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POLICY BRIEF

On Borrowed Time: How Occupational Licensing Affects Student Loan Debt

Kihwan Bae and Edward J. Timmons

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Rapidly increasing student loan debt has become a major policy issue in many countries over the past several decades. In the United States, student loan debt expanded from $0.2 trillion in 2003 to $1.5 trillion in 2020.[1] Student loan debt is the second-largest category of household debt, following mortgage debt, and is the largest category of delinquent household debt in the United States.[2] At the micro level, about two-thirds of recent college graduates finance their college education with student loans.[3] Although a significant amount of time and attention has been devoted to the issue,[4] the possible connection between occupational licensing and rising student loan debt remains largely unexplored.

Occupational licensing has significantly expanded over the past several decades.[5] Also, licensing requirements for many occupations include requirements of undergraduate or graduate education.[6] Licensing creates an entry barrier and allows professionals an opportunity to generate monopoly rents, the so-called licensing premium.[7] These rents are not confined to occupations requiring a college degree; studies have found evidence that occupational licensing is associated with higher earnings in several occupations for which licensing does not require a college degree.[8] Over time, education requirements for licensed occupations have gradually increased.[9] It is worth considering the association between occupational licensing, borrowing, and student loan debt.

Our analysis uses the 2017 National Survey of College Graduates (NSCG), which provides individual-level microdata on licensing status and college financing.

Our primary findings are the following:

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- Licensed workers are almost 10 percentage points more likely to have borrowed for their college education and almost 6 percentage points more likely to have outstanding student loan debt than unlicensed workers.
- Among student loan borrowers, licensed graduates borrow about $12,000 (or 38.5 percent) more and have student loan debt balances about $7,000 (or 42.5 percent) more than unlicensed graduates.
- The differences in student loan borrowing and outstanding debt between licensed and unlicensed graduates are mostly attributable to licensed individuals who have obtained postgraduate education, such as healthcare practitioners and lawyers.
- There is some evidence that the gap in student loan borrowing between licensed and unlicensed individuals has gradually expanded over time.

Our comparison suggests that licensed workers may bear more up-front financing costs than unlicensed workers in the era of fast-growing student loans across the country. Specifically, licensed workers in low-paying jobs may suffer most among all licensed workers.[10] Furthermore, monopoly rents created by licensing regulation may benefit higher education institutions as well as licensees. In this case, licensing reform may help mitigate soaring student loan borrowing and debt and remove additional financial burdens on licensed individuals.

DATA AND METHODOLOGY

We use the NSCG microdata found in public use data files for the analysis.[11] The NSCG is a nationally representative survey of four-year college graduates in the United States. It is a unique survey that provides rich information on both individual licensing status and college financing. The survey data also include detailed information on degrees, licenses, and demographics. Our study sample comprises all individuals who responded to the 2017 NSCG. All descriptive statistics are weighted by survey weights.

We define a licensed individual as a person who had a currently active professional license or certificate as of the survey reference date. In the 2017 NSCG, the question used to identify these individuals is A39: “As of February 1, 2017, did you have a currently active professional certification or a state or industry license?” Any respondent who answers, “Yes,” is considered a licensed individual in our study. As a result, our analysis is unable to fully distinguish licensing from certification. To work around this limitation, our analysis also examines borrowing and outstanding debt for those in licensed occupational fields.

We measure the amount of initial student loan borrowings and outstanding debt using self-reported data. The 2017 NSCG includes question D13: “The next question asks about the TOTAL amount you have borrowed to finance undergraduate and graduate degrees you completed before

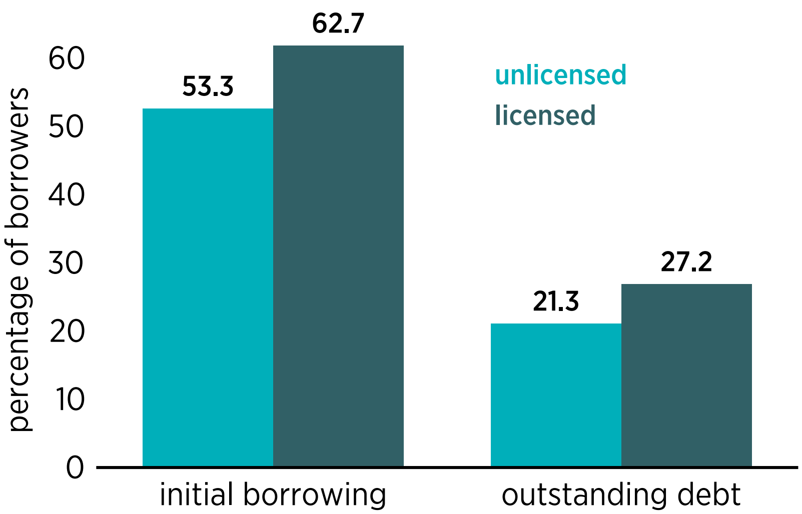
February 1, 2017, and how much you still owed as of February 1, 2017." Respondents are asked to sort themselves into 1 of 11 bins: $0, $1–$10,000, $10,001–$20,000, and so on through $80,001–$90,000, or $90,001 or more. We approximate each bin to the midpoint value.[12] Then we calculate the total amount borrowed for undergraduate and graduate degrees,[13] and we calculate the total outstanding debt for both undergraduate and graduate degrees.

RESULTS

Individual licensing status is positively associated with initial student loan borrowing and outstanding debt. Figure 1 compares the percentage of student loan borrowers with occupational licenses with those without occupational licenses. Licensed individuals are more likely than unlicensed individuals to have borrowed to finance higher education. Of licensed individuals, 62.7 percent have student loans, whereas 53.3 percent of unlicensed individuals do. This disparity also occurs with outstanding debt: 27.2 percent of licensed individuals have student loan debt, whereas 21.3 percent of unlicensed individuals do. The gap in student loan debt between licensed and unlicensed individuals is smaller than the gap in initial borrowing. This difference may be attributed to licensed individuals having a higher ability to repay their student loans (because of, for example, higher wages) after graduation than unlicensed individuals.

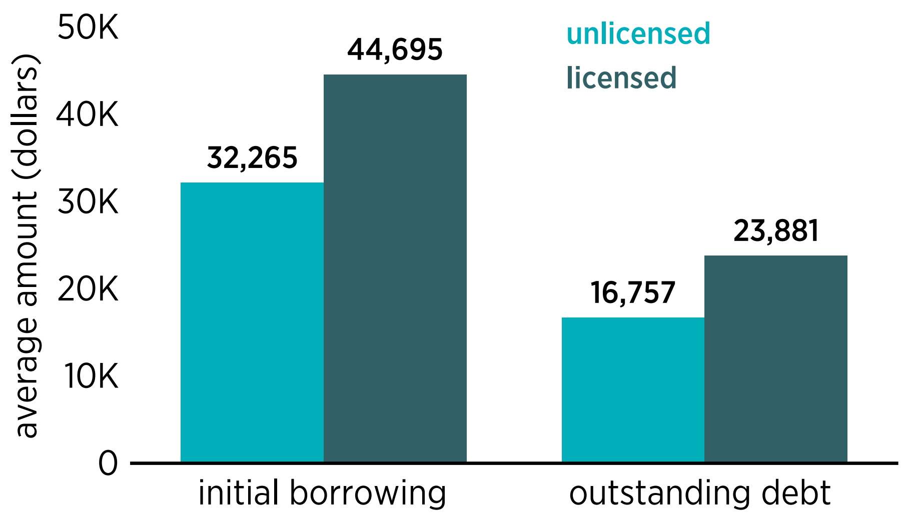
Moreover, the average amount of initial student loan borrowing and debt are much larger among licensed individuals than among unlicensed individuals, as shown in figure 2. Figure 2 presents the conditional mean of initial borrowing and student loan debt for those who have borrowed to

Figure 1. Percentage of Student Loan Borrowers by Licensing Status



Source: Authors' calculations based on 2017 National Survey of College Graduates microdata. National Science Foundation, "2017 National Survey of College Graduates" (dataset), August 6, 2019, https://ncsesdata.nsf.gov/datadownload/.

Figure 2. Average Amount of Student Loans by Licensing Status

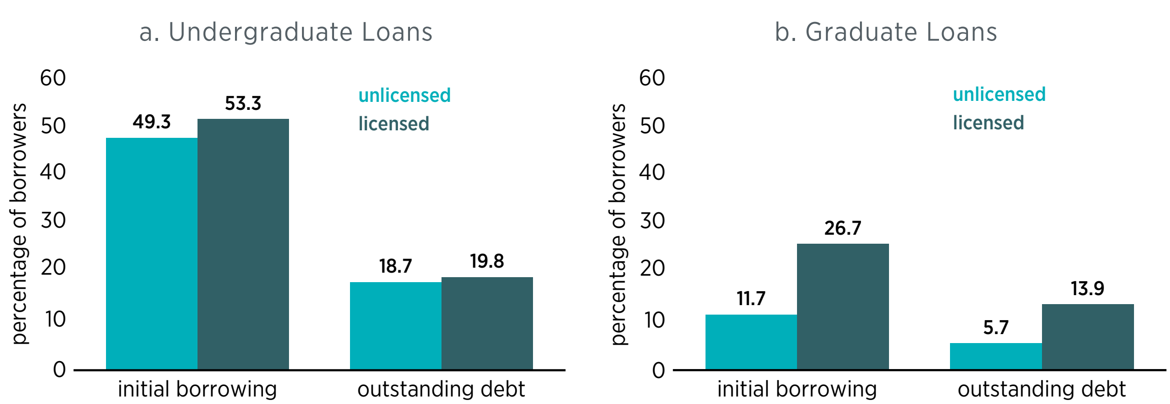


Source: Authors' calculations based on 2017 National Survey of College Graduates microdata. National Science Foundation, "2017 National Survey of College Graduates" (dataset).

finance higher education. The average amount of initial student borrowing for licensed graduates ($44,695) is 38.5 percent larger than that for unlicensed graduates ($32,265). Although the gap reduces after graduation, licensed individuals on average owe a larger amount of student debt than unlicensed individuals. The average amount of debt for licensed graduates is $23,881, 42.5 percent more than for unlicensed graduates ($16,757).

The positive association between licensing status and student loans is driven mostly by individuals who borrowed for graduate degrees. Figures 3a and 3b show the percentages of licensed and unlicensed individuals who took out student loans to finance undergraduate degrees and graduate

Figure 3. Percentage of Undergraduates and Graduates Who Are Borrowers, by Licensing Status

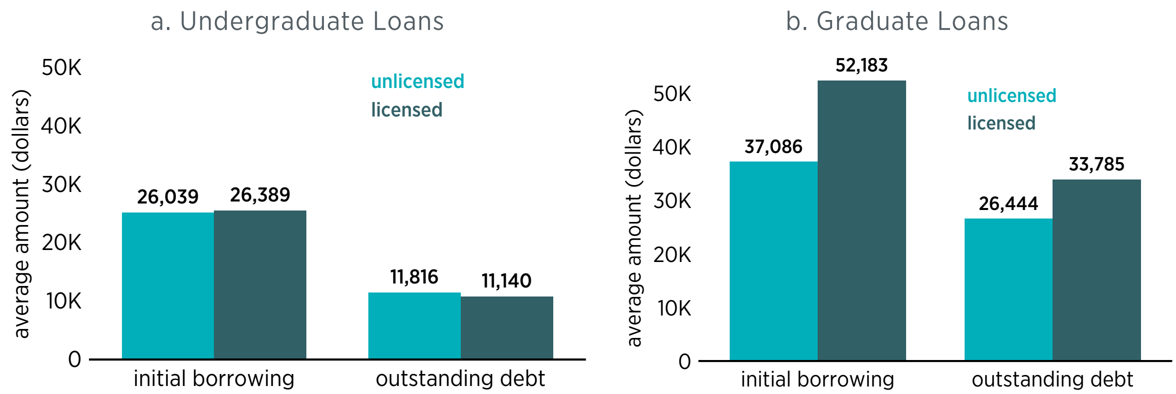


Source: Authors' calculations based on 2017 National Survey of College Graduates microdata. National Science Foundation, "2017 National Survey of College Graduates" (dataset).

degrees, respectively. As shown in Figure 3b, licensed individuals are 2.3 times more likely than unlicensed individuals to borrow for graduate education. With regard to undergraduate loans, the difference between the two groups is much smaller (figure 3a).

Figures 4a and 4b show the average amounts that licensed and unlicensed individuals borrowed and the outstanding amounts of those individuals. Figure 4b shows that licensed individuals have borrowed 40.7 percent more in graduate loans and have outstanding graduate school debt that is 27.8 percent larger than that of unlicensed individuals. By contrast, the gaps in the average amount of initial undergraduate loans and in the average amount of outstanding debt between the two groups is almost zero (see figure 4a). Breaking down the differences between undergraduate and graduate student loan financing among licensed and unlicensed individuals yields the following important finding: requiring a graduate degree for occupational licensing drives most of the difference we observe in figures 1 and 2.[14]

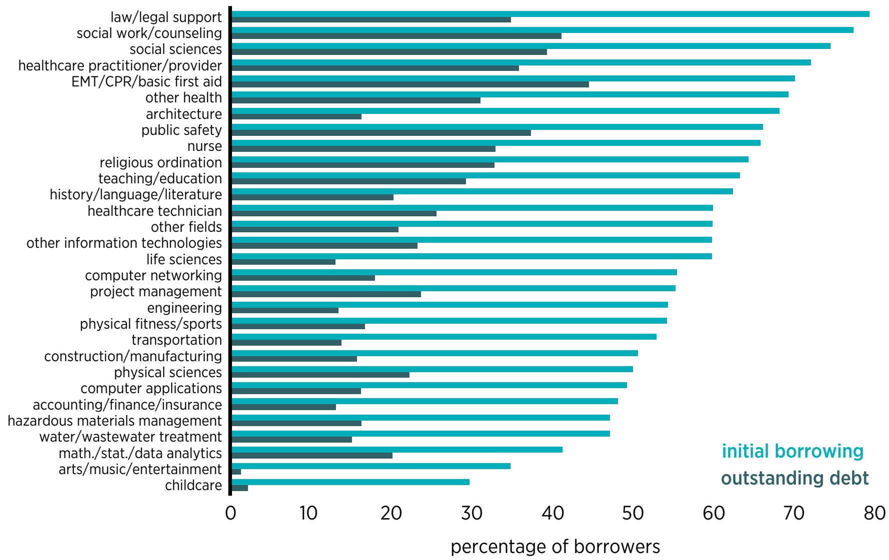
Figure 4. Average Amount of Undergraduate and Graduate Loans, by Licensing Status



Source: Authors' calculations based on 2017 National Survey of College Graduates microdata. National Science Foundation, "2017 National Survey of College Graduates" (dataset).

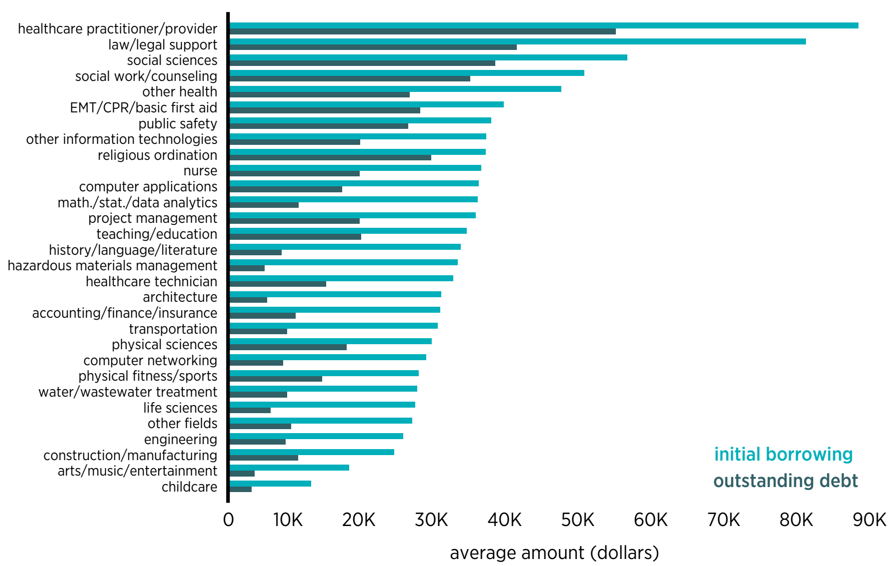
Earlier in this brief, we noted a shortcoming in our previous analysis—that within our sample we are not able to distinguish certified individuals from licensed graduates. To help address this shortcoming and take a closer look at the effect of licensing on student loan debt, we calculate the percentage of student loan borrowers according to the primary field of study of licensed individuals. The results are shown in figure 5. Individuals with licenses in law or the legal support field are most likely to have borrowed to finance their education. Individuals with licenses in the fields of social work or counseling, social sciences, healthcare, and emergency medical technician (EMT) services or cardiopulmonary resuscication (CPR) basic first aid are also more likely to have student loans than individuals licensed in other fields. In addition, as shown in figure 6, individuals with licenses in the healthcare and law or legal support fields have borrowed, and still owe, the largest amounts. Licensed individuals in the social sciences, social work or counseling, and other health-related fields also have borrowed and possess large amounts of debt relative to individu-

Figure 5. Percentage of Student Loan Borrowers, by License Field



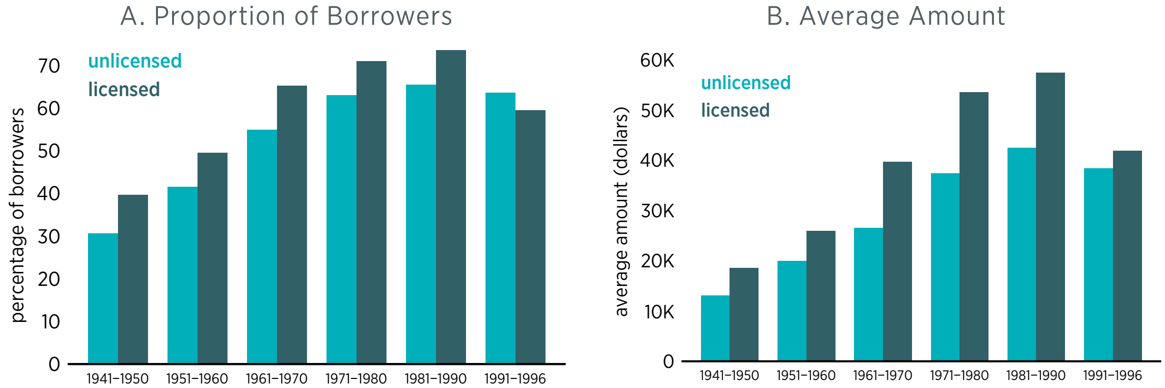
Note: CPR = cardiopulmonary resuscitation; EMT = emergency medical technician; math. = mathematics; stat. = statistics.
Source: Authors' calculations based on 2017 National Survey of College Graduates microdata. National Science Foundation, "2017 National Survey of College Graduates" (dataset).

Figure 6. Average Amount of Student Loans, by License Field



Note: CPR = cardiopulmonary resuscitation; EMT = emergency medical technician; math. = mathematics; stat. = statistics.
Source: Authors' calculations based on 2017 National Survey of College Graduates microdata. National Science Foundation, "2017 National Survey of College Graduates" (dataset).

Figure 7. Student Loan Borrowings, by Birth Cohort and Licensing Status



Source: Authors' calculations based on 2017 National Survey of College Graduates microdata. National Science Foundation, "2017 National Survey of College Graduates" (dataset).

als in other occupational fields. Also, importantly, figures 5 and 6 indicate a discrepancy in the ability of licensed individuals to repay student loans across different fields of study. For example, individuals with licenses in the fields of social work or counseling, social sciences, EMT services or CPR basic first aid, public safety, and religious ordination are less successful at repaying their student loans than those with other licenses.

Finally, the positive association between licensing status and student borrowing and debt seems not to be a phenomenon unique to recent college graduates. As shown in figure 7a, licensed individuals in nearly all birth cohorts are more likely than their unlicensed peers to have borrowed for college. A notable difference between old and young cohorts is that the gap in average borrowing amounts for licensed and unlicensed individuals is much larger for young cohorts than for older cohorts. In other words, the effect that licensing has had upon borrowing for higher education appears to have grown over time (figure 7b).[15]

CONCLUSION

Our analysis suggests that occupational licensing is positively associated with student loan borrowing and debt. The difference is mainly attributable to occupational licenses that require graduate education. There are also large variations in student loan borrowing and the ability to repay student loans across different licensed fields.[16] The positive relationship between licensing status and student loans has existed for a long time and also appears to have grown.

Our findings have several policy implications. Researchers and policymakers need to further consider the long-term consequences of student loan debt that occupational licensing imposes on aspiring workers. Previous literature has focused on the licensing wage premium and other labor market consequences but has not examined education expenses. Effectively, licensing may result in a transfer of some of the licensing wage premium from licensed workers to colleges and universities. If increases in educational expenses for licensing merely limit entry to the licensed occupation without a sufficient increase in productivity, they may add financial burdens to licensed individuals. In fact, recent research suggests that scaling back occupational licensing will lead to productivity gains of as much as 2.5 percent.[17] Rather than addressing the problem with temporary solutions such as student loan forgiveness, which may create a moral hazard of individuals taking on more debt—a vicious cycle[18]—policymakers should consider shifting their focus to the root cause. Licensing reform may help mitigate an increase in educational expenses and student loans as well as relax extra burdens to licensed individuals.

ABOUT THE AUTHORS

Kihwan Bae is a research fellow at the Knee Center for the Study of Occupational Regulation and assistant research professor in the Shields School of Business at Saint Francis University. His research interests lie at the intersection of labor economics and consumer finance. He received his PhD in economics from Rutgers University.

Edward J. Timmons is director of the Knee Center for the Study of Occupational Regulation and professor of economics at Saint Francis University. He is a senior affiliated scholar with the Mercatus Center at George Mason University and has published more than 50 op-eds, policy pieces, and journal articles on the topic of occupational regulation.

NOTES

1. Federal Reserve Bank of New York, *Quarterly Report on Household Debt and Credit 2020:Q2*, August 2020.
2. According to the Federal Reserve Bank of New York, student loans recorded the highest percentage of delinquent (90 or more days) balances until the first quarter of 2020. The percentage temporarily dropped in the second quarter of 2020 owing to protective measures for student loan borrowers related to the COVID-19 pandemic. Federal Reserve Bank of New York, *Quarterly Report on Household Debt and Credit 2020:Q2*, 12.
3. Institute for College Access and Success, *Student Debt and the Class of 2018*, September 2019. According to this report, 65 percent of college graduates in 2018 had student loan debt, and borrowers owed an average of $29,200.
4. For example, see Christopher Avery and Sarah Turner, "Student Loans: Do College Students Borrow Too Much—Or Not Enough?," *Journal of Economic Perspectives* 26, no. 1 (2012): 165–92; Center on Budget and Policy Priorities, *State Higher Education Funding Cuts Have Pushed Costs to Students, Worsened Inequality*, October 24, 2019.
5. Morris M. Kleiner, "Reforming Occupational Licensing Policies" (Discussion Paper No. 2015-01, Hamilton Project at the Brookings Institution, Washington, DC, March 2015).
6. According to Morris Kleiner, college degrees are necessary for 47.7 percent of licensed workers and 28.5 percent of certified workers. Kleiner, "Reforming Occupational Licensing Policies," 8.
7. Morris M. Kleiner and Alan B. Krueger, "Analyzing the Extent and Influence of Occupational Licensing on the Labor Market," *Journal of Labor Economics* 31 no. 2 (2013): S173–S202.
8. Edward J. Timmons and Robert Thornton, "The Effects of Licensing on the Wages of Radiologic Technologists," *Journal of Labor Research* 29, no. 4 (2008): 333–46; Edward J. Timmons and Robert Thornton, "The Licensing of Barbers

in the USA," *British Journal of Industrial Relations* 48, no. 4 (2010): 740–57; Edward Timmons and Robert Thornton, "Licensing One of the World's Oldest Professions: Massage," *Journal of Law and Economics* 56, no. 2 (2013): 371–88.

9. Jing Cai and Morris M. Kleiner, "The Labor Market Consequences of Regulating Similar Occupations: The Licensing of Occupational and Physical Therapists," *Journal of Labor Research* 41, no. 4 (2020): 352–81.

10. Low-paid licensed workers were even at risk of losing their licenses owing to student loans when some states suspended occupational licenses for student loan defaulters. For more details on this issue, see Kihwan Bae, "Essays on Consumer Finance" (PhD diss., Rutgers University, 2020), https://rucore.libraries.rutgers.edu/rutgers-lib/64115/PDF/1/play/.

11. The NSCG data are collected by the Census Bureau, and the survey is sponsored by the National Center for Science and Engineering Statistics within the National Science Foundation.

12. The top bin ($90,001 or more) is approximated to the mean of values above the top code on the Pareto distribution. The Pareto approximation assumes that the amount of student loans above a reference level follows the Pareto distribution. The parameters of the distribution are estimated on the basis of the proportion of borrowers above the reference level ($50,001) and the proportion of borrowers above the top code ($90,001).

13. Some caution is necessary when interpreting the amount of initial borrowing—figures are not adjusted for inflation.

14. When borrowers with graduate degrees are further broken down on the basis of the highest degree, mainly those with professional or doctoral degrees cause the difference in student loan borrowings between licensed and unlicensed individuals.

15. The difference is mainly attributable to the surge in student loan borrowings among doctors and lawyers in recent decades. When doctors and lawyers are excluded from the sample, the difference across birth cohorts becomes less. The trend appears have changed for the most recent birth cohort (1991–1997), but this change is not genuine. Being so young, this cohort had not yet completed its graduate education at the time of the survey and thus had less student loan balances and outstanding debt.

16. There might have been larger variations in student loan borrowings among licensed individuals if we had been able to include licensed individuals with some college education but without a four-year degree in the study sample. For example, licensed individuals in relatively low-paying jobs such as cosmetologist and barber may attend two-year colleges but not have a four-year degree, thereby not appearing in the sample of the NSCG.

17. Indre Bambalaite, Giuseppe Nicoletti, and Christina von Rueden, "Occupational Entry Regulations and Their Effects on Productivity in Services: Firm-Level Evidence" (OECD Economics Department Working Papers No. 1605, Organisation for Economic Co-operation and Development, Paris, 2020).

18. Preston Cooper, "The Massive Moral Hazard Problem of Mass Student Loan Forgiveness," *Forbes*, October 28, 2019.