The Student Finance System for Undergraduate Education:
How Well Does it Work?

Michael S. McPherson and
Morton Owen Schapiro

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Michael S. McPherson
Williams College

Morton Owen Schapiro
University *of Southern California*

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Since World War II, continuation of education beyond high school has become an increasingly routine feature of American life. During the 1960's and 1970's, both state and federal governments took steps to try to ensure the availability of postsecondary educational opportunities for Americans of all economic backgrounds -- in the states, largely through the development of a widespread network of open-enrollment community colleges and, in the federal government, through the development of a set of student aid programs targeted principally at needy students.

In our forthcoming book, Keeoping College Affordable: Government's Role in Promoting Educational Opportunity (The Brookings Institution, 1991), we assess the role of governmental subsidies for higher education -- especially but not exclusively federal student aid subsidies -- in keeping college affordable for Americans of all economic and social backgrounds. Here, we summarize these findings and conclude with some suggestions for educational reform.

The notion of "affordability" should be understood more broadly than simply keeping the price charged to students and their parents as low as possible. The nation as a whole, as well as individual families, faces a budget constraint, and it is our aim to provide evidence that will help citizens decide whether the nation's scarce resources are being used as effectively as possible in its higher education investments.

Our discussion can usefully be organized around three central questions:

1. Have government financing efforts expanded educational opportunity? Have they, that is, encouraged the enrollment and broadened the

educational choices of disadvantaged students?

2. Have government financing efforts made higher education institutions work better, by making them financially more secure and educationally more effective? Or have they instead had perverse effects -- as, for example, in the allegation that federal student aid has caused private institutions to raise prices in an effort to capture additional aid?

3. Have government financing efforts made the distribution of higher education's benefits, and the sharing of its costs, fairer?

(1) Educational opportunity

We consider under this head both the issue of the accessibility of higher education to lower-income students and the overall distribution of subsidies by income class.

Access and choice for low income students. On the plus side, the combination of state institutional subsidies and federal student aid support makes some form of postsecondary education financially accessible to a very wide range of Americans. Although it would be an exaggeration to claim that the problem of "access" is completely solved, it is important to stress the considerable success of the U.S. system in making it possible for many Americans with low income backgrounds to continue their education beyond high school. Still, there has been considerable controversy relating to the effectiveness of federal financial aid in increasing enrollments for tow-income students.

In our study, we have combined a historical analysis of trends in enrollment and student aid with a statistical treatment of the problem. Some earlier reviews of historical trends seemed to suggest that impacts of variations in federal student aid on enrollment rates and patterns were extremely difficult to detect. We discovered that extending the series of data into the middle 1980's produces a clearer picture. As Figure 1 shows, the ratio of low-income to high-income enrollment rose from the early 1970's to the late 1970's and then fell in the early 1980's - with the fluctuations being relatively mild for whites and sharper for blacks. This is consistent with the notion that the more generous federal student aid provision of the latter 1970's did encourage lower-income enrollment, while the cutbacks of the early 1980's had the opposite effect. Our statistical analysis of these data supports the same conclusion: reductions in net price significantly increase the propensity of lower-income students to attend college. Interestingly, we find no evidence that reductions in net price increase the enrollment of middle- and upper-income students.

The aid system, then, does work to encourage low-income enrollment, and the combination of federal subsidies and low public tuitions does succeed in providing access to <u>some</u> postsecondary experience for most students. Yet the existing financing system may be much less successful in providing a <u>suitable</u> postsecondary experience for many disadvantaged students. The range of alternatives available to students is quite sharply constrained by their incomes under existing arrangements. In most states community colleges are the cheapest and most accessible alternative for low income students, a fact which is reflected in their disproportionate representation in these institutions. About half of all freshmen are from families with incomes below $40,000, yet only about one in five freshmen at institutions belonging to the Consortium on Financing Higher Education (COFHE -- an association of 32 highly selective private colleges and universities) are from that income group, and slightly less than 40% of freshmen at public universities are from that group. (Detailed information on the income distribution of students attending different types of educational institutions is presented in chapter 5 of our book.) The differences are also striking for more disadvantaged students: students from families with incomes below $20,000 represent 16% of all freshmen, but only 6% of COFHE freshmen and 11% of public university freshmen. Although the issue of "choice" is often expressed in terms of public versus private alternatives, opportunity to attend a flagship public university or indeed any four year public institution is importantly constrained by income in many states.

The highest ability students are something of an exception to these generalizations. For low-income students of exceptionally high ability (as indicated by our analysis of a sample of students with high PSAT scores) the opportunity to attend a range of institutions is in fact quite broad. Partly because elite private institutions devote substantial resources to financial aid for low-income high-ability students, the proportion of all students with family incomes below $20,000 who attend a COFHE school is approximately equal to the proportion of all students with family income between $40,000 and $60,000 who attend COFHE institutions. Similarly, the share of all low income students from the high ability group who attend public flagship universities is roughly comparable to the share of middle-income high-ability students who do so, presumably owing at least in part to merit scholarships and active recruiting efforts.

Distribution of subsidies bv income. Our evidence on enrollment effects of student aid suggests that enrollment responsiveness to student aid is inversely proportional to income -- that is, lower income students are more responsive to student aid than others. Thus, if an objective of student aid is to encourage investment in college, efficiency in attaining that objective argues for targeting subsidies on low income students. This efficiency argument complements equal opportunity arguments for the targeting of subsidies on low income students.

How well does the current system of college finance perform from the standpoint of targeting subsidies on low income students? The picture is mixed. On one hand, the importance of financial need as a criterion in allocating a large portion of student aid funding introduces a significant measure of income sensitivity into the financing system -- although even relatively affluent students may qualify as “needy” at high priced private institutions. On the other hand, most state funding, which is a quite important component of the overall financing system, is not income sensitive. Indeed, because community colleges are less costly than most public four year colleges and universities, state subsidies going to students in public higher education tend to be positively related to income -- high income students receive, on average, higher subsidies from state operating revenues than do those with lower income. Work by John Lee on the distribution of subsidies (‘The Distribution of Higher

Education Subsidies," unpublished, 1987) from all sources (including federal, state, and institutional support) shows that they are only modestly related to income, with somewhat higher subsidies for lower income students.

(2) **Institutional impacts of the financing system**

It is really not possible to assess the effectiveness of student aid without attention to its impact on how, and how well, institutions operate. This issue was pushed into the headlines in the mid-1980's by then Secretary of Education William Bennett's strong insistence that increasing student aid does not help needy students cope with college costs, because the main effect of aid is simply to cause schools to raise their prices (see "Our Greedy Colleges," New York Times, February 18, 1987, p. A27). Certainly, the nation's experience with Medicare and other federal programs has increased everyone's awareness that governmental subsidies can sometimes contribute substantially to producer price increases. It would, of course, be remarkable if it were literally true that all federal aid is simply absorbed in aid-induced tuition increases -- and our research has turned up no credible evidence to support such a claim. But it would be just as remarkable if schools' decisions about pricing and the allocation of their own aid funds were entirely independent of federal student aid policy.

In fact, it is not impossible that aid and tuition are linked, but in just the opposite way from the Secretary's hypothesis. It is possible, that is, that decreases in federal student aid, or other forms of federal support, may raise the prices some schools charge. If schools feel obliged, either for competitive or humanitarian reasons, to replace lost federal aid for needy students, that revenue has to be made up from somewhere. And the revenue source most institutions (especially private institutions) have some control over is tuition. This would provide a link between tuition and aid exactly inverse to the one Secretary Bennett emphasized.

In our book (chapter 4), we address this issue in two ways. First, we examine historical trends in pricing and other dimensions of institutions' financial decision-making in relation to trends in federal student aid and other forms of government support for higher education. Second, we use data from individual institutions to develop econometric estimates of the impact of variations in various forms of external support on institutional financial behavior. These data thus permit us to make a statistical test of the "Bennett hypothesis". There is no evidence that private institutions whose federal financial aid receipts have grown more rapidly have raised their tuitions faster as a result. In public higher education, we do find such an effect, but the interpretation is different. Since a large fraction of costs at public institutions are borne by state governments, the increases in tuition that accompany more rapid increases in federal student aid in that sector are best seen as a set of transfer payments: more federal subsidies for low income students result in somewhat smaller state subsidies for higher income students (whose tuition charges rise) and perhaps somewhat smaller state appropriations for higher education.

It would, however, be a mistake to limit assessment of the institutional impact of aid to the narrow question of aid and pricing. Federal financial aid may, for example, influence the amount of money schools devote to instruction; or it may either replace student aid funding from the schools' own resources or -- like a matching grant -- induce them to spend more of their own resources on student aid. For that matter, federal spending to support research may well "leak over" into other areas, affecting the price and/or the quality of undergraduate instruction. Similar questions arise concerning the impact of state operating subsidies on tuition at public institutions and on institutional quality. Our findings indicate significant relationships between various external financial variables and institutions' choices about sticker price, institution-based financial aid, and their expenditures on instruction.

For example, increases in federal research support, which might seem to be closely targeted on a limited range of institutional activities, appear in fact to produce increases in institutions' instructional and student aid expenditures and to reduce tuition growth below what it would otherwise be. Increases in federal student aid also induce institutional responses: there is evidence that when federal aid increases more rapidly, private institutions increase their own provision of aid from institutional funds, while, as noted above, public four-year institutions are induced to raise tuitions. Changes in state and local appropriations for public institutions have substantial effects on rates of growth of spending on instruction at those institutions.

An important policy implication of this widespread interdependence in funding and activities is that substantial changes in any source of funding for colleges and universities may have significant indirect consequences which need to be taken into account. A further general implication of this interdependence is that policymakers really need to think about the financing system as a whole in shaping intelligent policies.

These issues about the institutional impact of external funding policies have been neglected in research on higher education to a surprising degree. With regard to student aid policy, studies of the impact of aid on students must exceed studies of institutional impacts by at least a ratio of thirty to one. We regard our own conclusions from work on the institutional side as tentative, and we hope our effort will help stimulate more attention to these important and difficult problems.

(3) **Distributive fairness**

Concerns about fairness in the overall distribution of student aid and other forms of funding for colleges are politically and socially important. We have already discussed the distribution of subsidies by income, which has an important fairness dimension. We want also to consider the strengths and weaknesses of the existing financing system with regard to horizontal equity (fairness across individuals), access to credit markets, and the reliability and simplicity of the financing system.

Horizontal equity. Are students in equal or comparable circumstances treated similarly? Ensuring horizontal equity is a principal goal of the “needs analysis” on which the distribution of much student aid is based. Existing needs analysis systems are not without difficulties regarding horizontal equity, especially in regard to treatment of saving and other “intertemporal” concerns. Yet the distribution of need-based aid does reflect a conscientious and in many ways quite impressive effort to make aid awards responsive to relevant differences in circumstances.

Perhaps a more important source of horizontal inequity in the financing system is the difference in circumstances confronting students in different states. According to data from the Digest of Education Statistics. 1989 (Table 259, p. 283) the price of in-state enrollment at public four-year institutions varies considerably across states, ranging in 1986-87 from a high of $6,357 per year for tuition room and board in Vermont to a low of $2,793 in Arkansas. Just as important, the range and quality of public alternatives also varies significantly across states. Many states have extensive community college systems which provide both geographical and financial access to most students, but some states have much more limited systems. Similarly, student costs of attending an internationally prestigious public flagship university are low for the residents of states which operate such institutions, but may be quite high for students who can only attend such an institution by enrolling out of state. These differences are relatively more important for students from lower income families, who have fewer resources to draw on in compensating for them.

Ready access to credit markets on fair terms. There are strong reasons why private markets will not make capital available for student loans on terms that reflect the expected returns on investment in education. An effective student aid system should correct this market imperfection by making loans available to students at interest rates that fairly reflect the opportunity cost of this use of funds. The Stafford program of guaranteed student loans (formerly known as the GSL program) aims to do that, but it is hampered in this role by the fact that it combines a substantial interest rate subsidy with access to credit. Access to Stafford loans must then be rationed to assure fair distribution of the subsidies. This problem is ameliorated to some degree by the availability of unsubsidized loans to parents and to independent students who do not qualify for Stafford loans under the needs test, or who have borrowed all they are eligible for under that program.

Reliability and simplicity of the financing svstem. An important goal of the student aid system is to provide a stable basis for students to plan effectively for postsecondary study beginning at a relatively early age. In order for students to be able to make sensible choices about pursuing “pre-college” high school curricula, and in order for families to make realistic financial plans for helping with college expenses, it must be possible for students to form a reasonable judgment about what their prospects for being financially able to attend college are. indeed, an important rationale for the development of the Basic Educational Opportunity Grant (BEOG) program (later named the Pell program) in the early 1970’s was precisely to provide this sort of reliable foundation for college financing.

Things have not exactly worked out that way. Regarding reliability, there have been considerable fluctuations in the funding of the federal student aid programs. Table 1 shows how the maximum grant level in the BEOG (Pell) program has fluctuated over time as a fraction of average college costs of attendance, reaching a peak in 1979-80 at 64% of costs and falling by 1987-88 to 38% of costs. Beyond the actual fluctuations, which have plainly been substantial, during much of the 1980’s students trying to make college plans must have found the headlines about federal policy highly unsettling. For several years running, the Reagan administration launched efforts to cut student aid by a significant amount. Although these efforts were largely blunted by Congress, they did create the impression that the future of federal financial aid was highly uncertain. Indeed, many parents and students probably believed that the actual cuts were bigger than they really were.

Regarding simplicity, two trends have worked against it. First, the federal effort has continued to be divided among a number of programs. In addition to the Pell grant program and the Stafford guaranteed loan program, undergraduate students may be eligible for any of several campus-based programs, providing grants, direct loans, or work-study support. (These programs are discussed in detail in chapter 1 of our book.) On top of this, a student may be eligible for a combination of different kinds of student aid support from state governments, institutions, and private charitable organizations. The principal mechanism for integrating these different sources of support is the needs analysis system. For any student receiving federal assistance, the combination of awards of various kinds from various sources must not exceed the student's "demonstrated need" for financial assistance. Yet, to turn to the second point, needs analysis has itself become more complicated over time. Indeed the system used to determine Pell eligibility is different from the Congressionally mandated system of need analysis used in awarding other federal as well as non-federal dollars. The attempt to ensure horizontal equity in the face of increasingly complicated financial arrangements for parents, and in the face of "need" for assistance reaching higher into the income distribution, has compelled the needs analysis system to inquire more and more deeply into the details of families' financial status and history.

Looking Toward the Future: Can We Do Better?

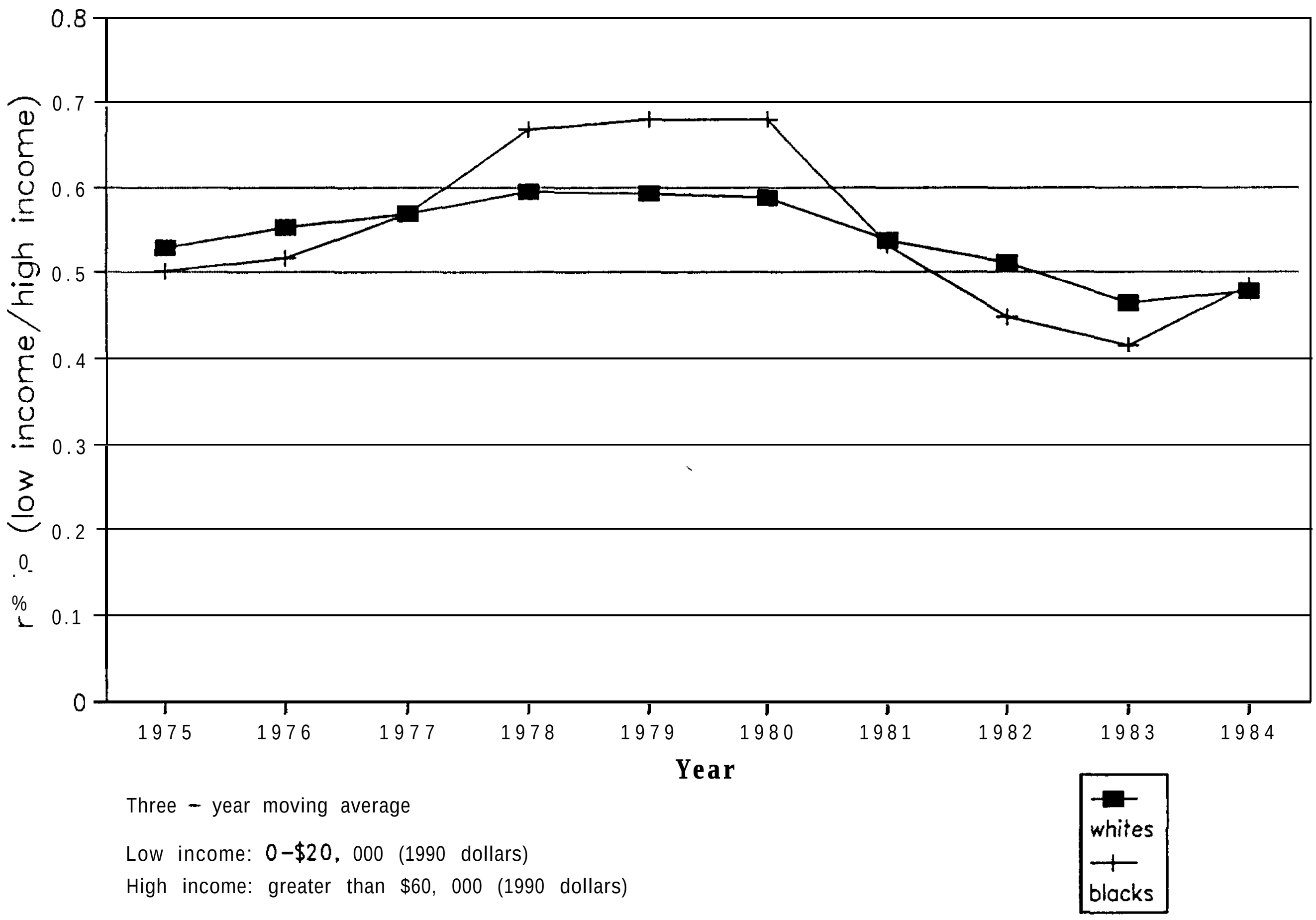
Our analysis of strengths and weaknesses of the existing financing system suggests that current arrangements accomplish quite a lot. Access to at least some form of higher education is widespread, certain components of the financing system respond well to differences in family circumstances, and the diverse financing mechanisms support a wide variety of types of postsecondary alternatives. Still, there is substantial room for improvement.

This is not the place to flesh out our proposals for reform in student finance in any detail. Moreover, we recognize that there is not one best way to achieve improved student finance. We can, however, state briefly some goals for improvement that our research has led us to emphasize:

- target the overall pattern of subsidies in the system (not only federal subsidies) more effectively on lower income students;
- increase the emphasis on providing high quality educational alternatives to lower income students and expand their range of choice;
- reduce inequities that result from differences across states in educational opportunities for less advantaged students; and
- simplify the federal aid system, and make its contribution to overall educational policy goals more comprehensible.

In thinking about how to achieve these goals, we would emphasize one major institutional point: intelligent reform requires thinking about the student finance system as a whole. As things stand, there is considerable discussion of appropriate federal student aid policy and there will be, we suspect, increasing discussion of appropriate state higher education subsidy policies in light of the increasing fiscal pressures on state governments. It would be very unfortunate if these discussions proceeded, as they often have in the past, on separate tracks. With both state and federal governments serving as major players in the finance of higher education, constructive policy making requires careful attention to the proper roles of both levels of government in higher education finance, and may well call for a rethinking of the terms of the partnership between them.

Figure 1. Ratio of low to high income enrollment rates, 1975-84



Three - year moving average

Low income: 0-$20, 000 (1990 dollars)

High income: greater than $60, 000 (1990 dollars)

Source: Authors' calculations from Current Population Survey

Table 1

Maximum Pell Grant Award as a Percentage of College Costs

Year	Maximum Pell Award	Total Tuition Room and Board	Maximum Pell Award as Percentage of Total Tuition Room and Board
1976-77	$1,400	$2,275	61.5%
1977-78	1,400	2,411	58.1
1978-79	1,600	2,587	61.8
1979-80	1,800	2,809	64.1
1980-81	1,750	3,101	56.4
1981-82	1,670	3,489	47.9
1982-83	1,800	3,877	46.4
1983-84	1,800	4,167	43.2
1984-85	1,900	4,563	41.6
1985-86	2,100	4,885	43.0
1986-87	2,100	5,206	40.3
1987-88	2,100	5,510	38.1

Sources:

Pell grant data are from The College Board, Trends in Student Aid: 1980-1989, Table 8, 12.

Cost data are for all institutions and are from National Center for Education Statistics, Digest of Education Statistics 1989, Table 258, p. 281. Figures for 1985-86, 1986-87 and 1987-88 are estimates. Because of revisions in data collection procedures, figures for 1986-87 and 1987-88 are not entirely comparable with those for previous years (board rates are somewhat higher than earlier years because they reflect a greater number of meals per week).