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Why Can't Colleges Control Their Costs ?

by

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I. Tuition Keeps Rising at Selective Private Institutions

Over 30 years ago William Bowen (1967) studied data from a set of selective private institutions and concluded that their tuition levels had been rising, on average, by 2 to 3 percent more annually than the rate of inflation ever since the turn of the 20th century. He attributed this partially to the increased specialization of knowledge and the growth of new fields of study. But first and foremost, this occurred because the nature of the educational process did not permit academia to share in the productivity gains that were leading to the growth of earnings in the rest of society.

Put simply, the number of students the average faculty member educates each year at these institutions had not changed because low student/faculty ratios were thought to be essential to high quality education. Hence to avoid a decline in the relative earnings of faculty, which might make it difficult to retain existing faculty and attract new ones, tuition had to be increased by more than inflation to provide revenue for salary increases. Inasmuch as real incomes of families were increasing during the period, due to real wage growth and increased female labor force participation, tuition had not risen relative to median family income during most of the period.

In recent years, tuition has similarly continued to increase by more than inflation. However, during the 1980s real income growth in the United States stagnated. As a result, tuition growing by more than inflation meant that tuition as a share of family income was increasing. Figure 1 illustrates this point for Cornell University but the story is the same for the average selective private institution in the nation. Between 1966-67 and 79-80 tuition remained roughly 26 to 28 percent of median family income. By 1992-93 this ratio had risen to 49 percent. During the mid-1990s, median family income began to grow again in real terms and the ratio stabilized at this now higher level. However, the damage had been done. The concern that college costs were taking a greater share of the typical family's income was magnified by the rapid run up in endowments that took place during the booming stock market of the 1990s. Families wondered why the selective institutions even had to raise tuition at all?

I am going to claim in this paper that there are a number of forces, in addition to the ones that Bowen discussed, that continue to put upward pressure on tuition. These include the aspirations of academic institutions, our "winner take all" society, the shared system of governance that exists in academic institutions, recent federal government policies, the role of external actors such as alumni, local government, the environmental movement and historic preservationists, periodicals that rank academic institutions, and how universities are organized for budgetary purposes and select and reward their deans.

After briefly discussing each of these forces, I will present some results from a survey I recently conducted of large research universities to obtain information on how they organize themselves for budgetary purposes. Finally, I will conclude with some thoughts on the steps that academic institutions themselves must take if they want to hold down their costs.

II. Selective Academic Institutions are Similar to Cookie Monsters

The objective of selective academic institutions is to be the very best that they can in every aspect of their activities. . They are like cookie monsters. They aggressively seek out all the resources that they can find and put them to use funding things that they think will make them better. They want better facilities, better faculty, improved research support, improved instructional technology, and better students.

All of these things take more money. While they could aggressively try to increase their efficiency, reduce costs, and get better by substitution rather than growing expenditures, they don't do this for a number of reasons that I will shortly mention. Rather they adopt the attitude that as long as large lines of high quality applicants are flocking to their doors and accepting their offers of admissions there is no reason for them to moderate their tuition increases.

III. The “Winner Take All” Society

And flock to our doors they do. As Bob Frank and Phil Cook (1995) and Carolyn Hoxby (1997) have pointed out, the fraction our of our nations top students, as measured by test scores, that choose to enroll in the selective private institutions has increased substantially over time. Certainly the development of need blind admissions and need based financial aid played a role, as did reductions in transportation and communication costs, in causing this increased concentration of top students.

More recently, the increased income inequality in the United States has caused students and their families to increasingly want to (in Bob Frank's terms) “buy the best”. My own research with Dominick Brewer and Eric Eide suggests that they are wise to do so, because the economic return to attending a selective private institution rather than another academic institution is large and there is evidence that it has increased in recent years.¹

Each of the selective institutions wants to remain in the subset of schools that students find attractive. So each winds up in what many have called an “arms race of spending” to make itself look better than its competitors. This spending is not restricted to the academic parts of institutions. Institutions also compete with athletics' facilities

¹ See Brewer, Eide and Ehrenberg (1999) and Eide, Brewer and Ehrenberg(1998)

(including fitness centers), new residence halls and improved dining facilities. For example, Duke has a freshman campus, so Cornell had better have one also.

Their quest to be the best is true in graduate education and research as well. It is easier to remain at or near the top nationwide in a field than it is to strengthen a weak field and achieve a high level of distinction. As a result, at Cornell we swallow as the costs of conducting research in the physical sciences and engineering rise rapidly (I will return to this point below) and continue to heavily devote our resources to these fields in which the university historically has excelled. Pity the poor economist whose models tell him that to minimize costs, one should substitute away from things that have become relatively more expensive.² Pity the poor university that finds that to maintain its historic excellence, it has to skimp in other areas and continue to raise tuition at rates that exceed inflation.

IV Shared Governance

Why selective private institutions fail to seriously consider the option of reducing their costs, rather than raising tuition, to find the revenue to enhance their operations derives to a large extent from how they are governed. Their system of shared governance between trustees, administrators, and faculty almost guarantees that they will be slow to react to cost pressures.

Trustees are often successful business people, who know how to cut costs and meet budget constraints. However, if the President of a university, such as Cornell, tells them that they need to spend money for new initiatives in genomics, advanced materials and information sciences to maintain the strength of the university and keep it at the forefront of science and engineering, they are likely to swallow hard and go along with him. If the President similarly says that they need funds to enhance the living and learning environment at the university to attract students, they similarly will likely agree.

There is however, an important distinction between trustees of private and public universities. Some background data will help to make this clear. In 1978-79, the average full professor at a public doctorate granting university earned about 91% of what his or her counterpart at private doctorate granting universities earned. This ratio fell steadily during the 1980s and early 1990s until it stabilized at about 78 to 80%. This fall in public universities' relative salaries made it difficult for the public to hire and retain top faculty and invariably led to some decline in these institutions' academic quality.

Similarly, between 1988 and 1994, state appropriations to public higher education per full-time student fell in real terms by about 10%. While tuition increases made up for part of this decline, in real terms spending per student fell at many state institutions.

² See Ehrenberg (1999a).

During the same time period real expenditures per student were relentlessly increasing at the selective privates. Hence the disparity between the quality of the two types of institutions grew.

Do these data suggest that trustees of public institutions care less about the quality of their institutions than do trustees of private institutions? In most case the answer is no although there are some states, such as New York, in which some people have serious questions about the trustees' goals. However, unlike private university trustees, public university trustees often do not have final control over the tuition levels that their institutions charge or their state appropriations. The political process often makes these decisions.

In some states, such as in New York, public university trustees do have control over tuition. However, if the governor lets them know that he wants tuition held constant, it would be foolhardy for the trustees not to accede to his wishes. To do so would leave them vulnerable to the risk of losing their positions. They would also face the possibility that the political process might penalize them by reducing their state appropriation by the amount of the increase in revenue that they gained by increasing tuition. So budgets in public institutions have been cut in spite of their trustees concern.

Faced with tight budgets due to pressures to reduce state income taxes and the need for more funds for health care, welfare, and the criminal justice system, administrators at the publics make hard decisions and take the steps necessary to balance their budgets. They can always blame the cuts that they must make on state government.

In contrast, if administrators at private institutions were to recommend budget cutbacks, all blame would be assigned to them. They would be widely accused by the faculty of not making a strong enough case to the trustees of the need for higher tuition to maintain institutional quality. Rather than risk losing the support of the faculty, the typical president and provost will often swallow hard and recommend raising tuition by more than they otherwise would prefer to provide some budget relief. After all, administrative terms are not that long and once an administrator loses the support of the faculty, in most cases it is difficult to effectively lead the institution

Why is the support of the faculty so important? Under the system of shared governance in place at these institutions, the faculty rules supreme on academic matters. The faculty also feels that it should play a major role in all other decisions at the university. To achieve faculty support for projects is often expensive both in terms of time and dollars. At Cornell for example, the estimated cost of a major new advanced materials research facility has risen from \$40 million to \$55 million dollars because of modifications that needed to be made to win faculty support for the siting of the building. These modifications, airtia to improve the college's environment and improved

classrooms, had nothing to do with the underlying academic program for which the building was being constructed.

V. Federal Government Policies

In recent years the federal government has contributed to the cost pressure on selective private institutions in at least three ways. First, the Consent decree between the Ivy League institutions and the Justice Department in the early 1990s now prevents these institutions from meeting to discuss the financial need of individual common accepted applicants before financial aid offers are made. While these institutions can, and have, agreed to base financial aid only on financial need, each is now free to determine “need” as it sees fit. This has led to increased use of the practice that has become known as “dialing for dollars” at many of them and the other selective privates, as accepted applicants submit financial aid offers from elsewhere to an institution in an attempt to improve their packages. Put simply it is likely that the Consent degree has led to enhanced financial competition for students and improved financial aid packages.

Money for enhance financial aid programs comes from increased annual giving, increased payout from endowments, increased endowments for financial aid and increased tuition. The richest institutions may have been able to finance their improved programs out of an increased payout from their endowments. However, for most selective private institutions, increased financial aid has required at least some additional recycled tuition revenue. Absent the ability to easily cut expenses elsewhere in the budget, the implication is that tuition has had to increase by more than would otherwise be the case.

Second, the value of the maximum Basic Educational Opportunity Grant (BEOG) has not kept up with inflation. Viewed in constant 1997 dollars, the maximum actual BEOG grant rose from \$1500 at the program’s inception to over \$4000 in 1975. Since that date it has declined considerably. After falling to under \$2500 in the mid 1990s, it rebounded to \$2700 in 1997. This failure of BEOG levels to keep up with inflation, let alone tuition, required the private institutions to dig deeper into their pockets for financial aid funds and increasingly financial aid has become an institutional responsibility, putting more pressure on tuition.

Finally, the cost of doing research has skyrocketed at the selective private universities in recent years as the federal government has put pressure on private research universities to reduce their indirect cost rates. Between FY1990 and FY1997, the mean indirect cost rate at the 39 largest private research universities fell from 62% to 56%. In addition, federal agencies began to put more pressure on all institutions to provide more matching funds in grant applications. At the same time that direct cost funding levels were often being reduced for large center grants, matching fund expectations were growing. Indeed Cornell has found numerous times that to win a renewal of a major center grant at the same, or a smaller, level of funding, usually requires the institution to ante up more in

matching funds. Funds to make up for the loss of indirect costs revenues and the increased matching cost commitments came from the general operating budgets of the institutions and this too put more pressure on their tuition levels.

VI. External Actors: Alumni, Local Government, the Environmental Movement, and Historic Preservationists

Alumni are vital to selective institutions in a number of ways. They contribute funds, help to recruit students, provide internship and postgraduate employment opportunities for students and support the institution politically. They also have strong preferences about what should be valued and, by strongly communicating these preferences and threatening to withhold contributions, they discourage institutions from cutting almost anything. Similarly, they occasionally provide gifts that academic institutions don't really want because they would add to, rather than reduce, the institutions' costs. It is a rare president who refuses such gifts.

Academic institutions also face cost pressures from local governments and interest groups, such as environmentalists and historic preservationists. The institutions are always adding new facilities and renovating old ones. To obtain required construction permits from local governments requires complex discussions and negotiations. Ultimately, these may lead to the institutions having to make increased financial payments to local governments to compensate them for our tax-exempt status. A recent story in the *Chronicle of Higher Education* discussed how much Harvard is increasing its payments to the city of Boston to enable it to develop properties that it owns in the city.

Pressure from environmentalists and historic preservationists may slow down academic institutions' projects and increase their costs by much more than similar pressure would increase the costs of for-profit firms undertaking similar projects. Unlike, business firms, most academic institutions do not have the option of packing up and moving to a new location. Also, since they are either public bodies or nonprofits that receive favorable treatment under tax laws, they are expected to make decisions that are in the public interest. For example, Cornell's plans to build a new incinerator to dispose of toxic wastes from veterinary medicine research have been held delayed over 4 years as the institution tries to assuage environmentalists' concerns. Similarly, Yale recently announced that it was abandoning its plans to demolish several antiquated buildings that comprised its divinity school because it believed that the cost (in time and money) of fighting the battle in the courts would prove prohibitive.

VII Published Rankings of Academic Institutions

When published rankings of academic institutions, such as those conducted by *U.S News & World Report*, influence potential students' perceptions of the underlying quality of the institutions, no matter how much institutions criticize the rankings they

have reason to fear that the rankings may influence students' behavior. A recent study that I conducted with James Monks shows that this fear is justified.³

Using data from 30 selective private colleges and universities over an 11-year period, Monks and I found that changes in an institution's ranking do influence its admissions outcomes and its financial aid bill. When an institution's ranking improves, this leads to an increase in applicants, a reduction in the fraction of applicants that the institution accepts, an increase in its yield on accepted applicants, an increase in its freshman class's test scores, and a decrease in the amount of financial aid that it must offer to enroll the class.

As a result, institutions have an incentive to take actions that will positively influence their ranking. To the extent that the rankings are partially based upon how much an institution spends educating each student, no administrator in his or her right mind would take actions to reduce the institution's educational expenditures unless he or she was forced to by the trustees. You can imagine how members of the Cornell Trustees' finance committee reacted when I told them once (when they were pressing us to behave more like a business and reduce costs) that for us to take action to unilaterally reduce our costs would result in a worsening in Cornell's position in the *USNWR* rankings.

Cornell's rank rose from 14th among national universities in the fall 1997 *USNWR* ranking to 6th in the fall 1998 ranking. Not surprisingly there was an increase in applicants for its fall 1999 freshman class, it admitted a smaller fraction of these applicants, its yield rose and its entering classes' test scores rose. Sadly for Cornell, its rank fell back to 11th in the fall of 1999, primarily because *USNWR* changed the formula that it used to compute the rankings. It was my sad task to inform our President and Provost that while I was happy that they were basking in the glory of how well the Cornell freshman class looked this year, our research suggested that Cornell would be lucky if it did as well next year.

VIII. How Universities Organize Themselves

The final factors that influence universities' inability to hold down their costs is how the institutions are organized for budgetary purposes and how they select and reward their deans. Ehrenberg (1999a, 1999b) discusses these issues in detail. I summarize some of the key points below and present some new evidence on how universities actually are organized for budgetary purposes.

During the spring and summer of 1999 I conducted a survey of the resource allocation methodologies that are used at research and doctorate universities. Over 200 of the approximately 220 institutions in the sample responded to the survey. While I would like to believe that they did so because they recognized my name, more likely it was because

³ Monks and Ehrenberg (1999)

William Bowen, the President of the Andrew W. Mellon Foundation, provided me with a cover letter to encourage their participation.

Simplifying greatly, there are four broad types of research allocation methodologies or systems of budgetary arrangements that universities use:

1. **Central Control**- Under such a system, all revenue, with the possible exception of some external gifts and the direct costs on external research grants, flows directly to the central administration. The central administration covers its central costs and then allocates some portion of the remaining revenues back to the individual colleges.
2. **Tubs**- Each college is treated as a “tub” on its own bottom. It keeps all of its tuition and other sources of revenue that it generates. It remits funds to the central administration only to cover its allocated share of the central costs. Each college is responsible for all the direct and indirect costs that it incurs, including facilities, maintenance and operating costs.
3. **Tubs with a Franchise Fee**- Each college is treated as a tub on its own bottom, but it remits more than its allocated share of central costs to the central administration. The extra amount that the college remits is based upon its revenues or its expenditures. This “franchise fee” is then allocated back to the various colleges at the discretion of the central administration and/or through some priority setting process.
4. **Activity Driven**- Under this type of approach, each college remits to the center a share of its total expenditures. The share it remits may differ depending upon whether the expenditures are for teaching, sponsored research, or other programs (for example executive education). No explicit allocation of central costs to different units is made. The center uses the money it receives to cover central costs and then reallocates any excess funds back to the colleges as in the third methodology.

The benefits that a pure responsibility center management type model (model 2 above) provides, including the incentives that are present for the units to manage their own resources prudently and to generate revenues, are well known. However, in Ehrenberg (1999a, 1999b), and much more extensively in Ehrenberg (forthcoming), I argue that an unwanted side effect of the approach is that it reduces the incentive for individual colleges to collaborate and to take actions that are in the best interests of the institution as a whole. Put another way, what makes economic sense for a unit does not necessarily help to reduce duplication and hold costs down for the university as a whole.

So the first thing that I wanted to know in my survey is how many institutions utilize “pure” RCM models. I asked respondents to ignore the medical colleges in their responses (for reasons that those institutions with medical colleges surely understand). The survey responses indicate that central control is by far the most prevalent form of

organization, with 63% of the privates and 92% of the publics being organized this way. Only 22 of the universities were organized as tubs and this form of organization was most prevalent in private research I institutions.

Of course how universities are formally organized is not necessarily a good indication of how they actually behave. One provost who I visited at a best-unnamed major public research I university told me that while all tuition revenue came directly to his office, not the colleges, he had never thought about doing anything other than giving each unit back the tuition revenue that it generated. A second provost who I spoke to at a public research II institution told me that while he had the authority to reallocate tuition revenues across the colleges, it caused him too much aggravation to do so.

To see if these attitudes were more widespread, the survey also asked those universities that had answered that the center fully controlled the allocation of revenues whether in practice their incremental allocations deviated substantially from proportionality. In almost half of these institutions in both the public and private sectors, the answer was no. While this may reflect satisfaction by the central administration with the way things are going at each of these institutions, it also may reflect that each's colleges are de facto being treated as tubs.

Asking institutions which budget model best fits them may drastically oversimplify things and the survey also included a set of questions about specific types of income to probe matters further. For example, answers to the question "is the allocation of tuition revenue from on-campus degree programs under the control of the central administration of your university" were similar to the answers about central control. However, revenues from non-degree programs (continuing education or executive education) or degree-programs off campus (including distance learning programs) were less likely to be under the control of the central administration.

Who "owns" the endowment and who bears the cost of raising new funds are also important dimensions of institutional control. The individual colleges at one private research university that I visited last year keep all of their tuition revenue. At first glance, this institution appears to be organized as a set of tubs. However, the university as a whole has a large endowment which is "owned" primarily by the central administration. As a result, the provost is able to heavily influence the behavior of the units through his control of the allocation of endowment spending.

The survey responses indicate that it is much more likely in public than in private institutions that at least part of the costs of development activities are borne explicitly by the colleges. It is also more likely that this occurs in research I rather than other institutions. The percentage of endowment spending that is under the control of the central administration varied widely across institutions. However, on balance, there

appears to be more central control over endowment at the private than at the public institutions.

A final important factor that determines whether an institution can behave in an efficient manner and function as a whole is how deans are appointed and evaluated. At many institutions, committees of primarily faculty from the college conduct a search for a dean and then provide the president or provost with an unranked list of the leading candidates. However, the discussion that accompanies that list makes clear who the first choice candidate really is and typically that candidate is selected.

Once in office, among the dean's primary responsibilities, especially in the universities that operate as tubs, are fund raising and external relations (alumni, constituents of the college, state policy makers). If a dean is successful on these dimensions and retains the support of the faculty, it is difficult for a provost or president to penalize the dean (including in the extreme case removing him or her from the position) for failing to cooperate in university wide initiatives. Deans thus have very little incentive to cooperate in activities that they do not perceive of as being in the best interest of their colleges.

The limited power of central administrators to influence dean's behavior became clear to me when in recent years the presidents of Columbia and Georgetown tried, respectively, to remove and not reappoint a dean. In both cases, pressure from alumni and key trustees (including the threat of withholding funds) caused the presidents to publicly rescind their decisions. One wonders if the two presidents had failed to follow perhaps the most important advice that a president can be given - never make a major decision on campus that will eventually rise to the level of the trustees without first obtaining key trustees' support for the decision.

IX What Selective Private Institutions Can Do to Help Control Costs

Selective private colleges and universities have been raising their tuition levels, on average, by 2 to 3 percent more than the rate of inflation for at least a century. To achieve in the future some moderation in the real rate of tuition increases will require actions from federal and state government and the institutions themselves. Many of these are discussed in my book (Ehrenberg, forthcoming). I conclude by briefly mentioning some of the implications of my discussion for institutional policies.

First, as my discussion of the differences between public and private institutions indicated, the trustees of the latter are key actors in efforts to control costs. If efforts to moderate tuition increases are to come, they must be led by the trustees. Absent, strong directives from the trustees, it is difficult for presidents and provosts to advocate such policies.

Second, the selective universities should organize themselves for budgetary purposes in a way that gives the central administration some control over resources and some levers to influence the behavior of college deans. If academic institutions are serious about improving the efficiency of their operations and controlling costs, pure tub models are not the way to go. What is in the best interest of an individual unit is not necessarily in the best interest of the university as a whole. Central control over resources removes many of the incentives that units have to raise revenues and hold down their own costs. Hence, variants of the “tubs with franchise fees” or activity driven models are the preferred alternatives.

Third, college deans at universities must be held responsible for the well being of the institution as a whole, not just their individual college. This should be an explicit part of their job responsibilities. Faculty and alumni connected to their colleges should be educated to understand that this is an important part of dean’s jobs. Serious performance evaluations of dean’s need to be held annually to reinforce this point.

Fourth, trustees and key alumni need to be educated so that they too understand that what is best for “their” college is not necessarily what is best for the institution as a whole and that they too need to think of the latter. This is a hard sell but something that central administrators can profitably devote time to doing.

Fifth, institutions need to conduct regular serious evaluations of all aspects of their academic and nonacademic activities to decide whether efficiencies can be achieved in any activity or whether it makes sense for the institution to stop doing any activity completely. Put another way, the institutions need to get themselves in the mindset of growing by substitution, not by expansion. Faculty legitimately gripe at having to participate in mindless program reviews that get filed away and that have no impact, so these evaluations must be substantive. There is a tradeoff between accountability and collegiality and serious program reviews may reduce the latter. However, that is a price that the selective institutions may have to pay for trying to be more accountable and holding down their costs.

Finally, institutions should stress much more heavily the sharing of academic and administrative resources, both across units within a campus and across institutions. The announcement earlier this year that Columbia, Yale and the New York Public library are building a single repository to house rarely used books of all three institutions is but the tip of the iceberg of things that can be done. More sharing of academic resources by teaching of specialized courses to students on several campuses simultaneously, through the use of distance learning technologies is another example. Institutions will have to think very seriously about how they can expand cooperation with their competitors.

Academic institutions are already cooperating on a number of administrative fronts. For example, many are involved in the joint development of information systems

for human resources, student services, libraries, development and alumni relations, sponsored programs, and financials. They now need to take the next step and ask if there are ways to share administrative services across campuses to achieve further economies of scale and cost savings. Is it really necessary, for example, for each institution to have its own purchasing department?

References

William J. Bowen, *The Economics of the Major Private Research Universities* (Berkeley CA: Carnegie Commission Higher Education, 1967)

Dominic J. Brewer, Eric R. Eide and Ronald G. Ehrenberg, "Does it Pay to Attend an Elite Private College? Cross-Cohort Evidence of the Effects of College Type on Earnings", *Journal of Human Resources* 34 (Winter 1999): 104-123

Ronald G. Ehrenberg, "Adam Smith Goes to College: An Economist Becomes an Academic Administrator", *Journal of Economic Perspectives* 13 (Winter 1999): 99-116 (1999a)

Ronald G. Ehrenberg, "In Pursuit of Universitywide Objectives", *Change* 31 (January/February 1999):29-31 (1999b)

Ronald G. Ehrenberg, *Tuition Rising: Why College Costs So Much* (Cambridge MA: Harvard University Press, forthcoming in the summer of 2000)

Eric R Eide, Dominic J. Brewer and Ronald G. Ehrenberg, "Does it Pay to Attend an Elite Private College? Evidence on the Effects of Undergraduate College Quality on Graduate School Attendance ", *Economics of Education Review* 17 (October 1998): 371-376

Robert H. Frank and Philip J. Cook, *The Winner Take All Society* (New York: Free Press, 1995)

Carolyn H. Hoxby, "The Changing Market Structure of U.S Higher Education: 1940-1990, mimeo. Harvard University Department of Economics, 1997

James Monks and Ronald G. Ehrenberg, "U.S News & World Report's College Rankings: Why They Do Matter, *Change* 31 (November/December 1999)

Figure 1
Endowed Cornell Tuition Fees
as a Share of Median Family Income in the United States

