

Society Bank's "Lunch & Learn"
Sheraton Boardwalk Inn - Ann Arbor
February 9, 1993

"Michigan's Future: It's Up to Us"

Introduction

Good afternoon. I want to thank Society Bank for inviting me to speak to you today as part of their "Lunch & Learn" series.

Today I'd like to offer my perspective on the future of this community, the State of Michigan, and this nation.

Over the last year, I've talked extensively about our state's very serious structural problems. I have elaborated on many of the painful symptoms of this underlying illness, including the deep-rooted problems with our economy, the continuing deterioration in our technological leadership, and the problems with our educational system.

All of us have been heartened in recent weeks to learn that signs of an economic recovery are taking hold. Some of the recent statistics have forecast increased growth, the best forecast in ten years, we're told.

All of this short-term news is good. But the uptake in the economy masks our more systemic problems. We still have a lot of work ahead of us before we declare the patient cured. We need to think more critically about what we are really up against.

Allow me to suggest some of the challenges for change that face us...and then point to some possible solutions.

Challenges

Challenge One: Quality and Competence

You would think that the lesson we should have learned during the 1980s--in Michigan of all places--is the importance of quality in everything we do, in everything we buy, sell, and produce.

It is this culture of competence--a set of attitudes, expectations, and demands--that is often missing in America today. Ultimately, competence requires that people and institutions be held accountable for their performance. Competition helps improve

performance. But too often we spend our time trying to protect ourselves from accountability and competition.

Further, we fall victim to those age-old forces of populism--a distrust of expertise and excellence. Dr. William Hubbard, former CEO of Upjohn, used to point to one of the great character flaws of the Midwest as "our extraordinary intolerance of extreme excellence."

We see these character flaws as well when it comes to key investments in our people, such as education and worker training. We seem hell-bent on insisting on bargain-basement prices, even if it means bargain-basement quality. A few years back I actually had a state official say to me that quality was a luxury that students had no right to expect from a public university. If they wanted quality, they could pay the extra price and go to a private university. The guy who said this had gone to Harvard. I suppose this was his version of "Let them eat cake."

Challenge Two: Investment

The real issue is thinking long-term, providing for our future rather than spending every available dime or borrowing to take care of immediate needs and wants. By almost any measure, our nation lags behind all other industrialized societies in our willingness to invest in the future, whether it is in a new manufacturing capacity or in infrastructure, or in our people.

The 1980s witnessed an almost unprecedented transfer of wealth to the richest people in the nation, coupled with the growing economic disaster and social disorganization of the poorest. Of all industrialized nations, the U.S. has the largest gap in income between the richest and poorest fifth of its population. We have seen this pattern before in developing countries and pre-World War I Europe. But who would have dreamed we would see it here in America?

Challenge Three: Education

In this Age of Knowledge the skills of our work force and the quality of our infrastructure will give us the capacity to compete in the new world economy.

The most ominous dark cloud on the horizon is the increasing evidence that as a people we have not yet recognized either the importance of education or the magnitude of the investments we must make to achieve prosperity in the Age of Knowledge.

At the national level, per student public expenditures have now dropped below those of eight other nations, including Sweden, Norway, Japan, Denmark, Austria, Germany, Canada, and Switzerland. The same is true of colleges--both federal and state governments have backed away from higher education, which has seen the lowest increases in thirty years. At a time when other nations in Europe and Asia are investing heavily in education, we seem to be pulling back, becoming consumers rather than investors in our future.

It is clear that major structural changes are needed in K-12 public education, both in classroom quality and in the adequacy and fairness with which the system is financed. Yet, we continue to be paralyzed in our efforts to come to grips with either school finance reform or the major overhaul of primary and secondary education necessary to improve quality.

The situation is somewhat different, if no less acute, for higher education, particularly in the State of Michigan. While the quality of our public universities is still high, we are at risk. Over the past twenty-five years, our state has dropped from a position as a national leader to among the lowest in public support for higher education.

Last year, despite an effort by the Governor and the Legislature to place a priority on the support of education, we were cut yet another 2.5 percent in our baseline budget. Recently, we have heard that education will be exempted from Executive Orders cut. We are grateful.

But what is really wrong here? At the heart of it is a gradual erosion of the fundamental principle that since society as a whole benefits from public higher education, the costs of such education should be supported primarily through general tax revenues. Instead, we have come to view a college education not as an investment in our nation's future, but as just another consumer purchase that should be supported by user fees--tuition--paid by those who benefit most directly. We continue to mount strong financial aid programs, resulting in campus populations that are more ethnically and socially diverse than ever. But the demand for these resources is rapidly outpacing what institutions can provide.

We simply must find a better way to deliver educational and financial resources to the people who need them, and to put the public back in public education.

Just last week, the Census Bureau reported that people with post-high school degrees earned an average of \$2,231 monthly,

compared to \$1,077 for those with a high school diploma. This is strong evidence about where our economy is headed.

As a highly industrialized state, undergoing a dramatic change to a knowledge-intensive economy, Michigan is critically dependent upon quality higher education. We need well-educated citizens and creative ideas.

Challenge Four: Creativity and Productivity

During the past decades we have diverted too much of our resources to non-productive ancillary activities such as litigation and financial gymnastics. In the United States we *want to make quick money*. In Japan and Europe they want to *make products* of excellence because they know this pays a far greater long-term return.

The professions dominating the late 20th Century have been those that rearrange wealth rather than create it: law, business, accounting, politics. Higher education must shoulder some of the blame for this. But the key to the future, to the twenty-first century, is creativity.

The driving forces of our society will be provided by people who want to create, by inventors, builders, architects, engineers, artists--people who build and make things. We must place a premium on these activities.

We must re-define, in our minds, what manufacturing means, putting the emphasis on high quality goods and services. This is the era of knowledge manufacturing, where the production of goods and services requires high skills and critical thinking.

Challenge Five: Civic Virtue

Both the pace and the nature of the changes occurring in our world today have become so rapid and profound that our present social structures--in government, education, the private sector--are having increasing difficulty in even sensing the changes (although they certainly feel the consequences), much less understanding them sufficiently to allow institutions to respond and adapt.

Perhaps nowhere is this more obvious, or more disturbing, than in government itself. For some time, the polls have been indicating that, as usual, the American people are way ahead of most of their political leaders, both in understanding that we have fundamental problems and in being willing to sacrifice to do something about them.

I think we saw clear evidence of this phenomenon in November, although a clear pattern did not emerge--voters wanted term limits, yet most voted their incumbent representatives back in. But the key point is that the turnout was high, and the electorate seems to be more attentive.

Suggestions for Change

We may well be the first generation of Americans that will go down in history as unable or unwilling to provide a better future for the next generation--for our children and their children.

The problems we face are complex, and the important thing to accept is that working toward a true and lasting recovery won't be easy. There are no quick fixes, no effortless Hollywood endings.

And who knows how you will take my words of advice, and if you will act on them. After all, as Jonathan Swift said, "How is it possible to expect that mankind will take advice, when they will not so much as take warning?"

But I will offer some general advice, and keeping it in mind, I would like to move on to share with you specific comments on an economic strategy for our future.

First, it is clear that we must all--on a personal level, as institutions, and as a nation--go through a period of sacrifice, of pulling back, of generating savings and making wise investments.

We need to shift our focus from "I" to "we." Believe me when I say that there is absolutely no way that you or your profession or your class or your race or your religion or your children or your town or your business or your institution are going to survive while fellow citizens and communities keep falling further behind. We are all in this together.

There is just one spaceship here for all of us, and if it fails for any reason, we will all perish together. There is no special rescue available for the privileged few. We need only look at those other countries where extremes of wealth and poverty exist. They soon reach a point where money can no longer buy enough security. They become totalitarian and collapse under the weight of their own injustice.

Our country was founded under more democratic principles, and we need to get back to them in a hurry. A decent society cares for its children, its sick and its elderly, for the less fortunate. We cannot continue to feed our own appetite off of our children's future.

Change will not come easy. We have a lot of excesses to pay for, a lot of lost time to make up. We need to accept whatever we have to do to lower our crippling debt and increase our long-term investments. And, let's face it, to improve our productivity everyone will have to sacrifice--some more than others.

For example, if better performance means fewer bureaucrats, then we must cut unnecessary administrative layers while helping those workers find more productive and satisfying employment.

We must set the highest standards of quality in what we produce and the services performed. We need to be competitive again--to do and to be the best. I'll elaborate on competitiveness again.

We also need to balance the long-term needs of our children with short-term needs. Every one of us must save and invest in solid, productive enterprise. We must accept stewardship and conserve resources and the environment--no more wasteful self-indulgence, no more vulgar extravagance in our own lives, in our communities, as a nation. We need to build a culture that conserves resources and values its people.

It is clear that our behavior must be governed not by conservative values that preserve the past, but by conserving values that preserve the future. We need to achieve "sustainable development," that is, learn how to sustain the life-supporting environment of the planet and its habitability while providing for the economic development that will ensure civilized standards of living for its inhabitants.

The founders of this state put their faith in education, in learning. We are a practical people, impatient with theory at times, impatient with intellectual work--even intolerant. It is time to overcome this prejudice and recognize that learning, both theoretical and practical, is the key to our future.

As I have often said, we live in a time where knowledge is exploding and becoming the principal driving force of the world economy and culture. The most strategic investment we can make as individuals or as a society is in education at every level. Our principal goal as a community, as a state, and indeed as a

nation, must be to build the best, most comprehensive, and demanding system of life-long education in the world.

A Strategy for Economic Success

Now it is time to build again. We must blaze new trails, encourage new industry to replace the old, encourage individual initiative in the best American tradition. It is time to become a lean, mean economic machine.

We have everything we need to achieve our highest aspirations for democracy, prosperity, and fulfilling lives for our people. We have a region and a state rich with resources, including an abundance of people with tremendous talent, energy and hope.

A few weeks ago, I was asked to come to Lansing and offer some ideas about the ways we can stimulate economic growth in Michigan.

I consulted with my faculty, with business leaders just like yourselves, with other educators, and with other people who wanted to talk about how we could transform Michigan into a place where economic success is understood, embraced and sought.

My wife and I have lived in Michigan for almost twenty-five years, paid taxes here, brought up a family, and we have seen our state go through wrenching changes. In the past our industrial base--our economy--has relied on the fortunes of a few large companies. For most people, there was never any reason to be particularly entrepreneurial or to worry about anything more than occasional uptakes or downturns in the economy. Only during the last decade have many of us begun to understand that the old economy will never return, that even if successful firms become even more successful, the huge economic base upon which all of our policies were formed will never return.

Ten years ago our now Secretary of Labor Robert Reich was telling us that the industries in which we can retain a competitive edge will be based not on volume and standardization, but on producing relatively smaller batches of more specialized, higher-value products--goods that are precision engineered, that are custom-tailored to serve individual markets, or that embody rapidly evolving technologies. Such products, according to Reich, would be found in high-value segments of more traditional industries as well as in new high-technology industries.

Michigan is in the midst of such a transition today, from a state dominated by a single industry and a few large components to one dependent upon tens of thousands of small, dynamic companies competing in a broad spectrum of world markets.

It means a transition from low skill, high pay jobs to high pay, high skill jobs; a transition from the Industrial Age to the Age of Knowledge in which educated people and ideas have become the key strategic commodities determining economic prosperity, national security, and quality of life.

When we think about economic growth (or development, as some like to call it), we have to understand what our assets are. We know what our liabilities are. We simply have not focused on where our comparative advantage lies or how to capitalize on that advantage.

The University of Michigan's role -- what is it and what should it be?

UM economist John Jackson has done extensive research on the jobs that have been created in Michigan during the 1970s and 1980s. Even as we were losing thousands of auto industry jobs, we were also gaining nearly 221,300 jobs in manufacturing.

Yet Professor Jackson will tell you that our economy is undergoing considerable change with firms going in many different directions. One big change is that in the 1990s, companies are maturing more rapidly as the pace of knowledge and technological changes increase. The issue is understanding the nature of these changes and their implications for the state's economic future.

As has been the case in the past, we know that many new firms established in this decade will be spinoffs generated by discoveries of researchers from the University of Michigan.

Technology Transfer

More of this kind of growth can occur if we can successfully transfer the technology at our research universities. Hundreds of UM faculty members are involved in technology transfer activities already through publication, conferences, and consulting arrangements.

We would like to take this one step further and develop a plan for creating real, economic growth, with hundreds of small, growing firms clustered around the University of Michigan as an R&D center. The goal we have in mind is nothing less than to make Ann Arbor an economic engine of the Midwest.

We need to take advantage of the talent and resources that are here before us right now--today. The research and development, the advanced education and training, the scientists and engineers attracted to this community will be the source of the new knowledge--and hence the new jobs--needed in this area and statewide.

To accomplish this, we have already begun to lay the foundation at our own institution, now the nation's leading research university. We have developed a greater market orientation than ever before, and we are working to promote a more entrepreneurial environment.

We are actively encouraging our research community to share their expertise with Ann Arbor, with Michigan, and with the rest of the world. Recently we have reorganized our centralized Intellectual Properties Office by adding two satellite offices at the College of Engineering and the School of Medicine.

We are committed to educating the research community about the benefits of technology transfer, and by the way, we welcome the public to join in at our technology transfer seminar series. We're ready to advise you as we advise our faculty 'how to'--everything from applying for a patent to determining upfront licensing fees. Just be aware that it doesn't all happen overnight.

Even though it may sound like just another buzzword, it's not really anything new, this concept of technology transfer. If you look at an entertaining book called *Extraordinary Origins of Extraordinary Things*, you'll see that Kleenex tissues came from a government project to develop filters for gas masks during World War I. A World War Two researcher was asked to develop an inexpensive rubber substitute, and his failed attempt was put on the market by an entrepreneur who called it Silly Putty.

We know that the steps involved in technology transfer are numerous, and that the growth we anticipate will not occur instantaneously. But we do see a trend in our academic communities. Institutions like ours want to become more involved in economic development because we realize it is our

responsibility, and because the future of our nation depends on it.

Strategic Alliances

An important element in technology transfer is the need for **strategic alliances**, comprised of R&D centers such as the University of Michigan, industry and government. A good example of this, one that you've probably all heard of by now is Sematech, the group working on semiconductor research in Austin, Texas.

Increasingly, universities like Michigan will be joining with industry and government on applied research projects. We plan to play a major role advising industry and government on new technologies such as genetic medicine, biotechnology, information technology, and optics technology.

But as a research university, we are just one part of any strategic alliance, and I might add one that is in constant danger of budget cuts. The great brain power that we have here in Ann Arbor will not stick around forever if we do not have the resources to keep them here. They will go elsewhere, places where they have the laboratories and facilities to do their work.

What we need is guidance, support and long-term commitment from the other two sides of the strategic alliance triangle-- industry and government. I don't mean just financial support. I am challenging this city and this state government as well as the business community to join us; to further develop the entrepreneurial spirit that seems to be bubbling under the surface right now. We need each other--as partners.

One way in which the local community can help is to serve, along with our own faculty and staff, on Scientific Advisory Boards. We will need outside expertise to help us assess new technology coming out of our research labs.

We will also need to establish a Business Advisory Board which can assist us at the local, state, and national levels. This help will be critical to successfully attract the gap capital necessary to bring a worthwhile idea all the way from benchtop to commercialization.

University Enterprise Zone

I would also like to propose that we all take a closer examination of a concept we call the **University Enterprise Zone**. We need to do whatever it takes to encourage scientists and engineers to want to locate here, to perform research and then to bring it into the marketplace.

And what will comprise this University Enterprise Zone? First, we must develop more of the strategic alliances I have already mentioned in order to find more venture capital and find more financing for R&D facilities.

We also need to take a more entrepreneurial approach, both personally and professionally. Rather than fighting off the unification of markets and free trade between Mexico and Canada, let's figure out how to take advantage of these new markets.

So, think of the University Enterprise Zone as a type of free trade zone, free of excessive regulations and the burden of an antiquated tax system.

Many businesses have already read the handwriting on the wall. They know that growth will come from international sales--far beyond our borders. Business is looking for available capital and adequate financing, a competent workforce, and environments where R&D takes place.

Look at Austin, Texas. Look at Minneapolis and the Princeton corridor. About 600,000 people hold high-tech jobs in these places and in others which are currently the hot growth regions. Reich calls them the "future brand of economic development." They have boomed even in tough economic times. And it could happen in Ann Arbor.

Currently, we may lack the public and private equity to adequately finance such a center. Just as important is that some of us lack the will, the leadership, and the commitment. The local community could take an important step and investigate what's been going on in some of these new "hot spots."

How did they do it? Let's go take a look and ask them.

And our state government can take a few lessons from Texas, Minnesota, Pennsylvania and Utah, which have been the most aggressive financiers. Collaborative partners like state venture-capital arms can help to network our new technology.

Public investments in the development of mind power simply must be made in the places where thinking and creating take place. That happens at research universities.

Conclusion

We need a unified approach. We are being held hostage by a lack of understanding of what knowledge can do in creating economic growth. In this state, we simply are not increasing our base of knowledge quickly enough, nor are we investing adequately in funding knowledge creation.

We face more difficult times as we make the transition to a knowledge economy, despite occasional upturns in the economy. We cannot be complacent. We have to roll up our sleeves right away and try new things, open up our minds to new possibilities, try to understand what businesses need to grow, and take advantage of some of our greatest assets, such as the University of Michigan, and the talent and resources in this community.

We need to let people know that by making strategic investments we can guarantee their children a future, a job, a better standard of living.

We need to communicate in precise terms what our citizens need to do, the sacrifices that must be made, like putting more of their money away in savings, demanding higher standards in their children's schools, and so on.

We need to help people's understanding of the importance of linkages among technology, saving and investment, training and a better way of life.

Our state and local government officials should view people from business (particularly those from small and mid-size firms) as partners, and assist in breaking down the barriers to increasing opportunity. If there are barriers to growth, let's find out what they are, with precision. And examine those businesses where good things are happening.

Finally, let's work together on a radical plan for our future--let's try to do what hasn't been done before. Let's put together structures that allow for entrepreneurship to flourish. Imagine--a government designed for a Knowledge economy, not an Industrial economy. That is what needs to happen.

Yes, we need to be realistic and understand that it's not going to happen overnight.

But as long as we live by the old standards, we will merely shore up the past. It's time to recognize and understand the components of the new economy by putting our best minds to work, taking advantage of the genius that exists.

February 4, 1993