How Risk-Based Loans Would Help Students Achieve Better Outcomes*

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Nearly 70% of students who earned a bachelor’s degree in 2012 borrowed to finance their education, and their debt averaged $29,400.1 For those students with typical earnings, “payments under the standard 10-year repayment plan take up 14.1 percent of earnings in the first year,” though that figure falls to 6.5% in the tenth year.2 To put this figure into perspective, the U.S. Department of Education’s “gainful employment” rules require career-oriented programs that receive federal grants or loans to maintain debt-to-earnings ratios of 8% or less.3

One frequently suggested solution to the difficulty of making loan repayments in the first few years after graduation is to make income-based repayment plans the default for student loans. At present, only about a quarter of student borrowers elect income-based repayment plans, though the proportion is growing. While income-contingent repayment plans make loans easier to manage, they do not solve the long-term problem of high debt-to-earning ratios, especially for the growing number of older students. Large


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debts relative to earnings likely discourage additional investments in education—even though they could yield higher pay-offs—as well as in home ownership, retirement plans, and entrepreneurship. Finally, to the extent that income-contingent repayment plans allow loan-balance forgiveness after a certain number of years, they increase the likelihood of financial losses by the government lender—losses that would likely lead to higher interest rates on all loans or taxpayer bailouts that undermine public support for federal student loan programs. This risk has grown over the years because each new repayment plan created by the federal government has been more generous than its predecessor.

To address these and related issues, we argue for a loan system that is income-based not just at repayment, but throughout the loan cycle: from student guidance and loan origination, to loan management in college and repayment later. At the “front end,” the proposed system uses “expected income” to ensure that students do not borrow more than they will be able to repay without financial hardship. This should also incent institutions to limit program tuition such that if debt-financed, the typical student would be able to repay the loan without great difficulty.

During college, this system maintains the link to expected income by basing “satisfactory academic progress” on predictors of the student success needed to complete programs, transition to employment, and achieve expected incomes. At the “back end,” it uses actual income to adjust loan payments in much the way current income-contingent repayment systems do, except that forgiveness would apply only to the portion of a student’s loan that reflects “systemic risk” factors—developments beyond the control of students or institutions, such as recessions and major shifts in the demand for certain skill-sets.

I. LOAN SYSTEM GOALS, RISK MANAGEMENT, AND BEHAVIORAL ECONOMICS

The loan system we recommend is designed to address more than merely the shortcomings of income-contingent repayment plans. It aims as well to enable student loan programs to be more effective instruments of public policy.

Traditionally, the goal of student loan programs was to expand access to higher education and facilitate social mobility, based on the assumption that higher education “pays off” for the vast majority of students. While college is a good investment for the average student, averages conceal wide variations in outcomes. In the words of two respected economists, “[f]rom a financial perspective, enrolling in college is equivalent to signing up for a lottery with large expected gains . . . but it is also a lottery with significant probabilities of both larger positive, and smaller or even negative, returns.”4 In other words,
investments in higher education today involve real risks, especially for those taking out large loans to finance their education. Why? For one thing, only fifty-five percent of students at two- and four-year institutions graduate within three or six years, and many non-completers leave with debt. Moreover, even among graduates, the returns vary enormously by institution, major, and individual.

One reason that some graduates have difficulty finding jobs that pay enough to manage their loans is that they borrowed more than was prudent, given the “expected income” for graduates of the program they pursued. On the other hand, some students short-change their long-run returns by borrowing too little. This is especially the case for highly talented low-income youth who “under-match” due to “loan aversion” or simply as a result of insufficient awareness of the value differences among institutions. Informed by the fields of risk management and behavioral economics, the loan system we propose is designed to help such students achieve better value by enabling improved risk management. In particular, the system builds on the behavioral economics’ concepts of anchors, feedback mechanisms, choice architecture, and financial incentives.

A. Anchors

Decision anchors (such as comparison benchmarks) provide critical “rules of thumb” for novice investors, especially when the potential value of investments and their associated risks are difficult to determine. In an income-based loan system that features a life cycle approach to financial planning, student guidance would provide anchors that maintain students’ “line of sight” between their expected financial investments (including loans) and expected future income (including the risks involved in completing their programs and achieving and maintaining that income). These anchors would be designed to emphasize economic value (expected income relative to cost) rather than cost alone, to offset a short-term focus on costs, and to discourage loan aversion and under-matching. Such value anchors could involve benchmarks for acceptable “debt-to-income” ratios for different stages in the life cycle. Affordability anchors could provide benchmarks for how much students could afford to pay.
each month at different stages of their life cycle, just as with mortgage guidelines.

Such anchors would offer context for interpreting consumer information on expected incomes and costs. Presentations of consumer information could emphasize, for example, the wide variation in estimated value within and across programs and institutions. They could show the probability of losses that would result in unmanageable debts and loan defaults. By offering more than such “central tendency” measures as means and medians, they could offset the tendency, especially pronounced in inexperienced investors, to be overconfident and to underestimate the likelihood of undesired outcomes.

Finally, students should be given more personalized projections of expected income and costs based on their own risk factors. This would require two types of risk indexes that could be used to estimate program completion and future income from different institutions and programs. The first is a personalized student readiness index that summarizes the personal risks students face when investing in education, given their risk attributes, including academic readiness, level of expected engagement (e.g., working part-time), and other factors that affect completion and transition to employment.

The second is a composite index that captures the combined risks involved when students with certain student readiness characteristics choose among institutions and programs whose graduation rates and employment outcomes vary for students like them. This type of index would be an improvement over the current use of such risk groups as Pell Grant recipients, which mask large within-group differences. It would also be an improvement over other approaches to risk indexes, because here, risk is viewed as a combination of student characteristics and the outcomes achieved by specific institutions and programs for students with those characteristics.

B. Feedback Mechanisms

Feedback and self-control mechanisms are especially helpful when an investment’s returns become clear only far in the future and when the investor’s behavior in the meantime will affect those returns. This is certainly the case in higher education, given the importance of student engagement, course grades, and high-quality internships. Thus, an effective choice architecture will include continual feedback that helps students manage their behavior and risks. For example, institutions could use simple online dashboards and icons to communicate to students whether they are “on-track” or “off-track” given changing risk conditions and personalized risk profiles. This suggests a major redesign of current Satisfactory Academic Progress requirements and other feedback and control mechanisms in today’s student financing programs.7

7. See Program Integrity Questions and Answers—Satisfactory Academic Progress, U.S. Dep’t Educ.,
C. Incentives

The federal government has made great strides in providing students with comparable information on institutions and programs, including tuition and other costs of attendance.\(^8\) Comparative earnings data, however, remain unavailable. Yet, as Beckie Supiano notes in the *Chronicle of Higher Education*, students often ignore such information, especially if it concerns long-term outcomes, like graduation rates—in contrast to price.\(^9\) In short, a choice architecture designed to assist students to invest wisely in, and borrow prudently for, higher education should include financial incentives that work in concert with an improved benchmarking and feedback system. By using choice architecture that includes financial incentives, the federal government could do much more to help students make prudent decisions—ones that focus less on cost and more on value. It could also help students manage the entire loan process, from origination to final repayment.

II. RECOMMENDATIONS FOR A COMPREHENSIVE INCOME-BASED LOAN SYSTEM

To address the goals discussed earlier, we propose a comprehensive income-based loan system that employs choice architecture to address the needs of all students, including “post-traditional” students. This system ties student loan decisions to expected or actual income throughout the loan cycle—from student guidance and loan origination to final repayment after college.

A. Consumer Guidance

Choice architecture should inform the loan application process, such that all students see how their investments relate to economic value and affordability benchmarks and receive clear warnings when their choices suggest ill-advised risks. Students, especially those considering high-risk loans, should also receive information on alternative institutions and programs that offer better value for students like them. This would help offset loan avoidance in cases where lower prices are associated with lower value, and help student borrowers obtain better loan terms. This approach would require a national system for collecting and sharing the relevant information, something we discuss elsewhere.\(^10\)
B. Originating Loan Terms

Choice architecture often includes financial incentives designed to affect investment decisions. We propose three types of financial incentives—loan caps, interest rates, and insurance requirements—that would vary according to the risk indexes described above.

Currently, federal loan terms, established through legislation and regulation, set arbitrary caps on the amounts all students may borrow—caps that must increase periodically as tuition and related costs rise. To shift the focus to value while protecting against excessive debt, we recommend emulating systems in Australia and New Zealand by making the loan cap variable based on expected future income and related risks in achieving that income.\(^{11}\) Although the Australian system has served as a model for income-contingent repayment plans in the United States, its “front-end” has attracted far less attention. Examination of its originating loan terms reveals that loan amounts are based in good part on the expected incomes associated with graduation from different categories or “bands” of programs.

One way of emulating the Australian system is to allow loan amounts and terms to vary according to the earnings projected for specific students in specific programs; that is, to employ an underwriting approach of the kind used with home mortgages. This variable approach could be implemented gradually. For example, variable loan caps could be phased in and pegged to expected earnings of students in specific programs at institutions adjusted by combined risk indexes. These variable caps could be built on top of guaranteed caps for all students that insure a minimum loan amount reflecting minimum expected earnings for all students for different education levels.

Skeptics worry such an approach will deter some students from pursuing degrees in relatively low-paying but socially vital occupations like teaching and social work. These are valid concerns, but ones we believe can be addressed by encouraging institutions to align pricing with value, especially when the programs cost less to operate because of lower faculty salaries and related costs. Loan caps that vary with expected earnings also make sense in the context of the growing but little-noticed practice of institutions charging higher tuition or fees for their high-demand and more costly—but also more remunerative—programs.\(^{12}\)

Variable loan caps based on risk indexes would have a number of benefits

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for promoting economic advancement. They would enable poor but talented students to borrow and invest more than current caps allow without driving them to the private loan market or leading them to settle for a less selective institution than they could otherwise attend. Similarly, lower-interest loans for attending higher-value schools and programs would discourage under-matching and thus facilitate social mobility.

In short, it seems time to try variable, risk-based loans whose terms are pegged to students’ expected ability to repay their loans. Importantly, however, repayment ability determination should be based on the combined risks for specific students enrolling in specific programs at specific institutions, rather than on the risk profiles of the students alone. This approach would reward students for working hard to become college-ready (as evidenced by student readiness scores) by giving them more choices at lower interest rates because they would likely complete programs and earn expected incomes at a wide variety of institutions.

This approach also would “nudge” students who are less college-ready to choose institutions and programs where they have better chances of completing programs and earning the expected income for that particular program of study. Students would pay higher interest rates only if they chose to attend institutions with records of poor performance from students like them. Interest rates would be capped, however, in situations where students lacked realistic choice about what institution to attend (e.g., for proximity reasons) and the available institutions rate poorly on performance measures. As an additional consumer safeguard, we also favor some type of upper limit on interest payments relative to loan principal. Such a limit could ensure students never face interest payments that exceed their loan principals during the repayment period.

Any such risk-based approach could be complemented by loan insurance. The use of insurance as a tool for managing risk is not new: Guarantee agencies for Federal Family Education Loans insure student loans against default.13 This insurance would allow students with high-risk profiles to assume larger risks with higher potential returns while working to improve their risk profiles over time through demonstrated academic performance. An insurance system could work the way mortgage insurance does for qualified borrowers who do not have the up-front capital or credit rating to purchase their first choice in housing but have realistic plans to improve their financial situation and are willing to pay a small premium to take those risks.

C. Managing Loans During College

Recently, the financial services industry has harnessed the power of behavioral economics and “big data” analytics to design financing systems that enable and encourage risk reduction. One example is the move to “performance-based” underwriting and pricing in auto insurance, where rate adjustments are now based on the behavior of drivers as measured through tracking devices.\(^\text{14}\) Another example is using financial incentives in employee healthcare plans to encourage the adoption of healthy lifestyles that reduce healthcare costs. By contrast, federal student loan policy currently sets fixed interest rates, fees, and loan maximums, with the only performance-based variations being the minimal requirement for maintaining Satisfactory Academic Progress (SAP).\(^\text{15}\)

Currently, federal student grant and loan policies provide guidelines for institutionally defined measures of SAP. These guidelines require institutions to set grade standards of a 2.0 grade point average (GPA) or higher at time of graduation, and time standards of no longer than 150% of the program’s normal length.\(^\text{16}\) They also require that institutions inform students about when their progress will be evaluated against these standards and when they will be given “financial aid warnings” and put on probation.\(^\text{17}\) The federal guidelines do not address whether students are in danger of not completing their program or of exceeding their federal loan limit at the pace they are progressing. They also say nothing about whether students are accumulating debt at a rate that will likely exceed guidelines or benchmarks for expected income-to-loan ratios.

Of course, institutions are free to set higher standards than these federally mandated minimums. To determine what proportion of institutions do set higher standards, how much higher they set them, and what kinds of feedback they provide, we reviewed a representative cross-section of seventy-five colleges and universities. We found that the vast majority of those institutions have SAP standards that are no higher than the federally mandated minimums, though they may provide more individualized and useful feedback.\(^\text{18}\) Under our proposal, institutions would be required to provide students feedback not just on their continuing eligibility for federal loans, but on whether they are “on-track” for completing their programs and achieving expected incomes. This feedback would include whether students are borrowing at rates that will


\(^{17}\) Id.

\(^{18}\) A paper describing this research, by the authors and Winona Hao, is available upon request.
lead to exceeding federal loan limits or benchmarks for expected income-to-loan ratios.

One promising way to manage such feedback would be to integrate SAP guidelines into more comprehensive student retention systems that use composite risk indexes to advise students and their counselors as to whether they are at a high, moderate, or low risk of program completion and achievement of acceptable income-to-loan ratios. In designing such a system, policymakers and institutions could draw on research that identifies predictors of completion and income, including GPA but not demographic or family background characteristics. They could also draw on lessons from student retention services that focus on key behavioral indicators of student performance.

In short, we favor allowing students to improve their loan rates and conditions when they perform at high levels according to clearly defined criteria that are predictive of completion and future earnings for graduates of specific institutions and programs. This would encourage students to work harder, which would improve their educational outcomes and future earnings.

D. Income-Contingent Repayment

As discussed earlier, income-based repayment systems take many forms. Some of the most promising recommendations appear in recent publications by Susan Dynarski and Daniel Kreisman and by experts at the New America Foundation. We build on many of their recommendations, but with some key differences, especially on loan terms and forgiveness.

I. Coverage and Eligibility

The universal and comprehensive loan system we are proposing is intended to be the only federal loan program available to students, regardless of income, type of institution, or whether the program is a graduate one. This would be an unsubsidized system with all current government subsidies moved to an expanded Pell Grant program, which would greatly simplify the loan

application and management processes and allow closer alignment between federal loan and grant systems.

2. Originating Loan Eligibility and Terms

All students should have access to unsubsidized federal loans at interest rates based on the costs to the government of borrowing the loan funds and administering the loans and on the risk of the student defaulting.

3. Discretionary Income Thresholds and Percent of Income Paid

We support proposals that set discretionary income thresholds benchmarked to the federal poverty level so that students do not begin making payment until their incomes exceed this threshold. Leading international models and consumer finance research support more progressive rate setting above the threshold, starting with a low percentage of income and rising progressively for those with higher incomes. The purpose of this rate setting is to counter the effects of low minimum payments with consumers who can afford to pay more without financial hardship.

4. Interest Rates and Payment Ceilings

We have proposed an income-based system that is underwritten as a true loan program without subsidies. This will be difficult to do without charging real interest rates. Moreover, paying interest provides some incentive for students to repay loans faster, which enables them to make additional investments throughout their working lives. The only issue is whether these interest charges should be capped. We think that capping interest accumulation is better than forgiving loans and could provide a necessary consumer safeguard in an income-based loan system.

5. Incentives for Additional and Early Payments

The Australian experiment with incentives for early repayment showed regressive impacts, with benefits for higher income students. We see no rationale for incentives for additional payments over and above the reduction of interest charges that students accrue over the life of their loans.

6. Repayment Time Periods

Most proposals argue that repayment time periods should be increased from twenty to twenty-five years, after which any forgiveness provisions would be applicable. We agree, but recommend exploration of unlimited repayment time periods consistent with our proposals on forgiveness.

Most recommendations for reforming the student loan system call for full forgiveness without application of federal taxes on forgiven loan amounts. Others disagree, but propose upper limits on interest charges as a compromise. Many support forgiveness for employment in public service careers. As explained below, we favor a compromise between full forgiveness and no forgiveness that involves adjusting loan amounts during the loan repayment process for the negative impact of economic developments beyond the control of institutions and students.

8. Subsidies

There is no general agreement on subsidies. We favor a true loan system without subsidies, combined with the shifting of all government subsidies to federal grants including an expanded Pell Grant program.

E. Systemic Risk Adjustment

One feature of many income-contingent repayment systems is forgiveness of unpaid loan balances after a certain number of years—with the loan system absorbing the losses regardless of cause. Another feature is earlier loan forgiveness for students employed in public service jobs. One problem with this forgiveness system is that it creates incentives for students to extend their loan repayment periods and qualify for some loan forgiveness. If many students respond accordingly, the student loan system will be in danger of insolvency, especially if faced with higher-than-expected defaults due to economic downturns or structural shifts in the demand for college-educated workers. If many students pursue public service careers, that too would put additional strain on the loan system.

Recent estimates by the Consumer Financial Protection Bureau of the number of borrowers currently eligible for forgiveness reflect this potential strain. The Bureau estimates that about twenty-five percent of the United States workforce is currently working in industries where students are eligible for forgiveness.\(^{22}\) Potential losses from loan forgiveness for public service will likely increase over time because these job categories include the growing healthcare and education industries. We favor a compromise between systems that do and do not provide forgiveness.

Loan insurance for all students would enable forgiveness of the portion of student loans that proves difficult to repay due to what we call “systemic risk factors” that are beyond the control of students and the institutions they attend.

This insurance would be added at the time of loan origination much the way
default insurance was added by federal guarantee agencies in the past.

Students would also be able to take out additional loan insurance based on
higher-than-average risks. This would work similarly to what Robert J. Shiller
envisions for adjusting loan terms using indexes that estimate future shortfalls
in earnings due to economic downturns and structural shifts in the demand for
specific skills. 23 For example, the loan system could use indexes to determine
what portion of future loans could be forgiven based on the impact of a severe
economic downturn that has significant and measurable impacts on similar
groups of students attending similar programs and institutions.

F. Institutional Risk Sharing

Institutions of higher education now share the risks that student loans
involve in one main way: They can be ruled ineligible for federal student
financial aid, including Pell Grants, if they exceed upper limits on student
default rates. Historically, this risk was serious only for for-profit institutions
with high two-year default rates. However, the new three-year default limits
implemented in 2014 mean that far more institutions, including community
colleges, will soon face similar risks. 24 Income-based repayment systems
greatly reduce institutional risks because student defaults decline dramatically
in the face of better debt collection mechanisms (e.g., automatic payments
through the tax system) and flexible repayment and forgiveness terms. On the
other hand, such risk reduction eliminates the institutional incentives to make
sure students are taking out affordable loans, making appropriate progress
toward completion, and achieving expected levels of earnings.

Therefore, we propose an alternative approach for risk-sharing that holds
institutions accountable for minimal performance on the two major drivers of
loan repayment: time to credential as measured by on-time completion rates,
and the economic value of the credentials they offer relative to tuition and fees
as measured by actual income-to-tuition-paid ratios. This approach would
avoid the problem that institutions cannot control the size of the loan as long as
the loan is under the threshold for total costs of enrollment. 25 It would require,
however, institutional performance adjustments based on the students they
serve and the programs they offer—and maybe also the labor markets where

24. This risk is reflected in the number of colleges exceeding the thirty percent rate in the most recent
data released by the U.S. Department of Education and actions by some colleges to withdraw from the federal
direct loan system. See Cohort Default Rules, FinAid, http://www.finaid.org/loans/cohortdefaultrates.phtml
25. Some reform proposals argue that institutions should be able to control the level of loans within
limits. See Nat’l Ass’n of Student Fin. Aid Adm’rs, Reimagining Financial Aid to Improve Student
spx, archived at http://perma.cc/3ZAE-PM5F.
they place students. As described below, this will require risk indexes that can be used to adjust institutional and program expectations, especially for those serving the highest-risk students.

These adjustment methods could also be used to provide incentives to institutions that exceed expectations, as recommended in many federal student financial aid reform proposals. They could build lessons learned from performance management systems used in workforce development to offer both sanctions and incentives based on the participants served and labor market conditions. This work should be informed by research identifying the strengths and weaknesses of these systems and their implications for adjusting performance expectations in higher education.26

III. CONCLUSION

This Article has argued that the widely recommended expansion of income-based repayment will not fix many of the federal student loan system’s serious problems, unless complemented by a more comprehensive income-based approach. Income-based repayment alone does not address the tendencies of students to over-borrow or under-match, the inclination of institutions to raise prices, or the likelihood loan forgiveness will become very expensive. The more comprehensive income-based approach that we propose incorporates the use of “choice architecture,” including variable, risk-based financial incentives that tie expected income to loan decisions throughout the loan cycle.

We suggest that this risk be measured through composite risk indexes that combine student risk characteristics (but not demographic proxies) with the performance of institutions and programs serving similar students. This means that loan terms for the same individual would vary depending on the institution and program chosen, which in turn should “nudge” students and institutions to pay greater attention to the value offered. We also propose a different approach to loan forgiveness, based on adjustments for what we call “systemic risk”—adjustments that also rely on risk indexes.

We are not the first to suggest underwriting student loans, and we are aware of the criticisms leveled at an earlier proposal.27 The criticism that concerns us most is that underwriting would disadvantage minority and low-income youth. We do not think that would happen under our proposed system. On the contrary, we believe these students would benefit most from better information

26. See generally The Performance of Performance Standards (James J. Heckman et al., eds., 2011).
about value as they make decisions about colleges, majors, and amounts to borrow. But we also think it is important to pay special attention to the possibility of unintended effects in pilot programs. Our goal is the opposite: to nudge students to borrow prudently and attend institutions and programs that provide them good value.