

# THE FEASIBILITY OF STREAMLINING AID FOR COLLEGE USING THE TAX SYSTEM\*

*Susan M. Dynarski, Harvard University & National Bureau of Economic Research  
Judith E. Scott-Clayton, Harvard University*

## INTRODUCTION

THE FEDERAL SYSTEM FOR DISTRIBUTING student financial aid rivals the tax code in its complexity. In previous work, we have argued that complexity is a serious obstacle to both efficiency and equity in the distribution of student aid, and have shown that the benefits of complexity in terms of improved targeting are small. We showed that a radically simplified aid application process could reproduce the current distribution of aid while improving its efficiency and equity (Dynarski and Scott-Clayton, 2006).

Our previous analysis was limited to young, traditional “dependent” students, who now comprise only half of the undergraduate population.<sup>1</sup> The typical college student is no longer in her teens or early twenties and going to college full-time. Instead, she is in her late twenties or thirties, working while she studies part-time for her degree. These older “independent” students are the fastest-growing student population. Two-thirds of independent students who apply for aid are women; 40 percent are black or Hispanic. More than one-half have children of their own (see Table 1).<sup>2</sup> Understanding the consequences of aid reform for this population is critical for understanding its distributional implications.

We find that the needs of independent students are no barrier to aid simplification. In fact, dozens of questions on the federal financial aid application are particularly uninformative for this population, as their finances tend to be less complicated than those of dependent students. They are unlikely to have substantial financial assets, for example.

We further extend our previous work by presenting a model of how the entire federal student aid process—not just the eligibility formula itself—could be radically simplified. Since the essential data elements are already collected on income tax

returns, we describe how Pell Grants could be administered through the tax system, eliminating the current confusing and largely redundant federal student aid application process.

## OVERVIEW OF THE PROBLEM

State and federal governments spend billions on financial aid for college students each year. Pell Grants, Stafford Loans, the HOPE and Lifetime Learning Tax Credits, and a host of other programs make college less expensive. The intent of this aid is increase college attendance. The idea is straightforward: people buy more of a product (college) when its price (tuition) is lower. Price drops, demand increases: that’s a lesson learned in any introductory economics course.

Puzzlingly, we have little firm evidence that federal Pell Grants or the federal education tax credits *do* get more young people into college.<sup>3</sup> Why is this? One clue is that the aid programs that researchers have found to be effective are *simple* and *certain*.<sup>4</sup> These key attributes – simplicity and certainty – are sorely lacking in our student aid system. Our aid system is a tangled web of tax, grant, loan, and savings programs, with rules and regulations so complicated and fraught with uncertainty that many prospective students don’t know how cheap college can be.

This leads us to another common-sense concept from Econ 101: we have to *know* about a price discount to respond to it. Our student aid system delays delivering information about aid for college until it is too late. Families do not get definitive information about aid eligibility until *after* their child has applied to and been admitted to colleges, in the spring of senior year in high school. The education tax credits are even worse on this dimension, as they are calculated up to 18 months after a student has enrolled and paid tuition.

Delivering a subsidy after a person has made a purchase is no way to increase demand. Imagine a car dealer who told customers about a rebate incentive only *after* they had agreed to purchase

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Table 1  
**Characteristics of Traditional and Nontraditional Undergraduates**

<i>Characteristic</i>	<i>Full-time Dependent</i>	<i>Part-time Dependent</i>	<i>Full-time Independent</i>	<i>Part-time Independent</i>
Age	19.9	20.2	30.0	31.1
Family income	\$63,673	\$51,801	\$21,553	\$25,240
Hours worked per week	15.9	20.9	24.2	27.5
White, non-Hispanic	67%	57%	58%	53%
Black, non-Hispanic	12%	15%	20%	24%
Hispanic	12%	17%	13%	15%
Asian	6%	5%	3%	3%
Neither of student's parents earned a H.S. diploma	4%	9%	14%	17%
Neither of student's parents earned a B.A.	53%	64%	72%	75%
Male	44%	44%	37%	32%
Parents are married	71%	63%	n/a	n/a
Student is married	n/a	n/a	32%	34%
Student has dependent children	n/a	n/a	50%	55%

Source: Authors' estimates using a sample of 51,822 undergraduates from the National Postsecondary Student Aid Survey: 2003-04.

a car. What would happen? Customers who were willing to buy at the pre-rebate price would be pleasantly surprised and drive out of the dealership with their wallet a little less lighter than they had anticipated. Customers scared off by the sticker price would never even learn about the rebate and walk out not knowing that the car they wanted was affordable.

To add insult to injury, families have to fight through a maze of paperwork to get an aid application into this very long pipeline. Nearly ten million prospective aid recipients must file the Free Application for Federal Student Aid (FAFSA, U.S. Department of Education, 2003b) each year. Submitting a FAFSA is the only way for families to determine their eligibility for federal grants and loans.<sup>5</sup> The FAFSA is longer and arguably more complicated than a federal tax return: at five pages and 127 questions, the FAFSA is longer than a Form 1040EZ (one page, with 37 questions) and Form 1040A (two pages, with 83 questions). It is comparable to Form 1040 (two pages, with 118 questions). The contrast between Form 1040EZ and the FAFSA is especially informative. With a third of the FAFSA's questions and a fifth of its pages, the IRS captures the information needed to determine tax liability for the very population targeted by the Pell Grant.

We can conservatively estimate that the FAFSA takes 10 hours to complete. With 10 million FAFSAs filed a year, that's 100 million hours a year spent filling out financial aid forms, or the equivalent of 55,000 full-time jobs. On top of the hours of

work and leisure lost by families are the significant administrative and verification costs borne by the federal government and colleges.

We stress that paperwork is *not* the only problem with the aid system. The federal tax system is a maze of paperwork, but we give it this much credit: once a taxpayer fills out her Form 1040, she knows how much tax she owes. To this end, 21 of the questions on the Form 1040 are not questions at all, but rather calculations or look-ups from tax tables. These steps allow the taxpayer to compute her tax liability, the bottom line on her return.

Completing the lengthy FAFSA provides *no information* about aid eligibility. Upon completing the FAFSA, the aid applicant is no more informed about her financial aid eligibility than she was when she began. Where does the information on the FAFSA go? It is sent to a contactor for the U.S. Department of Education, which computes something called the EFC ("expected family contribution"). Families are informed of their EFC in a Student Aid Report (SAR), which is mailed to applicants a few weeks after the FAFSA is filed. Lest the applicant attempt to glean anything useful from the EFC, the SAR never explains what the EFC is. Here is exactly what the SAR says:

Based on the information you have submitted, we have used the standard formula to calculate your EFC, which is XXXX. Your school will use this number to determine what types of aid and how much you are eligible for based on your

educational costs. The amount of aid you receive from your school(s) will depend on the cost of attendance at your school(s), your enrollment status (full-time, three-quarter time, half-time, or less than half-time), Congressional appropriations, and other factors (U.S. Department of Education, 2005b).

The SAR and EFC are also forwarded to the colleges to which the student has applied. Each college then assigns a package of grants, loans, and work-study to each admitted student. In March and April, the colleges mail out award letters to students that describe their aid packages.

At long last – a few months before college starts – students and families have been told exactly how much they will get in grants, loans, and work-study. They are still uninformed about their eligibility for an education tax credit, however. Families apply for the HOPE and Lifetime Learning Tax Credits (worth up to \$2,000) after they have paid tuition, when they file their taxes the following year. The value of the credits is therefore highly uncertain, and is not even revealed until well after the student has gone to school.

Confusion about college aid is of greatest consequence for low-income students, who (unlike their upper-income counterparts) are pessimistic about their ability to pay for college (Avery and Kane, 2004). A study of high school seniors in Boston found that few low-income youth “decide” against college. Rather, they miss a key deadline, or incorrectly fill out a form, or fail to take a required class, and thereby fall off the path to college (Avery and Kane, 2004). This is evidence that seemingly minor obstacles put low-income youth off the path to college, much as adults are put off the path to saving by bureaucratic details (Madrian and Shea, 2001; see Dynarski and Scott-Clayton, 2006 for a full discussion of the relevant behavioral economics literature).

Our complex system of delivering aid and tax credits for college backloads information about college discounts. This surely reduces the efficacy of the subsidies, since many who fear college is unaffordable will never even apply to college, much less apply for aid and matriculate. Many who fear college is unaffordable will give up on their studies while they are in high school, making the inaccessibility of college a self-fulfilling prophecy. For those teetering on the margin of college entry, there is too little concrete information about aid,

and what little information there is arrives far too late. These marginal students are discouraged from going to college by its price, even though aid is available to help them. This is a waste of human potential.

The complexity and uncertainty of the current aid system create formidable barriers to college. What benefits do we get, if any, from all this complexity and uncertainty? Financial aid officers and education specialists have patiently explained to us that the complexity of aid is a necessary evil, without which we could not target aid to students with the greatest need. The FAFSA is long, it is argued, so that we can precisely measure who most needs aid. The calculation of aid eligibility is delayed until the spring before college so that complete and up-to-date information about schooling costs and family finances can be compiled.

In the third section, we take this argument at face value, and measure empirically how much complexity in aid contributes to its targeting. The short answer is “very little.” A handful of the questions on the FAFSA determine eligibility for federal aid. The dozens of other questions could be jettisoned while still maintaining a progressive program *and* without spending more on aid than we do now. Without reforming the entire process by which aid is delivered, however, merely reducing the number of questions on the FAFSA is unlikely to substantially reduce aid uncertainty. Thus, in the fourth section we describe how the entire system could be overhauled, combining Pell Grants and the federal education tax credits into a single, streamlined grant program delivered through the tax system. This will allow aid to serve its intended goal: opening the doors of college to those who have the ability but not the means to further their education.

#### **SIMPLIFYING THE AID FORMULA: OUR EMPIRICAL ANALYSIS**

We use data on student aid applicants and recipients (the nationally representative 2003-04 National Postsecondary Student Aid Survey, U.S. Department of Education, 2005a) to see how far we can go in simplifying aid while still maintaining its progressive nature. Our sample consists of 24,253 dependent and independent undergraduates who attended college full-time in 2003-04 and who applied for federal aid. This extends the analysis of Dynarski and Scott-Clayton (2006) which was limited to dependent students.

We first use the NPSAS data to replicate the current distribution of grants.<sup>6</sup> To measure the influence of the various data elements on aid, we sequentially exclude data items from the aid formula and recalculate aid, and then compare the new estimates to their baseline values.<sup>7,8</sup> We use several methods to measure how well the simplified formulas do in replicating the existing distribution of aid. First, we calculate the share of people for whom the difference between the true and simulated aid is less than \$100 or \$500. Second, we calculate the correlation between the aid amounts that students currently receive and the amounts they would receive with the simplified formula. Third, we plot how aid changes for different groups of students, showing how gains and losses vary with family income.

#### **Approach A: Distribute Aid Using Income, Assets, and Family Structure**

We start with by throwing out *all* of the data used in the aid calculation except for adjusted gross income of the parents or independent students and their spouses (or, for non-filers, earnings), dependent students' earnings, parents' and students' assets, parents' and students' marital status, family size and number of family members in college. This approach discards parents' and student's taxes paid, the types of income tax forms filed and the required "worksheets" (available online at <http://www.ifap.ed.gov/fafsa/0607FinalFAFSA.html>.) that elicit information about transfer income (such as the EITC, welfare, and Social Security) and other income (child support). These worksheets account for 45 of the 70 financial questions used in the calculation of aid.

Using only the items in Simulation A would cut the number of financial questions on the FAFSA by more than 80 percent. Pell Grant eligibility changes by less than \$100 for 76 percent of aid applicants (see Table 2). The correlation between the existing Pell and the simulated Pell is 0.95 (with a correlation of 1.0 indicating a perfect correspondence). This approach has a negligible impact on program costs, with the average Pell dropping by \$14. All of this decrease occurs for families with income over \$30,000; families with lower incomes actually see an increase in their grants (see Figure 1).

Why are we able to throw out so much information about applicants, with so little consequence for their Pell eligibility? First, many of the data items on the FAFSA are relevant to very few families (e.g.,

living stipends for the military and clergy, foreign income). Second, some of the items are common, but only at the top or bottom of the income distribution (e.g., IRA rollovers and welfare benefits). Those at the top or bottom of the income distribution qualify for no aid or the maximum of aid solely on the basis of their income, rendering additional information about their financial situation irrelevant.

#### **Approach B: Distribute Aid Using Income and Family Structure, Dropping Assets**

We next discard parents' and students' assets from the calculation of aid. The "taxation" of assets by the aid formula has been roundly criticized by economists. Edlin (1993) and others have argued that the taxation of assets by the aid formula creates horizontal inequities: identical families with identical lifetime earnings can be treated very differently by the aid system, with aid reduced for the family that has sacrificed consumption in order to save for college.<sup>9</sup>

In practical terms, assets have little impact on the calculation of federal aid. When we drop all assets from the aid formula, only 25 percent of applicants experience any change in their Pell Grant, and only 13 percent experience a change of \$500 or more. Excluding assets increases the average Pell at low levels of income (Figure 2). Total Pell expenditures in this simulation increase by just 3.3 percent.

Assets have so little effect on aid eligibility because few households have assets that are included in the formula. Families hold the vast majority of their wealth in homes and retirement funds, both of which are protected by the aid formula.<sup>10</sup> Other financial assets count only if they are above a threshold that increases with the age of the parents (up to \$54,500). Among FAFSA filers, 85 percent of dependent and 91 percent of independent students have no assets above the disregard. Among those from families with income below \$50,000, it's 93 percent and 92 percent for dependent and independent students, respectively.<sup>11</sup> As a result, for the overwhelmingly majority of families the effective tax rate on assets is already zero – yet the data on assets are still gathered.<sup>12</sup>

It could be the case, however, that families with substantial assets simply do not file a FAFSA, since they know they will not be eligible for aid. But in fact, statistics from the nationally representative 2004 Survey of Consumer Finances (SCF, 2004) offer no support for the fear that a substantial, hidden population of low-income, high-asset families

*Table 2*  
**Consequences of Aid Simplification**

	<i>Approach A</i> <i>Drops taxes paid,</i> <i>type of tax form,</i> <i>and worksheets</i>	<i>Approach B</i> <i>Additionally</i> <i>drops assets</i>	<i>Approach C</i> <i>Additionally</i> <i>drops dependent</i> <i>students' earnings</i>
Percent of all full-time full-year applicants whose Pell...			
...remains the same (within \$100)	0.76	0.75	0.72
...increases by \$500 or more	0.05	0.07	0.12
...decreases by \$500 or more	0.07	0.06	0.04
Correlation between new and old Pell Grant	0.96	0.95	0.92
R-squared	0.92	0.90	0.84
Change in average Pell (per full-time full-year applicant)	-13.61	53.79	185.17
Percentage change in total program costs*	-0.84%	3.34%	11.48%
Variables included in simulation:			
Assets	Y		
Dependent students' AGI	Y	Y	
Parental AGI, or independent student/spouse's AGI	Y	Y	Y
Parental or independent students' marital status	Y	Y	Y
Family size	Y	Y	Y
Number of family members in coll.	Y	Y	Y
Number of FAFSA items required for simulation**	14	8	6

SOURCE: Authors' calculations using FAFSA data from NPSAS: 2003-2004. Sample is limited to 24,253 students (dependent or independent) who attended a single institution full time for the full school year and who were not missing key data elements such as income or actual EFC.

\*Estimated total Pell expenditures for this sample of full-time, full-year aid applicants are \$7.6 billion. Total Pell expenditures across all applicants were \$12.7 billion in 2003-04.

\*\*Count refers to the number of questions on the 2003-2004 FAFSA required to elicit the items used in the simulated needs analysis. For example, eliciting AGI requires 3 questions on the FAFSA, because non-tax filers must report their earnings and their spouses' earnings. The count does not include questions used only to determine dependency status or questions unrelated to the calculation of need.

will gain Pell eligibility if assets are completely removed from taxation.<sup>13</sup>

#### **Approach C: Distribute Aid Using Income and Family Structure, Dropping All Assets and Dependent Students' Earnings**

The aid system's treatment of student earnings is deeply flawed, from both an equity and efficiency standpoint. The aid formula taxes dependent student earnings (over an income protection allowance of \$2,550) at a rate of 50 percent.<sup>14</sup> Variation in dependent students' earnings is driven predominantly by work hours, rather than variation in hourly wages. As a result, this is a tax on students' work effort, and may serve to discourage work. We therefore next exclude dependent students' earnings from the calculation of aid, and limit the required data items to parents' income, parents' marital status, family size, and number of family members in college. The Pell Grants of 72 percent of aid applicants are essentially unchanged; the

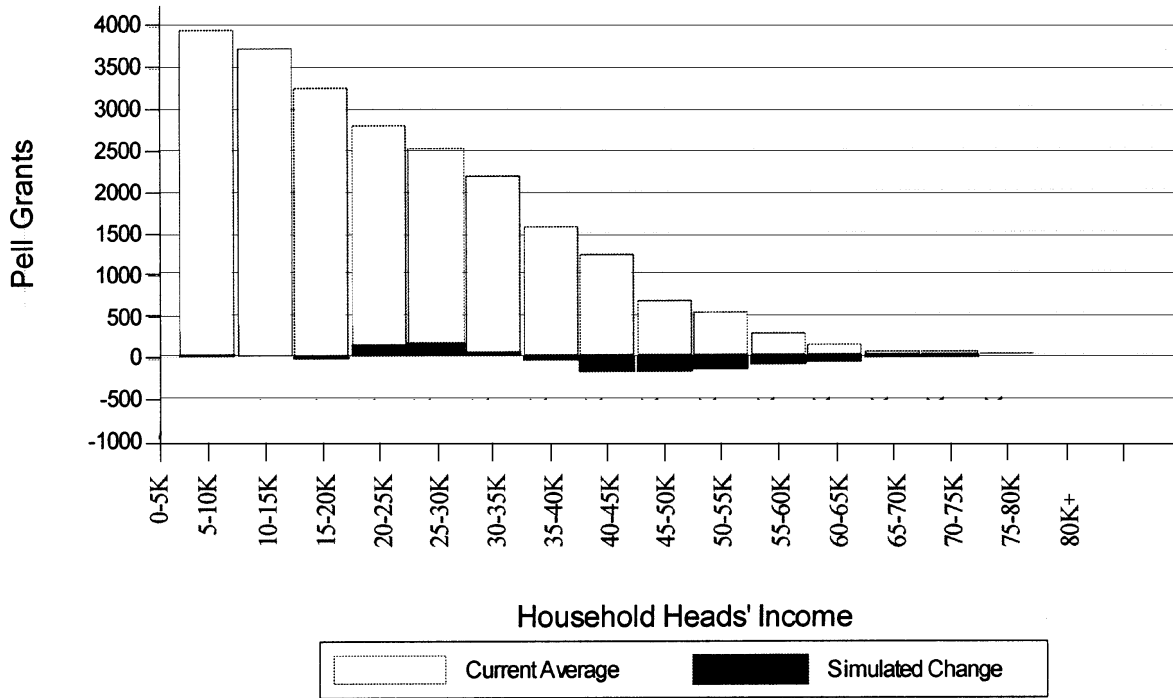
correlation of this simulated Pell grant with the current Pell grant is 0.88. In Figure 3, we plot the associated changes in Pell Grant eligibility against income. Pell Grants increase most for those whose parents earn between \$15,000 and \$40,000 per year.

Since discarding dependent students' earnings mechanically increases calculated need, three times as many applicants would see a significant increase (\$500 or more) in Pell eligibility as would see a significant decrease. As a result, this is the most expensive approach so far discussed, with average Pell Grants increasing by \$185 per applicant (11.5 percent); grants change only for dependent students (for independent students, approaches B and C are equivalent).

#### **Summary of Results**

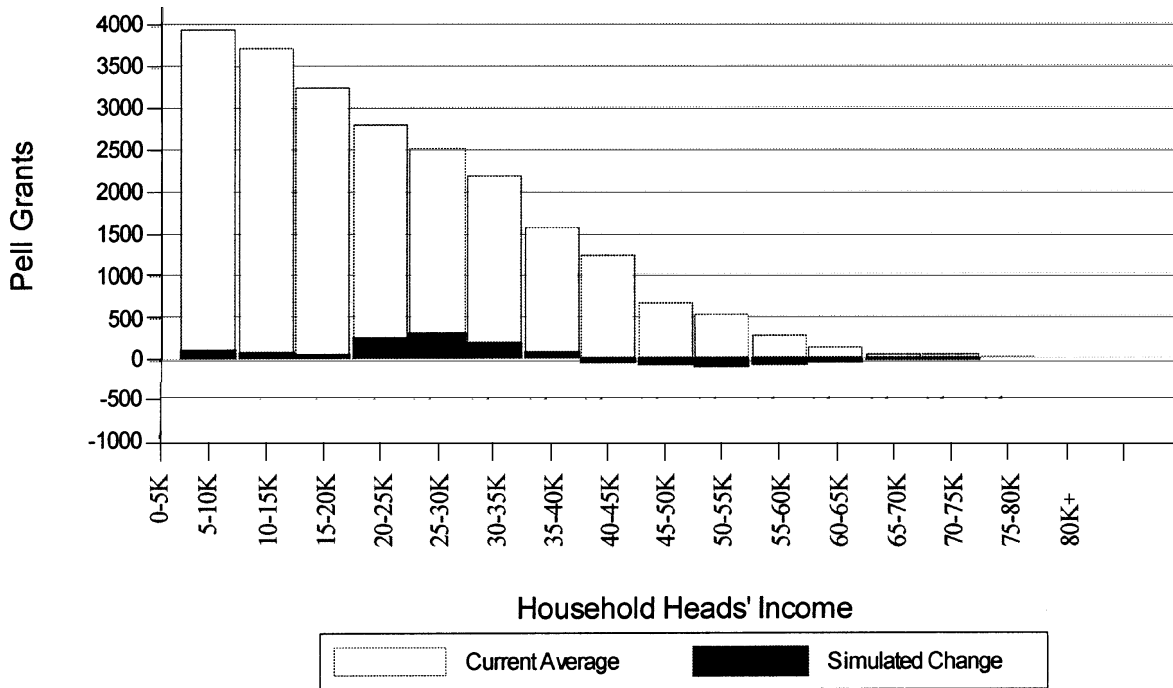
In this section, we have exhaustively demonstrated that the progressivity of the federal aid system *does not* require its current complexity.

Figure 1: (All Full-Time Full-Year Undergraduates) Using Income and Assets of Parents and Students, Family Structure



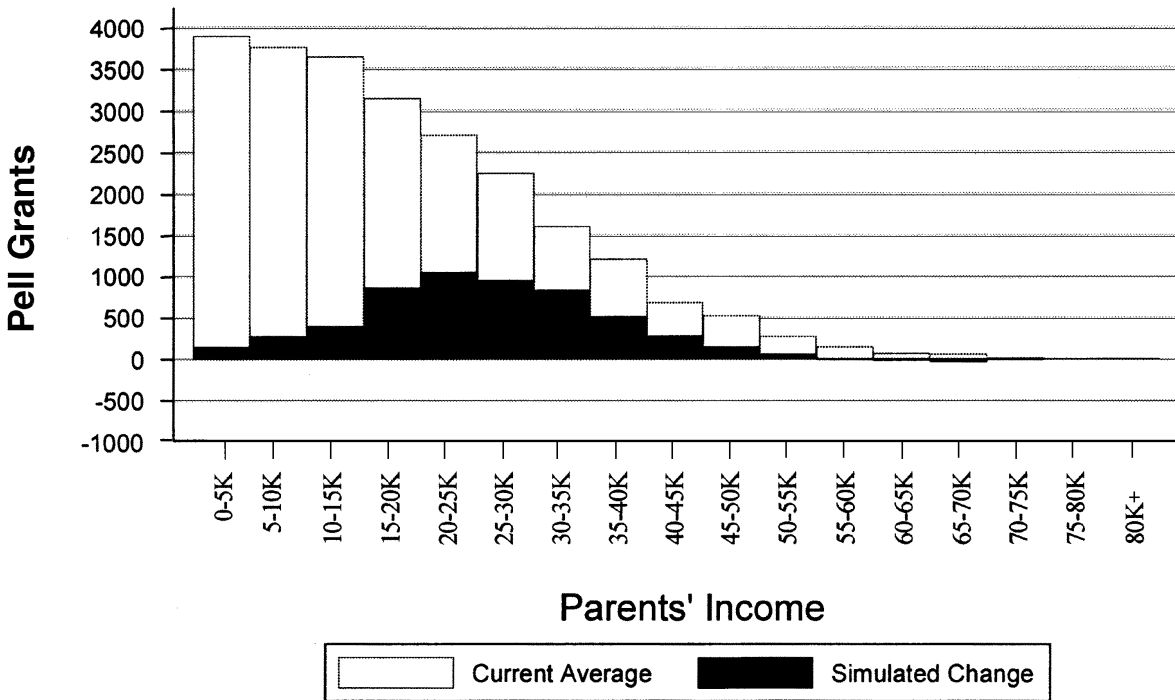
Note: Dollar amounts are in 2003-04\$.

Figure 2: (All Full-Time Full-Year Undergraduates) Using Income of Parents and/or Students, Family Structure



Note: Dollar amounts are in 2003-04\$.

Figure 3: (All Full-Time Full-Year Undergraduates) Using Income of Parents, Family Structure



Note: Dollar amounts are in 2003-04\$.

The length of the FAFSA, and the number of data items used in the aid formula, could be massively reduced without changing the progressivity of the Pell or increasing program costs (Simulation A and B). An even more radical reduction in complexity can be achieved with a small increase in program costs (Simulation C). The three approaches described thus far simply drop particular items while keeping the formula itself unchanged. This means that dropping items such as assets or student earnings mechanically increase the cost of the program. But the formula itself could also be modified to enhance clarity and preserve cost-neutrality, and could be embedded in a system that would significantly reduce paperwork and deliver information to families early. In the next section, we describe a policy that radically simplifies financial aid in exactly this way.

**SIMPLIFYING THE SYSTEM:  
DELIVER PELL GRANTS USING THE TAX SYSTEM**

We have shown that the formula for calculating Pell Grants could be drastically simplified with little effect on total program costs or the distribution of aid. But changing the formula without changing the overall process for accessing aid

is unlikely to substantially reduce the complexity, confusion, and uncertainty faced by students and their families. Because the key variables that determine aid are already collected via income tax returns, in this section we describe how Pell Grants could be combined with existing education tax credits to form a single, streamlined grant program run through the tax system. Economic theory and our own empirical analysis suggest that this program could be much more efficient and effective than the jumble of grants and tax incentives currently in place.

**Eligibility**

A sample grant table follows (Exhibit 1). This grant could replace the Pell, HOPE, and Lifetime Learning benefits for undergraduates.<sup>15</sup> Such a table can fit on a postcard or be prominently displayed on posters in high school hallways. The amounts listed in the table roughly correspond to the average combined benefits from Pell Grants, HOPE and Lifetime Learning Tax Credits for each income category (see Figure 4), with increases for lower income groups in order to minimize adverse changes for the most vulnerable students. Grants are prorated for part-time and/or part-year attendance.

Exhibit 1: Federal Student Aid, on a Postcard

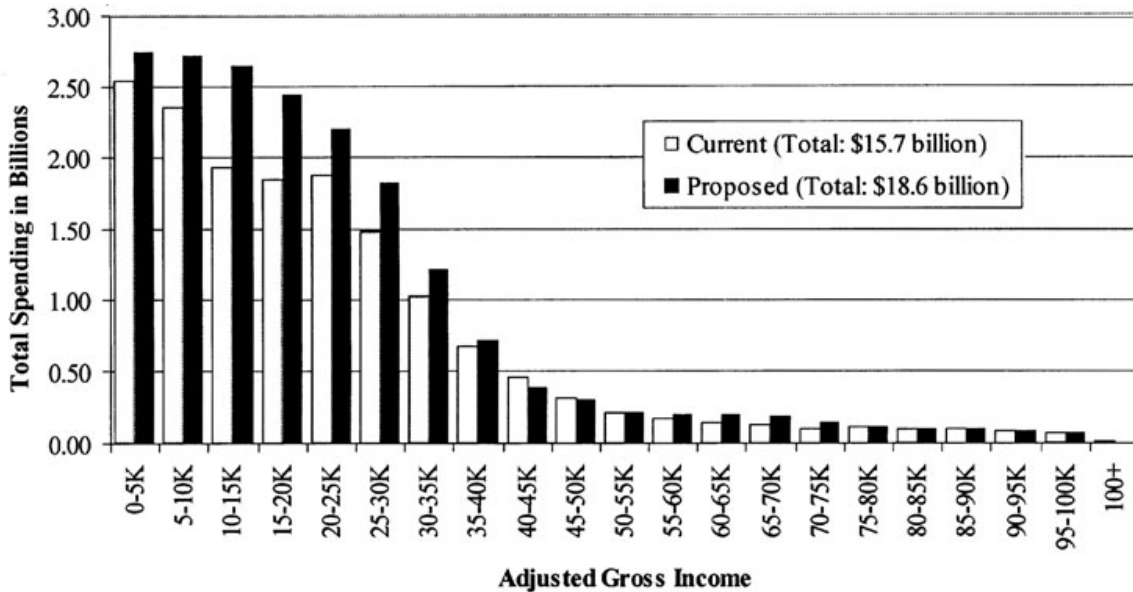
If your parents' adjusted gross income is...	then your annual grant is...
\$0-\$14,999	\$4,050
\$15,000-\$19,999	\$3,700
\$20,000-\$24,999	\$3,300
\$25,000-\$29,999	\$3,000
\$30,000-\$34,999	\$2,400
\$35,000-\$39,999	\$1,600
\$40,000-\$44,999	\$800
\$45,000-\$49,999	\$600
\$50,000-\$74,999	\$450
\$75,000-\$99,999	\$300

...PLUS \$250 for each dependent child other than the student,  
up to an additional \$1000.

\*If you are legally independent from your parents, your aid will be  
based on your (and your spouse's) income.

\*\*Grants will be adjusted for attendance status. For example,  
if you attend half-time, your grant would be half the amount listed.

Figure 4: Distribution of Spending On Undergraduates Under Current System (Pell+HOPE+LLC) and Proposed System



Source: Authors' estimates using NPSAS: 04. Estimates for the cost of the current benefits and our proposal are based on the 2003-2004 population of undergraduate federal aid applicants, and 2004 tax benefits.



### Application Process

Families would apply for the grant by checking off a box on their income tax form. Families would receive a voucher, in the mail or electronically, to be applied towards the cost of attendance at any eligible higher education institution. Students would notify schools of their grant eligibility as part of the normal application process. Schools would electronically verify students' enrollment status for the Department of Education, as the Department of Education would verify grant eligibility for schools.

### Aid Delivery

While the IRS has all the data needed to determine grant eligibility, the Department of Education has the infrastructure in place to deliver funds to schools. We, therefore, suggest that the role of the IRS be limited to forwarding applicants' adjusted gross income, dependency status, and number of dependents to the Department of Education, which will calculate aid eligibility and send students their vouchers. As in the current system, eligibility for the 2006-07 school year would be based on 2005 income, as reported to the IRS in early 2006. A potential logistical hurdle is that the IRS is not able to confirm income data immediately upon receiving an income tax return. In this case, eligibility could be based on income from a previous tax year. Because the IRS can provide transcripts of up to three years of prior taxes (and does so for thousands of "no paperwork" mortgage applications each year), eligibility could even be based on an average of several prior years of income. Unlike the current system, students would not have to wait for their voucher to arrive to know exactly how much they will get, because they can look it up in the simple table at any time (Exhibit 1). Once eligibility is confirmed, the Department of Education would deliver funds directly to the school.

The approach just described has several key advantages over the current system for delivering student aid. First, the grant schedule is so straightforward that families can easily determine their eligibility well before their child applies to college. Families need certain information about aid eligibility, early. Unifying the tax and grant programs removes the confusion over which credit is best to take for a given student, and eliminates the complicated rules that determine how tax credits and Pell Grants interact.

Second, this approach reduces time-consuming and error-prone paperwork. Families applying for aid will report their income to the IRS as usual, when they apply for taxes. They will make no separate application to the Department of Education. Since income information will come directly from the IRS rather than from students' self-reports on a FAFSA, individual institutions will no longer need to verify students' financial information. Currently, schools are legally required to audit 30 percent of FAFSAs submitted, at an estimated cost of \$432 million per year (Advisory Committee on Student Financial Assistance, 2005).

Third, this approach delivers funds when they are needed. Right now, the tax credits arrive up to 16 months after families have paid for college tuition. The credits do nothing for the strapped family who just can't come up with the funds for college. By delivering funds at the time of enrollment, our approach gets money into families' hands when they need it most.

All of these advantages come at modest cost. While we could design a simplification plan that is revenue-neutral, we opted for a grant schedule that spends slightly more, toward the end of making sure no group is penalized by simplification. We currently spend \$15.7 billion on Pell Grants and education tax incentives for undergraduates. Assuming no behavioral changes, our unified grant program for undergraduates would cost \$18.6 billion, an increase of \$2.8 billion, or 18 percent.<sup>16</sup> This is in line with recent growth in aid for college: between academic years 2001-02 and 2002-03, spending on the education tax incentives increased by \$1 billion and spending on the Pell Grant increased by \$1.6 billion, for a total increase of \$2.6 billion, or 17 percent.

### Winners and Losers

Overall, 49 percent of current aid applicants would see their grants change by less than \$250 (see first panel of Table 3; all increases and decreases are relative to the current Pell plus estimated tax credit). About 34 percent would gain more than \$250, and about 14 percent would lose more than \$250. Only 8 percent would see their grant fall by more than \$500.

The average student gains nearly \$300 in this approach. The gains are concentrated among those whose family income is less than \$30,000 a year. Among dependent students, funds shift toward those who work. For dependents who work any

*Table 3*  
**Changes in Average Grants and Total Funding by Selected Characteristics**

<i>Distribution of changes in funding</i>	<i>Percent of stud. pop.</i>	<i>Median change</i>	<i>Mean change per student</i>	<i>Total change (\$Billions)</i>
Total change for undergraduates	100.0%	\$121	\$284	2.840
Income less than \$15K	25.3%	\$250	\$497	1.260
Income \$15-30K	24.0%	\$53	\$525	1.260
Income \$30-45K	15.2%	\$137	\$105	0.160
Income \$45-60K	10.6%	\$144	\$3	0.003
Income \$60-75K	8.0%	\$189	\$184	0.148
Income over \$75K	16.9%	\$0	\$5	0.009
Four-year public students	34.9%	\$48	\$283	0.989
Four-year private student	23.4%	\$17	\$264	0.619
Two-year public students	33.1%	\$184	\$299	0.989
Two-year private students	4.3%	\$236	\$409	0.013
Dependent students	52.5%	\$0	\$128	0.673
Independent students	47.5%	\$203	\$456	2.170
Total change for dependent undergraduates	100.0%	\$0	\$128	0.673
Students with no earnings	25.5%	\$0	-\$78	-0.104
Students with earnings	74.5%	\$18	\$198	0.776
Earnings above \$6200 (75 pctlile)	24.9%	\$200	\$491	0.642
Parental assets below \$1500	50.3%	\$84	\$122	0.322
Parental assets above \$1500	49.7%	\$0	\$134	0.351
Assets above \$15,600	25.0%	\$0	\$184	0.242
Assets above \$76,000	10.0%	\$0	\$257	0.135
Assets above \$390,000	1.0%	\$0	\$330	0.017
Income less than \$15K	10.7%	\$250	\$444	0.250
Income \$15-30K	17.8%	-\$52	\$252	0.236
Income \$30-45K	16.4%	\$123	\$75	0.065
Income \$45-60K	13.7%	\$164	-\$4	-0.003
Income \$60-75K	12.1%	\$189	\$188	0.119
Income over \$75K	29.3%	\$0	\$4	0.006
Total change for independent undergraduates	100.0%	\$203	\$456	2.170
Student assets below \$1500	85.7%	\$209	\$455	1.830
Student assets above \$1500	14.3%	\$178	\$458	0.334
Income less than \$15K	41.5%	\$250	\$512	1.010
Income \$15-30K	30.8%	\$153	\$699	1.020
Income \$30-45K	13.8%	\$146	\$145	0.095
Income \$45-60K	7.0%	\$116	\$17	0.006
Income \$60-75K	3.5%	\$122	\$172	0.028
Income over \$75K	3.3%	\$0	\$17	0.003

Source: Authors' estimates using a sample of 51,822 undergraduates from the National Postsecondary Student Aid

Survey: 2003-04.

hours, the average increase is \$198; for those who do not work at all (one-quarter of dependent students), the average grant drops by \$78. Independent students also see large gains, largely because of the reduced tax on their work effort.

Because we have eliminated assets from the aid formula, some funds will newly flow to those whose assets currently render them ineligible for a Pell Grant. A small number of families have low income but substantial assets, and under the proposed system they will get grants. Among dependent aid applicants, 1 percent of parents have financial assets over \$390,000, and their grants will rise by \$330 to \$510.<sup>17</sup> Since they are such a small slice of the population, the cost of this increase is just \$17 million. This small increase in costs should be weighed carefully against the substantial decrease in complexity that dropping assets from the federal aid formula confers. When assets are part of the aid formula, we can't use the tax system to determine aid eligibility, since the tax system does not collect asset information. If we keep assets in the formula, we have to require a separate application for student aid.

### CONCLUSION

There is no doubt that the federal aid system gets grants and loans to many families who would be worse off without it. There is little evidence that this aid gets more young people into college. The U.S. system for subsidizing college students hides information about the affordability of college behind an unnecessary thicket of paperwork. It delays sharing information about the affordability of college until it is too late. In this paper, we have shown how a radical simplification to the aid system could preserve its distributive properties while enhancing its positive impact on schooling decisions.

### Notes

- <sup>1</sup> In general, an undergraduate is considered dependent if she is under 24, unmarried, and has no children.
- <sup>2</sup> Statistics in this paragraph are authors' estimates using the 2003-2004 National Postsecondary Student Aid Survey (U.S. Department of Education, 2005a).
- <sup>3</sup> Two well-designed studies have found no effect of the Pell Grant on schooling decisions (Hansen, 1983; Kane, 1995), while one has found no effect of the tax credits (Long, 2004).

- <sup>4</sup> We have strong evidence on the effectiveness of state merit aid (Abraham and Clark, 2006; Cornwell, Mustard, and Sridhar, 2000; Dynarski 2004, 2005; Kane, 2003), the GI Bills (Bound and Turner, 2002; Stanley, 2003; Turner and Bound, 2003); and the Social Security Student Benefit program (Dynarski, 2003). Dynarski (2002) reviews much of this evidence.
- <sup>5</sup> Some Web sites offer EFC calculators, which require the same data as the FAFSA. An enterprising student or parent could therefore calculate the EFC without completing a FAFSA. We would hazard that a student able to do this sort of sleuthing is likely to go to college with or without a federal Pell Grant.
- <sup>6</sup> We calculate aid using the federal financial aid formula and compare these calculated aid amounts with their true values, which are given in the NPSAS. Our calculations of Pell Grants are extremely close to their true values. Regressing the actual against the predicted values yields an  $R^2$  of 0.997.
- <sup>7</sup> We are not the first to estimate the predictive power of individual FAFSA items on student aid. Kane (1995) notes that most of the variation in Pell Grants can be explained using just a few variables. Stoll and Stedman (2004) use student-level FAFSA data (from the 1999-2000 NPSAS) to simulate the effect on the EFC of excluding items from the aid calculation.
- <sup>8</sup> Mechanically, this is achieved by setting the value of the excluded items to zero. We have also tested setting excluded values to their means or medians, with substantively similar results. For state of residence and elder parent's age, which are excluded from some simulations, a value of zero is not meaningful, so we assign to all applicants the default values that the aid formula imputes when these items are missing from a FAFSA.
- <sup>9</sup> A rejoinder is that assets serve as a summary statistic for lifetime earnings, which are imperfectly captured by current earnings. Rather than use assets as a proxy for lifetime earnings, we could instead use Internal Revenue Service data to directly measure multiple years of earnings. We consider this a sensible option worth consideration.
- <sup>10</sup> All asset information is excluded from the aid calculation for families that qualify for the "simplified needs test" or "automatic zero EFC."
- <sup>11</sup> Authors' calculations from NPSAS.
- <sup>12</sup> For 99 percent of aid applicants, the marginal tax rate on assets is zero. We obtain this figure by adding \$100 to every applicant's financial assets and recalculating aid. For 99 percent of the sample, Pell eligibility is unchanged.
- <sup>13</sup> Authors' calculations using 2004 SCF data tabling wizard. Focusing on households that contain children and have income of below \$50,000 (the effective income cap for Pell eligibility), the 50th percentile of non-retirement financial assets is below \$1000 and the 95th percentile is below \$40,000. The analogous figures for dependent Pell recipients in NPSAS are \$200 and \$31,000.

- <sup>14</sup> In 2007-2008, the disregard will rise to \$3,000 and the tax rate will fall to 35 percent. Students also receive allowances for federal taxes paid and an estimate of state taxes paid. If parents' total allowances exceed parents' income, the excess parents' allowance is used to protect more of the student's income.
- <sup>15</sup> We do not discuss funding for graduate students in this paper.
- <sup>16</sup> All cost estimates are based on NPSAS: 2003-04 data. Using income data provided in this survey, we calculate aid eligibility under our proposal and use survey weights to calculate national estimates. To estimate costs under the current system for the same students, we use detailed information from FAFSA applications included in the survey data to replicate Pell eligibility, and we then add to this amount the average education tax credit claimed by individuals in the student's income category.
- <sup>17</sup> The asset figures quoted in this paragraph are for those assets that are counted by the federal aid formula. The federal formula does not count housing equity or retirement assets when considering a family's ability to pay.

## References

- Abraham, Katharine G. and Melissa A. Clark. Financial Aid and Students' College Decisions: Evidence from the District of Columbia Tuition Assistance Grant Program. *Journal of Human Resources* 41 (Summer 2006): 578-610.
- Advisory Committee on Student Financial Assistance. The Student Aid Gauntlet: Making Access to College Simple and Certain: Final Report of the Special Study of Simplification of Need Analysis and Application for Title IV Aid. Washington, D.C., 2005.
- Avery, Christopher and Thomas J. Kane. Student Perceptions of College Opportunities: The Boston COACH Program. In Caroline Hoxby, ed. *College Choices: The Economics of Where to Go, When to Go, and How To Pay for It*. Chicago: University of Chicago Press, 2004, pp. 355-394.
- Bound, John and Sarah Turner. Going to War and Going to College: Did World War II and the G.I. Bill Increase Educational Attainment for Returning Veterans? *Journal of Labor Economics* 20 (October 2002): 784-815.
- Cornwell, Christopher, David Mustard, and Deepa Sridhar. The Enrollment Effects of Merit-Based Financial Aid: Evidence from Georgia's HOPE Program. *Journal of Labor Economics* 24 (October 2006): 761-86.
- Dynarski, Susan. The Consequences of Lowing the Cost of College: The Behavioral and Distributional Implications of Aid for College. *American Economic Review* 92 (May 2002): 279-285.
- Does Aid Matter? Measuring the Effect of Student Aid on College Attendance and Completion. *American Economic Review* 93 (March 2003): 279-288.
- The New Merit Aid. In Caroline Hoxby, ed. *College Choices: The Economics of Where to Go, When to Go, and How To Pay for It*. Chicago: University of Chicago Press, 2004.
- Building the Stock of College-Educated Labor. Cambridge, MA: National Bureau of Economic Research, 2005. NBER Working Paper 11604.
- Dynarski, Susan M. and Judith E. Scott-Clayton. The Cost of Complexity in Federal Student Aid: Lessons from Optimal Tax Theory and Behavioral Economics. *National Tax Journal* 59 (June 2006): 319-356.
- Edlin, Aaron S. Is College Financial Aid Equitable and Efficient? *Journal of Economic Perspectives* 7 (Spring 1993): 143-158.
- The Federal Reserve Board. 2004 Survey of Consumer Finances. Washington, D.C., 2004.
- Hansen, W. Lee. The Impact of Student Financial Aid on Access. In Joseph Froomkin, ed. *The Crisis in Higher Education*. New York: Academy of Political Science, 1983.
- Kane, Thomas J. Rising Public College Tuition and College Entry: How Well Do Public Subsidies Promote Access to College? Cambridge, MA: National Bureau of Economic Research, 1995. NBER Working Paper 5164.
- A Quasi-Experimental Estimate of the Impact of Financial Aid on College-Going. Cambridge, MA: National Bureau of Economic Research, 2003. Working Paper 9703.
- Long, Bridget Terry. 2004. The Impact of Federal Tax Credits for Higher Education Expenses. In Caroline M. Hoxby, ed., *College Choices: The Economics of Where to Go, When to Go, and How To Pay for It*. Chicago: University of Chicago Press.
- Madrian, Brigitte C. and Dennis F. Shea. The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior. *Quarterly Journal of Economics* 116 (November 2001): 1149-1187.
- Stanley, Marcus. College Education and the Mid-Century GI Bills. *Quarterly Journal of Economics* 118 (May 2003): 671-708.
- Stoll, Adam and James B. Stedman. Federal Student Aid Need Analysis: Background and Selected Simplification Issues. Washington, D.C.: Congressional Research Service Report for Congress, 2004. Order Code 32083.
- Turner, Sarah and John Bound. Closing the Gap or Widening the Divide: The Effects of the G.I. Bill and World War II on the Educational Outcomes of Black Americans. *Journal of Economic History* 63 (March 2003): 145-177.

U.S. Department of Education.

2003-2004 Federal Student Aid Handbook. Washington, D.C.: Office of Federal Student Aid, 2003a. <http://ifap.ed.gov/IFAPWebApp/currentSFAHandbooksYearPag.jsp?p1=2003-2004&p2=c>.

2003-2004 Free Application for Federal Student Aid. Washington, D.C.: Office of Federal Student Aid, 2003b.

2003-2004 National Postsecondary Student Aid Survey: Restricted-Use Data and Electronic Codebook. Washington, D.C.: National Center for Education Statistics, 2005a.

Draft Student Aid Report 2006-2007 Washington, D.C.: Office of Federal Student Aid, 2005b. <http://ifap.ed.gov/sarmaterials/attachments/0607DraftSAR.pdf>