

Unleashing Market-Based Student Lending

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Abstract

To assist in comparing student loan reform ideas, this paper lays out 15 criteria spread across six areas (access, accountability, efficiency, incentives, borrower protections, and affordability). These criteria are used to evaluate the historical and current student loan programs, which generally perform poorly, though the recent shift toward income-driven repayment is a substantial improvement. However, the current income-driven repayment plans still fail several important criteria. Reforms are offered that would help improve the current government lending system. But the best performing system would rely on private lending, the features of which are outlined.

Introduction

Student lending in the United States stands in need of significant reform. But which reform? To help guide policymakers through the process of selecting the most promising reforms, this study introduces criteria to facilitate evaluation of various reform proposals.

The paper first lays out the criteria that will be used throughout for evaluating student loan programs. One of the most important findings in this section is the superiority of income-contingent repayment for student loans, a program design that has strong theoretical and empirical support.

Next, the paper uses the criteria to evaluate the historical and current student loan programs. The strengths and weaknesses of the Federal Family Education Loan (FFEL) and the Direct Loan (DL) programs are discussed, and the recent trend toward income-contingent repayment receives high marks. However, there are still weaknesses that are the subject of numerous contemporary reform proposals.

The paper then evaluates several reform proposals, including the elimination of limits on annual and aggregate borrowing, loan forgiveness, and income share agreements.

Finally, the paper offers recommendations for suites of reforms that would improve student loans. The first group of reforms assumes that the government would remain the lender and offers policies that help mitigate the problems inherent in government-as-lender. The second suite of reforms focuses on laying the foundations for a private market in student loans.

Criteria for Evaluating Student Loan Systems

There are many ways of designing a student loan program, so it is helpful to lay out criteria that will assist in evaluating the relative advantages and disadvantages of the various options. These 15 criteria represent the most important tasks that an ideal student loan system would accomplish and are grouped into 6 categories addressing access, accountability, efficiency, incentives, borrower protections, and affordability.

Key Points

- Student loan programs should be evaluated using 15 criteria spread across six categories (access, accountability, efficiency, incentives, borrower protections, and affordability).
- Historically, most loans have been made through the Federal Family Education Loan and the Direct Loan programs. With standard repayment plans, these programs perform poorly.
- The recent movement toward income-driven repayment has been a substantial improvement but still leaves many criteria unmet.
- The current student loan system, where the federal government is the lender, could be improved by (a) having all loans enter income-driven repayment, (b) with payments collected through the tax withholding system, (c) abolishing loan forgiveness provisions and interest rate subsidies, (d) imposing caps on annual and aggregate borrowing, and (e) introducing skin-in-the-game for colleges. But even with these improvements, there are a number of insurmountable disadvantages of having the government as lender for student loans.
- The best student loan system would (a) rely on private, income-contingent lending, (b) forbid loan guarantees as well as bailouts of lenders or borrowers, (c) ensure continuous competition among lenders, and (d) impose caps on annual and aggregate borrowing.

1. **Access**
 - 1.1. Provide funding for worthwhile educational investments
 - 1.2. Avoid financing malinvestment
2. **Accountability**
 - 2.1. College accountability (avoid gaming of the system)
 - 2.2. Lender accountability (avoid bailouts of lenders)
 - 2.3. Borrower accountability (avoid bailouts of borrowers)
3. **Efficiency**
 - 3.1. Fix the capital-market failure of traditional loans (use risk-sharing, income-contingent lending to collateralize loans)
 - 3.2. Streamlined repayment
4. **Incentives**
 - 4.1. Reward college improvement
 - 4.2. Merit-based pricing (risk-adjusted loan terms)
5. **Borrower Protections**
 - 5.1. Prevent unaffordable debt
 - 5.2. Informed choice (differential program pricing)
 - 5.3. Flexible repayment (avoid short-term liquidity-based defaults)
 - 5.4. Competitive lending (including refinancing)
6. **Affordability**
 - 6.1. Don't drive college costs higher (fight the Bennett hypothesis)
 - 6.2. Don't impose excessive costs on taxpayers

Access

Provide Funding for Worthwhile Educational Investments

Many potential students who would benefit from a college education do not have the money or assets on hand to pay for college. New high school graduates and recently laid-off workers are prime candidates, but neither group has great earnings potential (or saved-up assets) to afford tuition. This lack of money, called a “liquidity constraint,” can prevent these individuals from enrolling in college, which is often referred to as limiting their “access” to higher education. In the face of liquidity constraints, even investments that increase earnings substantially above the cost of the investment may not be undertaken, resulting in underinvestment in human capital. Such an outcome would also be less meritocratic, since it would “tend to restrict the more expensive vocational and professional training to individuals whose parents or benefactors can finance the training required” which in turn would “perpetuate inequalities in wealth and status” ([Friedman, 1955](#)).

Thus, the fundamental purpose and most important criterion for a student loan system is to help students overcome liquidity constraints to improve their access to higher

education by allowing them to make profitable investments in their human capital.

Avoid Financing Malinvestment

However, the existence of liquidity constraints does not justify a loan for anything and everything that can be labeled higher education. Malinvestment is possible. Scholars Pedro Carneiro, James J. Heckman, and Edward J. Vytlačil have found monetary “returns as low as -31.56% and as high as 51.02%” ([Carneiro et al., 2010, p. 14](#)). In other words, student loans are too often “enabling bad investments” (Akers & Chingos, 2017, p. 14). Moreover, generally profitable investments are still subject to the law of diminishing returns, meaning there can be overinvestment even if average returns are still positive.

Thus, an ideal student loan system would “promote efficient human capital investments” ([Hoxby, 2000, p. 7](#)) where benefits exceed costs by providing funding to overcome liquidity constraints that impair access (provide funding for worthwhile investments) but would not provide funding for investments that are expected to cost more than their benefits (avoid financing malinvestments).

Some may object to labeling as malinvestment any student loan that doesn't pass a cost-benefit test or a return on investment threshold. After all, isn't there more to a college education than higher pay, and doesn't society benefit above and beyond whatever benefits students obtain? Absolutely. But that is also irrelevant for student loans. Fundamentally, these arguments are that higher education should be promoted and subsidized, either because it has positive externalities, or because it advances other social objectives, such as increasing the supply of teachers. But student loans are a terrible method of subsidizing higher education. Providing subsidies through loans (e.g., charging a below-market interest rate) is poorly targeted, distributing the subsidy only to those who borrow. Yet around half of all community college graduates do not take out loans. Using loans to subsidize higher education also gives the biggest subsidies to those who borrow the most (relatively wealthy graduate students). Subsidies via loans also distribute the subsidy at the wrong time. Rather than lowering upfront costs when enrollment decisions are made, it offers a benefit to students far in the future, after they've already graduated. Scholars Susan Dynarski and Daniel Kreisman convey the consensus among economists when they write that “the government should seek neither to make nor to lose money from student loans... [student loans] solve a liquidity problem, not a pricing problem. Student loans are appropriate neither for raising revenue nor for subsidizing college” ([Dynarski & Kreisman, 2013, p. 10](#)).

Because student loans are such a terrible method of subsidizing higher education, they should be offered entirely on cost-benefit grounds with any desired subsidization of higher education relying on programs with better targeting and timing. The question of *whether* to subsidize higher education is beyond the scope of this paper.

Accountability

A second category of criteria focuses on accountability, specifically accountability for colleges, lenders, and borrowers.

College Accountability (Avoid Gaming the System)

An ideal student loan system would impose accountability on colleges by limiting their ability to game the system and exploit students.

Lender Accountability (Avoid Bailouts of Lenders)

If a student loan system uses private sector lending, then lenders should not be able to escape accountability for their lending decisions. Historically, private lenders have escaped accountability when the government preemptively guaranteed student loans or provided bailouts after the fact. These guarantees and bailouts are not only a bad use of taxpayer funds, they also distort the incentives of the lenders—if the lender will get paid no matter what, then they have little incentive to perform due diligence on the loan. The result would be indiscriminate lending, making bailouts both more likely and more costly to taxpayers. Thus, if there is private lending, it is essential that the lenders face accountability for the loans they make.

Borrower Accountability (Avoid Bailouts of Borrowers)

Just as lenders should not be bailed out, borrowers should not be bailed out either. Bailouts of students, usually called “loan forgiveness,” should be avoided. Blanket forgiveness is terribly targeted, providing huge windfalls for relatively high-income graduate students and limited benefits for low-income college dropouts who are struggling with relatively low levels of debt. Bailouts of borrowers would also encourage reckless borrowing, since borrowers would no longer face any negative consequences for borrowing too much or making unwise decisions.

Efficiency

Another category of criteria to evaluate student loans concerns efficiency. Economists call situations in which there are mutually beneficial exchanges that are prevented from happening an inefficient outcome. An ideal student loan system would ensure that as many mutually beneficial loans are made as possible. Currently, there is a capital-market failure due to a lack of collateral for student loans. Economic theory and historical evidence (primarily international experience) indicate that the best remedy for this capital-market failure, and therefore the most efficient

student loan system discovered so far, has a risk-sharing, income-contingent repayment design. The evidence also points to the advantages of a streamlined repayment process.

Fix the Capital-Market Failure of Traditional Loans (Use Risk-Sharing Income-Contingent Lending to Collateralize Loans)

The Problem: A Lack of Collateral Creates a Capital-Market Failure

Traditional loans work well for investments in physical assets like a house or a new factory. By using the asset being financed as collateral, the lender and borrower align their incentives. The lender will only want to make loans for which the collateral is sufficient to cover the balance in the event of non-repayment, and the borrower will prefer to make payments rather than lose the asset. But “traditional loan concepts, borrowed from the world of commerce and industry ... are not equally appropriate to investment in human capital” (Carnegie Commission on Higher Education, 1973). With human capital investments, there is no analogous collateral that can be seized to incentivize repayment. After a loan is made, some students could declare bankruptcy and avoid repaying their lender, and knowing this, lenders have little reason to lend. The lack of collateral for traditional student loans means that “imperfect capital markets may cause needy students to make suboptimal investments in their educations” ([Hoxby, 2000, p. 7](#)).

The Solution: Income-Contingent Lending

The fact that human capital investments are ultimately investments in people and not things is the source of both the lack-of-collateral problem as well as the source of the remedy to this market failure. In the event of default, a lender can’t seize a person or the education a student received, as they would with traditional collateral. But human capital investments are made to increase human capital, and the higher future wages generated by investments in human capital could function as collateral if students are obliged to “repay out of their enhanced future earnings” ([Alchian, 1961](#)). To accomplish this, borrowers’ repayment should be based on their income, hence the name income-contingent lending.

The core features of income-contingent lending are detailed by Alan B. Krueger and William G. Bowen: “In essence the typical income-contingent loan proposal involves three parameters: the amount of the loan; the period over which income is ‘taxed’; and the rate at which income is taxed” ([Krueger & Bowen, 1993, p. 197](#)).

Most income-contingent loans also include an income threshold as a fourth parameter, where a student's repayment obligation is only calculated based on the income above this threshold.¹

Income-contingent loans are quite different from traditional loans. To begin with, as just noted, the collateral is different. For most conventional loans, a physical asset currently possessed by the borrower serves as collateral. For an income-contingent loan, the collateral is something the borrower is expected to have in the future, namely, their future income.² Second, the amount of the loan payment due is different. For a conventional loan, the payments are predetermined when the loan is made (e.g., \$350 per month for the next 10 years), whereas for an income-contingent loan, the payment adjusts based on the borrower's circumstances (e.g., 10% of income per month until the loan is repaid). A third difference is the effect of interest rates. For a conventional loan, a higher interest rate will entail a higher monthly payment. But for an income-contingent loan, a higher interest rate "has no effect on monthly repayments, but only on the duration of the loan" (Barr & Johnston, 2010) since the monthly payment is determined by income alone. A higher interest rate just means that a greater share of that payment is going toward interest rather than paying down principal. Fourth, the length of the loan is not predetermined. A conventional loan has a fixed term (e.g., 5 years for a car loan or 30 years for a mortgage), but an income-contingent loan has no predetermined end date and could be paid off quickly if income is high or very slowly (or not at all) if income is low.³

The idea of income-contingent lending is not new. In fact, "its intellectual champions included both Milton Friedman and James Tobin, two Nobel laureates from opposite ends of the political spectrum" (Moss, 2007). Friedman and Tobin both pushed for versions of income-contingent repayment because this repayment method could expand the number of mutually beneficial exchanges between borrowers and lenders, increasing efficiency. From the lender's perspective, income-contingent lending solves the problem of a lack of collateral, which gives the lender some assurance that the loan will be repaid or at least partially repaid.

Lenders are therefore more willing to lend and offer more attractive loan terms.

Income-contingent lending also could expand willingness to exchange among borrowers. Students are uncertain of their likelihood of graduating, their relative rank within their field, and the macroeconomic prospects of their field. All of this can deter students from investing in their future because the financial consequences of making a wrong investment can be so dire. But income-contingent lending reduces the adverse consequences of negative outcomes by limiting the downside to a set percentage of a student's future income. This provides "insurance for the worst labor market realizations, precisely when borrower's [sic] are most in need of it" (Lochner & Monge-Naranjo, 2015, p. 65). One of the most valuable aspects of this insurance is that it "eliminate[s] the prospect of default" (Chapman, 2005). If you experience an extended period of unemployment with a conventional loan, you are likely to default since you won't be able to afford the monthly payments. But under income-contingent lending, payments are adjusted based on your income, so an extended period of unemployment would drop your required payments to zero, allowing you to avoid default.

Yet another spur to consumer borrowing from income-contingent lending is that it allows borrowers to smooth their consumption over time. A traditional loan with fixed payment amounts will have a high debt burden during low-earning times, and a small debt burden during times when the borrower has high earnings, leading to large swings in after-payment income and consumption. But under income-contingent lending, payments move cyclically with income, meaning that consumption won't need to fall as far during low-earning times, and won't rise as high when earnings are high. Since individuals generally prefer to smooth their consumption over time, this will increase the number of borrowers interested in making investments in their human capital.

Lessons on Income-Contingent Loan Design

Countries that use or have used some version of income-contingent lending for their student loan system include Australia, New Zealand, South Africa, England, Wales, Hungary, South Korea, Chile, Ghana, and the Netherlands. Domestically, Yale, Harvard, and

1 Krueger and Bowen note that "Friedman (1955) initially proposed that the relevant income for ICLs is earnings in excess of the level of earnings the individual would have received without the extra investment in human capital. This income measure is attractive because it provides individuals the proper incentives for optimal investment in education. In practice, however, it is unmanageable."

2 There is unsecured credit which does not have collateral, such as a credit card. However, the borrowing limits on these unsecured loans for college students are capped in hundreds or low thousands of dollars, far below the current loan limit (for dependent undergraduate students) of \$31,000.

3 Note that many existing income-contingent loan programs do have sunset periods after which any remaining balance is forgiven. This is an (unnecessary) add-on, not core feature of income-contingent repayment.

Duke had income-contingent lending programs in the 1970s (Palacios Lleras, 2004), and the main student loan programs currently have several options for income-driven repayment.

The most important lesson from this international and domestic experience has been the superiority of risk-sharing over risk-pooling loans. When a cohort of students is responsible for their collective debt (called a risk-pooling system), the incentives for borrowing become excessively skewed, and adverse selection and moral hazard problems become unmanageable. As Marc Nerlove predicted after analyzing Yale's Tuition Postponement Option (a risk-pooling program) in the 1970s, adverse selection became a problem because students expecting to earn a high income tried to avoid the program and students expecting a low income borrowed with abandon knowing their classmates would repay most of their loan for them. Indeed, 15% of borrowers defaulted (Palacios Lleras, 2004), a shockingly high rate for an elite school. By contrast, Yale's current default rate is 1.1% ([National Center for Education Statistics, n.d.](#)). Alan Kruger and William Bowen estimate that this adverse selection problem can severely curtail the effectiveness of such a risk-pooling loan program ([Krueger & Bowen, 1993](#)).

A risk-pooling loan can also lead to moral hazard, as incentives are distorted after graduation ([Nerlove, 1975](#)). Graduates might take jobs that are more fulfilling but have lower salaries or negotiate compensation packages that have more generous vacation time in lieu of a higher salary. No one has studied the career choices of the Yale cohorts, but other income-contingent loan programs have been analyzed. A sharp kink in Australia's repayment scheme—an extra AUS \$1 results in a higher payment of AUS \$760 at the income cutoff—leads to income manipulation behavior consistent with moral hazard. But England's repayment system does not have such a kink and does not appear to suffer from moral hazard ([Britton & Gruber, 2019](#)).

Scholars are generally skeptical of the viability of risk-pooling, income-contingent lending, with the general consensus being that loans “of the risk-pooling variety seem destined to fail, and this can be traced to the adverse selection and moral hazard issues” ([Chapman, 2005, p.43](#)).

The good news is that “[income-contingent loans] with risk-sharing can avoid these problems” ([Chapman, 2005, p.31](#)). Under risk-sharing, income-contingent lending, each borrower has their own balance. This mitigates the adverse selection problem, because high

earners are no longer expected to repay their classmates' debt. Moreover, with risk-sharing, “the most profitable borrowers,” the ones who pay the risk-sharing premium the longest, “are very close to the loss-making ones, and they are not able to identify themselves as such” ([Berlinger, 2009, p. 265](#)). The moral hazard problem is likewise mitigated because borrowers can no longer count on other borrowers to repay their debt.

To summarize, risk-pooling is a method of redistributing income from high earners to lower earners, whereas risk-sharing is better thought of as insurance against being a low earner. An ideal student loan system would have a risk-sharing, income-contingent lending design.

Streamlined Repayment

While income-contingent lending has many advantages, it comes at the cost of making monthly payments more complicated, since they now depend on your income. For example, if you take out a 30-year fixed rate mortgage, you know what the exact payment will be in November 2049. Under an income-contingent loan, the payment due in November 2049 would depend on what your income is in November 2049.

There are several ways in which payments can be adjusted based on income. The easiest approach, used in Sweden and Hungary, is to base the next year's payments on the most recent year's tax return (Barr, n.d.). This has the lowest administrative costs, since tax returns are already collected. However, this method does not tailor payments to income in real time and therefore doesn't achieve all the benefits of income-contingent lending.

Another option is the system used in the Netherlands: “The default arrangement is that the borrower repays in equal annual instalments for a fixed period after graduation (that is, mortgage-type repayments). But the system includes provision for someone with low earnings to be allowed a lower repayment” ([Barr, 2011](#)).

This type of system is recommended by scholars Lance Lochner and Alexander Monge-Naranjo because it requires income verification only for the smaller share of students who have low incomes ([Lochner & Monge-Naranjo, 2015](#)).

Likely the best method of determining payments combines loan payments with the paycheck withholding system. This method is used by countries such as England and Australia, and it has low costs because it merely expands on the existing tax withholding system. This method also has an advantage over the tax-return method in that payments adjust to income in real time. However, this presumes that the government is the lender, which, as we'll see later, is not optimal. With private lenders, real-time paycheck withholding

could function similarly to how employees have their employers deduct retirement and health insurance costs from their paychecks to be sent to private companies.

The other aspect of repayment concerns who the lender is. One lesson from historical experience is that the university as lender/debt collector does not work well. Once students graduate, universities are not well-suited to track students, verify income, and collect payments. South Africa's and Chile's systems were structured with payments being made to the universities, with lackluster results. In Chile, "cost-recovery levels are low" which "reinforces the notion that universities are poorly suited to debt collecting" ([Chapman, 2005, p. 41](#)). Yale also shut down its program in 1978 in part due to "problems with collection" (Moss, 2007). These experiences indicate that it is best to avoid having the university function as the lender and debt collector.

Incentives

A loan system that incentivizes desirable behavior will lead to more improvements in the higher education system.

Reward College Improvement

On the supply side, if colleges are rewarded for improving, they will be more likely to improve. For example, if a college increases its graduation rate, then ideally lenders will view its students as less risky and will offer them better loan terms. More attractive loans will in turn increase the number of students applying to the school, either bringing in more money or allowing the school to become more selective, either of which serves as a reward for the college.

Merit-Based (Risk-Adjusted Loan Terms)

Similarly, good incentives can improve the demand side of higher education. When loan terms depend on a student's preparedness, academic performance, and choices, it will encourage students to study harder and make better course selections. Why should hard-working students have the same loan terms as slacker students? As Michael Simkovic notes, "uniform pricing subsidizes the riskiest borrowers while extracting value from the safest borrowers" ([Simkovic, 2011, p. 32](#)). Offering better loan terms to the hard-working and high-achieving students would incentivize hard work and better choices among students.

Borrower Protections

An ideal student loan system would feature several protections for borrowers, especially considering that many borrowers are young with relatively limited financial and life experience.

Prevent Unaffordable Debt

In 1580, Thomas Tusser advised that "who goeth a borrowing, goeth a sorrowing" (Tusser, 1580).

Too many students fall into Tusser's trap by thinking that borrowing any amount of money to attend college is a fool-proof investment in their future. But, like any other investment, the wisdom of a human capital investment depends on both the benefits resulting from the investment and the costs needed to fund the investment. Investments with high costs can still be beneficial if they generate large benefits. Likewise, investments that generate small benefits may be unwise even if the cost is low. Thus, the size of debt is less important than the rate of return on the investment.

This means systems like our current loan programs, which offer loans of the same size on the same terms regardless of the student's choice of college, major, and performance, are less than optimal because unfortunate or uninformed students can unwittingly make investments that are expected to lead to fewer benefits than costs, saddling students with unaffordable debt. An ideal loan system would not facilitate students taking on unaffordable debt in the pursuit of unwise investments. As Beth Akers and Matthew Chingos note, "students should not be allowed to make predictably bad decisions ... students should not be able to take on significant debt if it is obvious from the outset that they will never be able to pay it back" (Akers & Chingos, 2017, p. 11).

Informed Choice (Differential Program Pricing)

All student loans do not have the same risk for the student. A loan for a student attending a top college and majoring in a field with a booming job market is a much less risky investment than a loan to attend a lower quality college and to major in a field with a high unemployment rate. But students find it "difficult to assess which program is worthwhile, which one is not, and which one offers a better fit" ([Palacios, n.d., 79](#)). While students may struggle to distinguish between these two paths, financial markets would know the risk of each path. Private lenders would charge a much lower interest rate for the less risky investment, providing students with valuable information about the "long-term financial risks inherent in different courses of study" ([Simkovic, 2011, p.1](#)). By charging higher interest for riskier investments, differential pricing would help students make more informed choices.

Yet student loans offered by the government typically use uniform pricing, with every student at every school and in every major being eligible for the same loan under the same terms. This uniformity robs students of a vital source of information regarding the riskiness of their college options.

Flexible Repayment (Avoid Short-Term Liquidity Based Defaults)

Susan Dynarski and Daniel Kreisman write that "we do not have a debt crisis but rather a repayment crisis. The current system turns reasonable levels of debt into crippling

payment burdens” ([Dynarski & Kreisman, 2013, p. 22](#)). As they point out, the problem is that in the early stages of establishing a career, it is not unusual to have volatile earnings for several years. Recent graduates may jump from job to job and perhaps experience spells of unemployment before they settle down into a stable career. Volatile earnings combined with a fixed monthly payment all too often lead to default. But these defaults are unnecessary, because even an extended period of unemployment does not necessarily have a dramatic effect on a student’s lifetime earnings. In financial terms, these defaults are caused by illiquidity rather than insolvency.

Fortunately, income-contingent lending can avoid these unnecessary defaults “because repayments are not required in periods of low income, [so] borrowers are never in a financial situation in which they are unable to meet their loan repayment obligation” ([Chapman, 2005, p. 3](#)).

Competitive Lending (Including Refinancing)

Competition provides excellent protection for consumers. If there is private lending, an ideal student loan system could exploit competition to ensure that students are getting the best possible terms on their loans. Competition is critical when the loan is first made, but an ideal loan system would go further than just ensuring competition to originate the loan. An active market for refinancing will ensure that students benefit from continuous competition among lenders. Thus, students who pass key milestones that reduce the lender’s risk—such as graduation or getting a well-paying job—would be able to refinance and get better loan terms reflecting their lower risk.

Affordability

Don’t Drive College Costs Higher (Fight the Bennett Hypothesis)

A student loan system should also avoid driving up college costs. Higher education is one of the few industries where this is a concern because there is growing evidence that government financial aid programs encourage colleges to increase their prices, a phenomenon known as the Bennett hypothesis.

An ideal student loan system would ensure that the Bennett hypothesis does not undermine the purpose of lending. As I argued in *Introducing the Bennett Hypothesis 2.0*, the fundamental driving force of the Bennett hypothesis is the dysfunctional nature of competition in higher education ([Gillen, 2012](#)). In most other industries, a government subsidy would have no long-term effect on the prices charged by producers. A subsidy for consumers would increase demand, leading to temporarily higher prices and profits. But existence of high profits would attract competitors that expand supply, bringing prices back down. The end result

would be unchanged profitability for producers, but lower prices for consumers (since the subsidy would cover part of the costs of production).

But in higher education, these results are reversed. Quality is difficult to determine, and (net) prices are obscured until after college acceptance, restricting the ability of consumers to shop around. This leads colleges to compete on perceived quality rather than value, locking colleges into an academic arms race. Meanwhile, accreditation functions much like a cartel run by the existing colleges, keeping new competitors from entering the market. The result is that subsidies in higher education too often end up fueling higher tuition, leaving the net price for students (tuition after aid is accounted for) unchanged.

An ideal loan system would avoid contributing to tuition increases. There are two ways to accomplish this. The first is to change the nature of competition in higher education. If there were sufficient information on college quality, colleges would compete on value rather than reputation. This would ensure that competition would serve its typical function of encouraging improvements in quality and reductions in costs, rather than locking colleges into an academic arms race.

Changing the nature of competition in higher education is clearly a tall order and not something a student loan system can accomplish on its own. So in the absence of accompanying reform, a student loan system should try to mitigate the extent of the Bennett hypothesis. This can be accomplished by putting limits on the amount that can be borrowed. Student loans for undergraduate students are already capped, likely at reasonable levels. But PLUS loans for graduate students and parents have no cap—an increase in tuition increases eligibility for these loans dollar for dollar.

Don’t Impose Excessive Costs on Taxpayers

If the government is the lender, there are three main ways in which taxpayers face excessive costs.

The first occurs when the government finances malinvestment. When this happens, the benefits of an investment are lower than the costs, and the students are typically unable to repay the loan, saddling taxpayers with losses. The second occurs when the government bails out borrowers via loan forgiveness, which likewise imposes a huge price tag on taxpayers.

The third way excessive costs are imposed on taxpayers is when the government charges a below-market interest rate. As previously noted, student loans are a terrible method of subsidizing higher education, so the government should not lose money on student loans to subsidize higher education. Yet most countries, including the U.S., do try to subsidize

higher education by offering below-market interest rates. For example:

The UK system charges an interest rate equal to the inflation rate—that is, a zero real rate, which is less than the government has to pay to borrow the money. The interest subsidy is expensive: for every £100 the government lends, between £30 and £35 is never repaid simply because of the interest subsidy... In other words, the interest subsidy converts nearly one-third of the loan into a grant. (Barr, n.d.)

As Nicholas Barr and Alison Johnson note, for loans from the government, it is best to “charge an interest rate related to the government’s cost of borrowing for all borrowers, for the entire loan, for the entire duration of the loan, from day one onwards” ([Barr & Johnston, 2010](#)).

With private lending, the avenues to excessive costs for taxpayers is slightly different. Malinvestment is no longer a worry, since the private lenders would be the ones facing the losses, not the taxpayers. The dangers of bailouts for borrowers are the same as for government lending, though less likely since a bailout of borrowers would entail the government sending large payments to private financial institutions, something that is rarely popular.

The main new danger for taxpayers under private lending are bailouts of lenders. Across countries, almost all student loan systems that have relied on private lending have included a loan guarantee, including systems in the U.S., Hungary, and Chile. These guarantees shift risk from the private investors onto the taxpayer. To keep from imposing excessive costs on taxpayers, loan guarantees and bailouts should be avoided.

How Have Student Loan Programs Measured Up?

Using the criteria outlined above, we can look at the current and historical loan programs to determine how they measure up.

The primary student loan program for the last half-century was the Federal Family Education Loan (FFEL) program, established in 1965. FFEL was neither public nor private, but rather a Frankenstein mashup of the two. The government determined student eligibility, how much students could borrow, and what the uniform interest rate would be. But the funding itself came from the private sector. Yet the government then guaranteed these loans. A competing loan service called Direct Loans (DL) was approved in 1992 as a pilot and phased in shortly thereafter. Under DL loans, the federal government itself was the lender. Both FFEL and DL loans were available until 2010, after which the government

monopolized the lending market by ending the FFEL program (private loans were still available outside of the federal aid application process). For the past several decades, some students have also been able to choose to repay via one of the many Income Driven Repayment (IDR) plans that have been established. These programs include Income Sensitive Repayment for struggling FFEL borrowers, Income Contingent Repayment, Income Based Repayment, New Income Based Repayment, Pay As You Earn (PAYE), and Revised Pay As You Earn (REPAYE). While I refer to IDR “loans” below, keep in mind that most IDR loans are DL loans but with non-standard (income-contingent) repayment.

The following sections explore how FFEL, DL, and IDR rate on the various criteria outlined and in **Table 1** summarizes the results.

Access

In terms of access, FFEL and DL receive mixed grades. They were a phenomenal success in ensuring that there was sufficient capital for students to undertake worthwhile investments. Writing in 1955, prior to FFEL and DL, Milton Friedman lamented that capital-market imperfections and the resulting lack of student loans led to “underinvestment in human capital” ([Friedman, 1955](#)). Yet, by the end of the millennium, James Heckman, another economics Nobel prize winner, had concluded that, thanks to the existence of these loan programs, it was now a “myth that many bright but poor students were being denied a college education by the inadequate financial resources of their families” ([Heckman, 1999, p.5](#)). In other words, FFEL and DL overcame the capital-market imperfections that had previously hampered human capital investments. Since this is the most important task for a student loan system, FFEL and DL deserve high praise for this accomplishment.

However, FFEL and DL have also provided funding for malinvestment. For example, several cycles of high default rates indicate that the programs (which provide loans of the same size and with the same interest rate to students regardless of college quality or the student’s choice of major or academic performance) enable many students to make high-risk investments that not only turn out to be mistakes in retrospect but also have a negative expected value prior to the investment. Thus, neither FFEL nor DL were successful in avoiding funding malinvestment.

Accountability

The FFEL and DL programs fare poorly on the accountability criteria. Many observers believe that the programs enabled diploma mills, which harvested federal loan dollars without providing a decent education to their students. An example would be the estimated 120 colleges (circa 2013) where students were more likely to default on their student

Table 1
The Performance of Past and Present Student Loan Programs in the United States

		Federal family education loan	Direct loan, traditional repayment	Direct loan, income-driven repayment
Access	Provide funding for worthwhile educational investments	✓	✓	✓
	Avoid financing malinvestment	✗	✗	✗
Accountability	College accountability (avoid gaming the system)	✗	✗	✗
	Lender accountability (avoid bailouts of lenders)	✗	✓	✓
	Borrower accountability (avoid bailouts of borrowers)	✓	✓	✗
Efficiency	Fix the capital-market failure of traditional loans (use risk-sharing, income-contingent lending to collateralize loans)	✗	✗	✓
	Streamlined repayment	✗	✗	✗
Incentives	Reward college improvement	✗	✗	✗
	Merit-based pricing (risk-adjusted loan terms)	✗	✗	✗
Borrower Protections	Prevent unaffordable debt	✗	✗	✓
	Informed choice (differential program pricing)	✗	✗	✗
	Flexible repayment (avoid short-term liquidity based defaults)	✗	✗	✓
	Competitive Lending (including refinancing)	✗	✗	✗
Affordability	Don't drive college costs higher (fight the Bennett hypothesis)	✗	✗	✗
	Don't impose excessive costs on taxpayers	✗	✗	✗

loans than they were to graduate (Gillen, 2013). Many of these colleges were profiting off their students while saddling them with mountains of debt that they later struggled to repay.

Lenders in the FFEL program also avoided accountability since the loan guarantees limited their losses. In fact, borrowers were the only ones who were held accountable in the FFEL and DL programs. If a student unsuspectingly enrolled in a diploma mill with an FFEL or DL loan and later defaulted, the college got to keep the loan money and the lender was bailed out by the government if it was

a FFEL loan. Yet the debt could haunt the student until their death.

While accountability for borrowers under FFEL and DL was too harsh, the IDR programs have overcorrected by being too lenient. The IDR programs include completely unnecessary loan forgiveness provisions. The income-contingent repayment of these programs already ensures that borrowers are not put into dire financial straits by unaffordable payments, so all forgiving debt does is bail out borrowers who don't need a bailout. These expensive bailouts are exacerbated by add-on programs like the Public Service Loan Forgiveness (PSLF) program, which forgives the debt of borrowers who work in politically favored sectors after 10 years of repayment, whereas other borrowers generally must repay for at least 20 years. In addition to distorting the incentives of borrowers by bailing some of them out, loan forgiveness imposes excessive costs on taxpayers. Jason Delisle and Alex Holt note that the programs' forgiveness provides "generous benefits, even to middle- and high-income borrowers with manageable debt loads" (Delisle & Holt, 2012, p.13).

Efficiency

For the most part, neither FFEL nor DL satisfied the efficiency criteria. These programs attempted to circumvent the lack of collateral by having the government lend indiscriminately (DL) or by offering guarantees for private lenders (FFEL). And most students repaid their loan on a 10-year schedule with fixed payments, not the more efficient income-contingent lending type. Nor were payments collected in a streamlined manner.

IDR is a substantial improvement on the efficiency criteria. IDR is a type of risk-sharing, income-contingent lending, which we've seen is the best model for repayment because it expands the number of mutually beneficial loans that can be made. However, in spite of the fact that the government is the lender, the IDR programs have not streamlined repayment by incorporating it into the tax withholding system like other countries such as England and Australia.

Incentives

FFEL, DL, and IDR failed to incentivize desirable behavior.

Colleges were not rewarded when they improved or punished when they rested on their laurels. Students were offered the same loans regardless of where they enrolled, failing to provide an incentive for colleges to improve quality.

Similarly, students received the same aid regardless of their educational choices and academic performance, limiting students' incentives to study harder and make sound investment decisions.

Borrower Protections

Borrower protections were lacking in FFEL and DL. To begin with, loans were too widely available, encouraging some students to acquire unsustainable debt in pursuit of education with low or even negative returns. "Offering no-questions-asked loans in a market with severely limited information and non-savvy borrowers is clearly a recipe for disaster. But it's an unfortunately accurate description of the federal student lending system in the United States" (Akers & Chingos, 2017, p. 102).

By offering loans for every program at every college on the same terms, FFEL and DL also failed to facilitate informed choice among borrowers. Price differences can provide information about the riskiness of different choices, yet the uniform pricing of FFEL and DL loans masks these consequences, leading to less informed choice and a worse allocation of talent.

Most FFEL and DL borrowers did not benefit from flexible repayment either. The standard repayment plan for most of these borrowers entailed fixed payments for 10 years. Students who struggled in the job market after graduating therefore faced the risk of defaulting due to liquidity constraints rather than being fundamentally insolvent. IDR was a substantial improvement over FFEL and DL in this regard. IDR borrowers benefited from the avoidance of unnecessary short-term liquidity based defaults, since these programs tailor payments to reflect the borrower's income, ensuring students are not in the position where they are unable to afford their payments.

Lastly, FFEL, DL, and IDR borrowers do not benefit from competitive lending. Borrowers acquiring multiple loans over the course of their schooling could consolidate their loans, but the interest rate on the consolidation loan is just the weighted average of the merged loans.

Affordability

FFEL and DL were bad on both affordability criteria.

An ideal student loan system would not drive college costs higher via the Bennett hypothesis, but FFEL and DL are generally acknowledged to contribute to increases in tuition. For example, Stephanie Cellini and Claudia Goldin find that for-profit colleges with access to federal aid programs charge 78% more than comparable colleges without access to federal aid ([Cellini & Goldin, 2013](#)).

FFEL and DL also impose excessive costs on taxpayers. The fundamental driver of these excessive costs was making loans too widely available, enabling malinvestment. This resulted in taxpayer losses on the loans (under DL) or taxpayer bailouts of the lenders (under FFEL).

Common Student Loan Reform Proposals

There are several reforms for student loans that are commonly proposed. **Table 2** summarizes how these reforms fare, as explained in the following sections.

Eliminate or Loosen Limits on Annual and Aggregate Borrowing

One common recommendation for student loans is to eliminate or loosen the annual and aggregate limits on student borrowing in the Direct Loan programs. This would be a mistake. Given the dysfunctional nature of competition in higher education, caps on the amount that students can borrow is one of the few things that constrain the Bennett hypothesis from being an even bigger problem than it already is. If the loan caps are increased or eliminated entirely, then tuition is likely to increase faster as colleges harvest more loan money.

Moreover, uncapping loans would allow even more students and dollars to pursue value-destroying malinvestments that cost more than the benefits they generate. This in turn would saddle students with excessive debt for these malinvestments, as well as impose additional costs on taxpayers when many of these students don't repay their loans.

Thus, rather than eliminating loan caps, we should introduce caps to the PLUS loans for graduate students and parents that currently have no statutory maximum (they are capped at the cost of attendance, which is set by the college). This would tame tuition increases that are being driven by PLUS loans, which are arguably the worst contributor to the Bennett hypothesis effects, as well as avoid contributing to excessive costs for borrowers and taxpayers for malinvestment.

Loan Forgiveness

Another proposal that has gained advocates is widespread loan forgiveness. There are many problems with loan forgiveness, but limiting ourselves to the student loan system criteria established above, forgiveness leads to dramatic deterioration on two criteria.

Table 2
Assessing the Impact of Common Student Loan Reforms

		Eliminate limits on annual & aggregate borrowing	Loan forgiveness	Income share agreements (government financed)	Income share agreements (privately financed)
Access	Provide funding for worthwhile educational investments			✓	✓
	Avoid financing malinvestment	✗		✗	✓
Accountability	College accountability (avoid gaming the system)			✗	✓
	Lender accountability (avoid bailouts of lenders)			✓	✓
	Borrower accountability (avoid bailouts of borrowers)		✗	✗	✓
Efficiency	Fix the capital-market failure of traditional loans (use risk-sharing, income-contingent lending to collateralize loans)			✓	✓
	Streamlined repayment			✓	✗
Incentives	Reward college improvement			✗	✓
	Merit-based pricing (risk-adjusted loan terms)			✗	✓
Borrower Protections	Prevent unaffordable debt	✗		✓	✓
	Informed choice (differential program pricing)			✗	✓
	Flexible repayment (avoid short-term liquidity based defaults)			✓	✓
	Competitive Lending (including refinancing)			✗	✓-
Affordability	Don't drive college costs higher (fight the Bennett hypothesis)	✗		✗	✓-
	Don't impose excessive costs on taxpayers	✗	✗	✗	✓

First, forgiveness is a bailout of borrowers. And it is a bailout for people who are generally better off financially than the typical taxpayer. As Armen Alchian argued, “all college-caliber students are rich” already because their “mental talent ... is great wealth.” To heavily subsidize these students “grants the college student a second windfall—a subsidy to exploit his initial windfall inheritance of talent. This is equivalent to subsidizing drilling costs for owners of oil-bearing lands in Texas” (Alchian, 1961). Many other scholars agree. Echoing the words of Milton Friedman—who noted that asking taxpayers to pay all the costs of college would be an “arbitrary, if not perverse, redistribution of income” (Friedman, 1955)—former Harvard Law professor Elizabeth Warren stated, “When young people are training

to be doctors or lawyers they should pay the freight because they can earn so much more” (Gertner, 2006).

Moreover, bailouts encourage the behavior that leads to losses. In a world with widespread or universal loan forgiveness, students would attend more expensive schools, borrow more, and work less. This would weaken price discipline among colleges from an already undisciplined state, resulting in even faster tuition increases.

The second criterion that loan forgiveness performs poorly on is the cost to taxpayers—it is excessive. Scholars Beth Akers and Matthew Chingos document that the forgiveness provisions of the income-based repayment programs account for half of the total costs of the programs, yet forgiveness is “not essential to the core mission of the

program” of protecting “borrowers from unaffordable loan payments” ([Akers & Chingos, 2014](#)). And the cost of borrower bailouts is very high—the current forgiveness proposals in the U.S. have price tags over \$1 trillion. In England, 80% of students will likely not repay their loan in full, resulting in an average subsidy rate of 47% (meaning each £1 loan costs the government £0.47 over the life of the loan in present value terms, about half of which is due to loan forgiveness ([Britton et al., 2019](#)).

Rather than forgive student loan debt, we should follow the advice of Akers and Chingos, who recommend that we “eliminate forgiveness, or at least significantly reduce its generosity” ([Akers & Chingos, 2014](#)).

Income Share Agreements (Government-Financed or Privately Financed)

Another type of student lending that is getting increasing attention is income share agreements (ISAs), sometimes called human capital contracts. The idea is to use equity investment rather than collateralized loans to finance human capital investments. As Milton Friedman, one of the early advocates of ISAs, explained, ISAs would have an investor “‘buy’ a share in an individual’s earning prospects: to advance him the funds needed to finance his training on condition that he agree to pay the lender a specified fraction of his future earnings” ([Friedman, 1955](#)).

As we’ll see shortly, it matters a great deal whether the investor is the government or whether the investors are private. As Friedman notes, “it would be preferable” if investments were “developed on a private basis by financial institutions” ([Friedman, 1955](#)).

Access

Both types of ISAs (private investor and government investor) can be expected to provide financing for valuable investments, where benefits exceed the costs. As Friedman explained, the equity from these investments provides investors with a strong incentive to seek out valuable student/investment combinations, and therefore “eliminate existing imperfections in the capital market and so widen the opportunity of individuals to make productive investments in themselves” ([Friedman, 1955](#)).

Private investors will also have the benefit of avoiding value-destroying malinvestment, since they would lose money on these investments. However, if the current government loan programs are any indication, a government ISA would still provide financing for malinvestment.

Accountability

Private investors have a clear advantage over government investing for accountability purposes. Just as some low-quality colleges game the current government loan system, they would game a government ISA. Politicians would also be tempted to bail out borrowers with a government ISA. Officeholders could promise future benefits (e.g., lower repayment rates after 5 years) without having to pay for them today. This bug, where politicians can benefit from promising future benefits while leaving future generations to pay for them, is a recipe for disaster (see the status of many state government employee pension systems).

Private investors in ISAs could avoid both problems. Private investors would have a strong incentive to seek out and eliminate low-quality colleges that are gaming the system, and they would have no incentive to provide borrowers a bailout. However, private investors do open the door to the possibility of lender bailouts, so bailouts of private lenders should be explicitly forbidden for any ISA.

Efficiency

In terms of efficiency, ISAs perform well, because they are a close cousin to risk-sharing, income-contingent lending. ISAs are likely to have a bigger adverse selection problem, since students believing they have a high earning potential would be more reluctant to take out an ISA compared to an income-contingent loan.

A government ISA has an advantage over private ISAs regarding streamlined repayment, because it could combine ISA payments with the tax withholding system, which would be a very low-cost payment collection method. In contrast, private ISAs would have to collect payments from their investees the old-fashioned way.

Incentives

Private ISAs would provide much better incentives than government ISAs. With private ISAs, colleges that improved would be rewarded, as would students who take actions to make their academic and professional success more likely. Government ISAs would not have these advantages, since the government usually sets uniform loan terms.

Borrower Protections

Because ISAs are a form of equity investment rather than debt-financed investments, students are protected from unaffordable debt. This is the main advantage of ISAs over most types of traditional student loans. Both government and private ISAs also have flexible repayment.

Private ISAs have a further benefit relative to government ISAs in that private ISA investors would take a student's choice of college and major into account when making investment offers. This would benefit students by providing price signals about what investments are likely to be profitable and which investments are riskier.

Unfortunately, neither type of ISA allows for refinancing. Since there is no outstanding balance associated with an ISA, there is nothing to refinance. This is one of the main disadvantages of ISAs compared to income-contingent loans, because it means that even with private investing, students only benefit from competition once, when they first receive the funding. In contrast, with income-contingent lending among private lenders, students benefit from continuous competition among lenders.

Affordability

ISAs are likely to increase tuition via the Bennett hypothesis (we'll discuss the reason for this in more detail shortly). This can be avoided by providing sufficient information such that colleges compete based on value or it can be mitigated by putting limits on annual and cumulative borrowing.

Private ISAs would avoid imposing excessive costs on taxpayers. But government ISAs would likely impose excessive costs on taxpayers. Government ISAs would provide financing for malinvestments, and bailouts of students would be more likely, both of which would impose excessive costs on taxpayers.

Recommended Market-Based Policy Reforms

The suite of recommendations for market-based reforms depends on whether we continue to use the government as lender, or whether we transition to private lending. If we stick with government lending, the recommendations essentially function as band-aids to try to fix the many flaws inherent in having the government function as a lender. If we transition to private lending, the recommendations seek to ensure that a proper foundation is laid for the market to operate.

Government Lending Band-Aids

The status quo entails the government as lender. If there is insufficient political willpower to unleash private lending, then we should pursue several reforms that will help mitigate the flaws inherent in government-as-lender.

The baseline Direct Loan with standard repayment performs well on three criteria: (a) providing funding for worthwhile investments, (b) avoiding bailouts of lenders (since there are no lenders), and (c) avoiding bailouts of

students. But with several reforms, these programs can do much better.

The first reform is to make a (consolidated) income-driven repayment plan the sole option for repaying student loans. This will ensure that all future loans are risk-sharing, income-contingent loans, which helps improve efficiency. This will also add two borrower protections (preventing unaffordable debt and offering flexible repayment to avoid short-term liquidity based defaults).

The second reform is to incorporate student loan repayments into the current tax withholding system. As Dynarski and Kreisman write, this is the "ideal payment mechanism" when the government is the lender because it "allows for regular and automatic payments that adjust with earnings, is backstopped by an infrastructure of reporting and enforcement, and provides a periodic mechanism for reconciling payments and liabilities" ([Dynarski & Kreisman, 2013, p. 12](#)).

Bizarrely, the current income-driven repayment plans do not take this step and generally only adjust payments once per year, forfeiting the advantages of a streamlined repayment system.

Third, there should be no loan forgiveness or interest rate subsidies. Forgiveness raises numerous moral hazard problems. But more importantly, it's completely unnecessary. Income-contingent lending already ensures that borrowers are not asked to repay unaffordable debts, so loan forgiveness doesn't solve any pressing public policy problem—it is just a blatant taxpayer-funded giveaway to borrowers. Similarly, interest rate subsidies, which occur when the government charges an interest rate lower than the market rate, are an inefficient and expensive method of subsidizing higher education. As Nicholas Barr writes,

A number of countries, including the United Kingdom, offer ... a blanket interest subsidy. In a system with income-contingent repayments, this policy achieves not a single desirable objective. The subsidy is enormously expensive in fiscal terms. Because of the resulting fiscal pressures, loans are too small, harming access. The subsidies also crowd out university income, harming quality. Finally, the subsidies are deeply regressive. (Barr, n.d.)

A fourth reform is to put annual and aggregate limits on Parent PLUS and Grad PLUS loans (subsidized and unsubsidized Stafford loans already have these limits). This will help limit the harmful effects of the Bennett hypothesis (though it will not neutralize it entirely).

Table 3
How to Improve Student Loans With Government-as-Lender

		Government as lender	Income-driven repayment	Tax-system repayment	No loan forgiveness or interest rate subsidies	Limits on annual & aggregate borrowing	Skin in the game	Gov loan with income-driven repayment, tax-system repayment, no loan forgiveness or interest rate subsidies, limits on annual & aggregate borrowing, and skin in the game
Access	Provide funding for worthwhile educational investments	✓						✓
	Avoid financing malinvestment							✗
Accountability	College accountability (avoid gaming the system)						✓	✓
	Lender accountability (avoid bailouts of lenders)	✓						✓
	Borrower accountability (avoid bailouts of borrowers)				✓			✓
Efficiency	Fix the capital-market failure of traditional loans (use risk-sharing, income-contingent lending to collateralize loans)		✓					✓
	Streamlined repayment			✓				✓
Incentives	Reward college improvement							✗
	Merit-based pricing (risk-adjusted loan terms)							✗
Borrower Protections	Prevent unaffordable debt		✓					✓
	Informed choice (differential program pricing)							✗
	Flexible repayment (avoid short-term liquidity based defaults)							✓
	Competitive Lending (including refinancing)							✗
Affordability	Don't drive college costs higher (fight the Bennett hypothesis)					✓		✓-
	Don't impose excessive costs on taxpayers							✗

Fifth, to improve college accountability and limit the ability of colleges to game the loan system, the government should ensure that colleges have “skin in the game.” Most of the skin in the game proposals entail the college being financially responsible for some portion of the debt that students fail to repay. However, caution regarding unintended consequences is warranted. Punishing colleges for poor outcomes could result in colleges being reluctant to admit marginal students from disadvantaged backgrounds. Colleges can also manipulate measures directly under their control, such as graduation rates. For example, Chile used to make universities responsible for the debt of dropouts, so universities responded by lowering academic standards to keep students from dropping out ([Rau et al., 2013](#)). Making sure the measures used for skin in the game take a value-added approach can help mitigate these issues.

If these five reforms are implemented, then even with the government as lender, the student loan system could achieve almost two-thirds of the criteria for an ideal student loan system as summarized in **Table 3**. Such a system would still provide excessive funding of malinvestments, which in turn would impose excessive costs on taxpayers. It would also fail to provide incentives for desirable behavior for colleges or students, or to facilitate informed choice by enabling differential pricing, or to allow competitive lending. Thus, while a vast improvement over the status quo, this reform package is only recommended if there is no way to rely on private lending.

Private Sector Income-Contingent Lending

Private lending has a number of advantages over government lending, because it does a better job of allocating capital and sharing risk ([Palacios, n.d.](#)). Unlike the government, which will lend to just about any student at any college for any field of study, private lenders will want to ensure that each of their loans will generate enough of a return to enable the borrower to repay the loan. This means that private lenders would do a better job of:

- Avoiding financing malinvestment, since such investments would have a negative expected rate of return;
- Imposing accountability on colleges, since students at colleges with subpar outcomes would struggle to obtain financing;
- Incentivizing desirable behavior, since colleges that improve and students who work hard and make wise decisions could be offered better loan terms;
- Facilitating informed choice, since colleges and majors with better labor market outcomes would have more attractive loans available for their students.

With all these advantages, a common suggestion from some on the right side of the political spectrum is to abandon government involvement in student lending entirely and rely on the free market instead. However, theory and evidence to date indicate this would be a mistake, largely due to the current capital-market imperfections and the bizarre structural foundations of higher education. Nor am I alone in this assessment. Well-known free-market economist Milton Friedman wrote that there is “an imperfection of the market that... justifies government intervention” ([Friedman, 1955](#)).

Simply Eliminating Government Involvement Would Result in Underinvestment

Historical and contemporary experience indicate that under the current institutional environment, a free market would result in underinvestment in higher education. Prior to 1958, there was no government interference in the student loan market and the market had free rein. The results were subpar, with student loans being “rare and expensive” ([Simkovic, 2011, p. 14](#)). Milton Friedman observed that “there is clearly here an imperfection of the market that has led to underinvestment in human capital” ([Friedman, 1955](#)). It should be noted that Friedman was describing the financial world circa 1955, and that financial markets have undergone a dramatic democratization since that time. But even granting that financial markets in 2020 are more developed and therefore more likely to provide student loans for promising human capital investments than financial markets circa 1955, there is a puzzle—why isn’t the free market already providing such loans?

At the moment, the private market for student loans is largely restricted to three types of loans. The first type isn’t a student loan at all. This category includes traditional private student loans that require a co-signer and other types of borrowing by parents (e.g., a home equity line of credit that is used to pay tuition). These types of loans try to work around the student’s lack of collateral by subjecting a co-borrower to repercussions if the loan defaults, in essence using the parent’s assets and income as collateral for the loan.

The second and third types are the only place where the free market is operating at a meaningful scale. The second type mostly focuses on refinancing the debt of high earning students with high loan debt (e.g., successful doctors and lawyers). Companies such as SoFi offer to refinance student loans with a lower interest rate than the government charges (currently 7.08% for Grad PLUS loans). The third type of private lending is the small income share agreement offered at several colleges, most notably Purdue’s Back-a-Boiler program. These ISAs are exciting and worthwhile experiments but will likely suffer from the problems universities have

historically had tracking students after graduation, verifying income, and collecting payment (e.g., Yale’s program in the 1970s). These two types of loans are promising because they demonstrate that a free market can work for student loans. But they are also discouraging because it indicates that in the current environment, private student loans would be limited to a very small segment of the student population, leading to underinvestment if they were the sole source of higher education financing.

Part of the reason why private lending is so limited is that the government heavily subsidizes most of the loans it provides. The Congressional Budget Office estimates that the fair-value subsidy rate (the percentage of the loan that is never repaid in net present value terms) indicates the government loses money (subsidizes) all types of loans to students. For instance, subsidized Stafford loans, the most generous of the DL loan types because no interest is charged while the student is in school, have a subsidy rate of 30%, meaning that over the life of the loan, the government loses \$0.30 for every \$1 it lends ([Congressional Budget Office, 2019](#)). This also means that only a suicidal private lender could compete with these heavily subsidized government loans.⁴ Yet when the government doesn’t subsidize loans, private lenders do compete. For Parent PLUS loans, the subsidy rate is -7%, meaning the government makes a profit of around \$0.07 for every \$1 lent, and these are the one DL loan type where there are comparable private alternatives available.

Government Action Is Required to Lay the Foundations for Private Income-Contingent Lending

In addition to government subsidized loans, the other main reason there is not a vibrant market in private student loans is that private income-contingent loans are the natural type of loan for human capital investments but do not yet have a stable legal foundation. *The Mystery of Capital* by Hernando de Soto provides the definitive account of how the inadequacy of a stable legal foundation can hold back progress. De Soto argues that poor countries have trillions of dollars in assets, but that it is “dead capital” due to the lack of stable legal foundations. As he explains, the world’s poor

Already possess the assets they need to make a success of capitalism... But they hold these resources in defective forms: houses built on land whose ownership rights are not adequately recorded, unincorporated businesses with undefined liability, industries located where financiers and investors cannot see them. Because the rights to these possessions are not adequately documented, these assets cannot readily be turned into capital, cannot be traded outside of narrow local circles where people

know and trust each other, cannot be used as collateral for a loan... In the West, by contrast... assets can lead an invisible, parallel life alongside their material existence. They can be used as collateral for credit. The single most important source of funds for new businesses in the United States is a mortgage on the entrepreneur’s house. (de Soto, 2000, pp. 5-6)

In other words, one of the main things holding back the world’s poor is that lack of property rights to assets they already possess. This is the same problem holding back income-contingent lending in the United States. Students lack a legal, tradable property right to an asset they will soon possess, namely, their future earnings.

Currently,

[s]tudents cannot put themselves up for collateral; they cannot contractually commit to hand over their future labor to a lender in exchange for upfront cash (after all, indentured servitude is illegal). This is a market failure—there are good investments to be made, but private lenders are reluctant to make these loans... [generating] an opportunity for governments to intervene. (Dynarski & Kreisman, 2013, p. 8)

Indeed, entrepreneur Roy Chapman has refrained from investing in human capital contracts (which are similar to income-contingent loans), because “there is doubt about whether HCCs would be enforceable in twelve states ... or about whether they would be enforceable if the student declared herself bankrupt” (Palacios Lleras, 2004).

The government should uphold the sanctity of contracts by committing to the enforcement of income-contingent student loans. Doing so would solidify the lender’s rights to a portion of the borrower’s future income, increasing the willingness of lenders to make loans.

In addition to allowing students to commit a portion of their future earnings, analysts have stressed the need for the government to clarify how income-contingent lending (and income share agreements) interact with “consumer protection laws, credit reporting laws, bankruptcy laws, and income tax provisions for both students and investors” ([Price, 2019, p. 14](#)). For example, would a student’s payments be considered income for tax purposes even though that income legally belongs to someone else? And would current regulations allow investment funds to sign such agreements?

Streamlining the judicial process to reduce the transactions costs associated with collecting payment in the event of

⁴ As noted previously, subsidizing higher education with student loans is just bad public policy. Even if we don’t move toward private lending, the government should move to make student loans budget neutral, and deliver any desired subsidies via programs with better targeting and timing.

nonpayment would also be beneficial. Currently, public student loans and private student loans are treated differently. If you default on a student loan from the government, they can start garnishing your wages without a court order. But if you default on a private student loan, the lender must first sue you in court, and win the lawsuit before starting a process to garnish wages. This adds tremendous expense for private lenders, which will reduce the scale of private lending. Thus, the free market in private lending would greatly benefit from the government facilitating the setup of the market by reducing transactions costs—e.g., allowing wage garnishment via a less costly judicial process in the event of nonpayment.

How Would Private Income-Contingent Lending Rate on the Student Loan Criteria?

Private income-contingent lending would have all the advantages of private lending discussed above. In addition, a market with private lending via income-contingent loans would ensure that financing would be available for investments that are expected to generate more benefits than costs, because a lender could be confident that the student's earnings would be increased by enough to ensure repayment. In other words, this would solve the “access” problem that the free market previously suffered from. Results from the Australian, New Zealand, English, and Hungarian systems confirm that income-contingent lending programs provide access for students (Barr, n.d.). The loans would also satisfy the risk-sharing, income-contingent lending, avoid unaffordable debt, and allow the flexible repayment criterion.

One potential problem revolves around bailouts. The old FFEL program included bailouts of lenders, and other countries that have used private financing for their student loan systems such as Hungary and Chile also have offered loan guarantees. Moreover, there is currently a push for widespread loan forgiveness, which is a bailout of borrowers. An explicit prohibition on government loan guarantees or bailouts of lenders would help avoid recreating this undesirable aspect of the FFEL program. And private lending would make bailouts of borrowers less likely since such a bailout would entail the government writing large checks to private financial institutions, something that has proven very unpopular with the general public. Since bailouts are the only source of government funds when there is private lending, a ban on bailouts will also ensure that excessive costs for taxpayers are avoided.

Competitive lending is a key feature of many lending markets and something that should be encouraged in the student loan market. Moreover, students pass through many key events (e.g., coming back after the first year, graduating, and obtaining a good job) that dramatically lower the risk

that the loan will not be repaid. The government should limit artificial barriers to refinancing so that students can benefit from continuous competition among lenders. This continuous competition among lenders is one of the reasons income-contingent lending is more attractive than income share agreements.

Up until this point, the government's role in this market has consisted of laying the proper foundations for the market (ensuring that income-contingent lending is legal and enforceable at low cost), restraining the government from offering bailouts (forbidding governmental loan guarantees, loan forgiveness, or bailouts of lenders), and constraining private lenders from limiting competition (e.g., ensuring borrowers can refinance).

At this point however, we run into one of the flaws in the structural foundation of higher education, namely, the lack of reliable and public information on quality. In addition to making it difficult for students to make informed choices, this lack of information also leads to dysfunctional competition in higher education. In most other industries, producers compete based on value, which is essentially quality/price. In such an environment, competition will lead to improvements in quality and/or reductions in cost. But, in higher education,

colleges essentially compete in a zero-sum game for relative standing. Due to the lack of measures of output and outcomes, colleges cannot compete on quality, and instead compete based on reputation/prestige/excellence. Essentially, they use high quality inputs as proxies for quality because there is no way to demonstrate high quality directly. Since high quality inputs are costly, and colleges are playing a zero-sum game of relative position, there is no limit to what [a] college will spend in the pursuit of excellence. Thus, they will spend as much as they can, meaning that revenues drive costs. (Gillen, 2012, pp. 14-15)

Without reliable and public measures of quality, competition in higher education is broken, and it will serve to fuel the academic arms race rather than to tame it. This means that colleges will exploit the availability of loans (and any other revenue source) to increase tuition. Because this result is driven by the dearth of information about program quality, it will affect loans regardless of whether they are from private lenders or the government. Thus, a completely free market without any further government intervention would still be subject to loan-fueled tuition increases (aka, the Bennett hypothesis), with the main constraint being student and parent willingness to borrow rather than government-imposed limits on borrowing.

There are two remedies to this problem: (a) structural reform that provides the market with enough information to change the nature of competition, or (b) limit the damage this structural inadequacy causes.

Some of the current student loans, such as the subsidized and unsubsidized Stafford loans, have annual and aggregate caps. If these caps are set at an appropriate level, it limits the negative consequences of prestige-based competition. But the PLUS loans, both the parent and graduate student versions, do not have caps. They are limited only by the cost of attendance at each college, and these loans are therefore fueling tuition increases via the Bennett hypothesis. Adding

caps to these loans and determining the appropriate level of caps for the other types of loans can limit the damage caused by the availability of loans. In particular, it limits increases in tuition, and it helps prevent students from taking out unaffordable levels of debt.

A much better, albeit much more disruptive, approach would be to undertake structural reforms that provide the market with sufficient information on program quality. This would include publicly releasing data on program completion rates (and by student characteristics), value-added measures of learning, and labor market outcomes. When this data is public, market forces will ensure colleges

Table 4
Designing an Income-Contingent Loan Program With Private Lenders

		Private lending	Income-driven repayment	No loan guarantees, lender bailouts, or loan forgiveness	Refinancing	Gov limits on annual & aggregate borrowing	Private sector loan w/ income-driven repayment, no loan guarantees, lender bailouts, or loan forgiveness, refinancing, and data on program outcomes or limits on annual and aggregate borrowing
Access	Provide funding for worthwhile educational investments		✓				✓
	Avoid financing malinvestment	✓					✓
Accountability	College accountability (avoid gaming the system)	✓					✓
	Lender accountability (avoid bailouts of lenders)			✓			✓
	Borrower accountability (avoid bailouts of borrowers)			✓			✓
Efficiency	Fix the capital-market failure of traditional loans (use risk-sharing, income-contingent lending to collateralize loans)		✓				✓
	Streamlined repayment						✗
Incentives	Reward college improvement	✓					✓
	Merit-based pricing (risk-adjusted loan terms)	✓					✓
Borrower Protections	Prevent unaffordable debt		✓				✓
	Informed choice (differential program pricing)	✓					✓
	Flexible repayment (avoid short-term liquidity based defaults)		✓				✓
	Competitive Lending (including refinancing)				✓		✓
Affordability	Don't drive college costs higher (fight the Bennett hypothesis)					✓	✓ -
	Don't impose excessive costs on taxpayers			✓			✓

compete based on value rather than based on prestige, and once colleges are competing based on value, the Bennett hypothesis is no longer a danger. In addition to mitigating the Bennett hypothesis, this information will facilitate more informed choice among students, leading to better decision-making and a better division of labor.

To sum up, a laissez-faire approach would be a mistake in the current legal and information environment. The legal status of income-contingent loans and income share agreements suffers from too much enforcement uncertainty to attract large-scale private lending, and collecting on nonpaying loans entails very high transactions costs, which will shrink the scale of private lending. At the same time, the lack of reliable and public information about the quality of colleges transforms competition among colleges from a healthy evolutionary mechanism to provide better products at lower costs into a never-ending arms race to spend as much money as possible in the pursuit of perceived prestige. Unleashing the free market into this context will result in many deserving students being unable to obtain loans (due to the uncertain status of the loans and high transactions costs) and an increase in tuition for those who can get loans (due to the information-deficit-fueled Bennett hypothesis). However, the government can help lay the foundations that will enable us to exploit the power of markets to improve student lending, as summarized in **Table 4**. In order to unleash the potential of the markets in income-contingent lending, the government should:

- Support income-contingent lending by committing to the enforcement of contractual arrangements featuring income-contingent lending and by providing a lower transaction cost method for lenders to secure repayment;
- Forbid government loan guarantees, lender bailouts, and loan forgiveness;
- Ensure a competitive environment among lenders, including for refinancing;
- Address the Bennett hypothesis
 - ◆ This can be partially accomplished by putting caps on PLUS loans for parents and graduate students,
 - ◆ Or it can be completely circumvented by providing public information on program quality.

Conclusion

With so many student loan reforms being proposed, a framework for comparing reforms is helpful. This paper proposes a list of 15 criteria grouped into six categories (access, accountability, efficiency, incentives, borrower protections, and affordability) to evaluate student loan reforms.

Judged by these criteria, the historical and current student loan system in the U.S. is found wanting. While it has succeeded in facilitating many worthwhile investments in human capital, it has also enabled much malinvestment which has imposed high costs on students and taxpayers.

Commonly suggested reforms such as eliminating borrowing limits and forgiving student loans are also revealed to be unwise. Government income share agreements (also called human capital contracts) would suffer from many of the same problems as the current student loan system. Private income share agreements would be a marked improvement over the current system.

However, private income-contingent lending would be even better. In the words of Alan Krueger and William Bowen, “a well-conceived income-contingent loan plan would increase the capital available to students for financing their education, and it would do so in a way that simultaneously provides ‘insurance’ against the debt-burden consequences of ending up as a low earner and schedules repayments to fit the individual’s changing ability to pay” ([Krueger & Bowen, 1993, p. 200](#)).

But private income share agreements and income-contingent lending are currently hobbled by an inadequate legal foundation. In particular, it is not clear if courts would enforce the terms of such contracts. Thus, to truly unleash the market, the government should “facilitate the market for loans” ([Hanushek, 1989, p. 50](#)) by creating “a legal infrastructure that takes away the uncertainty concerning the enforceability of the contract and the high costs involved in collecting payments” (Palacios Lleras, 2004, p. 144). Once the government has laid these foundations, market forces would be unleashed to improve higher education. As Milton Friedman notes, the market would

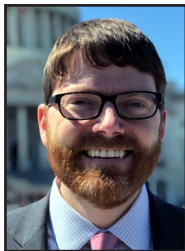
make capital more widely available and would thereby do much to make equality of opportunity a reality, to diminish inequalities of income and wealth, and to promote the full use of our human resources. And it would do so not, like the outright redistribution of income, by impeding competition, destroying incentive, and dealing with symptoms, but by strengthening competition, making incentives effective, and eliminating the causes of inequality. ([Friedman, 1955](#)) ★

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