

# STUDENT AID, STUDENT BEHAVIOR, AND EDUCATIONAL ATTAINMENT

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## INTRODUCTION

Forty years ago, when the federal system of student loans and grants was born, providing the basis for today's student financial aid system, about half of all recent high school graduates were enrolled in college. Today, more than two-thirds of those who complete high school enroll in two-year or four-year colleges within a year (NCES, 2012c, Table 234). While significant differences persist across demographic groups, we have made considerable progress in improving access to higher education. Since 1972, the percentage of adults ages 25 or older who have completed at least four years of college has increased from 12 percent to 31 percent (U.S. Census Bureau, 2012, Table A-2).<sup>1</sup>

Despite this progress, many of those who start college never earn degrees. Among Americans ages 25 and older, 17 percent have some college but no degree, with the majority of these having spent one or two years pursuing a postsecondary education (U.S. Census Bureau, 2012, Table A-4).<sup>2</sup> Among students who first enrolled in college in fall 2006, 54 percent (including 76 percent of those who were enrolled full-time) had completed a degree or certificate after six years. While 16 percent were still enrolled, 30 percent had left without a credential (Shapiro & Dundar, 2012).<sup>3</sup>

Increasing the number of adults with quality postsecondary credentials depends both on removing barriers to college access and on finding ways to improve completion rates. In addition to the social and economic factors shaping the lives of young people long before they reach the age when they might begin postsecondary study, the quality of postsecondary pedagogy and academic support systems, the mechanisms available for financing college, and the attitudes and behaviors of students all influence the rate at which individuals successfully complete programs of study.

The financial aid system is only one part of this story. But the availability of financial subsidies, the extent to which students understand and can access the system, and the enrollment patterns it encourages all contribute to educational attainment. The issue is not just whether the money is there, but whether financial aid programs and processes are structured to maximize the impact of the available funds on student enrollment and success.

This paper examines the U.S. financial aid system from the perspective of its influence on the behaviors thought to affect postsecondary enrollment and success. The federal student aid system was designed to diminish financial barriers for students without sufficient resources to pay for college. The idea that its design might affect whether or not students achieve their goals in a timely manner was not an evident concern.

<sup>1</sup> These figures are based only on the civilian, non-institutionalized population. The percentages of African Americans and Hispanics, 25 years old or older with four years of college or more were 21 percent and 15 percent, respectively, in 2012 (U.S. Census Bureau, 2012, Table A-2).

<sup>2</sup> Some of these students have earned occupational certificates.

<sup>3</sup> In the 1940s and 1950s, before associate degrees and postsecondary certificates were widespread, just under half of all adults with some college education had completed bachelor's degrees. Since the mid-1960s, that percentage has almost always been just over half. In other words, college completion rates have not declined, despite the increase in enrollment rates (U.S. Census Bureau, 2012, Table A-1).

Over time, the components of the aid system have multiplied, the rules and regulations associated with these programs have become more elaborate, and the eligibility criteria and application processes have become more complex. Despite recent steps to simplify the federal aid application process, the byzantine nature of the system limits its effectiveness, as students and families have great difficulty navigating it (Dynarski & Scott-Clayton, 2006; Baum, McPherson & Steele, 2008; Dynarski & Wiederspan, 2012). Because of its complexity, the structure of the system may negatively affect access and persistence and create avoidable problems with unmanageable education debt.

It is not uncommon to assess the incentives embedded in policies with a focus on how rational actors are likely to respond to those incentives. That perspective provides important insights. Ignoring, for example, the impact of simple monetary incentives on student choices and behaviors would be a serious mistake. But assuming that people always make choices that are in their own long-run self-interest is not a reasonable approach to designing policies to support postsecondary participation and success. The fields of behavioral economics and cognitive psychology have increased our understanding of how people make decisions and, in particular, how their decision-making systematically differs from the standard rational-actor model. This approach is increasingly gaining attention from government policy makers.<sup>4</sup>

In this paper, we focus on aspects of the student aid system that might be modified to affect student behaviors, influencing educational attainment. We give particular attention to behavioral concepts, but also address rational responses to the incentives built into the system. We are interested both in strengthening the incentives embedded in student aid structures and in considering the implications of the reality that people do not always make rational decisions. Our main concern is directly changing student behaviors, although we briefly address institutional behaviors as well. The policy reforms we discuss are illustrative rather than comprehensive and do not involve fundamental overhauls of the system. The idea is not that modifications of the type discussed would solve the college completion and educational attainment problems but that they could be significant steps in the right direction.

## The Actors: Students and Institutions

Students represent the demand side of the market for postsecondary education. The current federal funding system is essentially a voucher system, providing funds to students depending on their circumstances and allowing them to use those funds at the institutions and programs of their choice. Institutions must simply meet administrative requirements and be accredited by an organization recognized by the federal government.

This voucher system was developed under the assumption that colleges and universities exist to provide high-quality educational services, thus aligning their interests with those of students. But this is not always a reasonable assumption. The primary motive for some institutions (not all of which are in the for-profit sector) is to maximize enrollments or revenues net of expenses, and a variety of market failures may cause a misalignment between student and institutional interests.

The issue of designing aid policies to bring institutional behaviors more in line with the interests of students is different from the issue of recognizing student psychological patterns that are frequently inconsistent with rational choices. In fact, the problem here is that institutions too often *do* behave as rational maximizers, responding to incentives that are—often unintentionally—embodied in the student aid system.

The student aid system does not include strong incentives for institutions to support students through to graduation. Although recruitment costs may be substantial, institutions enjoy the same revenue from new first year students as from continuing students, who are frequently more expensive to educate because of the specialized classes they require. Colleges also have financial incentives to direct students into lower-cost programs of study, as opposed to paths that may lead to better labor market outcomes but cost more to offer. It should therefore be no surprise that at least some suppliers of postsecondary education focus on maximizing the number of students enrolled without paying enough attention to student success.

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<sup>4</sup> Barack Obama recruited Cass Sunstein, a legal scholar and an important contributor to the literature on behavioral economics, to administer the White House Office of Information and Regulatory Affairs, with the goal of designing policies that take into consideration how people respond to the structure of the rules. Richard Thaler, Sunstein's co-author on the influential book *Nudge*, is advising several European governments. England has established a Behavioural Insights Team, nicknamed the *Nudge Unit* (*The Economist*, 2012).

In addition to responding rationally to the incentives embodied in the student aid system, postsecondary institutions often exhibit more awareness than do public policy makers of the way students actually respond to student aid structures. For example the system of discounts generating a wide range of prices for students enrolled in the same program is sensitive to seemingly irrational student choices. Institutions observe that students and parents, who have little basis for judging the actual value of institutions, respond positively to the appearance of a “good deal.” Parents are proud of their children who receive “merit” scholarships.<sup>5</sup> This institutional behavior contributes to the current complex pricing pattern at colleges and universities.

While student behaviors are the primary focus of this paper, the supply side of the market is a significant part of the equation and we briefly address approaches to modifying institutional incentives.

In Section II we discuss student behavior both from the perspective of the traditional economic model positing rational, utility-maximizing actors and from the added perspective of behavioral economics and cognitive psychology. We focus on student aid and on the cognitive biases relevant for understanding how students respond to issues of college financing. While our primary goal is to understand student success, the core role of financial aid in the enrollment decision, the importance of that decision for the probability of success, and the many non-financial aspects of student success, dictate a broader approach.

Section III focuses on several ways in which the student aid system might be changed to take advantage of rational responses to incentives. Sections IV through VIII focus on several key types of behavioral biases likely to be common to students, including responses to complexity, the dominance of default options, inconsistent preferences over time, aversion to debt, and overconfidence. Within these sections, we outline potential policy designs related to these ideas. Our goal is less to recommend specific policy changes than to encourage incorporation of behavioral insights into policy design. Section IX concludes.

## II. STUDENT DECISION MAKING AND FINANCIAL AID: TWO MODELS

While the rational maximizing framework is too often ignored in anticipating institutional responses to the student aid system, this type of behavior is too often erroneously assumed in the case of students. The evidence from the fields of cognitive psychology and behavioral economics suggests that, like other adults, students sometimes act in ways that are not consistent with the maximization of their long-run welfare.

### The Rational Actor Framework in Student Financial Aid

A framework based on a rational utility maximizing model of choice, consistent with standard economic analysis, recognizes the constraints that students face and assumes that they will make the best possible choices given those constraints.

Financial aid is designed to loosen budget constraints. The assumption is that while students might prefer to enroll in postsecondary education and complete credentials, financial limitations sometimes make this impossible. For example, if a student has only \$2,000 (and no access to loans) and the price of a semester of college is \$4,000, he or she will be unable to enroll. A \$3,000 Pell Grant would shift the budget constraint out, allowing the student to choose to enroll.

Whether or not the student actually enrolls, even with the grant, still depends on preferences. Some people would prefer to spend the \$2,000 on a nicer apartment or on better clothing for their children. Others with the same budget will prioritize education.

With this perspective, more students can be induced to enroll if they are given more money. Alternatively, policies can change their choices without changing the funds at their disposal if the policies alter the relative prices of different avail-

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<sup>5</sup> See Clifford & Rampell (2012) for a discussion of consumer demand for discounts in a retail environment.

able options or if they affect preferences. For example, scheduling classes in the evening might facilitate student work schedules and make college less costly in terms of forgone wages. Increasing the grant aid available for students who register for more credit hours reduces the price of enrolling for heavier course loads relative to lighter course loads. Providing more information about the likely pay-off to education might strengthen people's preferences for earning degrees.

The rational choice model leads to optimal outcomes only in the presence of perfect information. If students do not know the price of college, if they do not know how much financial aid they will receive, or if they do not know what long-term benefits they can expect to receive from going to college, they will not be able to make optimal decisions.

But there is more than imperfect information interfering with the rational model of decision-making. Like anyone else, students have more complex psychological processes than the rational model assumes. They respond to how things are framed, to complexity, to default options, and to the anecdotes that are freshest in their minds. While all human beings are subject to these "cognitive biases," some potential students may be more susceptible than others.

The students at whom need-based financial aid is aimed are particularly vulnerable. Students whose parents did not go to college and who attend low-income high schools where relatively few people go on to postsecondary education, as well as adults without access to college-preparation resources, have less information about applying to college, accessing financial aid, and choosing appropriate institutions and programs than young people growing up in affluent, college-going cultures. For a variety of reasons, it is also likely that the cognitive biases leading to suboptimal decisions and outcomes are stronger in this group. For example, young people who have grown up with the expectation that they will go to college easily slide into that decision as their default, often taking the necessary steps to prepare academically and complete the application process without considering other options. Those who have grown up thinking of college as an unrealistic option and assuming they will go to work as soon as they finish high school face a different "default option." We elaborate on this issue below.

### **The Behavioral Framework for Student Aid**

The rational framework motivates the essential function of lowering the net price of college for low-income students. Grant aid substitutes for the resources more privileged students receive from their families. Because students lack collateral, the private market would not lend enough to them on reasonable terms; government loans fill this gap. Because most potential students have only a limited understanding of the costs and benefits of college, improving the quality and accessibility of information is always an objective of reform.

Thaler and Sunstein argue that we can and should use our understanding of how people make decisions to supplement the incentives suggested by the rational framework. "People make good choices in contexts in which they have experience, good information, and prompt feedback. . . . They do less well in contexts in which they are inexperienced, and poorly informed, and in which feedback is slow or infrequent" (Thaler & Sunstein, 2008, p. 9). Postsecondary education falls in the latter category. Much rests on the first decision people make about whether, when, and where to go to college. They make this decision with limited information about the strengths and weaknesses of different options. And it takes considerable time and effort to figure out whether the decision was a good one. Supplementing our understanding of how people weigh the costs and benefits of their options with an understanding of systematic biases can inform the development of more effective public policies.

It is important to note that this perspective does not fault people as incompetent. It simply explains why people may make sub-optimal choices. Behaviorists have defined two broad categories of decision-making strategies—relatively slow careful reasoning and fast intuitive judgment. The fast system is automatic, is based on emotions and instincts, works quickly with little or no effort and no sense of voluntary control, and can process many things simultaneously. The slow system is based on reflection and logic and requires effort and concentration. As we explain below, many decisions about higher education are likely to utilize the "fast" side of the ledger, despite the fact that to be made well, they require considerable deliberation and preparation. The short cuts tend to take over when decisions are complex, involve uncertainty and long-term benefits, and do not allow people to learn from prior experience (Kahneman, 2011).

In the early 1970s, Daniel Kahneman and Amos Tversky (1972, 1974) emphasized the concept of cognitive (or judgment) biases. The basic idea is that there are intuitive rules of thumb guiding decisions that allow people to avoid the arduous process of making reasoned judgments. In other words, these heuristics allow people to shift decisions from the slow track to the fast track.

An example of a cognitive bias that is important in the college choice process is the *availability* heuristic. People gravitate to the most salient options, the ones that are in the front of their minds. If most people in a student's high school who go to college go to the local community college, that will be the obvious choice. Assuring that a student sees an ad for a specific occupational training opportunity every day on the bus ride to school will improve the chances of attracting her to that program. Perhaps if students saw more ads about the importance and the ease of applying for financial aid, that would become a more natural path for them. When people read news articles about individual students who borrowed \$100,000 for their undergraduate education and have been unemployed since graduating, they tend to believe that this will happen to them (and that these circumstances will last forever). Students attending institutions where the norm is to drop in and out and where many of their peers leave without earning credentials are likely to question their own paths more than students attending institutions where the vast majority of students are enrolled full-time and graduate in a timely manner.

A related idea is the *availability cascade* (Kahneman, 2011). Media reports about a relatively minor event might lead to public panic and large-scale government action, with mass inability to put events into perspective. The prominence of media reports of students drowning in debt may be an example of this phenomenon.<sup>6</sup> Articles about problems with student debt generate other similar articles, with the risks sounding greater and greater over time. Finding ways to improve understanding of the risks and benefits of student loans—and of designing policies less likely to lead to the kinds of outcomes creating the horror stories—could lead students to make better choices.

Time preferences also affect the choices people make about postsecondary education because, by its nature, college involves upfront costs and future benefits. Within the rational-actor model, the future benefits are discounted according to the relative value the decision-maker places on the present and the future. Those who value immediate gains much more than future benefits are said to have high discount rates. In our context, high discount rates make it difficult to get young people to give up the immediate satisfaction of a job and an income in favor of paying tuition and waiting a few years in order to enjoy higher earnings.

In the behavioral models, decision-makers have time-inconsistent preferences. Even if people are convinced that going to college is worth it at a time when both the costs and the benefits are in the future, when the time actually approaches to pay the costs—both in dollars and in the form of requirements such as taking exams and filling out applications—the costs suddenly loom large and their choices may change.

The perception of immediate costs as large barriers affects persistence as well as the original enrollment decision. Students may decide that grappling with a difficult course, overcoming short-term financial problems, or facing the other challenges involved in getting through college just don't seem worth it at the moment, without giving much weight to the long-run losses generated by leaving school.

People respond differently depending on how their options are *framed*. As discussed above, families may be drawn to a school that charges \$40,000 tuition and offers a \$10,000 "merit" scholarship instead of one that simply charges \$30,000.<sup>7</sup> Of particular importance is the difference between positive and negative frames. Because of the common phenomenon of loss *aversion*, people suffer more from losses than they value gains of equal amounts. Studies show that people feel better about a bet when they're told they have a 90 percent chance of winning, rather than a 10 percent risk of losing (Tversky & Kahneman, 1981). A 60 percent chance of graduating from college with a bachelor's degree and the opportu-

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<sup>6</sup> Among students who first enrolled in 2003 and earned bachelor's degrees by 2009, 36 percent did not borrow at all and only 5 percent accumulated more than \$50,000 in education debt (College Board, 2012, Figure 11B).

<sup>7</sup> Any grant aid not distributed on the basis of financial aid is usually called a "merit" scholarship. In reality, these awards are frequently designed to attract students to campus and may be based on athletic ability, geography, or a variety of other factors. In some cases, virtually all accepted students at an institution receive merit scholarships.

nity for a well-paying and rewarding career sounds much more appealing than a 40 percent chance of starting college but not managing to get through to a degree. In the same way, how schools frame a financial aid offer can make a big difference.

Behavioral insights point to the reality that just providing more information is not likely to lead to optimal decision-making, particularly in the face of complexity. An important concept is the “*paradox of choice*,” with expanding options leading to more difficult decision processes (Schwartz, 2005). For example, students presented with a long list of student loan options are less likely to make well-considered choices than those who are presented with one option for parental borrowing and one for student borrowing. A similar problem occurs for students faced with a plethora of course options, rather than clear guidance about the appropriate path to the credential they seek (Rosenbaum *et al.*, 2010).

An issue with wide-ranging implications is that people tend to start from a *reference point* and judge options based on the changes they are likely to bring, rather than actually comparing end states.<sup>8</sup> Because they fear losses more than they value equivalent gains, there is a tendency to avoid risks. However, *overconfidence* leads people to take questionable risks because their subjective estimates of the probability of success are higher than the objective reality.<sup>9</sup> Greater understanding of how these biases interact could strengthen our approach to improving student decisions.

The concept of reference points sheds light on one of the factors creating differences in the postsecondary choices of students from different socioeconomic backgrounds. For students from affluent, educated families, not going to college or even not going to a prestigious college is likely to be perceived as a loss—a failure to meet expectations. The same is true of not completing a bachelor’s degree. In contrast, for a first generation student, the potential losses from going to college, and particularly from going away from home for college, might include losing the connection to home and family, giving up immediate income, or failing at an unfamiliar endeavor. A bachelor’s degree would be a remarkable accomplishment, not the long-anticipated norm. For this reason, the tendency to rely on *default options*, particularly in the face of complexity, can work in different directions for people from different backgrounds.

Not all heuristics and biases work in the same direction. For example, debt aversion, which can be seen as a variant of loss aversion, might lead some students to borrow too little, while overconfidence might lead others to borrow too much. Before focusing on the policy implications of deviations from rational, utility-maximizing behavior patterns, we discuss some of the ways in which student aid policy has the potential to generate more constructive student choices and behaviors by recognizing the role of simple incentives.

### III. REFORMS BASED ON RATIONAL CHOICES

The fact that student choices and behaviors diverge from those predicted by standard models of rational utility-maximization in ways predicted by behavioral economics and cognitive psychology does not mean that incentive structures are irrelevant. The prevalence of cognitive biases does not mean that people don’t respond to monetary incentives.

While primarily designed to loosen budget constraints, the student aid system could also be better designed to take advantage of rational responses to relative prices.

#### Risk-rating of student loans

The borrower’s likely ability to repay a loan, so central to other forms of borrowing, is irrelevant to whether students are eligible for federal loans to undergraduate students. Moreover, the interest rate they are charged does not vary according to their future earning possibilities. A student in her last year of medical school is charged the same interest rate as a student in her first year as an art history major or in a short-term certificate program.

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<sup>8</sup> This is a basic element of Kahneman and Tversky’s “prospect theory,” the concept that laid the groundwork for the development of behavioral economics.

<sup>9</sup> A classic example of the overconfidence effect can be found in Svenson (1981).

The government provides student loans because the private market is likely either to refuse to lend to borrowers with no credit history and no collateral or to charge very high interest rates. However, arguments for adjusting the terms of federal student loans to better reflect the risk of non-payment are increasingly being heard, even from those focused on educational opportunities for students.

“Risk rating” could protect the government as a lender, but its chief purpose would be to discourage potential borrowers from taking on burdensome loans for expensive educations that deliver little value. Risk rating could be based either on the characteristics of the students or on the characteristics of the institutions in which students enroll. None of the recent proposals reviewed below suggests applying commercial underwriting standards to student loans. The idea is simply to introduce an element of risk rating into the system.

In February 2013, the National Association of Student Financial Aid Administrators (NASFAA), called for the consideration of a proposal to use a Student Loan Eligibility Index that would introduce minimal underwriting standards on federal loans “to shield academically-unprepared students from loan indebtedness” (NASFAA, 2013). NASFAA suggested that the index might be based on a combination of GPA and SAT or ACT scores. Students whose postsecondary success is in question because of their former grades and test scores would not be allowed to accumulate student loan debt until they had established, by their academic performance in the schools they could attend without borrowing, that they stood a good chance of succeeding at more expensive institutions. There is no suggestion in this proposal that the interest rate charged on the loans should vary according to the particular school that the student planned to attend or the major he or she hoped to adopt.<sup>10</sup>

Michael Simkovic (2011) suggests tying the interest rate on the student loan to the program and school that the student plans to attend. Students in programs that, on average, lead to well-paid jobs would be offered lower-than-average interest rates because the likelihood that they will be able to repay the loans is higher than average. Students planning to undertake programs that offer lower-than-average employment opportunities after graduation would be asked to pay higher-than-average interest rates. Simkovic explicitly draws the analogy to the way private lenders use credit scoring to set the terms and conditions of the loans that they offer potential borrowers.

The effectiveness of credit scoring of student loans would depend both on the strategy chosen and the way students respond. If, as in the NASFAA proposal, students are simply denied access to loans, they would either choose less expensive programs as NASFAA suggests or avoid postsecondary education altogether. If students faced higher interest rates if they or their chosen institutions were considered risky, the result would depend on whether students responded by rejecting these loans. If students are unaware of the impact of interest rates or discount this future cost—as the behavioral models suggest—the strategy might not be effective in reducing student hardship. In fact, it might increase that hardship by generating higher debt levels among those most at risk. Moreover, if the loan denial or higher interest rate is tied to the student, she may not be able to make a choice that would improve her options. On the other hand, if the rating is attached to the institution, the student could hope for better terms if he modifies his enrollment plans.

An alternative to modifying the terms or availability of loans based on repayment risk is to provide better information to potential borrowers about the risks they face. An option emerging from the insights of the behavioral sciences literature is to provide “psychology-guided” information to potential borrowers.<sup>11</sup> For example, a risk index could be developed and then constructed for each borrower. Instead of altering interest rates on the basis of the index, the estimated risk of default could be communicated to the borrower with a simple visual device: The notice sent to students to inform them of the loan could have either a hyperlinked red, green or orange light. The red light would indicate a program/school combination for which the probability of default was high. If any particular borrower chose to click on the link, the nature of the index and its application in the situation faced by that borrower could be explained.<sup>12</sup>

<sup>10</sup> The policy of risk-rating student loans would arguably add measurably to the complexity of the student aid system.

<sup>11</sup> Drawing a clear line between the rational model’s focus on complete information and the behavioral model’s focus on how people access and process information is difficult. We develop the behavioral approach further later in the paper, but psychology-guided information falls in the gray area between the two.

<sup>12</sup> The credit-scoring algorithm used by private lenders to determine the terms and conditions of private loans is proprietary and is not revealed to potential borrowers.

This type of visual representation of important information was employed by Bertrand and Morse (2011) in their study of payday lending. One of their interventions was to put on the envelope containing a newly-issued payday loan a picture showing how often payday loans are renewed without the borrowers having to take out another payday loan. For example, the fact that only two out of 10 borrowers repay the payday loan without taking out another one is illustrated by two small human figures.<sup>13</sup> The most effective approach tested by Bertrand and Morse compared the dollar cost of borrowing a fixed amount (\$300) from a payday lender to the cost of borrowing the same amount for the same length of time using a credit card. This intervention was based both on the idea of increasing the ease with which the payday loan could be evaluated and on the idea that payday borrowers might be thinking of their borrowing in too narrow a frame of reference.<sup>14</sup> That is, they see the \$15 cost of a single transaction as too small to worry about instead of thinking about the larger cost of consistently borrowing from a payday lender.

The effectiveness of this approach in this context suggests that it could have a bigger impact than simply publishing information about, for example, the default rates of graduates of specific programs and institutions. The cost of providing simple psychology-guided information is quite small and if the result is to reduce inappropriate borrowing by any significant amount, the benefits might easily exceed the costs. The assumption is not that all borrowing is inappropriate or irrational, but that imprudent borrowing will be diminished by information designed with behavioral responses in mind.

### Encouraging full-time enrollment

Despite evidence that enrolling full time significantly increases the probability that students will complete degrees, the design of the Pell Grant program and many state grant programs actually discourages this path (Complete College America, 2011; Clotfelter, 1991). While students must earn an average of 15 credit hours per semester to complete a bachelor's degree in four years or an associate degree in two years, the Pell Grant program considers students full-time if they are registered for at least 12 credit hours per semester.<sup>15</sup>

Not surprisingly, in 2007-08, 30 percent of students in semester-based schools receiving full-time Pell awards were registered for just 12 credit hours, and 56 percent of the "full-time" students were registered for fewer than 15 hours (NPSAS 2007-08). Students can receive only one full Pell Grant in the course of a year, so if they enroll in the summer to complete the additional needed credits, they will not be eligible for Pell funding to support this work.

A simple change could provide encouragement for students to enroll full time. One example is provided by the recent Rethinking Pell Grants proposal to link grant amounts to number of credits. Under this system students would receive larger grants if they enrolled for more credits.<sup>16</sup> They would receive additional funding if they enrolled for three terms over the course of a year rather than two (Rethinking Pell Grants Study Group, 2013). The Super Pell and Pell Well proposals recently put forward by NASFAA would have a similar effect (NASFAA, 2013).

### Performance-based grants

The desire to give grants to the students who need it most has led policy makers to avoid tying need-based aid to academic performance, which is negatively correlated with socioeconomic status. A growing portion of state grant aid, however, ignores financial circumstances and simply rewards high school grades or test scores. But Pell Grants and need-based state aid rarely require more than minimal "satisfactory academic progress."

A focus on postsecondary academic progress, as opposed to past achievement, has the potential to increase student success.<sup>17</sup>

<sup>13</sup> Bertrand and Morse (2011, p. 1872). The actual information illustrated that 2.5 people out of 10 repay without first renewing their payday loan.

<sup>14</sup> See Barberis et al. (2006) for a discussion of narrow framing and its application to financial decisions.

<sup>15</sup> Students registered for 9 to 11 credit hours receive ¾ of the amount for which they would be eligible at 12 credits, and those registered for 6 to 8 credits receive half. Less than half-time students can also receive grant aid.

<sup>16</sup> Overall, funding would be limited to 125 percent of the credits required for the program in which they were enrolled.

<sup>17</sup> The distinction between rewarding past and future achievement and the potential impact on student success of rewarding academic progress are emphasized in Brookings Institution State Grant Aid Study Group (2012).

Standard economic analysis suggests that if students are given more money for specific behaviors, those behaviors will become more common. Examination of the impact of a West Virginia program tying scholarships to academic progress suggested a significant impact of additional dollars on student behaviors (Scott-Clayton, 2011). A series of randomized trials carried out by MDRC under their Performance Based Scholarship Demonstration tests this concept with a variety of high-need populations in different locations (MDRC, 2013). The evidence suggests that students do make more progress if they are given extra dollars to do so—but the effects are not large. Evidence from a more generous program of supplementary grants for randomly selected Pell Grant recipients in Wisconsin supports this basic finding (Goldrick-Rab, *et al.*, 2012).

As the Wisconsin study suggests, and as many previous studies have shown, not all students respond similarly to financial incentives. In particular, lower-income students are more price-sensitive than students with sufficient resources to make choices without relying on subsidies (Kane, 1995; Bowen *et al.*, 2009; Heller, 1997).

Of particular importance for the design of performance-based funding schemes is the evidence that for high-need students, dollars alone may not be enough to generate significant improvements in college success. Experimental evidence suggests that the combination of financial incentives with mentoring and educational services is most effective (Angrist, 2009).

This outcome suggests the possibility that combining grant aid with the provision of academic support services might be the most productive use of additional funding.<sup>18</sup> Another issue relevant to the successful design of performance-based funding schemes is that students have control over some aspects of their progress, such as enrolling full-time or taking advantage of academic support systems. In contrast, they may not know how to accomplish outcomes such as higher grade point averages (Fryer, 2011).

### Rewarding timely completion

In Texas, the state converts a portion of loans to grants, or refunds part of the tuition paid, for students who complete their degrees on time (THECB, 2013). Other proposals have also emerged that would either convert grants to loans for students who leave school without a credential or convert loans to grants for students who graduate in a timely manner. The hope is that these incentives will increase the prevalence of the choices and behaviors required for academic success.

This framework is based on the idea that students will respond in a rational way to financial incentives. The evidence discussed below relating to law students suggests that the response to converting grants to loans might be stronger than the response to forgiving loans. However, an obvious problem with converting grants to loans for successful students is that it would leave students who have not succeeded and are likely to have limited financial resources with unchanged loan burdens.<sup>19</sup> Any program that rewards student success should incorporate the reality that academic success is highly correlated with student characteristics and that broad-based programs of this nature are likely to transfer funds to students from more privileged backgrounds. This problem suggests that performance-based grant aid might be most effective if used in a targeted way, supplementing grants to high-risk students in specific environments.

The policy modifications we have discussed so far take advantage of the reality that people are responsive to straightforward changes in the rewards they face. In the following sections, we examine the innovative ideas emerging from an understanding of the systematic biases in human behavior.

<sup>18</sup> The Rethinking Pell Grants Study Group made this proposal for adult students in their recent report (Rethinking Pell Grants Study Group, 2013).

<sup>19</sup> The recent federal TEACH Grant Program was designed to convert grants to loans for recipients not meeting the post-graduation requirements. Many students are unable to find qualifying employment.

## IV. COMPLEXITY

Many of the heuristics that are the focus of the behavioral sciences—and the resulting biases—arise from complexity. One of the original ideas underlying the early work of Kahneman and Tversky (1974) was that human decision-makers, when faced with difficult tasks involving the subjective estimation of probabilities, take short-cuts that lead them to incorrect judgments. The decision-makers did not decide in the way that “amateur statisticians” would have (Heuvelom, 2005). The heuristics used were the result of real complexity in the task at hand.<sup>20</sup>

More generally, “[t]he most widely chronicled difficulties in decision-making occur in conjunction with decisions made under conditions of uncertainty, decisions that involve significant elements of time, and decisions in complex environments” (Liebman and Zeckhauser, 2008, p.1). Given the complexity of the decision about what kind of education to undertake after high school and how to finance that education, we should not be surprised that heuristics and biases can play an important role.

### Applying for financial aid

Students may fail to even fill out a financial aid application because of its complexity. If the process were simpler, people would likely make better decisions about taking advantage of the available opportunities.

The barrier posed by the Free Application for Student Financial Aid (FAFSA) has now been widely acknowledged (Dynarski & Scott-Clayton, 2008; Bettinger, Long & Oreopoulos, 2012). The application, which must be filed if a student is to be considered for any federal student aid program, is “...longer and more complicated than the federal tax return” (Dynarski & Scott-Clayton, 2008, p. 319). If decisions were purely rational, the application requirements should not deter most students from applying for aid:

Thus, if people behave rationally, anyone who is deterred from going to college by such relatively small compliance costs must have an unusually low expected return to college (Dynarski & Scott-Clayton, 2008, p.328).

Dynarski and Scott-Clayton propose several explanations, all drawn from the behavioral sciences, for the procrastination that can result from the need to fill out the FAFSA.

Convincing evidence of the barrier posed by the FAFSA is provided by an experiment conducted by Bettinger *et al.* (2012). Members of a treatment group of low-income individuals, selected randomly, who had come to offices of H&R Block for tax preparation were offered immediate in-person assistance in filling out the FAFSA for themselves (or for their children) plus an estimate of the aid for which each individual was eligible. A second treatment group was given only an estimate of the aid for which they were eligible but no personal assistance in filling out the FAFSA. A control group was given only “basic information about the importance of going to college and general information on costs and financial aid” (Bettinger *et al.*, 2012, p. 9). The personal assistance was given in conjunction with the filing of tax returns, which allowed for the easy transfer of tax information to the FAFSA.

The participants were followed for several years after the experiment. Dependent students whose parents had been given personal assistance, in addition to estimates of aid eligibility, were eight percentage points more likely—42 percent versus 34 percent—to have enrolled in college in the year following the experiment than the control group. There was no significant difference between the control group and the group given only information.

These two studies are among the growing number that illustrate that help in overcoming barriers can lead to significant changes in important activities, even when rational agents should be willing and able to overcome the barriers on their own. Missed deadlines and other minor hurdles interfere with the educational progress of many low-income students (Avery & Kane, 2004).

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<sup>20</sup> Much later, Kahneman and Frederick (2002) argued that humans, when faced with a difficult question, substitute a different but more easily answered question.

What is the role of complexity in creating and sustaining such barriers? One answer that appears in the behavioral literature is that people who are faced with a difficult choice *procrastinate* rather than going through the challenging task of making the choice before them. The procrastination can affect decisions either because the choice itself is difficult or because the action required to implement the choice is complicated. Another answer is that complexity can trigger heuristics and biases that lead people to incorrect decisions, even if they do not procrastinate.

## Reform Proposals Related to Complexity

While the application process has been simplified in recent years, with the advent of computer technologies allowing filers to skip irrelevant questions and with the cooperation of the IRS in transferring some data from tax forms to the FAFSA, complexity remains a barrier preventing a significant number of qualified from students from applying for aid.<sup>21</sup>

### *More than information*

The complexity of the student financial aid system has led to calls for better information. For example, student aid calculators are now required on the websites of all colleges and universities. The financial aid application process, however, is an example of a barrier that might not be removed by information. The evidence provided by the Bettinger *et al.* study with H&R Block suggests that disadvantaged students are more likely to enroll in college when they are given personalized assistance but that the provision of information is not likely to have the same impact. This finding indicates that efforts to provide better high school counseling to disadvantaged students, whether by trained guidance counselors or by peer mentors, should involve individual-specific support and assistance, not just the provision of general information that presents students with a wide array of complicated choices.<sup>22</sup> The same is true of efforts to guide adult students into appropriate postsecondary paths.<sup>23</sup>

The findings from a 2010 British study raise additional questions about the effectiveness of just providing more information about financial aid or other aspects of the college decision. In this study, between a quarter and half of respondents who rated particular items of information as very useful reported that they had not tried to find that information (Oakleigh, 2010). Similarly, Grubb (2006) found that U.S. students make little effort to search for information about educational options.

### *Simplifying the application process*

Students would require less information and less guidance if the system for accessing student aid were simpler. Recommendations to move in this direction are now widespread, with a particular emphasis on relying on financial data available from the IRS to eliminate the need for students and families to complete a complex application (College Board, 2008; Rethinking Pell Grants Study Group, 2013; NCAN, 2013). The arguments for this approach are compelling, but implementation should not ignore the finding from behavioral science that the effectiveness of information depends on the source of the information. The wrong messenger can make the right information ineffective. Some students and families, particularly those in precarious financial circumstances, might be hesitant to engage in any process that involves the IRS (College Board, 2010). This potential problem should not prevent moving forward with simplifying the application process, but it should be recognized and accommodated in the program design.

Other relevant suggestions include requiring that students complete the FAFSA before graduating from high school and simplifying the formula for aid eligibility to minimize the amount of information required.<sup>24</sup>

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<sup>21</sup> Mark Kantrowitz (2009) estimated that in 2007-08, before the recent FAFSA simplification efforts, 2.3 million enrolled students who would have been eligible for Pell Grants failed to apply for financial aid.

<sup>22</sup> Hoxby and Turner (2013) find that providing very high-achieving low-income students with inexpensive semi-customized information on the application process and colleges' net costs, along with no-paperwork application fee waivers, causes a significant increase in the percentage of these students applying to, being admitted to, and enrolling in selective institutions.

<sup>23</sup> Rethinking Pell Grants Study Group (2013) highlights the needs for better-personalized guidance for adult students.

<sup>24</sup> After an aggressive FAFSA completion campaign in the Chicago Public Schools, the FAFSA completion rate among eligible high school graduates increased from 65 percent in 2006 to 86 percent in 2010 (Chicago Public Schools, 2013).

### *Simplifying the loan system*

The primary purpose of student loans is to influence decisions about enrollment and persistence in postsecondary education. Over time, in an effort to facilitate college access, the federal government has ended up with an array of loan programs that significantly increase the complexity of the student financing system and arguably create real hardship for students at the same time that they increase access.

Students and families make multiple decisions about borrowing for college. They decide whether to borrow, whether to take federal loans or private loans or both, whether the student or the parent should take the loans and, of course, how much to borrow. More decisions come when it is time to repay the loans. Students have multiple options for federal loan repayment plans. They also make decisions about prioritizing their debt. Should they repay private loans before federal loans? Auto loans before student loans?

One way of simplifying the student loan system would be to diminish the number of available loan programs. Proposals to eliminate the distinction between subsidized student loans, for which the federal government pays the interest while the student is in school, and unsubsidized loans, on which interest accrues continuously, would move in this direction. Moreover, eliminating the in-school subsidy would end the need for students to submit to a complicated financial need determination in order to access federal student loans.

Another simplification strategy would be to take steps to eliminate the confusion between federal and private student loans. It is not uncommon for students to take private loans without taking federal loans at all, or without exhausting their eligibility for federal students loans. Potential explanations for this choice, all based in behavioral economics, include the reality that federal loans require the FAFSA and private loans do not and that private lenders advertise in a way that makes their loans salient. Private loans may also have teaser introductory interest rates or may advertise the lowest available rates, although most borrowers will not be eligible for those rates. Moreover, many potential borrowers simply do not know the difference between the two forms of borrowing (CFPB, 2012).

A straightforward solution to this problem would be to eliminate any special treatment or provisions for “private student loans.” A private student loan is simply an unsecured consumer loan. Students could still choose this form of credit, but they would not be subject to the current confusion—and these loans would be dischargeable in bankruptcy like any other consumer loan.

### *Simplifying the grant system*

Students receive grants from a combination of federal, state, institutional, and private sources. Individual students may receive multiple different grants from any or all of these sources. The rules and processes vary widely, and students rarely have reliable information about the funding that will be available to them until just before they actually begin classes.

The lessons discussed above suggest that grant aid should be simpler and more predictable in order to allow students to respond to the incentives it is intended to provide.

#### **Changes consistent with this idea might include:**

- Award grant aid for the entire length of the program of study, rather than requiring students to reapply every year, which generates uncertainty about continuing funding.
- Make eligibility simple and predictable, constructing look-up tables allowing students to better estimate their awards in advance.
- Increase the consistency of the information provided by institutions by requiring a common format for award letters. This would facilitate comparison of the available aid and would be an inexpensive way of making grant dollars more effective. Currently, many award letters are unclear about what grant aid the student is receiving from which sources and how much the student and family will have to pay. This reality unnecessarily complicates the decision process.

## V. THE DOMINANCE OF DEFAULT OPTIONS

One decision-making shortcut involves not making an active decision at all but defaulting to the status quo. Complexity is one reason people gravitate towards the “default option” when faced with choices. If a decision is challenging or if complicated actions are required to reach one outcome but not another, people are likely to choose the path of least resistance, opting for the passive choice (Kahneman *et al.*, 1991). Rather than accepting default options as given, policies can be designed to modify the dominant choice, or to create a path of least resistance for the decision-maker.

In an often-cited study documenting the power of the default option, Madrian and Shea (2004) report on the impact of a small change in the pension plan enrollment procedures prevailing at a large U.S. firm. Before the change, new employees were not automatically enrolled in the company’s 401(k) pension plan and instead had to opt in to the plan by filling out a simple form, choosing a percentage of their earnings that would be contributed to the plan, and specifying one of nine possible investment options for their contributions. The company matched employee contributions at a 50 percent rate up to 6 percent of earnings. After the change, the pension plan remained the same but new employees were automatically enrolled with a contribution rate of 3 percent, all of which was invested in a money market fund. If they so desired, employees could easily opt out of the plan or change the default contribution rate and allocation.

The switch to automatic enrollment led to pension plan enrollment among newly hired employees that was nearly double the participation rate for those hired just before the change. Not only did participation rates increase, but the differences between men and women, between racial groups and between age groups were greatly reduced. The newly enrolled employees generally stuck with the default contribution rates and portfolio allocations, even though those defaults were not ones typically chosen by previous employees. That is, the previous employees had procrastinated in signing up for the plan and the new, automatically enrolled employees procrastinated in their choice of contribution rates and allocations.

Madrian and Shea (2004) propose complexity as one explanation for the patterns they observed. For the automatic enrollment group, the procedures involved in making a choice were not complicated but figuring out how much to contribute and how to allocate their contributions across multiple investment alternatives was.

A key point here is that the complexity lay in formulating the best choice and not at all in implementing the choice once made.<sup>25</sup>

### Reform Proposals Related to the Power of Defaults

#### Loan Repayment

The power of the default option in situations where decisions are complex lies behind recent proposals to make income-based repayment the default option when students leave school and begin repaying their student loans. Currently, there is a long list of repayment plans from which to choose, but the default option is a mortgage-style repayment plan involving regular payments over 10 years. Income-based repayment (IBR) allows borrowers to make payments as a function of their incomes so that those struggling to find a job or with low earnings can make little or no payment until their situations improve. If their hardship continues, the loans are eventually forgiven.

Making IBR the default option would lead more students to enroll in a repayment plan that eases the burden on them and might significantly reduce the frequency of student loan default. It would also make IBR more visible and salient, increasing the likelihood that students would actively choose it. In terms of enrollment and persistence, the goal would be to diminish the extent to which fear of unaffordable student loan payments discourages students from making the investment in postsecondary education.

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<sup>25</sup> For more discussion of the power of default options in the context of retirement savings see Choi *et al.* (2002).

## Early Commitment of Aid

The default educational path perceived by potential students might be affected by the early commitment of student financial aid. Many young people from low-income backgrounds who have few role models for continuing their education after high school just assume they will not go to college, at least in part because of the expense. Early commitment of grant aid has the potential to change what these students see as the default option. Federal and state grant aid could be awarded well in advance of enrollment and students could have that information when they are making their choices.<sup>26</sup> Currently, most potential students receive financial aid information only at the time when they choose between going to college and taking an alternative path. The early awarding of funds might change the norms and expectations of low-income and first-generation students, bringing them more in line with those of young people from more privileged backgrounds.

The Future to Discover experiment in Canada found that an early promise of financial aid significantly increased college enrollments of traditionally under-represented groups (SRDC, 2012). Recent proposals for early aid commitment systems include providing education accounts for middle school and high school students from low-income families (Rethinking Pell Grants Study Group, 2013; Huelsmann & Cunningham, 2013). Under such a system, low-income students would receive regular notification that they have money available only if they enroll in postsecondary education. Not taking advantage of this opportunity would involve a loss of funds, rather than just the avoidance of a major expense.

## VI. TIME-INCONSISTENT PREFERENCES

Tuition must be paid at the beginning of each term, but the increased earnings from a college education are expected only after leaving school. The timing with which benefits and costs occur affects decisions regardless of whether they are made by rational economic agents or in the manner suggested by behavioral models. For example, in both models, aid given in the present is worth more than aid given in the future because the money given in the present can either be spent sooner or saved, accruing interest.

But, as mentioned above, behavioral sciences point to time preferences that are not so rational. Many people lack the perfect self-control demanded by the rational model. Even if people have clear preferences about the future, when the future arrives, those preferences may weaken in the face of the actions required to realize the desired outcomes. They make choices today that their past selves would have rejected—a phenomenon known as *time-inconsistent preferences* (Della Vigna, 2009).

People who plan to start saving more “tomorrow” often fail to save when tomorrow arrives (Thaler & Benartzi, 2004). People who think they want to go to college might resist incurring the costs —both the effort required to apply for college and the actual tuition payments — when the time to incur those costs arrives.

Time-inconsistent preferences strengthen the argument for eliminating the barriers created by the financial aid application process discussed above in the context of complexity. Dynarski and Scott-Clayton (2006) mention the overweighting of immediate costs as one possible explanation for the relatively low postsecondary participation of low-income students, pointing out that higher-income students are less vulnerable to this problem because they go to high schools that reduce the cost of meeting these requirements, preparing them for the SAT, guiding them through the college and financial aid application processes, and reminding them of deadlines.

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<sup>26</sup> This approach is less feasible with institutional grant aid, which cannot be determined before the student applies for admission.

## Can Student Aid Accommodate the Overvaluing of Immediate Costs?

Some of those with time-inconsistent preferences are “sophisticates,” aware of their own lack of self-control and thus aware that their future selves may not take the actions that they, at the current moment, think best. Others are “myopes,” and appear unaware of the lack of self-control that their future selves will exhibit. Sophisticates will seek out commitment devices that constrain the behavior of their future selves. In a study by Ariely and Wertenbroch (2002), students were allowed to choose their own deadlines for a series of assignments. Rational agents would prefer the latest possible deadline, giving themselves as much flexibility as possible. In the experiment, however, two-thirds of the subjects chose deadlines earlier than the last possible date, presumably in order to commit their future selves to work harder on the assignments than they otherwise would have.

### Financial Aid Commitment Devices

While sophisticates might seek out their own commitment devices, perhaps institutions or public policies can also create commitments. Thaler and Sunstein (2008, p.205-206) report on a Texas high school that made completing at least one college application mandatory for all graduating students. The percentage of students enrolling in college went up by 11 percent in one year. Requiring students to complete the FAFSA in order to graduate from high school might have a similar effect.

### Should grant aid be frontloaded?

One way to reduce the likelihood of preference reversals in the postsecondary context might be to “front-load” Pell Grants, “lowering the perceived costs by giving students larger grants when they first enroll, with the trade-off being higher net prices in future years.

This proposal has emerged from time to time in discussions of Pell Grant reform (Stedman, 2004; Rotherham, 2012). The argument is not generally couched in terms of time-inconsistent preferences but rather in the context of making it more feasible for students to experiment with postsecondary enrollment without risking accumulating student debt before realizing that college is not the right path for them. The concern is that students might otherwise leave school without a credential that would generate higher earnings and diminish the burden of loan repayment.

But in the later years of college, costs will now be higher and the success of the frontloading strategy will depend on students having made a greater commitment to postsecondary education before the time when the net price goes up. The strategy can backfire if it results in more students starting college and then dropping out in the face of a higher net price in later years.

Many colleges *do* frontload their grant aid. Perhaps most common are the practices of awarding grant aid to entering students without assuring them that similar aid will be there as long as they demonstrate satisfactory academic progress, or awarding a fixed amount of grant aid that does not increase over time as tuition increases. Institutions are often criticized for this approach as a form of “bait and switch” (College Confidential, 2013). Students may not understand that the generosity that has lured them to campus will leave them with growing unmet need as they progress toward their goals.

Given the reality that we have made much more progress in getting students in the door than in supporting their success, and the high costs to students of devoting time and resources to postsecondary study without earning credentials, it seems prudent to recommend that the grant program *not* be front-loaded to accommodate the short-time horizons of undergraduate students.

## Addressing unexpected changes in circumstances

A more promising accommodation to the reality that students are likely to overreact to immediate costs is to provide some aid at the moment that students face unexpected financial problems. Need-based grant aid is almost always based on measures of financial resources at a point in time many months before the student enrolls in school. But for students, immediate circumstances are most salient. A student whose car breaks down or whose babysitter quits in the middle of the semester is likely to see the situation as hopeless. The idea that students would estimate the long-term costs and benefits of borrowing money to solve immediate problems of this nature is unrealistic, given our understanding of how people make judgments. The salience of their immediate problems is likely to make money awarded at the moment of need more powerful than the same dollars awarded as part of a basic financial aid package. Such a program of emergency grant aid must be designed to minimize moral hazard—the tendency of people to create the circumstances for which they are insured. But recognizing the disproportionate interference with student success that can be created by relatively small immediate problems is critical to the design of effective student aid programs

## VII. DEBT AVERSION

Whether viewed as a form of the behavioral concept of loss aversion or in the more standard rational economic framework of risk aversion, reluctance to incur debt is a critical issue in designing the most effective student aid system. The term “debt aversion” is used to refer to the idea that being in debt carries a psychic cost, apart from any of the explicit costs associated with the loan. Because people fear losses more than they value equivalent gains, they may hesitate to take risks, even if the actions perceived as risky have a high probability of improving their situations. While debt financing does not necessarily increase the total cost of attending college, the prospect of being left with unmanageable debt might deter people from making investments they would judge wise if the downside were simply wasted expenditures as opposed to debt.

Of particular concern is the idea that low-income students, who have no alternative means of financing postsecondary education, may be overly hesitant to borrow.

The empirical results about the existence of debt aversion among potential college students are mixed, and as discussed below, there may be countervailing psychological forces leading some students to borrow excessively for college. But the possibility of debt aversion is real enough to merit attention. One convincing analysis involves the borrowing decisions of law students.

Over time, rising law school tuition has led to very high debt levels among graduating lawyers. Acknowledging the wide and rising gap in earnings between public-interest jobs and private sector jobs, some law schools, including New York University, have instituted loan repayment assistance programs (LRAP), which pay off the loans of graduates who work in public-interest jobs, forgiving the loans for graduates who work in such jobs for 10 years after graduating. In 1997, the NYU law school announced a variant of their LRAP that would pay two-thirds of the tuition of students planning to go into public-interest jobs after graduation. If they chose other career paths, the tuition subsidy would be converted to a loan.

NYU set up an experiment, randomly assigning students agreeing to participate to either receive upfront loans that could be forgiven or tuition subsidies that could later turn into loans. The two programs were designed to be financially equivalent, taking into account all interest on the loans. The only difference was that the standard LRAP students had to take out larger upfront loans than students in the experimental LRAP, but they did so having been promised that NYU would pay off the loans if they worked in public-interest jobs. Only if borrowing carried a psychic cost, apart from any financial or risk-related considerations, would the enrollment rates of the accepted students offered the two programs differ. In her analysis of the data arising from the experiment, Erica Field (2009) reports that among applicants for the 1999 class, 42 percent of the applicants offered the tuition subsidy enrolled, compared to only 32 percent of those offered forgivable loans. Among the applicants for the class of 2000, the gap was even larger, 20 percentage points in favor of the subsidies (Field, 2009). These effects are as close as researchers have gotten to documenting educational debt aversion in high-stakes decisions.

The post-law school choices of the two groups illustrate the effect of loss aversion.<sup>27</sup> In the NYU Law School experiment, those who had been given a tuition subsidy and who were considering a job in the private sector would have to take out an extra \$30,000 in loans to repay their subsidy. Those who had not been given the subsidy would have already borrowed that \$30,000 prior to considering the private option. Field argues that the reference point of the two groups would be different (even though the total amount borrowed would be the same) and the new \$30,000 in borrowing would act as a disincentive to private employment for the subsidy group. That is, “[i]f individuals are loss averse with respect to debt, and reference points over debt are determined by existing levels of debt, entering a debt contract will have a bigger effect on behavior than exiting a contract of the same magnitude” (Field, 2009, p. 7). In the experiment, those with the subsidy were significantly more likely to take public-service jobs after law school.

Another example of debt aversion comes from Caetano *et al.* (2011), who used the answers to questions on a World Bank survey to measure the existence of debt aversion. The respondents, who were randomly divided into two equal groups, were presented with two payment options—a fixed monthly payment or a payment depending on income. One group was presented with the first option explicitly labeled as a “loan” and the second option explicitly labeled as a “human capital contract.” The second group was presented with the same two options but without any explicit labels. The results were clear. Members of the treatment group, whose choices were explicitly labeled “loan” and “human capital contract,” were about 13 percentage points more likely to choose the human capital contract than the loan, even though both options were financially equivalent. Control group respondents, without the explicit labeling, were less likely to choose the loan option, but only by about two percentage points (Caetano *et al.*, 2011, p.22).<sup>28</sup>

What implications for student financial aid reform follow from the existence of debt aversion?

The finding by Caetano *et al.* that a key part of debt aversion may be the explicit labeling of loans suggests the possibility of presenting loans with language that does not explicitly use the words “loan” or “debt.” That is, the psychic cost of educational debt might be reduced by a simple change in language. For example, the Australian income-contingent loan program was initially called the Higher Education Contribution Scheme (HECS) and the use of the words “loan” and “debt” was not common in program descriptions. The idea of a “graduate tax” has been discussed in England—a policy identical in substance to income-based loan repayment.

Low-income students may hesitate to borrow for college because of the fear that they will not be able to repay their debts. They do not perceive the absence of postsecondary education as a loss, since ending their education with high school represents their reference point. They undervalue uncertain potential future income gains, and they fear the loss of financial security associated with incurring significant debt.

Income-based repayment systems that provide assurance that excessive debt will not be a problem should work to counter some of these perceptions that interfere with educational progress. To date, relatively few borrowers have taken advantage of the existing U.S. programs in this category. The idea discussed above of making this plan the default option would likely increase awareness of this protection and change perceptions of the potential loss involved in student loans. This may also be a good example of a case where describing the program in language that communicates better might make a practical difference in framing. For example, describing the program as a risk-sharing or insurance program, or even as an equity partnership, might be effective.

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<sup>27</sup> Recall that the idea of loss aversion is that a loss of a certain amount, relative to an initial reference point, causes a greater loss of utility than the utility produced by an equal gain.

<sup>28</sup> Some studies raise questions about the prevalence of debt aversion. For example, Eckel *et al.* (2007) did not find evidence that debt aversion is an important barrier to investments in postsecondary education. Johnson and Montmarquette (2010) performed experiments that yielded mixed results on the subject.

## VIII. OVERCONFIDENCE

While debt aversion appears to lead some students to make sub-optimal postsecondary choices in order to avoid debt, other students may be led by other cognitive biases to borrow too much. A common finding of behavioral economists has been that people are overconfident, making choices based on subjective judgments that over-estimate their objective probabilities of success.

Students considering courses of study in which the likelihood of success is objectively low may enroll anyway because they believe that they will succeed where others have failed. Where debt aversion might lead students to borrow too little, overconfidence can lead them to borrow too much. Inflated expectations of the probabilities of educational and occupational success leave some students with debt obligations that are disproportionate to their earnings.

### Loosening restrictions on bankruptcy discharge of student loans

The idea that overconfidence can lead to excessive borrowing might lead to the suggestion that the terms of student loans should be harsher or that access to those loans should be restricted. Above, we discussed the idea of risk-rating, which emerges from this perspective. However, the reality is that any loan system designed to increase educational opportunities for at-risk students is likely to lead to some over-borrowing. The recognition that overconfidence leads people to borrow more than they are likely to be able to repay is one of the motivations for the “fresh start” principle that is so important to the general framework of personal bankruptcy. The other important principle is the “equality” principle, which views bankruptcy as a way to ensure that all creditors share equally in the bankrupt’s assets. Student loans are much more difficult to discharge in bankruptcy than other forms of consumer debt, and that fact goes against both the “fresh start” and the “equality” principles.

Before 1976, the rules for student loans were similar to those for other consumer debt. However, Congress made federal student loans very difficult to discharge in the late 1970s and since then has gradually imposed more restrictions. Beginning in 2005, for example, non-dischargeability was extended to private student loans. The rationale for making student loans almost impossible to discharge through bankruptcy seems to be rooted in the idea of “soft fraud,” that students leaving school with heavy debts and promising careers will file for bankruptcy because they simply do not want to pay their debts (Pottow, 2004). No systematic evidence of such behavior has been produced.

It is reasonable to ask why any legally incurred debts should be dischargeable. The obvious argument is that given life’s uncertainties, some people who incur debts they can reasonably expect to repay will experience health crises or other unanticipated circumstances that make it impossible for them to ever meet their obligations. They are “honest, but unfortunate.” Legal bankruptcy structures also implement the equality principle by creating an orderly process for applying reasonable priorities to any payments made by financially distressed debtors (Mooney, 2004). Jackson (1985) provides an added perspective, arguing that bounded willpower and bounded rationality lead people to overestimate the probability of the success of the venture for which they have borrowed. For that reason, society favors the right to discharge and the resulting “fresh start” that allows debtors to escape the “life sentence” of debt repayment and be economically productive in new careers. In other words, recognition of the pervasiveness of the overconfidence bias provides support for a bankruptcy policy that would be less appealing if over-borrowing were more closely associated with irresponsible behavior.

The bankruptcy restrictions on discharging student debt in bankruptcy should push rational borrowers to move in the direction of other forms of consumer debt, such as credit cards. Few would argue that this is a desirable outcome. But those who are overconfident about their educational and career outcomes are not likely to be discouraged. Not believing that they are likely to end up with repayment difficulties, they will not be deterred from borrowing by the bankruptcy restrictions. In other words, the current policy is likely to discourage borrowers who should take student loans, while not reducing excessive borrowing by those who under-estimate their risks. Allowing discharge and improving IBR are better alternatives than the current inescapable hardship that faces too many people struggling to repay their student loans.

## IX. CONCLUSION

Student aid makes college possible for many students who could otherwise not afford to participate in postsecondary education. However, these dollars could be more effective in increasing educational attainment if programs were designed with a clearer understanding of student behaviors. Students respond to financial incentives, and the incentives built into the aid system often do not encourage enrollment patterns most likely to lead to timely degree completion. But like other people, students also systematically make decisions that do not maximize their own long-run well being. Incorporating the insights of behavioral economics and cognitive psychology into the development of student aid policies has the potential to increase student success.

Like anyone else, some potential students respond to complexity by taking the path of least resistance and accepting what appears to them to be the default option. For many low-income students, this is likely to be not going to college. Time-inconsistent preferences can lead some people to procrastinate and, in this context, to fail to even apply for financial aid, despite a desire to continue their education. On the other hand, potential students may be overly optimistic about their own chances for success, even choosing to enroll in institutions where very few people succeed. Some of these patterns pull in opposite directions in terms of postsecondary financing decisions. For example, some students may fail to enroll or may drop out of college to avoid incurring debt. Others may borrow more than they can reasonably hope to repay.

Student aid policy should be designed to minimize the extent to which student decision-making and behavioral patterns lead them into paths they would not choose for themselves if they could objectively evaluate and act on their long-term prospects. Some argue that “nudges” are simply a new form of government coercion (Farrell & Shalizi, 2011). But it is important to recognize that the status quo also “nudges” people. For example, one could argue that the complexity of the current system nudges people *not* to take advantage of existing subsidies. It would be a mistake to assume that only *changes* to public policy can be thought of as manipulating behavior (Sunstein and Thaler, 2003).

Any agenda for changing behavior, however, should be predicated on evidence that these changes in behaviors would lead to desirable changes in outcomes. It’s not just a question of, for example, whether more people completing the application process for federal student aid would increase college enrollments but whether there is good reason for public policy to be designed with the intent of inducing people to apply for aid and to enroll in postsecondary programs.

We believe that the persistent gaps in enrollment and attainment by racial and ethnic group and by socioeconomic status justify designing effective nudges.<sup>29</sup> While some may be inadequately prepared for college and face low probabilities of success, for others, different choices and behaviors might make the difference between life with a college credential and life with more limited opportunities. Potential students may have incomplete information; they may face insurmountable budget constraints; they may not understand the benefits associated with postsecondary education—or their decision-making processes may not reflect the rational calculus so frequently assumed. Students may not trust the available information, they may fear taking on debt more than is reasonable, or they may see the path of least resistance as following the example of those around them who did not go to college.

In addition to constraining their personal outcomes, the failure of these individuals to invest in themselves carries a high cost to society as a whole. Those who could benefit but do not enroll are less productive members of the labor force, pay lower taxes, and are more reliant on public subsidies than they would otherwise be. Those who enroll and do not achieve their goals are in similar circumstances, with the added problems of having paid in time and money for education and ending up with debts they may not be able to repay.

<sup>29</sup> In 2011, 69 percent of white high school graduates enrolled immediately in college, as did 65 percent of black and 64 percent of Hispanic high school graduates (National Center for Education Statistics, 2012c, Table 210). However, 35 percent of white 25- to 34-year-olds had bachelor’s degrees, compared to 21 percent of blacks and 15 percent of Hispanics in this age range, indicating large gaps in completion rates (U.S. Census Bureau, 2012). In 2010, 52 percent of high school graduates from the lowest family income quartile enrolled immediately in college, compared to 82 percent of those from the highest income quartile (NCES, 2012b, Table A-34-1), <http://nces.ed.gov/programs/coe/tables/table-trc-1.asp>). Among dependent students beginning their studies in 2003-4, by 2009 38 percent of those from the lowest family income quartile had left without a credential, compared to 19 percent of those from the highest quartile (NCES, 2012c).

Whatever the optimal number of people with postsecondary credentials, policies that limit individuals' access to the opportunity to live up to their potential cannot be the best outcome for society.<sup>30</sup> Similarly, a system that creates strong incentives for institutions to lure students into programs not likely to serve them well is hardly desirable.

Our focus on student behaviors should not deflect attention from the institutional role in promoting student success. Recognition that institutions respond to the financial incentives created by student aid programs and do not always act in the best interest of students should also inform student aid policies. Current policies provide an incentive for colleges to enroll aid-eligible students, but not for them to put resources into supporting student success. Recent "gainful employment" rules proposed by the Department of Education would have stopped federal aid from flowing to vocational programs in which too many students borrow more than they are able to repay. While the rules were struck down by the courts before they could be implemented, there is evidence that the threat of action changed the behavior of institutions in the for-profit sector, the main target of the policy. Knowing that the practice of enrolling students with little chance of success would likely carry penalties, these companies took steps to improve outcomes (Fain, 2011).

Institutional actions could change both the way students finance college and their success rates. For example, just providing students with clear guidance about the nature of private student loans before they commit to this source of funds can make a measurable difference (Jaschik, 2007). The Obama administration has floated the idea of conditioning receipt of at least a portion of federal student aid on institutional financial aid and pricing practices. Colleges that award too much of their grant aid without regard to students' financial circumstances or that fail to keep net prices in check might lose out. While the details of such a strategy have not been articulated and there could be significant unintended consequences, the principle of using federal policy to influence institutional behaviors deserves more attention.

A number of recent policy proposals are directed at influencing institutional behavior through incentives rather than restrictions.<sup>31</sup> This approach is based on the idea that if they have a greater incentive to help their students succeed, institutions will better respond to all of the student behavioral patterns. Pilot projects of this type should be carefully designed and evaluated in order to avoid unintended consequences such as increased admission requirements and dilution of academic quality and requirements.

Active consideration of the impact of student aid policies on both institutional and student behavior has the potential to significantly improve student outcomes. The behavioral insights highlighted in this paper do not replace our long-standing understanding of the importance of financial and other incentives. But these more nuanced perspectives can enrich our understanding of student responses and should lead to improved program design. Experiments that provide the opportunity for careful evaluation of the effectiveness of specific program modifications are an important next step. As innovative ideas are tested, we should ask not only whether they work in the specific circumstances studied but why they work and how best to extend them to different populations.

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<sup>30</sup> A recent analysis of the British higher education financing system from a behavioral perspective includes strong warnings about assuming that participation is the right choice for students. The stated goal is to help people to overcome barriers to sound decision-making—not necessarily to significantly increase enrollment rates (Diamond et al, 2012).

<sup>31</sup> Examples of relevant proposals include the Rethinking Student Aid Study Group (College Board, 2008), the Rethinking Pell Grants Study Group (2013), and a number of the recent Redesigning Aid Design and Delivery (RADD) projects funded by the Bill and Melinda Gates Foundation.

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## APPENDIX A

### Potential Policy Reforms

The list that follows does not (italicize not) constitute a set of policy recommendations. It is a catalog of the potential changes mentioned in the text.

*Simplify the application process and the array of financial aid programs.*

- Require students to complete the FAFSA as they are finishing high school, making applying for financial aid the default options.
- Reduce the complexity of the financial aid application so that students don't avoid it.
- Simplify the array of loan programs, consolidating and strengthening the income-based repayment plan.
- Eliminate the official category of private student loans to avoid the confusion it creates for students who need to borrow.
- Award grant aid for the entire length of the program of study, rather than requiring students to reapply every year, generating uncertainty about continuing funding.
- Make eligibility simple and predictable, constructing look-up tables allowing students to better estimate their awards in advance

*Attempt to modify the expectations of low-income and first-generation students so they are less likely to follow the path of least resistance in not applying for financial aid and not going to college.*

- Provide early information about college options, the payoff to college, and financial aid in order to change expectations and modify the default option of low-income and first-generation students.

*Provide better information based on behavioral insights—not just more information.*

- Provide “psychology guided” information to potential borrowers, using simple and striking illustrations to communicate the risks of available options.
- Consider the implications of the names used to identify different forms of student aid. Deferred payments might be less frightening than loans. Scholarships might be more appealing than tuition discounts.
- Require institutions to use standardized award letters to inform students of their financial aid and the costs they will be incurring by enrolling.
- In simplifying the financial aid application process and moving in the important direction of obtaining financial data directly from the IRS, recognize that many students and families are likely to have negative associations with that agency and design communication strategies to mitigate this problem.

*Acknowledge that students respond to financial incentives and structure those incentives to generate positive outcomes.*

- Structure Pell Grant funding to better encourage full-time enrollment, instead of funding only 12 credit hours per semester for two semesters a year.
- Target performance-based grant aid on high-need students for whom small increases in funding make a measurable difference and small improvements in academic progress can make the difference between success and dropping out.

*Attach support services to student aid funds so students don't have to choose to take advantage of them.*

- Supplement grant funds with required use of mentoring and academic support services so these constructive paths are not optional for students.
- Make continued receipt of grant aid or receipt of supplemental grants conditional on behaviors over which student have control, such as enrolling full-time or taking advantage of academic support systems

*Design programs to incentivize positive institutional behaviors.*

- Develop programs that coordinate institutional funding with student aid in ways that provide incentives for colleges to support student success, not just enroll students who come with funding.
- Restrict access to federal student aid for institutions not meeting specified student-based criteria.
- Link federal subsidies to institutions to institutional financial aid policies.