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, about half of all recent high school graduates enrolled in college. While significant differences persist across demographic groups, we have made considerable progress in improving access to higher education. Today, two-thirds of those who complete high school enroll in two-year or four-year colleges within a year (NCES, 2013, Table 302.10). 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 32 percent (U.S. Census Bureau, 2014, Table A-2).[1]

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 (U.S. Census Bureau, 2014, Table A-4). Among students who first enrolled in college in fall 2007, less than 60 percent had completed a degree or certificate after six years. While some were still enrolled, just under one-third had left without a credential (Shapiro & Dundar, 2013). The rising price of college, increasing reliance on student debt, and the significant earnings gap between those with only some college and those who completed degrees have led to an increasing focus on improving completion rates.[2]

Increasing the number of adults with 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 behaviors likely 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

[1] 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 22 percent and 15 percent, respectively, in 2013 (U.S. Census Bureau, 2014, Table A-2).

[2] 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 (U.S. Census Bureau, 2014, Table A-1).

college. The idea that its design might affect whether or not students achieve their goals in a timely manner was not an evident concern.

Financial aid programs are too often built around the assumption that students and their families can easily weigh the costs and benefits of their postsecondary choices. A basic assumption is that if students don't have enough money to pay for college, giving them more money will make it possible for them to enroll. But 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 informed decisions.

Moreover, information is not the only problem. Evidence from the fields of cognitive psychology and behavioral economics suggests that in addition to having limited information, students, like anyone else, respond to how things are framed, to complexity, to default options, and to the anecdotes that are freshest in their minds. As a result, people frequently act in ways that do not maximize their long-run welfare.

While all human beings are subject to these "cognitive biases," some potential students may be more susceptible than others, and the students at whom need-based financial aid is aimed are particularly vulnerable. For example, students whose parents did not go to college and who attend high schools where relatively few people go on to postsecondary education may not know how to approach the complex decisions they have to make. They are unlikely to have access to college-preparation resources, and tend to 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, affluent 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." For them, the most obvious path is likely to be moving straight into the labor market.

To explain why and how many people make choices that do not serve them well, behaviorists have defined two broad categories of decision-making processes—relatively slow, careful reasoning and fast, intuitive judgment. The fast system, now often called System 1, 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, now often called System 2, 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" system, 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 this chapter, we give particular attention to concepts from behavioral economics and cognitive psychology, but also address rational responses to the monetary incentives built into the system. Our main concern is directly changing student behaviors, although we briefly address institutional behaviors as well. Our goal is not to describe the optimal aid system and the ideas included do not involve a fundamental overhaul of the system. The policy reforms we discuss are those that best illustrate the role of cognitive and behavioral issues. The idea is not that modifications of the type discussed would solve the college completion and educational

attainment problems, but that they could engender significant steps in the right direction.

In the sections that follow, we focus on several key components of the student aid system and how behavioral insights relate to the effectiveness of current and potential policies. In the first section, we discuss the aid application process, which governs access to these funds. The next section focuses on grant aid followed by an examination of student loans. We briefly address institutional responses to the student aid system and then conclude.

APPLYING FOR FINANCIAL AID

Over time, the components of the student financial 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, 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 education debt.

In order to apply for federal financial aid, or for need-based aid from states and institutions, students (and parents) must complete the Free Application for Student Financial Aid (FAFSA). This application is long and confusing and asks detailed financial questions that require information from tax forms and other sources. Even though computer technologies now allow filers to skip irrelevant questions and even though the IRS now transfers some data from tax forms to the FAFSA, complexity remains a barrier preventing a significant number of qualified students from applying for aid.[3]

It may seem that these hurdles should be insignificant when weighed against the thousands of dollars of aid for which students may be eligible if they successfully navigate the application process. But responses to complexity are a core component of behavioral analysis. 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 confusing processes such as aid application can create disproportionate barriers and that intuitive rules of thumb can play an important role.

People who are faced with a complex or difficult choice often *procrastinate* rather than going through the challenging task of making the choice before them. People may procrastinate either because the choice itself is difficult or because the action required to implement the choice is complicated. As a result, missed deadlines and other minor hurdles interfere with the educational progress of many low-income students (Avery & Kane, 2004).

Convincing evidence of the barrier posed by the FAFSA is provided by an experiment conducted by Bettinger *et al.* (2012). In this study, the offer to low-income individuals of 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 significantly increased college enrollment rates.

Research shows that while additional information about aid may benefit students, it is not sufficient to eliminate the barriers they and their parents face in the aid application process. Simplifying the application process and understanding how time-inconsistent preferences affect choices may increase the ability of students and their families to successfully apply for aid.

[3] 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.

More than information

The complexity of the FAFSA and of the student financial aid system more generally have led to calls for better information. For example, student aid calculators are now required on the websites of all colleges and universities. However the evidence provided by the Bettinger et al. (2012) study suggests that while disadvantaged students are more likely to enroll in college when they are given personalized assistance, the provision of information alone 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.[4] The same is true of efforts to guide adult students into appropriate postsecondary paths.[5]

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 a half of students who rated hypothetical items of information as very useful reported that they had not actually tried to find the information they rated as very helpful (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, 2013; NCAN, 2013; Baum & Scott-Clayton, 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.[6]

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[4] 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.

[5] *Rethinking Pell Grants* (2013) highlights the needs for better-personalized guidance for adult students.

[6] 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). Note that if the system involves a *requirement*, although it may change the default option and the reference point for students, it differs fundamentally from the "nudges" on which behavioral analysis focuses.

Commitment Devices

Even if people have clear preferences about the future, when the future arrives, those preferences may weaken in the face of the immediate 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). This concept is relevant to the financial aid application process because an individual may have decided that she wants to go to college and will do whatever it takes to get there — in the future. But when the time actually arrives to fill out the application for aid, the immediate cost seems large and the vague benefits, still far in the future, are less compelling. It is therefore not surprising that 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. 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 by preparing them for the SAT, guiding them through the college and financial aid application processes, and reminding them of deadlines.

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 may 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. We might think people 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 more quickly on the assignments than they otherwise would have.

GRANT AID

Simplifying the grant system

Just as complexity discourages potential students from applying for financial aid, diminishing the probability that they will enroll in college, complexity in the structure of available grant aid reduces its effectiveness. Students may receive grants from a combination of federal, state, institutional, and private sources. The rules and processes for receiving these funds 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. One change consistent with this idea would be constructing internet-based look-up tables that allow students to better estimate their awards in advance. Because requiring students to reapply for aid every year generates uncertainty about continuing funding, a related idea is to award grant aid for the entire length of the program of study. Promising students aid for future years also has the

advantage that it creates a sense of loss if they leave school without taking advantage of the funds they have been awarded.

Increasing the consistency of the information provided by different institutions would also be in line with evidence from the behavioral literature. Currently, many award letters are unclear about what grant aid the student is receiving, from which sources the aid is coming, and how much the student and family will have to pay. Requiring a common format for award letters could mitigate this problem. The Obama administration proposed standardization in 2011 under the rubric "smart disclosure," which meant "providing information in a straightforward common format."[7] The idea is that in a wide variety of decisions — including those concerning cell phone contracts and mortgages as well as postsecondary institutions — having standardized information facilitates comparison by consumers or by their advisors.

Encouraging full-time enrollment

While many students have family and work responsibilities that make full-time enrollment unrealistic, completion rates for students who consistently enroll part-time are very low (Shapiro & Dundar, 2013; Complete College America, 2011; Clotfelter, 1991). Moreover, the definition of "full-time" enrollment that has evolved does students a disservice, because it implies slower credit accumulation than is required by most programs to complete an associate degree in two years or a bachelor's degree in four years. While these outcomes require that students earn an average of 15 credit hours per semester, the federal Pell Grant program and many state grant programs consider students full-time if they are registered for 12 credit hours or more per semester.[8]

It might seem that the benefits of progressing as rapidly as possible through college would provide adequate motivation to students. Paying tuition for an extra year or two, being unable to work full-time during an extended period of study, and postponing the financial benefits of being in the labor market with a college degree carry significant financial penalties. But these costs may not be sufficiently immediate, visible, and concrete to affect the choices many students make.

Defining full-time as 12 credit hours makes this enrollment pattern the norm. 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 recent proposals that would link grant amounts to number of credits. Under this system students would receive larger grants if they enrolled for more credits.[9] They would receive additional funding if they enrolled for three terms over the course of a year rather than two (Baum & Scott-Clayton, 2013; College Board, *Rethinking Pell Grants, 2013).* The Super Pell and Pell Well proposals recently put forward by NASFAA would have a similar effect

[7] See http://www.whitehouse.gov/sites/default/files/omb/inforeg/for-agencies/informing-consumers-through-smart-disclosure.pdf

[8] 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.

[9] Overall, funding would be limited to 125 percent of the credits required for the program in which they were enrolled.

(NASFAA, 2013).

Performance-based grants

The desire to give grants to the students who need them most has led policy makers to avoid tying need-based aid to academic performance, which is negatively correlated with socioeconomic status. Although a growing portion of state grant aid ignores financial circumstances all together and simply rewards high school grades or test scores, 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.[10] Standard economic analysis suggests that if students are given more money for specific behaviors, those behaviors will become more common and there is evidence to support the idea that tying funding to credit completion can improve academic outcomes.

Examination of the impact of a West Virginia program tying scholarships to academic progress found that when students were granted free tuition conditional on accumulating a specified number of credits with a minimum GPA, graduation rates increased significantly. The findings suggest that the program worked by establishing clear academic goals and incentives to meet them, rather than simply reducing the cost of college (Scott-Clayton, 2011).

A series of randomized trials with a variety of high-need populations in different locations carried out by MDRC under their Performance Based Scholarship Demonstration tests the idea that students will progress more quickly if provided with clear and immediate incentives (MDRC, 2013). The evidence from these experiments suggests that students make more progress if they are given extra dollars to do so—but the effects are not large.

A number of studies have shown that not all students respond similarly to financial incentives. In particular, lower-income students are more price-sensitive than students with sufficient resources, whose choices are less dependent on financial 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 indicates 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.[11] Another issue relevant to the successful design of performance-based funding schemes is that the most successful approaches provide incentives for actions over which students have control, 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).

Some efforts to encourage completion involve converting loans to grants or refunding a portion of tuition for students who complete their degrees on time (THECB, 2013). This framework is based on the idea that students will respond in a rational way to financial incentives. Any program that rewards student success should incorporate the reality that

[10] 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).

[11] The Rethinking Pell Grants Study Group made this proposal for adult students in their recent report (College Board, 2013).

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.

Early commitment of grant aid

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 consciously create a path of least resistance for the decision-maker.

An often-cited study by Madrian and Shea (2001) documents the power of the default option by reporting on the impact of a small change in the pension plan enrollment procedures prevailing at a large U.S. firm. The switch from requiring new employees to make a choice and take active steps to enroll in a pension plan to automatic enrollment (with the opportunity to opt out) nearly doubled the pension plan enrollment rate among newly hired employees compared to for those hired just before the change.

Many young people from low-income backgrounds who have few role models for continuing their education after high school may 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.[12] Currently, most potential students receive financial aid information only after they have decided to go to college and taken most of the required steps to make that a reality. 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 enrollment and graduation rates of traditionally under-represented groups (SRDC, 2014). Future to Discover was a randomized trial that offered low-income high school students in the Canadian province of New Brunswick either an early commitment of $8,000 in grants, or a series of after-school postsecondary education workshops or both. The grants were contingent on high school graduation and enrolment in a two- or four-year college. The impacts of the financial incentive on enrolment were quite large, on the order of 7 to 8 percent (p. 4).

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, 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.

The early commitment of financial aid would be much more feasible if the aid application

[12] This approach is less feasible with institutional grant aid, which cannot be determined before the student applies for admission.

process was simpler and eligibility could be determined earlier.

Addressing unexpected changes in circumstances

A 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.

STUDENT LOANS

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 and repayment plans 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 and the number of repayment plan options. The standard economic rationale for providing multiple choices is that consumers have a wide range of circumstances and preferences. As Bar-Gill (2011) points out in the context of credit cards, a multiplicity of choices can be both efficient and beneficial. Just as some credit card users would prefer a higher interest rate but no annual fee, while others would make the opposite choice, some student borrowers might prefer to bear the higher interest costs involved in stretching their payments out over a longer time, while others prefer to pay as quickly as possible.

On the other side of this issue, however, is the "*paradox of choice*," with expanding options leading to more difficult decision processes (Schwartz, 2004). For example, students presented with a long list of student loan options may be less likely to make well-considered choices than those who are presented with one option for parental borrowing and one for student borrowing. Despite a variety of good options for repayment plans, most borrowers stay in the

standard ten-year repayment plan in which they are placed if they make no active choice.[13]

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 diminish the complexity of the student loan system. 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 student 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 loans.

Debt 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 that lead 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.

Acknowledging the wide and rising gap in earnings between public-interest jobs and private sector jobs, some law schools have instituted loan repayment assistance programs (LRAP), which pay off the loans of graduates who work in public-interest jobs by, for example, forgiving the loans for graduates who work in such jobs for ten years after graduating. In 1997, the NYU law school announced a variant of their LRAP that would pay two-thirds of the tuition

[13] Faced with complex choices, students may focus on a few salient characteristics rather than trying to understand all of the options. In the credit card context, complexity allows the issuers to make salient features (the annual fee, the rewards program) attractive and to make the less salient feature (the late fees and foreign exchange fees) far less attractive (Bar-Gill, 2011).

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 who agreed 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. 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 importance of *reference points* and the related concept of *loss aversion*. People tend to judge options based on the changes they are likely to bring, rather than actually comparing end states. If the end state reflects a loss from the starting point, it seems worse than if the same situation involves the continuation of existing circumstances. 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. In the experiment, those with the subsidy were significantly more likely to take on public-service jobs after law school.

Income-based Repayment (IBR)

Income-based repayment systems provide assurance that excessive debt is unlikely to be a problem and should thus work to counter debt aversion. To date, however, relatively few borrowers have taken advantage of the existing U.S. programs in this category.

The power of the default option in situations where decisions are complex lies behind recent proposals to make income-based repayment automatic when students leave school and begin repaying their student loans. Currently, there is a long list of repayment plans from which to choose, but if borrowers do not actively choose an alternative plan, they are placed in the standard plan—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 debt aversion discourages students from making the investment in postsecondary education.

Low-income students may be especially hesitant to borrow for college because of the fear that they will not be able to repay their debts. If ending their education with high school is the

reference point for many low-income students, they will not perceive the absence of postsecondary education as a loss. Because they fear losses more than they value equivalent gains, there is a tendency to avoid risks. They undervalue uncertain potential future income gains, and they fear the loss of financial security associated with incurring significant debt. In contrast, for students from more affluent families and for those whose parents are college graduates, not going to college is likely to be perceived as a loss—a failure to meet expectations.

Minimizing risks

The student loan arena is receiving increasing attention because of the significant problems a visible minority of former students are experiencing repaying their loans. 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 is that *overconfidence* leads people to take questionable risks because their subjective estimates of the probability of success are higher than the objective reality.[14]

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.

Suggestions are emerging that would offer less favorable terms on loans for students embarking on educational paths with relatively low chances of success (NASFAA, 2013; Simkovic, 2011). But an alternative to modifying the terms or availability of loans based on repayment risk is to provide better disclosure 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.[15] 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 a hyperlinked red, green or yellow light. The red light would indicate a program/school combination for which the probability of default was high. If any borrower chose to click on the link, the nature of the index and its application in the situation faced by that particular borrower could be explained.[16]

Bertrand and Morse (2011) employed this type of visual representation of important information 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.[17] The most effective approach tested by Bertrand and

[14] A classic example of the overconfidence effect can be found in Svenson (1981), who found that 93% of American drivers thought that their driving skills were above the median.

[15] 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.

[16] 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.

[17] Bertrand and Morse (2011, p. 1872). The actual information illustrated that 2.5 people out of 10 repay without first renewing their payday loan.

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.[18] 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.

This approach 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 the riskiest borrowing will be diminished by information designed with behavioral responses in mind.

Allowing the discharge of student loans in bankruptcy

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. 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 some 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. Student loans are much more difficult to discharge in bankruptcy than other forms of consumer debt, and that fact goes against the "fresh start" principle.

Before 1976, the bankruptcy 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.

The restrictions on discharging student debt in bankruptcy should push 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.

THE SUPPLY SIDE: INSTITUTIONAL BEHAVIOR

The primary focus of this paper is on students, who represent the demand side of the market for postsecondary education. The current federal funding system is essentially a voucher

[18] See Barberis et al. (2006) for a discussion of narrow framing and its application to financial decisions.

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. But institutional behaviors, which can play an important role in student success, may also be affected by the design of student aid programs.

The voucher system of student aid 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 there may sometimes be misalignment between student and institutional interests. Institutions too often respond 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.

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 institutions observe that students and parents, who have little basis for judging the actual value of the educational experience at a particular college, respond positively to the appearance of a "good deal." Parents are proud of their children who receive "merit" scholarships.[19] This observation contributes to the current complex pricing and discounting patterns at colleges and universities.

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). A number of recent policy proposals with the goal of increasing access and success for low-income students are directed at influencing institutional behavior through incentives rather than restrictions.[20] This approach is based on the idea that if they have a greater incentive to help their students succeed, institutions will respond more constructively 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.

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

[19] See Clifford & Rampell (2012) for a discussion of consumer demand for discounts in a retail environment.
[20] 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.

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 & 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 is 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.[21] While some may be inadequately prepared for college and face low probabilities of success, for others, alternative 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

[21] 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).

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.

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.[22] Similarly, a system that creates strong incentives for institutions to lure students into programs not likely to serve them well is hardly desirable.

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 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.

[22] 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).

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