

Michigan Higher Education

Titles and Themes

Titles:

Runnin' on Empty

Themes

Economic transition

Underinvestment

Partnership

Personal Introduction

As many of you know, I am a scientist by training and background...indeed, I am perhaps the worst of all types of scientists...a burned-out theoretical physicist.

As such, I suffer from two character flaws:

i) First, I tend to a bit too candid in my remarks...

...I generally tell it like it is...

...or at least how I think it is...

ii) Second, I tend to be one of those folks who lives more in the future than in the present or the past...

My life as a scientist and engineer has been spent working on futuristic areas such as:

i) Nuclear rocket propulsion

ii) Laser-driven thermonuclear fusion

iii) Supercomputers

iv) robotics and artificial intelligence

Hence, perhaps it is natural that as we enter the 1990s, I should find myself looking once again to the future, facing the challenge of helping to build a University capable to serve our state and our nation in the 21st Century.

My Message

My message today will be suffer from both of my character flaws as a scientist/engineer...

...it will be a vision of the future...

...and it will be unusually candid.

In a nutshell, as I look to the future, I am sensing an ever-accelerating pace of change in our society, in our state, in our nation, in our world.

Yet I also fear that few have realized the enormous changes that our society is undergoing as it approaches the 21st Century.

We are becoming more diverse, more pluralistic as a people. Indeed, almost 90% of the new entrants into our workforce during the 1990s will be people of color, women, or immigrants.

Our economy and commerce are becoming every more interdependent with other nations as the United States becomes a world nation, a member of the global community.

And we are rapidly evolving into a new post-industrial society, in which the key strategic resource necessary for prosperity and social well-being has become knowledge itself, that is, educated people and their ideas.

The themes of change,

i) the growing pluralism of our society

ii) our evolution into a world nation, ever more tightly coupled to the global community

iii) and our rapid transition to a knowledge-based

economy
are not themes of the future...
...they are themes of today...
...and they are already dominating
every aspect of American life.

It is clear that the key strategic resource of our society
has become knowledge itself...
that is, educated people and their ideas.

Knowledge will play the same role that in the past were played
by natural resources or geographical location or
unskilled location...

In the pluralistic, knowledge-intensive, global
future that is our destiny, it is clear that the
quality of and access to
...education in general
...higher education in particular
...and great research universities
such as the U of M most
specifically of all
are rapidly becoming the key determinants
of the strength and prosperity of our state.

But here there is some good news...
America is particularly well positioned,
since our research universities are clearly
the envy of the world, as evidenced by the
extraordinary demand by graduates of
every country to see advanced education
and training in the United States.

Indeed, higher education is not only our nation's
highest quality, but also probably also its most
competitive industry as measured by the
test of the marketplace!

Further, Michigan is particularly well-positioned
from this perspective, since our state has
built over the years not only one of the
strongest systems of public higher education in
the nation, but possesses several of the world's
leading research universities.

But, now for the bad news...and the candor...
We--that is YOU AND ME--seem hell-bent, both as a nation
and as a society, on destroying the extraordinary
resources represented by our research
universities, just as we are entering an
age of knowledge in which they will become
our most valuable resources.

Indeed, a tragic combination of public
misunderstanding, short-sightedness,
and downright selfishness, is now threatening
to constrain and hamper our universities...

Leading to the frightening prospect that we will
manage to destroy our international competitiveness
of higher education just as we have many other
American industries.

In my home state Missouri we have an old saying
that the best way to get a mule to move
is to first hit it over the head with a 2x4 to get its attention.

Now that I have your attention,
let me explain more clearly what is at stake here...

Let me ask a few questions:

How many of you graduated from UM?

How many of you have relatives who graduated from UM?

How many of you have either been treated yourself or had relatives treated at UM Medical Center?
How many of you have been entertained by cultural events of UM?
How many of you are Michigan Wolverine fans?
How many of you have benefited from economic development activities of the University?
(While you may not realize it, you all have...)
How many of you have benefited from the research activities of the UM?
(The fact that you are not speaking German or Japanese...
...as a result of having lost WWII...
...or suffering from diseases such as polio
...indicate that you all have...)

The Many Michigans...

What images come to mind when you hear the words "The University of Michigan"
When we hear the words "The University of Michigan",
We think of those traditional images of any college...

- Great faculty challenging and exciting students in the classroom..
- Students studying in our many libraries
- Scientists toiling away late in the evenings in our laboratories.....stiving to understand the universe
- Scholars pouring over ancient manuscripts in our collections of antiquity

Probably the Michigan of those marvelous Saturday afternoons in the fall as 105,000 fans cram into Michigan stadium to watch the Wolverines...
or the pride you felt when Michigan won the NCAA championship in one of the greatest Cinderella moments in sports.
Perhaps you think of the Michigan of the Big Chill...
The tradition of student involvement helping to awaken the conscience of a nation...
There is also the caring Michigan as seen by the over 750,000 patients each year who are treated by the UM Medical Center,
Or the Michigan as Silicon Valley East, working to build the high-tech infrastructure necessary to create new companies and new jobs...as evidenced by the \$5 B industry in industrial automation now building up in the Ann Arbor-Detroit-Warren crescent...
Or the Michigan which attracts to our state almost a quarter of a billion dollars of federal R&D each year...not to mention many of the world's leading scientists and engineers
Or the Michigan of the "cutting edge",
which conducts the research that changes our lives...
as evidenced, for example, by announcement earlier this month that a Michigan team had identified and cloned the gene responsible for cystic fibrosis,
thereby opening up the possibility of saving thousands of lives every year.
And, of course, there is the Michigan as the educator,
attempting to provide, in the worlds of one of our first presidents "an uncommon education for the common man"
an education as good as any available
in the world
for all citizens, regardless of race, creed, and socioeconomic background.
It is important to note these different perspectives of the

University because all too often we tend to think of these marvelous and complex institutions in one-dimensional images that reflect only our particular interests or needs of the moment...
...when we read about student unrest on our campus...
...or open the tuition bill for our son or daughter...
...or see Michigan get two kickoffs run back on them by Notre Dame...

Indeed, my thesis today is that the American research university...of which the University of Michigan is not only the prototype, but one of the leading examples...
is rapidly becoming the key player in determining the strength and prosperity of our state and our nation.

Themes of Pluralism, Globalization, and Knowledge

Our universities today are at a particularly important moment in history, since they are being called upon to educate students who will be spending most of their lives in another century...citizens of the 21st Century, if you will.

And while it is always risky to try to speculate about the future our students will find, three themes of 21st Century America seem clear...

i) It will be a future in which our nation becomes a truly multicultural society, with a cultural, racial, and ethnic diversity that will be extraordinary in our history

In which those groups we refer to today as minorities will become the majority population of our nation in the century ahead...

In which women take their rightful place as leaders of America...

ii) It will be a future in which America will become "internationalized"... in which every one of our activities must be viewed within the broader context of participation in the global community...

Whether through travel and communication, the arts and culture, the internationalization of commerce, capital, and labor, we will become increasingly interdependent on other nations and other peoples.

Further, as the destination of roughly half the world's immigrants, the United States is rapidly becoming a "world nation" with not simply economic and political but strong ethnic ties to all parts of the globe.

The 21st Century will be the first post-European century in American history.

An absolute majority of young people born in US in the 21st Century will be born of parents of other than European background...
Asian, African, Hispanic

And this will represent a major change in the character of our society.

iii) The Age of Knowledge

But there are even more profound changes underway... Looking back over history, one can identify certain abrupt changes, discontinuities, in the nature, the very fabric of our civilization...

The Renaissance, the Age of Discovery, the Industrial Revolution

There are many who contend that our society is once again undergoing such a dramatic shift in fundamental perspective and structure.

Today we are evolving rapidly to a new post-industrial,

knowledge-based society, just as a century ago our agrarian society evolved through the Industrial Revolution. In a sense, we are entering a new age, an age of knowledge, in which the key strategic resource necessary for our prosperity, security, and social well-being has become knowledge--educated people and their ideas. Key element in transformation, is the emergence of knowledge as the new critical commodity, as important as mineral ores, timber, and access to low skilled labor were at an earlier time. This new critical commodity knows no boundaries. It is generated and shared wherever educated, dedicated, and creative people come together...and, as we have learned, it spreads very quickly. The knowledge revolution is happening worldwide and at a very rapid rate.

General

Transition from linear to nonlinear world
...from a world of gradual change to
a world of revolutionary change
Deterministic to stochastic
"Ill-posed"--unstable dependence on initial
conditions or perturbations
("butterfly effect")
Unusual importance of young or newly-initiated
in triggering change.

Concerns...

Needless to say, these same challenges of pluralism, of globalization, and of this age of knowledge that is our future will pose great challenges and demand similar changes in our state and our nation. The America of the 20th Century that we have known... was a nation characterized by a rather homogeneous, domestic, industrialized society... But that is an America of the past. Our students will inherit a far different nation... a highly pluralistic, knowledge-intensive, world nation that will be the America of the 21st century. Of course, these themes of the future, the changing nature of the American population... our increasing interdependence with other nations and other peoples... and the shift to a knowledge-intensive, post-industrial society. Are actually not themes of the future...but rather themes of today... ...in a sense, I have simply been reading the handwriting on the wall... Yet I also fear that few have realized the enormous changes that our society is going through as it approaches the 21st Century. Indeed, I am personally convinced that we face a very unusual period of challenge in the decade ahead...a watershed, in a sense, from which we can either emerge as a world leader...or as an also run...an economic backwater. My central theme is that education, broadly defined, will be the pivotal issue in determining which of these two alternative futures will be Michigan's...and America's. Indeed, I am absolutely convinced that the dominant issue of the 1990s will be the development of our human resources. Previous economic transformations were closely associated with major public investment in infrastructure such as railroads, canals, electric networks, and highways. In the coming economic transition, an equivalent infrastructure will be an educated population. Hence the challenge before higher education is the

challenge before America...
And the actions we must take...
...and the investments we must make...
...will clearly determine our capacity to
respond to this future...

Signs in Michigan

Look at the prosperous areas in Michigan

Grand Rapids
Oakland County
Grand Rapids

and contrast these with impoverished areas

Detroit
Battle Creek
Benton Harbor
Saginaw
Muskegon

Real difference stands out: education!!!

"Most economically successful areas are those
with educated and highly skilled labor force.

In Ann Arbor, 90% of people 25 or older have
completed at least 12 years of school:

Saginaw: 57%
Flint: 60%
Jackson: 63%
Lansing: 72%
Kalamazoo: 73%
Grand Rapids: 67%

The "Pipeline Problem"

But here we face very serious challenges...

...clouds on the horizon...

and they involve the knowledge and skills of our people

Yet here we are in real difficulty, because we are not
educating enough new people to maintain the
strength and prosperity of our nation.

This has become known as the "pipeline problem", since
it involves the full spectrum of education,
from preschool through K-12 through higher education
to lifelong education.

K-12 Education

By any measure, K-12 is in serious trouble.

We are "A Nation At Risk"...

Our education system simply has not responded to the
challenges of the age of knowledge...

Note: it is bad enough that...

10% of Americans are illiterate
25% now fail to complete high school

Our students bring up the rear in most international comparisons

Compared to students in 15 other nations, US high school
seniors scored among the bottom fourth on calculus and
algebra achievement tests.

International Association for Evaluation of
Educational Achievement (IEA)

US was 14th of 17 for 8th graders

US was 11-13 of 17 for 12th graders

Bottom 25% of US students were scoring at
chance level, indicating that they were
scientifically illiterate

The coins of the realm in the age of knowledge will be
science, mathematics, and technology...

But most American high school students are not developing
these skills. Only 7% of the 17 year-olds tested are

prepared for college-level science courses.

We are a sports-oriented society,
and we like to frame issues in the language of the playing field
like "being Number one".

But folks, this isn't a game we are talking about today,
this is a deadly serious matter of raising
a generation of American who will be able to
hold their own in an increasingly competitive,
increasingly complex, increasingly science-oriented world.

The 13 year olds who were tested in this study
will be in college in a four years...
those of them who don't drop out first,
and will be in the work force in ten...
those of them who end up well-enough educated
to get and hold a job.

Looked at in those terms, the lack of preparation
for further education and future employment
that these American teenagers demonstrated
is nothing short of frightening.

We hear along about the 21st century, but this sounds remote.
These kids that test at the bottom of the heap
in world terms will be the backbone of our labor force
at the turn of the century...
...and will be running our country in 2025!

College Education

While higher education in America is the strongest in the world,
we also face serious human resource problems here:
Dominant factor controlling the production of college graduates is the size of
the college-age population, which will decline until the late 1990s

Traditional source of college students is declining
25%-30% falloff in HS graduates by 1992

Composition of college age population is also changing...
By 2020 30% will be composed of Blacks and hispanics...
students who have not traditionally chosen S&E careers.

The fastest growing pool of youths has the lowest
participation rate in college and the highest dropout
rate in high schools -- not to mention the least
likelihood to study science and math.

This shortfall has been compounded by the alarming
recent trend for students away from knowledge-intensive
majors such as science and the liberal arts to
"let me get out fast so I can become an investment
banker and make a bundle" majors.

Over period from 1966 to 1987, proportion of students
who intended to major in physical sciences has
dropped from 3% to 1.3%; in mathematics, the
decline was from 4% to less than 1%.

Freshman plans to pursue computing careers is down more
than two-thirds since 1982, from 8.8% down to 2.2%.

After recording big increases during late 70s and
early 80s (increasing to 12%), engineering has dropped
by almost one-third since 1982 (now down to 8.6%).

Graduate Education

Over the next two decades, PhD replacement needs will
double in all sectors (academic, industry, government)
For example, 25% of engineering faculty will retire in next 6 years

On the basis of BS production alone, PhD production will
decline by 20% in the decade after the mid-1990s.

More than 60% of E&S PhDs are now foreign
Indeed, foreign students account for nearly 85% of growth.
It is bad policy to be dependent on an unpredictable resource

and not to be able to meet more of our needs with American talent.

Conclusions:

- i) If we couple demographics with student preferences, we have got a timebomb on our hands...
- ii) Just as we are becoming increasingly dependent on knowledge-intensive fields...and educated people, we are facing serious shortfalls in the availability of college graduates in key areas.
- iii) It is clear that our strength as a nation will depend on our ability to attract more talented students into these fields

The Dangers of Underinvestment

Perhaps the most ominous dark cloud on the horizon of all is the increasing evidence that we as a people we have not yet recognized either the nature or the magnitude of the investments we must make to achieve prosperity in an age of knowledge.

While we all give the "age of knowledge" lip service, the evidence suggests that in reality, we long for a return to the agricultural and manufacturing economies that once made us reach...

1. For over two decades, US investment in civilian R&D has dropped while that of our competitor nations has risen rapidly. US investment in civilian R&D as a percent of GNP is now less than that of any other developed nation
2. Over the past several years, numerous studies have suggested that Michigan is seriously underinvesting in its "knowledge infrastructure"...by as much as 30% to 40% relative to other states.
3. The challenges faced by K-12 education were well-summarized in a recent editorial in a Detroit paper:

"If Michigan is to prepare tomorrow's workers for tomorrow's jobs, major structural changes are needed in public education, both in classroom quality and in the adequacy and fairness with which the system is financed."

"What is required is a strengthened commitment in Lansing to school finance reform and improving the quality of basic and higher education, and a greater political willingness to stand up to special interests who would thwart those long-term goals to pursue short-term objectives. The opportunity to eliminate chronic unemployment in Michigan may be never more within our grasp than between now and the end of the century. The alternative is a growing mismatch of job opportunities and job training that threatens not only the state's recent prosperity, but its very solvency."

(Free Press editorial, 1/5/89)

Earlier this year we learned that Michigan ranks 48th in the nation in the rate of retention to H.S. graduation.

I cannot believe that we as a people can accept that kind of performance.

Yet, we continue to be paralyzed in our efforts to come to grips with school finance reform or major structural changes necessary to achieve quality in public education.

4. The situation is somewhat different yet no less acute for higher education in our state.

While the quality of Michigan higher education today is very high, the long term prognosis remains guarded...

Michigan Rankings:

Total state appropriation per student (CC + U): 46th
Total state appropriation per student (4 Y): 32nd
State appropriation per capita: 24th
Increase over past 10 years: 45th
Increase over past 2 years: 42nd

Over the past two decades, the State of Michigan has dropped from the position of a national

leader (ranked 6th in 1965) in its public support of higher education to among the lowest in the nation (ranked 37th in 1989)

- i) Appro per student 43rd
- ii) Appro as % of tax 37th
- iii) Two year % inc 42nd
- iv) Ten year % inc 45th

Our state has dropped from 6th in the nation in its support of higher education to 35th over the past two decades... into the bottom third!!!

As a highly industrialized state undergoing a dramatic change to a knowledge-intensive economy, Michigan is critically dependent upon quality higher education. Yet Michigan has now fallen into the bottom ranks of industrialized states in its support of these critical resources.

We are being outspent by 30 - 40% in state support per student... Not simply by prosperous states like California...but by neighbors such as Indiana and Ohio!

Indeed, one measure of the importance of higher education in the state budget is the ratio of tax dollars per enrollment ratio... a measure by which Michigan ranks 47th in the nation!

Whether measured in terms of state appropriation per student or fraction of our tax dollars directed toward higher ed, it is clear that in comparison with other states, our present level of public support is simply inadequate to maintain over the long run a system of higher education that is competitive on a national basis.

5. Threats to autonomy...

But political efforts to set tuition levels in Lansing rather than on our campuses raise another even more serious threat.

The traditional autonomy of governance of Michigan's public universities has been the critical factor in sustaining program quality while continuing to serve the state in spite of sharp erosion in public support.

This autonomy allowed Michigan's universities to take strong internal actions, reallocating resources, redefining priorities, and increasing tuition levels to partly compensate for reduce public support.

In recent years, however, even as state appropriations have been declining, the political pressure to restrict tuition levels to artificially low levels has increasingly threatened this autonomy.

While such political efforts have been portrayed as an effort to protect access (affordability) to public education in Michigan, they have had just the opposite effect by slashing financial aid programs.

It is clear that these forces from Lansing are being driven by not by concerns about access, but rather by fears that the Michigan Education Trust program, a prepaid college tuition program developed and financial on the assumption of low tuition levels, will become financial insolvent.

Governor's Higher Ed Taskforce

The Commission clearly identified the fact that "public higher education in Michigan is at

a crossroads”.

It noted that per capita support had fallen from
from 1979 to 1983 from 14th to 37th.

Further, it noted that Executive Order cuts
had played havoc with planning, resulting in
maintenance deferrals, equipment purchase cuts,
and eroded support for fundamental activities--
all at a time when other states were increasing
support for their systems of higher education.

It also credited Michigan's universities with launching
a systematic process of improving efficiency
and redirecting the system. In particular, it
noted that from 1980 to 1984, over 100 programs
were eliminated, thereby indicating the
creativity and adaptability of the system.

It concluded that if nothing was done, higher ed
in Michigan was likely to face a future in which
mediocrity is coupled with inaccessibility, a
totally unacceptable results for Michigan's citizens.
“To provide wide access to a higher education
system of mediocre quality is to perpetuate a hoax
on Michigan's citizens”.

What has happened to our priorities?

What is wrong here???

Who is to blame???

Our schools and colleges???

Certainly they must take stronger actions to improve
quality...and strive harder to operate in a more cost-effective
manner...

But their present situation reflects as much as anything
else our own personal priorities...

...as parents

...as volunteers...

...as citizens and voters...

What about our elected public officials???

It is certainly not their fault!!

It is clear that our elected leaders, whether in Washington
or Lansing or our local communities...

Would like nothing better than to make education their
highest priority.

To become

...the Education Governor

...or the Education Party

...or the Education President

They understand clearly the importance of investing in our
human resources, and they are searching valiantly
for creative ways to improve the quality of our schools
and provide adequate and equitable financial support.

But they also face formidable constraints, since in the
end they must be responsive to the wishes of the
electorate...and face it, gang...the electorate today
says:

i) no more taxes...

ii) no more crime...

iii) no more cuts in social services or national defense...

and our public officials have no choice but to respond.

No, the real finger of blame for the crisis we face in education should be pointed,
as Michael Jackson would say, at "The Man in the Mirror"...

...at you and at me...

We are the ones who fail to demand the highest quality
in our educational institutions in Michigan...

We are the ones who steadfastly resist a tax base adequate to support both our needs and desires...and provide an adequate level of support for quality education in this state.
We are the ones who block any effective efforts to achieve equitable financing of education in Michigan.
We are the ones who generally are too busy to help our own children in their studies or participate in their activities.
And we are the ones who insist on building more and more prisons, even when we know that this investment comes out of the hide of education and social services-- which are, of course, the only true long term solutions to crime!
We have become consumers of education, not investors in the future.

Myth and Reality: The Costs of Education

Let me give you a very concrete example of the way in which this rampant consumerism now threatens higher education...
...and that has to do with the efforts to artificially constrain the costs of tuition.

Today, both across this state and across the nation, we find a rising tide of resistance to college tuition levels.

In fact, there are strong forces encouraging government at both the state and federal level to intervene and essentially fix tuition
...to fix prices and control the marketplace, you will...

So what is so dangerous about this trend?

Won't it keep those greedy colleges from gouging students and their parents?

Won't it keep a college education affordable for those of limited means?

Let me destroy a few popular myths....

Myth1. Tuition levels in Michigan's public universities are high?

Absolute rubbish:

Reality: Tuition levels in Michigan's public universities are quite low and comparable to those of most other public institutions throughout the nation.

Background:

1. The roughly \$2,000 to \$3,000 of annual tuition and fees charged to instate undergraduates in Michigan's public institutions represents an incredible bargain when compared to all other alternatives--public or private education, in Michigan or across the nation.
For example, it costs more to attend Cleary College (\$4,163) to learn secretarial skills than to attend the University of Michigan (\$2,876)! Michigan students face far higher tuition levels at peer public institutions (UC-Berkeley tuition runs \$9,000 - \$10,000) and at peer privates (Harvard, Stanford, and Cornell tuition run \$14,000 - \$15,000).
Another calibration: The cost of a degree at a public institution in this state is less than the cost of a new car!...
Further, this investment will be paid off in only a couple of years following graduation because of the very high earning capacity of our graduates.
2. Because the absolute tuition levels at public institutions are so low, it is very misleading to attempt to compare costs through tuition increase percentages. (A large percentage of a small number is still a small number...) Further, the real cost of higher education at public institutions is NOT tuition. Rather the primary costs of public education in Michigan are attributable to room, board, books, travel, and other expenses. Indeed, tuition represents less than 25% to 30% of cost of a college education to Michigan residents.

Myth 2. The increasing tuitions at Michigan's public universities are pricing them out of the reach of

all but the very wealthy

T or F: Again, absolute rubbish!

The reason, of course, is the presence of effective financial aid programs.

For example, at U of M, we have a policy that
guarantees that ALL MICHIGAN RESIDENTS ARE
PROVIDED WITH ADEQUATE FINANCIAL AID TO
MEET THEIR NEEDS UNTIL THEY GRADUATE.

In fact, roughly 65% of our Michigan resident students
receive some form of financial aid
(amounting to \$140 M last year.)

Further, families with incomes up to \$60,000 are
eligible for some form of financial aid.

(In fact, if you have 3 kids, up to \$80,000 is eligible.)

**Myth 3: Surely the fact that tuition rates are increasing
faster than the CPI reveals that universities are not
cost-effective and are exploiting the marketplace.**

1. While it is true that tuition has increased more
rapidly than the CPI, it is important to note that
resident tuition levels at public institutions throughout
the nation were essentially at token levels until the
late 1970s when public support began to wane.
It has been clear public policy that the nominal
tuition levels charged to resident students at
public institutions should be increased somewhat
to reflect a shift in support from general tax dollars
to those who benefit the most--and who most can
afford to pay. Nevertheless, in absolute terms,
these tuition levels are still extraordinarily low
(\$2,000 to \$3,000 per year at public institutions,
compared to \$10,000 to \$15,000 per year at
private institutions). Hence percentage increases
are misleading because of the unusually low
absolute level of public university tuitions.

2. Several other points:

The CPI measures things like the costs of housing, food, etc.

But suppose you were required to live in a
bigger and bigger house each year...
then, don't you think that your costs would
increase more rapidly?

Well, that is just what is happening in higher
ed since in many fields, the amount of new
knowledge doubles every five years or less.

Is it not understandable, therefore, that both
the amount of education...and the costs of
that education...should similarly increase
in real terms...

Computers, laboratory instrumentation,
medical devices,...all so very necessary
to the education and training of tomorrows
professionals...all cost money...

3. Further, even the percentage increases in tuition
have lagged the percentage increases in disposable
family income over the past two decades.

For example, over the past 15 years, tuition has increased
232% while personal income has risen 252%.

Hence, there has been very little change in the percentage
of income required to meet tuition costs. In fact, college
expenses have risen far more slowly than many other
costs, such as housing, health care, automobiles.

4. Furthermore, dramatic increases in financial aid
have extended educational opportunities to many

who could never have afforded a college education in years past. Hence, in a very real sense, a college education at the UM is more affordable today than it has ever been before.

5. In Michigan state appropriations have exceeded the CPI in only 3 of the past 10 years. Indeed, over the past decade, the State of Michigan ranks 40th nationally in appropriation increases--and last among the large industrial states. In recent years, our state has continued to sink further below the national average in its support of higher education. Hence, a combination of tuition increases and program cuts has been required to balance budgets. Without tuition increases to offset the erosion in tax support, the quality of higher education in Michigan would have been seriously damaged.

Myth 4: The price of a college education is no longer worth it.

Wow!!! Absolute nonsense

The money invested in a college education results in about a 10% return annually due to higher salaries commanded by college graduates.

That amounts to over \$500 K in constant dollars...and in the knowledge intensive professions it is far higher

Further, at a leading university such as UM, we are investing roughly \$25 K per year per student in creating the type of learning environment necessary to prepare our graduates for the 21st Century.

By way of calibration, our present instate tuition levels are \$3,300.

We ask parents to contribute 12 cents on the dollar!

Not a bad deal, I'd say!

Myth 5: Hold on now! My taxes pay for the college education of my children...

Balony!!!

- i) UM share of state tax revenue has dropped by 42% over past 20 years (from 3.74% to 2.15%)

- ii) Hence, today, only about 2 cents of each tax dollar goes to UM
In other words, someone paying \$5,000 per year in state taxes will be paying only about \$100 for UM

More specifically, the typical parent over their entire earning career, will pay less than \$3,000 of taxes for the UM (assuming 30 years of earnings)...

(NOTE: We can scale this for all of higher education using the 23% UM share...

...hence this implies \$400 per year and \$12,000 per career

...a bit closer to the tuition...but a long shot from real cost

By way of comparison, the cost of a Michigan education is

UG Tuition: \$12,000

UG Cost: \$50,000 to \$80,000 (depending on how one counts)

Hence it is clear that others must be shouldering the real costs for educating one's kids in a Michigan public university...not the taxpayer himself

- iii) And, as I noted earlier, over the past 20 years, Michigan has fallen from 5th in the nation to the bottom third in its support of higher education.

Hence, while you may be paying lots of tax, not much of it is going to support higher education!

Bottom Line

Question 1: How good do you want your institutions to be?

Higher education is one of the most competitive industries in America, with over 3,500 institutions competing for students, faculty, funds...not to mention the international marketplace.

(We not only compete against
Hence, if you tell me how good you want an
institution to be, then I can give you a pretty
accurate idea of how much you will have to invest.
Then that determines an investment per student
and per faculty that we will have to make.
Do you want the University of Michigan to be as
good as:

- ...Harvard or Stanford?
 - ...then it will take about
 - ...\$50 K per year per student
- ...Berkeley or UCLA
 - ...about \$30 K per year
- ...Ohio State or Minnesota
 - ...about \$18 K per year
- ...Mississippi or Montana
 - ...about \$10 K per year
- ...or Southern North Dakota State at Hoople...

Incidentally, it is clear that if you want to pay
only bargain-basement prices, then you are
going to end up with bargain-basement quality.

Question 2: Who is going to pay for this quality?

- The state taxpayer?
 - The federal taxpayer?
 - Parents?
 - The student (through loans and deferred payments)?
 - Private philanthropy from
industry, foundations, alumni, friends?
- Unfortunately, there are no other options.
Someone has to pay.
But it seems clear that nobody is willing to step up and
accept this responsibility.

What's Going On Here?

Something has changed in America...

You know, I was brought up in a long tradition in
which one's first responsibility was to one's children
My parents scrimped and saved for my college education...
...and my wife and I have done the same for our
daughters (who, since they attended eastern
private universities, have taken essentially all of the
savings we have been able to muster over
the past 20 years)

Saving for a college education came first...

...before a house, before a fancy car, before an exotic vacation

But today's generation is different...

...the "me generation" of the 1960s has grown up into
comfortable Yuppiehood...

...it is bad enough that they have not saved
for their children's college education

...and not supported adequate tax programs
to support higher education

...but they have actively encouraged government
at both the state and federal level to intervene
in an effort to hold tuition levels to unrealistic
low levels...

(either not realizing or perhaps not caring that
they were undermining the quality of the
education their children would receive at these
bargain-basement prices--and depriving many
others from less fortunate backgrounds of the
opportunity for a college education because of

the erosion of financial aid programs in the
face of inadequate tuition revenue).j
Our approach to education...like to so much else in life
these days...can be summarized by that T-shirt slogan:
"Eat dessert first, life is uncertain"
We see ourselves caring about the future, but we are
not preparing for it.
"American's look ahead 10 minutes while
Japanese look ahead 10 years..." (Morita, Sony)
"The last ten years have witnessed the substantial abdication
by our governments of their responsibility in critical
society areas, including education". When matched
against the Japanese commentary, it is virtually
cause and effect.
Without the opportunity for all Americans of limited or
virtually no real income to obtain the benefits of an
outstanding education, the class gap will continue to grow.
And we will develop an educational elite in the 19th Century
European tradition, to be sure, with all of its unfortunate results.
Japanese trade negotiations:
US should upgrade schools, invest in scientific research,
close the Federal deficit, and take other drastic steps
to improve American industrial competitiveness.
"If the US wants Japan to change its system, the US must
be more ready to correct its own shortcoming. We can't
solve our trade imbalances looking at Japan alone."
American high schools and colleges must upgrade the
teaching of mathematics, science, and foreign languages.
Yet the writing on the wall could not be clearer:
As we prepare to enter the Age of Knowledge, our ability to sustain the
strength of our state and our nation...to achieve the quality of life for
our citizens...will be determined, more than any other
factor, by how we develop, nurture, and educate that most
precious of resources, our people.
Hence, let me conclude my brief remarks by tossing at you--and at me--
several challenges:

Transition

Undergraduate Education
Michigan is making a transition from
an industrial to a knowledge-based economy
What can we do in the near term to sustain our
investments in key resources until
the new economy builds strength
We need to form a partnership...
universities
states
parents
all making sacrifices and commitments
UM is willing to take responsibility for our role
...producing better graduates
...better linkages to the private sector
But we ask that the state and parents do the same.

Concluding Remarks

To Us...

In a very real sense, our state has entrusted to us its most
valuable resources...its youth...and its future.
To be responsible stewards of the public trust, it is clear
that we must strive to achieve greater cost-effectiveness
in our use of public funds...and I can assure you that we
intend to do just that.
But even beyond this, we must become staunch guardians

for the quality of our institutions...
For in education, as in every other aspect of American life,
quality will be the key to our future.
Hence, to us falls the responsibility of taking the forceful and
courageous actions necessary to sustain and enhance
this quality...in the long run the people of this state
both demand and deserve nothing less!

To You...

Higher education represents one of the most important
investments a society can make in its future...since
it is an investment in its people...
It is indeed the case that our state and our nation have developed
the finest systems of higher education in the world...
But we must also remember this resulted from the willingness
of past generations to look beyond the needs and desires of the
present and to invest in the future by building and sustaining
educational institutions of exceptional quality--
Institutions that have provided those of us in this gathering
today with unsurpassed educational opportunities.
We have inherited these marvelous institutions because
of the commitments and the sacrifices of previous
generations...and it is our obligation as responsible stewards--
not to mention as responsible parents--to sustain them
to serve our own children and grandchildren.
It seems clear that if we are to honor this responsibility
to future generations, we must re-establish the priority
of both our **personal** and our **public** investments in education,
in the future of our children...and hence in the future of our
state and our nation.

The Challenge to Us All...

Today Michigan faces serious challenges that
will clearly determinine its future prosperity
and well being...
the challenge of pluralism...
the challenge of participation in a global community...
the challenge of the Age of Knowledge
the challenge of change itself...
If we are to respond, we simply must reorder the priorities of this state...
We must shift away from the temptation to
address only the needs and desires of the moment
And, instead, we must begin to make some of the key investments
necessary for the long term...
The key investments in our people...
in our children...
Michigan continues to be blessed with abundant natural resources,
a people of great strength, and a system of higher
education of a quality envied by the rest of the
nation...indeed the world!
But, the writing is on the wall...
If Michigan is to prosper in the age of knowledge
that is almost certainly our future, we must join together
now to restore both our public and
personal investments in education...
...in our people and their ideas...
...in our children...
...and in our future