



# Postsecondary Equity & Economics Research Project

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## How did Expanded Access to Federal Student Loans Influence Graduate Student Borrowing?

*Lessons Learned from Grad PLUS Loans*

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*The views expressed in this policy brief are solely those of the authors.<sup>1</sup>*

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Student loans are intended to enable students to attend and complete college; without these loans, students may not have access to the resources needed to pay for tuition and living expenses. However, we still have an incomplete understanding of which students benefit from access to student loans as well as how those loans should be designed. In this report, we focus on loans for graduate school and the effects of higher loan limits for graduate students via the creation of the Grad PLUS program. We also discuss how our findings contrast with undergraduate loan limits and the reasons for our different findings.

### HOW RELEVANT ARE LOANS FOR GRADUATE SCHOOL?

Graduate school is an increasingly common choice, with over 14 percent of American adults holding a postbaccalaureate degree—this represents over a 100% increase since 2000.<sup>2</sup> Further, about half of all federal student debt is now held by graduate students (Looney et al. 2020). The increased importance of graduate student loans for both individuals and the federal government underscores the need to understand how the design of this type of student financial aid affects students and institutions. In this brief, we describe our recent research and consider the key policy choice of how much students should be able to borrow for graduate school.

### THE GRAD PLUS EXPERIENCE

Grad PLUS loans were created as part of the Deficit Reduction Act of 2005.<sup>3</sup> Prior to the creation of Grad PLUS, graduate students could borrow from the federal government up to the Stafford maximum which was \$18,500 annually for most programs. Students could make the gap between the maximum they could borrow federally and additional costs using private student loans, savings, or through working for wages. Grad PLUS expanded access to loans by allowing borrowers to borrow up to the total cost of attendance (COA) after other aid.<sup>4</sup> For some programs, this dramatically increased the amount students could borrow. For instance, this increased how much students at UT Austin law school could borrow by about \$15,000 annually for in state students and \$28,000 for out of state students. Programs differ widely in their tuition, even within the same university. This policy change enables us to evaluate whether increased borrowing limits for graduate students helped facilitate student success in graduate school.

## WHAT HAPPENED AFTER GRAD PLUS?

We consider the effect of this loan limit expansion on three separate student outcomes: enrollment, student success (including graduation and earnings), and program prices. In this brief, we will concisely describe our methodology, but interested readers can see more details in Black, et al. (2023). Throughout, we use data from the state of Texas covering all students in public and private non-profit universities. Our data starts in 2000–2001 and continues until 2020, though we use different years depending on the analysis. From 2002–2020 there were 458,731 first time graduate students in our data. The data do not include for-profit colleges; to the extent for-profit colleges and students enrolled in these institutions respond differently, we will not capture that in our analysis.<sup>5</sup>

### Enrollment

To estimate the effects of expanded access to student loans on enrollment, we compare enrollment in programs that had higher prices to programs that had lower prices prior to the creation of Grad PLUS before and after the creation of Grad PLUS. The intuition is that a program that had a COA below the prior Stafford maximum should see no increase in enrollment after the policy change (as federal loan limits would not have been affected by Grad PLUS), whereas programs with a higher COA that could not be completely paid for with Stafford Loans should see an increase if higher loan limits affect graduate program access. We find that programs that saw larger loan limit increases with Grad PLUS did not see enrollment increases relative to programs that saw smaller or no increase in loan limits, and we are able to rule out even small changes in enrollment for higher priced programs.

A potential benefit of higher loan limits is that students from traditionally underrepresented groups may gain access to more expensive programs. This will be especially true if family resources were used to pay for undergraduate education, leaving students from less wealthy backgrounds more reliant on student loans. We do not find any evidence that enrollment increased among Black or Hispanic students. Overall, the introduction of Grad PLUS loans did not appear to increase access to graduate programs.

### Student Success

Access to more student loans could help students reduce work hours during the semester and allow them to complete their degree or to finish faster.<sup>6</sup> We next consider how increased loan limits affected a student's persistence or degree receipt. To do so, we compare students who borrowed the maximum amount of Stafford loans in their first year to those who borrowed less than the maximum amount, before and after Grad PLUS was introduced. The intuition for this comparison is that a student who borrowed the maximum amount of Stafford loans is more likely to increase their borrowing in response to higher loan limits, whereas a borrower who borrowed less than the maximum likely would not increase borrowing. We label students who borrow at the Stafford maximum as “constrained borrowers” and classify the remaining borrowers as “unconstrained”. As predicted, we find that constrained borrowers increased their annual borrowing by a greater degree after the introduction of Grad PLUS loans. In total, constrained students who gained access to Grad PLUS took on an additional \$6,159 in federal loans. However, the increase in federal borrowing was offset by a decrease in private borrowing by \$2,578. On net, constrained students increased total borrowing by \$3,596.

Despite this increase in student debt, we find no evidence of increased persistence or graduation.<sup>7</sup> We can rule out increases in graduate degree receipt greater than 2.7 percentage points (3.2 percent), a relatively small effect given the magnitude of the increase in cumulative borrowing.

## Program Prices

When subsidies for higher education increase, schools may increase prices to capture this increase in students' ability to pay, a response that is sometimes referred to as the "Bennett Hypothesis." To examine the effect of increased loan limits on program prices, we classify programs according to the share of students who were borrowing at the pre-Grad PLUS federal limit (i.e. the share of "constrained" students) in the years before the program was implemented. We then compare how prices change for programs with high shares of baseline constrained students to how prices change for programs with lower shares of such students after the introduction of Grad PLUS loans.

We find that schools did increase prices. For each additional \$1 of federal borrowing, we see an approximately \$1 increase in listed program prices.<sup>8</sup> Offsetting this effect, we also see an increase in average grant aid so that on net, a program's net price increases by \$0.64 per \$1 increase in federal borrowing. This is a substantial amount of pass-through of the increase in loan generosity to institutions suggesting that institutions are capturing more than two-thirds of graduate loan aid.

## HOW DOES THIS COMPARE TO WHAT WE KNOW ABOUT LOAN LIMITS FOR UNDERGRADUATES?

In other work (Black et al. 2020), we found that increasing borrowing limits for dependent undergraduate students increased borrowing but also led to higher rates of college completion and post-college earnings.<sup>9</sup> However, borrowing limit increases for dependent undergraduates were much lower; e.g., for first-year dependent students, limits increased from \$2,625 to \$3,500. In contrast, federal loan limits were substantially higher prior to Grad PLUS—\$18,500 for most graduate students and rose to around \$24,000 for the average student, with much larger increases for some students. The effect of additional loans may be especially large at lower amounts in the presence of binding credit constraints which is one possible explanation for these disparate findings. Other work considers the effect of increasing borrowing limits for undergraduates on prices and finds that prices do increase in response to the increase in loan limits (Lucca et al 2019). Our results are larger than those estimated by Lucca et al. 2019.

## WHAT DOES THIS TELL US ABOUT LOAN LIMITS?

Loan limits are an important policy choice. Comparing results across undergraduate and graduate student limit increases provides several policy lessons. First, the effect of loan limits is context dependent, and raising limits will not always improve student outcomes. Second, in contrast to the limited evidence of price increases in response to the expansion of federal grants for undergraduates, our research shows increases in graduate student loan generosity appears to lead to price increases. While there is substantial information available on the cost of an undergraduate education across institutions, graduate program pricing is much less transparent and varies much more within an institution. Additionally, program quality may be harder to determine, as institutions are not required to report graduate program completion rates or other relevant metrics such as loan defaults. Thus, it may be easier for institutions to raise prices in response to more generous student aid for graduate education than in the case of undergraduate education. Given our findings, it suggests that more data on program success would be beneficial. Third, raising limits may be more effective at increasing college access and attainment when loan limits are low. Loan limits for dependent undergraduate students remain substantially lower than the average cost of attendance in many institutions and for such students, the benefit of access to additional financial aid may be particularly high.

While our paper suggests that reducing graduate school borrowing limits may not have deleterious effects on student access or completion, the introduction of Grad PLUS was in an environment with a strong private market for student loans. Banking conditions have changed since 2006 when the Grad PLUS program became available, and so it is not clear if the market for private student loans would operate in the same way, suggesting caution when contemplating caps to student loans. Our results highlight the importance of collecting data on graduate program prices, which would enable future policy to address potential price increases, perhaps linking funding to price targets.

## WORKS CITED

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## ENDNOTES

- 1 The conclusions of this research do not necessarily reflect the opinion or official position of the Texas Education Research Center, the Texas Education Agency, the Texas Higher Education Coordinating Board, the Texas Workforce Commission, or the State of Texas.
- 2 <https://www.census.gov/library/stories/2019/02/number-of-people-with-masters-and-phd-degrees-double-since-2000.html>.
- 3 Previously, the PLUS loan program was for parents of undergraduate students which continues to disburse loans to parents and is now referred to as Parent PLUS.
- 4 Cost of attendance includes tuition and fees as well as living allowances. Medical students (including those studying osteopathic medicine, dentistry, veterinary medicine, and optometry) could borrow an additional \$20,000 per academic year while students in public health, health administration, pharmacy, clinical psychology, and chiropractic graduate programs could borrow an additional \$12,500 per academic year. Students in these programs faced correspondingly higher lifetime federal borrowing limits as well. See Hegji (2021).
- 5 Nationally, only 8 percent of graduate students attended for-profit institutions in 2004 (authors' analysis of 2004 National Postsecondary Student Aid Study data, via PowerStats). In Texas, only 2 percent of graduate enrollment was in for-profit institutions in 2004 through 2006 (authors' analysis of IPEDS 12-month enrollment data).
- 6 Black et al (2020) show this is true for undergraduate students with expanded access to loans.
- 7 There are a few caveats to bear in mind. Borrowers in our sample have a high graduation rate of 84% so there may not be much scope for increasing graduation.
- 8 Although we only observe a program's COA, which includes both tuition and estimated living expenses, our assumption is that only the tuition component will vary at the program-level within an institution, which allows us to isolate effects on prices. The Federal Student Aid Handbook directs schools to apply cost allowances for living expenses uniformly across all students within a broad category (e.g., in-state students).
- 9 We use similar data on Texas public and private nonprofit universities for these analyses. We do not find such effects for independent students, who had higher borrowing limits before (and after) the undergraduate loan limit increases we study.