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Is High Student Loan Debt Always a Problem?

By Adam Looney and Constantine Yannelis

Student loans have grown to become the largest source of non-mortgage household debt in the United States, and increasingly large loan balances have attracted attention among policymakers and the broader public.

The increasing volume of student loan debt owed by millennials has led to mounting concern of a student loan crisis¹ and numerous policy proposals seeking to provide relief for borrowers with the highest levels of debt. Are large student loans balances a problem and, if so, for whom?

Student loans are intended to finance investments in education and, thus, the implications of student debt crucially depend on the returns to those educational investments. Numerous studies (Avery and Turner 2012; Greenstone and Looney

2011) have shown that the high returns on education investments generally exceed those of other investments, and student loans allow students access to credit to make those high-return investments (Sun and Yannelis 2016).

As a result, larger debt is associated with significantly higher earnings. Those with more debt often took out their loans to stay in school longer, pursue higher-level degrees, and attend more selective — and more costly — schools. But those successful students are more likely to land high-paying jobs. Due to the relationship between borrowing and educational attainment, the vast majority of borrowers with high debt are in a better position to pay it off, compared with other borrowers. In contrast, many low-income borrowers — those experiencing the most difficulty paying their loans — do not

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¹ For example "Student Debt in America: Lend with a Smile, Collect with a Fist" *New York Times*, Nov 27, 2015 or "Grad-School Loan Binge Fans Debt Worries" *Wall Street Journal*, Aug 18, 2015.

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have particularly large debt burdens. And student-loan borrowers in general tend to be more financially secure than individuals who did not attend college, despite their debts.

Increasing Loan Balances

The volume of student loans has increased sharply in

recent years, as more students borrowed and the average size of their loans grew. In 2014, there were roughly 43 million student loan borrowers, over 20 million more than in 2000.

While most students borrow relatively modest amounts — in 2014 the median balance of an undergraduate leaving school

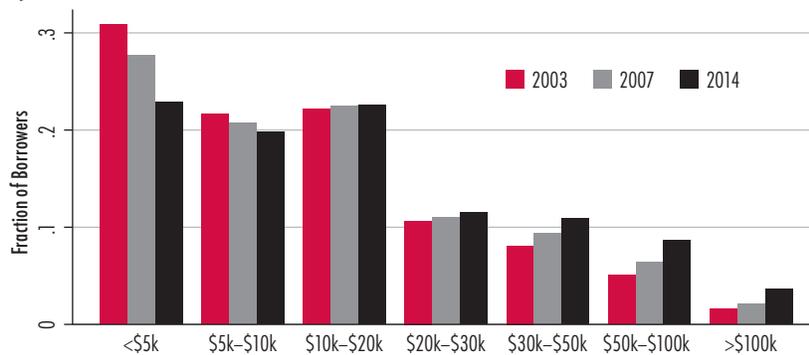
was around \$19,650 — more borrowers have incurred very large balances. Figure 1 illustrates the fraction of borrowers by the size of their loan balance between 2003 and 2014. All dollar values are in 2014 dollars, so the patterns are driven by changes in real borrowing rather than inflation.

Between 2000 and 2014, the median loan balance increased from approximately \$13,950 to approximately \$19,650. While typical balances certainly increased, they remain at moderate levels.

Figure 1 shows that most borrowers — about 75 percent — borrow less than \$30,000. Indeed, the proportion of borrowers with loans between \$10,000 and \$30,000 is little changed over time, suggesting that in terms of amounts borrowed today's typical borrower is actually quite similar to the typical borrowers leaving school more than a decade ago.

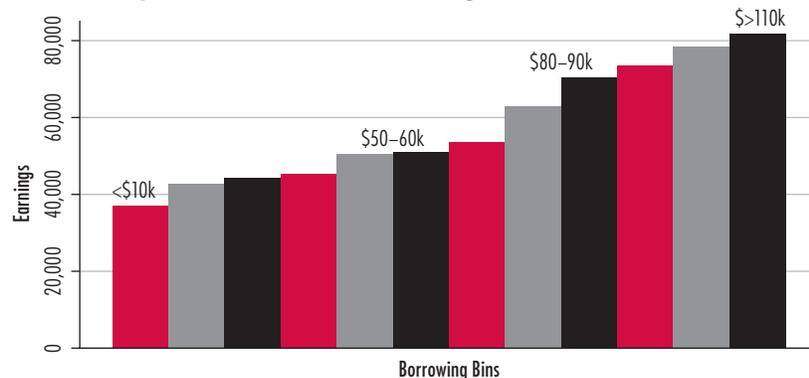
While the typical borrower still carries a moderate level of debt, a rising share of borrowers carry very large balances. Figure 1 also shows that a growing fraction of borrowers do have large loan balances and that a smaller fraction of borrowers have very small debt loads. In 2003, almost a third of borrowers owed less than \$5,000, but in 2014 this share has plunged to less than a quarter. In 2003, only about 5 percent of borrowers owed more than \$50,000 in debt, and eleven years later in 2014 this fraction nearly triples to almost 14 percent of borrowers.

Figure 1
Increases in Large Balances: The Distribution of Loan Balances by Cohort



Notes: This figure shows the percentage of federal borrowers at each level of indebtedness (defined on the x-axis) for the 2003 (red), 2007 (gray), and 2013 (black) repayment cohorts. Cohorts are defined by fiscal year entered repayment. Dollar values adjusted for inflation to 2014. Source: Treasury tabulations of 4 percent NSLDS sample.

Figure 2
Relationship between Debt and Earnings



Notes: This figure shows mean earnings, in \$10,000 bins of the amount borrower. Each bar represents a \$10,000 interval. Treasury tabulations of 4 percent NSLDS sample.

Students with Larger Balances Tend to Earn More

The increase in borrowing is not necessarily bad for these students. In fact, there is a strong relationship between more borrowing and higher earnings.

Table 1 shows various debt and earning outcomes in terms of quintiles of borrowing, income, and earnings. Table 1 confirms that there are many borrowers with large volumes — 20 percent of borrowers account for more than 60 percent of total U.S. outstanding debt.

But the key takeaway from this table is that borrowers who borrow more tend to earn more, and they also tend to come from higher-income families.

Figure 2 shows earnings in bins of borrowing. The left-most bar shows earnings for those who borrowed less than \$10,000, and the right-most bar shows earnings for those who borrowed more than \$110,000. The bars in between show

earnings in \$10,000 intervals of borrowing. Figure 2 indicates a clear relationship between earnings and borrowing, with individuals who borrow more tending to earn more.

Borrowers with high balances seem able to translate their higher earnings into a better ability to repay loans. Borrowers with the smallest loans tend to fare the worst, both in terms of their labor-market outcomes and in terms of their loan performance. Figure 3 shows the fraction of borrowers defaulting within two years of their repayment year, in \$10,000 borrowing bins. In fact, borrowers with balances less than \$10,000 are five times more likely to default than borrowers with balances above \$100,000. The patterns observed in Figure 2 and Figure 3 are not surprising when we look at the characteristics of individuals who borrow more.

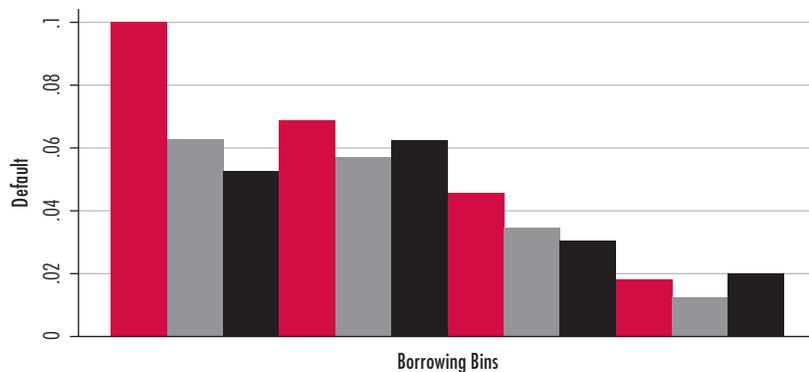
How Borrowers with Large and Small Balances Differ

Many borrowers with high balances borrowed to go to graduate or professional school, and workers with degrees like PhDs, MBAs, and JDs tend to earn substantially more than other workers. Among the 14 percent of borrowers with balances over \$50,000 in 2014, about two-thirds of the borrowers with large balances borrowed to attend graduate school.

About 40 percent borrowed both as undergraduates and later to attend graduate school.² These borrowers tend to have higher-than-average earnings. Two years after entering repayment the average total income for these borrowers is \$68,247, which is similar to the U.S. mean household income of \$72,641, despite the fact that these households are younger than the median household and incomes tend to increase with age before retirement. This pattern of higher income for borrowers with large balances has remained largely constant over time. In terms of income, outcomes remained similar for borrowers with large balances from 2003 to 2014.

At the other end of the debt spectrum, the story is very different.

Figure 3
Relationship between Debt and Default



Notes: This figure shows the fraction of borrowers who default within two years of entering enrollment, in \$10,000 bins of the amount borrower. Each bar represents a \$10,000 interval. Treasury tabulations of 4 percent NSLDS sample.

² Traditionally, borrowers with high balances also went to more selective institutions; however this is changing. In 2000, 3 percent of borrowers with balances over \$50,000 attended a for-profit or a community college, while in 2014, 14 percent of borrowers with large balances attended a for-profit or a community college. In the past, a larger portion of borrowers with large balances went to graduate school; for example, in 2000 approximately 80 percent of borrowers with large balances attended graduate school.

Table 1

This figure shows characteristics of loan balances broken down by percentiles of student loan debt and income. Treasury tabulations of 4 percent NSLDS sample.

Estimates of the Distribution of Debt and Income (2013)

By quintile of national distribution of:	Median loan balance	Median borrower earnings	Median borrower income	Median parent income (dependents)	Share of borrowers	Share of total debt
Federal student debt						
Bottom 20 Percent	2,470	20,506	29,387	49,846	20.0	2.0
20th-40th	6,712	22,140	31,491	53,980	20.0	5.6
40th-60th	12,498	26,405	36,379	57,058	20.0	10.6
60th-80th	23,565	32,658	43,863	58,227	20.0	20.1
Top 20 Percent	57,528	42,367	57,213	54,041	20.0	61.8
Total income (tax unit: AGI excluding adjustments)						
Bottom 20 Percent	9,012	0	394	35,295	20.8	15.2
20th-40th	10,180	17,545	18,719	42,213	14.4	10.6
40th-60th	12,193	31,059	32,874	52,447	17.5	15.5
60th-80th	14,747	47,541	56,529	61,848	21.6	23.9
Top 20 Percent	17,637	67,044	113,603	70,261	25.8	34.9

Table 2
Characteristics of Borrowers with Large Balances

	All Borrowers		Borrowers Entering Repayment	
	2000	2014	2000	2014
Among all borrowers:				
Share of borrowers with balances over \$50k	5.1 percent	13.7 percent	8.9 percent	18.4 percent
Among borrowers with balances >\$50,000:				
Fraction of Loan Balances by Loan Type				
Undergraduate Loans Only	28 percent	37 percent	25 percent	37 percent
Graduate Loans	68 percent	55 percent	69 percent	50 percent
Parent PLUS Loans	5 percent	8 percent	6 percent	13 percent

As was shown in Figure 2 and Figure 3, borrowers with balances below \$10,000 are the most likely to default on their loans and earn significantly less than other borrowers. Of course, that doesn't mean that all borrowers with large balances are doing well or all borrowers with small balances are struggling. For instance, a rising share of borrowers with large balances are independent undergraduate borrowers

(generally older students) particularly at for-profit schools, who face higher loan limits but tend to have relatively weak labor market outcomes.

Similarly, some graduate students, who are able to borrow up to the cost of attendance, accumulate balances that appear very large relative to other graduate borrowers and to the earnings of comparable graduate students. Growing shares of borrowers with large

balances also attend for-profit graduate schools, a new and growing phenomenon.

Depending on their field of study and the quality of their program, some of these borrowers end up with large balances relative to their earnings. Finally, parent borrowers now account for 16 percent of borrower balances over \$50,000 entering

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repayment in 2014, which is double the fraction in 2000. Parents can borrow up to the cost of attendance and for multiple children, allowing them to accumulate large balances. Moreover, those educational investments do not directly benefit the parents. Parent borrowers also take on the debt later in life, which can make a larger balance harder to repay.

Like borrowers with small balances, there is similar heterogeneity depending on where they went to school, whether they finished, and their course of study for borrowers with large balances. In short, ability to repay student loans depends on much more than the dollar amount of their loans.

Implications

Large loan balances are not a good proxy for whether a borrower is likely to struggle in repayment. In fact, with certain exceptions, the opposite generally appears true. As a result, efforts to reduce the burden of loans that focus on loan balances or interest payments are likely to be poorly targeted either in terms of reducing immediate hardship or defraying the cost of education of those with the least ability to pay.

Given the relationship between balances and earnings, forgiving or writing off large amounts of debt would largely be a transfer from taxpayers to upper-middle-class families and to relatively successful students. Similarly, since borrowers with larger balances pay more in interest, the benefits of uniformly lowering interest rates would largely accrue to

higher-income individuals.

Three approaches may offer more effective and better-targeted ways to improve the well-being of student-loan borrowers. Labor market outcomes, like unemployment or low earnings, provide a more direct measure of economic hardship. Hence, income-driven repayment programs, which allow students to suspend or reduce their loan payments during times of hardship, reduce the burden of loan payment for students most in need.

But those programs mitigate the fiscal costs (and negative incentives) by continuing to hold borrowers accountable for their loans (including interest) for up to 25 years of repayment.

Moreover, loan outcomes and students' economic outcomes are closely related to the quality and type of the institutions they attend, the degrees they seek, whether they are likely to complete those degrees, and the characteristics of the students themselves.

Much of this information is available to be used before a student enrolls or starts to borrow to improve decisions about where to attend or whether and how much to borrow. For instance, guidance or information could help students make better choices; conditions on loan availability, pricing, or loan amounts related to an institution's characteristics, the type of degree pursued by students, or students' progress toward that degree could reward more successful outcomes. And grants could replace loans for students at high risk of default

to forestall or reduce problems before they start.

Finally, college is an investment whose cost has increased sharply in recent years. Slowing cost growth by encouraging greater competition on tuition, empowering borrowers to price shop, and designing aid programs to better align incentives of institutions with those of borrowers could improve outcomes for borrowers and the return on educational investments.

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