Designing and Assessing Risk-Sharing Models for Federal Student Aid

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Executive Summary

In 2015, Senator Lamar Alexander released a white paper outlining the goals and principles guiding federal "risk-sharing" efforts. Risk-sharing is expected to create financial incentives for colleges to improve student outcomes, while also creating better accountability tools for regulating the higher education marketplace. Two risk-sharing proposals have already been introduced in Congress: Senators Reed, Durbin, Warren, and Murphy's *Protect Student Borrowers Act* and Senators Shaheen and Hatch's *Student Protection and Success Act*. The upcoming Higher Education Act reauthorization could include some variant of these proposals.

This paper analyzes the impact of these two proposals and offers a third, "unified," model that combines and extends elements of both proposals. The unified proposal performs better than alternative risk-sharing proposals by targeting the poorest-performing institutions that expose the largest share of borrowers to the most debt. The unified proposal would affect 830 colleges and universities that disbursed a quarter of all undergraduate student loan volume in 2015 ($10.5 billion). Sanctioned colleges would be required to repay the federal government up to 15 percent of this amount, summing to $820 million in total sanctions. Revenue generated from risk-sharing would be used to finance default prevention and program improvement efforts, making the risk-sharing proposal revenue neutral.

Using College Scorecard and Federal Student Aid loan data, the average sanctioned institution has the following performance outcomes:

- 19% Cohort Default Rate
- 45% three-year repayment rate
- 74% of undergraduates borrowing
- Disburses $12.6 million in undergraduate loans per year
- Would face a $987,000 risk-sharing penalty per year

But risk-sharing is not without limitations, namely that sanctions could restrict college access for low-income and minority students. To improve the performance of these institutions while also protecting borrowers from poor-performing colleges, the paper recommends proceeding with caution:

- Adjust default and repayment rates by the share of students who borrow.
- Standardize these rates to avoid arbitrary cutoffs.
- Prioritize capacity building, communicating federal policy goals, and identifying evidence-based practices and routines for improving loan repayment.
- Improve data quality so performance measures are not easily gamed. Disaggregate repayment and default by repayment plan, repayment status, loan volume, and servicer.
- Provide waivers to Minority Serving Institutions because the policy is likely to reinforce the exact inequalities these institutions are designed to reverse.
- Use enhanced sanctions for colleges retaining loan disbursements as tuition revenue.

Designing and Assessing Risk-Sharing Models for Federal Student Aid

In 2015, Senator Lamar Alexander released a white paper describing how "risk sharing" and "skin in the game" policies could improve federal higher education accountability. During the 114th Congress, Republicans and Democrats introduced two risk-sharing bills that offer guidance on how to design such policies: Senators Reed, Durbin, Warren, and Murphy introduced the *Protect Student Borrowers Act*[1] and Senators Shaheen and Hatch introduced the *Student Protection and Success Act*. In both cases, colleges with the poorest loan repayment outcomes would pay the federal government a share of that debt. This paper analyzes these proposals and discusses the strengths and limitations of using financial incentives to regulate higher education markets.

Both risk-sharing proposals rely on performance measures that should be the focus of federal accountability reform: loan default rates and loan repayment rates. Both proposals also set performance thresholds colleges must meet in order to avoid federal sanctions. To improve upon these proposals, this paper combines elements of both to avoid arbitrary performance thresholds and to account for colleges exposing students to the most debt. Doing so offers improvements, but even these improvements should be interpreted in light of the growing body of literature on performance management. This literature offers strategies to optimize incentive structures, build institutional capacity to reach performance goals, improve data quality, and avoid performance perversion and unintended consequences.

Before discussing these strategies as they relate to risk-sharing, this paper walks readers through recent trends in debt and repayment. It summarizes the current proposals and describes the "unified" model that blends and extends the two. It then analyzes the financial impact of these proposals and identifies the institutions that would be affected by the unified model. Although the unified model offers improvements over other models, it is not without limitations. The final section focuses on these limitations and discusses several of the current evidence-based solutions for navigating these challenges to help policymakers design risk-sharing proposals. Ultimately, the goal of risk-sharing is for federal officials to help protect students against the worst-performing colleges that are riskiest in terms of the default and repayment rates of their former students. Financial incentives may help achieve this goal, but will likely be optimized by utilizing additional policy instruments.

Trends in Debt and Repayment

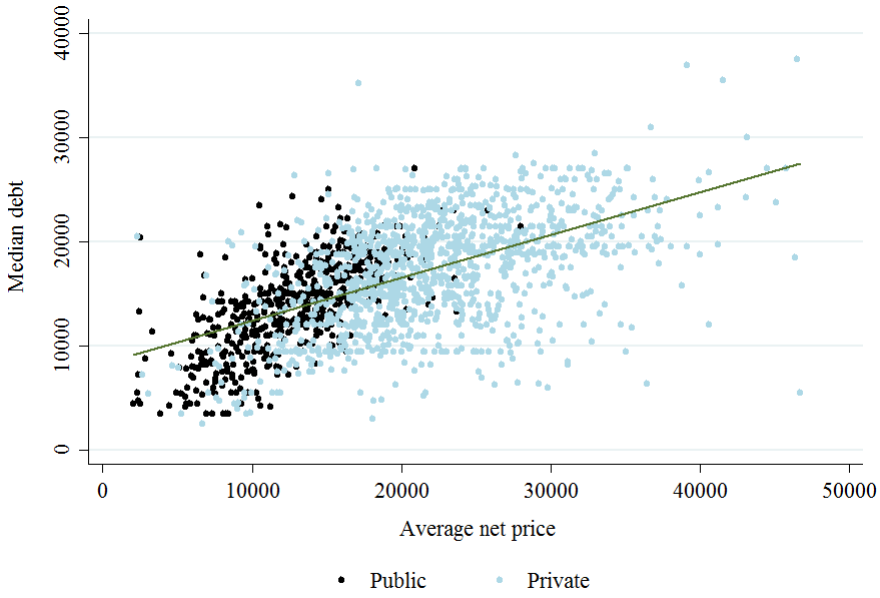
In 2015-16, the federal government disbursed $87.9 billion in total student loan debt.[2] The majority of this debt (50.1 percent) is disbursed to undergraduate borrowers through Direct Subsidized or Unsubsidized Stafford Loans, which are summed together as "undergraduate loans" in Table 1. The remaining debt is disbursed almost evenly between the PLUS loan programs and Unsubsidized Stafford Loans for graduate students, which account for approximately 23 and 27 percent of disbursements, respectively. The risk-sharing proposals mentioned above would not include PLUS loans or graduate student debt because of the way Cohort Default Rates and repayment rates are currently calculated; they would only include undergraduate loans.

Table 1:
2015 federal loan disbursement volume by sector and loan type, in billions

	Undergraduate[3]	Parent PLUS	Graduate	Grad PLUS	Total
Private non-profit	$11.2	$5.0	$11.3	$4.9	$32.5
Private for-profit	$7.6	$0.8	$2.8	$0.4	$11.6
Public	$25.5	$5.9	$9.5	$1.9	$42.7
Total	$44.3	$11.7	$24.0	$7.9	$87.9

Table 1 also shows the majority (58 percent) of undergraduate debt is disbursed to students attending public institutions. Not reported here, public four-year institutions disbursed approximately three-quarters of all public sector undergraduate loans, although they only enroll about half of the public sector undergraduate population (U.S. Department of Education, 2015). Due to their pricing models, private colleges (both non-profit and for-profit) disburse a disproportionally large share of debt relative to their enrollments: these institutions disburse 42 percent of undergraduate debt yet only enroll 25 percent of undergraduates.[4] As a result debt per student tends to be higher among private institutions as the college's net price rises (see Figure 1).

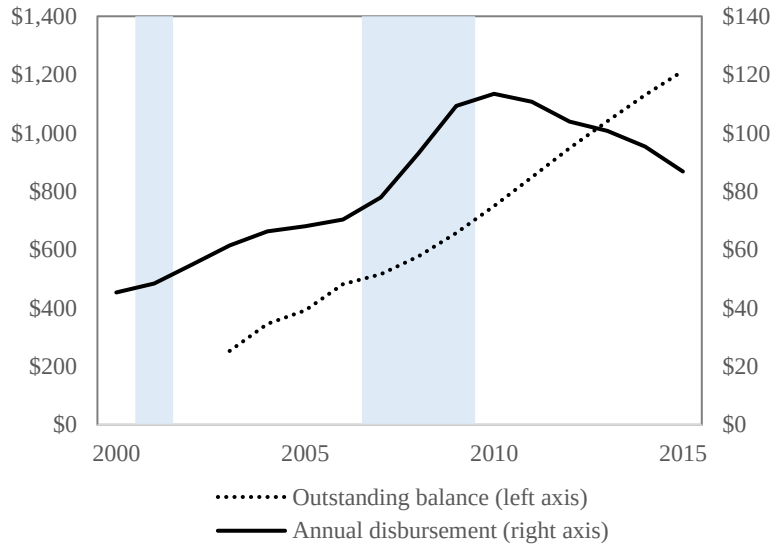
Figure 1:
Relationship between average net price and median student loan debt by control[5]



These cross-sectional statistics are helpful for understanding the distribution of debt in a single year, but Figure 2 shows how annual disbursements and outstanding balances are changing over time. Here we see rapid growth in loan disbursements during the Great Recession, which has steadily returned back to pre-recession levels. The Great Recession brought with it a surge of "nontraditional" students into vocational programs offered by for-profit and community colleges, many of whom either relied heavily on loans or are struggling to repay their debts (Looney &

Yannelis, 2015). We see the consequences of this in the dotted line representing outstanding principal and interest balances owed on federal loans. This illustrates an important distinction between annual loan disbursements and outstanding loan balances. Annual disbursements are dropping while outstanding balances are growing.

Figure 2:
Federal loan disbursements and outstanding balance, in 2015 dollars (billions)



The growth in outstanding balances is due to two main factors. First, about 40 percent of the "nontraditional" students who entered higher education during the recession defaulted on their loans within just five years of repayment (Looney & Yannelis, 2015). Most of these defaults occurred on relatively small principal balances that, due to compound interest and fees, became much larger (Council of Economic Advisors, 2016). For example, most defaults occur on loans smaller than $10,000, yet the average outstanding principal and interest owed on defaulted Direct Loans is $16,200 (U.S. Department of Education, 2016). Second, borrowers are taking longer to repay their loans due in part to loan consolidation and the expansion of income-driven repayment plans. Looney and Yannelis (2015) estimate it takes borrowers an average of 12 years to fully repay their loans, and this figure has not been below 10 since the late 1990s. Extending repayment and pegging it to earnings can help insure borrowers against default risk while affording a degree of consumption smoothing. But it also spreads payments over the course of 20 to 25 years, so the high interest payments can be seen as the cost of insuring against these risks.

Table 2 shows participation levels and average outstanding balances for Direct Loans in repayment, where we see the average borrower has an outstanding balance of $30,800. However, borrowers with smaller-than average debts are in 10-year plans while higher debts are being repaid via income-driven and other (e.g., extended) plans. Most of these borrowers repay in 10-year plans, though a growing share are repaying via income-driven plans.

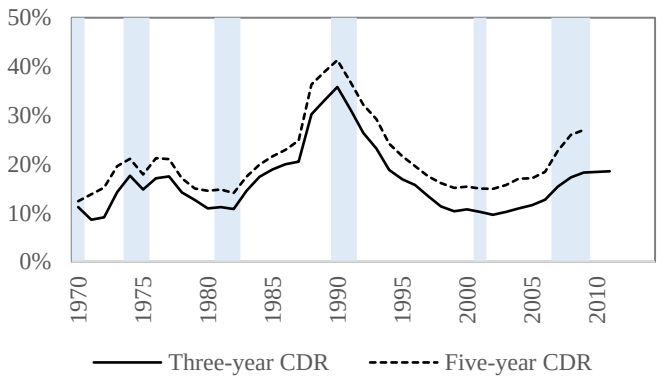
Table 2:
Number of Direct Loan borrowers (in millions) and mean balance by repayment plan

	Standard 10-year	Graduated 10-year	Income-driven	Other	Total
2013	9.8	1.4	1.6	3.2	15.8
2014	11.1	1.9	2.5	2.7	18.2
2015	11.4	2.4	3.9	2.7	20.3
2016	11.3	2.7	5.3	2.6	21.8
Mean 2016 balance	$17,600	$25,800	$51,000	$51,900	$30,800

Two key performance metrics are often used to assess how well students are meeting their debt obligations. One is the federal Cohort Default Rate (CDR), which follows annual cohorts of borrowers who begin repaying their loans in a given fiscal year. If a borrower defaults within three years of entering repayment, then they are included in the numerator of this calculation.[6] In response to the rising default rates of the 1980s, Congress established the CDR policy in 1990 where institutions with high default rates would face sanctions and eventually be ineligible from disbursing Title IV aid. This appears to have induced colleges to reduce their rates, opt out of the loan program, or close down altogether. In the 1998 HEA reauthorization, Congress also changed the definition of default by extending from 180 to 270 the number of days past delinquency it takes for a loan to enter default (TG Research, 2013).

Figure 3 uses data from Looney and Yannelis' (2015) report replicating three-year and five-year default rates over time. Following borrowers only three years into repayment shows a default rate of approximately 19 percent, whereas following them five years into repayment yields a default rate of 28 percent. Federal CDR policy currently only follows borrowers three years into repayment, so future policy changes would gain a fuller picture of the magnitude of loan default by reporting CDRs longer into repayment (at least five years).

Figure 3:
Cohort default rates three and five years into repayment



The other key performance metric is the new repayment rate data originally introduced in Gainful Employment regulations and now expanded into the College Scorecard. This measure accounts for the proportion of undergraduate federal loan borrowers who are not in default and are paying down at least $1 toward their principal balance (White House, 2015). Nationwide, this rate is approximately 60 percent within the first three years of repayment, meaning 40 percent of undergraduate borrowers are neither in default nor making progress on reducing their debts. Unlike the CDR, the repayment rate is not easily manipulated because it counts all borrowers regardless of their repayment plan (i.e., forbearance and deferment are excluded in CDR but included here).

But what is gained is also lost because the Scorecard repayment rate does not tell us whether non-repayment is due to borrowers participating in income-driven or other extended repayment plans. A college could have poor repayment rates because their borrowers are unable to make large enough payments, or it could be because borrowers are enrolled in income-driven repayment. The former is a problem because these borrowers are not insured against the risks of default nor do they benefit from consumption smoothing afforded by income-driven plans. The latter may not be a problem because borrowers are insured against the risks that risk-sharing is trying to address. A college with poor repayment rates (i.e., high non-repayment rates shown below) but performs well on CDR could be due to the borrowers choice of repayment plans; but a college performing poorly on both is likely an indicator of more systematic repayment problems.

Figure 4:
Correlation between three-year default and non-repayment rates by sector

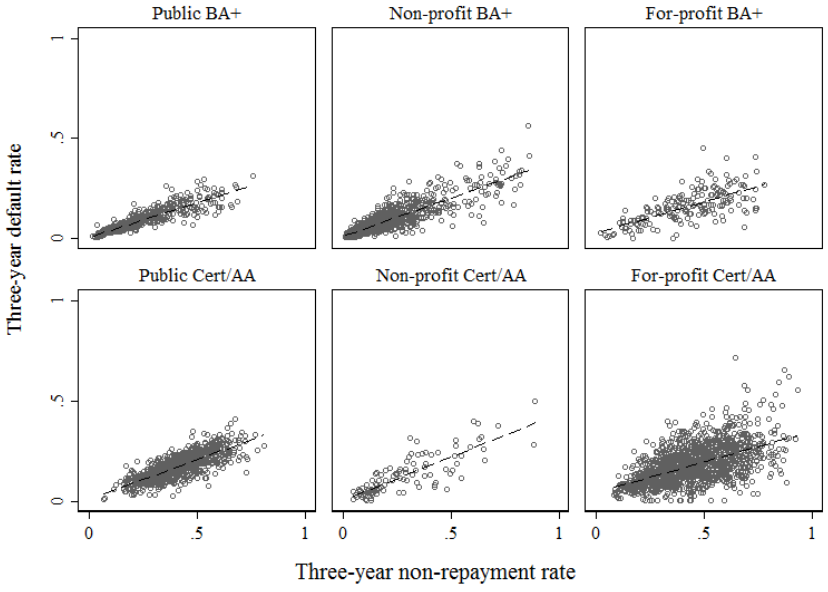


Figure 4 shows how repayment and default are correlated. CDRs are displayed on the y-axis and non-repayment rate on the x-axis. Instead of using the repayment rate, this figure (and later analysis) uses the non-repayment rate which is simply one minus the repayment rate to ease in

interpretation.[7] This shows a positive relationship that is highly correlated, where schools with high default rates also tend to have high non-repayment rates. While these two variables are highly correlated, they are not perfectly correlated and the underlying measures help us get at two different loan performance outcomes. Compared to a college that performs poorly on only one metric (default or non-repayment), one that performs poorly on both puts students at greater financial risk of falling behind on loan payments.

Proposed Solutions

Table 3 summarizes key design features of the two proposed risk-sharing policies introduced during the 114th Congress. The Reed, Durbin, Warren, and Murphy bill (hereafter, "Reed Bill") would use the existing three-year CDR metric to identify the lowest-performing institutions. Colleges with CDRs between 15 and 30 percent would be required to repay the federal government a share of the outstanding balance (principal, interest, and fees) on defaulted loans. Colleges with higher CDRs would repay higher shares, ranging anywhere between 5 and 20 percent of the outstanding balances. For example, a college with a CDR of 26 percent would pay 15 percent of the outstanding balance on its defaulted loans. If defaulted balances were $1 million then the college would pay $150,000.[8] However, only colleges with more than one-fourth of their students borrowing would be subject to this policy.

Rather than using CDR data, Senators Shaheen and Hatch's proposal would use loan repayment rates as the key performance metric. This is calculated as the share of non-defaulted borrowers in a given cohort who are paying at least $1 down on their principal balance, three years after entering repayment. If fewer than 45 percent of borrowers are not meeting this benchmark, then the college would be subject to repayment rate penalties.[9] For example, if a college disbursed $10 million in total loans, but it fails to meet this repayment rate standard, then it would be charged based on the amount not being repaid. Say $1 million of the $10 million was not being repaid, then the college would owe $100,000. The formula charges colleges 20 percent of the following amount (Megan, 2015):

(Non-repayment balance) – (3-year average national unemployment rate x Total loan balance)

Table 3:
Comparison of risk-sharing bills from 114th Congress

Bill	**S. 1102** *Protect Student Borrowers Act*	**S. 1939** *Student Protection and Success Act*
Sponsors	Reed, Durbin, Warren, & Murphy	Shaheen & Hatch
Key performance metric	Three-year cohort default rate (CDR)	Three-year cohort repayment rate (CRR)
Performance thresholds	CDR>30% pays 20% CDR>25% pays 15% CDR>20% pays 10% CDR>15% pays 5%	CRR<45% in initial year, then larger of: U.S. average (less 10%) or own prior year rate. Institution pays 20% of non-payment share of total disbursement (adjusted for unemployment rate).

Participation criteria	Institutions with 25% participation rate in DL programs	Institutions with 30+ DL borrowers per cohort
Subjected loans	Principal, interest, collection fees for volume of defaulted Direct Loans	Principal of non-defaulted Direct Loans
Excluded loans	Perkins and PLUS	Perkins and PLUS
Additional notes	Reduced payment rate for Title III and Title V institutions and those with loan management plan. Payments go to Treasury account where Secretary of Education uses funds for Pell and default prevention.	Secretary determines formula for "College Opportunity Bonus Program" rewarding institutions for serving Pell students

Unifying the Two Solutions

To build on the two current proposals, this section offers a unifying framework that retains promising design features and extends them in four ways. This alternative retains a number of features outlined in the original proposals. For example, it retains the overall goal of using risk-sharing as an accountability tool to regulate and improve the higher education marketplace. It also retains the same performance metrics – CDR and cohort repayment rate (CRR) – outlined above. It retains the sliding scale feature found in the Reed Bill's sanctions and it keeps the bonus program outlined in Shaheen and Hatch's proposal. The following proposal extends the originals in the following ways, resulting in a better-targeted risk-sharing model that identifies the poorest performers exposing large shares of students to high debts.

Performance metrics

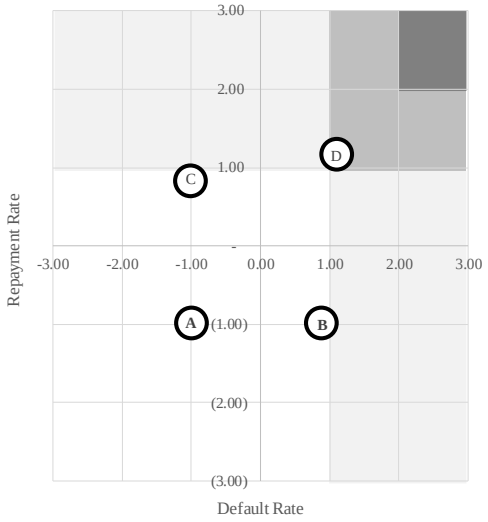
First, the new model adjusts the CDR and CRR by the percentage of students who borrow. This allows regulators to get at the extensive margin of student loan debt, where colleges that expose higher shares of students to debt are weighted heavier in the formula than those where relatively few borrow. This approach has been advocated by The Institute for College Access and Success, where it simply multiplies each performance metric by the percent borrowing (TICAS, 2013). Second, it converts the repayment rate to "non-repayment" rate to ease in interpretation. These two steps allow the default measure to be equivalent to TICAS' Student Default Risk Index metric, and the non-repayment metric is equivalent to their Student Non-repayment Rate Index.

The third step is to standardize these rates to avoid making arbitrary performance cut-points. This allows us to identify the colleges that are one, two, and three standard deviations away from the mean. Current CDR policy, for example, uses 30 percent as the threshold for facing federal sanctions, but it is unclear why 30 percent is the desirable performance criteria. By standardizing the variables, we can establish a baseline of performance that can then be used to determine future performance standards. Accordingly, I convert all adjusted CDRs and non-repayment rates to z-scores. But using z-scores to compare outcomes of two-year and four-year colleges may artificially penalize two-year colleges; therefore, the fourth and final design feature is to calculate these z-scores separately for two-year and four-year institutions.

Standardizing performance data

Figure 5 shows how the two loan performance metrics interact in this unifying framework. If a college has the same borrower-adjusted CDR and non-repayment rates as their sector's average, then it would receive a z-score of zero on both the y-axis and x-axis. This college would be at the origin of Figure 5. However, if the share of students borrowing rose, or if its two loan performance indicators (default rate or non-repayment rate) rose, then the college would be pushed towards the light gray boxes. Rightward movement represents default rates that are higher than average, and upward movement represents non-repayment rates that are higher than average.

Figure 5:
Performance grid for standardized default and repayment rates



In Figure 5, College A would be approximately one standard deviation below each measure, so it would face no sanctions under the unified policy. However, if a college is at least one standard deviation higher than the average default or repayment rate, then it would face risk-sharing sanctions. A college could face sanctions for either poor performance on default or for poor performance on repayment. These are represented by Colleges B and C, respectively, each of which are on the border of the sanctioning thresholds. College D is more than one standard deviation above *both* metrics, so they face steeper sanctions than the other colleges listed in this illustration. The darkest-gray box represents colleges that are at least two standard deviations away from the average on both performance metrics, representing each sector's poorest performers.

The advantage of this unifying framework is that it lets the data determine performance thresholds. It bases a college's performance on the performance of all other colleges in the sample. This technique does not require regulators to create an arbitrary performance threshold that, like Gainful Employment regulations, were contested in court (Natow, 2016). By using z-scores to identify which institutions fall furthest away from each sector's mean, we can then

examine the average default and repayment rates for those sectors. We can also identify which specific institutions fall one, two, and three standard deviations above the origin, representing the sample's poorest performers. This technique is not one regulators would likely use for the entire duration of risk-sharing policies. These z-scores are more useful in the initial design of the performance accountability thresholds because colleges eventually will need specific performance benchmarks to meet. Instead of telling a college they need to stay within one standard deviation of their sector's CDR, the policy will eventually need to tell colleges that specific CDR threshold (e.g., 19 percent) so they can then plan and respond accordingly.

Sanctions and use of funds

In the unified proposal, colleges will face a sliding scale of sanctions depending on their z-score for either measure. Colleges with higher z-scores will be charged higher rates, where scoring above one on *either* measure is associated with a 5 percent penalty. Colleges scoring above one on *both* measures face a 10 percent penalty and above *two on both* measures is a 15 percent penalty. This sliding scale is similar to what is in the Reed Bill, where colleges are charged higher sanctions for higher CDRs.

If a college is sanctioned for three consecutive years, they will be temporarily ineligible from participating in Title IV aid programs. Similar to the way a borrower must rehabilitate their defaulted loans, sanctioned campuses must show progress towards improvement before they can be rehabilitated back into the federal aid program. Sanctioned colleges would pay their fees to the U.S. Department of Education into a default prevention fund. This fund would be used to deliver technical assistance to campuses, offering guidance on designing, implementing, and evaluating default prevention efforts.

Colleges would pay these sanction fees on the principal amount of loans disbursed to the cohort; it would not apply the penalty on the defaulted balances. The reason for this is because colleges have this information prior to the repayment outcome, which would allow them to use this data for planning purposes. Colleges can then estimate the maximum costs they bear in the future, rather than finding out their fees only after their students default. While the Reed Bill does not apply penalties for colleges with 25 percent borrowing, the unifying proposal would not hold colleges harmless for low borrowing rates. This is because borrowing rates are already baked into the calculation, where the new formula accounts for the percentage of students borrowing and standardizes this value.

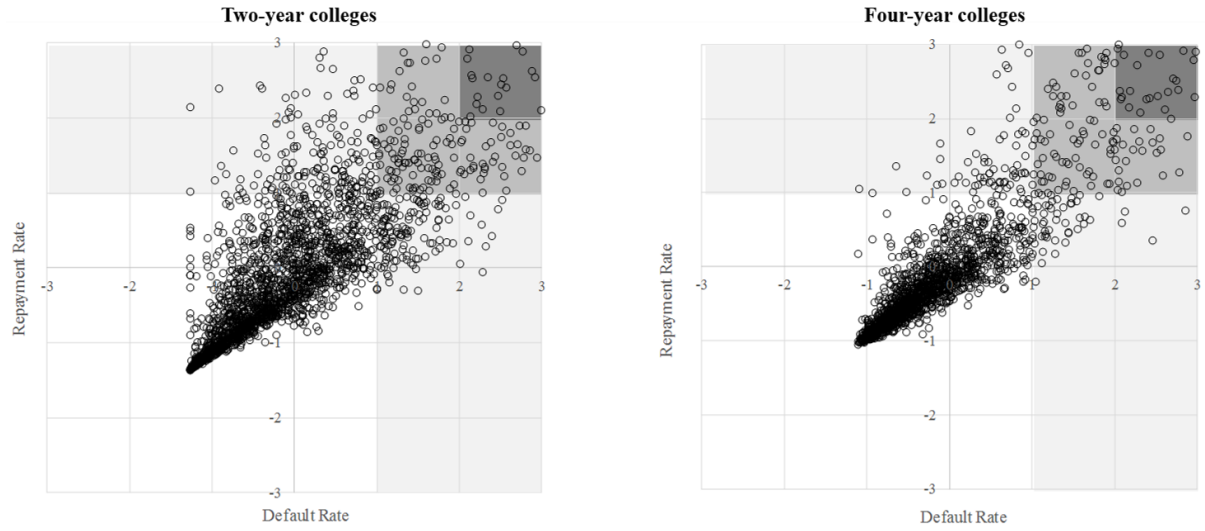
Identifying Sanctioned Schools

Data for the analysis come from the U.S. Department of Education's College Scorecard and the Office of Federal Student Aid's (FSA) Title IV Program Volume Report for 2014-15. The analysis uses College Scorecard data (n=7,730) to measure institutional CDRs, repayment rates, percent borrowing, and sector.[10] The final analytical sample is smaller than the original data because of data availability and parent-child reporting (Jaquette & Parra, 2014). Default and repayment rates are reported for the main campus, and colleges reporting missing or privacy suppressed data for the share borrowing, default rate, or repayment were excluded from the analytical sample (n=4,719). Scorecard data does not provide loan volume data, so the analytical

sample was merged with FSA's Program Volume Reports to obtain these records. Notably, one in five community colleges do not participate in federal loan programs and a number of private institutions also do not participate, so they have no volume to report and the analytical sample is slightly smaller (n=4,119) when analyzing the financial impact of risk-sharing (TICAS, 2016; Wiederspan, 2016).[11]

Figure 6 shows how colleges perform under the unified proposal, where institutions are plotted according to their standardized scores as discussed above. The majority of schools fall within the safe zone for both two-year and four-year sectors, but 830 fall into the gray areas in these two grids (514 two-year and 316 four-year). Just over half of the sanctioned institutions fall in the light-gray area, meaning they will face sanctions valued at 5 percent of their loan disbursement. Approximately 40 percent of sanctioned institutions fall in the medium-gray area, where they face 10 percent sanctions due to being above one standard deviation away from the mean on both performance metrics. The darkest-gray area includes the remaining sanctioned institutions that are more than two standard deviations away from the mean on both metrics. Due to the high correlation between default rates and non-repayment rates, it is common for institutions performing poorly on one measure to also perform poorly on the other. But this is not always the case and institutions are more likely to face sanctions due to their repayment rate performance rather than their default rate performance.

Figure 6:
Performance grid of institutions facing sanctions



Tables 4 and 5 take a closer look at the unified model by comparing it to the other risk-sharing proposals. The "total" column represents the total number of all colleges in the analytical sample and the following three represent the estimated number of sanctioned institutions under each proposal. The Reed Bill and Shaheen and Hatch proposal would affect 1,033 and 609 colleges, respectively; the unified proposal would affect 830 colleges. The majority of sanctioned schools under the unified proposal are for-profit colleges awarding certificate/associates degrees (similar

to the same schools sanctioned by Reed's and Shaheen and Hatch's proposals). However, the unified proposal would expose more non-profit four-year institutions to risk-sharing than the other proposals. Approximately one in 10 public and non-profit four-year colleges (those awarding bachelor's degrees or higher) would be subject to sanctions, while nearly two-thirds of for-profit colleges awarding the same types of degrees would face sanctions.

Table 4:
Number of sanctioned colleges under each risk-sharing proposal

	Total	*Reed*	*Shaheen & Hatch*	*Unified*
Public BA+	593	67	24	58
Non-profit BA+	1,081	85	52	141
For-profit BA+	183	63	51	117
Public Cert/AA	861	266	117	41
Non-profit Cert/AA	102	24	10	24
For-profit Cert/AA	1,299	528	355	449
Total	4,119	1,033	609	830

Table 5 describes the average characteristics of institutions facing sanctions from each of the different risk-sharing proposals. This table shows the national CDR is approximately 12 percent, but the sanctioned institutions' CDRs are between 19 and 21 percent, indicating that each proposal is effective with respect to targeting the poorest CDR performers. Similarly, the national average repayment rate is 66 percent and the sanctioned institutions are between 35 and 48 percent, far lower than the national average. Sanctioned institutions also expose a larger-than-average share of students to debt, where the national average is 55 percent but sanctioned institutions are anywhere between 62 and 74 percent. Sanctioned institutions also enroll larger shares of Pell Grant students than the national average; they also tend to enroll larger shares of students of color, and Black students in particular, than the national average.

Table 5:
Average characteristics of institutions facing sanctions from risk-sharing proposals

	Total	*Reed*	*Shaheen & Hatch*	*Unified*
Student loan performance				
Cohort default rate	12%	21%	21%	19%
Three-year repayment rate	66%	48%	35%	45%
Undergraduate enrollment				
Total enrolled	3,529	2,044	2,199	1,291
Percent borrowing	55%	62%	63%	74%
Percent receiving Pell	53%	62%	68%	68%
Percent White	55%	50%	34%	41%
Percent Black	17%	25%	40%	33%
Percent Hispanic	14%	15%	16%	15%

Graduation rates				
Overall	52%	48%	46%	51%
Pell Grant recipients[12]	42%	34%	36%	40%
Net price and debt				
Average net price	$15,861	$14,271	$14,583	$16,515
Median debt (overall)	$11,710	$9,119	$9,457	$11,021
Median debt (completers)	$16,463	$13,906	$14,643	$17,280
Median debt (non-completers)	$7,273	$5,985	$6,118	$6,954
Federal aid disbursement				
Total loan volume ($ mil.)	$21.7	$11.1	$15.9	$18.2
Undergraduate loan volume ($ mil.)	$12.1	$9.6	$11.6	$12.6
Pell Grant volume ($ mil)	$5.7	$6.7	$8.0	$5.9
Number of institutions	4,119	1,033	609	830

Focusing on the unified proposal, Table 5 shows how it performs better than the other proposals with respect to targeting the poorest performing institutions that expose students to the higher amounts of debt. Under the unified proposal, sanctioned schools not only expose the largest share of students to debt in the first place (74 percent borrow). But when they borrow, both completers and non-completers take out the largest loans. Because of this, the unified model targets institutions that disburse the highest volume of debt: on average $18.2 billion in total federal loans and $12.6 million for undergraduate loans. These colleges disburse the most debt despite enrolling the smallest average number of undergraduates (1,291). Together, these 830 institutions disbursed a total of $4.7 billion in Pell Grants (an average of $5.9 million per college), which accounts for approximately 15 percent of the total federal Pell Grant budget.

Table 6 examines the unified model in more detail by showing the number of colleges subject to various levels of sanctions. Half of the sanctioned colleges fall within the first threshold, where they would be charged 5 percent on their annual undergraduate disbursement. Combined, these institutions (n=420) enrolled approximately 605,000 undergraduates and disbursed over $4.8 billion in loans in 2015. Charging them 5 percent results in $240 million in total sanctions, or approximately $572,000 per college (or $397 per undergraduate). These institutions perform poorer than average on both their CDRs and repayment rates. Recall from earlier, the z-scores are calculated separately for four-year and two-year institutions.

Table 6:
Financial impact of unified proposal on sanctioned colleges

Sanction	*n*	*Enroll*	*Disbursed ($bil)*	*Sanction ($mil)*	*Sanction per college*	*Sanction per student*	*CDR*	*Repayment rate*
5%	420	605,087	$4.8	$240	$571,852	$397	16%	50%
10%	346	433,943	$5.5	$551	$1,592,068	$1,269	21%	40%
15%	64	32,329	$0.2	$28	$435,342	$862	29%	23%
Total	830	1,071,359	$10.5	$819	$986,621	$764	19%	45%

The colleges facing 10 percent sanctions are those that perform poorly on both CDR and repayment rates; both metrics fall one standard deviation beyond the mean. These colleges (n=346) disbursed $5.5 billion in undergraduate loans during 2015, and the average college would face approximately $1.5 million in sanctions (or nearly $1,300 per student). The final group is two at least two standard deviations above the mean on both indicators. These 64 colleges would pay about $435,000 per institution, or $862 per student. These institutions are, on average, smaller than the other sanctioned schools since they are most likely to be for-profit certificate/associate's degree granting institutions. While they account for a relatively small share of total loan volume, their performance is the poorest on both metrics. Table 7 shows how many colleges from each sector would face sanctions. Over half of sanctions schools would come from the for-profit two-year sector (n=449, 54 percent).

Table 7:
Number of sanctioned institutions by sector and sanction level

		Public BA+	Non-profit BA+	For-profit BA+	Public Cert/AA	Non-profit Cert/AA	For-profit Cert/AA	Total
No sanction		535	940	66	820	78	850	3,289
Sanction level	*5%*	22	61	43	28	13	253	420
	10%	32	57	69	8	8	172	346
	15%	4	23	5	5	3	24	64
Total		593	1,081	183	861	102	1,299	4,119
% sanctioned		10%	13%	64%	5%	24%	35%	20%

The Risks of Risk-Sharing

There is a rich research base from the field of public management examining how organizations respond to financial incentives (Dougherty, Jones, Lahr, Natow, Pheatt, & Reddy, 2016; Moynihan, 2008; Radin, 2006). The risk-sharing proposals outlined in this paper can be informed by that evidence base, and the following discussion highlights a few precautions moving forward. Attending to these should both optimize the positive outcomes of risk-sharing while minimizing its negative consequences. But even adhering to these design principles, it is likely that incentive-based reform will only go so far in terms of improving consumer protection and regulating the higher education market.

Go beyond financial incentives. A college facing risk-sharing sanctions will certainly have a financial incentive to improve outcomes, but what if they do not know what to do to get there? What if the goals are ambiguous or in conflict with other performance goals? Or what if they do not have the resources necessary for improving these outcomes? Performance accountability is done best when it includes clear and persuasive communication efforts, capacity building, and routines for learning that – when done in concert – improve the chances of performance improvement (Dougherty et al., 2016). In fact, high stakes financial incentives can have crowd-out and goal displacement effects that can make it difficult to improve outcomes (Moynihan,

2008). Instead, policymakers should extend beyond financial incentives by helping colleges develop a culture of change that involves data utilization, evaluation, and routines for learning (e.g., professional development, working groups, etc.) to diagnose and correct their loan repayment problems. These problems will likely vary depending on the context, so these efforts will be highly localized and a one-size-fits-all approach is likely to work against performance goals. With this in mind, risk-sharing policies should include technical assistance, differentiate by institutional mission, not rely too heavily on financial incentives, and use persuasive communication and capacity building efforts to help colleges respond in positive and constructive ways that benefit students.

Improve data quality. A key principle for any performance funding regime is that incentives should not be tied to imperfectly-measured goals (Moynihan, 2015). Current federal data systems allow us to calculate a number of important loan performance metrics including how many students borrow, default, and repay their loans. However, it does not currently make public the volume of loans that are in default or repayment, nor do we know how many borrowers from each college are repaying through income-driven repayment plans. Additionally, the CDR is easily gamed by placing borrowers into forbearance or default, and the repayment rate does not account for the numerous different repayment plans borrowers participate in. Together, neither CDRs nor repayment rates capture the real performance of loans that are in repayment.

Risk-sharing policies should require institutions to report the volume of principal and outstanding balance in each of the repayment plans listed in Table 2. Risk-sharing policies should also require colleges to report the number of borrowers in each repayment plan and the duration of time they have spent actively in repayment. Knowing this will help colleges estimate the full extent of their default and repayment problems, and federal officials could use this information to improve current data limitations, gaming practices, and measurement problems. In so doing, regulators would be able to identify institutions with poor repayment due to income-driven plans (who are insured against risk) as opposed to poor repayment due to standard 10-year plans (not insured against risk). Risk-sharing policies should also require colleges to report the number of cohort borrowers in deferment or forbearance as a way to help prevent colleges from gaming the CDR metric. These additional data reporting criteria would introduce a transaction cost on colleges by increasing administrative burdens and reporting compliance, but the benefit would improve accountability by reducing gaming and manipulation.

Avoid performance perversity. Tables 5 and 6 identify institutions that are most likely to face sanctions under the unified model. About one in eight sanctioned colleges are federally recognized Minority Serving Institutions (n=120). Withholding federal aid from these institutions or requiring them to pay into the risk-sharing pool may reinforce the exact inequalities these institutions are designed to reverse. Most of these 120 sanctioned MSIs are public (n=45) or non-profit (n=69) four-year colleges, so federal policymakers should consider corrective action to either reduce the penalty, increase their level of technical assistance, or offer waivers from the risk-sharing policy altogether. That these colleges are already federally designated as addressing important underserved areas of the higher education market, any new regulatory policy should not counteract existing ones.

This is particularly relevant in light of colleges that opt out of federal loan programs due to the perverse incentives built into the design. For example, one in five community colleges have opted out of loan programs altogether in order to retain access to federal Pell Grants (TICAS, 2016). When colleges opt out of federal loan programs disproportionately affect minority students (TICAS, 2016) and has been found to slow students' progress towards degrees (Wiederspan, 2016). We can also learn from state performance-based funding policies, where states use similar high-stakes efforts to allocate a portion of their higher education appropriations based on performance metrics like credit hour completion, retention rates, and degrees produced. Colleges have been found to respond to these policies in uneven ways: they have reduced access, encouraged goal displacement, and often fall short of meeting performance goals (Hillman, 2016). This is not to say incentive systems should be avoided at all cost; rather, policymakers should proceed with caution. High-stakes financial incentives run a high risk of producing negative outcomes that may work against the exact outcomes policymakers seek to improve.

Differentiate revenue from disbursement. A college can disburse a loan to a student and never retain any of this loan as tuition revenue. This is because loans are often used to cover non-tuition expenses like room and board, books and supplies, care for dependents, transportation, and a number of approved non-tuition expenses. Because of their low tuition, community colleges are likely to pass-through most of their loan disbursements and retain little of it as revenue. However, non-profit and for-profit colleges likely retain a large share of their disbursements as revenue to the college (due to their high tuition and in many cases low aid). As a result, policymakers should take a closer look at loan disbursements and consider strategies to charge higher risk-sharing sanction to those that retain as revenue the largest share of loan disbursements. Colleges that are simply passing loans through should face lower sanctions since they do not retain that money as revenue, and thus may have weaker incentives to respond to the policy and may be more likely to opt out.

Conclusion

When individuals invest in a college education, they are taking a calculated risk in their future. This risk often pays off since the average individual and social returns to education are positive, even if it means financing that education on credit (Avery & Turner, 2012; Daly & Bengali, 2014; Oreopoulos & Petronijevic, 2013). However, there are circumstances when the financial risk does not pay off and students are left *worse off* after attending college (Cellini & Turner, 2016). This negative outcome is concentrated among students who leave college with debt but without a credential that returns equivalent economic or social value. Unfortunately, federal regulators have few instruments for holding colleges accountable for these outcomes beyond the 90/10 rule, gainful employment regulations, and Cohort Default Rate policies. These existing instruments are necessary but insufficient tools for regulating the higher education marketplace, which is why Senator Lamar Alexander, chair of the Senate HELP committee, is pushing for a new "risk-sharing" policy.

By introducing risk-sharing into federal student financial aid policy, students are believed to be better protected against the risks associated with financing college on credit. Risk-sharing is also expected to create incentives for colleges to improve the repayment outcomes of their students.

However, incentive-based policies like these are rarely so simple and there are considerable risks to consider when designing and implementing a risk-sharing model. This paper highlights several and identifies areas that might strengthen existing risk-sharing efforts. Nevertheless, policymakers should consider how risk-sharing might increase transaction costs by creating new bureaucratic burdens on colleges. How it might displace colleges' goals of expanding access in exchange for enrolling students who are most likely to succeed (i.e., least risky) in the first place. Policymakers also should beware of gaming and the possibility that even the best-designed performance metrics might be gamed if not monitored carefully. This paper differentiated two-year from four-year colleges, but further consideration should be given to colleges that serve different social or educational missions.

Because of these risks, policymakers should keep key principles in mind when informing their work. They should use an evidence-based approach to risk-sharing similar to the exercise carried out in this paper. By assessing the potential impacts of the policy, they can calibrate the sanctions and performance thresholds according to their policy goals. Policymakers should also identify and pilot different interventions to improve loan repayment; without this, colleges will have a performance goal but perhaps not enough guidance on how to reach it. Additionally, policymakers should remain committed to improving loan default by investing in and encouraging colleges to use the data generated from the risk-sharing policy to improve institutional performance. Developing working groups, supporting professional development, and building a college's capacity to use and respond to data are central for improving loan repayment outcomes.

Putting high-stakes financial incentives in place without these considerations will likely result in gaming or other performance perversities and unintended outcomes. Even if these considerations were adhered to, it is possible for the marketplace to still consist of poor performers and predatory institutions that leave students worse-off than before they enrolled. To the extent this problem persists, then policymakers may need to turn to alternative policy instruments for regulating the higher education marketplace. Nevertheless, the challenges and opportunities outlined in this paper should help federal policymakers identify promising ways to insure borrowers against risks while also holding colleges more accountable for their loan outcomes.

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End Notes

[1] Notably, Senators Reed, Durbin, Warren, and Murphy introduced the Protect Student Borrowers Act in the 113th Congress (S. 1873) which was a precursor to Senator Alexander's white paper.

[2] This figure is lower than that reported by College Board because their 2015-16 figure is an estimate based on the percentage change between July 2015 and 2016 (https://trends.collegeboard.org/student-aid/notes-sources). The $85.4 billion reported here is slightly less than the actual disbursement of $87.9. These figures include all Direct Subsidized, Unsubsidized, and PLUS (Parent and Grad) loans.

[3] This includes both subsidized and unsubsidized loans, which are $21.7 and $22.6 billion, respectively.

[4] These data use fall enrollment because 12-month headcount does not differentiate between undergraduate and graduate in the cited report. Using 12-month headcount would reveal slightly different results, but the proportions would remain similar to those reported here.

[5] This uses Scorecard data from 2014 and the following variables: NPT4_PUB, NPT4_PRIV, and DEBT_MDN. Net price above $50,000 (n=2) are excluded as outliers.

[6] As discussed earlier, CDRs do not measure the performance of about half of the federal loan portfolio – Parent PLUS, Grad Plus, and Unsubsidized Loans to graduate students.

[7] Non-repayments are discussed as a possible way to use this data in the White House report: https://collegescorecard.ed.gov/assets/UsingFederalDataToMeasureAndImprovePerformance.pdf

[8] This would be ($1,000,000 * 0.15 = $150,000) since the proposal charges 15% to all colleges with CDRs between 25% and 30%.

[9] 45 percent would only be used for the initial year. Subsequent years would be 10 percentage points below the national average. It would also set 70 percent as the top-end where colleges above this threshold are not sanctioned.

[10] Sector is created by taking the *highdeg* variable to measure the institution's highest degree offered, and differentiates by public, non-profit, and for-profit institutions using the variable *control*.

[11] Most of these were public community colleges or for-profit two-year colleges that do not participate in federal loan programs.

[12] Pell data comes from two sources. Graduation rate data comes from the 2013-14 Scorecard since this is currently unavailable in the 2014-15 Scorecard dataset. The Pell volume data comes from the 2013-14 Federal Student Aid Title IV Program Volume Report https://studentaid.ed.gov/sa/about/data-center/student/title-iv