Student Aid Issues at Private Institutions

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The private sector faces a number of unique challenges related to financial aid, including tuition discounting, the precipitous rise in reliance on student loans, and recycling tuition dollars. This chapter concludes with an empirical analysis of the impact of external restrictions on sharing preadmissions information on prospective students.

Outlays for financial aid have become an expanding portion of the budget of private institutions. Over the last two decades, tuition increased more rapidly than inflation or family income. At the same time, the growth in federal and state student aid slowed, causing institutions to make up the difference with institutional funds (Hauptman, 1990; Gladieux and Hauptman, 1995). The result can be a serious threat to the financial health of many private institutions, particularly those colleges without substantial endowments. Many private institutions have experienced an upward trend in recycling tuition income to narrow the gap between rising costs and static or declining federal and state student aid.

Prospective students and their families are keenly aware of college costs. The proportion of college freshmen indicating that the availability of financial aid was a primary reason for choosing a school rose from 15.9 percent in 1979 to 33.1 percent in 1996 (Dey, Astin, and Korn, 1991; Sax, Astin, and Korn, 1997). Families exhibit different levels of willingness to pay depending upon their student's academic ability, the family's resources, and the reputation of the college (Day, 1997). The result is a more competitive market that compels private schools to leverage financial aid to targeted categories of students, with financial aid based on other factors than need: academic ability, demography, and subjective criteria (such as leadership potential). This targeting is related to the probability of a student's enrolling in a particular college. The share of targeted aid as a proportion of all institution-based student aid in private colleges rose

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preparation.
from 17 percent in the 1983–84 academic year to 21 percent in 1991–92 (McPherson and Schapiro, 1994). Less selective institutions are exposed to severe market competition and can be expected to be more heavily engaged in aid leveraging than selective, prestigious institutions in either the private or public sector (McPherson and Schapiro, 1994).

Despite leveraging strategies, there has been a large migration of students from affluent families to the public sector. In addition to the tuition cost gap between the private and public sectors, a part of this movement might be attributed to state and federal tax policies that discourage families from saving for their children’s education. Even so, from 1986 to 1995 tuition and fees at private four-year institutions increased from $6,580 to $12,430 on average, while four-year public tuition level increased from $1,290 to $2,860 (College Entrance Examination Board, 1996a).

The private sector faces some distinct challenges, which are outlined in this chapter. In addition to concerns linked to the mechanics of institutional aid, they include the alarming rise in the proportion of loans within students financial aid packages. Reliance on loans to finance undergraduate private education may produce detrimental effects on student retention as well as the job-seeking behavior of graduates. Dependence on loan programs may also expose institutions to unfavorable default rates and resulting penalties for participation in federal aid programs. In another vein, tightening restraints on sharing tuition and aid information among institutions has increased competition in tuition pricing. Whereas competition is a fact of life in higher education, restraints on sharing offers of tuition and intended financial aid to categories of students also cause individual colleges to behave in ways that undercut other institutions. The effect that such prohibition has on the financial aid processes at private colleges is not fully understood, but a description of a research project at the conclusion of this chapter provides evidence that elite private institutions have responded in different ways to new legal mandates.

Financial Aid in the Private Sector

As discussed in Linsley’s chapter, financial aid is intended to compensate for the difference between family resources and the cost of college attendance. Since the 1960s and the Great Society programs of Lyndon B. Johnson, financial aid has been envisioned as a “social contract” (Roche, 1994; Clotfelter, 1996). Encouraged by the federal government, institutions of higher education saw adoption of a system of need-based aid as a means of putting into practice the idea of equal opportunity for all. The implied contract between institutions and families holds that financial circumstances would not be a hindrance to access, choice, and completion of educational goals.

Financial aid within the private sector also relies on tuition discounting. This practice has been defined by Day (1997) as “any strategic differentiation of institutional grant aid to affect the matriculation behavior of specific student groups to produce the desired results for net revenue or student profiles.” A
recent study has found that fewer than 10 percent of students actually pay the published tuition price at many colleges and universities (National Association of College and University Business Officers, 1997). There also is evidence that some grant aid may not be given to upper-class students after their first years and may be replaced with some other form of financial aid such as loans or work study even though student or family financial situations may not change. Targeting more desirable aid in this way may stem from institutional evidence that upperclassmen are more likely than freshmen to persist at the institution regardless of their perceptions of their aid package (St. John, 1989). Even among schools that claim to provide aid strictly based on students’ demonstrated financial need, there may be differences in individual aid packages between grant and loan amounts, depending on decisions about which types of students to target. All factors equal, students deemed more desirable receive more grant assistance, and less loan assistance, than their counterparts.

Financial Aid Research Issues Particular to the Private Sector

The unique nature of financial aid at private colleges underscores the critical need for institutional research for making optimal decisions regarding how to distribute institutional aid and how to forecast demand for that aid. We address three elements of decision making: (1) changes in the external environment and market conditions; (2) aid practices of other institutions, particularly those identified as competitor institutions; and (3) orientation of students and families and how they respond to an institution’s policies and practices. We point out below research questions that enable institutional research professionals to inform decision making at their institutions.

Changes in the External Environment and Market Conditions. A first consideration is how educational costs have changed in the private sector in general and at the researcher’s institution in particular. The focus should be on how the trend compares with the inflation rate and real purchasing power of families. The costs of private higher education outpaced increases in both inflation and median family income through the late 1980s and early 1990s (Gladieux and Hauptman, 1995). It appears that the gap has narrowed since 1992, although in the most recent academic year for which data are available, 1996–97, the average tuition of four-year private colleges still increased by 5 percent to $12,820 while the CPI was up just 2.9 percent (College Entrance Examination Board, 1996b). This imbalance is accentuated by a general decline in purchasing power of U.S. families and a 3 percent decline in real income during the period from 1989 to 1995.

A second query focuses on the amount of and change in public aid funds an institution receives over time, particularly how this trend may be related to institutional aid expenditures. As noted, public grant funding has failed to keep pace with rising tuition rates, causing private institutions to commit more of their own funds to financial aid. This is particularly notable among
the institutions committed to meeting the full financial need of all students who are accepted for admission. In Clotfelter’s detailed study of institutional financing (1996), for example, institutional expenditures for financial aid at four highly selective schools grew faster than any other type of expenditure during the 1980s. He concluded that each institution under study dipped into its own funds to compensate for the decrease in federal grant aid.

Institutional research is also needed to determine changes in market composition. High school graduating classes have declined in size since the late 1970s, bottoming out at 2.47 million in the early 1990s (Western Interstate Commission for Higher Education, 1993). This trend will reverse over the next fifteen years as the number of high school graduates is predicted to increase by one-third. Regionally, the West will grow fastest (65 percent), followed by the South (29 percent), the Northeast (25 percent), and the Midwest (15 percent). These regional trends are important in establishing a macro-level look at the availability of high school graduates. More fruitful information, however, would include a profile of those secondary schools from which the institution currently draws students and an analysis of the schools’ graduation trends.

These inquires underlie a fundamental need to understand how a given institution’s demographics have changed. The Census Bureau projects that by 2025, the U.S. population will reach 335 million, a 28 percent increase in thirty years. The percentage of non-Hispanic whites in the population will decrease from 74 percent to 62 percent, whereas people of Hispanic origin will increase from 10 percent to 18 percent, followed by slight increases for blacks from 12 percent to 13 percent, and Native Americans from 0.7 percent to 0.8 percent. Asians will remain the fastest growing racial group, increasing their overall proportion in the general population from 3 percent to 6 percent (Campbell, 1996). In response to these demographic changes, institutions that attempt to keep student ethnic and racial profiles representative of the general population will experience increasing competition for qualified minority students.

A last inquiry in the area of external markets traces the influence of government restrictions on sharing financial aid information. In an action that has reverberated throughout the private sector, the U.S. Justice Department charged the eight Ivy League institutions and MIT with violating the antitrust law in May 1991 (Jaschik, 1992, 1993, and 1994; Matlock, 1994). These institutions had compared information about the financial circumstances of the families of prospective students to establish a common judgment about the families’ capacity to pay for a college education. The result was a consent agreement among the institutions preventing them from discussing planned tuition prices and financial aid awards with each other. In the eyes of the Justice Department, this agreement inevitably would lead to increased price competition. However, the evidence that price competition has been achieved is only preliminary.

**Changes in the Competition’s Aid Strategies.** Research questions here focus on significant changes in competitors’ financial aid practices. Here, a survey of accepted students may provide valuable information on how competitive a given institution’s financial aid offers are. As discussed earlier, an increasing
number of private institutions have turned to financial aid leveraging in order to compete for highly qualified students as well as make most efficient use of institutional resources. Net revenues, the difference between total tuition income and institutionally funded aid, have become the defining objective of price and financial aid policies. For this reason, administrators are more likely to set tuition in relation to competitors and to focus on leveraging strategies in competition with other colleges than they are to acquaint all prospective students with the academic value they offer.

Increased competition springs not only from other, similar private institutions but also from the public sector. Trends in the number of students who are accepted by a given institution but who choose instead to enroll in public institutions bear monitoring. In 1996–97, the average student budget at four-year private schools was $12,820, more than four times as great as the average four-year public school budget, $2,970 (College Entrance Examination Board, 1996b). Statewide studies performed since 1992 in Minnesota, Oregon, and Florida have documented a migration of affluent families to the public sector (Day, 1997). Also, institutions such as the U.S. military, air force, and naval academies are attractive alternatives to a traditional four-year college education. Their training in academics and leadership, the promise of immediate employment after graduation, and free education plus stipends are perceived as attractive by some families. Private college leaders intent on competing with other private colleges may find it useful to understand the effects of declining market share due to the migration of students to the public sector.

Changes in Institutional Aid Policies and Practices. Research in this area addresses those variables an institution might manipulate to promote optimal financial aid efficiencies. Chapter Four, by Paulsen and St. John, identifies some of the factors that make up the nexus among financial aid, choice, and retention. Inquiry in this area is supported by a growing body of price-response research (Fuller, Manski, and Wise, 1982; Manski and Wise, 1983; Ehrenberg and Sherman, 1984; Leslie and Brinkman, 1987; St. John, 1991, 1993, and 1994a; St. John and Somers, 1997; Rothschild and White, 1993; Somers and St. John, 1993). Within these frameworks, students with differing social backgrounds and academic preparation respond differently to a given college price. All factors equal, a given change in price among colleges evokes different responses based on the same criteria. In order to capitalize on these effects, colleges are willing to charge different prices to students depending on how attractive the student is to the college. The attractiveness of each applicant to the institution depends on the institution’s subjective evaluations of that applicant’s talents and characteristics as they relate to that institution’s long-term enrollment goals. In economic terms, the aggregation of these goals is expressed as the utility function that the university tries to maximize. The utility function may include, say, racial or economic diversification of the student population to create a diverse learning environment. To achieve its goals, the institution must invest more financial assets, particularly
institutional grants or recruitment dollars, in students with a wider range of desirable characteristics. In this scenario, it is clear that financial aid is no longer provided simply on the basis of demonstrated financial need; it is distributed based on the institution’s utility function for students and an individual student’s price elasticity (how responsive a student’s enrollment probability is per unit change in grant aid offered).

Several studies have also found that aid was positively associated with persistence (St. John, 1989; Somers and St. John, 1997; Voorhees, 1985). Other work has also sought to investigate how unmet financial need impacts student persistence (St. John, Andrieu, Oeschger, and Starkey, 1994). Further studies have explored whether certain groups are more responsive to different types of aid. For example, evidence indicates that high-income families are more knowledgeable and favorably disposed to educational loans than are low-income or minority families (Mortenson, 1988, 1989; Olson and Rosenfeld, 1984). Such lines of inquiry may be helpful for private institutions to understand the links between financial aid and student success.

The effects of debt on persistence and postgraduation behavior and attitudes are not fully understood. Several studies have examined whether borrowing may influence a student’s curricular choices since certain disciplines may not be linked to sufficient postgraduate income to address long-term debt from student loans (Kramer and Van Dusen, 1986; St. John, 1994b). One study also indicates that undergraduate debt may discourage graduate study (Weiler, 1994), while another shows that such a relationship may not be causal (Murphy and Mulugetta, 1994). Increased indebtedness may also negatively affect the financial strength of graduates, which in turn may influence job seeking behavior (Kramer and Van Dusen, 1986; Zook, 1994) and overall economic activity (Saunders, 1996). Student employment experience, as an alternative to student loans, may produce positive educational experiences (Mulugetta and Chavez, 1996).

Families may not accurately understand the aid process. Recently it has been reported that parents typically do not know how much it will cost to send their children to college, or they underestimate the cost; yet at the same time most have begun saving for college (“What Do Parents Know About College Costs?” 1996). Parents may also be unaware of financial aid programs or feel the process is too complex (Olson and Rosenfeld, 1984). Topics for future research include how financial aid offices can be better managed and more efficient in providing services to students and families, and how aid offices can be automated by using more advanced communication technologies (Crowell, 1996; Jonas and others, 1996).

Whether financial aid creates disincentives for families to save for higher education is a matter of increasing concern. There is some evidence that families capable of saving have not saved enough by the time their children enter college (Day, 1997) and that aid administrators increasingly have to negotiate aid packages with families (Asinof, 1997). Under these circumstances, there is a logical movement toward providing families with “financing planning” and
“financing services” instead of financial aid (Belvin, 1995; Mulugetta and Mulugetta, in press). Further research is needed to reveal who benefits from these types of services and how they are best administered.

The benefits and pitfalls of increasing allocations of tuition and fee income to financial aid are worthy of analysis. Some research argues for a positive impact from tuition discounting. Hubbell and Rush (1991), for example, report that tuition discounting has increased the diversity of student populations, allowing access to minority and low-income students as well as middle-class students. A study by St. John and Somers (1997) showed that applicants with scholarships were 23 percent more likely to attend a given institution for each $1,000 awarded. Other findings indicate a negative impact from tuition discounting. NACUBO’s studies of tuition discounting show that the average tuition discounting ratio rose from 27 percent in 1990 to 35 percent in 1995 for small colleges with high tuition, and from 21 percent to 27 percent over the same period of time for large institutions (Lapovsky, 1996). An alarming consequence of this trend is that the financial strength of many institutions may erode as this ratio grows (Hubbell, 1995). Similarly, a study indicates that rapidly growing financial aid budgets triggered by skyrocketing tuition growth force institutions to narrow the applicant pool and undermine the social contract supporting need-based aid (Dunn, 1993). Some opponents of tuition discounting warn that parents and students will become increasingly disgruntled and confused if the trends continue (Riggs, 1994). Students who are less affluent may shy away from applying to a college if they perceive “sticker price” (tuition before discounting) as unaffordable (Hubbell and Rush, 1991). Opponents cast serious doubt on the fairness of redistributing tuition income to students who are wealthy so as to provide them with merit scholarships (Delbanco, 1996).

There is a wide range of arguments on this topic, but the key question is whether tuition discounting is an effective means of ensuring sufficient class size to create net revenue (Bowen and Breneman, 1993). Some research shows little correlation between enrollment and tuition discounting (Lapovsky, 1996). The last research vein we suggest deals with effectively increasing outside funding for financial aid and with managing costs associated with financial aid administration. Here, the interface between government and institutions is of considerable interest, as is the contact between the institutions and their alumni and donors. In particular, it is worth exploring how institutions effectively lobby for financial aid, as well as the costs to institutions of government regulations and aid delivery processes. Of interest as well is how institutions successfully cultivate alumni support as expressed through volunteer service and financial contributions. A factor in this may be fostering school spirit in students and the idea of giving back to the school in return for what one has been given. Some private schools have already developed scholarship programs whose primary goal is to instill such values in students (Murphy and Mulugetta, 1994; Scannell and Simpson, 1996). This is an area where not much research has been done.
Whereas the research questions depicted above are not exhaustive, institutional researchers may find them useful in identifying fundamental questions private institutions should investigate. As an example of how such ideas can be used as a basis for research, we present a recent study we conducted at Cornell University. This study explores one of the issues noted earlier, the existence of restraints on information sharing among institutions, and how the restraints affect pricing and financial aid practices. The Justice Department action also provides a singular opportunity for examining how public policy affects private institutions since it occurred in a well-defined time frame. Because of their large resources and high prestige, the twenty-nine highly selective institutions this study examines set an important standard in the financial aid arena. By adhering to a need-based-aid-only policy that was bolstered by their “outlawed” agreements, what they do following the consent decree could well have repercussions throughout the private sector. Finally, this exercise demonstrates how multi-institutional databases can assist in analyzing aid issues, which argues for more data sharing and consortia.

An Example of Private Sector Institutional Research on Financial Aid

In May 1991, the U.S. Department of Justice formally charged the eight Ivy League institutions and MIT with violating the antitrust law. These institutions, also known as the “Overlap Group,” had been meeting not only to compare the financial data of the families and students who applied for aid at two or more overlap institutions but also to establish a common professional judgment about the families’ capacity to pay for a college education. Other schools also were involved in overlap meetings, but only the Ivy group (including MIT) was charged by the Justice Department with violating antitrust law. The Ivy institutions subsequently signed an agreement in which they vowed no longer to share information. MIT, however, challenged the Justice Department ruling but was found guilty in a federal district court (U.S. District Court for the Eastern District of Pennsylvania, Civil Action 91–3274, United States of America v. Brown University, et al. Sept. 2, 1992). An appeals court modified this ruling but imposed some severe restrictions on agreements to offer only need aid. Institutions that seek such agreements must be need-blind in their admissions. That is, no family financial data can be considered during the admissions process, and the institution must provide aid to meet all demonstrated need of admitted applicants. This was a critical turning point in the evolution of aid in the private sector (Ehrenberg and Murphy, 1993). It prevented selective institutions from discussing among themselves planned tuition prices, financial aid awards, or family financial circumstances, discussions that the Justice Department believed lead to decreased price competition. We examine the possibility of increasing price competition in the college market (which may have been triggered by the consent agreement) in the analysis of the twenty-nine highly selective schools’ longitudinal tuition and financial aid expenditure data. First,
we present additional background information needed to place the research in its proper frame.

**The Social Contract and the Overlap Group’s Aid Practices.** As noted, the Overlap Group helped ensure the social contract function of financial aid. Financial aid officers of the Overlap Group gathered each spring and jointly reviewed the family financial data of students who were accepted by more than one participating school. Collectively, they determined how much each family could pay. This practice was intended to ensure that the family’s financial situation was understood as thoroughly as possible and to help students make enrollment decisions among overlap schools based on academic interests rather than tuition price or financial aid. It also prevented bidding wars among participating institutions for the most desirable applicants. Finally, it may have increased the net revenues of those institutions by limiting discounting, although their high levels of selectivity and large numbers of nonaided students indicate clearly that they were not charging market-clearing prices.

Another aspect of the financial operations of these highly selective schools was that the majority committed themselves to meeting full financial need of all students who were accepted for admission. This commitment can be costly for institutions. When the cost of attendance grows much faster than family contributions, public grant funding, and student loan or work amounts, institutions have to pay the difference. This occurs typically in the form of institutional grants.

**Leveraging Strategies in an Open Market.** The Overlap Group has faced issues associated with the changing demography of the United States similar to those confronting other institutions. In the 1970s and 1980s, demographic shifts and rising costs put substantial pressure on the social contract between institutions and families. Fewer available high school graduates and the increasing divergence of private sector costs from those in the public sector heightened competition for students. Further, private institutions face an increasing need to diversify their student populations by admitting underrepresented groups to reflect the rapid change in the composition of the U.S. population. Consequently, competition for limited numbers of highly qualified minority students has become intense. A rising cost-consciousness among middle-income families has become apparent since their real economic power declined during the early 1990s. Affordability, or educational value for investment, has become a factor in attracting some of these students. In the face of these pressures, as indicated earlier, private institutions have employed the tools of aggressive discounting strategies, including use of merit aid, differential packaging, and differential need analysis, to compete for students.

Tuition increases have continued to outstrip growth in inflation and family income, and public grant funding has failed to keep pace. The result is that institutional funding for grant aid has grown an alarming 113 percent in the last ten years (College Entrance Examination Board, 1996a). Meeting full demonstrated need for all students has become a necessary but costly business for most private institutions. Naturally, the financial limitations involved make
it extremely difficult for colleges and universities to fulfill the “social contract” ideal, and it behooves them to use their funds more efficiently. A half dozen highly selective institutions, for example, have already abandoned need-blind admission policy and moved to need-sensitive admission. This new policy allows the institutions to offer sufficient aid to the majority of students accepted, while in the final stage of admission selection only those who can afford full tuition get admission offers (Gose, 1997).

Some selective institutions that have long declared their strong commitment to need-blind admission and financial aid policies also developed several leveraging strategies that permitted some price competition within the basic social contract approach. The two most prominent examples of these strategies are low-income or minority self-help differentials and differential aid packaging on admissions ratings. Under the low-income or minority self-help differentials, if students belong to predefined income groups or ethnic groups, a lower level of loans would automatically be awarded in comparison to aid packages of other students. The underlying motive is a hybrid of the social contract and price-discounting models, encouraging students with traditionally disadvantaged backgrounds to attend a private institution by providing them with more generous grant aid and less self-help aid. Under an admissions rating system, applicants are rated on characteristics that interest the institution. Financially needy students with “high” ratings receive relatively smaller loans and larger grants in their financial aid packages. In contrast, students who receive medium or low ratings receive a greater proportion of loans.

Whereas each student’s financial need is calculated by a standardized needs-analysis formula and met with financial aid, the composition of each aid package (grants, loans, and work) is determined by the institution according to the student’s attractiveness to that institution. These leveraging strategies, therefore, enable the institution to provide more enticing grant aid packages to the students whom the institution views as the most desirable candidates, with a goal of tipping the balance and persuading them to enroll.

**Strategic Shifts in the Private Sector.** To illustrate how an institutional research office can study the effect of external forces on allocation of financial aid to applicants in the private sector, we turn to data drawn from a set of selective private institutions. The analysis first examines the published (sticker-price) tuition rates of these institutions from the 1986–1987 academic year to 1995–96, focusing especially on the difference from the Overlap era (which extended from 1986–87 to 1989–90) to after the consent decree ended Overlap (1990–91 to 1995–96). Second, we examine growth in institutional grant aid, particularly aid from unrestricted current funds. If an increasing amount of institutional dollars are used to discount sticker-price tuition, a corresponding rise in institutional grant aid expenditure, expressed as a percentage of the tuition and fee income fund, should be apparent. We may also observe a significant increase in variance of the ratio of grant expenditure to tuition income among institutions during the post-Overlap era, because of various tuition discounting strategies individual institutions have developed as a reac-
tion to market-price competition. Third, we examine underlying factors that might account for growth in institutional grants, particularly whether these factors exerted less or more influence after the consent decree.

The financial aid and admissions database was obtained from COFHE (Consortium on Financing Higher Education), to which Cornell University belongs. COFHE is currently composed of thirty-one highly selective private institutions that include the eight Ivy institutions and MIT (the Ivy Overlap Group) and members of other overlap groups. The study has used the longitudinal data of the twenty-nine institutions that were the COFHE member schools throughout our study period of 1986–87 through 1994–95. The variables extracted include matriculants by race; number of aid or grant aid recipients; tuition and fee charges; standard level of freshman self-help (loans and work); average family contributions of freshmen; grant aid expenditure by fund source (Pell, SEOG, state, other external sources, endowment, institutional restricted gifts, and institutional unrestricted funds); total tuition income; whether the institution has practiced low-income and minority self-help differentials and/or admissions rating systems. Although the antitrust charge against the eight Ivy institutions and MIT was formally filed in May 1991, information sharing on tuition rates and financial aid awards was stopped by all overlap groups during the 1990–91 academic year, in which the investigation was in process. Accordingly, the Overlap era ended in the 1989–90 academic year and the post-Overlap era started in the 1990–91 academic year.

Results

This section reports the results of analyzing this database. These results are reported by their implications for sticker price, effects on institutional grants, and factors underlying growth in institutional grants.

Sticker Price. Figure 3.1 shows an interesting trend in average tuition and fee charges at COFHE institutions. Average tuition and fee charges have almost doubled since 1985–86, increasing by 96 percent from $10,189 in 1985–86 to $20,041 in 1995–96. The average tuition and fee charges have continued to outpace the growth of the CPI in the last ten years, while the gap between the two indicators became substantially smaller after 1990–91. In recent years, the percentage change in tuition has decreased in parallel to the CPI percentage change. These observations imply that the selective institutions studied may have become more sensitive to the general market economics during the post-Overlap era. Several reasons beyond the consent decree may also have influenced these trends: public and political concerns about prices, cost reductions on campus, tuition leveraging elsewhere in the private sector, and trustees’ concerns about affordability.

Effects on Institutional Grants. How much grant aid did these institutions provide from different funding sources during the study period? In academic year 1994–95, twenty-nine COFHE institutions awarded $690.6 million
Figure 3.1. Tuition and Fees at 29 Selective Private Institutions
<table>
<thead>
<tr>
<th>Year</th>
<th>Average tuition and fees</th>
<th>Percentage increase in tuition and fees</th>
<th>Percentage increase in CPI</th>
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<tr>
<td>1985–86</td>
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<td>5.4%</td>
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<td>$9,000</td>
<td>5.1%</td>
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<td>1995–96</td>
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<td>2.8%</td>
<td></td>
</tr>
</tbody>
</table>

- Average tuition and fees
- Percentage increase in tuition and fees
- Percentage increase in CPI
in total grant aid, an increase of 104 percent since 1986–87. Of this amount, $123.3 million (18 percent) was noninstitutional grant aid, consisting of federal ($54.1 million), state ($25.3 million), and other fund sources ($43.9 million). The remaining $567.3 million (82 percent) was from institutional funds, specifically from endowments and restricted gift accounts ($158.8 million) and unrestricted, general purpose accounts ($408.5 million).

Figure 3.2 depicts the growth in grants from various funding sources. The growth of public grant assistance and other external aid was much smaller than the growth of institutional aid. Between 1986–87 and 1994–95, noninstitutional grant assistance increased only by 45 percent while institutional grant aid expenditures grew by 124 percent.

There are two major types of institutional grant aid. One is funded by endowments or donors’ gifts specifically earmarked for aid, and the other is unrestricted grant aid originating from general purpose (GP) funds, which are mainly financed by tuition income. The latter constitutes a recycling of income to aid, or forgone income for the institution. As depicted in Figure 3.2, between 1986–87 and 1994–95 grants from GP funds expanded by 131 percent, from $176.7 million to $408.5 million. During the same time, total tuition income grew by 78.5 percent, from $1,228.2 million to $2,192.7 million.

It is clear that attempting to meet students’ full need has been quite costly for these private institutions. Since cost of attendance has far outpaced the growth of public and other external grant assistance, the institutions had to make up the difference. It is clear as well that the ability of institutions to raise endowments or gifts designated specifically for financial aid has not kept pace with institutional grant demand. As a result, institutions have had to dip into tuition-generated general purpose funds to provide institutional grants for their needy students.

Figure 3.3 shows the maximum, minimum, standard deviation, and average percentage of tuition and fee income expenditures on grant aid for the schools over a nine-year period. Three observations are noteworthy. First, the average grant-to-tuition-income ratio was 14.0 percent in 1986–87 and steadily increased to 19.7 percent in 1994–95, indicating that the institutions have been bearing an increasing financial aid burden from their tuition revenues. Second, strategic use of the GP funds in the form of grant aid has significantly varied by institution over the years. It is obvious from Figure 3.3 that the upper end of the tuition recycling ratio has substantially increased since 1991–92. In 1986–87, only four institutions spent more than 20 percent of their tuition income on grants, with a maximum of 28 percent. In 1994–95, eleven schools used 20–30 percent of their tuition revenues for the institutional grant purpose while two used more than 30 percent for the same purpose, with a maximum of 44 percent. In contrast, several institutions managed to keep their recycling ratios to just under 10 percent over the study period. In 1986–87, six institutions fell in this category, which decreased to only two in 1994–95. Third, standard deviations of the GP grant aid expenditure as a percentage of tuition and fee income have substantially increased since 1992–93.
Figure 3.2. Tuition Income and Grant Sources: Twenty-Nine Selective Private Institutions
<table>
<thead>
<tr>
<th>Year</th>
<th>Federal</th>
<th>External Funds</th>
<th>Endowment and Gifts</th>
<th>Unrestricted Funds</th>
<th>Tuition and Fee Income</th>
</tr>
</thead>
<tbody>
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<td>1986–87</td>
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<td>1987–88</td>
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<td>1988–89</td>
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<td>1989–90</td>
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<td>1990–91</td>
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<td>1992–93</td>
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<td>1993–94</td>
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<tr>
<td>1994–95</td>
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</tbody>
</table>
These observations suggest that prohibiting consultation between the overlap schools may have led to an increase in price competition. Since 1991–92, use of tuition income to fund institutional grants has become increasingly prevalent. Increased price competition may also have increased the pressures on institutional budgets at some members of the Overlap Group. The level of tuition recycling in the form of grant aid, however, differed significantly from institution to institution, possibly reflecting individual strategies and policy decisions as to how much tuition revenue should be used as grants to attract and support students. Later in this chapter, we examine this possibility further.

**Factors Underlying Growth in Institutional Grants.** The growth rates of institutional grant aid expenditures vary significantly across these twenty-nine institutions. Given that they vary, what underlying factors contributed to these differences in growth? In particular, have the underlying factors changed significantly during the post-Overlap era? Finally, what is the relationship, if any, between the changes and discounting strategies?

These questions were addressed by two regression analyses. The first portrays changes during the era before the consent decree. The second traces changes during the postdecree era. The general model uses the growth rate of grant aid funded from tuition income as a dependent variable, which is regressed on the growth rates of number of matriculates, number of under-represented minority matriculants, tuition and fee charge, standard level of freshman self-help (loans and work), average family contributions of freshmen, and grant aid expenditure by fund source (federal, state, other external sources, endowment, and restricted gifts), as well as two dichotomous variables indicating the practices of low-income self-help differentials and admissions rating systems.

The number of institutions using low-income or minority self-help differentials decreased slightly over the years: twenty-one schools used the practice in 1986–87, nineteen in 1994–95. Fifteen institutions awarded aid that was sensitive to admission ratings in 1986–87, thirteen in 1994–95. Descriptive statistics for the variables used in the regression analyses indicate that correlations among the independent variables are rather low, which reduces the possibility of a multicollinearity problem (descriptive statistics are available upon request from the authors).

Tables 3.1 and 3.2 represent the regression results for the predecree era and for the postdecree era respectively. Table 3.1 indicates that the model had a poor fit in the Overlap Group; only 16 percent of the variance was explained by ten independent variables ($F = .35$). None of the regression coefficients was statistically significant. This result demonstrates that the increase in grant aid expenditure was not driven by the factors specific to the institution but may have been driven by some external collective factors independent of individual institutions’ characteristics.

In contrast, Table 3.2 indicates that the model successfully explained the variance within growth rates of unrestricted institutional grant aid among the
Figure 3.3. Grants from Unrestricted Funds as a Percentage of Tuition Income: Twenty-Nine Selective Private Institutions
14.7%  14.6%  (5.6%)  (5.8%)

(5.9%)  (5.9%)

5% — 1.3%  1.6%  1.1%  1.1%  1.5%  1.3%  0.4%  0.7%  1.0%


Maximum  Minimum  Average
Table 3.1. Regression Analysis for the Pre-Overlap Era

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrestricted grant (Y)</td>
<td>1.01</td>
<td>1.99</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td></td>
<td></td>
<td>1.83</td>
<td>0.53</td>
<td>0.60</td>
<td>3.46</td>
</tr>
<tr>
<td>UR minority (X1)</td>
<td>0.38</td>
<td>0.44</td>
<td>-0.29</td>
<td>-0.27</td>
<td>0.79</td>
<td>1.07</td>
</tr>
<tr>
<td>Self-help level (X2)</td>
<td>0.21</td>
<td>0.12</td>
<td>-1.19</td>
<td>-0.33</td>
<td>0.75</td>
<td>3.65</td>
</tr>
<tr>
<td>Matriculants (X3)</td>
<td>0.00</td>
<td>0.10</td>
<td>1.00</td>
<td>0.18</td>
<td>0.86</td>
<td>5.70</td>
</tr>
<tr>
<td>Family contr. (X4)</td>
<td>0.29</td>
<td>0.15</td>
<td>-2.51</td>
<td>-0.75</td>
<td>0.46</td>
<td>3.34</td>
</tr>
<tr>
<td>Tuition and fees (X5)</td>
<td>0.36</td>
<td>0.06</td>
<td>4.50</td>
<td>0.57</td>
<td>0.57</td>
<td>7.84</td>
</tr>
<tr>
<td>Public grant (X6)</td>
<td>0.20</td>
<td>0.23</td>
<td>-0.52</td>
<td>-0.25</td>
<td>0.80</td>
<td>2.07</td>
</tr>
<tr>
<td>External grant (X7)</td>
<td>0.61</td>
<td>0.79</td>
<td>-0.33</td>
<td>-0.53</td>
<td>0.60</td>
<td>0.63</td>
</tr>
<tr>
<td>Endowment grant (X8)</td>
<td>0.61</td>
<td>0.55</td>
<td>-0.20</td>
<td>-0.24</td>
<td>0.81</td>
<td>0.82</td>
</tr>
<tr>
<td>Low income differential</td>
<td>0.72</td>
<td>0.45</td>
<td>-1.55</td>
<td>-1.17</td>
<td>0.26</td>
<td>1.33</td>
</tr>
<tr>
<td>Admission rating (X10)</td>
<td>0.52</td>
<td>0.51</td>
<td>0.39</td>
<td>0.35</td>
<td>0.73</td>
<td>1.11</td>
</tr>
</tbody>
</table>

Note: $F = .35$. The four-year growth rate (from academic year 1986–87 to AY 1990–91) of unrestricted grants was regressed by the four-year growth rates of eight variables (X1 through X8) and two dichotomous variables (X9 and X10).

Twenty-nine institutions as indicated by the adjusted $R$-square, 88.2 percent ($F = 13.51$, $p < .0001$). The growth rates in matriculants numbers, freshman self-help level, public grant assistance, and other external grant assistance have significantly accounted for the growth rate of unrestricted grant aid. To rephrase in relation to the earlier model, institution-specific factors have driven the increase in grant aid expenditures. This implies that rapid growth in institutional grants taken from tuition income may have been caused by the expansion of the freshman class, particularly from enrolling more students who require larger amounts of self-help (loans and work) and grants from public as well as external sources.

The growth rate of unrestricted institutional grants is also explained by the two dichotomous variables. The negative beta associated with the first dichotomous variable indicates that the institutions that used low-income or minority self-help differential systems had lower growth of unrestricted grant expenditure, in comparison to those without such a practice. This may mean that only the institutions having the means and abilities to keep the growth low decided to commit themselves to this practice, encouraging disadvantaged students to enroll in elite institutions and providing them with more generous
Table 3.2. Regression Analysis for the Post-Overlap Era

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrestricted grant (Y)</td>
<td>0.54</td>
<td>0.41</td>
<td>0.58</td>
<td>1.37</td>
<td>0.19</td>
<td>0.42</td>
</tr>
<tr>
<td>Intercept</td>
<td></td>
<td></td>
<td>0.58</td>
<td>1.37</td>
<td>0.19</td>
<td>0.42</td>
</tr>
<tr>
<td>UR minority (X1)</td>
<td>0.11</td>
<td>0.36</td>
<td>-0.02</td>
<td>-0.17</td>
<td>0.87</td>
<td>0.11</td>
</tr>
<tr>
<td>Self-help level (X2)</td>
<td>0.12</td>
<td>0.14</td>
<td>0.68</td>
<td>2.43</td>
<td>0.03</td>
<td>0.28</td>
</tr>
<tr>
<td>Matriculants (X3)</td>
<td>0.05</td>
<td>0.13</td>
<td>2.01</td>
<td>5.19</td>
<td>0.00</td>
<td>0.39</td>
</tr>
<tr>
<td>Family contr. (X4)</td>
<td>0.17</td>
<td>0.15</td>
<td>-0.29</td>
<td>-0.80</td>
<td>0.43</td>
<td>0.36</td>
</tr>
<tr>
<td>Tuition and fees (X5)</td>
<td>0.27</td>
<td>0.02</td>
<td>-1.21</td>
<td>-0.80</td>
<td>0.43</td>
<td>1.51</td>
</tr>
<tr>
<td>Public grant (X6)</td>
<td>0.22</td>
<td>0.20</td>
<td>0.79</td>
<td>3.75</td>
<td>0.00</td>
<td>0.21</td>
</tr>
<tr>
<td>External grant (X7)</td>
<td>0.20</td>
<td>0.38</td>
<td>0.25</td>
<td>2.63</td>
<td>0.02</td>
<td>0.09</td>
</tr>
<tr>
<td>Endowment grant (X8)</td>
<td>0.33</td>
<td>0.32</td>
<td>-0.12</td>
<td>-0.99</td>
<td>0.34</td>
<td>0.12</td>
</tr>
<tr>
<td>Low income differential</td>
<td>0.66</td>
<td>0.48</td>
<td>-0.23</td>
<td>-2.68</td>
<td>0.02</td>
<td>0.09</td>
</tr>
<tr>
<td>Admission rating (X10)</td>
<td>0.52</td>
<td>0.51</td>
<td>0.21</td>
<td>2.85</td>
<td>0.01</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Note: $F = 13.51$ ($p < .0001$). The four-year growth rate (from AY 1990–91 to AY 1994–95) of unrestricted grants was regressed by the four-year growth rates of eight variables (X1 through X8) and two dichotomous variables (X9 and X10).

grant aid and less self-help aid—a hybrid of the social contract and price-discounting models. Alternatively, this might also indicate that the institutions not needing to discount to meet general enrollment goals could afford to allocate institutional grant funds to a diversity agenda.

In contrast, the positive beta associated with the second dichotomous variable is a result derived from the price-discounting model. The institutions using the admissions rating systems had a higher growth rate in unrestricted grant expenditures than others without such a practice. In other words, in attempting to enroll competitive students by offering more enticing aid packages than their competitors through this practice, institutions have recycled a substantially higher portion of their tuition income for this purpose. Institutions that have high yield rates do not have to practice the rating system and tend to have a lower growth rate of grant aid taken from tuition income funds.

The results from the two regression analyses suggest that a significant change in the private sector higher education market may have occurred after 1990–91. The significant explanatory power of the postdecree model indicates that the development of leveraging strategies by institutions and student demographics accounted for the variance in the growth rates of institutional grants.
taken from tuition income. In other words, recycling tuition to finance institutional grants has become more institution-specific during the period after the consent decree, reflecting institutional characteristics and strategies. Particularly, the significant explanatory ability of the two dichotomous variables provides at least modest evidence that the institutions have become more strategic and less collective in their financial aid practices.

Summary and Discussion

This chapter has discussed critical aid issues that need to be researched by private institutions, which are performing a balancing act among (1) meeting students’ ever-increasing financial needs created by the differential growth rates of cost of attendance, public aid allocation, and families’ financial strength; (2) coping with market competition for students where aid-leveraging strategies based on differential price discounting have become a common practice; and (3) maintaining institutional financial well-being by trying to cap the rapid growth in tuition revenue allocated to grant aid. The private institutions have reached the point where it has become extremely difficult, if not impossible, to maintain such a balance while adhering to the philosophy of need-blind admissions and need-based financial aid to guarantee families access, choice, and completion of educational goals. This is particularly so when institutions need to diversify their student populations in an environment where price competition for students is encouraged. This environment may have resulted in part from tightening legal restraints on sharing tuition, family financial data, and aid information among institutions.

The research example presented shows how selective institutions set prices and awarded aid in two distinctly different eras demarcated by government initiatives. Although the observed shifts cannot be attributed definitively to the actions of the Justice Department, the influence of the consent decree cannot be dismissed. More important for institutional policy, this analysis became a mechanism for documenting a new competitive environment. The study results indicate some modest evidence that recycling tuition to finance institutional grants has become less collective and more institution-specific during the period after the consent decree. These results possibly reflect the development of leveraging strategies by these institutions. Obviously, the twenty-nine highly selective institutions examined here are not a fair representation of private institutions at large. Nonetheless, they are the market to which the authors’ institution must look, and because of their large resources and high prestige these institutions set a certain standard for other private schools in the aid arena. A strategic shift in policies and increasing emphasis on price competition in these flagship schools may indicate dynamic changes in aid practices of the private sector in general.

This chapter advocates the importance of institutional research on financial aid issues in this rapidly changing era and reveals the value of comparative data in examining pricing and aid options. The primary question is how,
strategically as well as philosophically, individual institutions maintain balance among the conflicting needs discussed in this chapter. Only well-defined research can help guide the institution in the right direction in its search for optimum answers.

Note

1. Data are provided to the consortium by its members for their use in institutional policy making.

References

Reprinted to Internet
http://www.nacubo.org/website/members/bomage/sfad_996.html

Gladieux, L. E., and Hauptman A. M. The College Aid Quandary: Access, Quality, and the


http://www.nacubo.org/website/members/bomag/cfs_1196.html


Roche, G. C. *The Fall of the Ivory Tower: Government Funding, Corruption, and the


