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ABSTRACT

This report seeks to explain the complex relationship between "cost" and "price" at independent private colleges and universities, and to demonstrate that federal student financial aid does not contribute to tuition and fee increases at such institutions. To support these results, 10 facts, drawn from multivariate statistical analyses of data from a recent National Association of Independent Colleges and Universities survey are noted: (1) Federal grant aid helps slow the rate of tuition growth; (2) the majority of undergraduates do not pay full tuition because of grant and scholarship assistance; (3) out-of-pocket tuition expenses have changed at a slower rate than published tuition levels; (4) tuition that families actually pay is based on financial need; (5) the difference in out-of-pocket expenses for public versus independent institutions is less than generally thought; (6) the cost of educating students is the largest determinant of tuition growth; (7) student financial aid policies are used to maintain a commitment to access and diversity; (8) the increase in institutionally provided aid is the fastest growing determinant of tuition and fees; (9) gift and endowment income help hold the line on tuition growth; and (10) institutions are attempting to reduce pressure on tuition by broadening revenue sources. (CH)

10 Facts

About Tuition at Independent Colleges and Universities

A Report from the National Association of Independent Colleges and Universities

Ten Facts about Tuition at Independent Colleges and Universities

The Difference Between Price (Tuition) and the Cost of Education

There are important differences between the terms "cost" and "price" as they relate to colleges and universities.

"Cost" and "price" are often used as if they were synonymous. Certainly students and parents who receive tuition bills seldom distinguish between the cost of their education and the price that they pay. But in the context of higher education finance, these terms have very different meanings. The "cost" of education is what the institution spends to educate a student. It includes not only current operating expenses, such as faculty salaries, new acquisitions for the library, and student advising services, but capital expenditures, such as the cost of new buildings and certain scientific and technological equipment. The "price" is the published tuition -- the amount charged to the student -- which is often reduced by financial aid.

No student pays the full cost of education at independent colleges and universities.

The actual cost to the institution of providing a student's education is higher than the published tuition. Case studies at independent institutions show that tuition covers approximately 60 percent of the cost of education. The balance is covered by such things as philanthropy, alumni gifts, and endowment earnings.

About This Study

In order to provide explanations for the complex relationships among factors that account for cost and price increases at independent colleges and universities, and describe the impact of student financial aid -- particularly from an independent institution's own resources -- NAICU commissioned the Human Capital Research Corporation to conduct a study. What follows are the results of a multivariate statistical analysis of data, supplemented with data from a survey of NAICU member colleges and universities, to examine the elements that most significantly contribute to tuition and fees at independent colleges and universities.

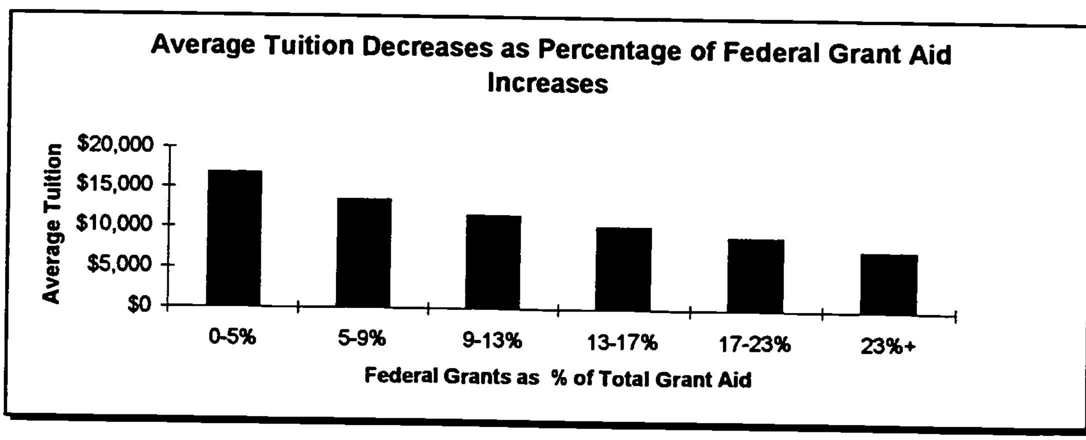
Combined with a recent NAICU survey of independent colleges and universities, the results demonstrate emphatically that federal student financial aid does not contribute to tuition and fee increases in independent higher education. Instead, other factors, such as education-related costs and institutionally provided student aid, are the major determinants of tuition and fee increases. The analysis also shows that, as total enrollment at independent colleges and universities has increased, individual institutions have been able to maintain access for students from low- and moderate-income families largely due to student financial aid provided from the institutions' own resources. Federal grant aid also plays an important role in helping low- and moderate-income students attend college. Indeed, independent colleges and universities enroll a slightly higher proportion of students at the lowest income levels than do four-year public institutions.

Fact #1

Instead of causing increases in tuition, federal grant aid to students *actually helps to slow* the rate of tuition growth at independent colleges and universities.

Federal grant aid to students has a significant moderating effect on increases in tuition and fees in independent higher education. Data analyses of a representative sample of 580 four-year independent colleges and universities, enrolling approximately 2 million of the 2.9 million students in independent higher education, demonstrate emphatically that increases in federal student grant aid actually lower the rate of tuition growth. But as the availability of federal student grant aid has decreased, the rate of tuition growth has increased.

The figure below shows that independent institutions with less than 5 percent of their total student grant aid from federal sources have the highest average tuitions, while institutions with more than 23 percent of total student grant aid from federal sources have the lowest average tuitions. Additional evidence of the moderating effects that federal student grant aid has on tuitions is found in the results of the statistical analysis in the methodology section of this study.



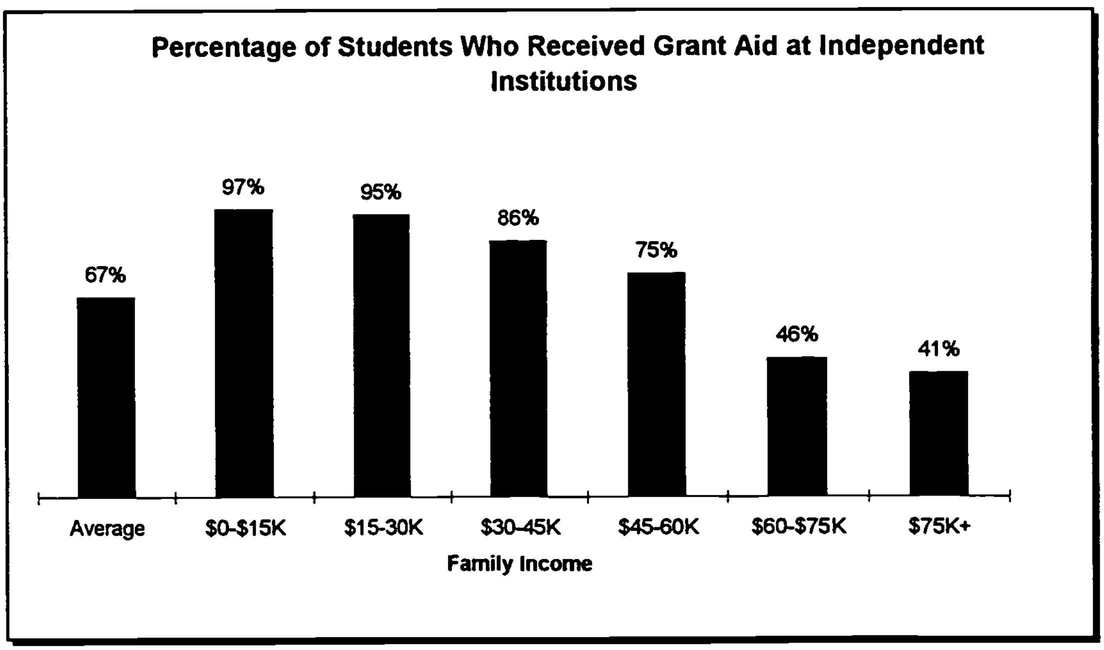
Source: Human Capital Research Corporation, 1997.

Fact #2

The majority of undergraduates at independent colleges and universities do not pay full tuition because of grant and scholarship assistance.

Although public attention is focused on the published tuition in higher education, most undergraduate students attending independent colleges and universities do not pay it. Two-thirds of all full-time, full-year undergraduates in independent colleges and universities receive some form of grant assistance from institutional, federal, state, and/or private sources.

Nearly all (97 percent) full-time, full-year undergraduates with family incomes of less than $15,000 receive some form of grant assistance to attend an independent institution, as do 95 percent of students with family incomes between $15,000 and $30,000 and 86 percent of students from families earning between $30,000 and $45,000.

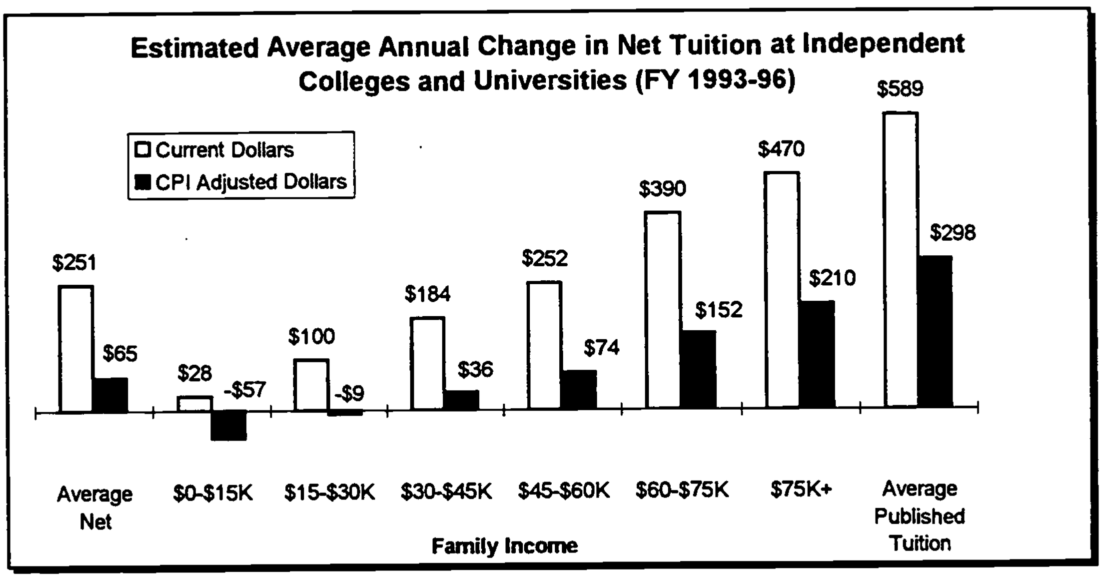


Source: Estimates are for FY 1996, derived from NPSAS and Fisop Reports, U.S. Department of Education, FY 1990, '93, and '95.

Fact #3

Actual out-of-pocket tuition expenses have changed at a rate substantially slower than the rate of growth for published tuition levels.

Although published tuition has increased faster than the rate of the Consumer Price Index, net tuition (after grant and scholarship aid) has increased at a much slower rate than the published tuition. In fact, between 1993 and 1996, average annual increases in net tuition, after adjusting for inflation, were just one-quarter of the increase in the published average tuition. Moreover, students from low- and middle-income families have experienced little or no increase in net tuition after adjusting for inflation. Independent colleges and universities have used their institutional aid policies to maintain or expand their accessibility to low- and middle-income students.

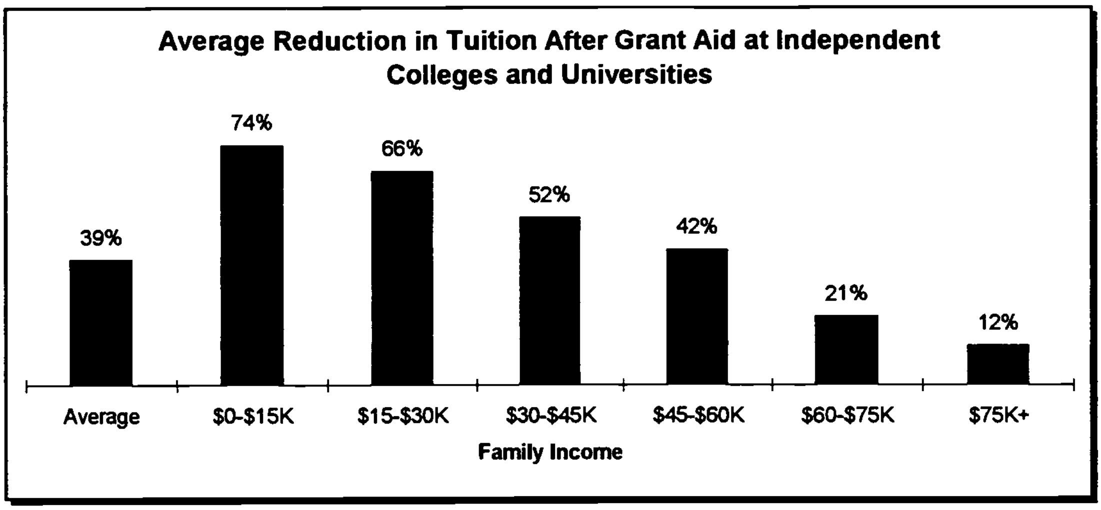


Source: Estimate derived from NPSAS, IPEDS Finance, and Fisop Reports, U.S. Department of Education, FY 1990, '93, and '96.

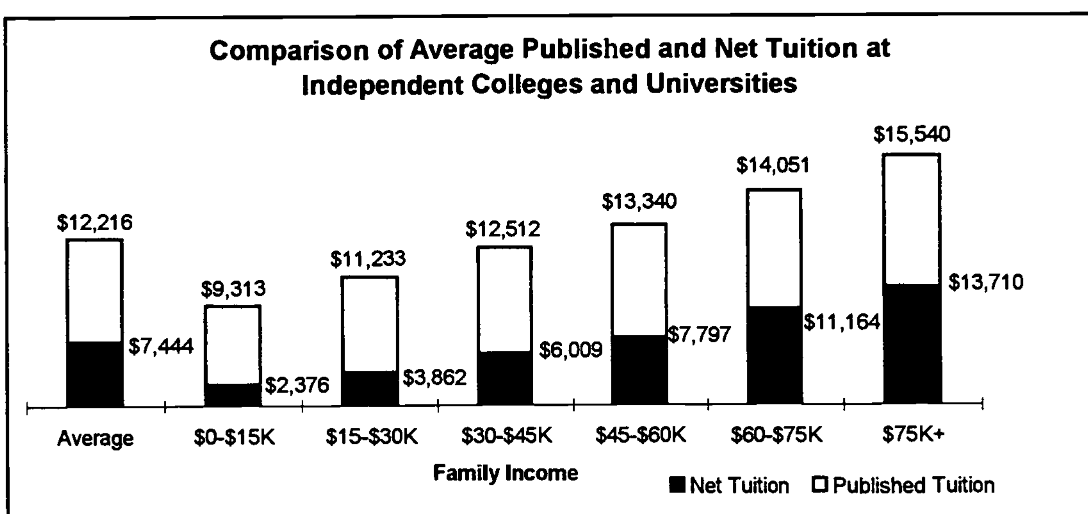
Fact #4

The tuition that families actually pay at independent colleges and universities is based on financial need.

On average, undergraduate students who receive grant aid pay just 61 percent of the published tuition at independent colleges and universities. Net tuition varies according to a student's particular financial situation. Families who demonstrate the greatest financial need (those with incomes of less than $15,000) pay only 26 percent of the published tuition, while students from families earning $45,000 to $60,000 pay an average of 58 percent of the published tuition.



Source: Estimate derived from NPSAS, IPEDS Finance, and Fisop Reports, U.S. Department of Education, FY 1990, '93, and '96.

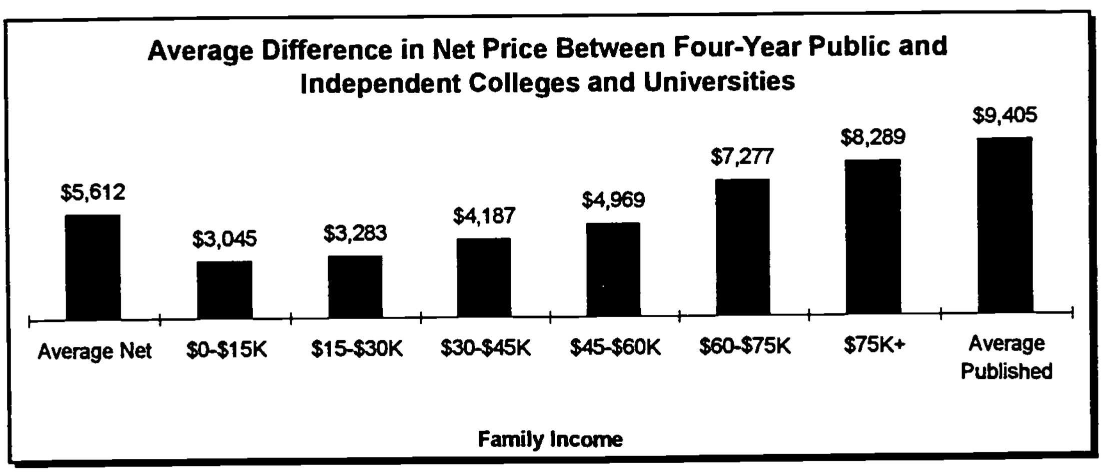


Fact #5

The difference in out-of-pocket expenses for public and independent colleges and universities is less than you might think.

The average difference in published tuitions between four-year public and independent colleges and universities was $9,400 in 1996. However, after taking into account the grant aid that students attending four-year public and independent institutions receive, the difference declines to approximately $5,600. More significantly, the price difference (after grant aid is considered) diminishes sharply as family resources decline.

On average, a student whose family income is less than $30,000 will receive sufficient institutional grant assistance to reduce the price difference between an independent and public institution to about $3,200, while a middle-income student will pay approximately $5,000 more than at a public institution. At higher family income levels (more than $60,000), where students at independent colleges and universities have very limited eligibility for federal grant aid, aid policies coupled with the subsidies provided by state taxpayers to public institutions cause the gap between independent and public colleges to expand.



Source: Estimate derived from NPSAS, IPEDS Finance, and Fisop Reports, U.S. Department of Education, FY 1990, '93, and '96,; and College Board Trends in Student Aid.

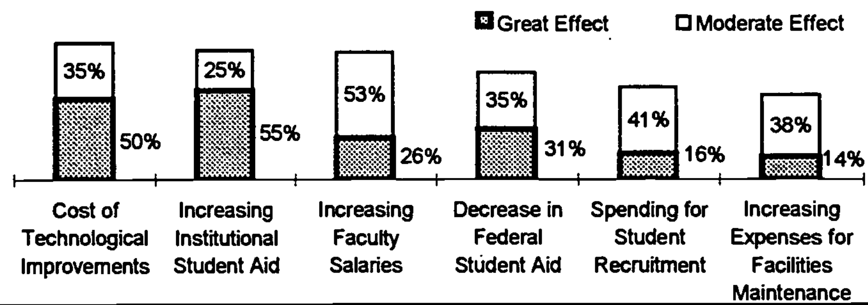
Fact #6

The cost of educating students is the largest determinant of tuition growth at independent colleges and universities.

Educational costs (such as faculty salaries and academic computing equipment) are the single largest factor associated with tuition growth at independent colleges and universities. By themselves, educational costs account for 36 percent of the increase in tuition and fees.

Corroborating this evidence, in a recent NAICU survey of its members, most respondents reported that items such as technological improvements on campus, faculty and staff salaries, the decrease in the amount of federal student aid, increasing student recruitment expenses, and expenditures for campus facilities maintenance were among the leading causes (excluding institutionally provided aid) of tuition and fee growth at independent colleges and universities.

Factors Having a "Great" or "Moderate" Impact on Tuition and Fee Growth at Independent Institutions

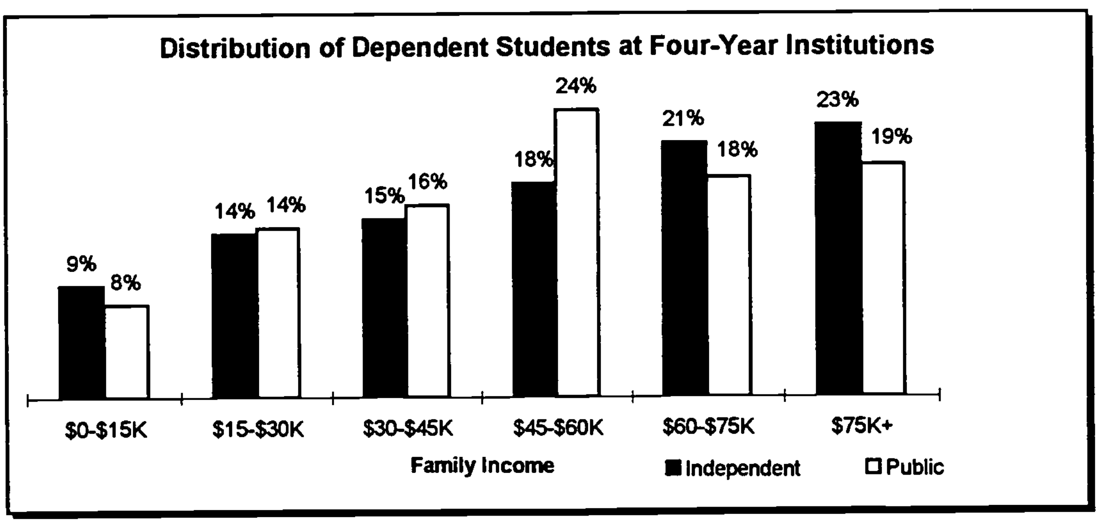


Source: A Commitment to Affordability, NAICU, 1997.

Fact #7

Independent colleges and universities use their institutional student aid policies to maintain a commitment to access for students from a diversity of economic backgrounds.

The profile of dependent students by family income at four-year public and independent colleges and universities is very similar, except among middle-income families. Independent colleges and universities use their institutional aid policies to provide resources to students with the greatest financial need. In FY 1993, dependent students from families earning less than $45,000 were equally represented in public and independent colleges and universities. However, families earning between $45,000 and $60,000, who generally do not qualify for federal or state need-based grant aid, but who would have difficulty using current income to meet college expenses at independent colleges and universities, are disproportionately represented at public institutions where their tuitions are subsidized by state taxpayers.



Source: Distribution is for full-time, full-year dependent students, from NPSAS, FY 1993, custom tabulation.

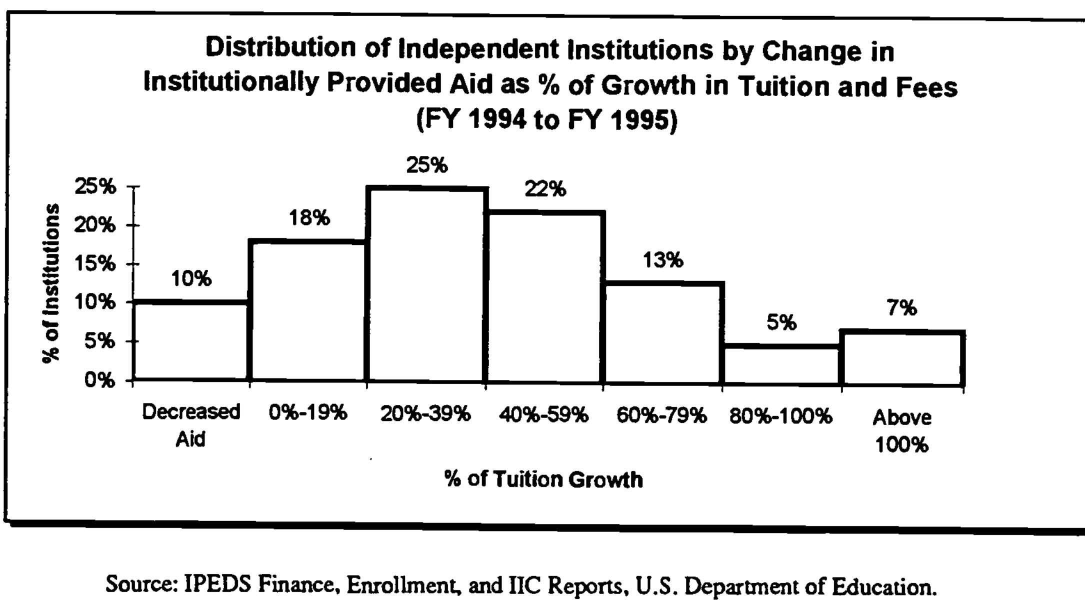
Fact #8

The increase in institutionally provided aid is the fastest growing determinant of tuition and fees at independent colleges and universities.

By itself, the expansion of student aid from independent higher education's own resources currently represents one-third of the growth in tuition. In combination with educational costs mentioned above, these two factors account for 70 percent of the growth in tuition and fees.

For students from low- and moderate-income families, increases in tuition are offset by growth in institutionally provided aid. Moreover, in the face of rising financial need and little or no grant aid from public sources for students from middle-income families, institutionally provided aid now substitutes for aid from public sources and accounts for 90 percent of the growth in scholarship and grant expenditures for middle-income students.

As is noted in the results of the NAICU survey of its member institutions (please see "A Commitment to Affordability: A Survey of Independent Colleges and Universities"), the basic dilemma for independent colleges and universities has always been to maintain affordable access to a quality educational program. The commitment to provide access to needy and talented students through increased institutional expenditures for financial assistance is matched by continuing efforts to maintain and increase the level of quality in their academic programs and the services provided to students.



Source: IPEDS Finance, Enrollment, and IIC Reports, U.S. Department of Education.

Fact #9

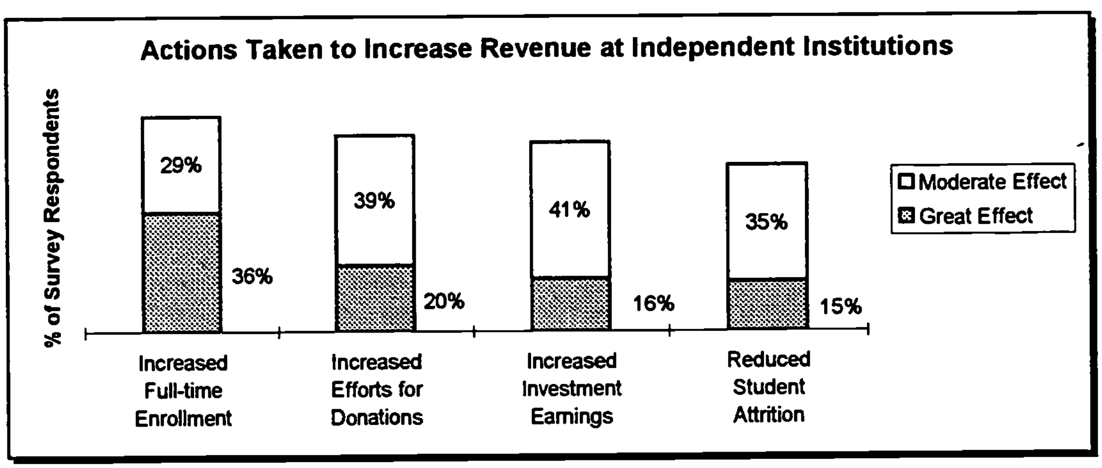
Gift and endowment income at independent colleges and universities helps hold the line on tuition growth.

It is universally accepted that state appropriations to public colleges and universities offset the need to set higher levels of tuition. Tuition at public institutions is low because they are subsidized by state appropriations. Private gifts and endowment income have the same relationship (statistically speaking) to tuition growth in independent higher education. Institutions that have endowments and gift income use this revenue for educational costs, making it possible to hold down the growth in tuition and fees.

Fact #10

Although independent colleges and universities will always need to rely on tuition, institutions are attempting to reduce the pressure on tuition and are broadening their revenue sources.

Independent colleges and universities are taking actions to increase revenue without relying solely on tuition growth. A recent NAICU survey found that the most frequently mentioned actions taken that have had a "great" or "moderate effect" are increasing full-time enrollment, increasing efforts to obtain voluntary contributions, improving cash management practices and investment earnings, and reducing student attrition.



Source: A Commitment to Affordability, NAICU, 1997.

About the Database and Study Methodology

The data used in this study were from publicly available databases from the U.S. Department of Education. One source was the National Postsecondary Student Aid Study (NPSAS), 1990 and 1993. Custom tabulations were constructed to examine the financial aid packages by family income for all full-time, full-year dependent students attending public and independent four-year colleges and universities. Family income categories were adjusted to 1995 by using the Consumer Price Index. Estimates of grant awards, percent of students receiving aid, and net price figures for fiscal year 1996 were developed by adjusting the average institutional grant aid data reported in 1993 and projected for future years. The projection assumes that in aggregate, institutional grant award rates will be unchanged. This rate was applied to the average published tuition as reported by the annual survey of tuition by the College Board.

Two other sources of data were from the Integrated Postsecondary Education Data System (IPEDS) for information on finance, enrollment, and institutional characteristics for fiscal years 1993, 1994, and 1995, data from institutional (FISOP) reports to the U.S. Department of Education on the use of federal student aid funds. Information includes aggregated tuition revenue for undergraduate and graduate students, the number of students applying for financial aid, total state grant aid, and Pell Grant and Supplemental Education Opportunity Grant funds. These databases were merged after matching or reconciling differences in the identification numbers of the institutions.

In merging the data files, any institution that did not respond to one of the reports for the three year period was dropped from the analysis in order to ensure a consistent set of data over time. In contrast with other cross-sectional analyses that appear in the literature, this analysis of tuition, institutionally provided aid, and educational costs is based on full-year equivalent (FYE) enrollments that equate published tuition with aggregate undergraduate tuition revenue. This definition ensures that published tuition levels will be properly related to educational costs and investment in financial aid.

The FYE variable itself was constructed first by adjusting the FISOP and undergraduate and graduate aggregate tuition revenues to match aggregate tuition as reported in the IPEDS finance report. On average, these two sources of aggregate tuition differed by one or two percent. Aggregate undergraduate tuition revenue was then divided by the published tuition for undergraduate students for each institution as reported in the IPEDS institutional characteristics report.

After the databases were merged and the FYE variable was constructed, a variable designed to reflect educational costs (EC) was constructed to reflect direct and indirect educational costs funded through the institutions' current operating budget. The EC variable was constructed from the following expenditure categories as follows:

[Instruction/(Instruction + Research + Public Service) x (Academic Support, Mandatory Transfers, Institutional Support, and Physical Plant Operations and Maintenance)] + Instruction + Academic Support

The educational cost variable is intended to "net out" institutional expenditures for research and public service and a proration of overhead that would be associated with these two budget categories. The EC variable thus offers a basic measure of educational service and related support expenditures that are rendered directly or indirectly to students.

The data files were then sorted and a small number of institutions with values that appeared to be incorrect because of data entry errors or some other reason (e.g., educational costs of more than $150,000 per student) were eliminated from the analysis. In all, the merged database resulted in usable data for 580 four-year independent colleges and universities, which enroll approximately 2 million of the 2.9 million students in independent higher education. More than 25 key variables for each of the three years of analysis were used.

A series of multiple regression analyses were employed to explore the relationship between tuition and selected variables including educational costs, institution size and type, state and regional markets, composition of revenue sources including federal grant aid and student financial aid characteristics.

The results of one of the regression analyses used to support the conclusion of this study are shown below:

Sample Size: 580 institutions
Adjusted Squared Multiple R: .818

Variable Name	Coefficient	STD Error	STD Coefficient	T-Statistic	Prob (2-tail)
Constant	6,995.60	349.72	0.00	20.00	0.00
Educational Costs per FYE	0.21	0.02	0.35	10.29	0.00
Institutional Aid per FYE	0.63	0.05	0.35	13.45	0.00
Gifts and Endowment Income per FYE	(0.18)	0.03	(0.18)	(5.56)	0.00
State Grant Aid per FYE	(0.17)	0.14	(0.03)	(1.16)	0.25*
% of Students with Incomes > $60,000 Applying for Aid	3,460.55	1,886.08	0.08	3.19	0.00
Pell and SEOG	(0.91)	0.26	(0.08)	(3.43)	0.00
Total FYE Enrollment	0.05	0.03	0.04	1.54	0.13*
Research/Doctoral Univ. Dummy	1,773.75	389.86	0.13	4.45	0.00
Master's Univ. Dummy	622.63	179.71	0.07	3.47	0.00
Baccalaureate I Dummy	2,695.65	232.71	0.28	11.58	0.00
Region 1 Dummy	1,432.34	248.74	0.12	5.76	0.00
Region 4 Dummy	(846.36)	226.25	(0.07)	(3.74)	0.00
Region 5 Dummy	(1,009.25)	201.40	(0.10)	(5.01)	0.00
Region 6 Dummy	(2,340.90)	290.37	(0.16)	(8.06)	0.00
Region 7 Dummy	(2,311,28)	293.99	(0.16)	(7.86)	0.00

* Not statistically significant

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