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ABSTRACT

Tuition discounting, the use of institutionally funded grants to help defray students' college costs, came into vogue in the late 1970s and has since become standard practice at U.S. four-year colleges and universities. Institutions use the discounts for a variety of purposes, but generally their use is to manage or tailor enrollment in some respect. Campus officials try to use their tuition discounts strategically. Hoping to raise net tuition revenue, they put their money where it will attract the most students, especially students who are likely to help institutions achieve their missions and purposes. The best outcome of this kind of enrollment management is that some institutions have improved their enrollment and financial situations and have become stronger. Tuition discounting works for some colleges. This report, which draws on data from a variety of sources, shows that tuition discounting, although sometimes helpful in helping colleges tailor enrollment, does not always produce the desired enrollment effects and does not always increase institutional revenue. The practice by individual institutions, when combined across all institutions, has led to troubling outcomes for lower-income students. It has restricted their access to grant aid to attend four-year institutions, and it has reduced their opportunities to choose among public and private colleges. Tuition discounting has the potential to contribute to the failure of more than a few colleges if they continue to lose net tuition revenue to discounting. An appendix contains data tables. (Contains 10 tables and 8 references.) (SLD)

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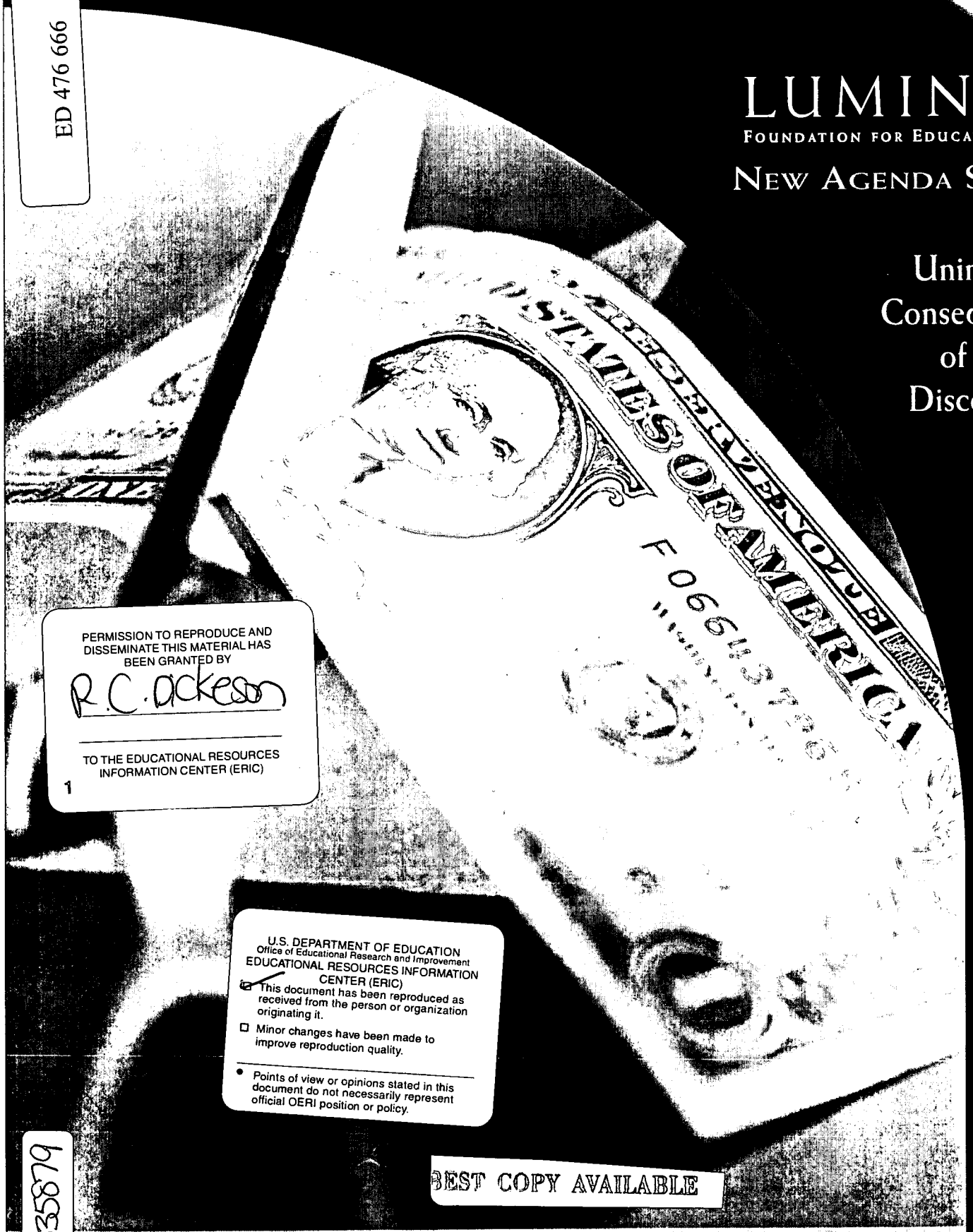
Unintended Consequences of Tuition Discounting



Jerry Sheehan Davis • Lumina Foundation for Education

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The creation of all research papers, even one as modest in length as this monograph, involves support for their authors. During my work on this project, I received valuable assistance from many persons, and I want to acknowledge them here.

Many of my colleagues at Lumina Foundation for Education contributed to the final product. Jill Wohlford, research associate, and Derek Price, director of higher education research, provided much assistance on assembling and interpreting the data. Bob Dickeson, senior vice president for policy, research and evaluation, and Dave Powell, director of publications, improved the quality of the text with excellent editorial comments and suggestions. Bob's foreword sets the appropriate context for how I intended the publication to be considered and used.

Late in 2002, I presented the findings and conclusiions of the research at meetings of the Midwest Association of Student Financial Aid Administrators and the National Association of State Student Grant and Aid Programs. Questions and comments from participants in both meetings helped me improve the monograph.

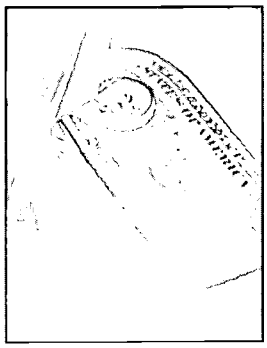
We asked several persons to review the text and suggest improvements. We received helpful comments from Sandy Baum, Skidmore College; David Breneman, University of Virginia; Richard Cook, Allegheny College; Kingston Johns, Jr., The College Board (retired); John Gardner, Brevard College; Lucie Lapovsky, Mercy College (NY); Michael McPherson, Macalester College; Bill Nelson, Scholarship America; Kenneth Redd, National Association of Student Financial Aid Administrators; Joseph Russo, University of Notre Dame; and Vincent Tinto, Syracuse University.

I am thankful to Natasha Swingley for her graphic design work in producing the printed document.

Any errors of ommision or commission, or weaknesses in the monograph, are the sole responsibility of the author.

Jerry Sheehan Davis
Vice President for Research
Lumina Foundation for Education

Table of contents



Foreword

Colleges and universities operate at the confluence of multiple pressures. The press to accomplish four objectives simultaneously — increase revenue, reduce expenses, improve quality, enhance reputation — leads institutions to attempt an array of proven and unproven management techniques and approaches. By so doing, colleges hope to reconcile these competing and often conflicting demands.

Tuition discounting, for example, was heralded early on as a technique that would build enrollment, increase institutional net revenue and shape incoming classes to fit institutional preferences. Although no two campuses do it exactly the same way, tuition discounting generally was intended to permit the institution to balance students' *ability* to pay with *willingness* to pay at the same time that other objectives were achieved. A campus might want to improve its academic profile, add minority students, serve more low-income students and/or achieve other geo-demographic goals of its enrollment-management plan.

As the research on tuition discounting began to demonstrate, however, results did not always match intent. Kenneth E. Redd in 2000 discovered that many institutions were, in fact, losing net revenue in the ways they managed tuition discounting. The National Association of College and University Business Officers has monitored the historically rapid increases in average discounting rates. In 1998, the College Cost Commission (the McKeon Commission) considered discounting one of its key issues. Jerry S. Davis in this report continues in the tradition of that research, using newer data to point out that tuition discounting has still other unintended consequences for institutions and their prospective students.

Where does this lead? How much can the system afford? Is there a breaking point?

Thus, while this topic is not new, its ramifications for the future are increasingly bewildering. Higher education observers must confront several questions about tuition discounting: Where does this lead? How much can the system afford? Is there a breaking point? The cost of tuition discounting is not borne solely by increasing tuition costs for all other students. My own research into academic programs shows that other institutional expense categories — notably

instruction — are being eroded to pay for discounting.

In an era of constricting budgets and shrinking endowments, institutions need to examine both the effectiveness and consequences of this strategy to their institutions and students.

Not all institutions are of one mind on this subject, however. Highly selective colleges with need-blind aid policies may not feel the effects of the market competition as much as most colleges. As one college president recently told me, "Privates are on a treadmill and can't get off."

Lumina Foundation for Education is therefore concerned about the impacts of tuition discounting for several reasons:

1. Discounting may unintentionally reduce student accessibility and affordability.
2. Institutions that pay for discounting by shifting funds from instructional and student services may impede their own efforts to improve student retention and attainment.
3. Some colleges may be courting fiscal danger because of their discounting practices.

One of the great strengths of the American higher education system is its diversity of institutional types. If that hallmark is in jeopardy, then we all lose because choice is limited and opportunity diminished. Discounting policies may work to the disadvantage of students, by limiting college choice and by shortchanging student services.

Our intent in publishing this report is not to find fault but to point out effect. This paper is meant to open a national conversation about this important topic, and to stimulate a dialogue about its resolution. And once that reality is known and shared, we would hope to assist the higher education community in addressing the larger issue: How can institutions, governments, foundations, businesses and other concerned partners fine-tune the system of financing American higher education? No one entity can purport to do it all, and Lumina Foundation certainly cannot do it alone. At the same time, we are pledged to improving access to postsecondary education. In that spirit and as a prudent first step toward that goal, we suggest that all concerned parties honestly and openly address tuition discounting as a part of a national conversation. Further, Lumina Foundation stands ready to support this effort to improve student access to postsecondary education.

Robert C. Dickeson
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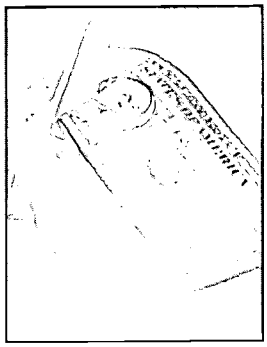
Policy, Research and Evaluation
Lumina Foundation for Education



Summary

Tuition discounting — the use of institutionally funded grants to help defray students' college costs — came into vogue in the late 1970s and has since become standard practice at the nation's four-year colleges and universities. Institutions use the discounts for a variety of purposes, but generally their goal is to manage or tailor enrollment for one or more reasons: to increase racial, ethnic or income diversity on their campuses or to woo students who have shown superior academic performance or other special skills.

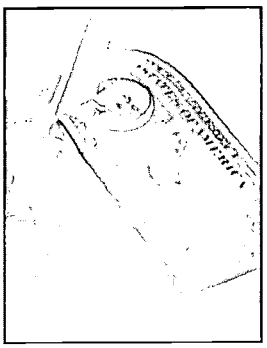
Campus officials try to use their tuition discounts strategically. Hoping to raise net tuition revenue, they put their money where it will attract the most students — particularly students who are most likely to help institutions achieve their missions and purposes.

The best outcome of enrollment management and tuition discounting is that some institutions have improved their enrollment and financial situations and are stronger. Tuition discounting works for *some* colleges. This report, however, shows that tuition discounting, though sometimes successful in helping some colleges tailor enrollments, does not always produce the desired enrollment effects and does not always increase institutional revenue. Moreover, the practice by individual colleges, *when combined across all institutions*, has led to troubling outcomes for lower-income students. For example:

- It has restricted their access to grant aid to attend four-year institutions.
- It has reduced their opportunities to choose among public and private colleges.

Tuition discounting does not always produce desired enrollment effects and does not always increase institutional revenue.

Finally, tuition discounting has the potential to contribute to financial failures of more than a few colleges if they continue to lose net tuition revenue to discounting. Such failures will reduce opportunity for all students, not just those of lower-income, and impose unwanted costs on our society and nation.



Introduction

During the 1970s many of the nation's colleges adopted enrollment-management strategies to improve enrollment, increase the academic quality and/or racial/ethnic diversity of their student bodies, and enhance tuition revenue. Enrollment-management strategies feature business practices borrowed from marketing, advertising, public relations and sales. These practices have proven effective for many colleges; most four-year colleges and universities now have enrollment managers and strategic plans for enhancing enrollment goals.

By 2001 the average "tuition discount rate" for four-year private colleges was 38.2 percent.

One of these strategies, "tuition discounting," is the art and science of establishing the net price of attendance for students at amounts that will maximize tuition revenue while achieving certain enrollment goals. Any financial aid practice that cuts the out-of-pocket costs students must pay for tuition could be termed "tuition discounting" when it reduces or "discounts" tuition. But what best distinguishes tuition discounting from other financial aid activities is its intent.

Prior to the late 1970s, colleges generally used financial aid resources (theirs and those of federal, state and private student aid programs) to help meet students' demonstrated financial needs, that is to say, fill the gaps between the costs of attendance and what students and families could reasonably afford to pay. College administrators and government officials during the 1960s and much of the 1970s assumed that meeting students' financial needs was sufficient incentive for them to enroll. Thus federal and state governments created many "need-based" grant, loan and employment programs to meet financial need. And when students' financial needs could not be fully met with federal and state financial aid, colleges tried to fill "remaining need" with institutional financial aid funds.

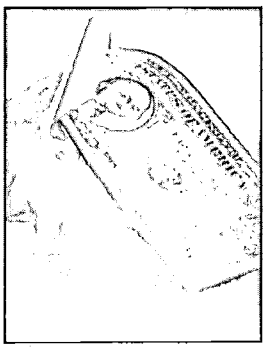
In contrast, tuition discounting acknowledges that students' decisions to enroll can be influenced as much by their *willingness* to pay the costs of attendance as by their *ability* to do so. Just meeting their financial needs may not provide enough incentive for some students to enroll. Still others may enroll without having their financial needs met, if they believe attending a certain institution is worth the financial sacrifice. Tuition discounting

What this report addresses

- Only *undergraduate* students enrolled *full-time* at *four-year* public and private colleges are included in these analyses. The following students are not included: part-time undergraduates at four-year colleges, graduate and professional school students, and students attending two-year colleges or business, trade and technical schools.
- Average grant award amounts are for all full-time undergraduates, including both aid recipients *and* non-recipients. Read the amounts as "award dollars per student."
- Only grant and scholarship aid awards are described. Financial aid from student loans, employment programs and tuition tax credits is not discussed.
- All dollar amounts are expressed in terms of *current* dollars, not constant or inflation-adjusted dollars.
- Institutional grant aid includes scholarships and grant aid money from restricted as well as unrestricted revenue sources. The focus of this report is on the amounts of institutional scholarship and grant aid made available to students, not on where the institutions get the money to fund their aid programs.

tries to establish the optimum prices for both groups of students, and for all students, financially needy or not.

Tuition discounting has become a standard practice for most four-year colleges and universities. By 2001 the average "tuition discount rate" for four-year private colleges was 38.2 percent, with nearly eight out of 10 students getting discounts (Hubbell and Lapovsky, 2002; Hubbell and Lapovsky define the tuition discount rate as the quotient obtained from dividing all institutionally funded financial aid by tuition and required fee revenue.) If successful, tuition discounting can meet enrollment goals and yield net tuition revenue that colleges can use to improve instruction and enhance other services. That net tuition revenue may also support institutional aid programs that help lower-income students afford the costs of attendance. Tuition discounting can produce unexpected consequences, however. This paper focuses on some of these unintended consequences for students and for colleges. Specifically, *on a national basis* tuition discounting appears to limit affordability and choice for many low-income students, it does not always produce the desired enrollment effects for institutions, and it does not always enhance institutional revenue.



Reduced financial access for lower-income dependent students

One of the unintended consequences of tuition discounting is that financial access to four-year colleges for lower-income, financially needy students may generally be diminished. If many colleges use their limited financial aid resources to attract students whose families can afford higher tuitions, then there may be less aid to award to students who cannot afford the tuitions. Thus, the opportunities for lower-income students can be diminished.

Evidence of diminished opportunity for low-income students is apparent in NPSAS surveys.

Indeed, evidence of diminished opportunity for low-income students is apparent in the National Postsecondary Student Aid Study (NPSAS) surveys conducted by the National Center for Education Statistics. Between 1995-1996 and 1999-2000 , the average dollar amount of institutional grant awards rose faster for higher-income undergraduates than for their lower-income peers at both public and private four-year colleges. Table 1 shows the average institutional grant awards per full-time dependent undergraduate student, by family income. The averages include all full-time students, not just those who received aid. It shows clearly that, although the average per-student grant awards to lower-income students were higher than those to middle- and upper-income students, the gap between the two narrowed significantly between 1995 and 1999.

We note here that all dollar amounts in all tables in this report are current and not adjusted for inflation. It was not necessary to adjust for inflation because we wanted to compare changes in mean grant amounts among the different student groups, not to measure changes in the purchasing power of those dollars over time. Because tuition discounting is more widespread among private colleges than among public ones, we focus first on independent institutions. In 1995, the average institutional grant aid for students from the highest-income families was only 39 percent as large as the aid for the lowest-income students, $1,359 versus $3,446. By 1999, the average aid for the highest-income students had

Table 1

Average institutional grant aid per full-time dependent undergraduate student, 1995-1996 and 1999-2000, by institutional type and family income

Four-year private colleges and universities

	Amount received 1995-1996	Amount received 1999-2000	Percent change 1995-1999	Dollar change
Family income				
Less than $20,000	$3,446	$4,027	17%	$ 581
$20,000 to $39,999	4,723	5,430	15	707
$40,000 to $59,999	4,360	5,982	37	1,622
$60,000 to $79,999	3,386	5,705	69	2,319
$80,000 to $99,999	2,561	4,761	86	2,200
$100,000 or more	1,359	3,321	145	1,962

Four-year public colleges and universities

	Amount received 1995-1996	Amount received 1999-2000	Percent change 1995-1999	Dollar change
Family income				
Less than $20,000	$836	$838	1%	$ 2
$20,000 to $39,999	643	777	21	134
$40,000 to $59,999	465	706	52	241
$60,000 to $79,999	371	714	93	343
$80,000 to $99,999	196	494	152	298
$100,000 or more	239	619	159	380

Source: NPSAS: 1995 and NPSAS: 1999

grown to 82 percent of the average aid to the lowest-income students. In 1995, the lowest-income students got about 2 percent more than did students with incomes between $60,000 and $79,999, $3,446 compared to $3,386. Four years later, however, the lowest-income students' average aid was 29 percent *less* than the average for the more affluent students, $4,027 versus $5,705.

Similar patterns of change were observed at public colleges. In 1995, the average per student institutional grant aid to dependent undergraduates with family incomes below $20,000 was three and a half times as large as the aid to students with incomes above $100,000, $836 compared to $239. By 1999, the lowest-income students got only 35 percent more than the highest-income students, $838 versus $619.

The trend toward awarding increasing amounts to more affluent students is a recent one.

It is worth noting here that the trend toward awarding increasing amounts to more affluent students is a recent one. Several studies have used NPSAS data to examine how grant aid awards to students from different family income levels have changed over time, but it was only recently that the trends began to favor wealthier students. For example, McPherson and Schapiro (2002) compared changes in institutional grant awards to undergraduates between 1986-87 and 1995-96 and discovered that lower-income dependent students at public colleges increased their aid by greater percentage rates and more dollars than did middle- and upper-income students. During this same time period, average institutional grant aid to students at private colleges grew at greater percentage rates for middle- and upper-income students than for lower-income students, but the *dollar growth* was larger for lower-income students than for upper-income ones.

The fact that more institutional grant funds flowed to richer than to poorer students would not be a great concern if more grant funds from non-institutional federal, state and private aid programs were directed to lower-income students. But the NPSAS data indicate that *non-institutional* grant aid to more affluent students *also* grew at faster rates than aid to lower-income students at both public and private four-year colleges and universities.

Table 2 shows that between 1995 and 1999, non-institutional aid to private college students with family incomes between $60,000 and $79,999 rose by 130 percent per student, while such grants to the lowest-income students rose by only 27 percent. Put another way, in 1995 the lowest-income students got almost six times as much grant aid as their higher-income peers but, in 1999, they received only three times as much.

Table 2 also shows that in 1995, the lowest-income public college students got 16 times as much non-institutional aid as students with family incomes above $100,000. In 1999 they received less than nine times as much. Average non-institutional aid to students with incomes above $80,000 more than doubled, while aid to the lowest-income students grew by only 32 percent.

When we combine the total grant aid available to all students from all sources and compare those changes (as displayed in Table 3, on Page 10), we find that the average total grant aid increased at faster rates for higher-income students. At private colleges, students with family incomes below $40,000 got 22 percent more grant aid; students with incomes between $40,000 and $59,999 got 44 percent more; students with incomes between $60,000 and $79,999 got 77 percent more; and students with incomes between $80,000 and $99,999 got 85 percent more. Students with family incomes above $100,000 saw their average grant aid from all sources more than double.

At public colleges, the average grant aid to lowest-income students rose by 24 percent. But students from families in the $20,000-$39,999 income bracket got 54 percent more; students in the $40,000-$59,999 interval got 78 percent more;

Table 2

Average non-institutional grant aid per full-time dependent undergraduate student, 1995-1996 and 1999-2000, by institutional type and family income

Four-year private colleges and universities

	Amount received 1995-1996	Amount received 1999-2000	Percent change 1995-1999	Dollar change
Family income				
Less than $20,000	$3,367	$4,285	27%	$918
$20,000 to $39,999	2,452	3,312	35	860
$40,000 to $59,999	1,096	1,856	69	760
$60,000 to $79,999	571	1,314	130	743
$80,000 to $99,999	421	753	79	332
$100,000 or more	289	710	146	421

Four-year public colleges and universities

	Amount received 1995-1996	Amount received 1999-2000	Percent change 1995-1999	Dollar change
Family income				
Less than $20,000	$2,568	$3,389	32%	$821
$20,000 to $39,999	1,351	2,284	69	933
$40,000 to $59,999	432	887	105	455
$60,000 to $79,999	276	479	74	203
$80,000 to $99,999	194	550	184	356
$100,000 or more	157	388	147	231

Source: NPSAS: 1995 and NPSAS: 1999

Table 3

Average total grant aid per full-time dependent undergraduate student, 1995-1996 and 1999-2000, by institutional type and family income

Four-year private colleges and universities

	Amount received 1995-1996	Amount received 1999-2000	Percent change 1995-1999	Dollar change
Family income				
Less than $20,000	$6,813	$8,312	22%	$1,499
$20,000 to $39,999	7,175	8,742	22	1,567
$40,000 to $59,999	5,456	7,838	44	2,382
$60,000 to $79,999	3,957	7,019	77	3,062
$80,000 to $99,999	2,982	5,514	85	2,532
$100,000 or more	1,648	4,031	145	2,383

Four-year public colleges and universities

	Amount received 1995-1996	Amount received 1999-2000	Percent change 1995-1999	Dollar change
Family income				
Less than $20,000	$3,404	$4,227	24%	$ 823
$20,000 to $39,999	1,994	3,061	54	1,067
$40,000 to $59,999	897	1,593	78	696
$60,000 to $79,999	647	1,193	84	546
$80,000 to $99,999	390	1,044	168	654
$100,000 or more	396	1,007	154	611

Source: NPSAS: 1995 and NPSAS: 1999

and students in the $60,000-$79,999 interval got 84 percent more. Average aid to students with family incomes above $80,000 more than doubled.

Regardless of whether the changes in average grant aid are compared in terms of percentage or dollar differences, the more affluent students generally received greater increases in grant aid than did less affluent students. At private colleges, students with family incomes below $40,000 got about $1,500 more in 1999 than in 1995, but the dollar *increase* for students with incomes above $40,000 was 73 percent more than that amount, or about $2,600.

At public colleges, students from families in the $20,000-$39,999 income bracket received $1,067 more in 1999 than in 1995. Students with incomes below $20,000 received only $823 more. We also find that the students with incomes of $40,000 or more got dollar increases that were, on average, only $200 less than the increases to the lowest-income students, $626 versus $823.[1]

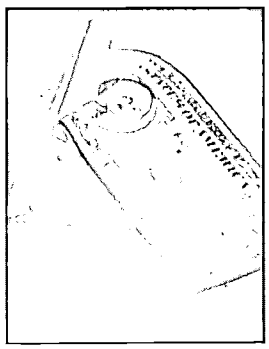
In addition to the changes in the average amounts of aid awarded to dependent students with different family incomes, we can look at the proportions of *total* grant aid awarded to all students by family income. Between 1995 and 1999, the percentages of dependent students with current family incomes below $40,000 declined at both types of colleges.[2] At the same time these students suffered losses of both institutional and total grant aid at rates greater than their declining numbers. In terms of either average or aggregate grant dollars, the lower-income students did not fare as well as the students from more affluent families. Here are the data for the lower-income students:

Decrease in the proportions of institutional and total grant aid received by students with family incomes below $40,000 from 1995 to 1999, by institutional type

	Public colleges			Private colleges		
	1995	1999	Percentage point decline	1995	1999	Percentage point decline
Proportion of these students enrolled	37.9%	30.6%	-7.3	37.1%	28.4%	-8.7
Proportion of institutional grant aid awarded to these students	55.5	39.3	-16.2	44.3	28.3	-16.0
Proportion of all grant aid awarded to these students	70.8	58.9	-11.9	52.6	35.8	-16.8

[1] Some colleagues who read early drafts of this paper suggested that, because tuition pricing and financial aid strategies differ among four-year colleges, our decision to analyze mean data for all colleges combined might have led us to conclusions that do not represent the situations at some sub-groups of public or private institutions. So we disaggregated and examined the kinds of data displayed in Tables 1 through 3 for public and private research and doctoral universities and comprehensive and baccalaureate colleges. We found that the mean dollar amounts for sub-groups were different from the means for all colleges combined. However, the major patterns of change for sub-groups were the same as those for all colleges combined. That is to say, between 1995 and 1999, the grant aid to higher-income students grew faster than the grant aid for lower-income students.

[2] We expected some decreases due to income inflation. But if we adjust for inflation over the time period under study, we would expect the proportions of students with current incomes below $40,000 to have fallen to 34.5 percent at the public colleges and to 33.7 percent at the private colleges. Therefore, it appears that both types of colleges may have experienced significant losses of lower-income students.



Lower-income students pay a growing share of tuition increases

We have focused attention on the dependent, traditional-age students because they represent larger percentages of all full-time undergraduates at four-year colleges than do older, financially independent students (generally those 24 years of age and older). But the patterns of change for independent students are similar to those for dependent students (see Appendix Tables A through C, Pages 28-30). These patterns reveal that, between 1995 and 1999, average institutional grant aid at both private and public colleges generally grew more for middle- and upper-income than for lower-income independent students. Non-institutional grants at public colleges rose at faster rates as the independent students' incomes increased. The growth rates for middle-income independent students at private colleges were only slightly higher than those for lower-income students.

Students with higher incomes generally got larger increases in grant aid than did lower-income students.

At public colleges, average total grants increased by 38 percent for independent students with incomes below $20,000 but by 61 percent for those with incomes between $20,000 and $29,999. They doubled for students with incomes above $30,000, but the dollar increase was only about $600. At the private colleges, average total grant aid rose by almost $1,300 for students with incomes between $20,000 and $29,999, by about $800 for those with incomes under $20,000, and by $585 for those with incomes above $50,000. But average aid for students in the $30,000-$49,999 income interval dropped by about $110.

It seems clear that, regardless of whether one uses dollar or percentage increases, students with higher incomes generally got larger increases in grant aid than did lower-income students at both public and private colleges.

The use of institutional funds to reduce out-of-pocket tuition costs for students from more affluent families was the primary factor contributing to these changes.

The increased shift to merit aid among state and private grant aid programs also contributed to the pattern. But this practice had a smaller effect

on funds flowing to the more affluent students than did tuition discounting. Excellent descriptions of the effects of shifts from need-based to merit-based aid are found in Heller's *Journal of Student Financial Aid* article, "Race, Gender, and Institutional Financial Aid Awards" (Heller, 2001) and in Heller's and Nelson Laird's *Trends in the Use of Need-Based and Non-Need-Based Financial Aid in American Colleges and Universities* (1999).

The trend toward merit aid has caused lower-income students to bear a greater share of the typical marginal increase in tuition and fee charges between 1995 and 1999. Lower-income students had to borrow more, work longer hours, possibly detracting from their academic performance, and otherwise make sacrifices to meet the increased net charges. The effects on students of tuition increases without corresponding increases in student financial aid are examined in *Access Denied: Restoring the Nation's Commitment to Equal Educational Opportunity* by the Advisory Committee on Student Financial Assistance (2001).

Table 4 (Page 14) shows that increased total grant aid for private college students with family incomes below $40,000 defrayed about two-thirds of the average $2,345 increase in tuition and fees. Put another way, for every dollar increase in charges, total grant aid from institutional and non-institutional sources grew by about 66 cents. For students with family incomes above $40,000, however, grant aid amounts actually rose *more than charges*. Students in the $60,000-$79,999 family income interval got $1.31 more grant aid for every dollar increase in tuition and fees. Increased institutional grant aid alone covered 95 cents of every dollar increase in tuition and fees for students with incomes between $60,000 and $100,000. Institutional grant aid covered only about 28 cents of every dollar increase in expenses for students with incomes below $40,000. *Clearly, institutional grants offset more of the marginal tuition increases for affluent students than for lower-income students.*

Colleges have choices to make about tuition discounting strategies. For example, private colleges could choose to increase their institutional grant aid to students with incomes above $40,000 by just enough to cover 100 percent of their marginal tuition increases, and then spend the funds they save to award larger grants to students with incomes below $40,000. In such colleges, this strategy would defray 90 percent, rather than 66 percent, of the lower-income students' marginal charges. Doing this would mean that the average institutional aid for the students with incomes above $40,000 would be $230 less per student. The "saved" dollars available to aid lower-income students would amount to $562 more per student. By cutting the more affluent students' average institutional aid by only 4.7 percent ($230 divided by $4,903, the average grant aid to students with incomes above $40,000) and increasing the lower-income students' average institutional aid by 11.5 percent ($562 divided by $4,999, the average grant aid to students with incomes below $40,000), the colleges could have more closely equalized the increases in net prices to students at all income levels.

Clearly, institutional grants offset more of the marginal tuition increases for affluent students.

For public college students, total grant aid from all sources grew more than tuition and fee charges between 1995 and 1999 and at a faster rate for lower-income than for higher-income students. But this phenomenon is attributable to non-institutional aid, rather than institutional aid. Total grant aid for students with family incomes below $20,000 grew by 64 percent more than tuition charges. For students with incomes between $20,000 and $39,999, total grant aid grew by more than double their average increase in charges, $1,067 versus $501. However, Table 4 shows that, as family income levels increased, public college students were more likely to have greater shares of their marginal increases in charges covered by

Table 4

Percentages of 1995 to 1999 increase in tuition and fees that were defrayed by increases in institutional and non-institutional grant aid to full-time dependent undergraduate students, by institutional type and family income

Four-year private colleges and universities

	Institutional grants	Non-institutional grants	Combined grants
Family income			
Less than $20,000	25%	39%	64%
$20,000 to $39,999	30	37	67
$40,000 to $59,999	69	32	101
$60,000 to $79,999	99	32	131
$80,000 to $99,999	94	14	108
$100,000 or more	84	18	102

Four-year public colleges and universities

	Institutional grants	Non-institutional grants	Combined grants
Family income			
Less than $20,000	0%	164%	164%
$20,000 to $39,999	27	186	213
$40,000 to $59,999	48	91	139
$60,000 to $79,999	69	41	110
$80,000 to $99,999	59	71	130
$100,000 or more	76	46	122

Source: NPSAS: 1995 and NPSAS: 1999

institutional grant aid. Therefore, both types of colleges awarded institutional aid in ways that offset the marginal increases in tuition more for upper-income than for lower-income students.

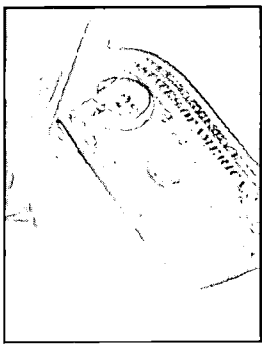
While lower-income students received more grant aid in 1995 and 1999 than did their more affluent peers, *the rate of increase* in their aid fell behind the rates for other students at both types of institutions. At the private colleges, the *dollar* increases were also less for lower-income students. These patterns occurred primarily because grant aid funds were directed to students from more affluent families. Thus, it appears that using funds to discount tuitions for these more affluent students may be threatening lower-income students' financial access to college. This practice is undoubtedly making it more expensive for them to attend.

One reason that average grant aid to middle- and upper-income students may have increased is that their financial need increased. Students from middle- and upper-income families with identical incomes in 1995 and 1999 would have lower Expected Family Contributions (EFCs) in 1999 and, therefore, higher financial need. The 1999 students' EFCs would be lower because the formula for calculating ability to pay is indexed to inflation and changes in tax rates. Costs of living and tax rates increased between 1995 and 1999, so even if the family earned the same amount in both years, it would have fewer resources available to pay college expenses in 1999. Therefore, middle- and upper-income students' financial need would increase by more than the increase in their costs of education. On the other hand, because the lowest-income students' EFCs generally are zero in any year, their financial need would rise by only the increase in their education expenses.

The NPSAS data showed that average financial need for dependent, private college students increased by $2,914 between 1995 and 1999 for students with family incomes below $40,000. These students received $658 more in average institutional grant aid, which covered about 22 percent of their increased average financial need. Average need increased by $3,041 for dependent private college students with incomes above $40,000. They received $2,000 more in average institutional grant aid, which covered about 66 percent of their increased need. (We note here that the average need and grant amounts are for all students, not just for those with financial need or those who received grant aid.)

The patterns for dependent public college students were as follows: Average financial need rose by $1,450 for students with incomes below $40,000. On average, they received $86 more in institutional grant aid, to cover 6 percent of their increased need. For students with incomes above $40,000, average financial need grew by $415 while their average institutional grant aid was growing by $312 and covering 75 percent of their increased need.

We found similar patterns among independent students at both public and private colleges. It seems clear that the colleges' choice to award so much more grant aid to middle- and upper-income students than to lower-income students is more than merely an effort to meet the increased financial need of the more affluent students. In other words, other institutional purposes are guiding the distribution of aid, for independent as well as dependent students.



Lower-income students are now less likely to choose a private college

Another unintended consequence of tuition discounting is that lower-income students' opportunities to choose private rather than public colleges decreased between 1995 and 1999. For at least three decades, private college administrators have been concerned about the rising difference, or "tuition gap," between the tuitions they have to charge students to help defray institutional expenditures and the lower tuitions public colleges can charge because they receive direct subsidies from state appropriations. Institutional aid is a major means by which private colleges can reduce those gaps. If private colleges can provide students with enough institutional aid (and grant aid from non-institutional sources), then they can narrow the difference in the "net tuition gap" (net charges after grant aid and tuition discounts) and more effectively compete in the marketplace for students. Table 5 (Page 17) shows the "net tuition gaps" for 1995 and 1999 and how they changed for dependent students from families at different income levels.

Lower-income students' opportunities to choose private rather than public colleges decreased between 1995 and 1999.

In 1995, the average net tuition for students with family incomes below $20,000 was $5,986 greater at private than at public colleges and universities. To attend private colleges, these lowest-income students had to find, on average, nearly $6,000 in additional funds — from parents and other family members, student loan programs, employment and other sources. Students with incomes between $20,000 and $39,999 had to find about $4,200 more to fill the gap.

By 1999, the average net tuition gap (i.e., the difference in tuition charges after subtracting grant aid at each type of college) for the lowest-income students had widened by 19 percent, to $7,154. The gap for students with family incomes between $20,000 and $39,999 increased by 32 percent, or $1,344. But the gaps for students with incomes of $40,000 and above either remained the same or decreased slightly. Therefore, the average net price barrier that lowest-income students had to

overcome to attend private colleges in 1999 was only 13 percent ($1,061) less than the one faced by students with incomes of $100,000 or more. In many instances, room and board, books and supplies, and other miscellaneous expenses are higher at private colleges than at public colleges, so the net tuition gap very likely underestimates the difference in total cost of attendance.

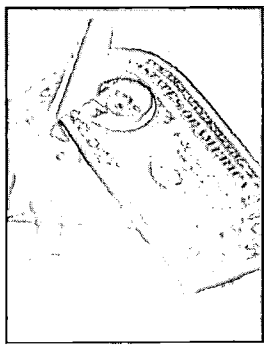
The increases in net tuition gaps generally were larger for independent students than for dependent students (see Appendix Table E, Page 32). The gaps widened most for independent students with incomes between $30,000 and $49,999 (by $2,681), and least for those with incomes between $20,000 and $29,999 (by $1,287).

Table 5

Average net tuition gap between private and public colleges in 1995-1996 and 1999-2000, for full-time dependent undergraduate students, by family income

	1995	1999	Percent change
Family income			
Less than $20,000	$5,986	$7,154	+19%
$20,000 to $39,999	4,214	5,558	+32
$40,000 to $59,999	4,836	4,994	+ 3
$60,000 to $79,999	6,085	5,413	- 11
$80,000 to $99,999	6,803	6,769	- <1
$100,000 or more	8,143	8,215	+<1

Source: NPSAS: 1995 and NPSAS: 1999



Desired enrollment effects are not always achieved

Since the net tuition gaps increased between 1995 and 1999, we expected distributions of enrollments between the two types of institutions to change. Table 6 (Page 19) shows the percentages of all four-year college undergraduate students who were enrolled full-time at private colleges and universities, by their dependency status and income. Collectively, private colleges lost shares of students in seven of the 11 income intervals. Their share of dependent students with family incomes between $80,000 and $99,999 dropped by five percentage points. They also lost more than two percentage points in their shares of dependent students with incomes below $40,000, of dependent students with incomes above $100,000, and of independent students with incomes between $30,000 and $49,999. They increased their shares of independent students with incomes between $20,000 and $29,999 and $50,000 or more, but by just slightly over two percentage points. They also increased their shares of dependent students with incomes between $40,000 and $80,000, but by just fractions of a percentage point. Therefore, in spite of awarding more aid to their more affluent students, private colleges' net tuition gaps grew for all but the dependent students with incomes above $60,000. At the same time, private colleges appear to have lost market shares of most undergraduate groups.[3]

Private colleges appear to have lost market shares of most undergraduate groups.

However, these data should not be used to conclude that changes in the net tuition gaps were the sole, or even primary, causes of the shifts in enrollments. If the widening gaps in tuition and fee charges were a primary cause of the losses, we

[3] Readers who are familiar with enrollment statistics reported by the Department of Education from Institutional Postsecondary Education Surveys (IPEDS) may question the conclusion that the private colleges' market shares for some student groups diminished, because IPEDS data show that private college student enrollments generally increased between 1995 and 1999. The discrepancy is explained by the fact that enrollment data from the National Postsecondary Student Aid Study (NPSAS) are for full academic years while IPEDS data are collected for one point in time, the fall term. Fall enrollment counts are always underestimates of total enrollments for the year. We used NPSAS enrollment data here because they were available by student family incomes and dependency statuses; IPEDS data were not.

would expect the losses to be greater for student groups where the gaps grew the most; that is, for the lower-income dependent student groups and for independent students. But this was not exactly the case.

The gap grew by 19 percent for students with family incomes below $20,000 and by 32 percent for students with incomes between $20,000 and $39,999. The private colleges lost 2.3 percentage points in their shares of dependent students with

Table 6

Proportions of all full-time four-year college undergraduates who were enrolled at private and public colleges in 1995-1996 and 1999-2000, by dependency statuses and family incomes

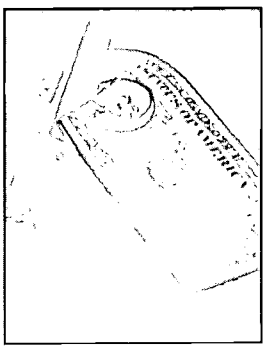
	1995		1999		Percentage-points change in private college proportions
	Private	Public	Private	Public	
Dependent students					
Less than $20,000	34.3%	65.7%	32.0%	68.0%	- 2.3
$20,000 to $39,999	32.5	67.5	30.1	69.9	- 2.4
$40,000 to $59,999	31.3	68.7	31.6	68.4	+0.3
$60,000 to $79,999	32.7	67.3	32.9	67.1	+0.2
$80,000 to $99,999	36.2	63.8	31.2	68.8	- 5.0
$100,000 or more	39.3	60.7	37.2	62.8	- 2.1
Independent students					
Less than $10,000	25.4%	74.6%	25.0%	75.0%	- 0.4
$10,000 to $19,999	26.5	73.5	24.9	75.1	- 1.6
$20,000 to $29,999	29.9	70.1	32.2	67.8	+2.3
$30,000 to $49,999	32.4	67.6	29.8	68.2	- 2.6
$50,000 or more	33.9	66.1	37.2	62.8	+3.3

Source: NPSAS: 1995 and NPSAS: 1999

incomes below $20,000 and 2.4 percentage points for students with incomes in the next higher income interval. Private colleges reduced the average net tuition gap by 11 percent for dependent students with incomes between $60,000 and $79,999, and their share of such students grew slightly, by 0.2 percentage points. So the enrollment changes are in expected directions. These findings suggest that widening the net tuition gap for the lowest-income students could have contributed to losses of such students. They also suggest that reducing the net tuition gap for the middle-income students may have increased enrollment shares of those students.

However, there was virtually no change in the average net tuition gap for dependent students with family incomes of $80,000 or more, while the private colleges lost five percentage points in their share of students with incomes between $80,000 and $99,999 and 2.1 percentage points in their share of students with incomes of $100,000 or more. In addition, Appendix Table E (Page 32) shows that the net tuition gap among independent students increased for all five income intervals, while private colleges' shares of independent students fell for only three income intervals. Therefore, we are unable to conclude that changes in enrollments for all private colleges combined can be tied directly to changes in net tuitions or tuition gaps.

It is safe to conclude that the NPSAS data *suggest* that increases in the net tuition gaps for the lowest-income dependent and independent students resulted in more such students choosing public colleges. On the other hand, reducing (or holding constant) the net tuition gaps for middle- and upper-income dependent students apparently did *not* prevent losses of enrollments. We readily acknowledge that some *individual* private colleges can argue that, had they not awarded more dollars to those middle- and upper-income students and given them larger tuition discounts, their enrollment losses would have been larger. However, the data suggest that, for private colleges *in general*, tuition discounting was not successful in increasing their market shares of dependent students in those income groups, even though private colleges spent a great deal of institutional aid funds in attempting to attract them. Because the results are mixed, it is difficult to reach any conclusions about the effects of tuition discounting and changes in tuition gaps on enrollments of independent students at the two types of colleges.



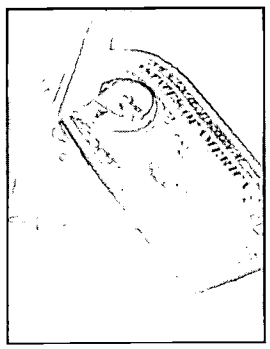
Tuition discounting does not always increase student quality

Increasing student academic quality is another reason some colleges practice tuition discounting. That goal is not always achieved either. Colleges take great pride in their students' SAT test scores, when scores are above average, because such scores represent academic aptitude and potential. SAT Verbal test scores are particularly important because these scores correlate closely with freshman grade point averages and other measures of academic achievement.

We used data from the College Board's *Annual Survey of Colleges* and looked at changes in median SAT Verbal test scores between the freshman classes of 1995 and 1999 for 608 four-year private colleges and 266 four-year public colleges. What we found for those colleges is illustrated in the box above.

These patterns indicate that, even in an environment of increasing tuition discounting and more widespread use of merit aid, fewer than two out of ten colleges increased their median freshman SAT Verbal scores by 11 points or more, a change that represents less than two percentage points on the test score scale of 600. One could argue that tuition discounting made it possible for more than half the colleges to increase their students' SAT Verbal scores by some amount. But data to test this hypothesis are not readily available. We do know that larger increases in tuition discount rates are not related to increases in students' SAT scores. Redd found that colleges with the largest increases in tuition discount rates did *not* increase the median SAT scores of their students (Redd, 2000).

	Private	Public
Median scores decreased	45%	44%
Median scores increased by 10 points or less	35	39
Median scores rose by 11 points or more	20	17



Tuition discounting does not always increase institutional revenue

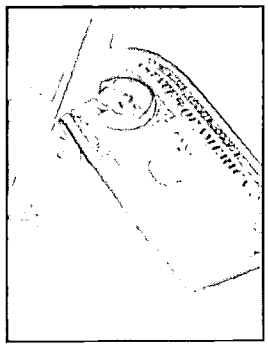
If, by giving some students modest tuition discounts, colleges can persuade more students to enroll, the colleges can increase net tuition revenue from one year to the next. However, another unexpected consequence of tuition discounting is that it does not always increase tuition revenue — or increase it by as much as colleges anticipate when they raise tuition and fee charges.

More than a few private colleges may be losing revenue through tuition discounting.

In his report, *Discounting Toward Disaster: Tuition Discounting, College Finances, and Enrollments of Low-Income Undergraduates*, Redd (2000) compared tuition discounts and net tuition revenue between 1990-91 and 1996-97. He found that institutions with the greatest increases in discount rates raised their spending on grants by an average of $3,375 per full-time-equivalent student, but their tuition and fee revenue grew by just $3,069 per student.

If financial aid expenditures, or tuition discounting, grow faster than tuition, then net tuition revenue grows more slowly and may actually decline. In their National Association of College and University Business Officers (NACUBO) *Tuition Discounting Survey*, Hubbell and Lapovsky (2002) found that, on average, between Fall 2000 and Fall 2001, net tuition revenue at four-year private colleges increased at a lower rate than did gross tuition revenue, 6.2 percent versus 6.6 percent. When the authors analyzed the data by sub-groups of colleges, they learned that smaller colleges with higher tuitions and large colleges and universities averaged higher growth rates in net tuition revenue than they did in gross revenue. However, the smaller private colleges (freshman classes fewer than 850 students) with lower tuition and fee charges (less than $19,880) saw only a 5.3 percent growth in net tuition revenue after a 6.3 percent growth in gross revenue. The experiences of the smaller colleges drove down the averages for all survey respondents. These patterns suggest that more than a few private colleges may be losing revenue through tuition discounting, even though the practice yields increased revenue for others.

One reason that revenue is frequently lost through tuition discounting is that much of the money awarded to students as scholarships, tuition discounts or grants comes from tuition and fees collected from other students. The 2001 *Survey of Undergraduate Financial Aid Policies, Practices, and Procedures* by the National Association of Student Financial Aid Administrators and the College Board revealed that 67 percent of the funds used for institutional grants by four-year private colleges came from tuition and fee revenue (Redd, 2002). Another 21 percent came from endowment earnings, and the remaining 12 percent came from grants, gifts, contracts and other sources. The corresponding percentages for the four-year public colleges were: 39 percent from tuition and fee revenue, 35 percent from endowment earnings, and 26 percent from grants, gifts, contracts and other sources. Using large amounts of tuition and fee revenue for financial aid reduces an institution's options to use net revenue for other purposes.



Conclusions

Although some colleges deem tuition discounting an effective enrollment-management tool, it is not always as effective as intended, and it can produce unintended consequences. One of these consequences is that lower-income students' access to grant aid is decreasing, while their cost of education is rising, making it increasingly difficult for them to afford college. It is also becoming harder for lower-income students to exercise a choice to attend private colleges rather than public colleges. Another unexpected consequence of tuition discounting is that it does not always increase an institution's net tuition revenue. For many private colleges, and for some public colleges during times of economic difficulty and declining state appropriations, losing net tuition revenue means fewer resources are available for academic and student support services. This situation, in turn, may make the colleges less valuable to their students and less able to compete in the marketplace for future students. Tuition discounting does not appear to have significantly increased the academic quality of enrolling freshmen, at least as quality is measured by SAT Verbal scores.

Colleges offer many tuition discounts, or larger-than-necessary discounts, to students who would have enrolled anyway.

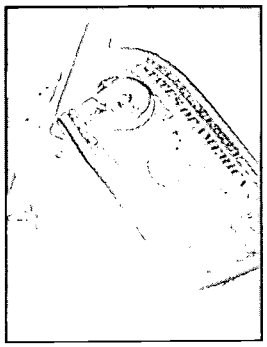
Perhaps the primary reason tuition discounting has not been as effective as its users intended is that financial factors do not significantly influence the college choices of many affluent students to whom discounts are directed. Colleges offer many tuition discounts, or larger-than-necessary discounts, to students who would have enrolled anyway. Other colleges offer discounts to students who would not have enrolled regardless of the net tuition. Still other colleges offer discounts that entice students to enroll, but these students later discover they have made a bad choice and transfer.

An excellent summary of the research findings on student responsiveness to tuition and financial aid is offered by Hossler, Hu and Schmit (1999) in their *Journal of Student Financial Aid* article "Predicting Student Sensitivity to Tuition and Financial Aid." They report that price sensitivity is complex and cannot be explained solely by parental education and incomes. Such subjective

factors as students' perceptions, expectations and preferences interact and can play dominant roles in shaping students' college choices. These subjective factors make it very difficult to establish effective tuition-discounting strategies and successful enrollment-management programs.

The best outcome of enrollment management and tuition discounting is that some institutions have improved their enrollment and financial situations and are stronger. Tuition discounting works for *some* colleges. We recognize that colleges are appropriately acting in their self-interest when using tuition discounting to try to achieve institutional goals. We also recognize that colleges individually and collectively spend millions of dollars in student aid awards to lower- and middle-income students to try to make themselves affordable to such students. But this report has shown that the actions by large numbers of individual colleges, *when combined across all institutions*, have produced some worrisome outcomes for students and for colleges in general.

The most worrisome outcome of tuition discounting is that it apparently restricts lower-income students' financial access to four-year institutions and reduces their options in terms of college choice. Finally, tuition discounting has the potential to contribute to financial failures of more than a few colleges if they continue to lose net tuition revenue to discounting. Such failures will reduce opportunity for all students, not just lower-income ones, and impose unwanted costs on society and our nation.



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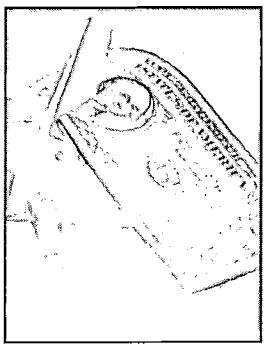


Appendices

Appendix Table A

Average institutional grant aid per full-time independent undergraduate student, 1995-1996 and 1999-2000 by family income and institutional type

Four-year private colleges and universities

	Amount received 1995-1996	Amount received 1999-2000	Percent change 1995-1999	Dollar change
Family income				
Less than $10,000	$1,727	$2,041	18%	$314
$10,000 to $19,999	1,512	1,590	5	78
$20,000 to $29,999	528	1,404	166	876
$30,000 to $49,999	1,180	1,364	16	184
$50,000 or more	274	835	205	561

Four-year public colleges and universities

	Amount received 1995-1996	Amount received 1999-2000	Percent change 1995-1999	Dollar change
Family income				
Less than $10,000	$371	$556	50%	$185
$10,000 to $19,999	265	402	52	137
$20,000 to $29,999	235	457	95	222
$30,000 to $49,999	101	426	322	325
$50,000 or more	47	161	243	114

Source: NPSAS: 1995 and NPSAS: 1999

Appendix Table B

Average non-institutional grant aid per full-time independent undergraduate student, 1995-1996 and 1999-2000 by family income and institutional type

Four-year private colleges and universities

	Amount received 1995-1996	Amount received 1999-2000	Percent change 1995-1999	Dollar change
Family income				
Less than $10,000	$3,060	$3,651	19%	$591
$10,000 to $19,999	1,700	2,357	39	657
$20,000 to $29,999	1,665	2,082	25	417
$30,000 to $49,999	2,029	1,735	-15	-294
$50,000 or more	1,343	1,367	2	24

Four-year public colleges and universities

	Amount received 1995-1996	Amount received 1999-2000	Percent change 1995-1999	Dollar change
Family income				
Less than $10,000	$2,210	$2,985	35%	$775
$10,000 to $19,999	1,339	1,823	36	484
$20,000 to $29,999	981	1,495	52	514
$30,000 to $49,999	561	963	72	402
$50,000 or more	115	337	193	222

Source: NPSAS: 1995 and NPSAS: 1999

Appendix Table C

Average total grant aid per full-time independent undergraduate student, 1995-1996 and 1999-2000 by family income and institutional type

Four-year private colleges and universities

	Amount received 1995-1996	Amount received 1999-2000	Percent change 1995-1999	Dollar change
Family income				
Less than $10,000	$4,787	$5,692	19%	$ 905
$10,000 to $19,999	3,212	3,947	23	735
$20,000 to $29,999	2,193	3,486	59	1,293
$30,000 to $49,999	3,209	3,099	-3	-110
$50,000 or more	1,617	2,202	36	585

Four-year public colleges and universities

	Amount received 1995-1996	Amount received 1999-2000	Percent change 1995-1999	Dollar change
Family income				
Less than $10,000	$2,581	$3,541	37%	$ 960
$10,000 to $19,999	1,604	2,225	39	621
$20,000 to $29,999	1,216	1,952	61	736
$30,000 to $49,999	662	1,389	110	727
$50,000 or more	162	498	207	336

Source: NPSAS: 1995 and NPSAS: 1999

Appendix Table D

Percentages of 1995 to 1999 growth in tuition and fees that were defrayed by increases in institutional and non-institutional grant aid to full-time independent undergraduate students, by institutional type and family income

Four-year private colleges and universities

	Institutional grants	Non-institutional grants	Combined grants
Family income			
Less than $10,000	13%	25%	38%
$10,000 to $19,999	3	28	31
$20,000 to $29,999	37	18	55
$30,000 to $49,999	8	0	8
$50,000 or more	24	1	25

Four-year public colleges and universities

	Institutional grants	Non-institutional grants	Combined grants
Family income			
Less than $10,000	37%	155%	192%
$10,000 to $19,999	27	97	124
$20,000 to $29,999	44	103	147
$30,000 to $49,999	65	80	145
$50,000 or more	23	44	67

Source: NPSAS: 1995 and NPSAS: 1999

Appendix Table E

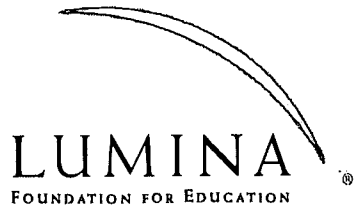
Average net tuition gap between private and public colleges in 1995-1996 and 1999-2000, for full-time independent undergraduate students, by family income

	1995	1999	Percent change
Family income			
Less than $10,000	$ 7,189	$ 9,088	26%
$10,000 to $19,999	7,789	9,517	22
$20,000 to $29,999	8,418	9,705	15
$30,000 to $49,999	6,848	9,529	39
$50,000 or more	7,940	9,535	20

Source: NPSAS: 1995 and NPSAS: 1999

About the author

Jerry Sheehan Davis, vice president for research at Lumina Foundation for Education, has conducted research in student financial aid and related matters for more than 30 years and has published numerous monographs, research reports and articles. Before joining the Foundation in November 1999, he was president of the Sallie Mae Education Institute, vice president for research and policy analysis at the Pennsylvania Higher Education Assistance Agency (PHEAA), and director of admissions and financial aid at Webster University. Davis also has served as a staff researcher or manager with such organizations as the National Task Force on Student Aid Problems (the Keppel Task Force), the College Board and the Southern Regional Education Board.



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