Today, more than ever, students are relying on loans to finance their college education. Nearly 39 million Americans, or one in five households, carry student loan debt, and the majority of undergraduates take out at least one federal loan while they are in school. The average borrower carries $24,800 in student loan debt, though the median is much lower (around $13,400). This debt is not evenly distributed among all students, with students of color and those from lower-income families tending to borrow more than their higher-income peers. Although most borrowers repay their loans in a timely fashion, a growing share have difficulty repaying their debts. Approximately 17 percent of borrowers are at least 90 days delinquent on their loan payments, and nearly the same share (15 percent) default on their loans within three years of entering repayment. Both of these rates have steadily risen over the past decade, particularly in the wake of the Great Recession, and federal policymakers are seeking ways to reverse these trends.

Abstract
This brief discusses income-related student loan repayment models in the United States. We describe recent trends in student loan repayment, along with participation patterns in income-related repayment plans. We provide a brief history of the idea along with commentary on what we know—and don’t know—about the U.S. Department of Education’s existing income-related repayment plans. We conclude by outlining key elements that are central to evaluating the efficacy of income-related loan repayment.

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To help students avoid loan default, and to make repayments more manageable and flexible for borrowers, the federal government offers “income-related repayment” (IRR) plans that tie borrowers’ loan payments to their earnings. Under these IRR plans, student loan debt will never exceed a certain percentage of a borrower’s income, which insures students against the risks associated with borrowing and repaying their loans.

In offering these alternative repayment options, federal policymakers expect a wide range of outcomes. Of course, they expect IRR plans to help borrowers make on-time payments and avoid delinquency and default. But proponents also believe IRR plans will help borrowers maintain their standard of living even when their earnings decline (a.k.a., consumption smoothing) and encourage students to pursue public-sector careers with lower expected earnings. Proponents also believe standard repayment models discourage borrowers from making important life milestones and other significant investments (e.g., homeownership, starting a family) and that IRR encourages these socially desirable outcomes by providing borrowers with greater certainty and predictability in their educational investments. Finally, proponents believe IRR models will reduce administrative costs for the federal government by reducing the need to collect on defaulted/delinquent loans. Many of these goals for IRR plans deserve greater attention, as their efficacy has not been evaluated.

Existing income-related repayment efforts

The U.S. Department of Education currently operates three income-related repayment plans: Income-Contingent Repayment (ICR); Income Based-Repayment (IBR); and Pay As You Earn (PAYE). Each plan shares some common features:

- repayments are scaled according to borrowers’ earnings;
- balances are forgiven after a certain number of years; and
- borrowers must opt into the program to receive benefits.

While there are similarities among the plans, there are some important distinctions too. One of the primary distinctions is that unlike ICR, not all students are eligible to participate in IBR or PAYE; it is only available to those who can demonstrate “partial financial hardship.” The plans also differ according to which loans are eligible for repayment, with ICR and PAYE restricted to federal direct loans and IBR available for direct loans and federal family education loan (FFEL) programs. Finally, the programs differ according to their loan forgiveness options; PAYE forgives loan debts after 20 years of repayment, while IBR and ICR do so after 25 years. If a borrower chooses a career in public service, however, they can have their loans forgiven after 10 years under the IBR and PAYE plans, but not under ICR.

It is no surprise that many borrowers find these programs confusing: not only must students opt into the programs, but first they must figure out which programs they are eligible for and what loans apply. Once in a program, borrowers must reapply each year and submit the appropriate paperwork to ensure they comply with program rules. Generally, IBR and PAYE offer a wider range of benefits than ICR, but this really depends on each borrower’s circumstances. Importantly, none of these plans guarantee that a student will actually pay less money in the long-run on their loans; in fact, it is possible that borrowers will pay more depending on their eventual earnings.

Goals of income-related repayment

- Default prevention
- Consumption smoothing
- Predictable payments
- Improve consumer information
- Streamline aid administration
- Encourage public-sector/entrepreneurial careers
A brief history of income-related repayment

There are several key moments that led up to today’s ICR, IBR, and PAYE programs (see Figure 1). Having a sense of the history of income-related repayment helps place today’s debate in its appropriate context.

All of today’s income-related repayment plans have roots in Milton Friedman’s idea of “human capital contracts.” In 1955, Friedman proposed that higher education should be financed through private investors, where students would repay investors a certain percent of their incomes in exchange for financing their college expenses. While Friedman also proposed a governmental program where the IRS would collect these payments, it was never implemented. In 1967, President Johnson’s Panel on Educational Innovation recommended the creation of the Educational Opportunity Bank, which would loan students money to be paid back at the rate of 1 percent of their income for every $3,000 borrowed for up to 30 years. Like Friedman’s proposal, this “repayment tax” would be collected by the IRS; and like Friedman’s idea, it never came to fruition. There have been several other efforts to link college finances to students’ future earnings, including the Carnegie Commission’s 1968 proposal to create an income-contingent loan scheme, and even earlier, Congressman Neal Smith of Iowa’s 1963 proposal to finance education under an income-related model.

The first time income-related repayment was actually implemented in the U.S. was when Yale introduced its “tuition postponement option” in 1971. Under this program, students agreed to pay back their loans contingent upon their earnings. Despite the school’s attempts to address some unanticipated behavioral and economic effects including information costs and “adverse selection,” the program was eventually discontinued. Interest in IRR had not faded by the 1980s, when the Reagan Administration proposed a pilot program to implement an income-contingent loan model at ten universities across the U.S. The pilot lasted until 1992, and by 1993 President Clinton introduced Income-Contingent Repayment, the nation’s first large-scale IRR plan. More recently, President Bush introduced Income-Based Repayment in 2007, and President Obama introduced his own version of IBR (called Pay As You Earn) in 2012.

This timeline is not without omission, as there has been longstanding interest in IRR from politicians on both sides of the political aisle, and leading economists have endorsed their own income-related repayment plans. Internationally, Australia, the United Kingdom, and New Zealand (among other countries) have implemented national income-related repayment schemes from which many contemporary proposals draw.
What do we know about income-related repayment?

As we saw in the previous section, the idea of financing higher education according to students’ future earnings is not new, yet it is often treated as a novel and innovative approach to student aid reform. Several states recently proposed adopting statewide IRR models either in collaboration with existing federal efforts or as separate systems altogether. In Wisconsin, the group Competitive Wisconsin is encouraging state policymakers to explore whether the state can adopt its own income-related repayment plan. This is similar to the “delayed tuition program” promoted by Wisconsin Way, which would have students pay 5 percent of their adjusted gross income until they have either repaid the full cost of instruction or made 25 years of payments. At the federal level, President Obama identified PAYE as a core piece of his higher education policy agenda; the administration seeks to expand participation by making PAYE the default option for all federal loan borrowers.

Despite having operated for more than two decades with wide interest from both progressive and conservative politicians, we know very little about the efficacy of IRR programs. The U.S. Department of Education has never evaluated ICR, IBR, or PAYE and provides very little data on the borrowers who participate in the programs. In 2013, the U.S. Department of Education first began publicly displaying participation and debt data for these three programs. We now know that 1.6 million direct loan borrowers participate in one of the federal government’s three IRR programs, and participants carry $72 billion in loan debt. On average, borrowers in these programs carry $45,000 in student loan debt, with IBR borrowers carrying the highest debt levels of the three programs. Though IBR is also available for private loans, the federal government does not report participation data for non-federal IBR loans.

Because of the lack of data, we know very little about whether and to what extent income-related repayment is achieving its policy goals of preventing default, helping borrowers manage their debts, or encouraging students to pursue public-sector careers. However, we have some preliminary information about program participants from the 2009 Baccalaureate and Beyond survey. Bear in mind, this data includes only degree recipients and ICR and IBR borrowers, as it was collected prior to the implementation of PAYE. Nevertheless, we can see in Table 1 that borrowers in income-related repayment plans may not be very different from those participating in standard repayment. While they earn slightly less income and carry slightly less debt, their monthly payments are only $20 less. Similarly, monthly loan repayments account for 12 percent of IRR participants’ monthly income, versus 13 percent for standard repayment.

Table 1: Characteristics of borrowers in repayment by type of repayment

<table>
<thead>
<tr>
<th></th>
<th>Income-Related Repayment</th>
<th>Standard Repayment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>$35,857</td>
<td>$36,016</td>
</tr>
<tr>
<td>Federal loans borrowed</td>
<td>$18,804</td>
<td>$18,400</td>
</tr>
<tr>
<td>Monthly student loan payment</td>
<td>$261</td>
<td>$282</td>
</tr>
<tr>
<td>Monthly loan payment as percent of monthly income</td>
<td>12%</td>
<td>13%</td>
</tr>
<tr>
<td>Percent employed in public service</td>
<td>36%</td>
<td>33%</td>
</tr>
</tbody>
</table>

13 percent for those in standard repayment, suggesting the plans may be saving students only a little money each month. In terms of public and nonprofit employment after college, we again see very little variation between the two groups: approximately one in three graduates pursue this career path regardless of their repayment plan. These data points are only descriptive, but we offer them to start a long overdue discussion. Moving forward, it is crucial that we examine whether the purported goals of income-related repayment models are being achieved; if they are not, we should strive to understand why.

Evaluating income-related repayment models

The lack of data makes it challenging to compare various IRR proposals. This is not only problematic for students interested in considering these repayment options, but also for researchers and policymakers interested in improving them. Nevertheless, we need frameworks for evaluating competing proposals. We offer an initial framework below, based on the fundamental concepts of effectiveness, efficiency, and equity.\(^\text{19}\)

Effectiveness refers to whether IBR, ICR, or PAYE achieved their intended outcomes. Did the programs prevent borrowers from defaulting? Did they encourage more students to enter public-service careers? Did they free up financial resources, enabling borrowers to achieve life milestones such as purchasing a house or starting a family?

While these are easy questions to ask, they can be difficult to answer. One reason is that there is no "counterfactual" for borrowers who participate in these programs; we cannot know what would have happened to them had it not been for IRR.

Another reason is that IRR has several goals, making it difficult to determine which goal is most important (and to whom). A third reason relates to timing, where we may not observe an outcome until several years after a student participates in a program. Still, these questions can and should be answered, and ongoing IRR policy debates rarely incorporate any evidence of program effectiveness.

Efficiency is a commonly used term in political and academic debates about higher education, but its meaning is not always clear. When discussing this concept, it is important to consider two types of efficiency: productive and economic. Both types of efficiency are important for evaluating IRR models.

Productive efficiency, often called "technical efficiency," refers to the ratio of inputs to outputs, where the goal is to "do more with less." To gain productive efficiency, the federal government is expected to use fewer inputs to produce the same level of output or achieve the same outcomes. Evaluation of the productive efficiency of IRR models would focus on the administrative strategies the federal government uses to enroll, collect, manage, and monitor student loan repayments.

Economic efficiency, on the other hand, refers to the costs relative to the benefits of a given policy alternative. When one policy option yields the greatest net benefits relative to its costs, it may lead to economic efficiency. Evaluation of the economic efficiency of IRR models would focus on the cost-benefit analysis of each existing program in contrast with several competing policy alternatives.

Equity is the third, and too often overlooked, evaluation criteria. Equity debates often focus on one of three aspects: horizontal, vertical, and outcome. Horizontal equity treats all people
equally, ensuring that individuals are treated equally regardless of their circumstances. Vertical equity treats individuals in different circumstances differently, but ensures they are equally well off. Outcome equity is concerned with achieving a desired outcome and investing the necessary amount of resources to do so. Applied to IRR, expanding eligibility to all borrowers would result in horizontal equity, while restricting programs to low-income earners results in vertical equity. Outcome equity would take a different approach by investing in default prevention strategies necessary for reducing this undesirable outcome. To arrive at a fuller understanding of the implications of IRR reform, it is important to address each one of these three equity concerns.

Conclusion
Income-related repayment is resurfacing as a federal solution to the underlying problems related to escalating college costs and student loan debt. In this primer, we outlined a brief history of the idea and focused on some of the key design features that differentiate existing programs from one another. We hope it provides a concise overview of some of the main concerns driving today’s debates around this topic. We also hope it offers ideas for evaluating existing and proposed income-related repayment plans.

Ongoing discussions about student loan reform could benefit from more deliberate attention to the data limitations outlined in this brief, as well as the general lack of evidence regarding the efficacy of existing programs. Moving forward, we hope this brief is instructive by informing conversations regarding the effectiveness, efficiency, and equity concerns outlined in our evaluation framework. With greater attention to these issues, federal financial aid policy can make the steps necessary for helping make college more accessible and affordable to both current and future students.
Endnotes


5 Technically, the federal government operates a fourth program, Income-Sensitive Repayment (ISR), which is an option for some borrowers who do not qualify for ICR. However, this program is relatively obscure and few students participate. There are also graduated programs, extended programs, and public-service loan forgiveness programs outside of the three IRR programs we focus on in this brief.

6 Partial financial hardship means the monthly amount that would be paid under a standard, ten-year repayment schedule must be higher than what would be paid under IFR. For more information, see: http://studentaid.ed.gov/repay-loans/understand/plans.

7 For example, ICR excludes PLUS loans made to parents unless they are consolidated into direct loans on or after July 1, 2006; IBR and PAYE exclude PLUS loans made to parents (even those that are consolidated) or private education loans; and PAYE excludes all FFEL program loans. For more information, see: http://studentaid.ed.gov/repay-loans/understand/plans.


14 For example, Senator Paul Simon (D-IL) and Congressman Tom Petri (R-WI) have proposed the IDEA Act, IDEA Credit, and ExCEL Act, all of which would link loans to income. Similarly, Nobel Laureate Joseph Stiglitz advocated for this in his May 12, 2013, NY Times editorial, "Student Debt and the Crushing of the American Dream," available at: http://opinionator.blogs.nytimes.com/2013/05/12/student-debt-and-the-crushing-of-the-american-dream.


17 Wisconsin Way is a statewide coalition of interest groups promoting economic development and government reform. Their proposal would be targeted to students enrolled in three-year degree programs. See: http://ia600309.us.archive.org/8/items/WisconsinBlueprintForChange/BluePrintForChange.pdf.

18 This is because the U.S. Department of Education does not report data on the repayment plans of FFELP borrowers. See “Sallie Mae Lags in Student Debt Relief Amid Ongoing Federal Probes,” available at: http://www.huffingtonpost.com/2013/09/03/sallie-mae-student-debt_n_3839243.html.

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