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MEASURING LOAN OUTCOMES AT POSTSECONDARY INSTITUTIONS:  
COHORT REPAYMENT RATES AS AN INDICATOR OF  
STUDENT SUCCESS AND INSTITUTIONAL ACCOUNTABILITY

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Working Paper 23118  
<http://www.nber.org/papers/w23118>

NATIONAL BUREAU OF ECONOMIC RESEARCH  
1050 Massachusetts Avenue  
Cambridge, MA 02138  
February 2017

We thank Federal Student Aid for sharing data and are grateful for constructive conversations with staff of the Department of Treasury, Department of Education, and the Council of Economic Advisers. The authors were affiliated with the U.S. Department of Treasury during the time of drafting. Watson was also affiliated with Williams College. The findings and conclusions expressed are solely those of the authors and do not necessarily represent the views of the U.S. Treasury, any other institution, or the National Bureau of Economic Research. All errors are our own.

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Measuring Loan Outcomes at Postsecondary Institutions: Cohort Repayment Rates as an Indicator of Student Success and Institutional Accountability

Tiffany Chou, Adam Looney, and Tara Watson

NBER Working Paper No. 23118

February 2017

JEL No. H52,I22,I23

**ABSTRACT**

Low- and middle-income college borrowers often struggle with economic opportunity and loan burdens after leaving school. However, some institutions, including some non-selective schools, do a good job of providing economic mobility to low-income students. This implies that there is scope for a policy to redirect loan dollars – and therefore students – from low-performing schools to higher-performing ones. Here we define a particular metric of institutional loan performance, the cohort repayment rate, and describe its distribution. We demonstrate that the cohort repayment rate is correlated with other institutional outcomes of interest, and thus could be used as an institutional accountability tool.

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## I. Overview/Intro

Despite significant increase in the cost of college attendance over the past decade, a high-quality college degree remains one of the best economic investments a young person can make.<sup>1</sup>

Workers with a Bachelor's degree (and no graduate degree) typically earn 68 percent more than high school graduates, and have lower unemployment.<sup>2</sup> A more educated population has broad social benefits including better health, lower crime rates, less dependence on public programs, a more informed electorate, and so on. Access to college is also a key way to promote economic opportunity. Children from the bottom fifth of the income distribution have a 41 percent chance of reaching the top two quintiles as adults if they have a college degree, but only a 14 percent chance if they did not finish college.<sup>3</sup>

The federal student loan program is one of the primary ways the federal government supports access to higher education for low- and middle-income families. These funds can be used at any institution participating in the federal loan program, including public, non-profit, and for-profit schools, and for certificate programs, undergraduate degrees, and graduate programs. Today, there are 41.5 million borrowers with outstanding federal loans totaling \$1.26 trillion.<sup>4</sup> Many of these borrowers would have been unable to attend college in the absence of the federal loan program.

Despite the significant benefits of higher education and of the federal student loan program, many students struggle to repay their loans. For example, 13.4 percent of borrowers entering repayment in 2009 had defaulted as of 2011.<sup>5</sup> Student loans cannot be discharged in bankruptcy, and defaulting on federal student loans may result in serious consequences for borrowers,

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<sup>1</sup> For example, at public four-year schools, published tuition as increased 3.5 percent per year between Fall 2006 and Fall 2016. College Board (2016). Trends in College Pricing 2016. <https://trends.collegeboard.org/college-pricing/figures-tables/average-rates-growth-published-charges-decade>.

<sup>2</sup> BLS (2015). Earnings and unemployment rates by educational attainment, 2015. [http://www.bls.gov/emp/ep\\_chart\\_001.htm](http://www.bls.gov/emp/ep_chart_001.htm).

<sup>3</sup> Haskins (2008). [https://www.brookings.edu/wp-content/uploads/2016/07/02\\_economic\\_mobility\\_sawhill\\_ch8.pdf](https://www.brookings.edu/wp-content/uploads/2016/07/02_economic_mobility_sawhill_ch8.pdf).

<sup>4</sup> Federal Student Aid Portfolio Summary, 2016 Q3. <https://studentaid.ed.gov/sa/sites/default/files/fsawg/datacenter/library/PortfolioSummary.xls>.

<sup>5</sup> <https://ifap.ed.gov/eannouncements/092816CDRNationalBriefings3YR.html>. The cohort default rate excludes PLUS loans.

including damaged credit, wage garnishment, and offsets of tax refunds and Social Security payments. Even for borrowers who do not default, outstanding loan balances may cause other financial hardships or make it difficult to reach other economic goals.

Problems in the repayment of student loans have prompted many to declare that there is a student loan crisis. However, if there is a crisis, it is concentrated among students at low-quality institutions, who are less likely to complete a degree and - even if they do graduate - are less likely to have earnings high enough to repay their loans. The evidence suggests that institutional quality matters for economic success.<sup>6</sup> Moreover, as we will show in this paper, students from lower-income families that attend higher-performing schools do nearly as well as their higher-income peers, suggesting that the characteristics of the institution affect outcomes above and beyond what would be predicted based on the backgrounds of their students. This is the case even at quality non-selective institutions.

However, problems of loan repayment are exacerbated by the fact that low-income students disproportionately attend low-quality institutions, rely more on loans to finance their educations, and are less able to rely on their families for help with loan repayment when their institutions fail to deliver an adequate education. Thus, it is disadvantaged students that face the most significant hardships as the result of borrowing to attend institutions with poor repayment rates.

Student loan policy has taken a two-pronged approach to addressing the problem of high default rates. One approach is to provide more flexibility for borrowers to repay their loans over a longer period of time—with interest—to address defaults arising from temporary hardships, like unemployment. For instance, income-driven repayment (IDR) programs, which allow monthly payments to fluctuate according to student earnings, can help reduce student financial hardship

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<sup>6</sup> Hoxby (2015). “Computing the Value-Added of American Postsecondary Institutions.” <https://www.irs.gov/pub/irs-soi/15rprcompvalueaddpostsecondary.pdf>. Goodman, Hurwitz, and Smith (2015). “College Access, Initial College Choice and Degree Completion.” <http://scholar.harvard.edu/files/joshuagoodman/files/collegetypequality.pdf>.

and student loan default. The Obama administration has taken significant steps to raise availability, awareness, and enrollment in IDR programs. It is now the case that 24 percent of borrowers and 40 percent of outstanding Direct loans are enrolled in IDR.<sup>7</sup> Borrowers may also go into deferment or forbearance on their loans, both of which halt loan payments temporarily.

The second approach is to strengthen the accountability systems that govern the institutions and borrowers that participate in the federal loan program. For instance, after high default rates in the late 1980s, Congress enacted new rules related to how much institutions could rely on federal dollars (the so-called 85/15 rule), imposed “cohort default rate” limitations on the eligibility of institutions with high student default rates to participate in the loan program, and required mandatory garnishment of the wages of defaulted student loan borrowers.

Unfortunately, these accountability measures have eroded over time, both as the result of direct legislative changes and because of economic forces and incentives. For instance, the original 85/15 rules, which required that at least 15 percent of an institution’s financing come from outside of the federal aid system—i.e. that at least some share of students pay with their own money—was revised to 90/10. Similarly, the cohort default rate rules have become less effective over time. Many institutions have become adept at helping students enroll in deferment or forbearances during the original two-year monitoring period, delaying but not necessarily reducing the incidence of poor outcomes.

Indeed, as more borrowers enroll in IDR plans, default rates will fall regardless of whether a school is offering economic opportunity to their students or whether those students will repay their loan obligations. As a result, default-based metrics will no longer be a useful tool to hold institutions accountable for providing a quality product for their students with federal dollars. A significant number of institutions rely on the federal loan program to serve disadvantaged

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<sup>7</sup> Refers to only Direct loan borrowers in Income-Contingent, Income-Based, Pay As You Earn, REPAYE. Federal Student Aid Direct Loan Portfolio by Repayment Plan, 2016 Q3. <https://studentaid.ed.gov/sa/sites/default/files/fsawg/datacenter/library/DLPortfolioByRepaymentPlan.xls>.

students, but many of these institutions consistently ask borrowers to take on more debt than they are likely to be able to repay, harming both students and taxpayers. The current system does little to ensure that federal loan dollars flow to institutions that serve disadvantaged students well, and this will become a more significant challenge as IDR enrollment rises.

There is a strong justification for using institution-based repayment metrics to promote institutional quality. As shown in this paper, institutions do have predictable outcomes for their students above and beyond what would be expected based on background characteristics of the students. Schools that yield poor outcomes for low-income students also tend to yield poor outcomes for high-income students, and a low-income student attending a higher-quality school has better outcomes than a low-income student attending a low-quality school. Thus, the degree to which institutions promote economic success and social mobility varies substantially, even among less selective institutions.

In this report, we argue that an institutional cohort repayment rate – which we define as the fraction of a cohort’s initial principal that is repaid within five years after leaving school – is a good indicator of student outcomes, institutional quality, and the return on federal loan dollars. This repayment rate also has other benefits: it is difficult to game or manipulate, it is straightforward to measure, and it directly corresponds to the federal investment in the loan.

In this report, we show that low- and middle-income borrowers generally struggle with economic opportunity and loan burdens. However, some institutions, including some non-selective schools, do a good job of providing economic mobility to low-income students. This implies that there is scope for a policy to redirect loan dollars – and therefore students - from low-performing schools to higher-performing ones. We then define and discuss our proposed cohort repayment rate metric, including what the distribution of cohort repayment rates currently looks like. Finally, we demonstrate that the cohort repayment rate is correlated with other institutional outcomes of interest, such as economic opportunity and cohort default rates, and thus could be

used as an institutional accountability tool. We conclude with a brief discussion of other considerations for institutional accountability in general.

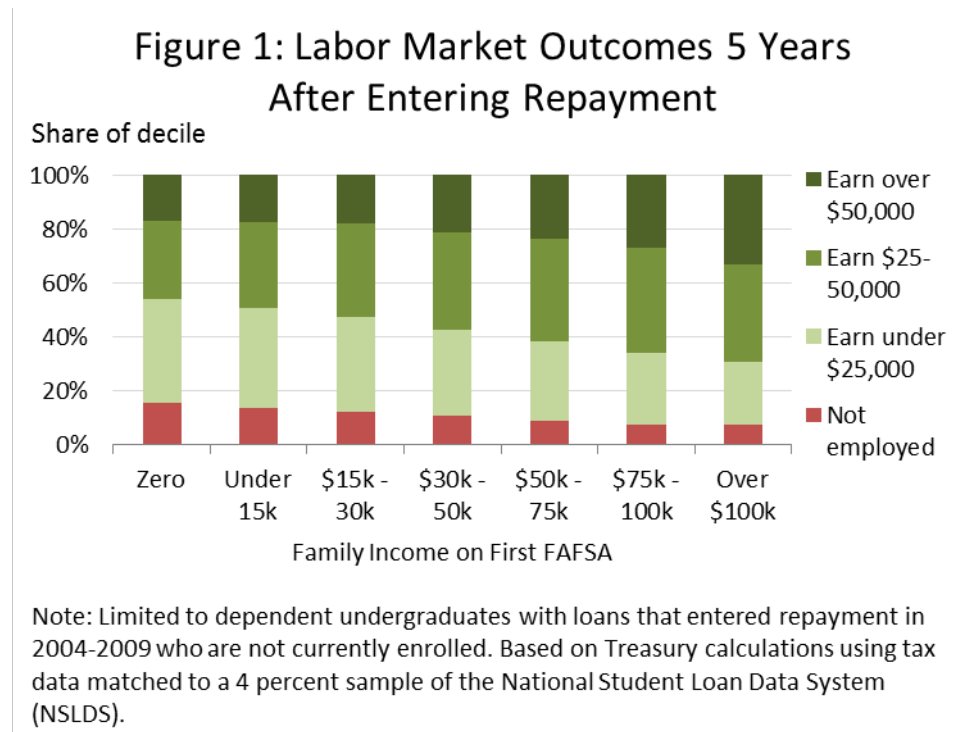
## **I. Low- and middle-income borrowers struggle with economic opportunity and with loan burdens**

College is a good investment for the majority of students, but not all colleges yield good economic outcomes for the majority of their students. In some cases, students borrow to attend college but fail to complete a degree, or they complete a degree that does not translate into a good job. In this section, we will show that student borrowers from low-income families have worse economic prospects and loan outcomes, on average, than those from high income families.

To perform the analysis, we match tax data with a 4 percent sample of the Department of Education's National Student Loan Data System (see Appendix for details) and other publicly available institutional data. We limit the sample to dependent undergraduates (so we are able to observe parental income). We examine student loans starting repayment in 2004-2009, which are the most recent cohorts with five years of post-school repayment data.

Many dependent undergraduate student borrowers from families with income below \$30,000 struggle in the labor market after leaving school. Only half earn more than \$25,000 five years after entering repayment (typically five years after leaving school) and only 58.6 percent earn more than \$25,000 even ten years after entering repayment. These students, with earnings below \$25,000 ten years after leaving school and with minimal family resources to draw upon, are likely to face significant challenges with loan repayment.

Figure 1 details labor market outcomes for student borrowers by family income. Students from low-income families tend to have worse labor market outcomes than those from higher-income families. Five years after starting repayment (typically five years after leaving school), low-income undergraduate borrowers are less likely to be employed and tend to earn less than their higher-income peers. For example, 12 percent of students from families earning \$15,000-\$30,000 are not employed five years after leaving school and another 36 percent are working but earn below \$25,000. In contrast, only 8 percent of students from families earning \$75,000-\$100,000 are not employed and 27 percent are earning below \$25,000.





To some extent, poor economic outcomes for low-income borrowers are related to poor completion rates.<sup>8</sup> Of all low-income dependent students who borrowed to attend college and had loans entering repayment between 2004 and 2009, only 68.3 percent completed at least a two year degree and 52.5 percent completed a four-year degree. High-income student borrowers have a 64 percent chance of completing a four-year degree.

Although low-income borrowers are less likely to complete a degree, even those that do complete face greater challenges in the labor market than higher-income completers. Among borrowers who complete a four-year degree at a four-year institution and are from families with income under \$30,000, about 61.8 percent earned more than \$25,000, and 25.9 percent earned more than \$50,000. In comparison, about 71.7 percent of completers from higher income families earned over \$25,000 and 33.7 percent earned more than \$50,000. Poor labor market outcomes mean students are less likely to be able to repay their loans.<sup>9</sup>

Given that disadvantaged students tend to have worse post-college employment outcomes and that employment outcomes are a strong predictor of loan repayment, it is not surprising that there are substantial differences in loan outcomes between borrowers from higher- and lower-income families. The median low-income dependent borrower has repaid *none* of their original balance after 5 years, while the median borrower from a higher-income family has repaid about 19.0 percent.

Though multiple factors are at work, differences in economic outcomes after college are an important part of the story. For instance, among low-income borrowers with similar employment and earnings outcomes as typical higher-income borrowers, repayment rates were

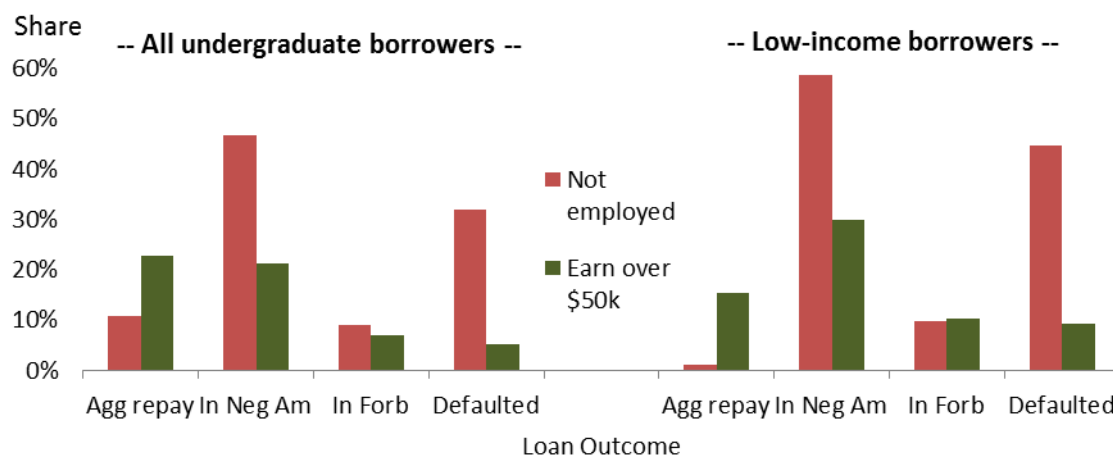
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<sup>8</sup> Completers tend to have higher earnings. For example, among borrowers that attended a 4-year institution, 61.8 percent of those who completed a four-year degree earned more than \$25,000 five years after leaving school versus 41.6 percent among those that did not complete any degree.

<sup>9</sup> For example, the median dependent student employed 3 years after entering repayment has repaid 20.3 percent of their total loan balance five years after entering repayment, but the typical student who was not employed that year owed about 1.4 percent *more* than their original balance because the capitalization of interest accrual outpaced repayment.

about 9.8 percent. This implies that roughly half of the gap in repayment rates could be associated with differences in employment outcomes.<sup>10</sup> Figure 2 shows that the relationship between employment and loan repayment holds overall and for borrowers from low-income families in particular.

Figure 2: Employment outcomes matter for loan outcomes

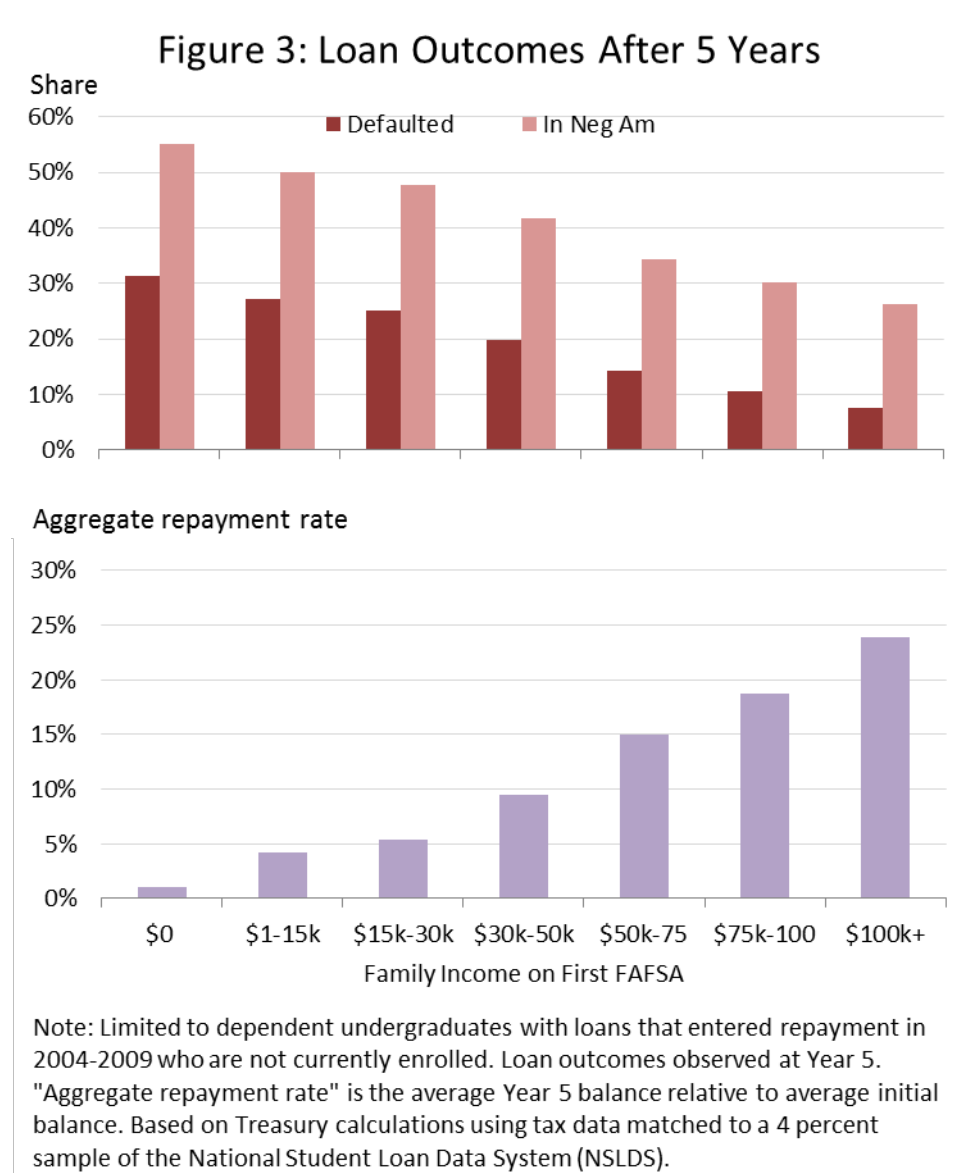


Note: Limited to dependent undergraduates with loans that entered repayment in 2004-2009 who are not currently enrolled. Low-income borrowers come from families earning less than \$30,000. Loan outcomes observed at Year 5, except for forbearance, which is at Year 3. "Share repaid" is the share of total balance repaid by Year 5, averaged across borrowers. Based on Treasury calculations using tax data matched to a 4 percent sample of the National Student Loan Data System (NSLDS).

Low-income borrowers face a one-two punch: they both have worse labor market outcomes on average, and they tend to have less family wealth on which to rely when they face earnings shocks. The combination of low earnings and low family income presents a big obstacle to repaying debt. Figure 3 shows that students from low-income families have substantially worse student loan outcomes than those from higher-income ones. Of the lowest income borrowers (those with family incomes under \$30,000, representing about 27.5 percent of all dependent borrowers) entering repayment between 2004 and 2009, almost 27.0 percent default within 5 years, and half (50.1 percent) are negatively amortized. In other words, the typical borrower

<sup>10</sup> Specifically, this comparison uses the Dinardo, Fortin, and Lemieux (1996) decomposition of repayment rates using propensity-score reweighting based on the employment and earnings characteristics to compare differences in the two groups of borrowers. In this context, the reweighting is intended to allow the comparison in outcomes of the two groups among borrowers with similar economic characteristics.

from a low-income family has not repaid a dollar of total balance after five years. These statistics are vastly different than the outcomes for higher-income borrowers.<sup>11</sup>

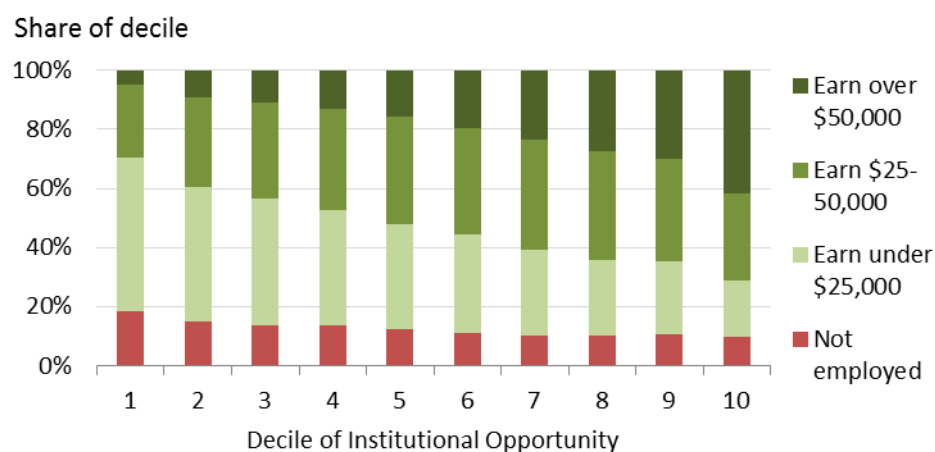


<sup>11</sup> Among higher-family-income borrowers, only 12.7 default within 5 years and 32.9 percent are negatively amortized.

## II. Some institutions are better than others at providing economic mobility to low-income students

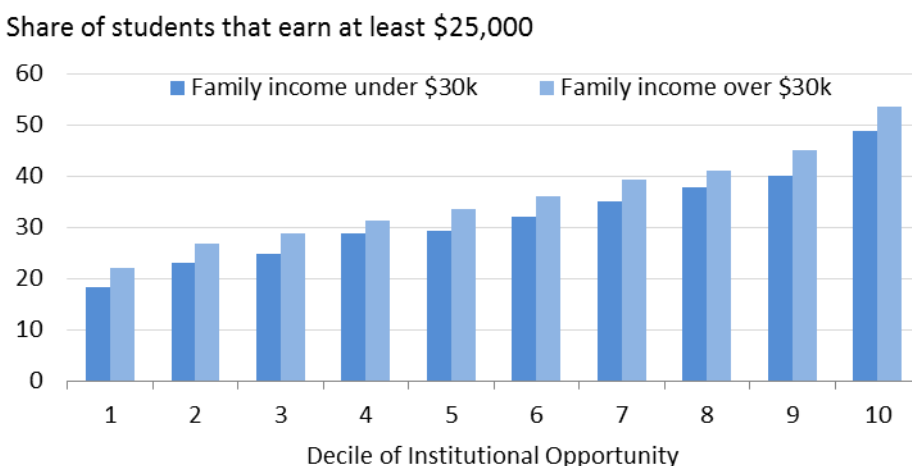
Poor post-college earnings outcomes for low-income students reflect, in part, the quality of the institutions they attend. While some low-income students attend institutions with strong post-college outcomes, most do not. For example, suppose we rank schools by the “economic opportunity” they offer, defined here as the fraction of students who earn \$25,000 or more 10 years after enrollment according to data from the College Scorecard. Low-income students who attend these high economic opportunity schools tend to have high earnings and strong labor market outcomes, as shown in Figure 4. Among borrowers who attended institutions in the top (borrower-weighted) decile of institutions for economic opportunity, 72.1 percent of low-income students end up earning more than \$25,000 compared with 31.6 percent of those who attend the lowest-opportunity schools. In fact, low-income students at the highest-opportunity institutions do better than high-income students who attend middling or low-opportunity schools (see Figure 5).

Figure 4: Labor Market Outcomes of Low-Income Borrowers 5 Years After Entering Repayment



Note: "Institutional opportunity" defined by the institution's share earning over \$25,000 on the College Scorecard. Low-income borrowers come from families earning less than \$30,000. Limited to dependent undergraduates with loans that entered repayment in 2004-2009 who are not currently enrolled. Based on Treasury calculations using tax data matched to a 4 percent sample of the National Student Loan Data System (NSLDS).

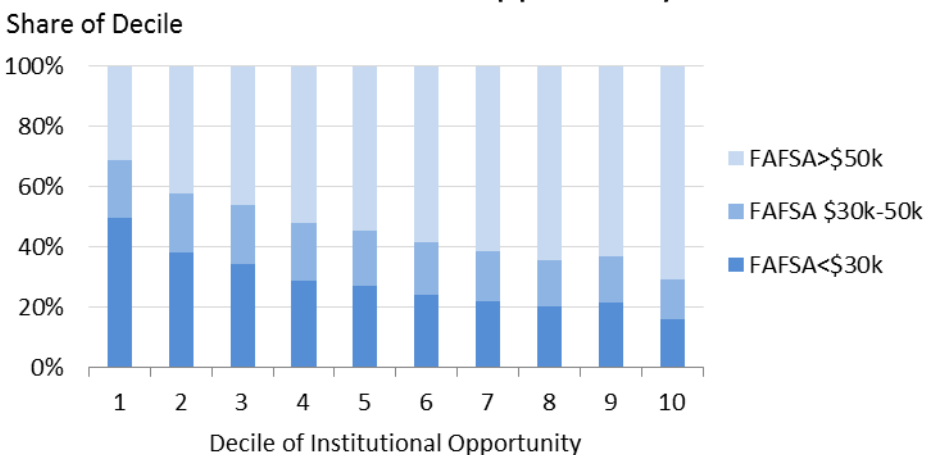
### Figure 5: Earnings by Institutional Opportunity



Note: "Institutional opportunity" defined by the institution's share earning over \$25,000 on the College Scorecard. Limited to dependent undergraduates with loans that entered repayment in 2004-2009 who are not currently enrolled. Based on Treasury calculations using tax data matched to a 4 percent sample of the National Student Loan Data System (NSLDS).

Of course, without major investments to address the issue of weak high school preparation in many low-income communities, it is unreasonable to expect that most students with low family incomes could attend the most selective institutions in the country. In fact, only 8.1 percent of low-income borrowers attend schools in the top decile of opportunity compared to 16.7 percent of borrowers from families with income over \$50,000. As a result, although borrowers from lower-income families make up 26.5 percent of all dependent undergraduate borrowers, they make up only 16.1 percent of borrowers at top-decile schools and nearly half of borrowers at the bottom-decile schools (see Figure 6).

Figure 6: Composition of Student Enrollment by Institutional Opportunity



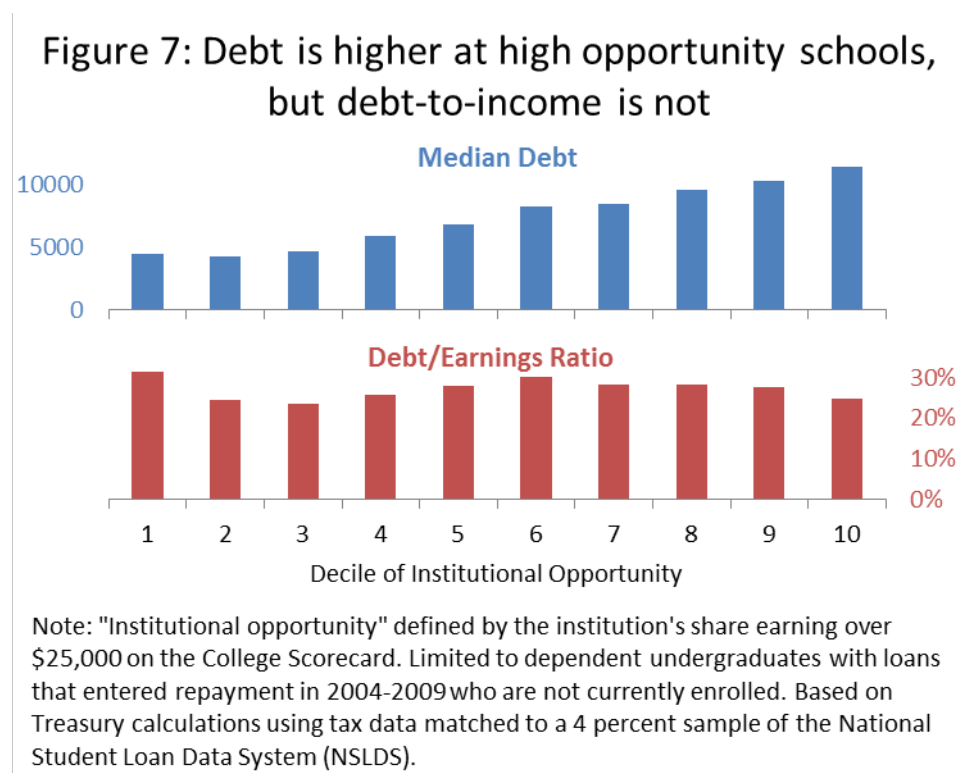
Note: Note: "Institutional opportunity" defined by the institution's share earning over \$25,000 on the College Scorecard. Limited to dependent undergraduates with loans that entered repayment in 2004-2009 who are not currently enrolled. Based on Treasury calculations using tax data matched to a 4 percent sample of the National Student Loan Data System (NSLDS).

Nevertheless, there are less selective and open admission institutions with good earnings outcomes; many of these do serve substantial numbers of low-income students. For example, in the middle of the opportunity distribution (40th to 60th percentile), 25.5 percent of student borrowers come from low-income families and about 53.4 achieve earnings above \$25,000 by 5 years after leaving school. Compared to the lowest-opportunity-decile schools, borrowers in this middle-opportunity range are almost four times as likely to achieve earnings of \$50,000 or more (17.6 percent versus 4.7 percent). And most institutions in this middle range are not very selective: more than half of borrowers in this range attend institutions that admit more than 85 percent of applicants or are open enrollment, and an additional 42 percent attend modestly selective schools, which accept between 75 and 85 percent of applicants.<sup>12</sup>

It is not the case that schools with higher earnings would necessarily translate into better loan repayment, because other factors, like the level of debt incurred, may differ across institutions.

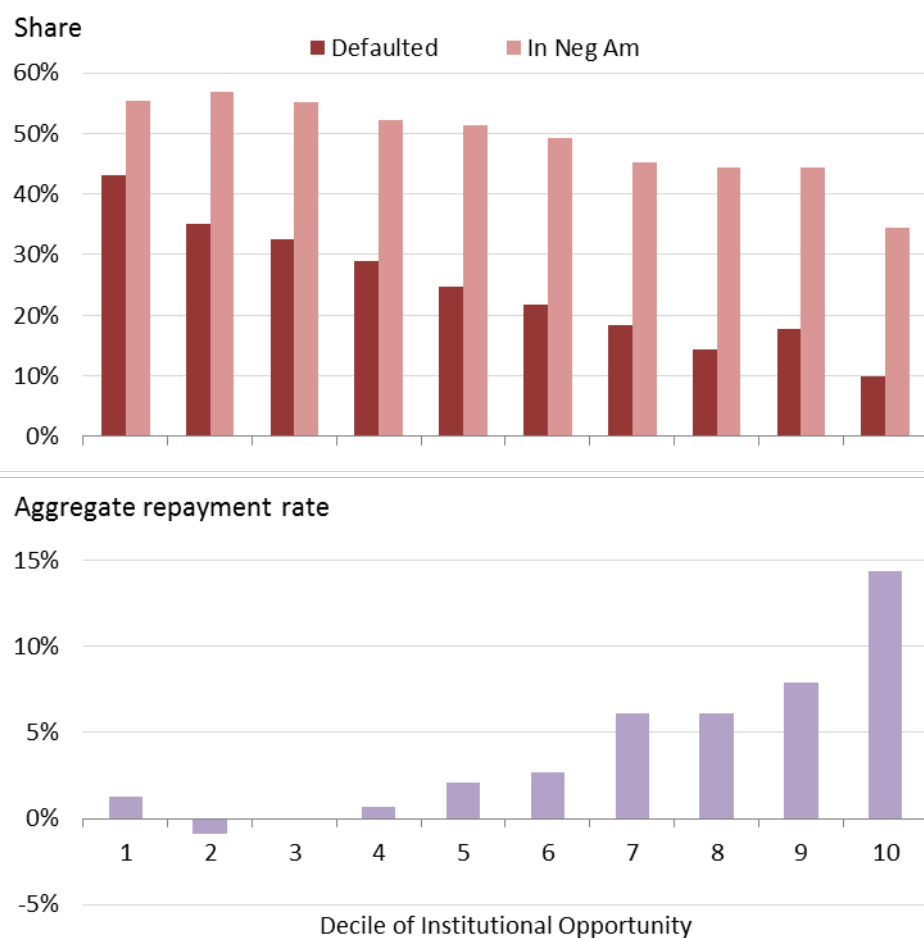
<sup>12</sup> We use Barron's measure of selectivity, published in Barron's *Profiles of American Colleges*, 2009.

For example, if students at high-opportunity institutions leave school with much higher loan burdens but relatively smaller income gains, then their loans may be more difficult to repay than smaller loans from lower quality institutions. As it turns out, debt levels are somewhat different between low- and high-opportunity schools, but these differences pale in comparison to the associated earnings differences. Figure 7 shows that median debt is noticeably higher at high-opportunity schools (top panel), but the debt-to-earnings ratio is relatively similar across types of schools (bottom panel). Thus, students at high-quality, expensive schools may be in a better position to repay their loans.



The result is that institutions with high levels of economic opportunity also tend to have better repayment outcomes among their students. This is also true for low-income students in particular (see Figure 8). Among borrowers from families with incomes under \$30,000, those at high-opportunity schools are less likely to default, less likely to be negatively amortized, and tend to have made more progress repaying debt than low-income students from lower-opportunity schools.

**Figure 8: Loan Outcomes For Low Income Borrowers**



Note: "Institutional opportunity" defined by the institution's share earning over \$25,000 on the College Scorecard. "Aggregate repayment rate" is the average Year 5 balance relative to average initial balance. Limited to dependent undergraduates with loans that entered repayment in 2004-2009 who are not currently enrolled. Based on Treasury calculations using tax data matched to a 4 percent sample of the National Student Loan Data System (NSLDS).



Redirecting federal dollars to institutions that offer economic mobility to their low-income students would improve student outcomes and protect taxpayers. A well-designed student loan accountability system would do just that. We argue below that a cohort-based repayment rate is a promising metric that could be part of such a system.

### III. The institutional cohort repayment rate

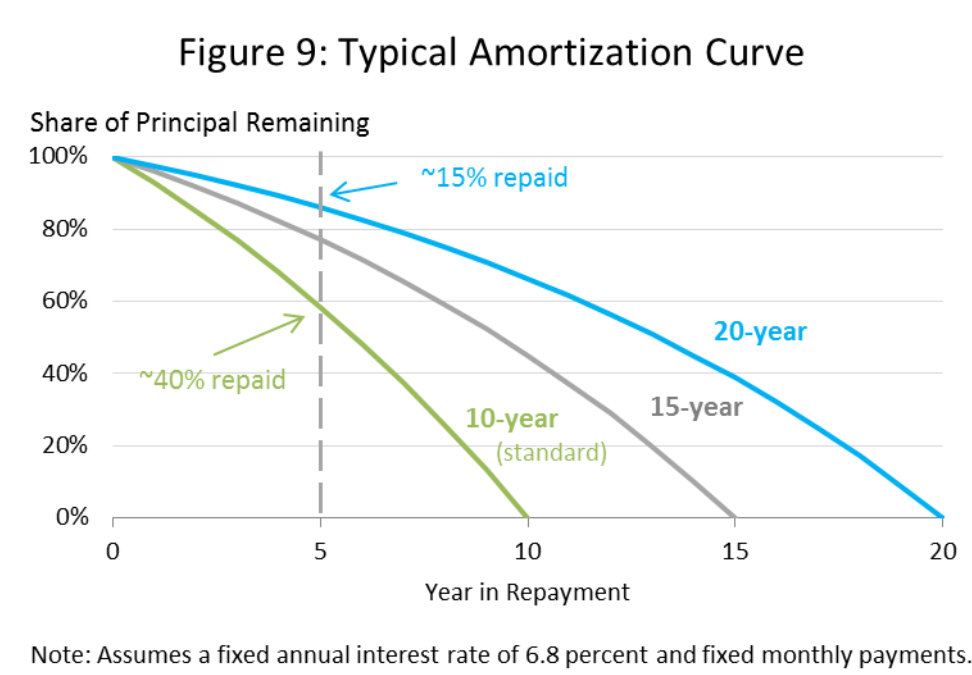
To assess the degree to which students from an institution succeed in repaying their loans, we consider a cohort – loans taken to attend a given institution that enter repayment in a given year. This is very similar to the definition of cohort used in the existing “cohort default rate” (CDR) rules. However, instead of looking at the share of loans that default in a fixed window, the cohort repayment rate is the amount of principal repaid by Year 5 of repayment, relative to the amount of principal owed at the start of repayment. We separate undergraduate and graduate loans into distinct ‘cohorts’, for reasons discussed below. The cohort repayment rate is represented by the following formula:

$$repay_s = 1 - \frac{\sum_{l \in L_{st}} prin_{5_l}}{\sum_{l \in L_{st}} prin_{0_l}}$$

where  $s$  is the institution,  $L_{st}$  is the set of (undergraduate) loans that entered repayment in fiscal year  $t$  from school  $s$ ,  $prin_{0_l}$  is the principal outstanding upon entering repayment, and  $prin_{5_l}$  is the outstanding principal at the end of fiscal year  $t+5$ . Note that repayment rates can be negative, meaning there is more principal owed after five years of repayment than when the loan originally entered repayment due to capitalized interest.

We define the cohort repayment rate in this way because it allows us to use standard loan amortization formulas to gauge whether the cohort is, as a whole, on track to repay in a given time. Figure 9 shows the amount of principal that would remain at the end of each repayment

year for a loan with a fixed interest rate and loan term.<sup>13</sup> For a standard 10-year repayment plan, at Year 5, \$0.60 would still be owed for each dollar of principal originally borrowed. In other words, 40 percent of principal has been repaid by Year 5. If the term were 20 years instead, the repayment rate would be around 15 percent. The amortization curves also allow us to link a repayment rate at Year 5 with a particular loan term -- a cohort repayment rate of 15 percent means the cohort, as a whole, is unlikely to completely repay before 20 years. The 20-year timeline is important because for many IDR borrowers, any remaining balance is forgiven after 20 years and absorbed as a loss by taxpayers.<sup>14</sup>



The choice of measuring repayment at Year 5, as opposed to Year 3 as is done in the CDR rules, removes some of the noise in the outcome metric but also increases the time between when the loan is originated and when outcomes are observed. In other words, at Year 5, there is a larger difference between the amortization curves than at Year 3, so it is easier to distinguish

<sup>13</sup> Assuming a 6.8 percent annual interest rate. A lower interest rate shifts the amortization curves downward so the principal remaining at Year 5 is lower (and thus the repayment rate at Year 5 is higher).

<sup>14</sup> The “correct” term length for a student loan is subject to debate. Some argue that because human capital pays off over an entire working life, the term should be the borrower’s remaining working life, which may be much longer than 20 years. Others would argue that borrowers should not be expected to still be repaying student loans well into adulthood because they may have other economic goals to meet (e.g., children’s education, buying a house, saving for retirement).

performing and non-performing schools. However, because schools have to wait longer to see results in the outcome metric, they may be less inclined to make quality improvements today.

Though the repayment rate is fairly easy to conceptualize and calculate, there are some subtleties specific to federal student loans that need to be addressed before policy implementation. Here, we take the straightforward approach of including all loans in the repayment cohort, including those that are in deferment, forbearance, or default; using just the principal balance; and assuming a 15 percent repayment target, but future policy-makers may wish to consider metrics which make adjustments for these issues. We discuss these issues in the Appendix.

There are several good reasons to use a five-year cohort repayment rate for loan accountability purposes:

**It is not based on student loan defaults.** The cohort default rate (CDR) is currently used as the primary loan accountability metric. Defaults are an important indicator of distress and may cause significant harm to students. IDR plans minimize the risk of default by allowing students to pay less than the standard monthly payment when their incomes are low, making it a valuable safety net for students facing idiosyncratic shocks. However, such plans also mask systematic loan repayment problems at the institution level. Going forward, the CDR metric will be an increasingly unreliable indicator of whether an institution is providing economic opportunity to its students and reliable stewardship of federal loan dollars.

**It is more difficult to manipulate than simpler binary measures.** Since the introduction of the College Scorecard in 2015, students can easily access information about institutional quality and cost, including loan repayment information.<sup>15</sup> The Scorecard's repayment rate metric is the fraction of students that pay down total balance within three years. Because this metric relies on

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<sup>15</sup> <https://collegescorecard.ed.gov/>

a discrete threshold, it is easier to manipulate and less well-suited for a broad-based accountability system. By contrast, to manipulate a repayment rate target of, for example, 15 percent, schools would have to provide funds to pay down \$0.15 for every dollar borrowed.

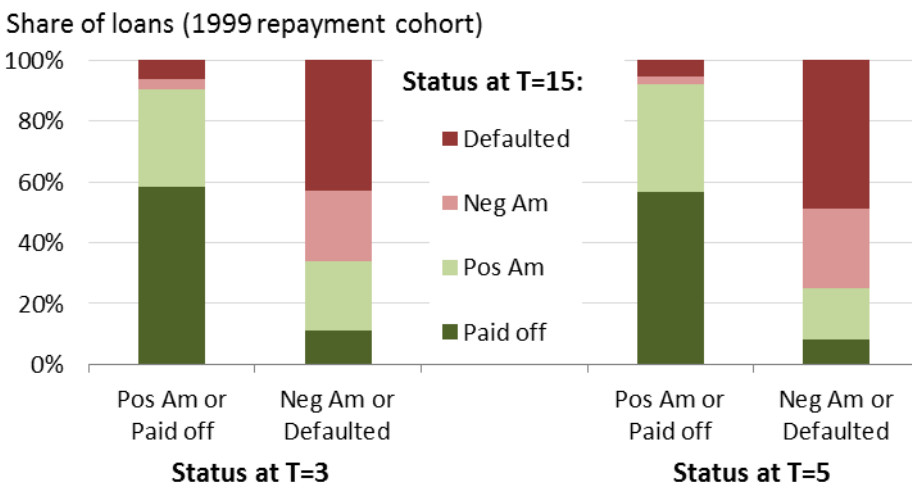
**It considers loan outcomes after a five year window, which is a good indicator of long-run loan outcomes.** Preliminary analysis using borrower-level data suggest that early-stage outcomes of loans map into long-run outcomes. Due to limitations with the borrower-level data, we can only look at loan status, broadly defined, rather than the numerical repayment rate.<sup>16</sup> Nevertheless, Figure 10 shows that loan status after five years is a strong indicator of where the loan will stand after fifteen years. The left panel shows the final outcome of loans, conditional on status at Year 3 while the right panel is conditional on Year 5 status. The left column within each panel shows that outcomes after 15 years for loans that are performing early on (meaning they are either positively amortized or paid off entirely) while the right column is the outcomes for loans that are not performing (either negatively amortized or defaulted) early on.<sup>17</sup>

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<sup>16</sup> The primary limitation of using these data for loan-level analysis of long-term outcomes is that consolidation loans are not well-tracked for older student loan cohorts, so we may not be able to accurately link the dollar balance on the consolidation loan back to the original loan. For general loan statuses, such as defaulting or being paid off, this is less of an issue, since we can “pass back” those outcomes to the original loan when we see it on a consolidation loan.

<sup>17</sup> Note that “default” and “paid off” are terminal statuses, meaning that once a loan has reached either status, it is always in that status in all future periods. However, Figure 10 is not driven by such loans; we can omit them and it would remain virtually unchanged.

Figure 10: Short-Run Versus Long-Run Loan Status



Note: "Paid off" and "Defaulted" are terminal statuses. "Pos Am" means the loan has less principal outstanding at Year 5 than when it entered repayment; "Neg Am" means there is more principal at Year 5 than at the start of repayment. Based on Treasury calculations using a 4 percent sample of the National Student Loan Data System (NSLDS).

First, early and late loan outcomes are highly correlated -- nearly 90 percent of loans that are performing early on will still be performing at Year 15 (colored green) while 10 percent would have fallen into one of the two non-performing categories (colored red). Similarly, loans that failure to perform early on are very likely to be in one of the non-performing statuses at Year 15. Second, outcomes at Year 5 are somewhat better predictors of final outcomes than outcomes at Year 3. For Year 3, 9.5 percent of early-performing loans eventually fail to perform and 34 percent of early failures end up performing. In aggregate, 21 percent of loans overall will be misclassified based on their Year 3 outcome. For Year 5, 8 percent of early performers fail and 25 percent of failures recover, so only 15 percent of loans would be misclassified.

While we do not have reliable data on long-run loan repayment for institutions, these loan-level results suggest that observing repayment at Year 5 may be more predictive than at Year 3.<sup>18</sup>

<sup>18</sup> The correlation between a three-year cohort based repayment rate and our preferred five-year rate is 0.96.

And, as we mentioned earlier, the amortization curves show a much larger spread between Year 5 repayment rates than Year 3 ones, so it is easier for quality schools to distinguish themselves.

**It directly incentivizes the repayment of student debt.** The cohort repayment rate is a direct indication of whether student debt is repaid in a timely manner by students who borrow to attend an institution. Unlike other measures, it more accurately captures taxpayer risk because large-dollar loans are implicitly given more emphasis than small dollar loans within an institution. Timely repayment is fundamentally of interest for both students and taxpayers.

**It is closely correlated with institutional outcomes of interest.** As we will discuss in a subsequent section, the cohort repayment rate is correlated with existing institutional metrics, including the Scorecard repayment rate, Scorecard debt-to-earnings ratios, and economic opportunity.

#### **IV. The distribution of repayment rates**

In this section, we document the distribution of cohort repayment rates across types of institutions. These data were provided to us by Federal Student Aid (FSA) and cover all loans entering repayment in fiscal year 2009.<sup>19</sup> As in the definition above, loans are attributed to the school and academic degree level (i.e., undergraduate or graduate) for which they were originated, and parent borrowers are treated separately. Technical details and additional discussion of the cohort repayment rate are included in the appendix.

We focus on the 2009 cohort entering repayment for data availability reasons. Though 2009 was a particularly challenging time to leave school given the extremely weak labor market,

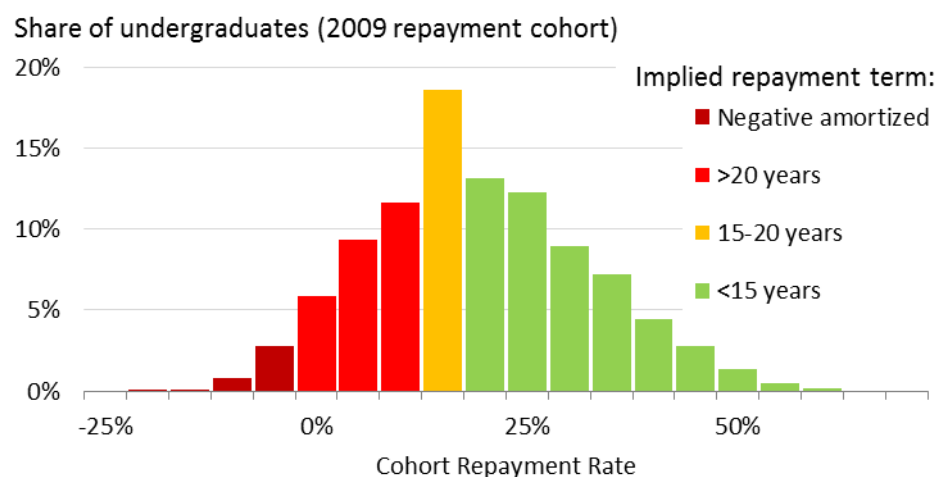
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<sup>19</sup> A loan enters repayment when the borrower leaves school, regardless of whether they have earned a degree.

preliminary evidence suggests that more recent cohorts are performing similarly.<sup>20</sup> Therefore, the characteristics and distributions of cohort repayment rates presented below are probably not driven by macroeconomic factors that were unique to 2009.

**Undergraduate repayment.** Figure 11 shows the distribution of institutional repayment rates for undergraduate loans entering repayment in 2009. The typical institution has a cohort repayment rate of 22 percent, meaning that undergraduates in aggregate have repaid 22 percent of the initial principal after 5 years. This repayment rate corresponds to each student at the institution smoothly amortizing over 15 years, though of course in reality it represents a mix of students paying more and less.

**Figure 11: Distribution of Cohort Repayment Rate Across Institutions**



Notes: Covers undergraduate loans that began repayment in 2009 and observed five years after. Weighted by the school's undergraduate borrower count.

<sup>20</sup> The median 3-year repayment rate for the 2009 undergraduate cohort is 21.7, compared to the 3-year repayment rate for the 2011 undergraduate cohort of 22.7. The correlation between institutional repayment rates for the two cohorts is 0.83, suggesting that institutional repayment rates have a fair degree of persistence.

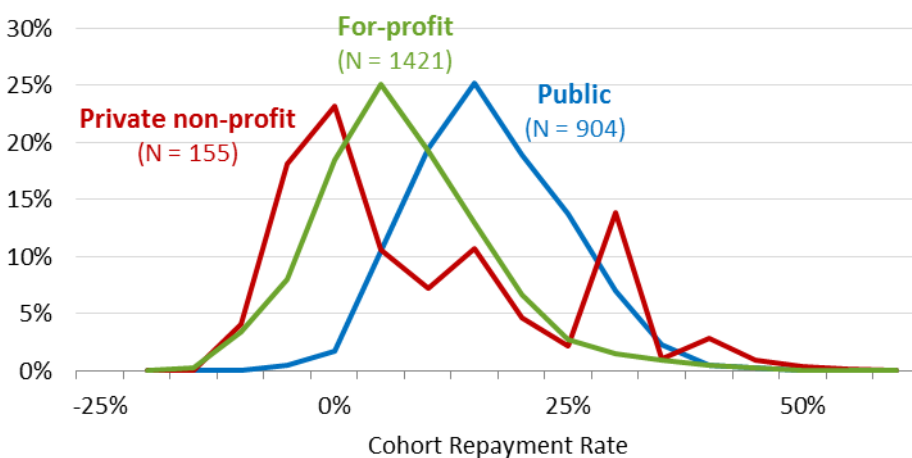
The bars of the Figure 11 histogram are colored to reflect the repayment term associated with that five-year repayment rate. To the left side, five percent of institutions have cohort repayment rates below zero – signified by dark red - meaning that the cohort in aggregate owes more after five years than they did when leaving school. These bars combine with those in lighter red to show the 32 percent of institutions that have repayment rates below 15 percent, meaning their borrowers are paying down less in aggregate than would be expected on a 20-year repayment plan. Half of the figure is green, meaning these institutions have repayment rates of 20 percent or higher, which would be consistent with a repayment term of 15 years or less.

**By Sector and Level.** Figures 12 and 13 show the distribution of cohort repayment rate by institutional sector and level. Looking first at the less than four-year schools in Figure 12, we can see a clear sectoral difference in the distribution of repayment rates. Among the sub-baccalaureate schools, public institutions have the best repayment rates, followed by for-profits and then private non-profits. For almost all community college borrowers attend schools with positive repayment rates, and about 25 percent of borrowers in this sector attend schools with a 15-20 percent repayment rate. For-profit schools have somewhat worse repayment rates, with about 20 percent at schools with a 0-5 percent repayment rate and a non-trivial share at schools with negative repayment. With the exception of a few schools, private non-profit schools tend to have worse repayment rates than community colleges. However, this sector is relatively small with only 155 institutions and 1.3 percent of all undergraduate borrowers in this particular cohort, so they have a limited impact on borrower outcomes as a whole.



Figure 12: Cohort Repayment Rate, Less than 4-year

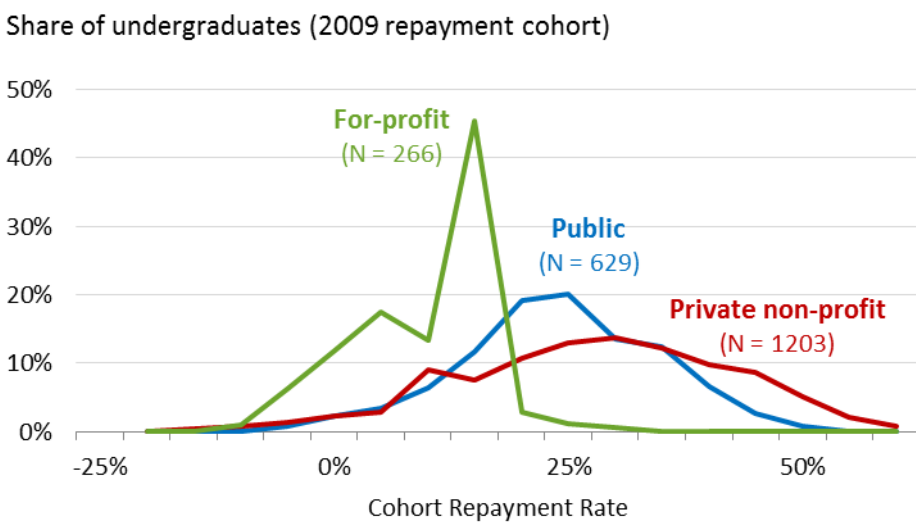
Share of undergraduates (2009 repayment cohort)



Notes: Covers undergraduate loans that began repayment in 2009 and observed five years after. Weighted by the school's undergraduate borrower count.

Among four-year schools, cohort repayment rates in general are better than at the less than four-year schools, but the sectoral pattern is quite different (see Figure 13). At Bachelors-granting institutions, public and private non-profit schools both tend to have relatively good repayment rates. Both sectors have a small share of students attending schools with low repayment, but in general, their students are making progress toward repaying their loans. Among for-profit schools, there are almost no schools with repayment rates above 20 percent, though many students attend for-profit school in the 15 to 20 percent range. Many for-profit borrowers attend schools with low, and even negative, repayment rates.

Figure 13: Cohort Repayment Rate, 4-year

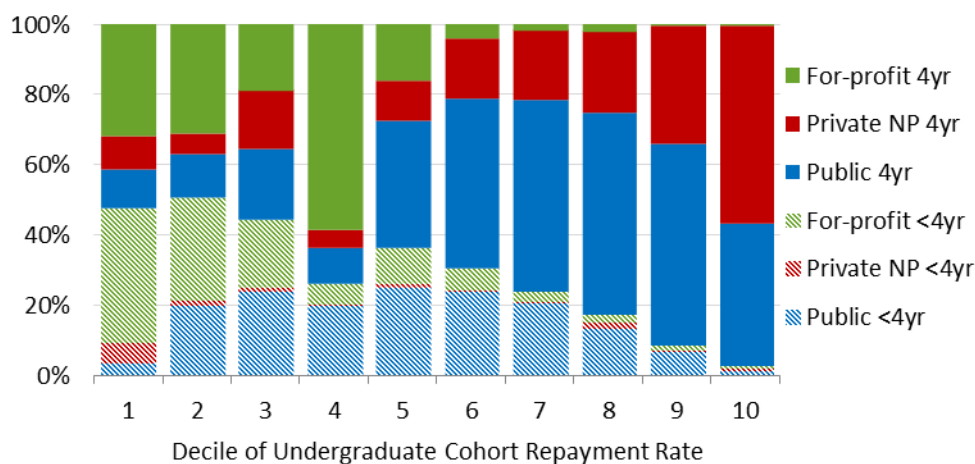


Notes: Covers undergraduate loans that began repayment in 2009 and observed five years after. Weighted by the school's undergraduate borrower count.

The distributions in these figures show what cohort repayment rates look like for particular types of schools, but schools and sectors vary dramatically in size, and thus contribute differentially to the repayment picture as a whole. Figure 14 shows the sectoral decomposition within each decile of cohort repayment rate. The typical school has a repayment rate of about 22 percent, which places them in the fifth or sixth decile. First, all six sectors appear to have some poor performers. In the lowest three deciles of repayment, the distribution is about evenly divided between less than four year (shown in the lighter hatched pattern) and four year schools (in darker solid pattern), and skewed toward for-profit schools (in green). Though low repayment tends to be more of an issue at for-profit and two year schools, all sectors have some low repayment institutions - the problem is not exclusive to any particular sector.

Figure 14: Sectoral Composition of Repayment Rates

Share of undergraduates (2009 repayment cohort)



Source: Repayment rate deciles are weighted. Decile 1 is the lowest repayment rate.

Second, the middle of the distribution, which has moderate repayment rates, also has substantial numbers of borrowers from across sectors. This suggests that borrowers at low repayment schools may be able to shift to better repayment schools without having to change the type of school they are attending. There are a substantial number of two-year schools, for example, with average or slightly above average repayment rates, so improving repayment among the bottom decile may not require shifting borrowers to four-year programs.

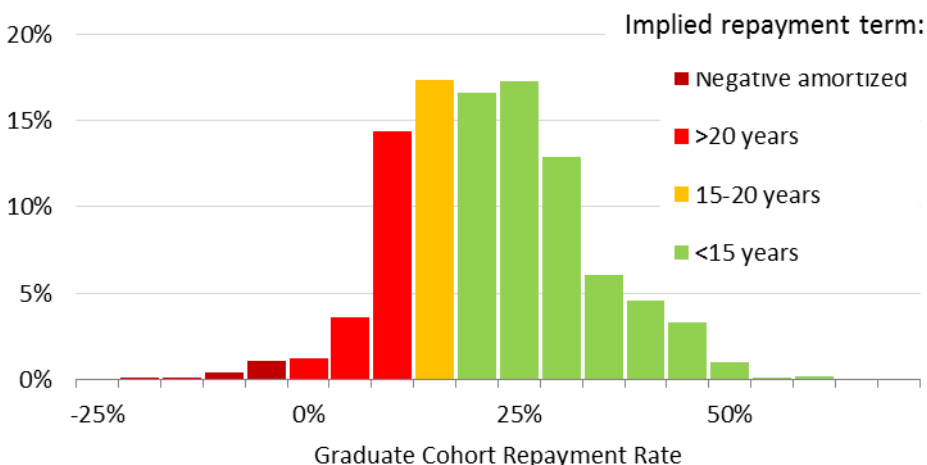
Finally, the top three deciles in terms of repayment are dominated by public and private non-profit four-year institutions. These schools are more selective than schools in the rest of the distribution, and repayment is both a function of the school quality and the types of borrowers that attend. There are few two-year schools and almost no for-profit schools among institutions with very high repayment rates.

**Graduate repayment.** So far, we have focused on the repayment outcomes of undergraduate loans at each institution; this is where policy interest in borrowing, repayment, and access tends

be focused. However, an institutional accountability program would also have to consider how to address graduate borrowing, so we also discuss graduate loans in this section.<sup>21</sup> Figure 15 shows the distribution of repayment rates among graduate loans for those schools with graduate borrowers.<sup>22</sup> Overall, graduate repayment is somewhat better than undergraduate repayment – only 21 percent of graduate borrowers went to schools with poor repayment rates (in red), compared to 32 percent of undergraduate borrowers. However, the repayment rates are not dramatically different – the typical graduate repayment rate is about 24 percent, compared to 22 percent for a typical undergraduate loan. Sixty percent of the histogram is green, so most graduate borrowers are from schools making good repayment progress.

**Figure 15: Cohort Repayment Rate, Graduate Loans**

Share of graduate borrowers (2009 repayment cohort)

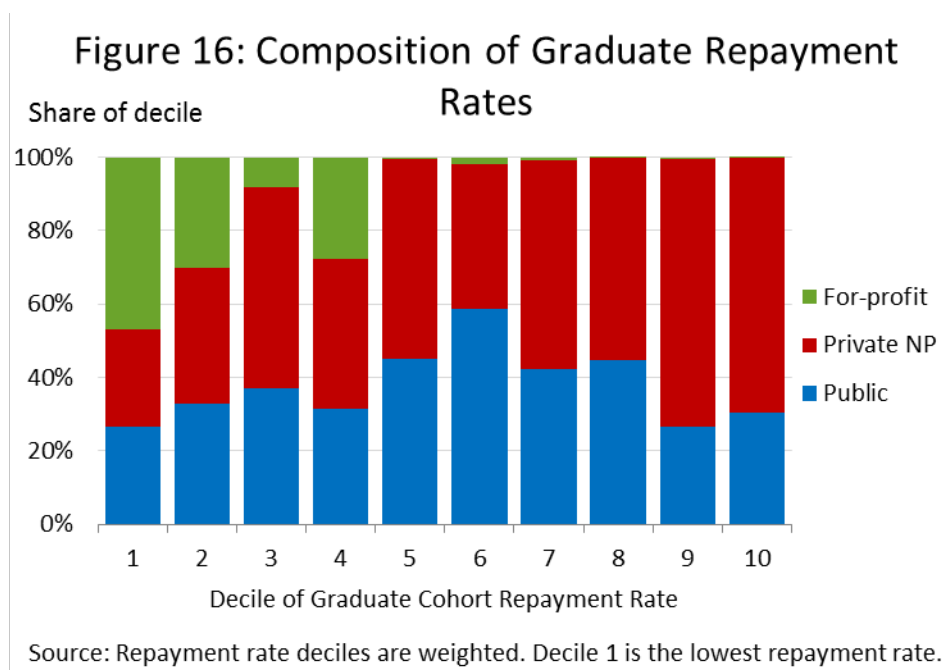


Notes: Covers graduate loans that began repayment in 2009 and observed five years after. Weighted by the school's graduate borrower count.

Even more than for undergraduate degrees, ownership control of the institution is closely related to graduate repayment rates. Figure 16 shows that nearly all borrowers at for-profit graduate schools attend institutions with poor graduate repayment rates. In other words, the for-profit graduate sector suffers from consistently poor graduate loan performance.

<sup>21</sup> The considerations about borrowing, repayment, and access are also different for graduate programs, and that may change how policymakers set a target repayment rate for these loans.

<sup>22</sup> This includes Grad PLUS loans. Grad PLUS loans are excluded from cohort default rates.



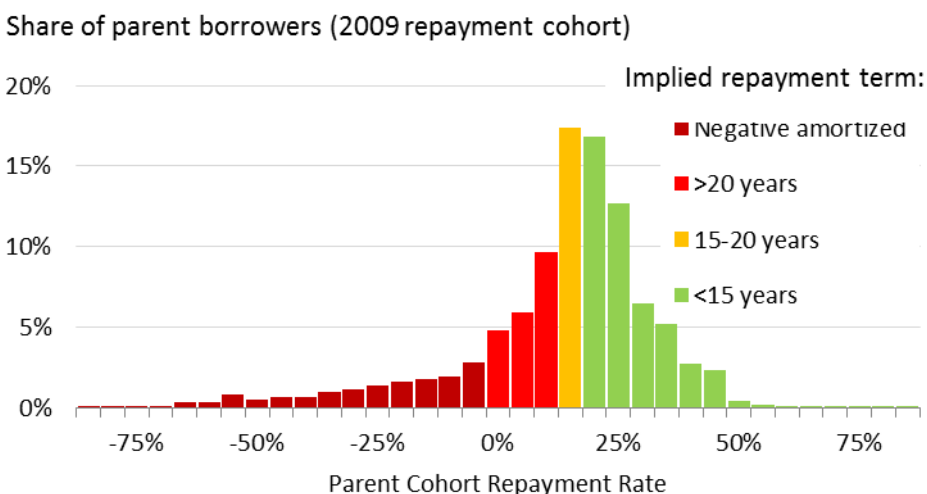
While graduate loans tend to have better repayment rates than undergraduate ones, the relationship between graduate and undergraduate repayment (within schools that have both types of borrowers) also matters for the design of an institutional accountability program. A school may perform differently depending on whether the graduate and undergraduate loans are pooled together in a repayment cohort (so one type of borrower may compensate for poor performance among the other type) or whether undergraduate and graduate borrowers are judged separately. Somewhat surprisingly, graduate borrowers tend to have lower repayment rates than undergraduates at such schools. On our data, nearly 70 percent of institutions with both types of borrowers had *less* repayment progress among graduate students than among undergraduates. It is sensible to considering treating undergraduates separately from graduates for accountability purposes.

**Parent repayment.** The parents of dependent undergraduate students are also allowed to borrow to pay for college. Figure 17 shows the distribution of cohort repayment rates for Parent PLUS loans. Overall, cohort repayment rates for Parent PLUS are concentrated around 15-20

percent but there is a significant tail of negative cohort repayment rates, meaning parent borrowers at these institutions owe more at Year 5 than at the start of repayment.

Low repayment rates on Parent PLUS are due in part to the fact that these loans “enter repayment” at origination but can be deferred while the student is enrolled. Student-based loans, in contrast, do not “enter repayment” until the student has ceased enrollment. Since loans in deferment continue to accrue interest even though the parent is not making payment, Parent PLUS loans will mechanically have larger balances and lower repayment rates at any fixed year of repayment than the student-based loans. This timing issue, in addition to other considerations for Parent PLUS loans, would need to be addressed in any institutional accountability proposal.<sup>23</sup> An accountability proposal that does not include Parent PLUS should address the risk that institutions may push low-income families into the more expensive Parent PLUS market to avoid facing penalties.

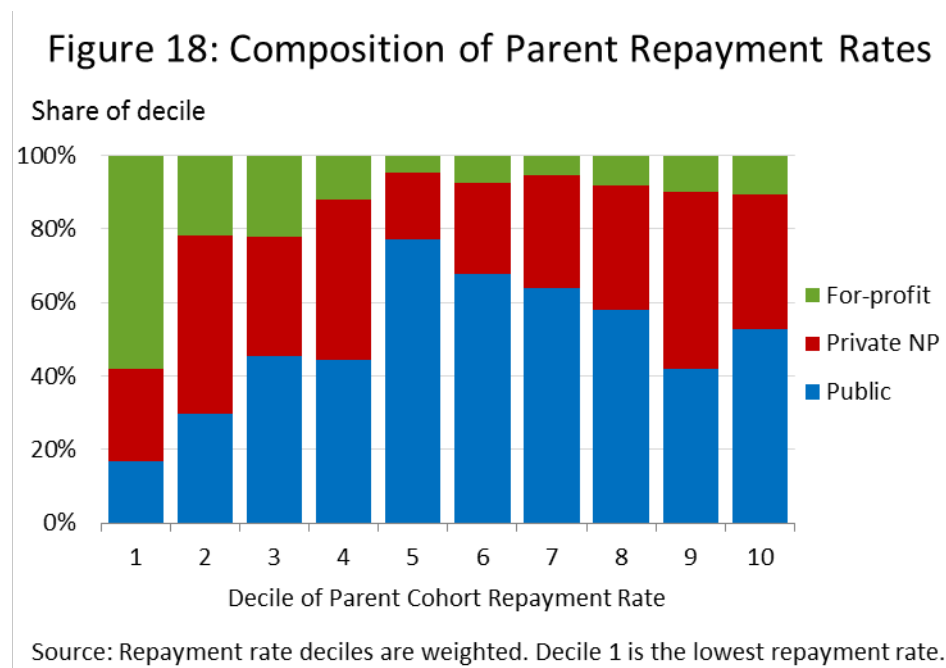
**Figure 17: Cohort Repayment Rate, Parent Loans**



Notes: Covers Parent PLUS loans that began repayment in 2009 and observed five years after. Weighted by the school's parent borrower count.

<sup>23</sup> Parent PLUS loans are fundamentally different from other student loans. Repayment is typically tied to the financial situation of the parents rather than the economic outcome of the student, and the parent is not the one receiving the education that is being financed. A cohort repayment rate for parent loans could be timed differently or have different repayment targets to account for these issues.

For parent loans, most for-profit institutions are in the bottom deciles of repayment. Very few parent borrowers in the for-profit sector have successful loan outcomes. Public and private non-profit institutions fare better, as shown in Figure 18.



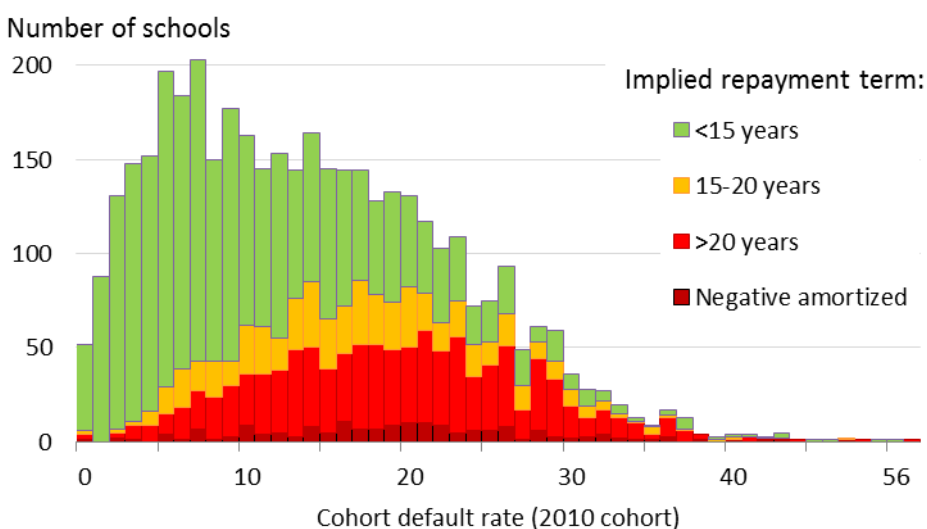
## V. How do cohort repayment rates relate to other institutional outcomes?

**Cohort default rate.** The primary metric by which we currently evaluate loan accountability is the cohort default rate. When institutions have a cohort default rate exceeding 30 percent for three consecutive years or 40 percent in a given year, they risk losing eligibility for Direct Loans and/or Pell grants.<sup>24</sup> As is evident from Figure 19, very few institutions exceed a CDR of 40

<sup>24</sup> <http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=89d5048ebca12c33e51192c59f9901ea&rgn=div8&view=text&node=34:3.1.3.1.34.14.39.7&idno=34>.

percent. Somewhat more exceed 30 percent, and most of these have below-average repayment rates.<sup>25</sup> In addition, it is clear from the graph below that even many institutions with moderate default rates have low repayment levels, suggesting their students are struggling to repay their loans even if they are not defaulting. For example, around 130 schools have CDRs of 20 percent, but about 50 of these schools have “red” cohort repayment rates, meaning we would not expect those loans to be repaid after 20 years.

Figure 19: Cohort Repayment Rate vs. CDR



Notes: 3-year cohort default rates are for 2010, cohort repayment rate is for 2009.

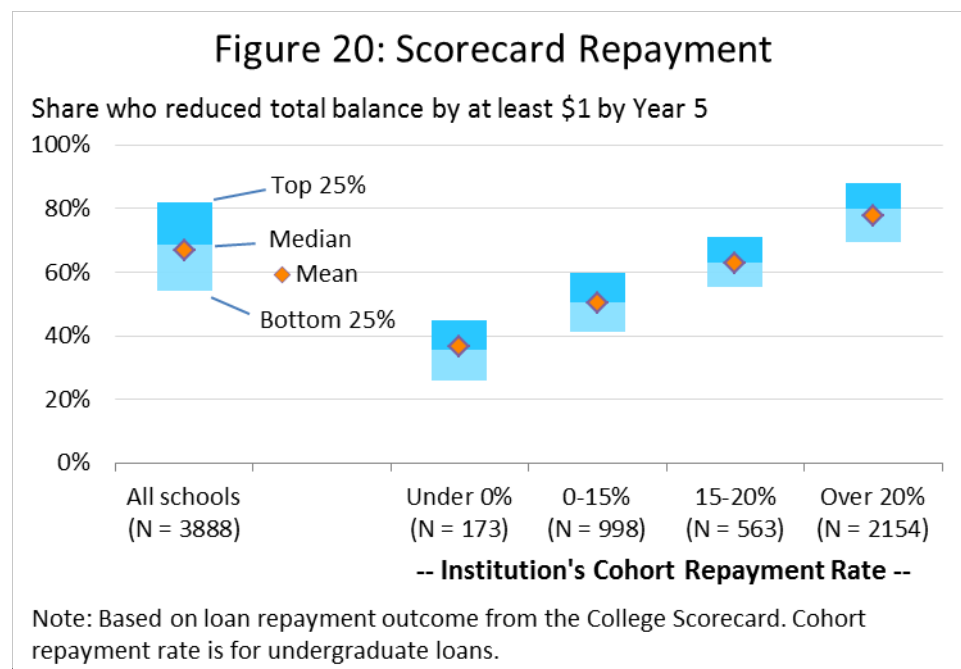
As noted above, CDR will become an increasingly ineffective tool to monitor institutional student loan performance as IDR becomes more prevalent. More flexible repayment plans – which protect borrowers from defaulting in the case of idiosyncratic earnings shocks or systematically low earnings – require a new approach for holding schools accountable.

<sup>25</sup> Some schools with very high default rates also appear to have favorable repayment rates. This relationship generally arises for one of two reasons. First, some institutions, like community colleges, have very polarized outcomes in which borrowers either repay relatively small balances quickly (e.g. if they get a job) or quickly default (if they do not). Second, recovery rates on smaller, defaulted loans are often high, because the law requires wage garnishment and the offset of tax refunds, including, for instance, EITC and child tax credit refunds. Hence, a borrower that quickly defaults may appear to have a high repayment rate because these collections have reduced the balance or paid it off entirely.



**Scorecard repayment.** Loan repayment is included on the College Scorecard, but the metric is slightly different than the one we use here. On the Scorecard, loan repayment is measured as the share of a cohort that has repaid at least a dollar.<sup>26</sup> By comparison, our measure captures the degree of repayment progress, not the share of borrowers that has made any progress.<sup>27</sup>

Figure 20 shows that the two measures are correlated: schools with a high Scorecard repayment tend to have made good progress repaying their student debt.<sup>28</sup> There is also noticeable variation in Scorecard repayment among schools with nominally similar cohort repayment rates. For example, among the 998 schools with 0-15 percent cohort repayment rates, the median Scorecard repayment rate is 50 percent, the 25<sup>th</sup> percentile is 40 percent and the 75<sup>th</sup> percentile is 60 percent. In other words, at schools with “poor” cohort repayment rates, some may be judged to have passable Scorecard repayment rates since most student have reduced balances within 5 years. However, borrowers at these schools are making minimal repayment progress, meaning they may be accumulating significant amounts of interest.



<sup>26</sup> Data Documentation for College Scorecard (Version: September 2016).

<https://collegescorecard.ed.gov/assets/FullDataDocumentation.pdf>. Note that newly corrected scorecard repayment rates released in January 2017 are not incorporated here.

<sup>27</sup> The College Scorecard's repayment measure also excludes loans that are defaulted, in in-school deferment, or in military deferment from the cohort and measures progress relative to total balance, not principal.

<sup>28</sup> The overall correlation is 0.79.

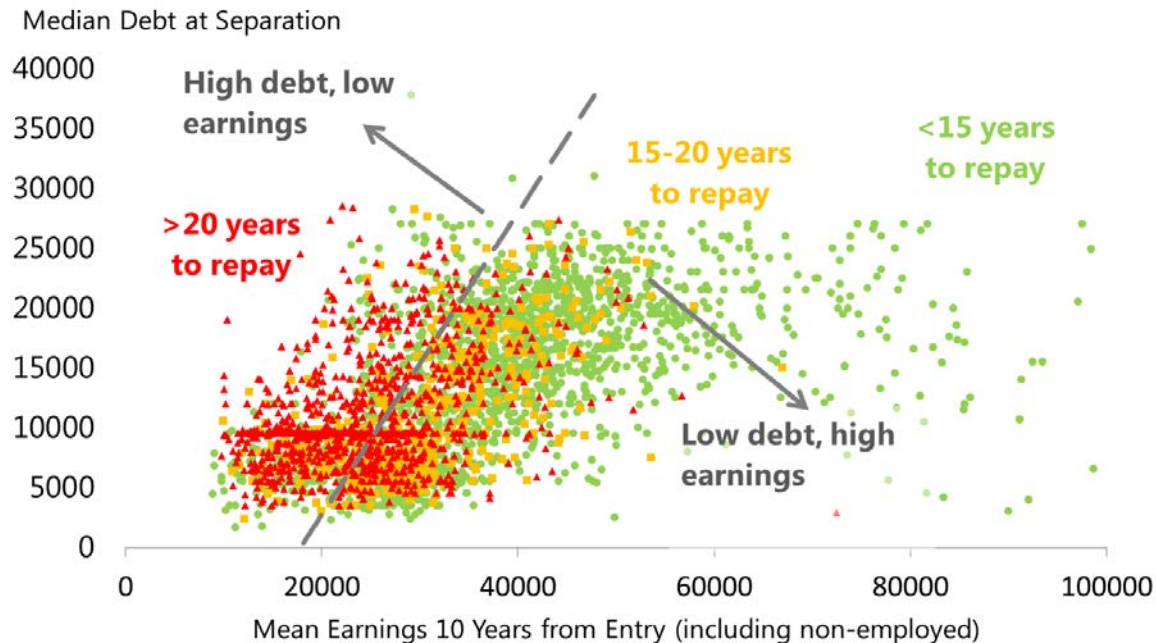
**Debt versus earnings.** Students should be asked to take on loan debt only when it is reasonable to expect them to repay that debt given their likely earnings. Taking on a high amount of debt to attend an expensive school is often a smart financial decision if that institution is likely to provide substantial economic opportunity. Similarly, attending a school that typically produces low or modest earnings could be a worthwhile investment if the debt incurred is sized appropriately.

Figure 21 shows the relationship between median debt incurred by borrowers at an institution and mean earnings ten years after starting school. The dashed line represents the amount of debt that would be affordable (meaning a 20 year payment would take up less than 10 percent of mean discretionary earnings) at that given level of earnings.<sup>29</sup> Institutions to the left of the line have earnings so low that it would not be reasonable to expect a typical student from one of these schools to repay their debt without financial hardship. To the right of the line, borrowers tend to make enough that even high debt amounts may be affordable. It is clear that any given level of expected future earnings, institutions ask their students to take on very different levels of debt.

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<sup>29</sup> This construction is very similar to the definition of “partial financial hardship” used in IDR plans, except with a 20-year payment instead of a 10-year one. In both cases, “discretionary earnings” refers to earnings above 1.5 times the federal poverty line, where we assume a single-person household for simplicity.

**Figure 21: Debt and Earnings by Cohort Repayment Rate**

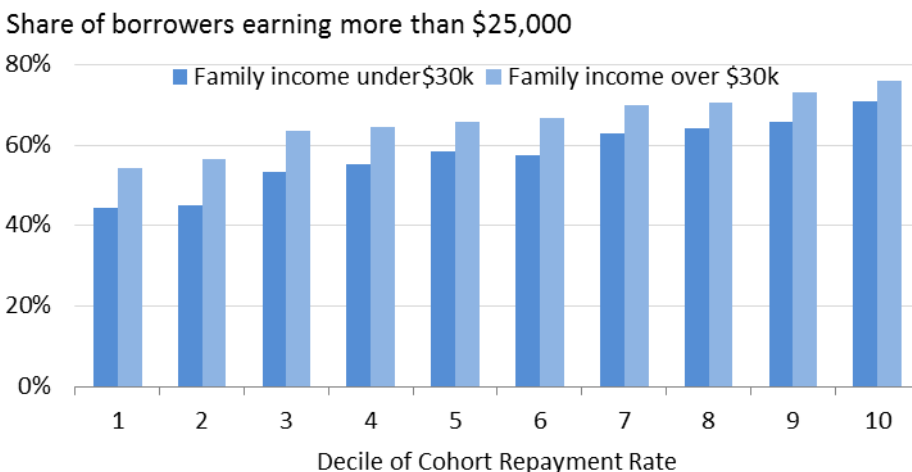


Note: Line denotes debt level for which a 20 year repayment is equal to 10 percent of discretionary income, so that a borrower might reasonably be expected to repay their loan over 20 years. Based on College Scorecard.

The figure also shows that schools with excessive levels of debt relative to earnings struggle to repay. The red dots are schools where cohort repayment rates are low (below 15 percent), and most of these schools are to the left of the line. While there are some institutions that have poor repayment despite reasonable debt-to-earnings ratios, high levels of debt relative to earnings are generally associated with students struggling to repay.

**Institutional opportunity.** Repayment rates are also related to the degree of economic opportunity. Figure 22 shows that schools with higher cohort repayment rates offer more economic opportunity to both low- and high-income attendees. Students from families below \$30,000 have about a 58 percent chance of earning at least \$25,000 if they attend a middle-tier school, compared to a 45 percent chance at a low-tier one.

### Figure 22: Economic Opportunity

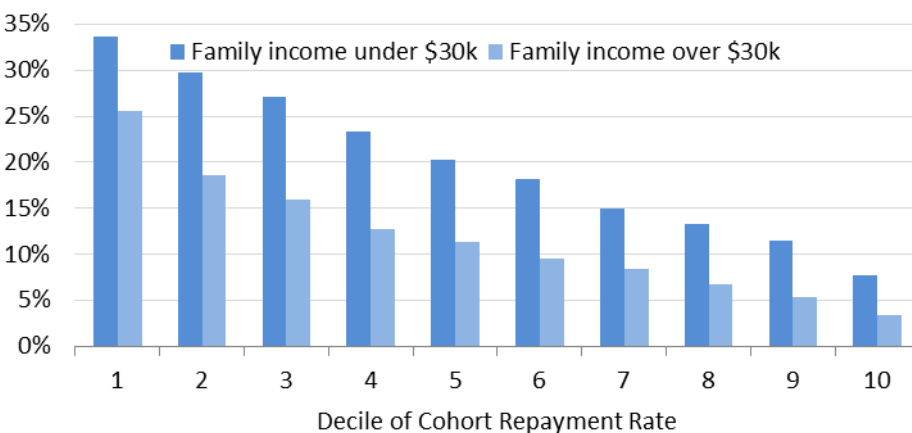


Note: "Institutional opportunity" defined by the institution's share earning over \$25,000 on the College Scorecard. Decile 1 is the lowest repayment rate.

The economic opportunity for low-income students associated with high-repayment schools translates directly into better loan outcomes for low-income students. At the worst performing schools, low-income students are very likely to default. This can be seen in Figure 23. Approximately 20 percent of low-income borrowers at a median repayment school default, compared to nearly 34 percent of low-income borrowers at the lowest repayment schools. Higher-income students tend to have better repayment success at every type of school, and have a similarly-sized decline in defaults between the lowest and median deciles. Figure 24 shows a similar pattern with aggregate repayment rates: outcomes for low-income borrowers are better at higher-repayment schools.

### Figure 23: Default Rate

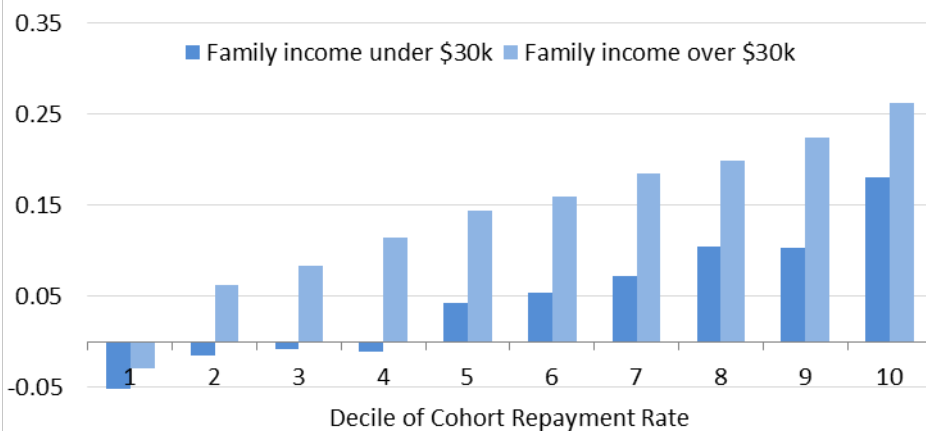
Share of borrowers who default within 5 years



Note: Limited to dependent undergraduates with loans that entered repayment in 2004-2009 who are not currently enrolled. Defaults calculated using tax data matched to a 4 percent sample of the National Student Loan Data System (NSLDS).

### Figure 24: Aggregate Repayment Rate

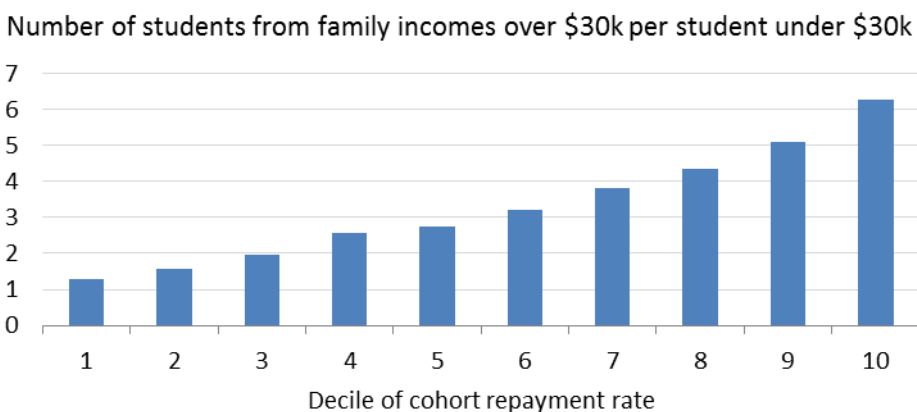
Average total balance in Year 5 relative to average total balance initially



Note: Limited to dependent undergraduates with loans that entered repayment in 2004-2009 who are not currently enrolled. "Aggregate repayment rate" is the average Year 5 balance relative to average initial balance. Based on Treasury calculations using tax data matched to a 4 percent sample of the National Student Loan Data System (NSLDS).

In sum, both low- and high-income students have better repayment outcomes at schools with better cohort repayment. Unfortunately, low-income students are disproportionately served by institutions with low cohort repayment rates (see Figure 25). Among undergraduate borrowers who started repayment in 2004-2009, there are about 3.2 students from families earning over \$30,000 for each student from a family earning under \$30,000. At low-repayment schools, this ratio is much lower, implying that a disproportionate share of low-income students are enrolled at these institutions. Schools with higher repayment tend to have higher ratios, meaning they enroll a disproportionate share of higher-income students. Policy that successfully encouraged low-income students to attend schools with higher repayment would likely improve both economic opportunity and loan outcomes for this group.

**Figure 25: Low-income students disproportionately attend low-repayment schools**



Note: Limited to dependent undergraduates with loans that entered repayment in 2004-2009 who are not currently enrolled. Calculated using tax data matched to a 4 percent sample of the National Student Loan Data System (NSLDS).

Institutional accountability in the federal student loan program has been weak and is increasingly obsolete in light of income-driven repayment policies. This paper has introduced a cohort repayment rate as an alternative metric that could be used in an institutional accountability program for student loans. The cohort repayment rate is relatively easy to construct, addresses some of the shortcomings of using loan default as the metric, and could be used to encourage institutions to improve.

One area of particular concern is the low-performing loans in the for-profit sector. Many institutions in this sector systematically ask students to take on more debt than they are likely to be able to repay. The rapid growth of low-quality, high-cost post-secondary programs in this sector is symptomatic of incentive misalignment between schools, on the one hand, and students and taxpayers on the other. Some of the existing accountability rules, such as gainful employment, specifically apply to this sector, but these emphasize sanctions for extreme cases rather than broad-based accountability. Furthermore, it is important to remember that there are institutions in all sectors that have poor repayment outcomes.

We see many advantages to using a repayment-based metric for a loan accountability program. However, there are some schools that provide valuable, high quality education without commensurate high earnings in the labor market. For example, some institutions serve highly disadvantaged students who earn more than they would have without college education but still have inadequate income to repay their loans. Other schools cater to students who choose to enter careers that are socially valuable but not particularly well-paid. Many community colleges admit students who are uncertain about their path and face a high risk of non-completion, but these institutions are providing a valuable service by helping students learn through experience whether college is right for them.

A loan accountability policy should consider these complexities and should couple accountability with financial support for institutions that serve the greater good. In situations where there is a high probability *ex ante* that a student will not be able to repay a federal student loan, it is incumbent on federal policy to support the education through grants or steer the student towards a different educational path. Low-income students, because they tend to have low future earnings and have few means of dealing with income uncertainty, are disproportionately burdened by weak institutional accountability rules.

Some have suggested that income-driven repayment plans serve many of these same goals because those with poor labor market outcomes eventually have their loans forgiven. It is true that IDR protects students from the serious consequences of default, and it is an important safety net. However, IDR does not address institutional quality issues, and indeed may make it easier for low-quality institutions to ask their students to borrow excessively. An optimal policy will preserve IDR while limiting the ability of low-quality institutions to ask their students to borrow funds they will never be able to repay.



## **Data Appendix**

### **Analysis using the 4 percent sample of the National Student Loan Data System (NSLDS)**

The analysis in Sections II-III and Figures 22-25 were done using a 4% sample of loans from the Department of Education's National Student Loan Database (NSLDS). This sample allows us to track, for each borrower, all loans entering repayment in each year and the status of those loans (e.g., default or the total balance), which is then aggregated and examined five years after entering repayment. The analysis for dependent, undergraduate borrowers are specifically for the cohorts that entered repayment between 2004 and 2009.

Figure 10 was also constructed using the 4% sample of NSLDS, but uses the 1999 repayment cohort instead. Because consolidation tracking is imperfect for loans going this far back, we cannot accurately calculate the amount of principal repaid for all original loans. This is why Figure 10 shows relatively coarse loan outcomes rather than exact repayment rates.

### **Technical details about the cohort repayment rate**

This section provides additional details and discussion about the cohort repayment rate discussed in Sections IV and onward. These data were generated by Federal Student Aid at the institutional level using the universe of loans, not a 4% sample.

#### **1. Defining the loan cohort**

The 2009 repayment cohort is the set of all student-borrower loans that entered repayment in fiscal year 2009 (October 1, 2008 – September 31, 2009) that were not cancelled. This includes all deferred and defaulted loans and excludes Parent PLUS loans. Loans that have a zero balance upon entering repayment are excluded. Year 5 balance is defined as the outstanding balance as of July 2014. Year 0 balance is defined as the balance upon entering repayment. Institutions are defined by their six-digit OPEID. Loans are associated with the academic level for which they were originated, meaning graduate and undergraduate loans for the same borrower would be correctly associated with the underlying schools attended.

## 2. Timing of capitalized interest

Loans originated to students usually go through a period of “in-school” status where the loan is accruing interest but the borrower is not required to make payments. Once the loan exits “in-school” and enters repayment, the accrued interest is supposed to be capitalized. The timing of when servicers capitalize accrued interest may vary, which changes the denominator of the repayment rate. To the extent that this varies due to practices of the loan servicer, this will add noise to the repayment metric since servicers are randomly assigned to loans. Alternatively, the repayment rate could be calculated based on total outstanding balance, rather than just outstanding principal.

## 3. Deferments and forbearances

Borrowers on federal student loans can go into forbearance or deferment, thus pausing payment on their loan. Some types of deferments and forbearances reflect poor economic situations which, if they were persistent at an institution, we should include in an institutional accountability measure, while other types of deferment reflect students going back to school or serving in the military, which may be less attributable to institutional conduct. To some extent, prolonging repayment because the borrower returned to school is already captured by choosing a long 20-year term for the repayment rate target. We would want to avoid the loophole that allows schools to just put non-performing loans into forbearance during the monitoring window. Note that excluding in-school deferments may not improve an institution’s cohort repayment rate – a borrower who goes on to graduate school may have made more repayment progress on their loan than the typical borrower, so omitting the graduate student’s loan would actually lower an institution’s cohort repayment rate.

## 4. Defaults

To the extent that defaulted borrowers fail to make timely progress on their loan, defaults would already be included in the repayment rate. However, policymakers may put further weight on defaults in an accountability program precisely because the consequences for defaulting are much more severe than not making progress repaying principal.

## 5. Loan consolidation

Multiple federal student loans can be consolidated into a single loan to make it easier for borrowers to manage payments. The repayment rates discussed here are calculated after linking consolidation loans back to their original loans. Insofar as loans can be linked in this manner, it is straightforward to make pro rata assignments of the consolidation loan's outstanding balances back to the original.