BRIDGET TERRY LONG

Making College Affordable by Improving Aid Policy

Financial aid programs to expand college access could be improved by simplifying processes and favoring grants over loans and need-based rather than merit-based criteria.

Higher education plays an important role in U.S. society. In addition to providing numerous public benefits, such as an increased tax base and greater civic engagement, it helps individuals attain economic and social success. Experiences and skills acquired from postsecondary education reverberate throughout life in terms of higher earnings, a lower likelihood of unemployment, and better decisions about health. Yet research demonstrates that one of the primary barriers to college enrollment, especially for low-income students, is the financial outlay required to attend. For this reason, the federal and state governments spent more than $2.5 trillion in 2008-09 on student grants, such as Pell Grants, with the hope of encouraging enrollment.

Although there is a belief that financial aid could greatly improve educational outcomes, there also are many reasons to question the efficacy of the nation's current system of financial aid. After decades of financial aid policy, there are still significant gaps in college access by income, even after accounting for differences in academic preparation and achievement by income. Low-income high school graduates in the top academic quartile attended college at only the same rate as high-income high school graduates in the bottom quartile of achievement. Such gaps, which are also evident in terms of race and ethnicity, suggest that the aid system has not equalized access to higher education. A 2006 review of the aid system by the federal Commission on the Future of Higher Education concluded what many observers have voiced for years: The financial aid system is not addressing the problems facing students. Although financial aid can dramatically reduce the overall cost of college, many students still have significant unmet need. Moreover, the receipt of financial aid is predicated on navigating a lengthy, complicated process. As noted by the commission, some students "don't enter college because of inadequate information and rising costs, combined with a confusing financial aid system."

Although the financial aid system is imperfect, years of research support the notion that financial aid can influence students' postsecondary decisions. Research has identified effective financial aid policies that improve college enrollment and choice, and the lessons learned from these studies could help inform current debates about how to improve the financial aid system.

Three main lessons are clear from the numerous studies on financial aid. The first lesson is that information and the design of a policy are crucial factors in determining whether a policy is effective in improving access. Therefore, policies should balance the need to target limited resources at specific groups with the fact that making aid application and award processes too complicated is likely to deter students. Second, while recent years have witnessed the growth of merit-based aid, these programs often favor more affluent students who are likely to attend college regardless of whether they are given financial aid. Therefore, if the goal of the nation's limited financial aid resources is to influence decisions, then there is a strong case to focus on need-based awards. Obviously, grants have larger direct costs than loans, and so loans may be considered a less expensive way to help students. However, the third lesson from the research literature is that loans have their own indirect, long-term costs, which are hard to fully predict or put in monetary terms. Debt can affect educational decisions as well as decisions long after leaving college in ways that are suboptimal to both the individual and society.

The affordability problem

Although there are many barriers to college access and success, a major impediment is cost. As the Commission on the Future of Higher Education concluded, "There is no issue that worries the American public more about higher education than the soaring cost of attending college." During the 2009-10 school year, the College Board found that the average total tuition and fees at public four-year colleges and universities was $7,020, with average total charges amounting to $15,213. Without any financial aid, the total cost amounts to 30% of the annual median family income. Concerns about affordability are even greater at private four-year colleges and universities, which charged an average tuition of $26,273, or $35,636 including room and board. This constitutes more than half the annual income of a median family. The average low-income student attends and faces the costs of a local community college, and the average full-time tuition at these institutions was $2,544 in 2009-10.

The current situation is the result of skyrocketing prices during the past several decades. From 1979-80 to 2009-10, the average cost of a public, four-year institution increased from $738 to $7,020, a multiple of three times after accounting for inflation. Meanwhile, the median family income has not nearly kept pace with growing tuition costs. Given the high cost of college relative to family incomes, at least some amount of financial aid is necessary for most families.

Of course, financial aid has been a staple of higher education for several decades. To understand the degree to which the current system meets the financial needs of students, one must calculate the price students pay for college after financial aid. After taking into account the multiple sources of financial assistance, the price paid by students is much lower than the list prices in college catalogues. According to the College Board, in 2009-10, the average net price at a public, four-year college was $9,810 and $21,240 at a private, four-year college. Although net tuition prices are significantly lower on average than list price, it is important to keep in mind that these are only mean values with a great deal of variation across and within institutions. Differences in net price at the same school may be based on differences in financial resources, family makeup, and student characteristics, such as academic ability. In a study of the practices of very selective private colleges and universities, which tend to focus on need-based financial aid, researchers found that the net price students face could vary from $7,495 for students from the lowest quintile of family income to $16,249 for students from families in the upper-middle quintile and $23,399 for students in the highest income quintile.

Given the critical role higher education plays in both individual economic success and the public good, increasing college access should be a major goal of the government.

Although the costs faced by students are much less when grant aid is considered, the remaining costs that families must meet are often substantial. A study I did with Erin Riley in 2007 documented the significant amount of unmet financial need faced by many students, particularly students from low-income backgrounds and students of color. After accounting for the family's expected contribution and the receipt of all grants, dependent students in 2003-04 faced an average unmet need of $7,195. Increasingly, students are turning to loans to make up this remaining difference. However, even after taking into account government and institutional loans, there is still significant unmet need. Researchers have found, for example, that dependent students faced $5,911 in unmet need ($4,503 for older, independent students) after grants and loans.

Although the nation spends billions of dollars each year on financial aid, the estimates on unmet need suggest the current amount of funding may not be enough. Therefore, many calls for reform have focused on increasing the level of financial aid awards. Recent legislation has targeted this problem. With the federal Health Care and Education Reconciliation Act, signed March 30, 2010, the budget for Pell Grants increased more than $40 billion. Still, this is not enough to significantly reduce unmet need for most students, especially with the continually rising costs of higher education. Therefore, reviews of the research literature should keep in mind how inadequate funding levels may limit the effectiveness of current forms of aid. But rather than just asking for more, it is necessary to consider the best ways to alter the aid system guided by what is known about the types of aid and particular policy designs that are most effective.

Does lowering costs increase enrollment?

Grants, or aid that does not need to be repaid, tend to be the focus of most research on financial aid. Although some programs have not demonstrated a large enrollment effect, others have spurred much greater responses. The nature of grants has also changed in recent years. Although the original intent of most grant programs was to increase college access for students who would not have otherwise been able to attend, governments during the 1990s began to introduce grant programs with a very different focus and design. It is useful, then, to identify the distinguishing characteristics of the most effective polices and consider how the change in the focus of grant programs has affected affordability for different income groups.

Because grants are not given randomly to students, but rather often involve favoring students with need or merit or both, a straightforward comparison of students eligible for grants with those who are not eligible gives only a partial view of the role of financial aid. Such comparisons do not isolate the effects of aid from other differences between students, such as background or academic preparation. In recent years, the best studies have used experimental or "natural experiments" to discern the impact of financial aid. The introduction of a new program that affects some students but not others can provide a useful research opportunity with the aid-eligible students being the "treatment group" and ineligible students being the "control group." In several cases, researchers have compared the enrollment rates of the two groups before and after the creation of a new policy. This type of work has found that subsidies that reduce college prices increase attendance rates, attainment, and choice.

The Pell Grant, which was introduced in 1972 as the Basic Education Opportunity Grant, is the nation's largest need-based grant program. Research on its effectiveness, however, has left more puzzles than answers. In one line of study, researchers have compared the enrollment rates of low-income students before and after 1972, with ineligible students serving as a control group. In a 1996 study, Thomas Kane found that contrary to program expectations, enrollment grew 2.6 percentage points *more slowly* for the lowest income quartile, the expected beneficiaries of the Pell Grant. Other research also found no disproportionate growth in college enrollment or completion of a bachelor's degree by low-income students after the introduction of the Pell Grant. Only public two-year college enrollment seemed to grow more quickly for low-income youth. Interestingly, in other research, the impact of the Pell Grant was found to be large and positive for older students, suggesting that the effects of aid can vary by age.

There are several theories as to why the introduction of the Pell Grant did not result in an increase in the enrollment of traditional-age, low-income students. Some observers suggest that Pell might have had an impact only on college choice, rather than on attendance, as there may have been relative shifts in enrollment among different types of colleges. Others have instead suggested that Pell may have worked well enough to maintain the distribution of students during the 1970s and 1980s; without it, enrollment rates would have fallen much more. However, the most convincing explanations for the lack of a response among low-income students to the Pell Grant focus on problems with the program itself. Researchers suggest that low program visibility, the complexity of the application process, and intimidating audit procedures contributed to limiting the aid program's impact. It is important to note that the current Pell Grant program is somewhat different than it was in the early 1970s. Therefore, it is unclear whether these studies reflect on the present nature and effectiveness of the policy.

A wave of more recent research has done a much better job discerning the effectiveness (or lack thereof) of a variety of federal and state financial aid policies. Using a number of different research approaches, several studies have convincingly established causal estimates of financial aid programs and given much clearer answers about the potential effectiveness of grants.

Susan Dynarski, for example, examined the impact of eliminating the Social Security Student Benefit (SSSB) program, which gave monthly support to children (age 18 to 22) of dead, disabled, or retired Social Security beneficiaries while they were enrolled full-time in college. At its peak, the program provided grants totaling $3.3 billion annually to one out of 10 students. In 1982, Congress decided to discontinue the program. According to one study, this step reduced college access and attainment by a difference of over 25% between the treatment and control groups. This translates into $1,000 (in 1997 dollars) of grant aid increasing education attainment by 0.20 years and the probability of attending college by 5 percentage points. In contrast to the Pell Grant, awareness among potential beneficiaries of the SSSB program was high due to notification from the government and the extremely simple application process. This gives early clues to the importance of policy and program design.

The Georgia HOPE Scholarship is another grant program that has been evaluated. Introduced in 1993, the program pays for the in-state public tuition of Georgia residents with at least a B average in high school; residents choosing to attend in-state private colleges received $3,000 during the early years of the program. Similar to the SSSB, the HOPE Scholarship is simple in design and much effort was made to publicize the program and to train high school guidance counselors on how to help their students access the program. Dynarski compared enrollment rates in Georgia with rates in other southern states before and after the program, and the results showed that Georgia's program has had a surprisingly large impact on the college-attendance rate of middle- and high-income youth. The results suggest that each $1,000 in aid (in 1998 dollars) increased the college attendance rate in Georgia by 3.7 to 4.2 percentage points. Also, there was a much larger impact on college choice. Chris Cornwell and David Mustard also examined Georgia HOPE using a different data set, and they estimated that the scholarship increased the overall freshmen enrollment rate by 6.9 percentage points, with the gains concentrated in four-year schools.

The Cal Grant is another large state grant program. Its eligibility criteria mix both need and merit as students must meet thresholds in income, assets, and high school GPA. The results of a study by Kane have suggested that there are large effects (3 to 4 percentage points) of grant eligibility on college enrollment among financial aid applicants, with larger effects on the choice of private four-year colleges in California. Unlike with the SSSB and Georgia HOPE Scholarship, the large response to the Cal Grant seems to be *in spite of* its design. Some suspect that the impact of the program could have been larger, because reports indicate many eligible students, as many as 19,000, failed to apply.

Implications for aid policy

In summary, the research suggests aid programs can be successful as price and financial aid have been found to influence students' decisions about college. The programs that have been the most effective are those that are relatively easy to understand and apply for and that include efforts to ensure that potential beneficiaries are aware of them. This observation begs the question: What do students and their families know about financial aid? In order to have an impact on behavior, students and their families must be aware of the policies designed to help them. Unfortunately, awareness appears to be a major barrier to college access, as many students lack accurate information about higher education costs and financial aid. Researchers have continually found a significant lack of information among prospective college students. Most studies have suggested that students and their parents greatly overestimate the costs of college. There also is a lot of misinformation about financial aid among parents and students. A Harris Poll commissioned by the Sallie Mae Fund found that two-thirds of all parents and all young adults planning to go to college did not name grants as a possible source of funds when asked about types of financial aid. Awareness about aid and college costs appears to be especially limited among low-income students.

The low levels of awareness about aid and the misinformation of many families has serious implications for the effectiveness of any policy or program. In a world with many misinformed or unaware families, unless a program is highly publicized and simple to access, it is unlikely to have a major impact on college enrollment. Implicit in policy design are tradeoffs between making a program simple to understand and the need to limit eligibility to only a subset of students due to finite resources. On the one hand, in order to have an impact on behavior, students and their families must be aware of the policies designed to help them and understand how to access them. On the other hand, given the focus on helping a particular type of student (e.g., financially needy students), some type of means testing must be in place to ensure that only students with actual need (or some other criteria) are eligible to receive the aid. For these reasons of efficiency, many arguments have been made for elaborate application procedures for such need-based programs as the Pell Grant. However, introducing complexity into how aid is awarded can also be a source of informational barriers.

Critiques of the Free Application for Federal Student Aid (FAFSA) and the general aid application process highlight the tradeoffs between simplicity and means testing that must be balanced in policy design. At its most basic level, the FAFSA attempts to discern how financially needy students are in order to determine how to distribute limited government financial aid. It collects a wealth of information about a family's situation in the hope of equitably treating families with similar situations. However, many critics surmise that the lack of information about financial aid is linked to this process. A major critique is that the FAFSA is long and cumbersome. Until recently, to determine eligibility, students and their families had to fill out an eight-page, detailed form containing over 100 questions. To answer three of these, students had to complete three additional worksheets with nearly 40 additional questions. Even the lowest income students, who had already established their eligibility for other federal means-tested programs and were known to be eligible for federal student aid, had to go through this arduous process. Not surprisingly, research suggests that students and their families are often confused and even deterred by the form. In a 2004 study, Jacqueline King found that half of the 8 million undergraduates enrolled in 1999-2000 at institutions that participate in the federal student aid program did not complete the FAFSA. Yet 850,000 of them—more than 20%—would have been eligible for a Pell Grant. Furthermore, of those who did file, more than half missed the application deadline to be eligible for additional state and institutional aid programs.

Given this and other critiques of the FAFSA, many people suggest that perhaps the application process leans too far toward complexity without balancing the need to make the process clear and reasonable for students. Recently, calls to simplify the financial aid process have spurred the Department of Education to implement several changes. The FAFSA now uses "skip logic" in its online version to eliminate questions that do not apply to some students and to give students instant estimates of the Pell Grant and student loan eligibility. The department also is piloting ways to transfer information directly from the IRS to the online FAFSA. These efforts still require families to be aware of the FAFSA and to be able to complete it online, preferably with high-speed internet, but they are still steps in the right direction. Moreover, the Department of Education currently is revising the FAFSA4caster tool to more easily give families early estimates of their financial aid eligibility.

Current research projects are also exploring interventions that might deal with concerns about the financial aid application process. For example, working with Eric Bettinger, Philip Oreopoulos, and Lisa Sanbonmatsu, I developed a project in which tax preparers help low-income families complete their FAFSAs. The intervention streamlined the aid application process and students' access to accurate and personalized higher educational information. Using a random assignment research design, H&R Block tax professionals helped a group of eligible low- to middle-income families complete the FAFSA. Then, families were immediately given an estimate of their eligibility for federal and state financial aid as well as information about local postsecondary options. Early project results confirm suspicions that a lack of information and the complexity of the aid process are hindering low- and moderate-income students' ability to apply for aid and enroll in college. We found that individuals who received assistance with the FAFSA and information about aid were substantially more likely to submit the aid application. More importantly, the program also increased college enrollment for the dependent students and for young adults with no prior college experience. Although it will take time to determine the full benefits and costs of simplification, these results suggest that streamlining the application process and providing better information could be effective ways to improve college access. The results also lend additional support to the idea that the most effective aid policies are those in which there are high levels of awareness and the application is relative simple.

Need-based versus merit-based aid

While research demonstrates that grants are effective in encouraging college access, it is also worth considering which types of grants have the largest impact on enrollment rates. To answer this question, it is necessary to ask, who needs support in order to attend college? In other words, what kinds of students might be encouraged to attend college with price subsidies? Although affordability, or the comfort level of paying for the expense, is a concern of all students, most middle- and upper-income students will attend college regardless of whether they receive financial aid. In contrast, the problem of college access, defined as whether to attend college at all, is substantial for low-income students, as illustrated by the gaps in college attendance by income and substantial levels of unmet need for this group. Therefore, if the goal is to maximize the impact of a dollar on college enrollment rates, funds should be directed toward this group. Not surprisingly, price and financial aid have often been found to have larger effects on the enrollment decisions of lower- rather than higher-income students.

Based on the above reasoning, it is important to note that the research literature documents that different types of grants vary in who and how they affect college decisions. For instance, the merit-based Georgia HOPE Scholarship had large effects on college access overall, but the benefits of the program were not evenly distributed. Researchers found that the program widened the gap in college attendance between those from low- and high-income families and between black and white students. In sum, the program disproportionally helped upper-income students. Moreover, the major impact of the policy was on college choice rather than enrollment; that is, Georgia HOPE influenced the enrollment choices of students who would have otherwise attended a different college or university. Although choice is an issue worth considering, whether a student attends college at all is a more important concern.

Georgia HOPE marked the beginning of a larger trend toward shifting state aid from a need-based to merit-based focus, as many other state merit-based aid programs have followed. Although more money is allocated by states to need-based programs, according to NASSGAP, after accounting for inflation, spending on non-need based grant aid grew 203% during the past decade, compared with only 60% growth in need-based grant aid. These other state policies

Grants have been shown to be effective in influencing student decisions if designed properly, whereas research suggests that loans are less effective in increasing enrollment.

have differed in how they define merit, in funding sources, and in the impact they have had on student outcomes. Dynarski found that the degree to which more affluent students are favored in these state aid programs appears to be related to how stringent the merit aid criteria are. In other words, the degree to which merit is used in aid criteria has profound effects on whether the policy influences college access among low-income students rather than choice or affordability for upper-income students. Given that the opportunity to perform well on some of the merit-based criteria is related to income either directly or indirectly through school quality, even high-achieving, low-income students can be at a disadvantage for qualifying for merit-based awards. Some researchers have concluded that even among students of equal academic merit, increased emphasis on merit in financial aid may exacerbate the trend toward greater income inequality.

Recent federal aid policies also have moved away from focusing on increasing the basic access of low-income students. In 1992, federal financial need calculations began to exclude home equity, thereby allowing many more middle-class families to qualify for federal need-based support. That year, the Stafford Unsubsidized Loan Program was also created, which made student loans available to all families regardless of income. Then, in 1997, the federal government introduced the higher education tax credits, which were available to families with incomes up to $100,000, far above the national family income average. Most recently, the creation in 2006 of the Academic Competitiveness Grants introduced merit criteria into federal aid for undergraduates. The program gives Pell Grant recipients additional funds for completing certain courses and maintaining a 3.0 GPA in college.

The shifting of aid priorities from need to other criteria becomes clear when juxtaposing the aforementioned trends to what has happened with need-based aid. Whereas other forms of aid have grown, need-based grants have not kept pace. Since its inception, the Pell Grant has declined substantially in value, compared with tuition prices. According to the College Board, in 2008 dollars, the maximum Pell Grant in 1976-77 was $5,393; it was only $5,800 by 2008-09, even though tuition rates grew exponentially during the same period. Despite the recent action to increase the Pell Grant maximum, with so much lost ground, many low-income students still have significant unmet needs.

There is no question that addressing issues of affordability and rewarding performance with merit-based aid are justified goals. However, as demonstrated by research, shifting aid priorities to other goals has negative repercussions for the important goal of increasing access. Careful attention must be paid to the exact criteria used when awarding aid for fear of duplicating the sometimes unfavorable effects that have been found with other types of grants, such as merit-based aid. Again, the question worth asking is: What is the best use of limited funds in order to increase participation?

The role of loans

As documented by unmet need calculations, students face additional costs beyond their means even after accessing all of the grants available to them. Loans have become the most prominent form of student funding for postsecondary education during the past 15 years. This is especially true for full-time, full-year students. In my study with Riley, from 1989-90 to 2003-04, the proportion of full-time, full-year students with loans rose from 36 to 50%. Moreover, average annual loan amounts during this period grew 38% in constant 2003 dollars, from $4,486 to $6,200. While 79% of loan volume is awarded by federal programs (Stafford, Perkins, and PLUS), private loan volume has risen substantially. From 1998-99 to 2007-08, the amount given in private loans grew by a multiple of six, after adjusting for inflation.

Naturally, cumulative debt, or the amount students borrow during the course of their educations, has also grown substantially over time. In one study, my colleague and I found that between 1992-93 and 2003-04, cumulative debt accrued by second-year undergraduates at public two-year institutions increased an average of 169%, from $3,087 to

Need-based aid is more effective in increasing access for low-income students than other forms of aid.

$8,296, after accounting for inflation. Fourth-year undergraduates at public colleges faced cumulative debt amounts 76% higher during this period, accumulating an average of $17,507 in loans during four years by 2003-04. Fourth-year undergraduates in 2003-04 at private colleges borrowed an average cumulative amount of $21,946, a 57% increase during the 10 years. Recent trends in student financing and loan policy suggest cumulative debt amounts will continue to grow at a rapid rate.

Has access to loans affected college decisions? Certainly the increasing use of loans by students suggests that they have grown in importance. However, growing reliance on loans as a policy option has important implications for college access and persistence. Research on the role of loans in college decisions is scant relative to that about grants, but there are clues to how this form of aid might affect higher education outcomes.

One issue centers on identifying the effect of loans on enrollment decisions. This question is empirically challenging, because eligibility for federal loans is correlated with observed and unobserved determinants of schooling, thereby biasing any straightforward, simple comparison of students with and without loan eligibility. The effects of loans are also unclear, as the studies that have been completed give mixed results. Dynarski focused on variation in loan eligibility after the Higher Education Amendments of 1992, which removed home equity from the set of assets that are included in the federal financial aid formula. The study concluded that loan eligibility had a positive effect on college attendance. Loans also appeared to influence choice by shifting students toward four-year private colleges. On the other hand, another study examined whether the shift in the composition of aid away from grants toward loans adversely affected college enrollments in the 1970s and 1980s. The results suggested that the probability of attending college falls when loans replace grants, dollar-for-dollar, in the financial aid package.

Although there is little research that examines the effectiveness of loans, there are reasons to believe that they do not have as large an impact on college attendance as do grants. Several studies suggest that some students are reluctant to take out loans because of the complexity they introduce and fear of the repayment conditions. Financial aid administrators report anecdotally that students from traditionally disadvantaged backgrounds often are unwilling to incur substantial debt to attend college. Some research on cultural barriers to debt suggests that this may be related to socioeconomic differences. Other studies also have found that the prospect of substantial borrowing discourages enrollment among some students, especially those from low-income and underrepresented groups. Although socioeconomic differences may play a role in student borrowing, more research is needed to understand how students and their families consider whether to take on debt. It is unclear how many students are kept out of college because of debt aversion, and given the shift in aid policy toward loans, such differences have important implications for college access and success.

Although loans appear to be less effective than grants in increasing college attendance, they may be less expensive for the government to provide than grants, because loans must be repaid by the student. However, any cost-benefit comparison should include more than just the direct costs and initial impact on enrollment. When considering the cost side of loans, it is first necessary to take into account the subsidy incurred by the government in the form of interest paid while in college (for subsidized loans) and the fact that the interest rate charged is below the market rate (for all Stafford loans). Additionally, the government shoulders the costs of guaranteeing the loans and giving incentives to private banks to provide them.

The potential costs of loans do not end there, however. Because they must be repaid, loans are a much more complicated form of aid, and unlike grants, they may have many long-term effects.

Debt burden, defined as the percentage of monthly income a student must dedicate to loan payments, is a particular concern with student loans. In 2004, the American Council on Education concluded that the median debt burden of 7% was manageable and stable for students graduating with bachelor degrees in the 1990s. But Sandy Baum found that one-third of borrowers face debt burdens above 8%, a level considered unmanageable. Another study found evidence that half of the college graduates surveyed reported feeling burdened by their debt payments. Although debt levels may have largely been manageable for most students a decade ago, the situation has probably changed for current students. Higher cumulative debts, combined with recent changes in federal loan programs, including increasing loan limits, suggest today's college students face even higher debt burdens, which will continue to grow for future cohorts.

Debt burden is especially troublesome for students who do not complete a college degree. In a 2005 study, Lawrence Gladieux and Laura Perna found that for students who began college in 1995 and borrowed money but later dropped out, the median debt was $7,000. Students who dropped out of four-year programs accumulated a median debt of $10,000, while dropouts from two-year programs accumulated a median of $6,000 of debt. These amounts of debt are particularly difficult because the dropouts are unable to reap the full economic benefits of a degree. In one study, 22% of borrowers who dropped out of their degree programs defaulted on at least one loan within six years of originally enrolling in college, compared with 2% of college graduates. Such a stark difference in default rates underscores the importance of degree completion and suggests that persistence is important in determining if a student is able to manage his or her debt.

Another set of concerns about student loans is that they could have unintended negative consequences on student decisions. It has been suggested that debt affects students' choice of major, deterring students from public service fields, such as teaching and social work. According to the State Public Interest Research Groups' Higher Education Project, 23% of graduates from public institutions would face unmanageable debt burdens if they entered teaching, based on average starting salaries. For graduates from private colleges and universities, 38% would encounter unmanageable debt as starting teachers. Loans could also impact life decisions after college, such as buying a house, getting married, or having children. Evidence is mixed, but research by Nellie Mae during the past 15 years suggests that attitudes toward education debt are becoming more negative. Another survey by Baum and O'Malley, conducted in 2002, found that home ownership rates declined by 0.2 percentage points for every additional $1,000 in student loans.

The picture, then, is that loans and the resulting debt burden could influence students' decisions long after college enrollment, perhaps in negative ways. Unfortunately, little is known about the totality of these longer-term effects or how to monetize them. Therefore, although grants mainly have only upfront costs, the full costs of loans are potentially much larger than they appear on the surface.

Making financial aid policy more effective

Given the critical role higher education plays in both individual economic success and the public good, increasing college access should be a major government goal. However, despite substantial increases in access to higher education during the past several decades, postsecondary attendance nationwide continues to be stratified by family income, and students, particularly those with lower incomes, have significant unmet need. In consideration of this problem, it is important to review the evidence on which aid programs have been more effective and why. Aid can work to increase college enrollment, but some programs and formats have been more successful meeting this goal than others. Three lessons can be taken from the extensive research literature on financial aid.

First, when designing an aid program, information and simplicity are important. What is clear from the literature is that the mere existence of an aid program is not enough to encourage enrollment, because the visibility and design of the program also clearly matter. In several cases, researchers have not observed large, general responses to the introduction of financial aid programs (e.g., the Pell Grant). On the other hand, research on examples of highly publicized financial aid programs characterized as being simpler in design and application has found large enrollment responses (e.g., the Social Security Student Benefit Program and the Georgia HOPE Scholarship). In summary, the research suggests aid programs are most successful when they are well publicized and relatively easy to understand and apply for. This conclusion has strong implications for the FAFSA, which needs to be substantially simplified. Moreover, there are calls to enhance the visibility of aid programs, as my research with Bettinger, Oreopoulos, and Sanbonmatsu has shown that such efforts can have dramatic effects on college enrollment rates.

Second, need-based aid is more effective in increasing access for low-income students than other forms of aid. One of the original and most prominent goals of financial aid policy was to enable the college attendance of students who would not otherwise be able to attend. Given gaps in enrollment by income, much of policy has focused on low-income students. However, with the movement from need-based to merit-based and other forms of aid, this aim is being lost. Merit-based aid programs favor more affluent students, and similar results have been found in terms of the federal Higher Education Tax Credits and college savings programs. Given these facts, along with the recognition that the government has limited resources, more attention should be paid to targeting students whose decisions might actually be altered by financial aid, as opposed to helping students who would attend regardless. For low-income students, this means focusing on need-based grants.

Third, all aid is not equal. Grants have been shown to be effective in influencing student decisions if designed properly, whereas loans are less effective in increasing enrollment. Moreover, the increased complexity of loans and their potential negative impact on longer-term outcomes should also be taken into account. Debt burden can have negative effects on a range of outcomes, and it is unclear if recent efforts to reduce the interest rate on government loans and to extend the federal loan forgiveness program will do much to mitigate these indirect effects. Therefore, the government should be cautious in its recent trend toward using loans as the primary form of student financial aid.

Recommended reading

Advisory Committee on Student Financial Assistance: Final report of the Special Study of Simplification of Need Analysis and Application for Title IV Aid, *The student aid gauntlet: Making access to college simple and certain*. Washington, DC: U.S. Department of Education, 2005.

Eric Bettinger, B. T. Long, Philip Oreopoulos, and Lisa Sanbonmatsu, "The Role of Simplification and Information in College Decisions: Results from the H&R Block FAFSA Experiment," National Bureau of Economic Research Working Paper no. 15361, 2009.

Commission on the Future of Higher Education, *A test of leadership: Charting the future of U.S. higher education*, Washington, DC: U.S. Department of Education, 2006.

Susan Dynarski, "The behavioral and distributional implications of subsidies for college," *American Economic Review*, 92, no. 2 (2002): 279-285.

Susan Dynarski, "The new merit aid," in C. Hoxby (ed.), *College choices: The economics of where to go, when to go, and how to pay for it*, Chicago: University of Chicago Press and the National Bureau of Economic Research, 2004.

Susan Dynarski and Judith Scott-Clayton, "The cost of complexity in federal student aid: Lessons from optimal tax theory and behavioral economics," *National Tax Journal*, 59, no. 2 (2006): 319-356.

Thomas J. Kane, "Lessons from the largest school voucher program ever: Two decades of experience with Pell Grants," in B. Fuller, R. Elmore, & G. Orfield (eds.), *Who chooses? Who loses? Culture, institutions and the unequal effects of school choice*, New York: Teachers College Press, 1996.

Bridget Terry Long, "The contributions of economics to the study of college access and success," *Teachers College Record*, 109, no.10 (2007): 2367-2443.

Bridget Terry Long and Erin K. Riley, "Financial aid: A broken bridge to college access?" *Harvard Educational Review*, 77, no. 1 (2007): 39-63.

Bridget Terry Long and Erin K. Riley, "The demand side of loans: The changing face of borrowers", in F. Hess, (ed.), *The financing of higher education: The role of public-private partnerships and other entrepreneurial solutions*, Washington, DC: American Enterprise Institute, 2007.

Neil S. Seftor and Sarah Turner, "Back to school–Federal student aid policy and adult college enrollment, *Journal of Human Resources*, 37, no. 2 (2002): 336-352.

Bridget Terry Long is professor of education and economics at the Harvard Graduate School of Education. She also is a faculty research fellow of the National Bureau of Economic Research and a research affiliate of the National Center for Postsecondary Research.This article is based on the annual Henry and Bryna David Endowed Lecture, which took place at the National Academy of Sciences on October 21, 2009.