Applying the Lessons of Behavioral Economics to Improve the Federal Student Loan Programs:

Six Policy Recommendations

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Abstract

This paper proposes six policy recommendations aimed at reducing loan aversion and improving repayment decisions. We justify each of the recommendations with theoretical and empirical findings from behavioral economics, such as framing effects and mental accounting, to provide a deeper understanding of the ways in which students actually make borrowing and repayment decisions. Specifically, we propose reducing the number of repayment options, providing repayment information in high school, moving to a uniform passive repayment system, making an income-contingent repayment plan the default repayment option, changing the name and description of the income-contingent repayment plan, and/or removing the principal balance of the loan. We believe these recommendations, taken either individually or collectively, will lead to an improved federal loan system for both students and society at large.

This paper is one in a series of reports funded by Lumina Foundation. The series is designed to generate innovative ideas for improving the ways in which postsecondary education is paid for in this country—by students, states, institutions and the federal government—in order to make higher education more affordable and more equitable. The views expressed in this paper—and all papers in this series—are those of its author(s) and do not necessarily reflect the views of Lumina Foundation.

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Student loans are an increasingly necessary tool to help students pay for postsecondary education. Americans have now collectively accumulated $1 trillion in student loan debt, the majority of which is comprised of federal loan debt (Johnson, Van Ostern, & White, 2012). Thirty-five percent of all undergraduate students and 55% of all graduate students receive some type of federal loan to help finance their college education (National Center for Education Statistics, 2013), and in 2013 alone the amount of money borrowed through federal loan programs was approximately $106 billion (New America Foundation, 2014). In reality, these numbers may be even larger due to additional debt students may accumulate from non-federal loans, such as private or institutional loans. As the costs of attending college are rising faster than grant-based financial aid, low- and middle-income students are faced with the decision to take out student loans to finance their degrees, attend college part time while working full time, delay college entry while saving money for college, or not attend at all.

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For those that choose to enroll in college and finance their education with loans, many have trouble repaying. Recent estimates suggest that over 7 million borrowers are currently in default on their student loans for not making a payment for more than 270 days (Chopra, 2013). Of all federal Stafford subsidized loans that will enter repayment in 2014, 21.4% are expected to go into default at some point over the next 20 years, along with 14.9% of all unsubsidized Stafford loans and 20.9% of all consolidated loans.[3] Defaulting on a loan negatively affects borrowers by damaging their credit, thereby impacting future investments such as purchasing a home. Moreover, compromised credit may also hinder future opportunities for employment. This problem is compounded by the fact that student loan debt is difficult to discharge in bankruptcy, potentially leading to garnished wages and seized income-tax refunds.

Human capital theory contends that investing in education builds skills valued in the labor market (Becker, 1962). Loans are designed to remove credit constraints from low- and middle-income students enabling them to invest in education now and pay for that investment in the future. According to neoclassical economic theory, students decide whether or not to enroll in college by analyzing the tradeoffs between the costs of obtaining skills in college and the future value of those skills in the labor market. If the discounted future value outweighs the cost, including the cost of loans, the student should enroll in college and borrow if necessary.

Students, however, rarely behave as rational economic actors. The field of behavioral economics attempts to understand deviations from the behavior predicted by traditional economic theory. Its insights demonstrate that peoples' preferences are affected by a multitude of factors traditional economic theory does not account for, such as default options, complexity of decisions, limited experience, marketing, and timing of decisions (Beshears et al., 2008). Accounting for the ways in which people actually make financial decisions about their college education is critical to designing an efficient and accessible student loan program.

This paper applies theories from behavioral economics to help policymakers better understand decisions individuals make regarding student loans. Specifically, the paper attempts to solve two problems with the current student borrowing and repayment system:

- **Loan aversion:** the fact that some students want to invest in higher education but are unwilling to finance that investment using student loans.
- **Making poor choices about loan repayment:** when entering repayment, some borrowers choose repayment plans that harm their long-term finances and do not take into account realistic income levels for a recent college graduate.

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We develop each of these problems below, apply lessons from behavioral economics to better understand how to combat them, and propose a number of policy recommendations in an effort to address them. Our purpose is not to offer a single, cohesive redesign of the student loan system. Rather, we offer six ideas, supported by economic theory, that range greatly in the degree to which they would alter the current system. The recommendations range from straightforward to radical and we discuss the advantages and disadvantages of each in the sections that follow. Our six policy recommendations are:

1. Simplify: Reduce the number of repayment options.
2. Provide repayment information in high school.
3. Move to a uniform passive repayment system.
4. Make an income-contingent repayment plan the default option.
5. Change the name and description of the income-contingent repayment plan.
6. Remove the principal balance of the loan.

In addition to the current system that offers multiple income-contingent repayment plans, scholars, including Dynarksi and Kreisman (2013) and Sheets and Crawford (in this series), have put forth additional proposals. Our recommendations do not argue in favor of one of these income-contingent repayment plans over the others, nor do we take a stand on the specific parameters that should define these options. Instead, we apply research from behavioral economics to advocate for a more accessible income-contingent loan repayment program that would apply to any type of federal student loan, including undergraduate and graduate student Stafford, Perkins, and PLUS loans.[4]

Before providing arguments for the specific recommendations in Section III, we discuss the two problems we are attempting to resolve in more detail in Section I. Section II outlines several of the main theories and findings taken from behavioral economics that we apply as justification for our policy recommendations. Although this paper does not provide an exhaustive list of the potential contributions from the field of behavioral economics, the components we outline directly apply to the problems students face when making borrowing and repayment decisions.

Section I

Problems with Student Borrowing and Loan Repayment

This paper provides policy solutions to address two overarching problems: 1) There are subsets of students who are loan averse and therefore under borrow or do not borrow at all in order to finance their postsecondary education, and; 2) Among students who do borrow, there are those who make poor decisions about repayment. We describe each of these problems and their implications below.

Loan Aversion

Even with the availability of federal financial aid, some students are averse to taking out loans and, as such, will choose not to borrow money to finance their college education. While loan aversion (sometimes called debt aversion) can apply to any form of financial debt, such as car loans and credit card debt, we focus on its application to student loan debt. Loan aversion is commonly defined as "an unwillingness to take a loan to pay for college, even when that loan would likely offer a positive long-term return" (Cunningham & Santiago, 2008, p. 10). Palameta and Voyer (2010) describe loan aversion as a situation in which students are willing to invest in higher education but not willing to take out loans to do so. There is widespread evidence of the existence of loan aversion among students in numerous contexts (Palameta & Voyer, 2010; Cunningham & Santiago, 2008; Burdman, 2005; Callendar & Jackson, 2005; Caetano, Palacios, & Patrinos, 2011). Student loans are meant to resolve credit and liquidity constraints among students who have decided to invest in higher education, but loan aversion precludes a subset of students from alleviating these constraints.

There is concern that loan aversion causes students to make suboptimal decisions about their time allocation, thereby reducing their investment in education to the detriment of their lifetime earnings and other future outcomes. Students who choose not to borrow but still enroll in college may take on more hours in a part-time job during college to defray costs instead of taking out loans to cover the same expenses. These extra hours of work may lead them to take fewer credits each term or enroll part-time, thereby delaying graduation. Alternatively, students may decide to delay their entry into college until they can afford to pay for it outright, or they may take breaks in their college enrollment in order to save money. Some students will choose to enroll in a less-expensive college, oftentimes with fewer support structures to help them persist to a degree.[5] Empirical evidence suggests that these decisions have varying degrees of negative effects on college completion (DesJardins, Ahlburg, & McCall, 2006; Stinebrickner & Stinebrickner, 2003; Ehrenberg & Sherman, 1987). Additionally, among students taking out loans to finance their education, debt burden may affect their field of study, encouraging some students to avoid public service careers for fear of not being able to pay back their loans (The State PIRGs' Higher Education Project, 2006). In some cases, the high cost of college and the unwillingness to borrow leads people to not enroll at all. Students make these types of trade-offs for a variety of reasons, including loan aversion.

A primary reason a student might be reluctant to borrow is because of concern that he or she will not earn enough money to pay back the loan with interest in the future. This reluctance is a simple manifestation of risk aversion. Both classical economic theory and behavioral economics generally agree that people tend to avoid risk. Risk-averse students may choose not to borrow because the returns to a college degree have a high variance, many students do not graduate, and some students may be unemployed or underemployed in the future. Regardless of the cause, low earnings could result in students facing financial hardship and struggling to make their monthly loan payments, or in the worst case, defaulting on the loan. This risk aversion is factored into an individual student's decision about how to finance higher education and may reasonably deter some students from taking out loans.

On top of risk aversion, some students are hesitant to borrow for college due to poor prior experiences in the credit market, a cultural aversion to debt, or a host of other reasons related to having preferences against borrowing. Behavioral economics distinguishes between two types of preferences: revealed preferences (the actions people take) and normative preferences (the true underlying preferences that might not be observed). Behavioral economists argue that revealed preferences can be shaped by environmental factors such as default options and complexity, and personal factors such as limited experience and hyperbolic discounting (Beshears et al., 2008). It is plausible debt averse students actually have the normative preference for completing college as quickly as possible and a normative willingness to borrow, but the behavioral factors deter them from taking their preferred action. In that situation, we observe their revealed preference to not borrow as loan aversion. Empirical evidence, discussed in more detail in the recommendations section, demonstrates the presence and influence of these behavioral effects on the decision to borrow (Caetano et al., 2011). Changing how loans are framed and labeled may be able to reduce loan aversion. Understanding how these behavioral factors play a role in the decision to borrow for college is critical to understanding debt aversion and potentially reducing loan aversion as a barrier to college entry and success.

Avoiding debt is not inherently problematic; however, when the avoidance of debt negatively impacts educational outcomes, we might ask whether students would have been better off had they taken out loans to finance college. We are not suggesting that people should be encouraged to borrow unnecessarily or to take out more loan dollars than they need to finance their education. Instead, we are attempting to address the problem of students who, because of loan aversion, may choose not to enroll in college despite the future economic benefits a college education may bring, or may finance college through credit card debt leading to future financial distress. Students making these types of sub-optimal decisions are the ones we believe could benefit from the policy recommendations outlined in this paper.

Making Poor Repayment Choices

A second problem we are interested in addressing is the concern that some borrowers are not selecting the optimal repayment plan for their financial situation. The high rates of student loan default suggest that some borrowers are choosing a standard repayment plan when they would benefit from an income-contingent repayment plan, which would allow them to make monthly payments in accordance with their income levels rather than their loan balances. According to Dynarski and Kreisman (2013), 88% of borrowers in 2013 were enrolled in a fixed repayment plan as opposed to an income-contingent plan. In an income-contingent repayment plan, student payments are capped as a percentage of their income, rather than as

a percentage of the amount they borrowed. The existing Income-Based Repayment Plan (IBR) caps repayment at 15% (after 2014, this will change to 10%) of discretionary income, or the difference between Adjusted Gross Income (AGI) and 150% of the poverty line.[6] For this reason, it is much harder to default under an IBR plan than a standard repayment plan. We therefore suggest policy changes that would encourage more borrowers to select an income-contingent repayment plan than those who currently do.

Section 2

Main Tenants of Behavioral Economics

Neoclassical economic theory makes assumptions about human behavior that some scholars believe to be untenable. At the root of this theory is the idea the world is made up of rational human beings who make decisions in order to maximize their utility or wealth subject to some constraint, such as their budget. In this model, people have the time and the information they need to weigh their options carefully and make choices in order to maximize their own benefit. However, empirical evidence of human behavior refutes this standard model. When faced with a decision that requires complex calculations and predictions about the future, many people rely on signals embedded in the choice, such as default options and framing.

When faced with a decision that requires complex calculations and predictions about the future, many people rely on signals embedded in the choice, such as default options and framing.

Below we highlight several of the fundamental principles derived from behavioral economics. While a limited number of studies have applied these foundational tenants directly to student loans, we apply the existing research from a host of other sectors to inform a deeper understanding of how these concepts might be applied to income-contingent loan repayment programs. We refer to this section when discussing implications for the federal student loan programs in subsequent sections of the paper.

Framing Effects

Behavioral economists have demonstrated that the way options are framed can have a direct effect on decision-making (Tversky & Kahneman, 1981; Banks et al., 1995; Johnson et al., 1993; Keller, Lipkus, & Rimer, 2003; Epley et al., 2006; Mullainathan, Schwartzstein, & Shleifer, 2008). The persuasive power of framing is surprising because the framing of a choice may contain no real information about the relative quality of options, or how these options fit consumer preferences. Mullainathan et al. (2008) describe clear examples of the persuasive power of framing in advertising using the example of the company Hertz. With the second largest market share of the car-rental industry, Hertz has made profitable use of framing by selling itself not as a leader, but as an "underdog."

Research demonstrates that the way something is framed can have implications for people's actions and responses. Epley et al. (2004) find that an increase in income (such as the 2001 tax rebate) framed as a gain from the current state is likely to be spent, whereas an increase framed as a return to a previous state is likely to be saved. Johnson et al. (1993) demonstrate that policies including rebates are preferred to those including deductibles, even if the deductible

option is, in expectation, more beneficial to consumers. Tversky and Kahneman (1981) find that choices involving gains are risk-averse while choices involving losses are risk-seeking. Banks et al. (1995) test the effects of gain-framed and loss-framed messages on women's likelihood of obtaining a mammogram, and find that women faced with loss-framed messages are more likely to take the initiative to get a test than those facing a gain-framed message. Kahneman & Tversky (1979) sum this up when presenting prospect theory: "A salient characteristic of attitudes to changes in welfare is that losses loom larger than gains" (p. 279).

Framing effects applied to loans

Several recent studies have advanced this literature by examining the framing and labeling effects associated with student loans. For example, loan studies have recently emerged out of Canadian surveys and lab experiments (Johnson & Montmarquette, 2011; Eckel et al., 2007). When Canadian high school students were asked to select which financial aid packages they would accept out of a long list of options combing loans and grants of different values, many students were willing to accept a certain amount of grant aid to attend college, but would later refuse that same amount of grant aid when an optional loan was added to the package, thereby demonstrating the importance of framing (Palameta & Voyer, 2010). Further evidence of this framing effect was found in a study of New York University law students who were randomly assigned two different types of financial contracts with completely equivalent financial outcomes, yet students were significantly more likely to respond positively to the contract framed as a subsidy as opposed to that framed as a loan (Field, 2009).

In research conducted by Caetano et al. (2011) students in Chile, Colombia, and Mexico were offered two hypothetical, financially equivalent contracts: an income-contingent student loan in which students repay $200 a month for five years or 10% of their income if their income is less than $2,000 a month, or a non-loan contract in which students repay 10% of their income each month for five years with a cap of $200 a month.[7] They found that students prefer the non-loan contract to the loan, providing further evidence of the framing effect. Importantly, the survey also asked students to decide between the same two contracts with and without labels calling them a loan or a human capital contract. This enables the authors to distinguish between the framing of the contract and the labeling of the contract. They find that the labeling component comprises most of the effect and that using the term "loan" results in an 8% decrease in student selection.

Hyperbolic Discounting

Exponential discounting

Basic principles of traditional economics reveal that people discount future events such that a benefit that occurs in the future is not as valuable as an equal benefit realized today. The underlying reason for this is impatience; we would rather consume today than wait until tomorrow. Classical economics formulates this impatience with exponential discounting. In terms of future earnings, money earned in the future is multiplied by a discounting term that grows exponentially smaller as the time from the present to the realized earnings increases. Discounting makes amounts earned in the distant future small relative to the same earnings today.[8]

One important aspect of exponential discounting is that people discount the future in a time consistent way. Imagine a person choosing between option A, which occurs in one year, and option B, which occurs in one year plus one month. If the person believes the present value of option A is $100 and the present value of option B is $110, then the person will always prefer option B at every current and future point in time. It does not matter how long the delay is; the discount factor is constant over each unit of time (i.e. day, year, etc.).

Hyperbolic discounting

People do not behave as exponential discounting predicts. When asked if they prefer $100 in one month or $110 in one month plus one day, people tend to choose the $110 in 31 days. However, when asked to have $100 today or $110 tomorrow, people are apt to take the lesser amount today even though the time difference between payoffs is identical (one day). This behavior is a violation of time consistency imposed by exponential discounting.

In response to these (and other) findings, behavioral economists have proposed a different form of discounting that relies on a hyperbolic function instead of an exponential function (Loewenstein & Prelec, 1992). A hyperbolic function produces discount behavior that is inconsistent over time. Hyperbolic discounting reduces the value of a future payoff more when the delay is immediate, and it discounts the future value less when the delay is far away. In other words, hyperbolic discounters have higher discount rates when the time horizon is short and lower discount rates when the time horizon in long (Laibson, 1997). People that exhibit hyperbolic discounting are referred to as myopic, or having a present-bias, because they value benefits in the short term more than exponential discounting would predict. There is substantial evidence of the existence of these time inconsistent preferences in college students and in people making decisions related to educational investments (Thaler, 1981; Loewenstein & Thaler, 1989).

People are generally aware of their present bias and attempt to control present impulses through commitment devices. For example, people save money in illiquid investments to force themselves to save for retirement (Laibson, 1997), limit the purchase of unhealthy food to help diet (Scharff, 2009), and prepay year long gym memberships to encourage exercise (Della Vigna & Malmendier, 2006). In the realm of education, commitment devices have been shown to reduce procrastination and increase performance (Ariely & Wertenbroch, 2002).

Mental Accounting

Mental accounting is the process by which people code, categorize, and make decisions about economic outcomes, even though the categories in their choice set are not necessarily rational (and are often arbitrary). Mental accounting is a set of cognitive operations used to organize and evaluate where an individual's money is going (Thaler, 1990). Just as in a household budgeting process, individuals identify arbitrary accounts from which money flows in or out, and they make decisions about how and when to spend that money based on mental arithmetic regarding these accounts. Expenditures are grouped into categories, and all new potential expenditures are then considered within their designated category. The penchant to group purchases by category tends to violate the economic principle of fungibility, or the idea that money is fluid and need not tie back to only one category (Thaler, 1985).

In the behavioral life cycle hypothesis, Shefrin and Thaler (1988) find that people mentally account for their assets as current income, current wealth, or future income, but that their marginal propensity to consume from each of these three areas is different. We know people are impatient, and in the short run, people behave as if their discount rate exceeds the interest rate. The marginal propensity to spend a dollar of wealth from their current income account is nearly one; whereas the propensity to spend a dollar of future income wealth is close to zero (Thaler, 1990). Mental accounting applies to student debt, as loans allow students to postpone the costs of higher education in the future, and essentially, spend money from their future income account now. However, drawing money from future income accounts is perceived as more difficult than drawing money from current asset or wealth accounts (Thaler, 1999). Moreover, research suggests that debt aversion due to mental accounting may be greater for students from economically disadvantaged backgrounds (Teixeira et al., 2008).

Default Options

One way to encourage participation rates in certain types of loan programs is to change the default option for borrowers. People do not have unlimited information-processing capabilities, and, therefore, they adopt more simplified ways to solve problems (a concept known as bounded rationality) (Simon, 1955). Default options have been shown to encourage participation in a variety of settings: organ donation decisions (Johnson & Goldstein, 2003; Abadie & Gay, 2004), car insurance plan choices (Johnson et al. 1993), consent to receive e-mail marketing (Johnson, Bellman, & Lohse 2003), and retirements savings outcomes such as savings plan participation and asset allocation (Beshears et al., 2009). Madrian and Shea (2001) and Choi et al. (2004) find that automatic enrollment in employee savings plans have the largest impact on participation for those workers who have the least amount of financial sophistication (Thaler & Mullainathan, 2008). Samuelson and Zeckhauser (1988) find that an alternative option becomes significantly more popular when it is designated as the status quo, and the advantage of the status quo increases with the number of alternatives.

Default options can also be seen by individuals as an endorsement of a particular choice. The lack of financial sophistication on the part of many individuals may lead them to look for a signal, such as that provided by the default, when making their financial decisions (Beshears et al., 2009). The tendency to select a default option increases if the decision maker has had to make many choices in the near past (Levav et al., 2010).

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Architecture of Choice

Product markets in the United States, ranging from basic household goods to complex retirement savings plans or healthcare options, are clearly organized around the assumption that more choice is always better. Iyengar and Lepper (2000) question this assumption in research demonstrating that too many choices can be demotivating. Further, the value of choice may be culturally determined (Iyengar and Lepper, 1999). Bottie and Iyengar (2006) argue that when consumers are faced with too many choices, they experience cognitive overload which results in suboptimal decision making. They suggest that choosers experience more negative feelings as the result of a bad choice than if the same effect was experienced from some externally-imposed condition, and that people's choices are often influenced by contextual factors, not purely by preferences.

Not only can the offer of too many choices result in cognitive overload that prevents consumers from making any decisions at all, in contexts where consumers are faced with a large number of options, they often make suboptimal decisions. Iyengar, Jiang and Huberman (2004) demonstrate that people make choices about retirement savings, such as whether or not to enroll in their employer's 401(K) plan, which are not consistent with maximizing their long-run financial returns. In addition, Cronquist and Thaler (2004) show that when workers in Sweden were encouraged to choose how their social security money was invested among a host of possible options, they did not choose the most optimal portfolios. Scott-Clayton (2011) demonstrates that the presence of too many course choices and alternate pathways through community college leads many students to make less than optimal decisions about whether and how to progress toward a degree.

Because the student loan landscape is fraught with choices, students have to make decisions about the types of loans to borrow and, subsequently, how to repay those loans. Among potential repayment choices are three income-contingent repayment options with different terms that would result in different monthly payments. Loan repayment decisions require knowledge about current debt levels, the types of loans one has acquired, how loan type determines repayment options, predictions about future income streams, and an understanding of how much of one's monthly income can realistically be put towards student loan repayment. Weighing all these factors in order to make a decision about loan repayment has the potential to result in cognitive overload. Moreover, characteristics of the repayment plans may seem similar on the surface, but may actually be quite different. For example, the definition of discretionary income is defined differently by the type of income-contingent repayment plan, commonly leading to confusion among borrowers as to what is counted in the calculation of income.

Complexity

Both the architecture of choice and the intractability of the process contribute to the complexity of the financial aid system. Dynarski and Scott-Clayton (2008) argue that the complexity of the financial aid application process creates a barrier for many students who would benefit from attending college. They demonstrate that an accurate assessment of student finances can be produced with far fewer questions than are present on the current Free Application for Federal Student Aid (FAFSA), which has led in the past few years to a simplification of the FAFSA. The results of an experiment conducted by Bettinger et al. (2012) also suggest the complexity of the application process may be a barrier to students applying for financial aid. After randomly assigning people visiting H&R Block into three groups: a group receiving information about how to apply for financial aid, a group receiving personal assistance filling out the FAFSA, and a control group, the authors found that only the group receiving personal assistance experienced a statistically significant increase in college enrollment. These results suggest that the financial aid application process may be too complex for some people to manage alone. While we know of no empirical research on the complexity of the loan repayment process, we posit that the complex avenues through which students must verify their income each year under IBR, in addition to the multitude of terms and definitions required to understand the repayment process lend themselves to a similar problem when it comes to making decisions about repayment.

Section 3

Policy Recommendations

We now apply the above tenants of behavioral economics to the development of several policy solutions designed to improve the federal student aid system for borrowers. Specifically, we aim to solve the two aforementioned problems of loan aversion and making poor repayment choices.

1. Simplify: Reduce the Number of Repayment Options to One Form of Income-Contingent Repayment and One Form of Standard Repayment

We recommend limiting the number of student loan repayment options. Students should be offered the choice between one repayment option with level payments (such as the standard, 10-year repayment plan) and one income-contingent repayment option, with both of these

options available for all federal student loans (excluding Parent PLUS loans). Additionally, the terms of the repayment options must be simplified. Current repayment options require consumers to make complex mental calculations to understand their eligibility, as well as to make predictions about their future income streams based on unknown future labor market conditions. The terms of repayment (interest rate, repayment period, etc.) should be readily understood and not require complex predictions on the part of borrowers.

Limiting the number of repayment options available to borrowers and simplifying the terms of those options should increase take-up of income-contingent repayment. Studies have shown that even when presented with simple choices, consumers faced with too many options prefer not to choose at all rather than risk making a poor choice (Iyengar & Lepper, 2000). Limiting the choice set should reduce the cognitive overload borrowers may currently experience when considering a multitude of repayment options. If borrowers are only faced with two options, they will more easily be able to weigh the pros and cons of each.

Of 15 million borrowers, currently 66% are in a level payment plan spanning ten years or less, while only 11% are in some form of income-contingent repayment plan (College Board, 2013). If the number of repayment options is reduced to only two options, some portion of the other 23% of borrowers would be expected to choose the income-contingent repayment option. In addition, when there are only two repayment options and the cognitive overload that results from a large number of choices is reduced, we would also expect some portion of the 66% of borrowers who are currently enrolled in the 10-year standard repayment plan to also reconsider and shift to income-contingent repayment.

Challenges to reducing the number of repayment options

While we are not necessarily advocating for one of the existing income-contingent repayment plans, we do caution policy makers to carefully consider the loan interest rates, repayment periods, and the overall terms of loan forgiveness that would apply to the income-contingent repayment option they select.[9] For example, if the terms of the income-contingent option include a subsidy for borrowers whose monthly payments do not cover the cost of the interest and/or forgiveness of the balance at the end of the repayment period, there may be costs to the government of enrolling additional borrowers in an income-contingent repayment plan. A plan such as that put forth by Dynarski and Kreisman (2013), which does not include subsidized interest, may be necessary if changes are made in order to increase income-contingent repayment take-up in order for both borrowers and taxpayers to benefit from these changes. While some consumers and policy makers may value having a large number of choices available to them for repayment, the research from behavioral economics supports the benefit of limiting the number of repayment plans offered to borrowers. The biggest concern is the cost of allowing more students to enter an income-contingent plan, which is discussed further in the default option recommendation below.

2. Provide Repayment Information in High School

Students face a decision to invest in further human capital when they near the end of high school. Enrolling in college depends on whether students can afford the immediate direct costs of higher education. Students who are liquidity constrained because they cannot directly finance higher education and/or credit constrained because they cannot borrow on the open lending market must make the decision to borrow student loans in order to enter postsecondary education. Thus, the information they have on hand at the time of making a decision to borrow and invest in higher education is critical. If students are unaware of the

different loan repayment options at the time they make the decision to borrow, they have incomplete information that may discourage them from taking out loans, leading them to make suboptimal human capital investment decisions.

Students are risk averse in regards to loans because their ability to repay the loan balance is dependent on their unknown future income. If their future income is low, they will face financial hardship in an effort to repay the loan under a standard repayment plan, possibly resulting in default and the subsequent problems associated with poor credit. Income-contingent repayment schemes provide insurance against this risk. If their incomes are low, under an income based repayment, their loan payment is lowered such as to avoid financial hardship and default.

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One problem with the current system is that students must make the decision to borrow with very little information on possible repayment options. If students are unaware of the opportunity to select a form of income-contingent repayment (an empirical question that we believe requires future study), they will be less likely to take the risk of borrowing. Promoting awareness that the insurance against poor financial outcomes exists at the time of the decision to borrow may encourage more students to borrow in order to finance higher education.

Currently, entrance counseling covers the different repayment options available on federal student loans. Entrance counseling is required for all direct student loan borrowers (but not for Direct Plus loans taken out by parents of students); however, entrance counseling usually occurs after students have already decided to attend college and matriculated. Unfortunately, the information is too late at this point to affect college enrollment and borrowing decisions.

We recommend students learn about their loan repayment options as a requirement of filing for federal financial aid. It may require legislative action to amend the Higher Education Act to require it as a necessary step for FAFSA completion, but in the absence of such a change, it could easily be integrated by the Department of Education (DOE) as recommended reading during the FAFSA process. Ideally, it would be better to provide this information even earlier as students might not apply for financial aid if they are unaware of the possibility of affording college by using income-contingent loans. To the extent this information can be incorporated into earlier efforts to inform students about college affordability, it is likely to improve borrowing knowledge among both students and parents and could potentially reduce loan aversion caused by risk aversion.

Challenges to providing repayment information earlier

It is possible the provision of information about income-based repayment encourages students to unnecessarily over borrow. If students anticipated an extended period of low future earnings, they might borrow considerably more money than they expect to be able to repay. Although in some cases, students do over borrow, the incentive to do so does not appear to be widespread under the current income-contingent repayment plans for two reasons. It is possible students may still perceive a large debt burden in a negative light even if

they know most of it will be forgiven after 25 years of low payments under the current system. Second, across all federal loan programs, there is a cap on borrowing up to the total cost of attendance, so students are not able to borrow unlimited sums, although some may extend their education to increase their borrowing capacity.

3. Move to a Uniform Passive Repayment System

Currently, the majority of borrowers make their loan repayments through a check or online payment to their service provider. The existing system can be complex both in small ways, such as requiring borrowers to remember their payments each month, often times to multiple service providers, and in larger ways, such as requiring borrowers to prove there has been a change in their income. When one's earnings change, borrowers enrolled in income-contingent repayment plans must provide documents proving that his or her income has been reduced in order for payments to be adjusted. This creates a great deal of administrative complexity and increases the likelihood of misreporting or inaccurate reporting of annual income and family size, whether intentionally or not.

Passive loan repayment options are those options where borrowers do not have to actively initiate payments each month. The most frequently discussed options include paycheck withholding through automatic payroll deductions, or automatic withdrawals from a bank account (auto-debit). In an effort to reduce loan default rates by lessening the burden on borrowers to remember and initiate their payments each month, we recommend adopting a passive repayment model for collecting loan payments. Already we have voluntary passive repayment system in which borrowers can elect to have their student loan payments automatically deducted from their bank account, often in exchange for a 0.25% interest rate reduction. With this option in place among most loan service providers, we choose to focus our recommendation here on the adoption of an automatic payroll deduction as the sole mechanism for collecting loan payments.

Automatic payroll deductions are intended to address two problems. The first is related to mental accounting. As discussed earlier, mental accounting is a set of cognitive operations used to evaluate and keep track of where an individual's money is going (Thaler, 1990) with people making decisions about how and when to spend their money based on mental arithmetic calculated in their head. We know from the mental accounting literature that people have separate mental accounts for their monthly expenses, such as an "education" account that would include outstanding student loan debt. If payments toward their student loan balance are withdrawn from their paychecks, payments to one's "education" account are now occurring in the same account as the "benefits" (or income) account, leading the borrower to no longer see loan payments as reductions in household income. Increased payments are then directly linked to increases in gains in income, thereby taking advantage of the gain/loss asymmetry observed in people's behavior. Furthermore, because mental accounting is often disjointed and inaccurate, people tend to underestimate the allocation of their resources to certain categories. Automatic payroll deductions would ostensibly reduce issues related to mental accounting by eliminating this category of expenses from the mental guesswork of the borrower.

Secondly, if individuals were allowed to set automatic payroll deductions or debit card withdrawals at rates higher than their minimum monthly payments, this would also address

issues of hyperbolic discounting. Depending on the size of the loan payment and the other financial obligations one might have at that point in time, a person's more myopic self might decide to neglect their loan payment in favor of something more immediate. In this sense, an automatic payroll deduction could be thought of as a form of a pre-commitment device designed to keep borrowers on track for future goals when other, more short-term pressures present themselves.

To some degree, an automatic payroll deduction would also address issues of complexity built into the current repayment system (although, as discussed below, it may introduce new challenges as well). The current manner of making monthly payments places the burden on the borrower to formally declare any changes in employment status or income to their loan servicer. With an automatic payroll deduction, however, borrowers' income is automatically linked with data from the U.S. Department of Treasury so borrowers need not separately verify their income. Accordingly, if a borrower experiences a reduction in income, the withdrawal system will make the change with no need for the borrower to report the hardship. If a borrower's income were to fall below a certain threshold, the borrower would repay none of the debt during that period, thereby accounting for income loss during spells of unemployment.

Currently, passive repayment systems in which the employer initiates the borrower's loan repayments through paycheck withholding are in place in several other countries, including Australia and the UK.[10] While both of these countries have far fewer postsecondary institutions and student loan borrowers than the U.S., their ability to adopt systems in which loan payments are initiated by employers as opposed to borrowers serves as a useful financial aid model for the United States.

Challenges to moving to a passive repayment system

A passive repayment plan integrated with automated payroll deductions requires collaboration between the U.S. Department of Treasury and the Department of Education, two groups that do not historically collaborate in this way. The DOE would manage and collect the withdrawals, but would lean on the Treasury for matching tax records and earnings statements to individuals with student loan debt. Similar shared agreements currently exist that allow for the Federal Student Aid (FSA) office of the DOE to pre-populate FAFSA forms for students using prior tax information from the Treasury. We recommend expanding these agreements between the Treasury and the DOE to allow employers, through the tax system, to initiate automatic loan payments to the DOE each month. The DOE already has the power to seize wages, tax refunds, and Social Security payments as a way to collect on student loans. This new process is similar but on a larger scale. Further, the Treasury already plays a small part in the student loan system by garnishing the wages and tax refunds of delinquent borrowers.

Collaboration between federal offices would require negotiations and logistical decisions to be worked out at all stages of the repayment process. While anticipating these details is beyond the scope of this paper, we are aware of the challenges this recommendation presents under the current system. Questions such as how often a borrower's loan balance would be updated, and the frequency with which the Treasury could gather tax information would be critical to the successful implementation of this recommendation. If borrowers would be asked to complete additional, often complicated IRS forms every year, this would clearly create additional problems beyond those this program aims to solve.

An important concern related to passive repayment systems is that borrowers may not be able to pay more than their designated withholding. Currently employees may adjust their tax

withholding by filing a new W4 form with their employer. Passive repayment plans would also allow a borrower to pay more than the minimum payment each month, similar to how people currently withhold more or less money from their paychecks based on the number of exemptions they choose. While this process is not without administrative burden (borrowers would have to complete a new W4 form and process this paperwork through their employer), we know it is an option available under the current tax system.

A second concern is that some people do not file the IRS 1040 form or are not employed in jobs that deliver W-2s. Passive repayment through paycheck withholding might not be optimal for individuals who are employed part time or in seasonal jobs, work for extended periods outside of the U.S., or are self-employed or low-income, and thus do not have enough money to cover other costs as they arise. It also would not apply to investment income that is not taxed through a payroll deduction, but is only reported to the IRS at the end of the year. In this case, the lowest-paid borrowers might be the least likely to benefit from an automatic withdrawal. Additionally, it is feasible some middle- and high-income earners could be disadvantaged by a passive repayment system due to administrative and financial burdens they do not face under the current system. This may be particularly relevant for those with a certain amount of capital gains and dividends each year, or a job which results in 1099 income.

4. Make Income-Contingent Repayment the Default Option

Currently, there is a lot of complexity in both loan types and repayment options (Standard 10-year Repayment, Graduated 10-year Repayment, Extended Repayment, Income-Contingent Repayment, Pay As You Earn, and Income-Based Repayment). Presently, the standard repayment plan functions as the default option for the repayment of student loans, meaning all borrowers enroll in this plan unless they choose an alternative plan before their repayment options begin. We propose making an income-contingent repayment plan the default option. In conjunction, we propose eliminating the "partial financial hardship" restriction currently required to enroll in the IBR and Pay As You Earn program. In order to establish a default option for which all borrowers are eligible, removing the partial financial hardship cap is necessary as it currently limits enrollment into existing income-contingent repayment plans. Removing the partial financial hardship cap implies that some borrowers may pay more under an income-contingent plan than they otherwise would pay under the standard repayment plan. However, with two options available to them, these borrowers can select the standard repayment plan if they desire to lower their monthly payments. Therefore, all borrowers will be encouraged and able to enroll in this new income-contingent repayment plan. We still believe there should be more than one option available to students, as the same payment plan may not be optimal for all borrowers.

Making an income-contingent repayment plan the default option will encourage more people to take up this type of plan, thereby reducing loan default rates, particularly for people who may be the most likely to default due to high debt-to-income ratios under the standard repayment plan. We know from the behavioral economics literature that default options have been shown to encourage participation in organ donation decisions, car insurance plan choices, and retirement savings outcomes. In fact, some research suggests default options are the most successful in helping people with the least financial sophistication to select a more optimal plan (Thaler & Mullainathan, 2008).

We also know from the literature on choice that consumers experience less regret when their decisions are externally-imposed as opposed to internally (Botti & Iyengar, 2006). By making income-contingent repayment the default option, borrowers should be less likely to experience the regret that comes after facing a large menu of options and making a potentially suboptimal decision. Default options also make the complex process of selecting a repayment option much simpler.

Currently, students must select placement into an income-contingent repayment plan, which leads many to forgo this option when it would be otherwise advantageous. Additionally, they are required to qualify by proving they have partial financial hardship. We recommend eliminating this restriction, which will ultimately save money at both the individual and federal level. Borrowers would only have to pay what they can afford each month, and the government will save money on the administrative costs they would otherwise bear as a result of default.

In an effort to estimate the potential take-up of an income-contingent repayment plan were it to become the default option, we look to other fields for research evidence. Two papers analyzing the effects of making enrollment in 401(K) retirement savings plans the default at three large U.S. corporations find that, depending on the time horizon considered, the eligibility rules for the plans and whether the employees were new hires or not, making enrollment the default increases participation anywhere from 27 to 60 percentage points (Choi et al., 2004; Madrian & Shea, 2001). However, we do not believe the student loan example is a clear parallel in this case. When faced with retirement savings choices, the employees at companies could opt not to choose at all, whereas, when considering student loan repayment, ultimately the borrower has to make some type of repayment choice. Ex ante it is not clear whether this requirement to make some decision would increase or decrease the effect of making income-contingent repayment the default repayment option.

Eleven percent of current borrowers have opted to participate in an income-contingent repayment option (College Board, 2013). If we consider the lower bound of 27 percentage points from the 401(K) example above, participation in income-contingent repayment could increase to 38%. Given that the current income-contingent repayment options include interest forgiveness for borrowers whose monthly payments do not cover the cost of the accruing interest and forgiveness for balances that still exist after the 25-year repayment period (the repayment period under the existing IBR plan), some policy makers may be concerned that making income-contingent repayment the default may be excessively costly to taxpayers. However, a back-of-the-envelope calculation using average income streams for bachelor's degree holders and with monthly payments capped at 10% (the cap suggested by Dynarski & Kreisman, 2013) suggests that, on average, borrowers enrolled in income-contingent repayment will easily repay loans within the 25-year period without needing to take advantage of forgiveness policies.

Challenges to making an income-contingent repayment plan the default option

A key consideration for making an income-contingent repayment plan the default option is to consider the technology and reporting structures necessary to help the DOE to know borrowers' income in real time without input from the borrower. Under the standard repayment plan, the DOE can easily calculate loan payments over a 10-year amortization using the static amount of money a person has borrowed over time. However, under an income-contingent plan, the DOE requires information that changes over time in order to determine monthly loan payments. As required under the passive repayment recommendation

above, developing a system in which the DOE would have real time income information would be essential in making income-contingent repayment the default option. It is critical that a default option not place an additional administrative burden on borrowers, which, as discussed above, will require a collaboration between DOE and the Treasury.

A minority of students would be better off under the traditional repayment model, and by making an income-contingent repayment plan the default option, these students might select into this option rather than considering the alternative. However, because students still have the option to select the standard repayment option, this concern is less problematic. There will also be an increased administrative burden should the partial financial hardship restriction not be eliminated. By eliminating the debt-to-income ratio to enroll it will raise questions such as how to treat accrued interest, when to capitalize interest, and how much, and how exactly borrowers exit and reenter an income-contingent repayment plan. Further, there are potential issues of adverse selection in that more low-income students will take up the income-contingent repayment plan and the government will have to forgive more debt after 20 years (the new suggested repayment period under IBR). However, this concern over adverse selection is not new.

> ***Just as investors may be attracted to a fund that promised value and growth, it stands to reason that a student faced with repaying their loans may be attracted to an option that promises values such as protection and simplicity.***

5. Change the Name and Description of the Income-Contingent Repayment Plan

We suggest renaming the current IBR option so that it reflects the advantages of choosing income-contingent repayment. In addition, we recommend changing the language used to describe the income-contingent repayment option on the DOE's main financial aid website, in the text of the student loan exit interview, and in any literature describing student loan repayment options distributed to students.

Dynarski and Kreisman (2013) observe that some students may avoid enrolling in one of the current income-contingent repayment options because the information describing them highlights the possible disadvantage that students enrolling in a repayment plan with a longer term may end up paying more for their loans in the end. Studies in behavioral economics examining preferences for medical treatment options find that patients prefer gain-framed treatments over loss-framed treatments (McNeil et al., 1982). Though these studies are about medical treatments and tests, it is possible to draw parallels to borrowers considering student loan repayment options. The language describing the income-contingent repayment option should frame enrolling in this plan as a gain relative to the standard repayment plan given that borrowers will have more money in their pockets each month.

Multiple studies have demonstrated savvy advertisers use framing effects to attract customers to their products. Mullainathan and Schleifer (2005) and Mullainathan et al., (2008) describe how advertisers of investment products such as mutual funds use language and pictures to tap into consumers' current values. Cooper, Gulen and Rau (2006) provide evidence that

framing used by advertisers to appeal to consumers facing different financial markets has an effect on participation. The authors find that changing the name of a mutual fund to reflect current investment styles, for example to reflect "value" or "growth," increases consumers' allocation of assets to the fund. Just as investors may be attracted to a fund that promised value and growth, it stands to reason that a student faced with repaying their loans may be attracted to an option that promises values such as protection and simplicity.

Change the Name

Despite the clear advantages of income-contingent repayment options, students fail to enroll in these repayment options for a variety of reasons. First, "Income-Contingent Repayment" and "Income-Based Repayment" may be a confusing and unpersuasive name for an income-contingent loan repayment plan. The unnecessarily technical name may prevent students from understanding how this repayment option works. Second, even if all income-contingent repayment plans were to be called "Pay As You Earn," neither the name nor the language used to describe income-contingent repayment plans alludes to the gains for borrowers in selecting income-contingent repayment, i.e. protecting their credit histories by preventing default. Income-contingent loan repayment options should allude to the benefits of these options and, if possible, make it immediately clear how the repayment plan works. We recommend the DOE adopt a name such as, "Pay as You Earn and Protect Your Credit", "Default Insurance", or "Default Protection Repayment." "Pay as You Earn and Protect Your Credit" has the disadvantage of being very long. On the other hand, it both simply states how the plan works (pay as you earn) and clearly states an advantage of selecting an income-contingent repayment option (protect your credit). "Default Insurance" has the advantage of simplicity and it alludes to an advantage of selecting one of these repayment options. However, referring to income-contingent repayment as "insurance" may have disadvantages if it draws a borrower's attention to the fact that, as with insurance, because of the longer repayment period, they could end up paying more for their loans in the long-run. In other words, borrowers are paying a premium for the protection from default. "Default Protection Repayment" has the additional advantage of invoking the concept of protection, which many borrowers may value.

We also suggest the standard repayment plan be renamed the 10-Year Repayment Plan. This name is more descriptive than the "standard repayment plan," and thus will give borrowers more information when comparing the 10-year, standard repayment plan with income-contingent repayment. Furthermore, referring to the 10-year plan as the "standard" repayment plan may draw in some naïve borrowers by making it sound like the typical choice.

Change the description

Many students learn about loan repayment from three sources: the student loan entrance interview, the exit interview, which is required before entering repayment for students holding federal student loans, and the DOE's student financial aid website, the purpose of which is to inform students about repaying their loans.[11] In the current system, students entering repayment must complete some form of exit counseling. A common way students fulfill this requirement is through an exit interview which they complete by logging in to StudentLoans.gov and clicking through a series of screens designed to teach them loan terminology, what types of loans they hold, how much they owe, how the debt translates to monthly payments, and how to avoid default and repayment options. In addition to literature and websites describing student loan repayment options, our recommendations for changing the language primarily concerns the following steps of the student loan exit interview: "Step 2: Plan to Repay," "Step 3: Avoid Default" and "Step 5: Repayment Information."

The language describing income-contingent repayment in the exit interview and on the DOE's main website should be updated. The language around income-contingent repayment should emphasize values, such as protection, that may appeal to borrowers faced with repayment. The good credit history that would result from making manageable monthly payments should also be described as a gain relative to the credit destruction that would result from defaulting with the standard monthly payment option. Furthermore, it should be pointed out that borrowers can always avoid the additional payment that comes with the extended repayment period by simply paying off their balance early.

> *The language around income-contingent repayment should emphasize values, such as protection, that may appeal to borrowers faced with repayment.*

Changing the language describing income-contingent repayment in the student loan exit interview may be a low-cost way to make income-contingent repayment options more compelling for students who qualify. Second, this recommendation could be enacted, while still maintaining the large number of choices currently offered for repaying one's student loans. Though another recommendation put forth in this paper is to reduce the number of repayment options, and introduce income-contingent repayment as a default option, some policy makers may value offering consumers a large number of choices. For these choice proponents, influencing borrowers' decisions by changing the framing of income-contingent repayment options may be more attractive than reducing the number of repayment options. This recommendation also remains agnostic about whether only some or all borrowers should qualify for income-contingent repayment. Finally, enacting this recommendation does not require re-thinking the mechanics of current income-contingent repayment options. Once stakeholders have come to agreements over the language, the name change will require changes in legislation and regulation to implement.

Challenges to changing the name and language

Changing the name would require altering all financial aid literature and websites describing student loans and student loan repayment plans. Coming to agreements about precise language is likely to be a time-consuming process involving negotiations and compromises among many different interest groups. We further acknowledge this nudge may be too minor to alter the choices made by borrowers. The persuasive power of framing may get lost in the length and complexity of the exit interview and other literature describing repayment options.

6. Remove the Principal Balance of the Loan

The fundamental component of the current loan system is that a loan has a principal balance. This principal is initially fixed at the amount borrowed and can be increased by borrowing additional funds or through the capitalization of unpaid loan interest. Borrowers make payments until the loan principal is paid off or the lender forgives the remaining principal.

The recommendation proposes eliminating the principal of the loan in an effort to combat loan aversion. Removing the principal could be accomplished in a few ways. One option is to follow the path that Oregon is pursuing in which attending a public university in the state would be free. In exchange, students would pay back 0.75% of their annual income per year

of education they undertake for the next 20-25 years (White, 2013; Nelson, 2013). The program, called Pay It Forward, is currently under study and may be piloted in 2015. A similar program could be implemented at the federal level.

A second, private option for financing higher education in the absence of a loan principal is through Income Share Agreements (ISAs)[12]. These agreements are equity contracts between two parties; one person promises to pay a portion of future income to another party in exchange for money today that can be used for education. These contracts can finance higher education by providing financial resources to a credit constrained student to pay the direct costs of college. In return, the student pays an agreed upon percent of income for a set period of time to the investor. The investor may be an individual or a company, distinguishing it from the Oregon program in which the student makes payment to the state. Several companies have already engaged in these contracts: Upstart, Pave, Career Concept, and Lumni all offer the opportunity for private investors to finance education or an entrepreneurial startup venture in return for future earnings (Palacios, 2004; Economist, 2013; Price, 2012; Bornstein, 2011).

Both of these options share some similarities with income-contingent loans, but they also have distinct advantages. Like income-contingent loans, these plans provide insurance against poor economic outcomes by making repayment dependent on future income (Nerlove, 1972). This advantage reduces some portion of loan aversion caused by risk aversion. A student with excellent labor market returns will pay more than the value of the initial investment, while a student with poor returns will pay less. The critical difference between these plans and income-contingent loans is that these options remove both the loan principal to repay and the interest rate of a loan. Simultaneously removing the principal and relying on income-based payment solves both the risk aversion problem and the framing and labeling effects problems of loan aversion.

Insights about framing from behavioral economics illuminate the potential benefits of removing the principal through these options. We know that framing effects likely deter students from borrowing to finance college when it is in their best interest to do so. Income-based repayment schemes for traditional loans do not solve this form of loan aversion because students have disutility from taking out loans; however, removing the principal can solve these problems. Empirical evidence from Caetano et al. (2011) suggests that framing a financial contract as an income sharing agreement increases take-up over an income based loan framing. Furthermore, they find that using the word "loan" to describe the agreement reduces the chance that students will borrow to reduce their credit constraints. The principal balance burdens students such that they want to avoid borrowing to finance higher education and may even cause students to avoid advantageous financial aid packages consisting of grant aid (Palameta & Voyer, 2010).

Removing the principal reframes how students think about debt. Students will no longer view the total balance due as a stock of debt, but rather will view their payments as a flow of payments over time to either the state or the initial investor. This aligns with how most people view their expenses. For example, people consider their monthly cell phone cost, as opposed to the total amount they owe Verizon or AT&T over the length of their contract, and certainly not over the rest of their lives in which they will have a phone.[13] The same is true for the way people view electricity bills, income taxes, and a host of other expenses.

There are further advantages of each of the two options to remove loan principals. The first, running a financing system through the government, would facilitate a passive payment scheme similar to those already outlined in our previous recommendation. Using the federal government's

existing system of income verification and withholding would make monitoring and collecting income based payments more efficient (Friedman, 1955). For example, students could rely on the income verification of the Department of the Treasury to determine the appropriate monthly payment which could automatically be withheld from their paycheck and delivered to the appropriate agency, such as the DOE. Additionally, if this system were run out of the federal level, it could be structured to be self-financing, thereby enabling some of the subsidies from the current federal student loan system to be transferred to need-based grant aid.[14] One of the advantages of privately financed income sharing agreements is that it would result in competition to finance students. The private market would determine the best student characteristics and institutions that lead students to high future earnings and provide those student-institution combinations with the most favorable payment terms. Overtime, this process would focus attention on institutions' success rates thereby improving student learning. Palacios (2004) discusses implementing this system in a private market in much more detail.

We acknowledge this final recommendation is more radical and that its implementation would obviate a few of our prior recommendations. For example, it simultaneously reduces the number of repayment options and creates the one default "repayment" option. However, we believe it also enhances the value of several of our other recommendations such as relying on a passive repayment scheme and providing early information about college affordability.

Challenges to removing the principal balance of the loan

Implementing this proposal in practice requires larger changes to the financial aid system as compared to our other proposals. A federal governmental financing system would require significant legislation to rewrite the Higher Education Act, authorizing such a program and specifying its details. To take advantage of passive payment as a feature, it would necessitate authorizing the DOE to work with the Treasury to administer the program to track income and collect payments. A private system also entails legal obstacles as enforcing these contracts can prove challenging, thereby deterring private enterprises from investing. There is also a persistent problem of not allowing minors to enter into contracts. It would be foolish to restrict college entry and financing to those under 18; minors would need to finance their first year of college through other means.

The other major challenge to implementing these systems is that they may be perceived as a form of indentured servitude. We do not share this view primarily because the choice of career, and even whether or not to work, is still made by the student. While their payments are a function of their income, they are in no way restricted to work as much or as little as they please in whatever job suits them. Still, to the extent the public is averse to this system, it may prove politically challenging to implement.

Section 4

Conclusion

Substantial empirical evidence suggests people are not rationale economic actors when making financial decisions. By applying lessons from behavioral economics to student loans, we gain an improved understanding of how students actually perceive their borrowing and repayment decisions. We propose six policy recommendations in an effort to combat two problems observed with current student behavior: loan aversion and making poor repayment decisions. The recommendations range from what we believe are straightforward changes that most constituency groups can support, such as reducing the number of repayment plans and

providing repayment information earlier, to potentially more controversial options such as using federal paycheck withholding to repay loans and removing the principal balance of loans, which would reshape the way the federal government assists students in financing higher education. For each recommendation, we provide theoretical justification from behavioral economics and discussed the proposal's potential for improving students' financial outcomes.

Simultaneously removing the principal and relying on income-based payment solves both the risk aversion problem and the framing and labeling effects problems of loan aversion.

In addition to improving individual outcomes, these recommendations also have the potential to positively impact the national economy and society writ large. To the extent these recommendations reduce loan aversion, capable students who are not investing in higher education due to credit constraints will be encouraged to so. They will make higher earnings contributing to a larger tax base and may gain an assortment of other positive benefits such as improved health outcomes associated with postsecondary education. Encouraging more students to take up income-contingent loan repayment plans is also likely to reduce loan defaults. This will have a direct, positive impact on students' credit histories.[15] Finally, encouraging students to focus on the flow of payments as opposed to the stock of student loan debt will likely encourage them to make investments in graduate school and home ownership more quickly than they otherwise would, further improving their lifetime utility.

Although prior research suggests the positive direction of the effects of these proposals, they require additional analysis to determine their exact magnitude and impact on individual student outcomes and the larger economy. Organizations such as the Congressional Budget Office are probably best suited to conduct these analyses and determine the extent of the impacts. Academics, however, can also contribute further research in this arena. While considerable evidence of behavioral economics effects exists in a number of contexts, very little exists on student loan behavior. The Lumina Foundation and other education foundations and government agencies may wish to finance new research about how students actually behave when faced with different borrowing and repayment choices. One promising avenue of research is understanding how student behavior changes when presented with information about repayment options framed in different ways. Policy makers would also benefit from a better understanding of how borrowers perceive the tradeoff between making lower monthly payments for an extended period of time under an income-contingent repayment plan relative to fixed payment plans in which they might pay off their loan earlier but pay more monthly to do so. Additional study will enable future policies to better target interventions at the populations most likely to benefit.

Endnotes

1 Vanderbilt University

2 Harvard University

3 These estimates are based on calculations conducted by the New America Foundation (2014) using information from the President's 2014 budget proposal and data from the 2011-2013 fiscal years.

4 For this analysis we exclude Parent PLUS loans as our paper is focused on resolving two issues for *student* borrowers: loan aversion and avoiding poor repayment decisions.

5 This is similar to a phenomenon known as undermatching in the literature, in which students who are qualified to attend a more selective, and often better resourced institution, choose to attend a less selective school or to not attend college at all. For more information see Avery and Hoxby (2012) and Bowen, Chingos, & McPherson (2009).

6 For more information in the existing IBR plan see The Federal Register, Vol. 77 N0. 212, 34 CFR, Subtitle B, Chapter 6, Part 685, Subpart B, Section 685.209

7 This non-loan contract is sometimes referred to as a human capital contract or income share agreement. We discuss these contracts in more detail in our last policy recommendation.

8 For an example with a discount rate of 10%, at time t=0, the discount term is 1, so there is no discounting of immediate earnings. At time t=1 (one year from now), earnings will be discounted by 1/1.1 = 0.909. At time t=10 (ten years from now), the amount of money earned is multiplied by 0.386 such that earnings in ten years are only valued at a little more than a third of the same earnings today.

9 Loan forgiveness terms vary by type of loan but commonly include considerations for whether or not a borrower has a public sector job and how long she or he has made payments on a loan prior to forgiveness.

10 For further information on the details of these countries' universal income-contingent repayment policies and how they contrast with the current U.S. program, see the Asher, Cheng, & Thompson paper included in this series. Additionally, Bruce Chapman has written extensively on the benefits of income-contingent loans for higher education. See Chapman (2006) for a summary of international reforms.

11 For the student aid website managed by the DOE see: http://studentaid.ed.gov/repay-loans

12 Sometimes referred to as a human capital contract

13 We thank Jason Delisle for this example.

14 We recognize that under current federal accounting practices there is no official subsidy for federal student loans; however, by accounting for the risk associated in the student loan system, there is a subsidy (Lucas, 2012; CBO, 2012).

15 Students' credit histories would not be affected in the same way if policymakers removed the loan principal as we suggest in our final recommendation because there would no longer be a loan. However, it may be the case that future lenders will examine students' histories of consistent, on-time payments of their income share agreements and account for them when making lending determinations.

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