borrowing is noted in parentheses. Credentials are listed in descending order of average cumulative borrowing for the cohort. | | | | | | |

Table B6: Total Volume, Borrowers, and Distribution of Cumulative Loan Amounts, Graduation Cohort 2021, by Field of Study & Credential Level

| | Number of Completers | Cumulative Borrowing Amounts for Program | | | | Total Cumulative Loan Volume (Millions) |
|---|----------------------|--|-----------------|-----------------|-----------------|---|
| | | Mean | 50th percentile | 75th percentile | 90th percentile | |
| Top 25 Credentials in Terms of Cumulative Volume | | | | | | |
| Professional Dentistry (5.24%) | 3,878 | 292,276 | 282,294 | 378,091 | 458,802 | 1,133 |
| Professional Medicine (14.81%) | 14,297 | 224,036 | 220,402 | 291,205 | 355,221 | 3,203 |
| Doctoral Medicine (1.57%) | 1,617 | 209,972 | 212,554 | 282,068 | 319,103 | 340 |
| Professional Veterinary Medicine (1.87%) | 2,047 | 197,357 | 179,559 | 278,680 | 329,462 | 404 |
| Professional Chiropractic (1.33%) | 1,464 | 196,995 | 199,410 | 227,617 | 267,639 | 288 |
| Doctoral Pharmacy (1.69%) | 2,118 | 172,130 | 175,686 | 225,276 | 262,669 | 365 |
| Professional Pharmacy (4.37%) | 6,412 | 147,340 | 136,754 | 195,345 | 249,290 | 945 |
| Professional Law (10.35%) | 18,436 | 121,371 | 114,953 | 166,536 | 209,859 | 2,238 |
| Professional Rehab. & Therapeutic Prof (0.99%) | 1,827 | 117,682 | 116,394 | 161,200 | 197,507 | 215 |
| Doctoral Law (1.22%) | 2,425 | 109,018 | 101,580 | 153,253 | 194,597 | 264 |
| Doctoral Rehab. & Therapeutic Prof (2.43%) | 4,848 | 108,519 | 100,258 | 144,834 | 185,990 | 526 |
| Master's Allied Health (2.36%) | 4,930 | 103,552 | 103,642 | 145,478 | 171,383 | 511 |
| Doctoral Registered Nursing (0.98%) | 2,505 | 84,517 | 68,116 | 113,782 | 172,349 | 212 |
| Master's Rehab. & Therapeutic Prof (1.20%) | 3,635 | 71,193 | 61,500 | 94,809 | 134,351 | 259 |
| Master's Clinical Counseling (2.28%) | 8,384 | 58,921 | 47,833 | 70,174 | 110,212 | 494 |
| Master's Public Health (1.27%) | 4,848 | 56,475 | 48,204 | 70,167 | 98,934 | 274 |
| Master's Registered Nursing (4.63%) | 18,039 | 55,454 | 48,112 | 66,700 | 97,000 | 1,000 |
| Master's Mental Health Svcs (1.33%) | 5,284 | 54,468 | 49,178 | 70,380 | 93,500 | 288 |
| Master's Social Work (3.88%) | 16,515 | 50,805 | 41,000 | 63,572 | 93,489 | 839 |
| Master's Student Counseling (1.05%) | 4,529 | 49,964 | 45,033 | 61,500 | 83,781 | 226 |
| Master's Health Admin (0.97%) | 4,481 | 46,694 | 41,000 | 56,127 | 78,790 | 209 |
| Master's Business (5.68%) | 27,429 | 44,765 | 38,100 | 54,665 | 82,000 | 1,228 |
| Master's Special Education (1.09%) | 6,721 | 35,112 | 31,798 | 44,111 | 60,115 | 236 |
| Master's Teacher Education: Levels (1.41%) | 8,906 | 34,199 | 31,722 | 42,558 | 55,736 | 305 |
| Master's Educational Admin (1.04%) | 6,900 | 32,743 | 28,854 | 41,000 | 57,302 | 226 |
| Note: This table shows information about cumulative borrowing amounts for the top 25 programs (4-digit CIP-by-credential level) in terms of cumulative loan volume across all the completers who borrowed for that program. Each credential's share of total cumulative graduate program borrowing is noted in parentheses. Credentials are listed in descending order of average cumulative borrowing for the cohort. | | | | | | |

Table B7: Total Volume, Borrowers, and Distribution of Cumulative Loan Amounts, Graduation Cohort 2022, by Field of Study & Credential Level

| | Number of Completers | Cumulative Borrowing Amounts for Program | | | | Total Cumulative Loan Volume (Millions) |
|--|----------------------|--|-----------------|-----------------|-----------------|---|
| | | Mean | 50th percentile | 75th percentile | 90th percentile | |
| Top 25 Credentials in Terms of Cumulative Volume | | | | | | |
| Professional Dentistry (4.13%) | 3,027 | 286,297 | 277,776 | 368,247 | 453,774 | 867 |
| Professional Medicine (13.09%) | 12,140 | 226,458 | 219,598 | 289,978 | 363,019 | 2,749 |
| Professional Chiropractic (1.51%) | 1,585 | 200,070 | 203,664 | 235,324 | 264,872 | 317 |
| Professional Veterinary Medicine (1.85%) | 1,960 | 198,646 | 179,052 | 279,155 | 329,343 | 389 |
| Doctoral Medicine (1.52%) | 1,652 | 193,660 | 181,278 | 270,518 | 334,516 | 320 |
| Doctoral Pharmacy (1.59%) | 1,929 | 173,161 | 173,308 | 226,163 | 267,241 | 334 |
| Professional Pharmacy (3.86%) | 5,704 | 142,079 | 134,778 | 187,224 | 244,002 | 810 |
| Professional Law (10.56%) | 18,269 | 121,326 | 114,000 | 166,666 | 208,937 | 2,217 |
| Doctoral Law (1.35%) | 2,505 | 113,226 | 105,568 | 154,117 | 194,500 | 284 |
| Doctoral Rehab. & Therapeutic Prof (2.81%) | 5,289 | 111,614 | 103,652 | 150,004 | 191,968 | 590 |
| Master's Allied Health (2.48%) | 5,001 | 104,235 | 104,116 | 147,386 | 175,628 | 521 |
| Doctoral Registered Nursing (1.07%) | 2,508 | 89,724 | 71,832 | 124,652 | 181,825 | 225 |
| Master's Rehab. & Therapeutic Prof (1.13%) | 3,368 | 70,302 | 60,000 | 93,799 | 133,301 | 237 |
| Master's Mgmt Sciences & Quant. Methods (1.34%) | 4,358 | 64,607 | 41,000 | 86,483 | 150,463 | 282 |
| Master's Clinical Counseling (2.45%) | 8,632 | 59,658 | 48,448 | 68,510 | 112,750 | 515 |
| Master's Communication Disorders (1.13%) | 4,114 | 57,810 | 46,500 | 75,436 | 106,632 | 238 |
| Master's Registered Nursing (4.79%) | 17,513 | 57,415 | 50,500 | 68,333 | 100,183 | 1,006 |
| Master's Mental Health Svcs (1.47%) | 5,581 | 55,162 | 50,261 | 70,109 | 92,958 | 308 |
| Master's Public Health (1.29%) | 5,004 | 54,127 | 46,796 | 66,744 | 94,500 | 271 |
| Master's Social Work (4.00%) | 16,626 | 50,495 | 41,000 | 63,500 | 91,940 | 840 |
| Master's Student Counseling (1.15%) | 4,785 | 50,449 | 46,000 | 61,500 | 85,489 | 241 |
| Master's Business (5.87%) | 27,574 | 44,697 | 37,066 | 53,713 | 82,351 | 1,232 |
| Master's Special Education (0.99%) | 6,009 | 34,769 | 31,831 | 43,750 | 57,878 | 209 |
| Master's Teacher Education: Levels (1.45%) | 8,972 | 33,955 | 30,999 | 41,932 | 55,886 | 305 |
| Master's Educational Admin (1.06%) | 6,610 | 33,622 | 29,655 | 41,000 | 59,468 | 222 |
| Note: This table shows information about cumulative borrowing amounts for the top 25 programs (4-digit CIP-by-credential level) in terms of cumulative loan volume across all the completers who borrowed for that program. Each credential's share of total cumulative graduate program borrowing is noted in parentheses. Credentials are listed in descending order of average cumulative borrowing for the cohort. | | | | | | |

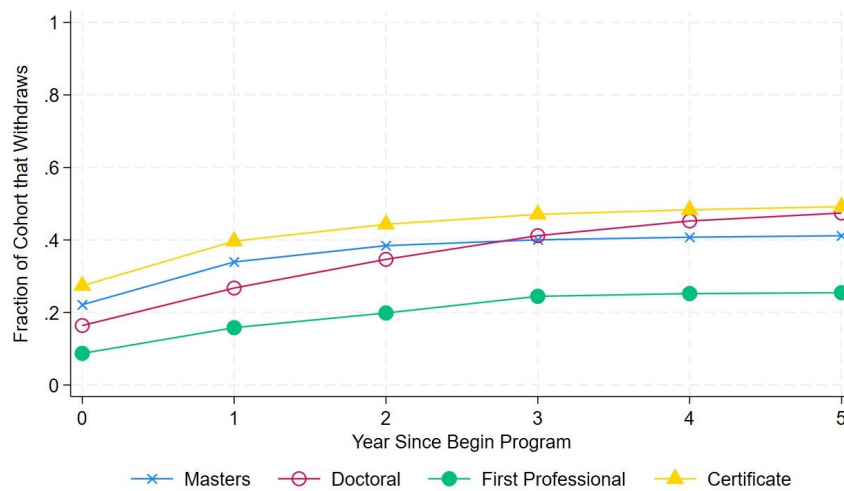
Table B8: Total Volume, Borrowers, and Distribution of Cumulative Loan Amounts, Graduation Cohort 2023, by Field of Study & Credential Level

| | Number of Completers | Cumulative Borrowing Amounts for Program | | | | Total Cumulative Loan Volume (Millions) |
|---|----------------------|--|-----------------|-----------------|-----------------|---|
| | | Mean | 50th percentile | 75th percentile | 90th percentile | |
| Top 25 Credentials in Terms of Cumulative Volume | | | | | | |
| Professional Dentistry (4.35%) | 3,185 | 295,721 | 287,644 | 378,967 | 461,092 | 942 |
| Professional Medicine (13.50%) | 12,379 | 235,913 | 230,131 | 303,944 | 379,774 | 2,920 |
| Doctoral Medicine (1.69%) | 1,692 | 216,048 | 208,395 | 285,430 | 354,142 | 366 |
| Professional Chiropractic (1.50%) | 1,559 | 207,876 | 209,987 | 245,383 | 274,584 | 324 |
| Professional Veterinary Medicine (1.81%) | 1,969 | 199,301 | 175,436 | 279,403 | 347,186 | 392 |
| Doctoral Pharmacy (1.46%) | 1,911 | 165,421 | 169,028 | 231,662 | 273,981 | 316 |
| Professional Pharmacy (3.51%) | 5,214 | 145,763 | 136,167 | 193,818 | 252,607 | 760 |
| Professional Law (10.12%) | 17,507 | 125,105 | 117,284 | 172,348 | 215,081 | 2,190 |
| Doctoral Law (1.40%) | 2,578 | 117,346 | 110,658 | 161,809 | 198,600 | 303 |
| Doctoral Rehab. & Therapeutic Prof (2.94%) | 5,715 | 111,260 | 102,334 | 152,500 | 192,619 | 636 |
| Master's Allied Health (2.86%) | 5,757 | 107,520 | 109,721 | 154,578 | 182,531 | 619 |
| Doctoral Registered Nursing (1.02%) | 2,436 | 90,690 | 73,460 | 126,045 | 189,489 | 221 |
| Master's Rehab. & Therapeutic Prof (1.11%) | 3,240 | 74,352 | 61,500 | 100,435 | 142,747 | 241 |
| Master's Mgmt Sciences & Quant. Methods (1.49%) | 4,744 | 68,158 | 45,100 | 91,906 | 157,070 | 323 |
| Master's Clinical Counseling (2.74%) | 9,581 | 61,824 | 49,613 | 71,750 | 118,218 | 592 |
| Master's Communication Disorders (1.19%) | 4,266 | 60,543 | 48,885 | 79,316 | 113,104 | 258 |
| Master's Registered Nursing (4.56%) | 16,861 | 58,458 | 51,250 | 69,329 | 102,500 | 986 |
| Master's Mental Health Svcs (1.62%) | 6,049 | 57,804 | 51,295 | 72,656 | 97,714 | 350 |
| Master's Public Health (1.33%) | 5,061 | 56,802 | 48,790 | 70,167 | 102,203 | 287 |
| Master's Student Counseling (1.19%) | 4,949 | 52,163 | 47,832 | 64,861 | 88,446 | 258 |
| Master's Social Work (4.00%) | 16,749 | 51,627 | 41,000 | 66,000 | 94,671 | 865 |
| Master's Business (5.37%) | 25,752 | 45,122 | 37,695 | 54,503 | 82,745 | 1,162 |
| Master's Teacher Education: Levels (1.35%) | 8,131 | 35,801 | 32,469 | 45,294 | 59,886 | 291 |
| Master's Educational Admin (1.01%) | 6,192 | 35,144 | 30,714 | 41,437 | 61,500 | 218 |
| Master's Special Education (0.99%) | 6,122 | 35,049 | 31,818 | 45,041 | 58,971 | 215 |
| Note: This table shows information about cumulative borrowing amounts for the top 25 programs (4-digit CIP-by-credential level) in terms of cumulative loan volume across all the completers who borrowed for that program. Each credential's share of total cumulative graduate program borrowing is noted in parentheses. Credentials are listed in descending order of average cumulative borrowing for the cohort. | | | | | | |

Appendix Table C1. Largest 20 Graduate Programs, 2015 Cohort, by CIP Code and Credential Level

| CIP | | Cred Level | Students |
|--------|--|--------------|----------|
| 520201 | Business Administration and Management, General. | Master's | 34510 |
| 220101 | Law. | Professional | 16212 |
| 440701 | Social Work. | Master's | 13990 |
| 513801 | Registered Nursing/Registered Nurse. | Master's | 9728 |
| 130401 | Educational Leadership and Administration, General. | Master's | 8967 |
| 130101 | Education, General. | Master's | 8530 |
| 511201 | Medicine. | Professional | 7737 |
| 130301 | Curriculum and Instruction. | Master's | 6630 |
| 131101 | Counselor Education/School Counseling and Guidance Services. | Master's | 5568 |
| 131001 | Special Education and Teaching, General. | Master's | 5502 |
| 422803 | Counseling Psychology. | Master's | 5339 |
| 440401 | Public Administration. | Master's | 5142 |
| 510701 | Health/Health Care Administration/Management. | Master's | 5057 |
| 512201 | Public Health, General. | Master's | 4394 |
| 520301 | Accounting. | Master's | 4268 |

Notes: This table shows the 20 programs, defined by 6-digit CIP and credential level, with the most new students in the 2015 cohort.

Figure A1. Withdrawal Rates by Intended Credential, 2015 Entering Cohort

Notes: Sample includes all enrolled aided graduate students in the 2015 academic year, broken out by their credential. The outcome is the fraction of each cohort that withdraws in each year since the beginning year.