Public universities will survive. Can public higher education?

_The Clair Maple Memorial Address_
Seminars on Academic Computing
Snowmass, Colorado
August 4, 2003

Larry R. Faulkner, President
University of Texas at Austin

It is a genuine honor to have been invited to present this year's Clair Maple Memorial Address here at this year's Seminar on Academic Computing. In reading about Clair Maple, I learned that he was a builder of the future. So often, he appears in the story of his life in the role of "founder." In fact, he served in that way with respect to this series of conferences. I also noticed that he began his academic career in Texas. Perhaps that's where he picked up the entrepreneurial spirit.

In any case, he peered often into the future and was often right about it. It is in human nature, but especially in the nature of your business, to be interested in the future, and that's where we will try to go today.

******

Now, I have been deliberately provocative with the title of this address, so let me take a moment to refine what I mean by it.

Public universities will indeed survive. So much of our personal, regional, and national welfare is wrapped up in them that they have become indispensable. This truth is widely understood by political, business, and community leaders at all levels. It is also widely understood by citizens at large, especially parents. Among all these folks, there is not a good grasp of the differences among universities and their missions, or a good understanding of what they need to succeed, but people do know that public universities are important. More than ever know that economic prosperity in this country, and in their families, will depend in increasing degree on the command of knowledge. All of these understandings assure that public universities will be the focus of more public hope in the future, not less.

Why, then, would I pose my title's question: "Can public higher education survive?"

Thirty years ago, I heard a speech by the respected political columnist John Roach, who said something simple about public institutions and public life, "If you play with anything hard enough, it will break." He was talking about the tendency for focused public interest sometimes to create so much activity that it actually reduces the effectiveness of the very policies or institutions of interest. That is the risk we face with public higher education.
Increased public recognition of the value of baccalaureate and advanced degrees with respect to lifetime earning potential is driving different reactions from the constituents of private and public institutions. At the strong privates, the focus is steadily on the quality of the educational experience. Prosperous families have shown their willingness to pay for that quality, even as the cost increases. The constituencies of the public sector increasingly see higher education as a necessity — and therefore a public right — so they are much more concerned with access than quality. And cost is a big part of that picture. For many decades, America has benefited from a system of higher education in which there are institutions of varying character and mission, both public and private. Whether one speaks of major research universities, urban comprehensive universities, regional universities largely devoted to undergraduates, or even liberal arts colleges, it has been true that comparable educational quality has been available in both the public and the private sectors. My rhetorical question is really whether public higher education at a level truly competitive with that of privates will continue to be a reality in this country.

It’s an important question. The public institutions provide scale with strength, as well as the open door of opportunity for students from modest personal backgrounds and secondary educational environments. To most people, opportunity and quality in higher education are defined by the public institutions that they can reach and touch. In Texas, 80% of the students in higher education are in public institutions. That percentage is rising. Nationwide, the fraction is smaller, but by just a little. Given the enormous importance of higher education to personal welfare and the economic strength of America, it is not too much to say that as public higher education goes, so goes the nation.

*****

There are at least five big forces on public higher education today [Slide 2]:

- The cost-compounding properties of a labor-intensive activity dependent on rare talent
- A reduced propensity in state capitals to provide strong public subsidies for public higher education
- Resistance among students, parents, and public leaders to increased charges for tuition and fees at public institutions
- Broadened expectations among civic leaders concerning universities as engines for regional economic development
- Intrinsic tensions among missions

You in this audience are familiar with most of these factors, so I will not go into the effects of each in any detail. But I do want to illustrate some aspects of the tradeoffs we face by considering how the financial picture for public higher education might evolve over the years through 2020 [Slide 3]. This horizon is far enough out to bring out some important tendencies, but it is not so far away that it is impractical to do projections based on recent experience. The first graders of the next school year will begin college in 2015. The newborns of the past year will begin in 2020.
The technique [Slide 4] will be to explore with you the consequences and implications of different compounding rates for the various income streams supporting a university and different rates of growth for principal elements of program costs. This will be done for a model university with an income and cost structure typical of a major public research university like The University of Texas at Austin, but some of the conclusions are relevant to public institutions of other shapes, and even for private universities.

Here are the characteristics of the model university [Slide 5]: First, any medical component is excluded. Not all public research universities have medical components, and in those that do, the medical side normally stands apart from the academic side in a financial sense. The model university has 33,000 student FTE, and in the current year, 2003, its total budget of $1.09 billion is supported by:

- $325 million from state appropriations
- $240 million from tuition and fees
- $250 million in external research support
- $100 million from endowment earnings and current-use gifts
- $165 million from auxiliaries, such as housing, food service, parking, and athletics
- $10 million from other sources, such as interest on cash balances

The state supports [Slide 6] about 30% of the university's total budget (shown here in yellow). The next largest fractions come from external research (23%) and tuition and fees (22%).

The resources are allocated to the principal functions [Slide 7] in such a way that educational programs represent about 40% of the total. Research is about 35%. Other functions, including auxiliaries, public service, and financial aid, account for the remaining quarter.

The cost of education [Slide 8] — that is, the educational cost per student FTE — is a little over $13,000 and is financed in the manner shown on the screen. The state is the largest contributor. Tuition and fees cover about $5,300 — or about 40% of the total cost of education. The cost to students, in terms of total tuition and fees [Slide 9], is higher than this figure, because there is also a set-aside of about $300 from tuition and fees for financial aid. The total cost to students is therefore about $5,600.

This overall picture is fairly typical among major public research universities. Of course, there are variations.

*****

Now our task is to consider how this financial picture will evolve, given annual rates of change for principal factors. The most important of these rates are now shown on the screen [Slide 10]. The values that I have given here are typical of the national economy...
and the experience of The University of Texas at Austin over the thirteen years since 1990. In that period, the consumer price index has been inflating by about 2.7% per year. There are three particular factors that, in combination, largely control projections of the future, and they are:

- The sub-inflationary growth of state support
- The very rapid growth of external research support, which is dominated by policies of the federal government
- A rate of salary growth approaching 5%. In research universities, both public and private, the rate of salary growth has been very consistent over the period since the late 1980's. It especially reflects the market for rare talent.

The models also involve three other assumptions [Slide 11]:

- Enrollment remains static over the period through 2020.
- Any increase in tuition and fees requires a 25% set-aside for financial aid.
- The cost of education in 2003 comprises 70% salaries and 30% non-salary operating costs.

Let me start [Slide 12] by considering a "tuition complement model," in which revenue sources other than tuition and fees grow according to stated rates, and the cost of education grows "naturally" according to historic rates for salaries and operating costs. Tuition and fees then rise as required to cover the cost of education. This model describes, to a good approximation, what has actually been happening for the past one or two decades.

Going forward, this approach would entail dramatically increased costs to students [Slide 13]. The figures are defined by the total height of each column shown on the screen, and they go from $5,600 now, to almost $15,000 in 2015, and to more than $20,000 in 2020. The annual growth rate [Slide 14] for the cost to students (in the yellow columns here) would be in the range of 10% for the whole period. In contrast, the annual rate for the cost of education (in the gray bars) would be not nearly so high—consistently about 4.3% over the time through 2020. The high rate of growth in the cost to students is a compensation for the sub-inflationary increase of state support.

The next slide [Slide 15] really dramatizes the continued effect of a "tuition complement" approach on students and families. The cost to students in tuition and fees would rise from the current figure of about 14% of median family income to nearly 30% in the year 2020. This figure should be interpreted largely in terms of the financial impact on middle class families and the probable political reaction to it. There are well-developed mechanisms for ameliorating, or even fully negating, the cost of tuition and fees for students from low-income families, but the middle class is largely unprotected from inflation in the cost of higher education in public institutions.
The income distribution for the institution in 2020 [Slide 16] becomes markedly different from the present. State support (in yellow) would drop to about 17%, while tuition and fees and external research support would both rise to about 30%. State support would move from being the largest income stream to occupying the third position.

Also [Slide 17], the educational sector (in yellow) would drop to about a third of the total budget and would fall below the size of the research sector (in light gray).

The good news of this model is this [Slide 18]: It would feed the "natural" growth of the university as that growth has been defined over the past decade, and it would preserve the public institution's ability to compete with private peers for faculty talent. The bad news is that the "tuition complement approach" is nowhere near politically sustainable over the horizon out to 2020, and it would undercut the essential public role of a public university. We have to look in a different way at what is likely to happen.

Let us move now [Slide 19] to a "political limit model," in which revenue sources other than tuition and fees evolve according to historic patterns, but the growth of tuition and fees is limited to a super-inflationary, but politically sustainable, level of 4%. The cost of education is defined in each year by available resources, with the difference between actual growth and "natural" growth being absorbed in the salary component.

Of course, the growth in the cost to students would be much lower in this model [Slide 20]. Again the figures are expressed by the total heights of the columns shown here. They rise from $5,600 this year, to about $9,000 in 2015, and to about $11,000 in 2020. Recall that the tuition complement model produced a figure above $20,000 for the year 2020.

Even though the actual cost to students would grow over time, it remains almost constant as a fraction of median family income, as one can see here [Slide 21].

The next slide [Slide 22] shows annual rates of change for three important factors. Of course, the cost to students in terms of tuition and fees (shown by the yellow columns) is limited to 4% by assumption. The cost of education (the gray columns) would grow at a slightly sub-inflationary rate of about 2.5%, while the salary component of the cost of education (shown in blue) would evolve at markedly sub-inflationary rates just above 2%.

We saw in considering the tuition complement model that the "natural" growth in the cost of education is about 4.3%. The political limit model would fund only about 2.5% of this, so there is a shortfall each year, and the uncovered fraction of the "natural" cost of education [Slide 23] grows cumulatively as you see here. It would become large, reaching a figure near 25% by the year 2020.
By 2020, the revenue picture for the model university would become very different from the present [Slide 24]. The state portion (in yellow here) would fall to about 19% from the current figure of 30%, while tuition and fees (in dark gray) would remain near the present proportion, just above 20%. External research support (the tall light gray column on the screen) would become, by far, the largest revenue stream, at 35%.

Also [Slide 25], the allocation of resources among major functions would shift strongly by 2020. Research (light gray here) would rise to 45% of the total institutional commitment, while the educational component (in yellow) would fall to just 30%.

The good news of the political limit model is this [Slide 26]: It would allow the university to maintain public support and would preserve affordability and access. Thus, it would — at least in the latter respect — allow the university to continue to fulfill its established social role. The bad news is that this model would tend to undercut the quality of educational delivery and would make the university progressively less competitive for top faculty talent, relative to private peers.

The sobering news is that this is probably what we in the public sector actually face.

If so, how is the public university likely to evolve through the year 2020? In my view, it is important, in addressing this question, to recognize the great difference in the health of the educational and research functions within the university. If the pattern of forces is unchanged — if research thrives through 2020 while teaching is squeezed — one can expect things like these [Slide 27]:

- There will be a tendency to separate the educational and research functions organizationally, both because of the increasing scale and complexity of research activities, and because it will become less feasible financially to commit research-active faculty members to the delivery of undergraduate instruction.

- Impetus will be added to create (or to enlarge) a special teaching faculty with lower salary costs per unit of instruction. This end can be achieved by employing teachers who are less competitive in the national talent market or by requiring heavier teaching loads. Either way, these members can be expected to have little connection to the research enterprise or to the evolution of the fields that are being taught.

- Political leaders, frustrated by the differences in financial strength of the research and teaching enterprises, may attempt to force reallocation of research-related resources into the teaching side. This kind of reaction would diminish the national competitiveness of the university's research programs, weaken the flow of research support, hasten the departure of the best intellectual leaders, and undermine the university's effectiveness in promoting the prosperity of the supporting society.
The growing primacy of research will begin to dominate institutional priorities with respect to the development of space and facilities and the hiring and promotion of intellectual leaders. The voice of science and engineering will become proportionately stronger, because these fields dominate the financial picture for research.

Some elements of this picture may be part of any future, but all in all, it is an unappetizing outlook, because this is a scenario in which we collectively abandon the formula by which America has built the world's most powerful institutions of higher education, and we move unconsciously to a totally different institutional concept. I cannot help believing that we must take steps to avoid this path.

Can a better outcome be achieved? Probably, I hope and believe.

The first place one would want to look is toward a change in the established trends that have been the basis of the models we have discussed. Realistically, there are only two possibilities [Slide 28].

By far the most effective would be an improved rate of funding growth from the states, but several things militate against that, not least the graying of the voting population. Given the enormous issues connected with health care, it is not very realistic to expect a long-term growth rate for state funding larger than the 3.5% rate of growth in personal income, and it is probable that we will not see even a growth rate as large as the general inflation rate of 2.7%. But any improvement would have a large positive impact, and it would relieve a lot of pressure, indeed, to achieve a rate between 2.5% and 3.5%. A steady focus needs to be placed politically in that direction.

The second possibility is to gain public acceptance of a growth rate for tuition and fees greater than 4%. I believe that this is possible only if the states or the federal government elevate financial aid for middle income students, not just for students from families of lower income. Some states have moved in that direction. Georgia's Hope Scholarship Program is the best-known example.

But we in higher education have no control over these things, so we must look to other steps that we can take to preserve the best of what we have achieved and represent. I have suggestions in two areas.

As we develop endowments, we should work harder to focus a larger fraction of them toward the quality of educational programs. Most endowments these days go toward research and scholarship support. Those are valuable things, too, but the educational programs are more endangered, especially if political pressure keeps the growth of tuition and fees strongly in check.
By far the most valuable advance would be to find ways to alter the model for educational delivery in a manner that supports preserved or improved quality, but reduced cost. I realize that this is very much easier said than done in our labor-intensive, talent-focused business, but we really do not have a choice. If the political limit model really does describe our future, we simply must reduce the rate of growth in the cost of education by 1.5% to 2.0% per year [Slide 29]. That may not be easy, but it is probably not really out of reach, especially if we keep a focus on the target. We might achieve it without sacrificing quality if we work imaginatively. As we do, we need to look for opportunities concerning both components of the cost of education: salaries and operating costs. Real success will also be applicable to private institutions, and there would consequently be a reduced need for us to worry about the public significance of divergent paths for these two sectors.

****

Finally, I come to your world and to the theme of this conference, "Teachable Moments: Learning to Support Learning." How can information technology help to produce a path to a future where public universities and public higher education can flourish? In my view, information technology probably offers the best hope for the answers we need, because, more than anything else in sight, it can support substantially changed ways of doing business. I am sure of the need for real alterations in patterns of service.

In fact, we have already used information technology to achieve such success with business services in our universities. I am dead certain that our UT Direct system, which provides web-based access to hundreds of institutional services, is giving much better quality of service to our students and parents, with lower annual growth rates in the costs for those services than would otherwise have been true. More along this line is possible.

The tough nut is educational delivery itself, which is so sensitive to a student's need for texture of experience, immediate feedback, and individual support. As technological capability grows, perhaps we can overcome some of the limitations of the past and present. I challenge you to keep working on the very factors that I just named: texture of experience, immediate feedback, and individual support.

I hope this presentation has illustrated for you how valuable your success would be to a whole society. At issue is the quality of opportunity for 80% of the young people of America. It is time to fight for them, and you may be the most effective agents in the effort. I wish I had the prescience and the skill to give you recipes, but I do not. Instead, I wish you luck.

Many thanks for your attention today. It has been a privilege to give this Clair Maple Memorial Address.