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ROUNDTABLE CONVERSATIONS ON THE STATE OF THE ECONOMY AND ECONOMIC POLICY

HEARINGS

BEFORE THE

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ONE HUNDRED SECOND CONGRESS

FIRST AND SECOND SESSIONS

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ROUNDTABLE CONVERSATION WITH BARRY BOSWORTH ON THE STATE OF THE ECONOMY AND ECONOMIC POLICY

TUESDAY, NOVEMBER 12, 1991

Congress of the United States,
Joint Economic Committee,
Washington, DC.

The Committee met, pursuant to notice, at 10:03 a.m., in room 2359, Rayburn House Office Building, Honorable Lee H. Hamilton (vice chairman of the Comittee) presiding.

Present: Representatives Hamilton and Fish.

Also present: Chad Stone, professional staff member.

OPENING STATEMENT OF LEE H. HAMILTON, VICE CHAIRMAN

Representative Hamilton. The Joint Economic Committee will come to order.

Today is another in a series of roundtable conversations that the Joint Economic Committee is holding with prominent economists to discuss the state of the economy and economic policy. We are pleased to have as our guest today, Barry Bosworth, Senior Fellow of The Brookings Institution.

Dr. Bosworth's recent research has been concerned with trying to understand the decline in national savings in the United States. He served in the government as chairman of President Carter's Council on Wage and Price Stability.

We are very pleased to welcome you, Dr. Bosworth. We look forward to having a good discussion with you.

You may proceed as you see fit. Your remarks will be entered into the record in full.

STATEMENT OF BARRY P. BOSWORTH, SENIOR FELLOW, ECONOMIC STUDIES PROGRAM, THE BROOKINGS INSTITUTION

Dr. Bosworth. Thank you. I am not going to read all of my remarks. I wrote out some notes.

I would like to emphasize this morning that I think, in fact, that the current recession is over in the sense of declining rates of growth of aggregate output and that we are starting a very anemic economic recovery. I think you could say the good news is the recession has ended. The bad news is that this is about as good as it's going to get.

I also believe that all the emphasis currently on the recession and short-term fiscal policy measures to jump-start the economy are rather seriously misplaced. This is the mildest recession that the United States has had in the entire post-World War II period, in terms of the magnitude of the downturn or the rise in the level of unemployment.

The problem is that it has been superimposed on top of a severe secular decline in economic performance in the United States that has been going on for almost two decades, so, when you combine the recession with the deterioration and long-run economic performance, this turns out to be from the point of view of most Americans a very serious situation.

I think that the fundamental problem we face is the secular decline and not the cyclical phenomenon. I think that Federal Reserve monetary policy will be sufficient and should be charged with making sure that the economy continues with at least some expansion.

The problem has been that we have refused for more than a decade to address the long-term secular problem. Now, when we talk about further measures of fiscal stimulus where we would pile another tax cut on top of about a 300 billion dollar budget deficit, I think that will help the economy sufficiently for a period of time to get us through the election. But the long-term cost of refusing to address these things will just continue to mount.

One way to see this, in terms of the short run, I would like to say a few things about that. For example, there has been in the press, and here on Capitol Hill, an enormous focus on the notion that the decline in the recession and the failure of the economic recovery reflects a weakness of consumer spending in the United States.

I think, in fact, if you look at the data, almost exactly the opposite is true. One way in which this shows up is that we take consumer surveys and we say that consumers are pessimistic and, therefore, unwilling to spend when, in fact, the savings rate of American households has fallen continuously throughout the recession and dropped again in the early periods of the economic expansion.

In the third quarter, for example, consumer spending was up 55 billion dollars in spite of the fact that people's disposable income only increased 40 billion dollars. I don't recall a situation in which consumers continue to spend more than they earn in income consistent with the notion that they are being pessimistic.

Instead, I think, consumers are pessimistic for good reason. They don't have any income. The fundamental problem is a dropoff in aggregate economic activity and the lack of real income growth by American workers.

A couple of other dimensions where you can see this, which has also become very common in the last year, is to say that the problem is that higher taxes have eroded disposable income of Americans. I think a lot of people think that there have been substantial increases in taxes at the state and local level.

But, again, if you look at the National Accounts data, you will find that disposable income after tax is, in fact, rising faster than people's income before tax. The problem again is that incomes before tax are not increasing, not that there has been an increased tax rate.

Furthermore, we have even moved more in the direction of devoting a larger and larger share of the Nation's income to the household sector. Personal income before tax received by Americans has increased from 103 percent of national income at the beginning of the 1980s to 110 percent by 1990, and now it's at about 111.5 percent

American households have been receiving an increasing share of the national income and spending an increasing share of the amount of money they get. In fact, I think it's far more accurate to characterize what has happened to the United States as a country, which has been on a consumption binge for over a decade, reduced its national savings rate, ran huge deficits at the federal level, and then borrowed enormous sums of money overseas to try to finance that consumption.

We have been through a decade of dramatically low rates of capital formation in the United States. The whole thing has been compounded by enormous speculation in real estate and financial markets.

The result is that I think a lot of these problems have now come home to roost from the perspective of Americans.

The current recession is, in fact, due to a low level of spending in every sector except consumers. Business firms continued in the third quarter to cut back on inventory. Output is falling in the nonresidential construction industry. There is a large backlog of unsold homes, and difficulties of obtaining construction loans for speculative home starts is holding back the recovery of home building.

The recovery of the exports has now petered out for the last six months. And direct expenditures by federal and state and local governments are falling.

Most business firms have now focused their attention on the problems of excessive levels of debt that were built up through the 1980s. I think, for many years to come, any increase in profits is going to go into a reduction in debt rather than in any attempt to expand capital spending. So, I expect that investment spending will remain extremely weak in the United States for several more years.

On the other hand, what I think is more alarming is that none of these problems ought to surprise Americans. These problems should certainly not surprise the Congress or people in the Administration.

The growth in real productivity and real wages in the United States has been low since the early 1970s. For a period of time, it is true, the low rate of growth and output per worker was camouflaged in the aggregate data by the rapid increase in the labor force as the baby boomers entered maturity. But this is all behind us.

If we look ahead to the 1990s, the U.S. labor force will grow at about 1 percent per year for the decade, as a whole. When you combine that with output per worker increase of 1 percent, at best, I believe that you will be lucky to see potential GNP growth rates in the United States of anything more than about 2 to 2.5 percent.

For a year or two, we will be able to grow a little bit more rapidly than that as we bring down the level of unemployment. But the long-term outlook for the United States is now one in which aggregate GNP growth constrained by the poor performance on the supply side will simply grow at an extremely low rate.

When you take the low rate of growth of productivity and you offset it against the increases that American workers face in health care insurance and other fringe benefits, what we will increasingly see is stagnant real wages throughout the 1990s. Some American families have been able to avoid the implications of stagnant or falling real wages per worker but by increasing the number of workers per family. That option is also going to vanish in the 1990s, because the two-earner family is now the norm.

The decline in productivity and real wage growth has also impacted very unevenly on American families because there has been a dramatic widening of the wage distribution. In some of the handouts that I gave you, I have tried to show some documentation of that.

Essentially, for example, if you are looking at male workers in the U.S. work force in the 1980s, the bottom four-fifths of the entire distribution of workers had real wage losses in the 1980s. To the extent that there has been any improvement in real wage performance, it is concentrated exclusively in the top fifth of the wage distribution.

This pattern began to develop in the 1970s, but it has accelerated greatly in the 1980s. Thus, I think it is not surprising, to some extent, when you would go out and take a public opinion poll throughout the 1980s and you asked Americans how the economy is doing, it really did depend on where they sat.

If you asked upper-income people, their real incomes and consumption gains were almost equivalent to the gains that they had in the 1960s and 1970s. Most of the losses have been concentrated in the lower parts of the wage distribution.

What we are faced with though, as a country, is a collapse of average real wage increases for everyone. And average real wages will begin to decline in the 1990s for the typical American worker. And, then, when you combine that with the fact that the distribution of wage gains is widening, that means very severe losses among the lower half of the income distribution.

I think the most fundamental problem in the deterioration of American living standards is the deterioration on the average. And that average can be traced to the collapse of productivity growth or output per worker.

I won't pretend or go into all the reasons why that has occurred. But I do think that all the studies have agreed on three key ingredients to achieving high levels of real wages and living standards that have been emphasized for decades. And that is that you have to have large amounts of modern capital per worker. You need an emphasis on research and development to develop new products and processes. And you need a highly educated and well trained work force.

If you look back 20 years ago at the performance of the American economy and you focused on those three fundamentals, you would not have been surprised that Americans had the highest standard of living in the world. On the other hand, if you looked at the performance of those fundamentals for the past 20 years, either in comparison to past historical trends or to the current performance of other industrial countries, I don't think there is any surprise at all about the deterioration of American economic performance.

After a decade or more in which Americans have been unwilling to invest in the future, they shouldn't be surprised that the future looks a little grim.

[The prepared statement of Dr. Bosworth follows:]

PREPARED STATEMENT OF BARRY P. BOSWORTH[1]

Thank you for the opportunity to discuss some aspects of the current economic situation with the members of this Committee. I shall limit my opening remarks to a few simple comments about the current economical situation. First, I think that the recession, in the sense of falling levels of output, is over, and the economy has begun a weak economical recovery. The unfortunate news is that this is about as good as it's going to get.

I also believe that the emphasis on the recession and short-term fiscal measures to jump-start the economy is seriously misplaced. This recession has actually been one the mildest downturns in the post-WWII economy. The recession seems severe only because it has been superimposed on a secular decline in American economic performance that has been evident for nearly two decades. But Americans and their political leaders have been unwilling to address the secular decline, because its correction would require some painful short-term sacrifices. We would rather talk about how we all deserve a tax cut that could fuel another round of consumption excesses. A tax cut would stimulate demand and job creation for just about long enough to get us through the enxt election. But, it would come at the cost of further long-term deterioration in economic growth as measured by declining rates of growth for productivity and real wages. The grim reality for most American workers is that their real wage or take-home pay will drift downward throughout the 1990s.

I would prefer to spend just a brief period discussing the short-term economic situation and focus more on the longer term trends. Let me make a few remarks about why the current recovery is so pitiful. First, the weakness is not due to consumer pessimism or any unwillingness to spend. In fact, the consumer saving rate has continued to fall throughout the and the first quarter of the recovery. For example, consumer spending rose by $53 billion in the third quarter, compared to only a $40 billion increase in disposable incomes. I find that difficult to reconcile with consumer pessimism. The household saving rate has fallen from 6.8 percent of income in 1979 to 4.6 percent in 1990 and only 3.8 percent in the third quarter of 1991. The problem in retail trade is that the industry has overbuilt and is now plagued with too many stories.

Second, the problem of low-income growth cannot be blamed on higher taxes. Disposable income has actually increased over the last year as a share of personal income before income and employment taxes. The problem is that before-tax incomes are not growing.

Furthermore, households have gained a much increased share of national income. The ratio of before-tax income has increased from 103.3 percent of national income in 1979 to 110.3 percent in 1990, and it has continued to increase in every quarter of 1991 to 111.5 percent. This has been made possible by corporations paying out an increased proportion of their earnings in the form of interest and dividends rather than saving to finance new investments; and the government increasingly pays for payments to individuals by borrowing rather than taxing. It is an artificial means of sustaining income growth and the trend cannot be sustained in the future.

By any relevant measure, Americans have been on a consumption binge in the 1980s, living way beyond their means, and financing the binge by reduced saving here at home and borrowing heavily overseas. We are now told that the answer is to do a little bit more of the same by further cuts in taxes.

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[1] The views expressed in this comment are those of the author an donot relfect those of the staff or trustees of the Brookings Institution.

The current weakness of the economy can be traced to low demand in every sector except consumer spending. Business firms continued to cut back on inventory stocks in the third quarter. Output is falling in nonresidential construction for well-known reasons having to down with the speculative excesses of the 1980s. A large backlog of unsold homes and difficulties of obtaining construction loans has held back the recovery of homebuilding. The export boom appears to have petered out. And direct expenditures by the federal and state and local governments are falling. Most business firms are focused on reducing the excessive levels of debt built up during the 1980s, and their investment spending is expected to be very weak for some time to come.

These problems should not be a surprise to Americans. The growth in productivity and real wages has been very low since the early 1960s. The lack of growth in output per workers was camouflaged in the aggregate data by the rapid increase in the labor force as the baby-boomers reached maturity. But that episode is behind us, and labor force growth will average only a little more than 1 percent annually in the 1990s. Combined with gains in ouput per worker of only 1 percent per year, I believe that the potential long-term rate of the economy has declined to only 2 to 2.5 percent per year for the 1990s.

The low rate of productivity growth, when set off against continued large increases in health care insurance and other fringe benefits, implies that the average worker will see stagnant real wages throughout the decade. Some American families have avoided the implications of slow real wage growth by increasing the number of workers per family. That option will largely vanish in the 1990s, however, because the two-earner family is now the norm.

The decline in productivity and real wage growth has also impacted unevenly on many American families because of a dramatic widening of the wage distribution. The gains in real wages have been heavily concentrated among the highest wage earners, while those at the bottom have had large real wage losses.

The most important causes of the collapse of income growth has been the sharp falloff in the rate of productivity growth since 1973. While changes in annual growth rates of 1 to 2 percent may seem small to most people, the cumulative effect of the slowdown, extending over 18 years, has cost the average American worker 30 percent of wage income.

I won't pretend to understand all of the reasons why the decline in productivity growth has occurred. However, the studies do agree that there are three key ingredients to achieving a high level of productivity. They are: (1) large amounts of modern capital per worker, (2) an emphasis on research and development to develop new products and processes, and (3) a highly educated and well-trained work force. In comparison to its own historical trends and the current performance of other countries, I think it is evident that the United States is doing badly in all of these areas. After a decade or more in which Americans have been unwilling to invest in the future, they should not be surprised that the future looks a little grim.

Representative Hamilton. Thank you. Where is the hope?

Dr. Bosworth. I think that for the United States that the deterioration of the performance has become so severe and has gone on so long that you are now faced with a situation in which a turnaround in economic growth in the United States cannot be achieved unless you are going to accept significant short-term losses. There will be a dramatic reduction in American consumption in order to generate the resources to be put back into capital formation, research and development, and into the education and job-training system.

I don't think that there is any way anymore to solve this problem by telling Americans that they need a tax cut or further consumption. If we try to push the economy even further in the direction of raising the ratio of consumption to GNP, it will help employment in the short run, but the long-term cost is steady deterioration.

The other part about this, I think, that makes it so difficult to deal with is that it's not a crisis.

Representative Hamilton. It's not a what?

Dr. Bosworth. It's not a crisis. There is not going to be any collapse of this economy. Discussions of a Great Depression, I think, are gross exaggerations.

If you were to make an analogy, I guess, I will give you two. One is that I think Americans, in fact, look a lot like the children of John D. Rockefeller. We have been for about two decades living off the assets accumulated by prior generations, and financing our consumption by a gradual drawing down of national wealth.

During the 1980s, we sold off or borrowed from foreigners a trillion dollars, cumulative over the decade, from the rest of the world. That sounds like a lot of money.

On the other hand, we still have 16 trillion dollars' worth of national assets to sell. So, I think this whole process of living off national wealth can continue for quite a long period of time.

I, for example, do not expect to see any increase in U.S. national savings rates any time during the 1990s, given the current opposition to any measures to try to increase saving. But I think that the economy will continue in the 1990s much the same way it did in the 1980s.

People will be able to have an increase in levels of consumption in both the private and public sectors, but it will come at the cost of further sales of national assets to finance it.

What the U.S. actually looks like to me, if we are to compare it to other countries—the performance of Great Britain in the 1950s and 1960s and in the first part of the 1970s—is a continual, steady but gradual economic decay. Everybody is unhappy and complains, but no one sees it as a sufficient enough crisis to motivate them to change the national economic policy.

I think that is what we see here now. Most Americans are extremely unhappy with the poor economic performance, but they are unwilling to make any short-term sacrifice in order to turn it around.

I think you see it, for example, on issues like the Federal Government budget deficit. If you take a public opinion poll, you will get about 85 percent of Americans who think it's terrible. The only thing worse than the budget deficit would be to do something about it because that would mean tax increases, or it would mean significant cuts in government expenditure programs that they see the benefits from.

I don't think we have an atmosphere in the United States at the present that can realistically talk about policy measures that would turn it around.

REPRESENTATIVE HAMILTON. Let me get clear in my mind, first, you talked about the fact that the outlook is for continued, steady economic decay, I think you said a moment ago. But, at the same time, it's not a crisis, that you did expect modest growth through the 1990s. Is that right?

DR. BOSWORTH. I would expect to see output per worker in the United States grow somewhere between three-quarters and 1 percent per year.

REPRESENTATIVE HAMILTON. What does that mean in terms of the standard of living?

DR. BOSWORTH. If you measure people's standards of living after payment of social security taxes and after payment of employer health insurance benefits, real wages will be falling by a couple of tenths percent per year. That is a pattern that has been going on now.

I think that one available government measure—average hourly earnings—exaggerates the decline, but that peaked in 1977.

REPRESENTATIVE HAMILTON. Let's take two problems. One is, what do you do about the recession right now? I gather, from your comments, you would leave it to the Fed. Would you elaborate on that?

Second, let's pick up your points at the conclusion of your statement. What do you do in the long term? How do you get large amounts of modern capital? How do you get an emphasis on research and development? And how do you get the well-trained workers and so forth?

Would you address both of those questions? What do you do about the short term? What do you do about the long term?

DR. BOSWORTH. I think, in the short run, the emphasis should be on the Federal Reserve using this as an opportunity to unwind the huge real-interest rate increases that went on during the——

REPRESENTATIVE HAMILTON. Even further than they have done?

DR. BOSWORTH. I would agree with them that it's maybe okay, given that they finally took action last week to reduce interest rates by about 50 bases points in two separate moves. We can wait a little bit and see what the improvement is.

I am afraid that industrial production is going to fall off more, though. I would not be surprised at all that the Fed is going to have to take even more action.

Second, one of the——

REPRESENTATIVE HAMILTON. But, right now, you would not take that——

DR. BOSWORTH. Right now, I wouldn't. I would wait a couple of weeks and see what the new economic news says.

It looks like the expansion that got started is leveling out, and we run a significant danger that it could start to turn back down again. One area in which the problem shows up is that it has been a little difficult to translate the short-term interest rate reductions into long-term interest rate productions.

You saw this two weeks ago when there was some discussion on Capitol Hill about a tax reduction. Financial markets are very concerned that the long-run outcome of this policy, which we've embarked on in the 1980s, will be inflation.

They think it will become impossible to deal with the budget deficit. They don't believe it will happen. Once there is recovery, they think there would be pressures for inflation.

It appears that some of these concerns are keeping long-term interest rates high. But, in addition, the United States, if you looked at the borrowing taking place at the long-term end of the market, has also remained very strong, in part, because the U.S. Treasury continues to emphasize long-term financing in its rollover of the public debt.

There has been some suggestion that not only has the Federal Reserve move eased up on monetary policy, but another thing that might be done is that the Federal Government might shift a greater proportion of its refinancing to the short-term end of the market and try to see if that would help bring down the long-term rate.

The key to getting the economy going is to get the long-term rates down. In particular, I think, to get the housing market going, we have to get the long-term rates down.

The short-term rate reductions are most beneficial, I think, in the very short run, in stabilizing the situation in commercial banking. Short-term reductions in money market rates, relieving the competitive pressures on commercial banks, help them in the very short run to improve their balance sheet.

I think, if we were to do anything in fiscal policy, it's rapidly getting too late. If we were going to do anything, the ideal form of it would have been something like an extension of unemployment insurance—things where people would have had more confidence that, in fact, the stimulus would be offset in the future.

Representative Hamilton. Let me go back to the monetary policy for just a moment. As you look back over the manner in which the Fed has lowered these rates, five steps, as I recall, over a period of months, was that the way to do it? Or would it have been better to drop those rates dramatically?

Dr. Bosworth. In retrospect, I would say that it would have been better to drop the rates more quickly. But I think that is second-guessing the Fed.

This policy that the Fed has followed throughout the 1980s, of what I would call leaning against the wind, trying to show continuity of policy, not sharp reversals, has worked amazingly well. I mean, they did a surprisingly good job of keeping the U.S. economy going in the 1980s at a time when they received absolutely no help at all from fiscal policy. And the international climate in which they had to operate was enormously more complicated.

I think you have to look back at the beginning of 1991 to see some of their problems. There were two things, I think, that limited their efforts to turn around the domestic decline.

One was from January through March—starting a little bit earlier in 1990—the American dollar was falling quite dramatically in international markets. They were worried that sharp reductions in American interest rates, relative to foreign interest rates, would cause capital to move back out of the United States and get a crisis of a collapse of the dollar, so to speak.

Second, there has been a big change in the way U.S. monetary policy is decided, in effect, because it has become more democratic. There is much more emphasis on the Open Market Committee. The presidents of the regional Federal Reserve banks have much more to say in that policy than was true in the past.

And, in a voting sense, there was a substantial portion of the Open Market Committee that was worried about the inflation, which in 1988 had started the move towards constraint. And, for the first half of this year, even though energy prices started to fall, the Consumer Price Index stuck at surprisingly high levels.

Greenspan was trying to argue that they should move towards easing because he believed that in the future inflation would slow. Several members of the Board or of the Open Market Committee are of the "show-me" type, "I've heard of these forecasts before."

I think, since they do not want to move on policy on close votes because close votes lead to reversals and instability, they waited for a couple of months. We are now in a situation where the dollar went up about 8 percent on a trade- weighted basis through the period of about April up into July. It has been very stable recently, and the inflation rate has come down, evident in the statistics.

Therefore, I think, there is much stronger cohesion in the Open Market Committee to move with some determination. I admit that the short-run timing of it surprises me.

I would have thought that three or four weeks ago one would have moved. I thought it would have been better to try to put together a big package rather than letting it dribble out.

But I think that last week's move to cut the discount rate by 50 basis points reflected that they had reduced the federal fund rates in two steps of 25 basis points each. And I think that they were trying to bring back some of the actions they had taken about a week earlier, put the two together, and try to convince markets that they are more determined to head this off.

Representative Hamilton. On the fiscal side, short-term, you said a moment ago that it may be too late. In any event, we ought not to cut taxes. On the fiscal side, you would just hold. Is that it? Try to keep the deficit reduction agreement of a year ago and not cut any taxes.

Spell it out for me, what you would do on the fiscal side? Hold steady?

Dr. Bosworth. Yes. I would not have been opposed on the fiscal side to something like the extension of unemployment insurance benefits. It may still be possible in a fairly short period of time to meet some compromise with the President to enact that.

What I like about a measure like that is that you are almost guaranteed that the expenditures will come back down in the future. What I distrust enormously is claims that a tax cut today is going to be financed by defense expenditure reductions in the future, and then in the future when they occur, they will be spent four times over in other programs or in other tax cuts.

I am not big on the budget agreement because I think the budget agreement was basically an agreement to do nothing. But I think, from my perspective——

REPRESENTATIVE HAMILTON. Would you have voted for it?

DR. BOSWORTH. No.

REPRESENTATIVE HAMILTON. Why not?

DR. BOSWORTH. Because I think that the agreement was way too modest. In one respect, it dramatically overestimated the potential for U.S. economic growth in the 1990s; and, therefore, the amount of revenues that were being projected was way too high.

One way to put that is, for example, I don't think the potential GNP in the United States is growing anymore than 2 to 2.5 percent a year. If you just take existing government programs, the current services budget for the United States, to finance that at the existing tax rates, you have to have an economic growth rate in excess of 2.5 percent.

Just 2.5 percent growth in GNP generates the revenues to cover existing programs. If you are not going to grow that much, then you are looking to a secular increase in the structural budget deficit.

REPRESENTATIVE HAMILTON. What do you mean by the word "secular"?

DR. BOSWORTH. Extending over a long period of time, independent of business cycle fluctuations.

REPRESENTATIVE HAMILTON. Okay.

DR. BOSWORTH. Maybe, structural is something that is either secular or structural.

REPRESENTATIVE HAMILTON. I noted that you used that a couple of times.

Before going into the long-term questions, let me turn to Congressman Fish, to just see if he has comments or questions.

REPRESENTATIVE FISH. Yes. I am interested in the long-term, too. I came here because I periodically read in major newspapers that there is really nothing that the Federal Government could do now that would make a difference, speaking particularly on the fiscal side.

I was hoping for better news than I got.

[Laughter.]

DR. BOSWORTH. There is a great deal of difference between them saying that there is nothing that the government can do now and saying that there is nothing that the government could have done. I don't think that these trends are anything that anybody should be surprised about. They have been here for a long time.

REPRESENTATIVE FISH. No. I understand that. There are just a couple of things before we get to the longer range.

You say somewhere that consumer spending is about the only thing that is holding up. I didn't underline it, but I think that was somewhere here. In another place, you say that the problem is that before-tax incomes are not growing. I want to just——

Dr. Bosworth. The other point that I am trying to make is, I think you can distinguish between the two. You could say that consumer spending is the cause of the recession, or something in two sentences.

Suppose consumers weren't getting very much of the increase in income because, say, it was being drained off in taxes, or it was going off into corporate profits, or something like that. And somebody says, "Well, for example, the wage share of GNP is falling. We are just not getting our fair share."

Second, somebody says, "Consumers are pessimistic about the future," meaning that they would hang onto their income, try to repay their debts, and they are not spending.

In both of those accounts, if you look at what is going on, it's just not true. The savings rate has fallen in every single quarter of this year, and it dropped dramatically in the third quarter.

Consumers are pessimistic in the sense that they have come to realize that their real incomes are falling, and a lot of them have known this for many years. If anything, it's just the majority of Americans.

Second, this is an unusual recession. This is a recession that has hit the East Coast. It has hit the service industries. It hit the West Coast. It hit the media centers of the United States, in other words. They talk as though this is the worst recession that we have had.

The worst recession that we have had was in the early 1980s in the Midwest when the national unemployment rate went up to 11 percent. What did you hear here on the coast? "It's just the rust belt. We are immune to recession."

What has happened on the East Coast is that they woke up to realize that they are not immune to these economic trends that have been going on in the United States. The Midwest is not part of this recession because, outside automobile demand, the Midwestern economy is basically in pretty good shape.

They are dependent on manufacturing and exports. Up until very recently, that was the strength. Then, they got clobbered because people on the East and West Coast couldn't buy cars anymore either, and automobile demand has fallen off.

If you look at the capital goods industry—selling for export out of states like Ohio—are doing very well. Look at the increase in the unemployment rate in Midwestern states compared to the increase in the unemployment on the West Coast.

This is a service sector recession due basically to the excesses of the financial industry and the excesses in real estate. It is not a traditional goods production recession, and consumers basically spend their money on goods and services.

I think that, if you really want to see the weakness of the U.S. economy, it's such a gross misstatement of our long-term problems to say that consumers aren't spending enough. Consumers are spending too much.

We don't want to fix something in the short run by pushing in a direction that makes it even worse in the long run.

REPRESENTATIVE FISH. As a tax cut.

DR. BOSWORTH. Yes, because, in the long-run, Americans have to reduce their level of consumption. We are living beyond our means.

We have to stop this borrowing from——

REPRESENTATIVE FISH. What would that mean? Could you explain that?

I mean, granted, we understand that it will be very painful politically as well as economically. But how do you ratchet down consumer spending, and what is the benefit of a lower rate of consumer spending?

DR. BOSWORTH. You ratchet down consumption spending very easily just by increasing saving. In the immediate short run, the fastest way to increase national saving is to increase it at the government level, which means eliminate the government dissaving.

There is a longer term problem with the private savings base. Where would the benefits show up to Americans?—in two areas that would be substantial.

Number one, a high level of national savings would make possible a much higher level of capital formation, a more modern capital stock and improved productivity. Number two, a higher level of savings in the United States would mean that the United States would not have to borrow overseas; and, consequently, imports would decline relative to exports.

Those industries, dependent on exporting into the global economy—admittedly, the Midwest in this case—would benefit substantially from that kind of a policy.

I think, if you are looking over a two- or three-year horizon, what I am talking about for the United States is that I think you would try to engineer a dramatic reduction in the size of the budget deficit. People would say that that will lead to recession——

REPRESENTATIVE FISH. Excuse me. That's what you mean by increased savings at the government level?

DR. BOSWORTH. Yes. Government——

REPRESENTATIVE FISH. Is a deficit?

DR. BOSWORTH. Yes. Government is the sector of the economy, so to speak, where consumption is most in excess of income.

The government savings rate is negative. The household savings rate is nearly zero, but it's still positive.

The business savings rate has also declined dramatically. I gave you, in some of the handouts, the biggest decline in the private savings rate is in the business sector where, instead of retaining earnings for reinvestment in capital, they are paying them out to stockholders and bondholders.

In the financial sector, literally, they are borrowing money to make dividend payments because they don't have enough profit to cover the cost of dividends.

REPRESENTATIVE FISH. If the deficit is the increased savings in the government level, then you get to the Chairman wanting you to tell us how we get to Items 1, 2 and 3 on your page 4, all of which would require considerable government spending.

DR. BOSWORTH. Yes. I think, in terms of the current discussion and some that people have said publicly, in some ways that's the dilemma.

I personally think that Americans are dramatically undertaxed, that, in the public sector, it is one of the most severe problems of underinvestment in the future that we have. I think the evidence is growing that we have serious difficulties in the educational sector. I think that there is a lot of evidence that the social infrastructure for the American industry has deteriorated because most of the public expenditure cutbacks have been concentrated in investment sectors.

If we want to get a quick, to some extent, a substantial improvement in U.S. living standards, where is the highest rate of return? All the studies show research and development. The United States is fantastically good at it. We earn very high rates of return on capital invested in research and development.

The empirical studies would suggest that social rates of return to research and development in the United States is in the neighborhood of 25 percent a year at a minimum.

The problem with these things? Well, I don't think the solution to education is just to spend more money. You know that part of it is going to be to spend more money.

Americans said they wanted to do that, and some state and local governments increased spending on education over the last two or three years.

If you will look in the current year, where are all the cuts? Heavily concentrated in the educational sector.

The moment the alternative was an increase in taxes, Americans abandoned the emphasis on trying to put more resources into education.

REPRESENTATIVE HAMILTON. You are talking about state budgets?

DR. BOSWORTH. Mainly in state and local budgets. If you want to read the *Washington Post* this morning, you will find a very dramatic local example of what the State of Maryland has done in its educational budget, because the consequences of these don't show up in the short run. So, we tend to concentrate the cutbacks there.

If you look at the Federal Government budget, all through the 1980s, there is data available on capital expenditures. You will note that the biggest cut we have had was in the capital expenditure type items in the federal budget.

Why? Because the consequences of these are way off in the future. But this has been going on for two decades, and you are now seeing the consequences.

Yes, in many ways, like education, research and development, we have to spend more. In the area of capital formation—physical capital—I think most of it will be done in the private sector. The key there is to increase the national savings rate.

Another way to put that is, if you reduce the public sector deficit, the Federal Government is not in capital markets competing with private firms, and that frees up those resources to flow into capital formation.

In order to prevent a recession in the short run, though, the United States needs some other offsetting expenditure increase to go along with the tighter fiscal policy. I think you get that in two big areas. One, a continuation and emphasis on the Federal Reserve to bring down interest rates will make physical capital investment more attractive. But second, and most important, a lowering of interest rates here in the United States will bring down the value of the dollar, and we will again be able to use an export-led economic expansion.

In other words, we will shift resources out of consumption into the export sector and into capital formation. It's very important that that monetary policy go along with the fiscal policy.

The problem at the present is that the Federal Reserve does not believe that the Congress and the President intend to do anything at all about the budget deficit. So, they are very worried about letting interest rates come down because of the potential for inflation in the future.

But I think you can do this. I think there are examples of other countries who have been through similar problems that we've had and have engineered shifts of this magnitude. It's harder for the United States because we are so big.

REPRESENTATIVE HAMILTON. Would the gentleman yield?

REPRESENTATIVE FISH. Of course. I am finished.

REPRESENTATIVE HAMILTON. Let me see, if I understand you correctly, you are saying that you have to get the deficit down and the savings up, and your way to do that would be to increase taxes.

DR. BOSWORTH. I think there is a common——

REPRESENTATIVE HAMILTON. If you increase taxes, you take money out of the consumer's pocket and you are going to exacerbate the recession or the stagnation, aren't you?

DR. BOSWORTH. If you did it in taxes, yes.

REPRESENTATIVE HAMILTON. Well, if you——

DR. BOSWORTH. If you are going to worry only about the short run, then you will never do anything about these long-term problems because every time somebody says, we have to cut the budget, "Oh, it might cause a recession." There are alternative policies.

Why is it that all of a sudden a country that used to have a fairly decent savings rate, back in the 1960s and 1950s, why do some think that we have to have this incredibly high level of consumption just to keep our economy going?

The problem is that there are lags. If you cut fiscal policy today without some anticipation, you cannot expect tomorrow that investment will jump up. But you can engineer this by coordinating fiscal and monetary policy so that interest rates come down to promote the capital formation as an offset to the tax increases and reduction in consumption.

Basically, Americans have to move a larger portion of their resources out of consumption into what I would broadly define as expenditures for the future. I think the three key elements of it are: physical capital, research and development outlays, and education.

We have to find a way to deal with all three of those. To an important degree, at least two of them are in the public sector, not necessarily at the federal level, but still in the public sector.

That, to me, does mean that it probably will involve a substantial tax increase. Some of it could possibly be financed by cutting back in other expenditures.

For example, I think you do look forward to a dramatic reduction in the level of defense spending, and that would provide a lot of those resources to do it.

But what I hear is, "We want to take all the defense savings that we will generate over the next five years or more and spend it on further consumption." I understand that a lot of those consumption needs look very important to America—for example, the lack of health care for a substantial proportion of the population.

That's fine, but we are not willing to pay for it. We continue to talk about doing it by just shifting resources at the government level, but not doing anything about using the defense cutbacks, for example, to reduce the budget deficit so that we can finance more saving, more investment.

REPRESENTATIVE HAMILTON. Would you do anything to increase personal saving?

DR. BOSWORTH. In the immediate future, that would not be the focus of my effort. At present, I don't see any reason to try to criticize Americans for not saving more when it comes out of the Federal Government, because the only reason for them to save more is so the government can borrow it. And that doesn't do anything.

I think the most effective ones, the ones that we know have got the biggest bang for the buck, we all agree that a reduction in the government budget deficit will increase the national savings rate. That's not controversial.

REPRESENTATIVE HAMILTON. That's the quickest way to do it.

DR. BOSWORTH. That's the quickest and the surest way. We argue over some incentives for private saving.

Now, in reducing the budget deficit, I would have one mechanism that I think would help the saving rate. And that is that I would focus on the introduction of a value-added tax.

I don't think that we can deal with the magnitudes of the deficit that we now face solely through increases in income taxes. So, I would favor going to some consumption-based tax, which would be introduced as part of this. And I think——

REPRESENTATIVE HAMILTON. Which would be on top of the income tax—

DR. BOSWORTH. Yes. In other words, I think we should move to a tax structure closer to that of Europe, that the key to an effective tax system is the broadest possible base of taxation so that you can keep rates low.

To try to do this solely through the income tax, I think, ends up with income tax rates at too high a level. And I would replace some of that increase with a broad-based value-added tax or consumption tax.

I think there is some economic evidence that a consumption tax would tend to increase private saving. I don't believe that the effects will be large, but there would be some increase in private savings coming out of it.

If, in this country, we got back to balance in the public sector and we still had too low a national savings rate, I think it's reasonable to try to think about some private savings incentives. In that area, the ones that I favor basically fall, I think, into the area of promoting retirement savings.

I think there is a growing problem of Americans, particularly in the lower half of the income distribution, not saving enough for their own retirement. There are two ways that people like to talk about doing that. One is so-called IRAs and the other one is the expansion of employer-based pension programs.

I favor the latter, much preferred over the former. I think IRAs will not have a significant affect. And the biggest difference is when you offer an incentive for people to save more for retirement, don't let them pick and choose.

An IRA says, "I will give you an incentive to save more, but if you don't want to do it, you don't have to do it." So, you end up, almost by definition, picking out the group of people who were going to save a lot anyway and giving them a tax cut.

It doesn't increase savings at all. It induces what I did all during the period when there was an IRA that I qualified for. I took two thousand dollars out of other accounts and moved it into my IRA.

The key to being effective on retirement savings is not to allow people a choice, to put it in groups where the whole group goes together. That's the nature of an employer-based pension program. Each worker is not allowed to choose, "Oh, I don't want my money in it," if the employer provides the plan.

Representative Hamilton. Forced savings.

Dr. Bosworth. Forced savings, in effect. If you will look at one of the charts that I gave you about a breakdown of where American's private savings is, we have moved to a society where almost all household saving is now in pension-type savings; that on discretionary income, we are pretty close to zero. People spend every dollar they get.

So, pension saving is very important. But the big growth in pensions occurred in the 1950s and 1960s. There has been no increase in the proportion of the American work force covered by pensions since the 1960s.

Those pension plans are now maturing, in the sense that people joined them when they were young and they are now preparing for retirement. And, in the 1990s, you will see the pension funds turn around. They will start to have a net out-flow, no longer a net in-flow.

In one of the biggest areas of all that you will see this, it is the state and local government. People say, if they look at the National Accounts, the state and local sector has a big surplus. It doesn't. It's 60 billion dollars a year of pension savings.

But when did all those people get hired? In the 1960s and the 1970s, to make teachers for the baby-boom generation.

In the latter part of the 1990s, the state and local governments are going to see a huge increase in the number of people retired who were in their work force. They can pay for it because almost all American state and local governments, unlike the Federal Government, have funded their pension programs. They are in good shape.

But that means that all of a sudden the major component of American savings moves down, not up. In that sense, pension funds suggest that the U.S. private savings rate will drop even further in the 1990s.

REPRESENTATIVE HAMILTON. I think I interrupted you.

REPRESENTATIVE FISH. No, no. Please.

DR. BOSWORTH. Just to finish on the one point. I think that there are many things that the Federal Government could do to make employer-based pension funds more attractive and try to encourage a larger proportion of the American work force to have pensions.

If we are going to stimulate retirements savings, I think it's very important that any public benefit like tax exemptions, which we don't have, be extended on the basis of something that applies to everyone, not on the basis of people who can pick and choose whether they want it. I don't want people to pick and choose whether or not they can take a tax break. I want them to take a tax break on some program that requires some cost on the other side.

REPRESENTATIVE HAMILTON. On the point that you made about the need for large amounts of modern capital, how do you feel about the investment tax credit?

DR. BOSWORTH. I think that there may——

REPRESENTATIVE HAMILTON. Or capital gains? Let's take them both.

DR. BOSWORTH. Well, I think there is a great deal of difference between the two of them. In the mid-1980s, I was an advocate of getting rid of the investment tax credit. I thought that the U.S. tax system had become so complicated that it was almost impossible to calculate what the tax rate was on any investment.

We had this silly business going on, "I like Investment A. I give it a tax cut. You like Investment B. You give it a tax cut trying to offset the tax cut on Investment A." All these things after awhile got confused.

So, I liked the 1986 proposals to go towards uniformity in the tax rates on capital. However, I think the problem in the short has been so much deterioration in the financial position of American corporations and their ability to finance investments, coming out of the attempt to try to offset takeovers in the 1980s, by running up your debt.

I am worried now that we will not have, even with lower interest rates, enough incentives for investment. And, I, therefore, am beginning to think it would be a good idea to reenact the investment tax credit to prevent the excesses in real estate and areas like that.

I would restrict it to equipment because I think that equipment translates more directly into productivity gains of American workers. That's something to think about, particularly if we find that lower interest rates are not an effective means of stimulating capital performance.

REPRESENTATIVE HAMILTON. Would you restrict it further and make it on new net investment?

Dr. Bosworth. I think the old idea of a net investment credit was a rather good idea. I don't think it was terribly distortionary.

It's a possible modification. The benefit is that it allows you to offer a bigger tax cut to industries of rapidly growing investment demand at less budget cost, so to speak. That way, you can get a bigger bang for the buck.

On the other hand, in terms of simplicity and uniformity of treatment, people might say that trying to take a company's starting point which is arbitrary and due to historical accidents is unfair. So, there is a uniformity argument in favor of saying no.

Representative Hamilton. The capital gains reduction?

Dr. Bosworth. I think the capital gains reduction has nothing to do with economics. I think it has to do with politics.

There would be a short-run effect on revenue that could be positive or negative. We argue about it.

I think the important point to always remember, whether you think the sign of this effect is positive or negative, which can generate very heated arguments, remember one thing, which I think 99 percent of economists do agree on, and that is that it's small. Positive or negative, it's small.

I think there is a problem——

Representative Hamilton. Small in its impact on the——

Dr. Bosworth. On the economy. For example, people will raise an example of investment in new technology—things like that. If you could think of a tax gimmick, so to speak, that was pinpointed right on that sector and you called it capital gains, I would think that there would be some merit in that.

The problem is, when you talk about capital gains, you are talking about something that is going to spread into playing games in the stock market just to see if it can generate gains, real estate, ranching, all sorts of things that have no direct economic benefit.

I think, instead, as I mentioned earlier, I am in favor of doing a great deal to promote U.S. research and development. However, I think it's past the time that taxes to finance new enterprises and tax breaks do much, because most of this money today comes from pension funds. As I mentioned, so much of the savings in the United States is now through institutional means. Pension funds don't care about capital gains.

What we do have in the personal tax system is a problem of the treatment of the taxation of capital income. I do agree that it's not a reasonable basis.

It's not a great problem as long as inflation stays low or steady. But, if inflation in the United States should surge back up again, the pressures to relieve the inflation tax, so to speak, on capital income will become enormous.

I've always preferred, instead of arbitrary tax rate differences on capital where the amount would vary depending on inflation, that we simply do it right and go out and correct capital income for inflation and try to measure it in real terms. I think that is technically feasible nowadays to correct the general inflation.

But my major point is that I wouldn't put a high priority on it because, if we went to a tax system in that direction that treated it fairly, then we also should tax realized capital gains. We would only measure true gains, but you shouldn't allow people to postpone the payment of tax until they realize the gain.

I think, right now, the two offset each other. It's not an enormous problem.

If you had to rank the national economic difficulties—things you would like to see the government do—I think you would put that pretty far down the list.

REPRESENTATIVE HAMILTON. Ham, go ahead.

REPRESENTATIVE FISH. You are talking about the culprit being the budget deficit, as distinct from business savings or personal savings, and that we have to get after that and bring it down. You said the alternative would be a tax increase or significant cuts in federal programs.

Well, won't significant cuts in federal programs or tax increases be necessitated to bring down the deficit?

DR. BOSWORTH. Yes.

REPRESENTATIVE FISH. So, there is really not an alternative. You are ratcheting down a deficit by——

DR. BOSWORTH. What I meant was, you have to bring down the government budget deficit because that is the most effective direct means to increase national savings. I would wish that American corporations would save more. I would wish American households would save more.

I don't know how the government makes them do it, and why should they do it when the government is borrowing it all anyway?

The point on the budget deficit is that you have two ways of doing it. You can either increase taxes or cut expenditures.

I think the choice between those two is largely a political and not an economic issue. I would only point out that, on the one side of tax, I think that there is a need not only to cut government consumption, if you want to do it on the expenditure side, but increase government investment, and that's going to be pretty hard to do. It's going to be pretty hard to justify some big cutbacks in government consumption programs at the same time you are expanding.

So, I think some of this will have to be done on the tax side.

REPRESENTATIVE FISH. Is it fair to say that reducing consumption seems to be the key here? We look to a federal deficit reduction that would result in an increase in the national savings, for investment in capital stock, and tend to reduce our borrowing.

DR. BOSWORTH. Yes. The counterpart in an international economy of reduced borrowing by Americans means increased exports.

REPRESENTATIVE FISH. And fewer imports.

DR. BOSWORTH. And fewer imports.

REPRESENTATIVE FISH. Have you got your road map, Mr. Chairman? We know what to do now.

REPRESENTATIVE HAMILTON. Well, that's right. Are you through, Ham?

REPRESENTATIVE FISH. Yes, thank you.

REPRESENTATIVE HAMILTON. Let's talk about U.S. competitiveness and industrial policy. What's your view?

How serious is the problem with U.S. competitiveness, and what do you see the role of the government to be with respect to improving our competitive position?

DR. BOSWORTH. Pretty much, I think, when I would talk about American competitiveness and government policy, in most sense, the competitiveness just means the price of American goods compared to foreigners. You can always have a very competitive American industry by letting the exchange rate go down.

So, in terms of our ability to sell in world markets, there is a very easy answer. I think, just as an example, we live in a country where it's so hard for Americans to realize the changes that have occurred internationally, that we now live in a global system.

In the early 1980s, remember when our exports were dropping and our imports were rising and people would say, "Oh, Americans don't want to work any more, they don't know how to manage," and all those books that came out, and here on Capitol Hill people said, "the Japanese are unfair." The simple problem was that the price of American products went up 50 percent in world markets.

I don't care how well managed your company is, you are not going to do well. If you wanted to see an American company that was just devastated by that event and was an outstanding performing company in the global markets, it would have been Caterpillar Tractor. That was our second leading export corporation.

They paid very high wages. They were very competitive, and they made a lot of profit. And, by 1985, they were approaching bankruptcy because they simply got priced out of world markets.

Why was that caused? Because this country went on this big consumption binge. We cut our national savings relative to our investment. And when you borrow overseas, what do you mean to borrow? You mean to drive up the exchange rate and import more, and don't export because you want it here at home.

So, in the 1980s, American competitive problems were caused by the exchange rate. And they were caused by our own domestic emphasis on consumption at the expense of saving.

Over a longer term period, though, I agree that there is another dimension here in which you can measure American competitiveness, which is a problem. And that is, going back to the early 1960s, there has been a secular decline in America's terms of trade; meaning that, just to keep American exports equal to imports—balance in our trade—you would have to have a deterioration in the real exchange rate—the relative price of American versus foreign goods—of somewhere between 5 and 10 percent over a decade.

That's what happened in the 1970s. People who make a calculation of how much further the dollar would have to fall to bring us back to trade balance today would get a similar order of magnitude in the 1980s.

Americans don't do well competing in a global market. I think some of it's in the nature of the trade system. When you are an American company and you think about selling in Europe, you can look at France. You go into a huge fixed cost, to learning the language, the customs, the rules and everything else. And what do you get? Access to about 50 million people.

In the United States, when a foreigner comes in here, all they have to do is get their products to one American port. They have to learn one set of rules, one language, one set of customs. And they have access to a huge market.

In other words, Americans face very high fixed costs of trade because we they are dealing with a lot of little markets, each one of which they have to make a significant investment in. Other people are dealing with a huge American market.

That is why I believe that one of the most effective things for American industry—despite where a lot of the other emphasis is, Europe in 1992—is the notion that if all of Europe would adopt a single set of regulations that that would be of enormous potential benefit to American business. All of a sudden, getting into Great Britain would be the same thing as getting into France, Germany, Italy and all the other countries in Europe.

So, we want to see a standardization of international market regulation because it would benefit us more than them. I think they are very aware of it. That's why the entire foreign focus in international trade debate is only on one thing: Keep the American market open because it's just a huge place to dump products, in effect.

We are the consumption society, and they see us that way. There is nothing they want to buy here that is not available usually at higher quality and lower price overseas.

Representative Hamilton. Let me ask. Your initial comments lead me to think that our trade difficulties and our competitive position is really due to our unbalanced macroeconomic policy. And if that had been in order, we would have been much more competitive. Is that correct?

Dr. Bosworth. That's right.

Representative Hamilton. Okay. Now——

Dr. Bosworth. I think you——

Representative Hamilton. How much should we worry about trade policy, and opening markets, and Section 301, and all of this? Is that a misplaced focus?

In order to improve our competitive position, should we focus on getting the macroeconomics—the monetary policy and the fiscal policy—in the right order and in the right balance, and focus less about trade policy and Section 301? Or should we focus more on Section 301 and trade policy?

Dr. Bosworth. I would say 90 percent of American problems in international trade are the macro problems and 10 percent is trade policy. I think there are legitimate issues to raise with Japan about——

Representative Hamilton. Would most economists agree with what you said, that 90/10 split?

DR. BOSWORTH. It would depend entirely on whether you were talking about economists in international economics—who would agree—or people who are focused more on the domestic economy.

I think it's hard to get a majority of American economists to agree on a damn thing. It depends a lot on what areas they specialize in.

But I fully agree that there are problems of access in some markets. Also, I think, in the nature of international negotiations, we have caused a lot of the problem.

You may remember, back in the mid-1970s, when, with some degree of pride, Henry Kissinger said he didn't know a damn thing about economics and didn't think he needed to. And that's the way our foreign policy has been conducted now for decades.

Americans are used to thinking that we are so incredibly better off than the rest of the world that we can give them little economic favors in return for some vote in the United Nations or some political thing. Even in the Middle East war, if you will look, the United States continued the same practice of giving economic benefits to various countries in order to get them to support us in the Middle East.

As the rest of the world catches up to us and everything becomes more equal and we aren't the dominant power, there is going to be a natural tendency for more conflict over economic issues. I don't see anything wrong with that.

I think American foreign policy should place greater emphasis on economics. I am strongly opposed to protectionist type things. I think the emphasis should be on opening it up. That's where the benefits to the United States lie.

The notion that we can turn back, after having let all the benefits out to the rest of the world and now we want to turn back and isolate ourselves, I think is a big mistake.

REPRESENTATIVE FISH. Can I pick up on that point? Now that we have shifted from the domestic economy to the international economy, we get back to the consumption society again as being the villain, that we are just sucking this stuff in from all over the world.

So that for the American businessman, he not only has to compete abroad in individual smaller markets, which you described and all the expense of getting involved in that, but he also, right here at home, is competing against foreigners, foreign manufacturers and foreign imports, which are challenging him in his own market.

So, what's the matter with protectionism if you want to cut down on consumption in the United States?

DR. BOSWORTH. What has that got to do with consumption? I don't care whether Americans spend their resources on foreign goods or on domestic goods. It's still consumption. They still spend the resources. I want the resources freed up for capital formation in these other areas that we talked about.

The problem with most American industry, in fact, has been, in the 1970s, a weakness of competition. One of the most dramatic examples you see of this—just run down the list of industries having difficulties—is the automobile industry.

The truth is they made a terrible automobile in the 1970s because it was down to just three firms. The increased competition from the Japanese hurt, but we make a better automobile today than we did a decade ago.

There is a problem of American management, I think, of failure to keep up with changes in a global economy. They have failed to adapt their labor management relations to a new type of environment, new type of production process.

More and more, I must say, when you look at things like productivity and performance and you try to account for why the deterioration has occurred in the United States, I think there are more and more people led back to problems of American business managers, that if you are an American worker that you should prefer to have, as a manager, a Japanese instead of an American. They will treat their workers better. They are more likely to be successful and give you long-term job security.

I don't see this as a way, somehow, that we can protect American businessmen. I think American businessmen have to become more competitive.

If you want to make us protectionists, then everybody else will respond, and we will go right on back down that road.

REPRESENTATIVE HAMILTON. Your emphasis on research and development, does that lead you towards an industrial policy or a technology policy of some kind, and to what extent does it?

DR. BOSWORTH. About that extent.

REPRESENTATIVE HAMILTON. About that extent?

[Laughter.]

DR. BOSWORTH. I think there is very good reason for public-sector involvement in research and development, and when you discover a new idea, there is no way to stop your competitors from learning about it. You can try to hire the F.B.I. to stop the leaks and everything else, but that is counterproductive.

One of the reasons that the United States has been so good at this is that we are a society that has never worried about letting everybody else know. It has been a very open research environment in the United States.

And, as a result of that, if somebody learned something at one university, it's immediately transferred to other research institutions, for example. But that creates a problem, because why would any individual put up the money for research and development if they are going to get a small percent of the gains?

And, boy, for basic research, this is true with a vengeance, because the application of it to make a profit is probably 10 to 20 to 30 years in the future. No private individual in their right mind would spend a dollar on basic research.

And even when you get into application, I think there are problems of significant spillover with your competitors. Somebody could say, "Well, it's an interesting technology, but why don't we just sit back and wait and see what happens for another five years. We can always get in later."

What American industry is beginning to learn is that, if you play that game, thinking that some time in the future you can get into the technology, it's not quite right. The Japanese jump in and outrun you, and then it's too damn late. You can never catch back up again.

There is, I think, some changing needed in the interpretation of research and development, in that it's a much more dynamic process than we ever realized. And you have to be in at the beginning and play the game, or you can't catch up with others.

All these things, to me, suggest that there is a major role for public policy in promoting research and development. It is surprising the extent to which economic studies all reach the same conclusion, that the rate of returns in the United States over the last 30 to 40 years have been fantastic.

That's the one thing I do find that they agree on.

REPRESENTATIVE HAMILTON. Are you worried about picking winners and political influence and all of that?

DR. BOSWORTH. If you go beyond the research and development, yes. In fact, in research and development, there has been a growing problem with research institutions trying to go around peer review processes and go to the Congress.

I think that political and public concerns have distorted a lot of the research and development in the United States. I gave you a chart that I handed out showing that, in nondefense research and development, both Japan and Germany are substantially above the United States.

But, I think, in terms of true economic benefits, money for the United States is still a gross exaggeration. Because we run a big space program, there were spinoffs from it—Tang and things like that. No one would ever argue that they would be zero. The question is: Could you have spent a dollar on something else and gotten even a bigger spinoff?

REPRESENTATIVE HAMILTON. In what area?

DR. BOSWORTH. One area is that we do an awful lot in defense. Second, we do an awful lot in space. And, third, we do an awful lot in medical care, compared to other countries.

All three of those areas are not dictated by the fact that we believe the rates of return are high. They are dictated by political considerations. Those are popular subjects for research and development.

In other areas, we do surprisingly little.

REPRESENTATIVE HAMILTON. On your chart here, is space included in that?

DR. BOSWORTH. Yes.

REPRESENTATIVE FISH. Just one quick question.

REPRESENTATIVE HAMILTON. Go ahead.

REPRESENTATIVE FISH. I want to get you back on this protectionism, because you bristled at it. I want to let you know that I agree with you that competition is preferable. But when you said that what you were concerned about was the level of consumption, whether it's spent at home or on foreign markets, it didn't matter; however, a lot of the stuff that people are buying is no longer made in the United States.

If you did cut off a lot of these imports that people love to buy from Japan and Germany and elsewhere, which would put our competitors out of business, wouldn't you at least redirect consumption and not reduce it?

DR. BOSWORTH. I think that, in terms of new technologies in these areas, where you can't even find these products, it's so much in the wrong direction. Since World War II, this has been a global economy in which other countries could piggyback off the United States.

We spent all the money on research and development, and they got a portion of the benefits. We are finally to a stage where the rest of the world is about as wealthy as we are, and they are starting to spend expenditures on research and development, and when we can benefit from some of the ideas, they come up with, "Oh, let's isolate ourselves from them."

The problems that we have faced is not, I think, due to trade. In technology after technology, American industry just refused to consider the commercial advantages, in part, because the companies that normally would were distorted by the high levels of defense.

Why sell to consumers who may rebel if the product is not high quality when we can dump it on the Federal Government? And defense spending took an awful lot of American's top resources off into that area.

Another example is Fax. There isn't a single Fax machine in this country made by an American firm. But it was invented by an American and sold to a Japanese firm who saw the possibility of spending 10 more years of expenses to make it practical.

American firms seem to me to have abandoned these things because they are unwilling to take the longer term view, see the opportunities that they have in these new products. I don't blame trade for that. I blame a lack of competitive orientation of American management.

It has too short term a horizon, too much focus on the domestic market. If you ask most American businessmen, they will tell you that foreign trade is too damn much trouble.

I don't see, for example, if you are serious about competing with the Japanese in a global automobile market, how can you compete with somebody when you don't compete with them in your backyard? You have just given them an enormous advantage.

If they know their backyard is a safe and secure market and they can just focus on your weaknesses, they are bound to defeat you in a competitive-type environment. You have to go after them on their home-ground and make them worry about it the same way they go after you.

We don't even export any American automobiles that put the steering wheel on the right side. You say, "Well, they like it that way." Yeah, it's the same way that some Americans drive around with a British automobile; only about half of 1 percent of the population think it's cool.

But you are never going to be significant in those markets. The problem for American industry, when I was in Japan, for example, is that most American firms are very content with their position in the Japanese market. They sell very little at huge profit margins.

They don't want to aggressively go after the Japanese market. It is hard to get into. One thing, you might have to learn their language.

But they went into the American market in the 1960s and found it enormously difficult. It took them 10 years to make a profit here in the United States.

They got knocked out with automobiles that were grossly inadequate for the market several times. They just kept coming back.

Where is that determination to compete on the part of American industry? And for the American government to hold out hope and keep excusing this by saying, "Oh, you deserve a little bit of protection," I just think that this is dramatically the wrong direction in which to go.

The United States should try to encourage new products, new innovations by high levels of financing of research and development, and try to encourage American industry to become aggressively competitive.

REPRESENTATIVE HAMILTON. Would you do away with voluntary restraint agreements?

DR. BOSWORTH. I think they are a gross perversion. I don't think that you will ever come up with a case—steel, for example—where American industry will ever think that that other country is not dumping.

But I think the evidence from cost data that the United States, in fact, is one of the world's high-cost steel producers is very strong. We are not efficient compared to the Japanese and others.

And these restraints, although we keep selling them as short-term measures, never do anything. They just continue, assuming that they can get them to do it.

So, I think voluntary restraint agreements are no different than quotas. I mean, who are you kidding? You are just taking your market power and telling the other guy, "I will put a quota on, or you voluntarily put a quota on." What's the difference?

If we are going to do this, and you want to do some transition devices, I would convert every existing quota we have to a tariff. I mean, quotas allow them to collect the rent, for example, that comes from this.

REPRESENTATIVE HAMILTON. At least, we would get a little income.

DR. BOSWORTH. At least, we would get a little income.

[Laughter.]

REPRESENTATIVE HAMILTON. We have had a good morning. Ham, do you have anything further?

REPRESENTATIVE FISH. No. We thank you very much, Dr. Bosworth. I just wish this had been videoed.

REPRESENTATIVE HAMILTON. Good. It's good to see you. Thank you very much. We appreciate it. We stand adjourned.

[Whereupon, at 11:20 a.m., the Committee adjourned, subject to the call of the Chair.]

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ROUNDTABLE CONVERSATION WITH THOMAS SCHELLING ON THE STATE OF THE ECONOMY AND ECONOMIC POLICY

THURSDAY, MAY 28, 1992

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, DC.

The Committee met, pursuant to notice, at 10:02 a.m., in room 2359, Rayburn House Office Building, Honorable Lee H. Hamilton (vice chairman of the Committee) presiding.

Present: Representative Hamilton.

Also present: Charles Stone, professional staff member.

OPENING STATEMENT OF REPRESENTATIVE HAMILTON, VICE CHAIRMAN

REPRESENTATIVE HAMILTON. The meeting will come to order.

Today is another in a series of roundtable conversations, which the Joint Economic Committee is holding with prominent economists, to discuss the state of the economy and economic policy.

We're pleased to have as our guest today Thomas Schelling, professor of economics at the University of Maryland. Before coming to Maryland, Professor Schelling was the Lucius N. Littauer Professor of Political Economy at Harvard's John F. Kennedy School of Government. Last year, he served as president of the American Economic Association. Over the years, Professor Schelling has made important research contributions in the areas of national security, energy, health care, substance abuse, ethics and the environment.

He specializes in trying to understand the many ways in which the social and economic consequences of individual choices turn out to be quite different from what people intend. And I'm afraid our efforts to deal with the budget have given him ample raw material for his research.

We're pleased to have you, Dr. Schelling, and we look forward to the discussion with you. We have not asked you to prepare a statement, because we just want to have an informal conversation with you.

Perhaps, the way to begin is to let you make any comments that you think would be appropriate, with respect to the economy or economic policy. Then I'll move to questions, or I'll move directly to questions, if you prefer.

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STATEMENT OF THOMAS SCHELLING, PROFESSOR OF ECONOMICS, UNIVERSITY OF MARYAND

MR. SCHELLING. If you're interested, I'd like to begin with a subject that I actually know something about, which is——

REPRESENTATIVE HAMILTON. That doesn't restrain us ordinarily on Capitol Hill.

[Laugher.]

But you go right ahead. That's a good way to start.

MR. SCHELLING. It's very much in the news now, and as economic policy it's very long range and likely to be very large. And that's this issue of global warming.

REPRESENTATIVE HAMILTON. All right, sir.

MR. SCHELLING. Just to put it in terms of magnitude, the Congressional Budget Office estimated that to make a reasonable reduction in carbon dioxide emissions over the coming decades might cost on the order of 2 percent of GNP—$100 billion. So it's a big-ticket item.

The Bush Administration has taken the position that there's a very great deal of uncertainty, too much uncertainty to permit joining any kind of program. And I think the first thing I'd like to say is that it is very unlikely that the uncertainties are going to be resolved in the next 10 or 20 years.

The uncertainties acknowledged by the meteorologists in the business have not really diminished in the last 10 or 15 years on the subject of how much warming might occur with a doubling of the concentration of in-house gases.

The estimated was 1½ to 4½ degrees Celsius 15 years ago, and that's exactly the same band of uncertainty that exists today. Nothing has reduced that degree of uncertainty.

In translating an average warming into climate change, there's also been no reduction of uncertainty. I think that's partly because, as more has been learned about the way the atmosphere behaves and the way the oceans behave, there are more things that the meteorologists now know that they have to take into account than they were aware of 10 or 15 years ago—ocean currents, to take an example. Very little is known about the behavior of ocean currents in the presence of climate change.

Furthermore, there are really no experts on the subject. In order to predict what's likely to happen to climates as a result of global warming, you have to know what's going to happen to the population of China over the next 50 or 75 years. You have to know a lot about energy technology, in addition to translating all of that into climate change.

One thing to say about the climate change is that it's usually referred to as warming. But what is expected is not really warming. Warming may be the initial driving force. But the important thing is that the atmosphere is expected to get warmer much more in the polar regions than in the equatorial regions. The temperature differential is one of the engines that drives all of the circulation of the atmosphere and the oceans and changing the convection current differential, which is likely to make it warmer some places, cooler some places, wetter some places, drier some places, stormier some places, less stormy other places.

REPRESENTATIVE HAMILTON. And rather unpredictable where that occurs.

MR. SCHELLING. Currently, quite unpredictable. The meteorological models that are used really are only on a continental scale. They aren't yet able to even make allowance for mountain ranges, like the Himalayas and the Rockies. So it's very rough estimating.

The one prediction that does seem to come fairly clearly out of the models is that climate will change slowly. Climates will essentially migrate.

Now, that could be wrong because there may be things that could produce sudden drastic changes. But those are not things that they know enough to put into their climate models. If the Gulf Stream, for example, flipped to another configuration, it could make a suddent, great difference. But, on the whole, what is predicted is slow change over time.

And on the question, what may those changes do, I think a fair estimate is that the effect on the U.S. economy or on the economies of Western Europe and Japan will be almost negligible. Very little market-oriented economic activity is sensitive to climate.

If Toyota is trying to decide where to locate an automobile assembly plant, geographical factors make a lot of difference as between Alabama, Los Angeles and Detroit, but not on account of climate. Most things that people do, with the exception of agriculture, you can do in New England, California, the Middle West, and the South.

Agriculture is the one potentially sensitive area, but it's a very small part of our GNP. And if the cost of producing food and fiber went up 50 percent in the next 75 years, it would knock 1 percent off our per-capita GNP at a time when that's likely to be twice what it is, anyhow.

So I think it's hard to make an economic case that we should be terribly alarmed. Probably not so for the developing countries. They are much more dependent on climate, partly because 30 percent or more of their economies are agriculture, and otherwise outdoors.

In the developed countries, the climate change is unlikely to have any effect on health. In developing countries where they suffer from a lot of vector-borne diseases like malaria, climate does make a difference—a whole variety of hosts for parasites.

So I think that the argument would have to be, if we were to take very seriously the consequences of climate change, we would do it largely for the benefit of developing countries, which I think should not be expected to make any economic sacrifices of their own.

I think their best defense against climate change is likely to be their own continued development and improvement, becoming less dependent on climate-sensitive activities.

This leads me to a kind of nonalarmist conclusion that we should take it very, very seriously, and we should take advantage of any energy conservation that comes at moderate cost. But that we should be modest in our expectations of what may come out of this Earth Summit, which will take place in Rio this coming month. And probably we should expect that if anything is done, it will be done by the developed countries, the countries that can afford to take it seriously, and probably through negotiating reciprocally on policy changes.

An example of a policy change might be something like the carbon fuel tax that the economic community appears to have proposed last week, or two weeks ago, a very modest tax and they implied that they would go through with it, perhaps, only if the United States and Japan went along with them.

I think that may have been an opportunity to display some cooperative leadership in a very modest way. And if one wanted an excuse to raise some appropriate taxes, going along with the European Community on a very modest carbon fuel tax might prove to be a useful way to go.

REPRESENTATIVE HAMILTON. You express the uncertainties so mildly. How did it get to be such a phenomenon if it's not going to have that much of an impact?

A number of scientists work you up into a bit of a lather when they talk about global warming. The whole world is focused on it. We have a big conference down in Rio de Janeiro. It's been a big item in the White House discussions. You seem to give the impression that it's really not worth all that effort and concern.

MR. SCHELLING. I don't think we know yet how much effort and concern it's going to be worth. The scientists who appear to be most concerned are either ecologists or people terribly worried about world food production.

I think one of the most important ways to take care of a world food problem, if it were going to emerge, would be to do what we can to slow down global population growth.

If we had a choice between slowing population growth and slowing the growth of carbon dioxide in the atmosphere, I think we should put our bets on trying to hold population growth down.

And if China succeeds in keeping its population growth close to zero for two or three generations, that will have an immense impact on Chinese carbon emissions through the next century.

REPRESENTATIVE HAMILTON. So your view generally would be that we ought to take a number of the low-cost actions.

MR. SCHELLING. Exactly.

REPRESENTATIVE HAMILTON. But it's not necessary at this point to take any of the higher risk actions. Right?

MR. SCHELLING. I doubt it.

REPRESENTATIVE HAMILTON. Okay. Do you want to say anything further about that?

MR. SCHELLING. Not unless you have questions.

REPRESENTATIVE HAMILTON. Let's go on to some other things.

One of the things that has come across in our discussions with other economists is the very strong feeling that we're underinvesting in our future. Do you agree with that?

MR. SCHELLING. I do.

REPRESENTATIVE HAMILTON. Now, what are the reasons for that, do you think? Why is it that we underinvest?

MR. SCHELLING. I think we have to look separately at public investment and private investment.

I think the reason we underinvest publicly is that we are a very rich nation, acting as if we're a very poor nation. We refuse to pay for the things we need.

Examples would be urban infrastructure, for example. We're letting things run down. The states are unwilling to raise taxes, and for at least a dozen years the Federal Government has been unwilling to raise taxes. Much of the things we need simply cost money.

I cannot explain why, in the past 12 years, taxation has become unpopular to the point of being virtually taboo. I guess it began as a public resistance movement in California and other states. The Congress passed a big tax reduction and apparently considers its constituents quite unwilling to countenance any increase in taxes. And if we don't tax, we can't pay for it.

REPRESENTATIVE HAMILTON. I think one of the reasons that people are unwilling even to consider taxes is that they don't have any confidence that we're spending the money that we have well. As a politician, I notice that's the hurdle you have to get over.

In other words, if people have the sense that their money is taken out of their pocket and put into a new bridge, or a new school, or a new hospital, they can accept the idea of paying more in taxes. But they have a very strong sense that an enormous amount of money is wasted.

I'll give you the illustration I use. I will often begin a public meeting in Indiana by asking people, how many of you think that 10 percent of the federal dollar is wasted? Every single hand in almost any audience will go up.

Then I'll ask them, how many of you think 25 cents out of every dollar is wasted? And I suspect close to half of the hands will still be up.

Then I will ask, how many of you think 50 cents of every dollar is wasted? Not a majority, but 20 percent or so will have their hands up.

That's what you're fighting against as a political phenomenon when you talk about raising taxes. We have to persuade people that we're spending the money we have more effectively.

MR. SCHELLING. There's an interesting experience in Massachusetts where, under state laws, the towns cannot raise the property tax unless they get a large override vote. And there have been override votes in about a dozen towns. And in those towns in which the tax increment was specifically identified with schools, police, roads, sanitation, the override always passed. When the override was simply for general revenues, it invariably failed. I think that corresponds to your experience.

REPRESENTATIVE HAMILTON. Yes, it surely does.

Let's go to some of the economic things. If you were to sit down with three or four key economic policymakers in the country today, what would you tell them, if you had five or ten minutes to tell them something?

MR. SCHELLING. I think I would suggest that we reverse the roles of the Federal Reserve and the Treasury. Use taxation to fight inflation and use the Federal Reserve, through its interest rate policy, to promote investment.

REPRESENTATIVE HAMILTON. Now, spell that out for me. How do you use taxation to fight inflation?

MR. SCHELLING. You take money out of circulation. We're putting money into circulation now with a deficit of several hundred billion dollars. If we could eliminate that deficit through taxation, we would have a very substantial deflationary impact on consumer spending. And that could have a disastrous effect on the economy unless the Federal Reserve can induce a very substantial offsetting increase in private investment.

And the only way it can do that is to keep interest rates very low. Even that is uncertain. It takes time. I think, if indeed we did have to eliminate the deficit very promptly, it would be an economic disaster simply because there's no offsetting increase in private or public investment. It could offset several hundred billion dollars' worth of consumer spending, which would be the result of another $250 or $300 billion in taxes.

REPRESENTATIVE HAMILTON. So, in a sense, you have today, if you look at fiscal policy and monetary policy, you have the reverse of what you would like to have.

MR. SCHELLING. I think so. We're stimulating the economy with a deficit, and we're relying on the Fed, through monetary policy, to guard against inflation. I think I would reverse those roles.

REPRESENTATIVE HAMILTON. Now, you've done a lot of work, have you not, on the problem of short-term/long-term focus in business and government. Have you worked on that?

MR. SCHELLING. [Nods in the affirmative.]

REPRESENTATIVE HAMILTON. I suppose you begin with the idea that we in government have too much of a short-term focus. There's a lot of criticism of the private sector, that they have too much of a short-term focus, as well.

Both of those criticisms are legitimate, do you think?

MR. SCHELLING. They may be exaggerated, but I think they're both legitimate, yes.

REPRESENTATIVE HAMILTON. What do you do about them? Let's take the private sector first. What do you do in the private sector to get the corporate manager to focus more on the long term?

MR. SCHELLING. What can government do?

REPRESENTATIVE HAMILTON. Or the private sector, either, but what can government do? Or, maybe, there's nothing we can do. I don't know.

MR. SCHELLING. I think there's very little the Federal Government can do to change——

REPRESENTATIVE HAMILTON. The time horizon of the business leader?

MR. SCHELLING. Yes. I don't know how much can be changed through publicity. In the last six months, the salaries and bonuses of corporate officers have come under a possibly embarrassing public scrutiny. Whether that will last and make a difference, I can't tell.

REPRESENTATIVE HAMILTON. Is it the desire for a good bottom line in the short term? Is that what drives the private sector in its short-term focus?

MR. SCHELLING. I think that's it. An excessive preoccupation with how their stock is doing on the market.

REPRESENTATIVE HAMILTON. So there's not very much that we can do about that problem.

MR. SCHELLING. I'm afraid that's correct.

REPRESENTATIVE HAMILTON. All right. We've just had a recession. We're apparently coming out of that recession now. Why did we go into the recession? Can you comment on that? What caused this recession?

MR. SCHELLING. Let me first comment on whether we're coming out of it now.

REPRESENTATIVE HAMILTON. Okay. You can comment on any aspect of these, or none of them. Whatever you're comfortable with.

MR. SCHELLING. The recession seems to have two quite different meanings, as used editorially and otherwise. One is the recession is over because we've stopped going down. We've hit bottom. But staying at the bottom in another definition means that you are still right in the middle of the recession. It's not over until you're coming out of it.

I don't see any strong evidence that we are coming out of it. We may have hit bottom. But little ups and downs shouldn't be taken as new directions of change. If we do, we'll end up one month going down, or one quarter going down, and people will say, we're in a new recession. But it's going to be the same old recession.

As to what got us into it, I don't think——

REPRESENTATIVE HAMILTON. Well, hold on there. Is that view contrary to what we're now hearing?

The impression I now have is that most economists are saying to us, we are coming out of the recession. We're coming out of it with slow growth, anemic growth, much less growth than you historically have when you come out of a recession, but we're coming out of it. Do you disagree with that?

MR. SCHELLING. I do. I don't mean that we are not coming out of it. I mean that the slight uptrend that may have been visible for the last quarter or so doesn't demonstrate to me that it's going to continue even with slow growth.

REPRESENTATIVE HAMILTON. I see.

MR. SCHELLING. I hope we're coming out of it.

REPRESENTATIVE HAMILTON. You just haven't seen enough evidence at this point that you're persuaded that we're really coming out of the recession.

MR. SCHELLING. That's right.

REPRESENTATIVE HAMILTON. Okay. Now, why did we get into this recession? And could we have prevented it? Looking back on it, are there some things that we should have done that we did not?

MR. SCHELLING. No. I think, with the current state of macroeconomic knowledge, we couldn't readily have foreseen the recession. I think, if we had, there were a few things that we might have done to lessen it, but they all would have been deficit-increasing.

And I think being a little faster in offering extended unemployment benefits, and doing it on a wider scale, less selectively, might have helped.

Otherwise, the only way you come out of a recession is through increased spending of some kind. If you don't want to enlarge the deficit, then the only place that spending can come from will be investment.

Investment is exceedingly difficult to stimulate in the short run.

REPRESENTATIVE HAMILTON. Are you prepared to use the spending power, the fiscal power, to get us out of this recession or this slow growth, stagnation, however you want to describe it?

MR. SCHELLING. [Nods in the affirmative.]

REPRESENTATIVE HAMILTON. You wouldn't worry about increasing the deficit more?

MR. SCHELLING. I would worry, but I would worry more about staying in the recession.

REPRESENTATIVE HAMILTON. I see. So you would be prepared to support, what, in the way of extra spending, in order to get us out of the recession?

MR. SCHELLING. I wouldn't want to formulate it just in terms of an amount, because I would want to identify what are the things that can be productively spent on in the short run.

REPRESENTATIVE HAMILTON. Let's do that.

MR. SCHELLING. I think the two most prompt things would be, continue with extended unemployment benefits. I think that's very important. And the other, I would try to find a way to appropriate money for the states for specific kinds of purposes, particularly including investment in infrastructure, but including, if necessary, schools, at least. And the only way you could do that in a hurry would be to give the states immediate assurance that the money would be coming, so they can begin to count on it and make their plans at once.

REPRESENTATIVE HAMILTON. Do you have any thought with regard to the magnitude? We already have a very large deficit—whatever it is—$300, $400 billion this year. How much more are you willing to drive that deficit up with this kind of spending?

MR. SCHELLING. Just to take a rough order of magnitude, I would say, if we could provide $100 billion over the course of a 12-month period, that would make a real difference. And then, if we're still not out of the recession, repeat it for another year.

REPRESENTATIVE HAMILTON. Do you worry at all about inflation at this time in the economy?

MR. SCHELLING. I wouldn't worry about it with another $100 billion added to the deficit, no.

REPRESENTATIVE HAMILTON. The inflation rate today is what? Three or four percent. Is that something that we ought to accept and not worry about?

It's kind of interesting to me to see the economists talking about, well, you don't need to worry about inflation today. It's only 3 or 4 percent.

I can remember the day when we put wage and price controls on when it hit four percent or so, not too many years ago. Is 3 or 4 percent inflation ho-hum—not much to worry about?

Mr. Schelling. In one sense, it's ho-hum if people think so. The worst thing about inflation is the way it grows on itself, and especially the way it may be anticipated.

If we have become used to 3-percent inflation and people aren't expecting a runaway inflation of 6, 8, or 10 percent, we may get along with the 3 percent. I don't know of any way, without wage controls, to keep it from happening.

I suspect that the consumer price index somewhat exaggerates the rate of inflation, because there are quality improvements in a lot of things that consumers buy that can't be properly allowed for in the price index.

Representative Hamilton. Now, the Fed chairman has said we ought to shoot for zero inflation.

Mr. Schelling. But if you shoot for zero inflation, especially if you do it through the Fed, you're going to do it with a tight money policy that is going to be the opposite of the encouragement of private investment, which I think is more important than getting inflation down to zero.

Representative Hamilton. So it is not the right economic policy today to say that we're going to shoot for zero inflation.

Mr. Schelling. It would not be the right economic policy to shoot for it through Federal Reserve policy.

Representative Hamilton. Hitting zero inflation is really not all that hard, is it? We know how to hit zero inflation.

Mr. Schelling. We know how to do it——

Representative Hamilton. If that's your only target, we can hit it pretty easily, can't we?

Mr. Schelling. With a big recession in perpetuity.

Representative Hamilton. Yes. The point is that zero inflation by itself, as an economic goal, is not sufficient. You want low inflation. You may want zero inflation. But there are a lot of other things you want. You want full employment. You want growth.

Mr. Schelling. We want high employment and productivity growth.

Representative Hamilton. Now, we have slow growth. And one of the things that marks the economy at this point is that if we are coming out of a recession, we are not coming out of it with the kind of strength and vigor that we ordinarily come out of a recession with. And if you look back over the last several decades, the economy is growing less vigorously than it did in the 1950s and the 1960s.

Why is that the case? Why have we had a slowdown in growth in the American economy? And how serious a problem is it?

Mr. Schelling. It is not well understood, but I think it is the most serious problem, why it is that productivity growth in the American economy slowed down about 20 years ago. There are people in this town who studied it with some care, and they find it complicated and not yet well understood.

One wants to distinguish between what is called growth, in terms of coming out of a recession, which really is merely recovery. It's expanding the utilization of what we have, rather than any growth in our capability. So that when people say, the economy grew at an annual rate of 5 percent in a particular quarter, that's not the economy growing. That's just the rate of utilization.

What we really should be worried about is productivity growth over the decades to come. And for that we need both public and private investment. We need to stimulate domestic private investment. We also need public investment in education.

One of the things that's happened in the last 10 or 20 years is that we have not been producing as well-educated labor force as we should have been producing in the school systems. I can't prescribe how spending money at the public level is bound to improve schooling, but if we know ways of better investing in the quality of our young labor force through education, that should make a big difference.

REPRESENTATIVE HAMILTON. We have a vote. What is your time schedule, Dr. Schelling? I'd like to come back in about ten minutes and pursue this with you. Is that all right?

MR. SCHELLING. I'll stay.

REPRESENTATIVE HAMILTON. We'll stand in recess for just a moment.

[Recess.]

REPRESENTATIVE HAMILTON. We'll resume our sitting. Let's go ahead with the discussion on productivity and growth. I'd like you to be as specific as you can. What kinds of things must we invest in, in order to get productivity up?

MR. SCHELLING. By we, you mean the Nation?

REPRESENTATIVE HAMILTON. Yes, the country—private sector, public sector, Federal Government, state government.

MR. SCHELLING. I think, in the private sector, across the board, new plant and equipment, more modernization, embodying more modern technology. It is simply going to require investment.

The short-term problem you referred to was an impediment, but I think we need a Fed that will maintain as easy money as possible.

REPRESENTATIVE HAMILTON. You put a lot of emphasis on education and training in your remarks just before we broke here. That's a very long-term operation.

MR. SCHELLING. It really is. But we're talking long term. If you get productivity growth doubled for a very few years, you can't tell the difference. It's only over the decades that it really matters.

REPRESENTATIVE HAMILTON. Do you think that we're in for a fairly long period of time where the standard of living of the American family is going to be fairly flat, not moving up like it did for a period of time?

MR. SCHELLING. No. I think it's not going to rise for the next few decades in the way we got used to it for the first 20 years after the war.

REPRESENTATIVE HAMILTON. And there's not much we can do about that.

MR. SCHELLING. I don't think there's much we can do, except stimulate private investment, and think real hard about what we can do with our educational system in order to develop better training, as well as a better disciplined work force.

REPRESENTATIVE HAMILTON. So one of the things we have to do is to begin to lower people's expectations about how much growth and zest and vigor there is in the economy.

Let me put it this way. It's not a reasonable or sound position to take, that we're going to have 4 percent growth per year, or 4½ percent growth per year, in the next decade or two. That's an unrealistic expectation, right?

MR. SCHELLING. That is unrealistic.

REPRESENTATIVE HAMILTON. We had that in the 1950s and the 1960s, didn't we?

MR. SCHELLING. Per capita, it was more like 2 or 2½ percent. But, see, we had a lot of growth in the labor force during those years.

REPRESENTATIVE HAMILTON. I see.

MR. SCHELLING. So some of the GNP growth was simply more and more women coming into the labor force and the Baby Boom.

REPRESENTATIVE HAMILTON. So the reason we're not going to get that kind of growth is what? What are the reasons? Part of it is demographics.

MR. SCHELLING. Part of it will be demographics. Part of it is simply this decline in the rate or productivity improvement, which is not well understood either in this country or anywhere else in the world.

REPRESENTATIVE HAMILTON. Why isn't that better understood? You ask almost any economist today, "what brings about productivity improvement," and almost immediately they respond, "we really don't know." And yet, it is the most important thing in economics.

MR. SCHELLING. The person who has done the most work on this, over a period of nearly half a century, is Edward Dennison at Brookings, now retired, I think, from Brookings. He identified at least 15 different variables that could make a difference. And he found that none of them explained an awful lot all by itself.

REPRESENTATIVE HAMILTON. You say he deals with all 15?

MR. SCHELLING. Yes.

REPRESENTATIVE HAMILTON. We may want to visit with him about that. I think that could be interesting, I suspect.

Now, we have a big budget deficit. I gather from your earlier remarks, you don't worry all that much about that budget deficit, or at least you think you're willing to take the risk of a larger deficit in order to get some additional investment in the economy.

But quite apart from that, how big a deal is the budget deficit now? How much should a policymaker worry about it?

And is it a high national priority to get a balanced budget?

MR. SCHELLING. I'm afraid that the balanced budget is a little like zero inflation rate. It's desirable, but it can't be taken as a goal by itself. I think it would be a mistake to eliminate the deficit immediately.

REPRESENTATIVE HAMILTON. Would it be a mistake to eliminate it over ten years?

MR. SCHELLING. No. If we can get a sufficient increase in private investment, then I think we can afford to eliminate the deficit without perpetuating a recession.

REPRESENTATIVE HAMILTON. What do you say to people who ask you the question, how do you get the deficit down?

How would you answer that question? I get that question at every public meeting I go to. What are you going to do about the deficit? How are you going to get it down?

MR. SCHELLING. The quick answer is raise taxes.

REPRESENTATIVE HAMILTON. That's a tough answer, too.

MR. SCHELLING. Yes. But I think it's tougher to talk about eliminating a quarter of a trillion dollars out of the budget. If there are people who think that there's all that much waste in the budget, what they have to have in mind is expenditure programs that they think aren't worth having, whether it's defense, or Medicare, or whatever it may be.

REPRESENTATIVE HAMILTON. What do you think about this balanced budget amendment that we have pending? Do you know much about that?

MR. SCHELLING. Only what I read in the newspapers, and I've talked with one ardent proponent, Bill Niskanen, at the Cato Institute.

One observation I have is that in some of the forms, including the one that Mr. Niskanen has been promoting, it looks as if it is as much an anti-taxation amendment as an anti-deficit amendment.

If you require a super majority to raise taxes, I would have thought if you really wanted a balanced budget amendment, you would require a super majority to lower taxes, not to raise them.

I do have a worry that the Congress may end up passing a balanced budget amendment and wiping its hands of the matter, and it will take four or five years to discover whether it's going to be ratified. And during those four or five years, the Congress will say, don't blame us, blame the states. And that may mean that we just postpone action for four or five years.

REPRESENTATIVE HAMILTON. How did we get ourselves into this mess with these huge deficits, anyway? Was this because, as one of your colleagues at Maryland, Charlie Schultze, argues that current deficits are really a one-time budgetary miscalculation in the early 1980s? Or, is it because we really do need new fiscal rules for the game?

MR. SCHELLING. I think Mr. Schultze is at least partly right in that we got a Reagan tax reduction at a time when it wasn't really called for.

We generated this unwillingness to contemplate tax increases. It's not going to be easy to eliminate it, but I don't think there's any way to go but to raise taxes. And until we have a president who's willing to get out in front on that, I don't think we're going to do much about the deficit.

REPRESENTATIVE HAMILTON. Well, you know, it's not just the president. You really cannot get yourself elected governor of any state in the country today on a pro-tax basis.

I think everybody I know who is running for governor is saying just the opposite—we have to cut taxes, or we're not going to raise them any.

Let me ask you a couple of other things about the world of regulation and how you size that up.

We hear an awful lot now about regulation being the principal impediment to growth in the economy and productivity increases and the like.

How do you respond to all of that? Do you think we have too much regulation and we need to cut it back sharply, or do you think there are some areas where markets will work better if we intervene?

MR. SCHELLING. I expect that on some things like occupational safety and health, we overdo the regulation, attempting to eliminate very minor hazards at very great expense.

REPRESENTATIVE HAMILTON. How about the environment?

MR. SCHELLING. I think the basic regulation for the environment, such as the Clean Air Act, make pretty good sense. I don't think they overdo it. I think we were a long time getting to where we have something like tradeable permits to permit the emissions to be controlled.

Representative HAMILTON. You approve of that concept?

MR. SCHELLING. Oh, yes, indeed. It's what they used to call the bubble, back in the old days.

REPRESENTATIVE HAMILTON. Yes.

MR. SCHELLING. I think the more you can get your regulation market-oriented along those lines, the better off you are.

REPRESENTATIVE HAMILTON. But if you talk to a lot of the business people today, they really complain very, very strongly about regulation—health, safety, environmental regulation. You talk to the farmers, they complain very strongly about regulation. Do you think they're overstating it?

MR. SCHELLING. Almost certainly, nobody likes to be regulated. The people whose businesses are regulated are typically not the people on whose behalf the regulation was put into effect.

If farmers don't like the regulation of pesticides, I don't blame them. But that doesn't mean that it's an unwarranted regulation.

I think, on regulation, it's very hard to make a sweeping statement. You have to look into the specifics and the horror stories.

REPRESENTATIVE HAMILTON. How do you size up this debate, growth versus the environment? Where do you come down on that debate?

MR. SCHELLING. I think the debate takes two forms. There are extremists who say, growth is bad for the environment. We must hold back on the economic growth. And they say this for China and India, as well as for the United States.

I don't credit that argument in the slightest. I think the question is, how much growth do we sacrifice in order to protect the environment? And I think there, we don't sacrifice much growth.

REPRESENTATIVE HAMILTON. Overall.

MR. SCHELLING. Overall.

REPRESENTATIVE HAMILTON. How about industrial policy? I'm jumping around quite a bit here, but that's the purpose of these conversations, to get general impressions.

MR. SCHELLING. Yes. I've not yet seen an industrial policy that I liked. If we sometimes think that the government regulates badly when it regulates, I think it's ten times as difficult to try to have an industrial policy, whether it's picking winners or confining businesses that want to move, or whatever it may be.

REPRESENTATIVE HAMILTON. Do you credit the Japanese performance—often widely admired—as being partly due to an industrial policy?

MR. SCHELLING. Not an industrial policy of the kind that we might contemplate for the United States. I think it is not primarily a government-induced policy.

REPRESENTATIVE HAMILTON. Now, of course, we have a lot of government investment flowing into American private enterprise today, much of it through the Defense Department, so-called DARPA.

Would you eliminate all of that? I read an article the other day where we're picking up a big tab for the production for the development of the electric automobiles.

MR. SCHELLING. I think research and development makes a lot of sense.

REPRESENTATIVE HAMILTON. That kind of thing is okay.

MR. SCHELLING. Oh, yes.

REPRESENTATIVE HAMILTON. But when you say you've never seen an industrial policy that you like, you're talking about direct government money flowing into specific industries. Is that it?

MR. SCHELLING. Either that or putting regulation on things like the movement of business or protectionist measures.

REPRESENTATIVE HAMILTON. Are you worried about the protectionist trends today?

MR. SCHELLING. Very much. Very much so.

REPRESENTATIVE HAMILTON. Why are you worried about it?

MR. SCHELLING. I think the recession has focused too much on job protection at the expense of trade, and when we get out of the recession—as I hope we do—I think part of productivity growth is going to depend on a growing volume of world trade, and we should be participants.

REPRESENTATIVE HAMILTON. You're strongly supportive of GATT and NAFTA and those efforts, are you?

MR. SCHELLING. Yes, indeed.

REPRESENTATIVE HAMILTON. And think that we, through those, would not only get more economic growth, but we'd create more jobs.

MR. SCHELLING. Yes.

REPRESENTATIVE HAMILTON. Than if you went in the other direction. Is that right?

MR. SCHELLING. Yes.

REPRESENTATIVE HAMILTON. What do you say to the worker in Indiana who is going to lose his job because the plant locates in Mexico? Tough luck?

MR. SCHELLING. It's the same kind of tough luck as when he loses his job because the plant moves to Alabama. I don't think the danger of massive shifts to Mexico is much larger.

REPRESENTATIVE HAMILTON. You don't worry too much about that?

MR. SCHELLING. No.

REPRESENTATIVE HAMILTON. It will cost American jobs, maybe not in the net, but it will cost American jobs, obviously. If production is moved across the border, you lose those jobs.

Now, you may create jobs somewhere else, but you lose them. If you go across the border, you have all kinds of plants down there today that are trying to take advantage of the Mexican environment.

MR. SCHELLING. And we should be taking advantage of the Mexican market for exports.

REPRESENTATIVE HAMILTON. And that will counterbalance, more than counterbalance.

MR. SCHELLING. I would expect so. If not more, at least it will counterbalance.

REPRESENTATIVE HAMILTON. Okay. How about distribution of income? We've seen a lot of statistics recently indicating that there's been a growing gap in the income distribution in this country. How serious a matter is that, from your perspective, and what ought we to do about it?

MR. SCHELLING. One thing I would not do is cut the capital gains tax.

REPRESENTATIVE HAMILTON. You would not cut that.

MR. SCHELLING. No. I would be happy to see it indexed to the price level, if that proves to be technically feasible, and I think it could be. But when people talk about reducing the capital gains tax to promote investment, the investment you promote is simply investment in securities. It doesn't directly lead to investment in plant and equipment the way, say, an investment tax credit for business.

REPRESENTATIVE HAMILTON. As between the two, you would favor an investment tax credit.

MR. SCHELLING. Yes.

REPRESENTATIVE HAMILTON. Should we enact that right now?

MR. SCHELLING. I would enact some kind of an investment tax credit, yes.

REPRESENTATIVE HAMILTON. The theory being there that you get more bang for the buck in terms of investment, new investment.

Is that right?

MR. SCHELLING. Yes. The only thing that you get, if you cut the capital gains tax, may be a little easier access to the securities market on the part of businesses. I think Federal Reserve policy can take care of that just as well as a cut in the capital gains tax.

So essentially, the capital gains tax is like an income tax, except the main difference is that for people who sell houses and businesses, after a decade of inflation, much of the capital gain is nominal rather than real. Otherwise——

REPRESENTATIVE HAMILTON. Is the distribution of income a problem that needs attention?

MR. SCHELLING. Yes. But one of the reasons that the distribution of income has become more unequal in the last dozen years is that the high-bracket tax rates have been reduced so far.

REPRESENTATIVE HAMILTON. So that's an area of government policy that is an important area for our attention, and that is adjusting the tax code in such a way that you reduce the impact of that inequality of distribution.

MR. SCHELLING. Yes.

REPRESENTATIVE HAMILTON. Okay. And are you familiar with the book out by Osborne and Gabler on reinventing government?

MR. SCHELLING. No.

REPRESENTATIVE HAMILTON. You're not familiar with that?

MR. SCHELLING. No.

REPRESENTATIVE HAMILTON. I was going to ask you a question, if you had any views as to how that applies to government today, but I won't pursue that if you've not had a chance to look into it.

I want to thank you for coming down. I know that this is a little bit of an unusual format, but we're interested in this in order to get highly respected economists, like yourself, to give us impressions about some of these policy issues that are before us.

Thank you very much.

MR. SCHELLING. I appreciate the opportunity.

REPRESENTATIVE HAMILTON. It's good to see you.

We stand adjourned.

[Whereupon, at 11:25 a.m., the Committee adjourned, subject to the call of the Chair.]

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ROUNDTABLE CONVERSATION WITH LESTER THUROW ON THE STATE OF THE ECONOMY AND ECONOMIC POLICY

TUESDAY, JULY 28, 1992

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, DC.

The Committee met, pursuant to notice, at 10:00 a.m., in room 2318, Rayburn House Office Building, Honorable Lee H. Hamilton (vice chairman of the Committee) presiding.

Present: Representative Hamilton, Scheuer, and Fish.

Also present: Charles Stone and Christopher J. Frenze, professional staff members.

OPENING STATEMENT OF REPRESENTATIVE HAMILTON, VICE CHAIRMAN

REPRESENTATIVE HAMILTON. I appreciate your joining us here this morning. The Joint Economic Committee will come to order. Today is another in a series of roundtable conversations, which the Joint Economic Committee is holding with prominent economists, to discuss the state of the economy and economic policy.

We are pleased to have, as our guest today, Lester Thurow, Dean of the Sloan School of Management at the Massachusetts Institute of Technology and professor of economics there. Since the publication of his book, *The Zero Sum Society*, Dean Thurow has enjoyed a reputation for analyzing the broad trends that affect the economy in a comprehensive, insightful and readable way.

His latest book is *Head to Head: The Coming Economic Battle among Japan, Europe and America*. We are very pleased to have you with us, Dr. Thurow, and we look forward to a discussion. I know you were told not to prepare a statement, but if you have any opening comments, we would be pleased to hear from you. I am going to have a wide range of questions about the status of the economy, where we ought to be going, and what you think we ought to be doing.

Why don't you begin with whatever you think appropriate.

STATEMENT OF LESTER C. THUROW, DEAN, SLOAN SCHOOL OF MANAGEMENT, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

MR. THUROW. Let me make two or three minutes of comments that basically come from the testimony I gave to the Senate Banking Committee last week after Alan Greenspan's testimony. Let me just highlight one or two things, then we can talk about whatever you like.

I think it is important to understand that at the moment we are not recovering from a recession. We are in a period of cleaning up the mess at the end of a speculative bubble. So, if you really say how could we speed up the current recovery with one exception, I don't think there is very much you could do to speed it up, and therefore the important thing is to look at the long run. If you look at the long run, there really is a key issue.

There are two ways to be competitive in a world market. The easy way is basically just to lower wages. The harder way is basically to raise productivity and sell products that can basically justify paying high wages. The problem in the 1980s is that we in the United States collectively decided to become more competitive by lowering wages.

In this document, I give a number of statistics, but let me just cite one which I think, in some sense, ought to be branded on the brain of every American elected official. That is a number that recently came into the Census Department, where if you go back to 1980 and look at young males 18 to 24 years of age who are working full-time, full-year, which means they work eight hours a day, five days a week, 52 weeks a year, ask how many of those could not make a poverty-line income, which was $12,195 in 1990 dollars. Back in 1980, 18 percent of the young males could not earn a poverty-line income. By the time you get to 1990, the percentage is 40 percent, and the percentages for other groups go up just as dramatically. If you think about that, if you want one statistic that illustrates the nature of the problem of falling wages, I think that is as good as any.

We know the solution to that statistic. The solution to that statistic is basically to become a high investment society on four important dimensions. The interesting thing at the moment is that investment is a measure of how much any society cares about its future, and in the 1980s, for reasons which are a little bit mysterious, Americans didn't seem to care about their future at all.

If you look at gross private domestic investment at 12.5 percent of the GNP today, it is the lowest it has been since World War II. If you look at civilian research and development spending, it is running at a level of about 60 percent of either Germany or Japan. Both public and private funds are now falling. If you look at infrastructure investment in real terms, we are now investing half as much as we did in the late 1960s, and if you look at this round of state and local government budget cutting, nothing has been cut harder than education and our skills.

The consequence is clear, productivity has not been growing in recent years, wages are falling, and that is a trend that is going to continue. In the middle of this document, I have some information that you might find interesting to peruse at some point. This is not a Republican view of America or a Democratic view of America, it is basically a European view of America, published in the World Competitiveness Report as to what Europeans think about Americans on a number of dimensions.

It is interesting if you look at their overall rating of competitiveness. They rate Japan number one, Germany number two, the United States number five. If you look at their poll of business executives, in one we are rated number 12, but if you look at the detailed rankings, what gives us the number 5 ranking is that there are a whole set of things that basically relate to the past, and if you look at the things that are going to give us our ranking in the future, we rank much worse.

In capital formation, we are the 21st country in the world; success in foreign trade, the 14th country in the world; long-term orientation, number 21; funding of R&D, number 21; literacy, number 15; in-company training, number 17; attitudes of young people, number 20. I think it is reasonably clear, from an economic point of view, what has to be done and where we have to start. The question is how you do it politically.

Where we have to start is by getting all forms of these investments, in some sense, up to world-class levels. I would like to suggest that the way we should basically start is, first of all, to construct a capital budget for the United States, and then as part of that capital budget for the United States to construct a capital budget for the Federal Government, so we clearly distinguish between investment and consumption. Then we worry about how we get our investment on all these categories up to world-class level.

I suspect the answer is that what we ought to think about then doing is having earmarked taxes to fund these investment categories that have to be funded, and then separate the issue from the issue of how we finance the consumption that we want to do in the United States.

The one thing that I think fits in with this strategy that could be done to speed up the current recovery is, if you look at the highway and airport trust funds, it seems to me in the current environment that that money ought to be pumped out the door just as fast as possible, even though that means making the Federal Government deficit bigger, because you can justify pumping the money out the door as long as it is going for investment. I don't think you can justify making the Federal Government deficit bigger if you were pumping it out the door for consumption.

So I think, in some sense, we face a rather clear choice. In the 1980s, we didn't invest enough, which means in the early 1990s we have problems. If we don't invest enough in the early 1990s, we are going to continue to have problems in the late 1990s. The clearest way to see the problems are in the statistics that I was pointing to, where you have 40 percent of the young fully employed males in America who can't earn a poverty-line income, and by the time we get to the year 2000, under current trends, that number is going to be a lot higher. I think that is basically where I will leave it.

[The prepared statement of Mr. Thurow, together with attachments, follows:]

PREPARED STATEMENT OF LESTER THUROW

AMERICA -- MID-YEAR 1992

It is important to understand that the United States is not now in the recovery from a recession.

IT IS CLEANING UP THE MESS AFTER A SPECULATIVE BUBBLE.

With one exception counter cyclical fiscal policies were thrown away in the 1980s because of our unwillingness to eliminate the budget deficit in good economic times.

If one wants to look at the United States a year from now look at Britain today. It began its period of cleaning up the mess a year before the United States and still has not yet experienced a vigorous recovery.

Since there is little to do in the short run, everyone should concentrate on the long run.

I In the broad sweep of history each country must choose one of two roads to international competitiveness

The easier way -- lower wages

The harder way -- high productivity

II In the 1980s and thus far in the 1990s the United States has chosen the easier route to becoming more competitive on world markets -- it reduced its real wages dramatically.

THE STATISTICS ARE SEARING

1. From 1980 through 1991 real hourly earnings for nonsupervisory workers have fallen 4 percent and real weekly earnings have fallen 7 percent.

   In the last five years real hourly and weekly wages have fallen each and every year. The problem is not just the 1990-92 recession.

These downward secular trends will continue in the years ahead.

2. In the bottom half of the wage distribution what is occurring can only be described as a disaster.

   The percentage of the population that works full time full year yet cannot earn a poverty line income ($12,195 in 1990) is rising rapidly.

   Between 1980 and 1990 the percent of the full time full year work force that cannot earn a poverty line income rose from 12 to 18 percent.

   For males 18 to 24 years of age who work full time full year the percentage that could not earn a poverty line income rose from 18 to 40 percent. For females the percentages went up from 29 to 48 percent.

   If all (the unemployed and those who work part time) 18 to 24 year olds are included 73 percent could not earn a poverty line income in 1989.

   To talk about family values to these individuals is a mockery. Family values are only relevant if one is able to earn a family income.

3. These adverse trends are moving up the education distribution. At the end of the decade earnings for college graduates were also falling -- down 4.9 percent for men and 1.9 percent for women from 1987 to 1991.

III. The reasons for the decline are clear. In no decade has America every invested less in its future than it did in the 1980s. The investments necessary to raise productivity simply weren't being made.

1. At 12.5 percent of GNP at no time since WWII has gross private domestic investment been as low as it now is as a fraction of the GNP.

In 1979 it was 18.1 percent of GNP.

Our principle competitors are investing two to three times as much.

2. Civilian R&D spending is running at rates only 2/3 those found in German and Japan. Both private and public R&D spending is now falling.

3. In real terms public infrastructure investment is running at less than half the rates found in the 1960s when our population was much smaller.

   America's infrastructure deteriorates while the rest of the world races to build the world's fastest train.

4. In this round of state and local government budget cutting no area is taking greater cuts than education.

   On all measures of educational performance Americans do not measure up against the performance achieved in the rest of the industrial world.

IV. The consequences are clear. Productivity and wages cannot grow with all forms of investment falling.

Investment is a measure of how much we care about the future. What is not clear is why Americans in the 1980s did not care about their own future -- either in their families, in their corporations or in their nation.

V. The results are clear if one benchmarks American against its foreign competitors.

The World Economic Forum in Europe in its international competitiveness report rates Japan #1, Germany #2, the United States # 5.

A poll of business excecutives ranks the US # 12

If one looks at that # 5 it is clear that the number 5 represents a successful economic history and if one looks those factors that will determine the rankings in the future the United States is far down the statistical tables.

Capital formation # 21

Foreign trade # 14

Long Term Orientation # 21

Funding of R&D # 21

Literacy # 15

In-Company training # 17

Attitude of Young People # 20

VI. But no one can invest for the future if they do not save in the present. The American issue is not public versus private spending but investment versus consumption. The investment that must go up if wages are to go up is in both the public and private sector and the consumption that must be cut if savings is to go is in both the public and private sectors.

WHAT MUST BE DONE IS CLEAR.

THE PLACE TO START IS CLEAR.

1. To get investment up and help speed up the recovery from the current recession the funds now in the airport and highway trust funds should be allocated and spend just as fast as is feasible.

2. A capital budget should be adopted to budgetarily distinguish what America needs from what it does not need.

3. Where more public and private investment is need earmarked taxes should be adopted to pay for the public investment or the private tax incentives.

This should start immediately

4. Then a systematic policy has to be adopted to raise public and private savings rates.

   In the public sector this means both tax increases and cuts in consumption expenditures.

   In the private sector it means both carrots and sticks to encourage or force private savings.

VII. If nothing is done, the future is clear. A decade of falling wages will be followed by another decade of falling wages. And in each decade the percentage of the work force that can only preserve their jobs by reducing their wages will only grow larger.

USA

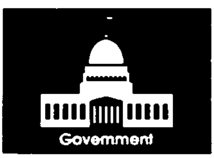
OVERALL RANKING : 5

3

3	**Performance of the Economy**	1	Value Added
		21	Capital Formation
		9	Inflation
		9	Private Final Consumption
		5	Economic Forecasts
10	**Performance of Economic Sectors**	13	Industrial Production
		4	Capital Goods
		9	Service Sector
		8	Agriculture

10

14	**Foreign Trade**	16	Trade Balance
		13	Exports of Goods & Services
		5	Export Diversification
		17	Imports of Goods & Services
		19	Exchange Rates
		20	Tourism
12	**National Protectionism**		
11	**Partnerships with Foreign Firms**		
1	**Foreign Direct Investment**	1	Abroad
		1	Inward
22	**Cultural Openness**		



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1	**State Involvement in the Economy**	13	National Debt
		1	Official Reserves
		10	Government Expenditure
		5	State Control of the Industry
16	**Legislative & Regulatory Environment**	12	Government Efficiency and Transparency
		20	Improper Practices
		17	Environmental Protection
		5	Agricultural Policies
		5	Managerial Freedom
2	**Monetary & Fiscal Policies**	1	Taxation
		6	Fiscal Policy
		8	Social Security
5	**Nature of the Competitive Environment**		
18	**Socio-Political Stability**	12	Support for Government Policies
		20	Justice & Security

6

1	**Cost of Capital / Rate of Return**
9	**Availability of Finance**
4	**Stock Markets**
8	**Financial Services**
14	**Corporate Accounts**

2

16	**Natural Resources**	5	Energy Production
		10	Energy Consumption
		22	Self - Sufficiency
		3	Arable Area
		11	Recycling of Resources
1	**Business Infrastructure**		
19	**Urban Development**		

Competitiveness Balance Sheet

9

1	**Entrepreneurship**		
20	**Management Development**	7	Willingness to Delegate
		7	Use of Information Technology
		11	Implementation of Strategies
		21	Long - Term Orientation
		22	International Experience
		18	Employee Relationships
		22	Managerial Constraints
10	**Corporate Performance**	11	Price / Quality - Ratio
		2	Customer Orientation
		6	Product Development
		17	Social Responsability
8	**Business Efficiency**	8	Profits
		1	Productivity
		4	Labour Costs / Compensation Levels
		14	Remuneration of Top Management

3

18	**R & D Expenditure**	5	Total R & D Expenditure
		10	Business R & D Expenditure
		6	Research Cooperation
		21	Funding of R & D
1	**R & D Personnel**	1	Total R & D Personnel
		1	Scientists & Engineers
1	**Intellectual Property Generation**	1	Basic Research
		2	Patents
12	**Technology Management**	10	R & D in Key Industries
		9	Future R & D Spending
		14	Production Technologies
		10	Technology Strategies
		10	Financial Constraints

7

8	**Population Characteristics**		
11	**Educational Structures**	7	Education
		15	Literacy
		17	In-Company Training
3	**Employment Structures**	5	Labor Force
		4	Employment
		9	Unemployment
		7	Working Week
		6	Availability of Skilled People
		12	Equal Opportunity
		8	Industrial Disputes
12	**Attitude of the Workforce**	2	Worker Motivation
		20	Attitude of the Young People
		5	Willingness to Retrain
		22	Alcohol & Drug Abuse
		10	Competitive Values
3	**Quality of Life**	10	Cost - of - Living
		2	Leisure Expenditure
		10	Health

EXECUTIVE SUMMARY

By Liisa Välikangas

Despite of its current problems, Japan still leads the world in competitiveness in 1992. Germany is in 2nd position, benefitting mainly from the USA's drop from 2nd to 5th. Although Switzerland is 3rd, the gap between Germany and Switzerland has widened, leaving Switzerland far behind its previous rival. The strong one this year is Denmark, rising from 8th to the 4th ranking. It is important to note that the problems which the Japanese and German economies are currently experiencing are not fully reflected in the available statistics. In the USA, however, where the recession started earlier, the economy was already sinking, a fact that contributed at least in part to its dramatic drop in the rankings. Singapore continues to lead the group of newly industrialized economies. Taiwan has risen from 4th to 2nd place, while South Korea has dropped from 3rd to 5th. Of the newcomers in the Report, South Africa ranks 8th, followed by Venezuela.

This year, 1992, has been clearly affected by the recession in the world economy. The economies that have succeeded in maintaining their economic performance at previous levels have gained better positions in the rankings, whereas countries such as the US and the UK that entered the recession earlier have been forced into lower positions. The available statistical data reflects the state of economies through 1990 and, occasionally, 1991. Thus, there is a time lag in the rankings, only partly remedied by the Executive Opinion Survey's attempt to capture the present and near future. In addition, as values are calculated per capita, small countries profit from the evaluation. For example, although a large market gives the US a competitive advantage, it does not fully compensate for the decreasing quality of its people as competitive resources.

Japan - In Search of a New Competitive Strategy

Japan, for the first time, shows some weakness in world competitiveness, due to a demand for socio-political restructuring. However, the domestic economy of Japan—although declining—still has a strength that is unmatched by others. In integrating into the international economy, Japan has dropped from 1st to 6th place—not only because its export growth has slowed down but also because the notion of national protectionism has been taken more fully into account in this year's evaluation. Also, the positive impact that the government has had on the economy in the past seems to be slowly weakening (from 2nd to 3rd in the rankings). The turmoil in the country's financial markets is reflected in Japan's fall from 1st to 4th place in the finance factor this year. Nevertheless, the lead held by the Japanese in the categories of quality of management, R&D and people remains unchallenged. Thus, the champion of world competitiveness appears to still have good opportunities to overcome its present problems.

Germany - Confronting Itself

Germany gained the 2nd position because of the fall of the United States. Although Germany's economy has been very strong in the past, the recent developments are disquieting and raise doubts about its future competitiveness. The costs of unification are thus not yet fully reflected in the statistics. Although there is a temptation to focus only on internal affairs, Germany still emerges as the country most integrated into the international economy. Indeed, the German government's successful policies in the past are acknowledged by an increase from 4th to 2nd position in the corresponding factor. However, recent criticism may jeopardize this position in the future. In management, science and technology, Germany is credited with performing this year a little better than its arch rivals, Switzerland and the USA, contrary to last year.

Switzerland - An Identity Crisis

Switzerland, in 3rd position, has lost its domestic economic strength considerably (from 3rd to 7th in the rankings). Exceptionally high inflation, emerging unemployment, economic recession, and doubts about its future competitiveness in an integrated Europe have taken their toll. Solving the country's relationship with the rest of the world is indeed a major challenge: Switzerland has dropped from 3rd to 11th place in international integration! Opening negotiations with the European Economic Area and for membership in the European Community may change prospects for Switzerland, as well as reduce the current level of national protectionism. Government policies seem to have lessened their impact on competitiveness. Switzerland still holds the 2nd position in the finance factor and has risen in quality of infrastructure from 10th to 4th place.

Denmark - This Year's Superstar

Denmark shows a remarkable turnaround in world competitiveness after its economic problems during the '80s. Denmark emerges this year in the top league, rising from 8th position to 4th. This rise is partly due to the confidence that Danish executives have in their economic performance. Not without reason, however—the domestic economy has climbed from 11th to 8th place, and international integration has improved greatly (8th position last year vs 3rd this year). The Danish government has climbed from the 13th position to 7th. Due to its excellent performance in financial markets (in particular the price/earnings-ratio to shareholders), Denmark takes the first position in finance. Remarkable progress has also been shown in the quality of management (8th to 4th), and activities in science and technology (from 16th to 8th). Finally, people emerge as a competitive resource for Denmark, reaching 2nd position from last year's 8th. Congratulations!

The United States - Still Slipping

Falling from the top league this year, the United States is in 5th place. This drop is explained by the fact that the US entered a deep recession early enough to be already suffering from the corresponding statistical impact this year. In addition, the upturn in the economy, promised many times but not yet delivered, has shaken the business world's confidence in the economy. Foremost, however, the country is being hurt by the structural problems of the US economy, in particular, those relating to its human resources and technology development. In science and technology, the US is now a little behind Germany. Most alarming for long-term competitiveness is the USA's drop in the quality of people—from 2nd position to 7th this year. Reflecting these structural problems of the US economy, government policies are evaluated less favorably than last year, dropping from the 1st position to 4th (at the same level as Japan). Also in management, US corporations receive a lower mark this year, dropping from the 4th ranking to 9th.

The United Kingdom and France: New Rivals

Interestingly, the UK and France have become closer to each other in ranking—the UK being 13th and France 14th, a result of the UK dropping from last year's 10th position and France climbing up from 15th place. The fact that the UK entered the recession earlier than France also had some impact on the change of rankings. Hence the domestic economy of France shows more strength than that of the UK. France is still behind the UK in internationalization, government and finance, but it leads the UK in management, science and technology, and people—thus providing building blocks for long-term competitiveness.

Newly Industrialized Economies: Singapore, South Africa, Venezuela and Pakistan

Singapore, for the fourth year, is a strong leader in Group II. Of the newcomers this year, South Africa ranks 8th, followed by Venezuela. Financial services, and science and technology efforts have achieved the best rankings for South Africa. However, the challenge facing South Africa is to spread its competence, skills and educational basis among the population. This need is reflected in its being ranked last in the people factor. Venezuela benefits from oil resources, but it is still struggling with the reform of its economy. The third new country, Pakistan, ranks 14th, but it should receive credit for its attempt to integrate its economy internationally.

REPRESENTATIVE HAMILTON. That is a good start. You want to get investment up. What do you do? Do you just let her rip as far as the budget deficit is concerned, so long as the money is going into "investment"?

MR. THUROW. I think, one, in terms of the existing trust funds for the highways and the airport, that is right. I think the other thing, however, is that we should systematically, even though it is not the best public finance, start to think a lot about earmarked taxes for investment, where we say we are going to put a tax on, but it is not going to go to finance general government expenditure; it is going to go to finance investment spending.

REPRESENTATIVE HAMILTON. You would prefer to tax to get new funds for investment rather than to increase the deficit?

MR. THUROW. I am willing to increase the deficit to the limited extent of where we have the existing trust fund and the existing earmarked taxes expended.

REPRESENTATIVE HAMILTON. But you would not increase the general deficit?

MR. THUROW. No, it seems to me that the right strategy there is basically to move to a series of earmarked taxes. The thing I want to emphasize is, I think, before you do that, you need a capital budget, both for the United States and the Federal Government. Because if you look at this list of investments, some of these are public and some are private, and we need private investment at a much higher level than it is now, too. So I think one of the things that we have to think about is an overall strategy as to how do we get all forms of investment up to a world-class level.

REPRESENTATIVE HAMILTON. When you are talking about earmarked taxes, what are you talking about? You build an airport, you put fees on airline tickets?

MR. THUROW. You put fees on airline tickets. You get the tax that comes the closest to being a user's tax that you can find.

When you talk about skills, I think one of the things I suggest in my new book, which I think we should think about seriously, is perhaps modifying the social security fund so that every child born in America starts off with a $20,000 trust fund for investing in their skills in education after they get out of high school. They would pay for that trust fund in the payroll tax just the way we now pay for pensions and health care in the payroll tax. That would be another earmarked tax that could be implemented to pay for it. I think we should look systematically at all these investment categories and then try and find what tax makes the most sense to pay for raising that level of investment. It may very well be that you need some very targeted tax incentives if you are talking about plant and equipment.

REPRESENTATIVE HAMILTON. What kind of tax incentives? I was going to ask you about that. Where would you put the carrots in here for tax incentives, what kinds of things?

MR. THUROW. I think one of the things you have to think about is the whole strategy of how you convert. Basically, we have had, to a great extent, a military R&D complex. The question is how do you convert that military R&D complex to a civilian R&D complex. So you have issues of how do you convert the National Laboratories.

You have issues of what do you do with universities like mine, MIT. If you look at our $800 million worth of research, somewhere between $450 and $500 of it comes from the Defense Department or the military parts of the Energy Department. And we have just announced large layoffs of scientists because the Air Force is cutting back on some of the programs at the Lincoln Laboratory that we run for the Air Force.

Well, those resources have to be not just laid off, they have to be transferred, in some sense. So I think certain types of R&D tax credits make a certain amount of sense, but I think there is a bigger issue as to how we make the conversion in our military R&D so that we don't just cut. At the moment, what is happening in both the public and private sector, we are just cutting R&D funding.

REPRESENTATIVE HAMILTON. What about the things that are usually talked about—investment tax credits, capital gains tax cuts, and those types of things? Do you think they help private investment very much?

MR. THUROW. I think you can make a case for the capital gains if it is very narrowly targeted at new start-up ventures, where people are required to make investments and then hold them for a very long period of time. I think it makes sense in that sense, But if you are talking about a general capital gains that applies on everything—old masters, land, old buildings, all of those kind of things—then, if anything, I think you suck money out of these new productive investments, as opposed to putting them into the new productive investments.

REPRESENTATIVE HAMILTON. IRAs and investment tax credits?

MR. THUROW. The problem, there again, depends on what you are willing to do. There are countries in the world that have real IRAs, and there are countries like us that basically have a phony IRA, where you can get a tax deduction by moving money from one account to another, or by borrowing money at the bank to put into your IRA. If you had a real IRA, where you basically had to prove that you were lowering your consumption—but the problem with that is that it requires a lot of tax forms to really prove that.

If you want to do a consumption tax, I think that makes more sense. Here is something I have advocated, and I think we need to think about replacing either all or a lot of the payroll tax with a value-added tax. It is also one of the ways to tax the wealthy elderly, because if you are not working you don't pay the payroll tax. But if you replace a lot of the payroll tax, with a value-added tax, then if you are a wealthy elderly person who consumes a lot, you are still paying taxes as opposed to not paying taxes.

For most Americans the payroll tax is now their biggest tax, and that isn't right from the point of view of public finance.

REPRESENTATIVE HAMILTON. So you like the idea of a value-added tax, with some kind of offset of income to maintain progressivity?

MR. THUROW. Right. The easiest way to do that would be in the payroll tax. The payroll tax is a regressive tax. If you use the revenue from the value-added tax to replace either part or all of the payroll tax, you could make the whole system more progressive at the same time, and I think create better incentives, because one of the problems you have with the payroll tax, when I hire you as a worker, I have to think about not just your wages, but also the payroll tax.

If I hire you as a worker, where the payroll tax is much lower, but you, the worker, pay the value-added tax, that doesn't stop me from hiring you. So, from the point of view of incentives, to hire people, replacing a lot of the payroll tax with a value-added tax also makes sense. Of course, it makes sense under the rules of world trade because it is the only tax that is rebatable on exports.

An outsider could look at the United States, and say, look, the United States is acting like it is a person that is so wealthy that it says, look, there is a loophole in the income tax law, but I am so wealthy I don't bother to fill out the form. Well, there is one tax where you can rebate on exports, which is the value-added tax. We don't collect it. It is not an overwhelming thing, but it gives the rest of the world a little bit of an edge that we don't have in the United States because we refuse to collect it, and then rebate it on exports, and the rest of the world does rebate it on exports.

REPRESENTATIVE SCHEUER. Isn't the value-added tax also a regressive tax?

MR. THUROW. Yes, but you can make it progressive. You can do it by either integrating with the income tax or integrating with the payroll tax. What you could do is you could take collective value-added tax, but then credit everybody a certain amount of it on their payroll tax collections; which means, suppose you wanted to exempt the bottom $20,000 worth of income, and it was a 10 percent value-added tax, you would give everybody a $2,000 credit on their payroll tax simply because you would assume that they were spending it out there in the economy, and that would make it progressive. I think that would have a lot of very positive effects on the economy if you made that transition. You would do it gradually.

If you are going to do a value-added tax, you have to collect at a reasonable level so you can justify the administrative cost. But I think if you did it, one of the things you might want to do is to completely replace the payroll tax and go to a value-added tax. Then you could make the argument that you weren't increasing the number of taxes, you were just moving from one tax to another.

If you were to pay for the social security system, augmented with a skill and trust fund that everybody inherits the day they are born in the United States, then I think you can make the whole system into a much more progressive operation, and much better for the economy as a whole. I think the other thing it does, it would get the right incentives.

REPRESENTATIVE HAMILTON. Are economists moving generally toward the view that the VAT tax is the way to go?

MR. THUROW. I think the answer is, in the economics profession, if you were to take a vote on it, you would get an overwhelming proportion of all economists—right, left, and center—who would say it makes sense, given our current environment, to move to the value-added tax, making it progressive by either integrating it with the income tax or preferably integrating it with the payroll tax.

REPRESENTATIVE HAMILTON. Your opening statement is, "We are not now recovering from a recession; it is cleaning up the mess after a speculative bubble." I am not sure I understand that. Everybody says we are coming out of the recession. You say we haven't had a recession?

MR. THUROW. We have certainly had a recession in the technical definition of negative GNP, but it is not the normal recession like the previous eight, because in the 1980s, in Japan, in Great Britain, in the United States, periodically in the history of capitalism, capitalists literally go mad. We know this with the tulip mania, the South Sea bubble, the Mississippi land bubble, the Roaring 20s. And when historians come to write the books, they are going to look at the 1980s like the tulip mania.

I can even tell you what the ultimate tulip is, Canary Wharf in London. Suppose I came to this group ten years ago and said that the banks of the world are about to lend one family $26 billion without ever being allowed to see that family's financial books. You would have laughed at me, and that is exactly what happened. You would have laughed at me.

REPRESENTATIVE HAMILTON. How can it happen?

MR. THUROW. The answer is capitalists go mad. Everybody sees people making money on craziness and therefore it starts to look less crazy.

REPRESENTATIVE SCHEUER. The Reischmans weren't supposed to go mad under any circumstances.

MR. THUROW. But George Bernard Shaw, I think, had the aphorism that explained it. He said there is nothing like——

REPRESENTATIVE SCHEUER. That was just an aside. I said the Reischman family wasn't ever supposed to go mad under any circumstances.

MR. THUROW. You had the craziness that the land under the Imperial Palace in Tokyo was worth more money than the entire State of California at one point in time, and a whole set of prices.

I saw some rather dramatic statistics the other day. I think it was in about 1988, if you looked at the average American family, their net assets were about 50 percent higher than their debts because of the value of their house. If you look at them today, the average American family's debts are about 25 percent bigger than its assets because the value of its house has collapsed. The problem is not why did the house collapse. The question is why did it ever go to those high prices in the first place. That is the bubble.

REPRESENTATIVE HAMILTON. You conclude on a very pessimistic note; that is, if things aren't done, we are going to have a decade of falling wages followed by another decade of falling wages. In other words, your view is that on the present course we are in deep trouble.

MR. THUROW. I think that is absolutely right.

REPRESENTATIVE HAMILTON. And if we don't make the kind of fairly radical change that you are talking about, then we are going to see declining standards of living in this country over a period of decades. Is that the way you analyze it?

MR. THUROW. I think that is right. Let me take a little exception with the word "radical." A few years ago there were a group of us who published a white paper that said what we should commit to doing as a society is holding consumption, public plus private, 1 percent below the rate of growth of GNP, so if GNP grows at 4, consumption can only grow at 3, if GNP grows at 2, consumption at 1. So effectively you are moving 1 percent of GNP a year into investment, from consumption into investment.

If you do that for ten years, you are up to German levels of investment. If you do it for 15 years, you are up to Japanese levels of investment. You don't have to crunch anybody. If you think about just holding consumption growth 1 percent below the rate of growth of GNP, is that radical? I don't think it is radical, compared to if you tried to correct it in one day

REPRESENTATIVE HAMILTON. It depends upon your frame of reference. It doesn't sound radical when you put it in percentage of GNP, but if you start putting these specific proposals in front of people, it is quite a change.

MR. THUROW. I understand. I think the way it has to be done is with earmarked taxes. First of all, you have to have the capital budget. People have to understand that there is a difference between investment and consumption. I think the only way you do that is to construct a capital budget for the United States, and then you have a capital budget for the Federal Government, which is part of that capital budget for the United States, and you have to make this distinction. Then you say, look, we have to find ways to finance these investments. We can't sit around here and wait for you to cure the federal budget deficit before we put money into investment. You just can't do that. Take the statistic I pointed to, where in a decade the percentage of young males who worked full time and can't earn a poverty-line income is more than doubled. What do we do if it doubles again in the next decade?

The answer is, it is going to double in the next decade unless you make some of these investments.

REPRESENTATIVE SCHEUER. Investments in education?

MR. THUROW. Well, investments in all four. Before you came in I was pointing out

REPRESENTATIVE SCHEUER. Yes, I missed the four.

MR. THUROW. The four: If you look at plant and equipment investment, it is at the lowest level since World War II. Infrastructure investment is running at half the level of the 1960s. R&D spending in the civilian sector is now only 60 percent of that in Germany and Japan, and falling in both the public and private sector because of cutbacks in the military. And if you look at this round of state and local government cutting, they have cut education more than anything else. So you have a society which, right across the board, is investing less than the rest of the world, less than it itself has invested in the past, and when it is asked to make a budget cut, it cuts investment, which is what state and local governments have done in the current round of budget cutting. The answer is we can't afford it.

REPRESENTATIVE HAMILTON. Now, let me pick up with your book, *Head to Head*," where you are talking about the various positions—United States, Europe and Japan—and you hit upon Europe as the unit that will be the most powerful in the future. If you look at the United

States, go through for us, if you would, what the good things, the strengths are with regard to the United States.

You have indicated what the weaknesses are. What is on the plus side?

MR. THUROW. I think on the plus side, if you take the seven industries that I list in the book, which will be the industries of the future in the sense that they are going to be generating the high-wage jobs, we come out better at this moment in terms of our technological capabilities than anybody else.

If you look at microelectronics, I would say that was a rather even battle between the Americans and the Japanese. There are some places where we are ahead, some where they are ahead, with the Europeans being out of it, but we are not behind.

If you look at biotechnology, that is an American lead. If you look at the new material science industries, this is a place where America has invented most of these materials in the military, and the only question is, can we learn to make them cheaply enough to make them into civilian products, so we should have a lead there.

If you look at telecommunications, I think that is a rather even battle between Europe, Japan and the United States, where I don't see any obvious technological leader. If you look at machine tools—robots and machine tools—that is the one industry in which we are completely out of the race. It is a race between the Europeans and the Japanese, with us not in the ball game.

If you look at aircraft manufacturing, that is between us and the Europeans, but Boeing still has the world's dominant position, so we are the leader there. If you look at computers and software, I would say that on the hardware side of it, it is a relatively even race between Japan and the United States, and on the software side you would have to still give the edge to the United States. So, if you look at these technologies across these seven industries, we are still in a very powerful position.

REPRESENTATIVE HAMILTON. We have very strong institutions of higher education.

MR. THUROW. Right, that is the second thing. If you look at the top 15 percent of the American work force, we are probably the best educated in the world. We are behind at age 18, but then we work harder, and we go to better universities, and we catch up by 22. Then we put graduate schools on top of it, which the rest of the world doesn't have. By 25, 26, 27, we are some of the best educated people in the world. At that level, we are very good.

REPRESENTATIVE HAMILTON. But where we are really falling down is with the undereducated?

MR. THUROW. If you look at the bottom third of the American work force, it is Third World. You have 29 percent of the kids that don't graduate from high school. And it is not a very tough high school that they don't graduate from. That is one of the problems with the Mexican Free Trade Agreement. I am in favor of the Mexican Free Trade Agreement, but only if we, as a society, are willing at the same time to have a massive program of investing in the skills of the bottom third of the

American work force. If we don't do that, all that is going to happen—it is not a jobs issue, it is a wage issue—their wages are going to go down to Mexican levels because they have to do that in a free-trade world. Otherwise, these statistics that I am giving here are really going to be bad by the year 2000.

REPRESENTATIVE HAMILTON. What is your impression of U.S. enterprises and companies? How are they doing in the competitive battles across the world? Are they doing these kinds of things? Can you generalize on that?

MR. THUROW. One of the things that you should take a look at it when you get a chance is data from Europe, because a lot of that is on what European business thinks of American business. And the answer is that they don't have a very flattering view of American business. If you turn to the second sheet, where at the top it says "entrepreneurship," you can see their ratings of American business: Willingness to delegate, number 7; use of information technology, number 7; implementations of strategies, number 11; long-term orientation, 21; international experience, 22; employee relations, 18; managerial constraints, 22; price-quality ratio, number 11; consumer orientation, number 2; product development, number 6; social responsibility, number 7.

REPRESENTATIVE SCHEUER. Seventeen.

MR. THUROW. I mean 17. If you look at that pattern; that is, an outside view, looking at us from the point of view of Europe. Look down at the bottom where they look at the quality of our work force: In-company training, number 17; availability of skilled people, number 6; even on equal opportunity they only rank us number 12. And if you look at the next set of things that have to do with some of the attitudes of young people, they give us very low ratings: Attitudes of young people, number 20; alcohol and drug abuse, number 22. So if you look at this page of things, which is an outside view of the American corporation——

REPRESENTATIVE HAMILTON. What do you mean outside view?

MR. THUROW. This comes from the World Competitiveness Report, which is basically a European organization, and every year

REPRESENTATIVE HAMILTON. These are European opinions of American private enterprises, is that it?

MR. THUROW. Yes. Now, one of the things you might look at—turn over another two pages—is the executive summaries describing some of the leading countries, and look at the one about the United States called "Still Slipping." Let me just read the little bit of it, starting in the middle,

> Foremost, however, the country is being hurt by the structural problems of the U.S. economy, in particular, those relating to its human resources and technological development. In science and technology the United States is now a little behind Germany. Most alarming for long-term competitiveness is the U.S. drop in the quality of its people, from the second position to the seventh this year. Reflecting these structural problems of the U.S. economy, government policies are evaluated less favorably than last year, dropping from first to fourth, at the same level as Japan's. Also in

management U.S. corporations receive a lower mark this year, dropping from the fourth ranking corporations to the ninth ranking corporations.

REPRESENTATIVE HAMILTON. One of the other things you mention in your statement—I will come to Congressman Scheuer in a minute—"There is little to do in the short run; everyone should concentrate on the long run." What do you mean, there is little to do in the short run?

MR. THUROW. The basic answer is that we gave fiscal policies away, because if you are going to use countercyclical Keynesian fiscal policies, there is a requirement that you basically move back to a balanced budget during good times so that you can move to an unbalanced budget during bad times. Because we chose to borrow money from the rest of the world, we gave interest rates away. So Alan Greenspan can push interest rates down all he likes, but long-term interest rates will stay up because we have to attract funds from the rest of the world. And if I can get 10 percent on my money in Germany, I am not going to lend it to Americans for less. If we were basically saving a lot of money inside the United States, then American interest rates wouldn't depend on German interest rates. But we are a net borrower from the rest of the world, which means somebody out there in the world is making a decision, do I put my money in Germany or do I put my money in the United States. And I am definitely not going to put it in the United States at a low rate of return when I can put it into Germany and get a high rate of return.

REPRESENTATIVE HAMILTON. You are saying the Fed has lost control too, then?

MR. THUROW. Absolutely.

REPRESENTATIVE HAMILTON. All this lowering of interest rates is not going to get the long-term interest rate down?

MR. THUROW. It is not going to get the long-term interest rate down ever.

REPRESENTATIVE HAMILTON. So should we do it?

MR. THUROW. It doesn't hurt, and it at least helps the Federal Government. If you say, who borrows three-month money? Do you have any three-month money in your portfolio? I think the answer is, mostly governments. What helps the private economy is when the longer term issues start coming down. But they can't come down because we gave our monetary and fiscal policies away in the 1980s.

The other problem, of course, is because of the speculative bubble and the collapse in real estate prices. What you have is a lot of corporations and a lot of families that basically have to clean up their balance sheets, and there is no way to speed up that process. They used to be net creditors, now they are net debtors and as net debtors they have to do various things.

REPRESENTATIVE HAMILTON. One other thing, what do you mean the long run? Suppose you do the things you think ought to be done. How long is it going to be before we begin to see a real improvement in our standard of living? Education is the answer to every problem we have, but there are two things you can say about education. Number one, it works; number two, it works very slowly.

MR. THUROW. I think you have to be a little bit careful. I think the answer is that some of these things can pay off faster than others, but you are probably talking about five years. But the interesting thing, if you look at education, if you look at where the American performance is lousy vis-a-vis the rest of the world, it is between the 7th and 11th grades—four years. In the sixth grade, we are not way behind the rest of the world.

REPRESENTATIVE SCHEUER. Well, haven't we started getting very high rates of nonliteracy learning in the second, third, and fourth grade? Isn't that where the key is?

MR. THUROW. The big deterioration is between 7 and 11. We are behind some in the sixth grade, but something goes seriously wrong in the American junior high school, and the gaps really widen at about the seventh grade, if you look at these comparative performances around the world. I don't think the problem is the timing, the problem is nobody has any handle on the education system, since you have 15,000 independent school boards out there who more or less do what they want to do, and the Federal Government doesn't have a handle on them. State governments don't have a handle on them, and the problem is that Thomas Jefferson got it wrong. Local school boards don't set high quality standards. Never can, never will, because they aren't focused on the right issues. They are focused on local issues, and the kids don't work in their community, and I think there is a statistic that really makes this dramatic.

In the United States, most states have a law stating a minimum number of school days, but nobody in America has a law stating a maximum number of school days. So any school board that wanted to could go longer than the minimum number of days for their state. So, if Massachusetts law says 180 days, there is nothing stopping any town in Massachusetts from going to 240 days, which is what the rest of the world does.

How many towns do you think do it? Not one in America. That tells you something about local school boards not being willing to set a high quality standard.

REPRESENTATIVE HAMILTON. So where do you come out? Do we set the standards here?

MR. THUROW. What I argue for in the book is probably, given American history, you are not going to be allowed to set the standards. The group that is going to have to set the standard is the high-wage business community, which I think has to write the equivalent of the American-French baccalaureate exam, and tell the local school system, if your kids can't come out at this quality level, they are not a high school graduate regardless of what you call them. Now, the problem is, the American business community is a political coward and doesn't want to write that exam because, of course, they would have some bricks thrown at them if they basically announced that half the kids in this community aren't real high school graduates, even though the local school board says they are real high school graduates. I don't know of any other way that you are going to be able to push some quality standard into the system.

In the rest of the world, there is a very powerful central ministry of education that says this is what you will do, period. But we don't even have that at the state level, much less at the federal level.

REPRESENTATIVE HAMILTON. Jim, go ahead.

REPRESENTATIVE SCHEUER. Is the state level an achievable place where we could establish standards? I had 11 days of hearings a couple years ago, held by the Joint Economic Committee's Subcommittee on Education. I held a set of hearings on what we have to do to create a competitive and skilled work force. One of the star witnesses was the Governor of Arkansas, Governor Bill Clinton, and he testified brilliantly on what we ought to be doing for a noncollege-bound youth.

There is a lot of imagination out there among the governors. Couldn't we have some kind of concord among the governors that in the absence of a central education system with discipline and standards administered from Washington, the states ought to be doing it, and they ought to establish standards, perhaps the same standards all over the country?

MR. THUROW. I think realistically that it would have to be done in conjunction with the high-wage business community, because people are very suspicious of the educators, the professors like me. But most families still want their kids to be eligible for high-wage jobs. So, if you had the backing of the high-wage business community in the state or in the region that said, hey, these are qualities that we really demand out of a world-class high school worker who is not going to go on to college, then maybe you could have the political clout to do it. But everybody is scared to touch it, and the interesting thing is that the 180-day school year, when it was set by Massachusetts, it was the longest school year in the world. Do you know when we set it?—1906.

The United States hasn't changed its quality standard on the length of the school year in almost 100 years. Now, you have got the rest of the world going 220 to 250 days, and so what used to be the longest school year in the world is now the shortest school year in the world. You simply can't learn in 180 days what the rest of the world is learning in 220 days. It doesn't work.

REPRESENTATIVE SCHEUER. When they work a longer day and they have much more homework for the days they work.

MR. THUROW. I just had a boy who got out of a German high school. His high school quit last Friday. They have the month of August off, not three months in the summertime.

REPRESENTATIVE SCHEUER. Why is it that the Germans, with their high rate of productivity, their excellent level of competitiveness—a very profitable society—why do they have to pay high-interest rates to borrow money from the World Central Bank?

MR. THUROW. When East Germany opened up, I was invited by Helmut Kohl, with a couple other economists, to come to Germany, look over their shoulder, see what they were doing and see if we had any critique. At that time, Helmut Kohl said:

> I am going to do to you exactly what Ronald Reagan did to us. You guys should have raised taxes to pay for doubling your

defense budget in the 1980s. Instead, you borrowed money from the rest of the world. I probably ought to raise taxes to make the necessary investments in East Germany, but I am not going to do it. I am going to borrow money from the rest of the world and finance all the investments that have to be made in East Germany, just like you did. It is now your turn to take the gust that we took the previous ten years.

REPRESENTATIVE SCHEUER. It was a disaster for us, why would he want to repeat it?

MR. THUROW. The difference is, it is all going into investment in Germany; in the United States, it all went into consumption. It is very interesting. One of the reasons East Germany is costing so much is that they are doing everything first class. They could have wired everybody in East Germany for telephones with copper wires. It would have cost about $800 a house. Instead, they did it with fiber optics at $3,000 a house. They are going to have 18 million people on a fiber optics test bed, which a lot of people, including myself, think is going to be the interstate highway system of the 21st Century. That is going to give them a tremendous lead in telecommunications because they will know how to use the system, because they will have 18 million people on it long before anybody else does.

That is part of the infrastructure we should be talking about. In Japan, there is a national policy to rewire Japan with fiber optics by 2015. That is never going to happen in the United States, based on private industry. It would have happened if we hadn't broken up AT&T, but we did and I know that from a telephone company's point of view, copper wires are perfectly good enough. They are never going to bury fiber optics in the ground that somebody else can use, and so we are never going to get from here to there unless we put together a public program. It could be a mixture of public and private money, but the fact of the matter is that there will have to be some program in the United States designed to get us to fiber optics. But the Germans, on the other hand, because they had to rewire 18 million people, are going to be there at least 25 years before the Japanese get there, and maybe even longer before we get there.

REPRESENTATIVE HAMILTON. In the East, but not in the West?

MR. THUROW. In the East, but not in the West. Then, if they find it really pays off, they can start expanding it into the West.

REPRESENTATIVE SCHEUER. How do we ratchet down our levels of consumption? As you say, we have been on a consumption binge. The central bankers of the world have stood by while we had $50 or $60 billion a year——

MR. THUROW. I think you do it the way I mentioned before, and that is that you don't push consumption down in absolute terms, you push it down in relative terms. So you have a period of time when you exercise constraint, where you say consumption in all forms—public and private—we organize ourselves so that it grows less rapidly than GNP, and then over a 10 to 15-year period you can move the resources into investment that you have to move into investment.

Think about it. Last year, the Japanese put $2 into plant and equipment investment for every $1 we did in the United States, and they have a work force half as big as ours. So, on a per worker basis, they were investing four times as much. That means they are going to get all the high-wage jobs in the world, and Americans are going to not get any of them because they are going to have a lot more equipment. That is why they have ten robots for every one in the United States, because they have made the investments.

The other thing I think is interesting, because it is dramatic, if you look at infrastructure, there is a man-on-the-moon race going on in the 1990s, and both of the countries that participated in the man-in-the-moon race in the 1960s aren't playing. It is called who can build the fastest train, so the Japanese have their bullet train, the French have the Tegavet, the Germans have the I.C.E., the Italians have their computer-controlled tilt train, and America doesn't play. There are some very exciting technological things going on out there, and the United States in the 1990s has decided not to be a player. It is interesting to ponder why we go from being a very avid player in the 1960s to opting out completely in the 1990s and pretending that the game doesn't even exist. We are going to try a tilt train between Boston and New York, but it is a Swedish train that we will borrow.

REPRESENTATIVE HAMILTON. Ham.

REPRESENTATIVE FISH. Mr. Thurow, my constituents in the mid-Hudson Valley still remember fondly your visit there a few years ago in which you gave them a peek at the 21st century. Of these four items that you referred me to; a couple of them bother me. One is this talk about infrastructure. Everybody talks about infrastructure as if we are doing nothing about it, and last fall we spent a considerable amount of time on a number of things unsuccessfully, like banking and crime. But the one plus was this enormous bill—intermodal something-or-other—but it was $150 billion over six years, and I wonder how any more money than that can possibly be spent on infrastructure—roads and bridges and repairs and so forth.

MR. THUROW. Infrastructure also includes these things like the fiber optics network, the electronic highways, and, see, if you look at what we are spending compared to what we used to spend, it is very little. In real terms, we spend at half the 1968 levels.

You either have to argue that we were grossly overspending in 1968—which I think would be very hard to argue—or you have to argue that we have an enormous amount of catch-up to do, because it isn't just roads and bridges when you talk about infrastructure. There are a whole set of things that basically come under that category. All public buildings come under that category—school systems.

One of the infrastructure things we have to think about, and it will require a public-private effort. Every other industrial country in the world has some system of post-secondary education for those people who don't go to college and universities, and the question is, how do you build that system, which is partly a skill system, but will require some infrastructure to basically make it function? Here again, there are many ways to do it. Probably, we are not going to do the German apprenticeship system, which is admirable, but for a whole variety of reasons we, in the United States, seem incapable of copying it.

We could do the French 1 percent of sales tax. That is the earmarked tax that I think we ought to think about. In France every company pays a tax which is 1 percent of sales. It is put into a training account in that company's name, and as long as the company spends the money on training, it is their money, but if they don't spend the money on training the work force, the government takes it, which makes training into a free good.

REPRESENTATIVE FISH. Before you get too deeply into that, that was my second question—infrastructure being the first. It seems to me that I have heard from the last four Secretaries of Labor about the makeup of the work force of the Nation during the last decade of this century, about how people who are not otherwise prepared—immigrants, minorities and women—education is going to take care of this. That might take care of it, but not in this century. So training and retraining, which seem to me to be something almost on a par with the R&D spending—which we know results in a healthy economy—and with things to stimulate private investment, I don't see that. You call it education here.

MR. THUROW. When I say education and skills, I am including that.

REPRESENTATIVE FISH. You are talking about just regular training and retraining of the work force, not just public school?

MR. THUROW. Right. One of the things that I suggest in the book, and I referred to earlier, is one of the things you might think about, which is to modify social security and say that it doesn't just help the elderly, it also helps the young. Everybody is born with a $20,000 skill training fund, which they can use after they graduate from high school to buy training from their employer.

REPRESENTATIVE FISH. Where does that come from?

MR. THUROW. You put it into the social security system and have people pay for it in a payroll tax. I think there is a lot of merit in the idea, because one of the things that has clearly gone down, if you look at the consumption part of the federal budget, too much of it goes to the elderly, and it goes to the elderly because, of course, they vote and people under the age of 18 don't vote. You have to find someplace to tie the elderly and the young together politically. I think putting them both in social security might be a way to tie them together.

REPRESENTATIVE FISH. Where is this 1 percent of sales that the French system fit into what you are talking about, in terms of——

MR. THUROW. That would be earmarked taxes for investment.

REPRESENTATIVE FISH. But that is not the skill training?

MR. THUROW. No, that is skills. That is skill training. What I suggest later is that what we ought to do is to look at all these areas—skill training, education, infrastructure, R&D, plant and equipment—and figure out how we get our investment up to world levels, and where do we use public money, based on the earmarked taxes, user taxes. So, if you are thinking about skill investments, one of the ways to do it is to basically give you a skill trust fund in the social security system, but then make you pay for it in an earmarked payroll tax that you pay for as you work over the rest of your productive life. I think we ought to have a telephone tax to pay for fiber optics.

REPRESENTATIVE HAMILTON. You were saying a moment ago that if you did the things we ought to do, it would be five years before you get a payoff. We are politicians over on this side of the table, and we have to deal with people who want increases in their wages now, who want increases in their standard of living now, and you go out to them and you tell them, well, maybe if you do these things, five years from now you will get a kick, and you will get some improvement, but probably you are not going to get real improvement until on down the road. That is a tough sell.

MR. THUROW. I understand it is a tough sell.

REPRESENTATIVE HAMILTON. But you think it is what political leadership has to do?

MR. THUROW. I don't think there is any choice. Your choice is not to sell that. See, that is what you did in the 1980s. What happened in the 1980s? The percentage of these young people who couldn't make a poverty-line income went up from 18 to 40 percent.

REPRESENTATIVE HAMILTON. A very large role of political leadership today is to, number one, tell people patience is required and, number two, make investments that won't pay off for several years, right?

MR. THUROW. Well, yes. When people often ask me——

REPRESENTATIVE HAMILTON. What have you done for me lately is the question in politics.

MR. THUROW. I understand that. But this is the place where I think the next President of the United States has to play a role—I explain it in the book. People often ask me today, if you were advising the next President of the United States, what would you tell him? What I would tell him is, forget about the first 100 days and a lot of policy. The first thing you have to do is lead America in a benchmarking exercise, just the way a private business firm would do, where you basically say let's take the important things that are going to determine our future. These four investment items would be a big part of it.

Let's compare ourselves with the industrial country in the world that does each one of these four things the best, then let's design a policy to close that gap, because the problem is the statistic I mentioned in the book. Ten out of eleven Americans have never left the United States. They don't have a passport, 10 of 11 don't have passports. Americans don't really understand what the rest of the world is all about economically, and I think you have to go through an education process.

Think of Croatia versus Serbia. The media is full of Croatia versus Serbia, and that doesn't really affect any American at all. In March, I took a group of MIT students on a factory study tour in Korea. While I was in Seoul, Korea, I just happened to think that I wished that I had every American with me. We went to the Samsung Consumer Electronics plant where 55,000 Koreans, all working in one place, were banging out consumer electronics—more robotics in one place than anyplace in the United States. This is the modern Korea. This is why 55,000 Americans don't have a high-wage job, and that consumer electronics plants are the reality, which the average American has to understand. I think the answer is, if the average American understands the reality, they understand you can't fix these problems overnight. If I had a quick fix solution, I would love to give it to you. I just don't think it is there.

REPRESENTATIVE HAMILTON. Let me ask you about another area. You see a lot of statistics now on distribution of income. Should it rank in our priorities? Is that an important matter from an economic standpoint?

MR. THUROW. Well, I think it is an important matter. But there are two ways the distribution of income could change. It could change by everybody's income going up and it would also become more unequal, or it could become more unequal, but you have a lot of people's incomes going down.

In the 1980s, it partly became more unequal because a lot of people's income was going down. That makes distribution a much more serious problem than if it was just becoming more unequal as everybody's income went up.

As I said, I think this statistic here on what is happening in the wages of fully employed young people, if you take one statistic, and when you get into family income distribution, you get into a little bit of a mess, because the question is who is sharing income with whom, and so as the nature of the American family changes, the family income distribution will change.

I think the way to get away from those arguments is to focus in on wages and ask yourself what is happening to wages. Here we see we don't have a recession, because if you take the Department of Labor statistics on either real hourly or weekly wages, they have fallen every year for the last five. They were falling before the recession started. They are going to be falling after the recession is over. Technically, the recession is over in 1992, and I would bet you a large sum of money, when we come to the end of the year, we will find that real wages have fallen in 1992, even though technically we are not in a recession anymore.

REPRESENTATIVE SCHEUER. Because of our reduced competitive position?

MR. THUROW. Because of our reduced competitive position. If you are willing to do these investments, there is another issue. But if you are not willing to do these investments, it is not worth talking about the other issue, and that is that the rest of the world plays the ball game with a strategy for capturing the high-wage industries.

REPRESENTATIVE HAMILTON. And we don't?

MR. THUROW. We don't. For example, if you go to Taiwan and you are in microelectronics, you pay a corporate tax rate that is half the normal tax rate. So the Taiwanese are saying to every microelectronics company in the world, come to Taiwan and you are going to pay less taxes. You may not like that.

REPRESENTATIVE HAMILTON. They have a powerful industrial policy?

MR. THUROW. They have a strategy, yes. They have a policy of strategy.

REPRESENTATIVE HAMILTON. They are picking out one industry and saying we are going to put our chips in your basket.

MR. THUROW. That is what the Europeans are doing in Airbus Industries. We are going to take civilian aircraft manufacturing away from the United States. Now, our theology says it never works, but it looks like it is working.

REPRESENTATIVE HAMILTON. Do you think we ought to do that?

MR. THUROW. At least on the defensive side, we have to have a defensive answer. What are you going to do about Airbus Industries? You can't ignore it and say it doesn't matter. I think the answer is, on one level, you have to have a policy. It is in R&D. You have to have a strategic R&D policy. Because the great thing about military R&D is, the military knew what it wanted.

REPRESENTATIVE HAMILTON. What do you mean by a strategic R&D policy? You mean the government sets——

MR. THUROW. The government is paying about half the bills in every country in the world directly or indirectly, and the government has to decide where it spends its money. At the moment, the government doesn't because it puts it all in military or health. But the answer is, when military goes down, you are either going to put it into civilian, or we are not going to be competitive in R&D. Then, at that point you, are going to have to decide what are the hot civilian industries.

See, if you come to MIT and walk around you are going to see lots of——

REPRESENTATIVE HAMILTON. Government is going to have to do that?

MR. THUROW. Yes. You are going to see lots of fascinating technologies. Some of them lead to economic dead ends, and some of them lead to very important industries. You have to be willing to make the decisions. It doesn't mean government picks winners and losers. It picks hot technological areas.

REPRESENTATIVE HAMILTON. That is a distinction without a difference.

MR. THUROW. No, it isn't. Let me explain it. In Europe, they have all of these projects that are called Jessie, Eureka, Esprit, Vision 2500. They are all R&D projects that are designed to capture some area. They all work the same way. The governments have made the decision—this is a hot area, let's say microelectronics. The government says, we have a pot of money. In the European case, if three companies from two different countries will come through the door with 50 percent of the money, and it is a good project, we will match it. What they are doing is they are lengthening time horizons, expanding budgets.

The companies are picking winners and losers, but the government is saying that this is an important area, and we have done that in the military. The military says it wants a submarine that will stay under the water forever. The military says it wants a missile that will land within 15 feet. The military doesn't say to these National Laboratories, go off and do good research. They have targeted what they want. The answer is, when you start putting government money into the civilian sector, which we will have to do if we want to be competitive, you will have to make decisions about what are important areas and what are not important.

REPRESENTATIVE HAMILTON. Let me ask you, from a government standpoint, how do you make that strategy? That is, what kind of changes do you think we have to make in the structure of the American Government in order to devise those kinds of strategies? You have a National Security Council, for example, over here. Do you need a National Economic Council? Our economic policymaking in this country is very diffuse. It is all over the place.

MR. THUROW. I think any outsider who came and looked at us would say that all of those functions ought to be basically concentrated in the Department of Commerce—which ought to be renamed the Department of International Trade and Industry—where you have one place that is responsible. If you go to Korea, you will find in the Korean Government, for every industry, there is a person in their ministry of international trade and industry whose job it is to make that particular industry a more healthy, more powerful industry in Korea. So there is somebody whose job it is to promote electronics, there is somebody whose job it is to promote biotechnology, and he is, in some sense, Mr. Inside who fights the battles of that industry inside the government. He doesn't run the industry, he doesn't make the decisions for the industry, but it is his job to figure out if there is anything he can do to make the industry a better industry in Korea.

REPRESENTATIVE HAMILTON. So he would be very closely tied to the industry?

MR. THUROW. He is very closely tied to the industry. He knows something about it. He understands it, and his career depends on the industry being more successful. And there are a whole variety of those things that the rest of the world is doing, and I think at least some of them we have to think about doing.

The one you mentioned, which I think is critical, is getting all of these basically international economic functions into one place so that you know where the decisions are being made, and they can be made in a rational way.

If you look at us, we have some in the Department of Agriculture, some in Commerce, some in Treasury, some in Defense, some in the State Department, a little bit in Justice—they are all over the place. The answer is, in the rest of the world, there is one person or one agency who is in charge, basically, of those functions. I don't see how you can work with them spread out. We don't do that in the military area.

REPRESENTATIVE FISH. The Department of Commerce, one of their biggest interests is the National Oceanographic and Atmospheric Administration. They even have an aquarium on the first floor. It has been a dumping ground.

MR. THUROW. It is a dumping ground in another sense. It has traditionally been the way you reward the President's chief fund-raiser, make him Secretary of Commerce, right?

REPRESENTATIVE SCHEUER. Secretary of Commerce almost never cares about NOAA. NOAA is a very ill-treated and rejected child.

REPRESENTATIVE FISH. I think he was right, rename it international trade and industry. That would give a focus and pull all these other things together, instead of going on in 15 different departments and agencies.

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REPRESENTATIVE HAMILTON. Why do you pick out Europe as the economic power of the future and not Japan? You referred to Korea several times.

MR. THUROW. Well, let me give you two or three reasons, and then I will come down to what I think is the really important one. One is, of course, that they are going to have, by far, the world's largest market, and so if there are any economies of scale or scope they are going to get that.

Where are we going to sell the most cars in the next 20 years? There is one place in the world with 400 million well-educated people and no cars—Eastern Europe. Where are we going to sell the most consumer electronics in the next 20 years? Where are we going to sell almost the most anything in the next 20 years? Where are you going to sell the most farm machinery in the next 20 years? There is one place in the world with good farmland with no farm machinery, places like the Ukraine.

First of all, they are going to have the world's biggest market. Second, if you look at Europe, if they put it together, they have a set of very complementary skills. There are two high-science societies in the world, the United States and the old Soviet Union, and one is in Europe; two great producer exporters, Japan and Germany, one is in Europe. The Italians lead the world in design. The French lead the world in fashion, and the British have a world capital market. If you could put those together, that is a set of skills that we don't have in the United States.

The big advantage of the Europeans, however, is the word that Mr. Clinton is now starting to use regularly, "change." Everybody in Europe, from the simplest citizen to the Prime Minister, knows that the 21st century is going to be very different than the 20th century. If I live in Eastern Europe, communism has gone away. Something new is coming. I don't know what it is, but it is something new. If I am in Western Europe, we are all joining the Common Market. If I am an Italian, I know that ten years from now I am going to be a little less Italian, a little bit more European. I don't know exactly what that means, but it is different.

People are talking about change, planning for change. I think the willingness to understand that the 21st century is going to be radically different from the 20th century is the big European advantage. They are talking about change. They may reject Maastricht or not do Maastricht, but they are talking about Maastricht.

Of course, the truth of the matter is that we wouldn't be talking about a North American Free Trade Agreement if Europe hadn't formed the Common Market. It is our response to the European Common Market. They are already forcing us to change.

REPRESENTATIVE HAMILTON. Run through your analysis, with regard to Japan, in the same way. Usually the common view we run into all the time is that Japan is ten feet tall in economics. They are the great economic power, and the average person, I think, believes that Japan is the great competitor for the United States.

MR. THUROW. I think Japan has some big structural weaknesses. Its strength is, if you look at these investment areas, it is putting more in than anybody else. Its structural weakness is that it has a culture that makes it virtually impossible for them to accept outsiders as equals and play at the inside game.

I believe that in the 21st century, if you want to be successful as a corporation, you can't just manage American workers. You have to bring American professionals and managers and European professionals and managers into your organizations. Japanese business firms find that very hard to do.

The Japanese also will find it virtually impossible to create a trading group in Asia the way Germany is, in some sense, the heart of a trading group in Europe, for the same reason. Part of being the center of a trading group is being willing to accept guest workers from the rest of the trading group. The Germans have five million.

On that basis, the Japanese would have to accept 10 million guest workers from China, Taiwan, Korea, wherever, and they are not willing to do that. There are a lot of Japanese who understand the problem, and they don't find it any easier to change their closed culture than we do to change our investment over here. But the fact of the matter is, unless they can make a real change in that closed culture, I think it puts a limit on how successful they can be economically.

REPRESENTATIVE HAMILTON. And their population is growing older?

MR. THUROW. Population is growing older. I think they talk about that a lot, but that is not a big handicap. As long as you stay healthier longer, the way you solve more old people is just work a little later into everybody's life so that you have approximately the same number of retirement years even though people are living longer, and the Japanese——

REPRESENTATIVE SCHEUER. The idea of our retiring at 60 or 65 is ludicrous. I am going to be 73 in February, and I am figuring out what to do after I retire from here.

Let me ask a question about Japan. We are spending an enormous amount of time and effort trying to break into the Japanese market, trying to open up that market. Are we ever going to succeed, and is the game ever going to be worth a candle. Maybe we should concentrate on other things in the Japanese-American——

MR. THUROW. I don't think it is ever going to succeed because I don't think either you or anybody else in the United States is smart enough to rebuild Japan. And if we were smart enough to rebuild Japan, we don't have the political influence to rebuild Japan. I think the right way to handle the Japanese trading problems, which are real, is basically to make a study of international trade, say if international trade was in approximate balance, what do you think the bilateral surplus or deficit between Japan and the United States would look like?

I think, if you did a study, the answer is that you would expect a deficit with Japan of about $15 billion because they import a lot more raw materials. Then, what you would say to the Japanese is, every year we are going to auction off vouchers, and you can sell $15 billion more this year than you bought last year. It is now up to you. You decide whether you want to buy rice or don't want to buy rice. You decide whether you do or don't, but there is some relationship between what you buy and what you sell.

In some sense, put the tennis ball in their court, and see if they respond. I think the Japanese have become masters of negotiating with us, because what they do is they let us yell and shout for about three years. We then find some rule or regulation that we think is important. We yell and shout about that for another three years. At the end, the Japanese change the rule and regulation. Then, to our horror, we find out it wasn't important anyway. I just don't think we are ever going to rebuild Japan.

The current business, where we are trying to apply our antitrust laws to Japan, I think, is the absolute bottom.

REPRESENTATIVE SCHEUER. This could direct the whole thicket of impediments—cultural, historical, informal, formal, legal.

MR. THUROW. It is perfectly reasonable to say, hey, you get to run Japan, but we get to run the United States. If you want to play the ball game with Americans, there has to be some relationship between what you buy and what you sell. It isn't a zero relationship, because I think you want balanced world trade, and balanced world trade, I think, would imply, in the United States, a modest deficit between the United States and Japan, but not a huge deficit.

REPRESENTATIVE HAMILTON. What do you think about inflation? How big a problem is it? Should the Fed aim for zero inflation?

MR. THUROW. Well, let me answer that question with a question. Last year, productivity in the United States fell 1 percent. The only way you could have had zero inflation in the United States is if every single human being in the United States had gotten a 1 percent wage cut. Do you think we can organize our society so that everybody in America will hand out a 1 percent wage cut if productivity falls 1 percent? I think not. Therefore, you can't aim for zero inflation.

On the other hand, I don't think inflation is the problem in the 1990s because nobody sees an oil or a food shock out there. That doesn't mean that there won't be one, but nobody sees one. How you get one at the moment, especially since the Soviet Union has now broken up, the Persian Gulf doesn't even have the clout it used to have. When you have an enormous excess capacity on a worldwide basis in almost every industry—take any industry you like, say automobiles—go around the world and say what would happen if every automobile factory in the world worked at capacity, and then ask how many cars could the world build, and then ask how many cars is the world going to buy. The answer is the world is going to buy about half as many cars as it could build. The same thing is true of computers and of almost everything you do. I can't think of anything where there is a shortage of supply capacity among industrial or agricultural products. If that is true, you can't get, in some sense, excess demand inflation. So, unless you are going to assume that the central banks of the world go crazy and just print money ludicrously, I don't see where inflation comes from.

REPRESENTATIVE HAMILTON. You referred a moment ago to the fallacy of these 100-day plans. Can you comment a little bit on the Clinton economic program? What do you think of it?

MR. THUROW. Well, when he was back talking about a middle-income tax cut, I was very negative because the middle income, middle class in the United States has a real problem, but it is not a tax cut because their problem is that their income before taxes is falling. You give them a tax cut, it will help them for a year or two, and then they will be right back in the soup. Since he has started talking about an investment strategy for America, I have been much more enthusiastic about Mr. Clinton's economic plans, because I now think he is starting to talk about the right area for turning this around.

REPRESENTATIVE HAMILTON. Well, we have covered a lot of ground. There is one other area that I would like you to speak on. I don't know if you have looked into this at all, but if you talk to business people, generally, today, the thing that they really hit you with is regulation. The government is just killing them with mandates and regulations and all the rest. How do you assess that?

MR. THUROW. Well, I think there is a real issue there, but I don't think it is rules and regulations. It is the legal system. You go to Germany and will find more rules and regulations by, at least, a factor of two than you will find in the United States, but the difference is that they don't spend ten years arguing about every regulation in court. You don't have this enormous number of suits, and I think it is the legal system more than it is the numbers of rules and regulations. If I am a businessman, a clean air law doesn't bother me as long as it is imposed cheaply, fairly and quickly, and as long as it is imposed on everybody else so that we are playing an equal ball game. But what I don't want to do is to get bogged down in this morass where I don't know what the law is because for 18 years we are going to challenge it in court, and then I don't want to get blind-sided with some suit that holds me liable for things I didn't even know I was liable for before it started.

We have industries that have been driven out of the United States by the legal system. Because of the American legal system, the Pipers and the Cessnas and those people have all gone either out of business completely or moved their small airplane manufacturing to Europe or Canada, simply because it gets them out of the American legal system and they aren't held to the same standards as if they built the planes in the United States.

REPRESENTATIVE HAMILTON. In the 1970s and 1980s, we had this move toward deregulation. The move toward deregulation was really powered by the economists, by and large. We went through all of that. How do you assess it? I mean, did we do the right thing? Have we gone too far now?

MR. THUROW. I think the answer is that there are some pluses and there are some minuses on a lot of these things. You know, if you look at airline deregulation, I think you would have to say that we economists got it partly wrong because we thought this was an intrinsically competitive industry. What we are finding out is that it is very rapidly moving to become an oligopoly.

If you say, what did economists get wrong? The answer is that they didn't see the power of the reservation system and the frequent flyers, which give large airlines a tremendous advantage over small airlines. But I think, on all these things, the question is to get the right balance. You need some rules and regulations, but I think the American legal system is a more important issue than the numbers of rules and regulations or the standards.

REPRESENTATIVE HAMILTON. The Vice President has it right?

MR. THUROW. He has it right on that issue.

REPRESENTATIVE SCHEUER. In health care, the legal system is a nightmare—$40 or $50 billion in malpractice suits.

MR. THUROW. I spent all day Friday in a court case where somebody is suing MIT on the grounds that we are the deep pockets, and we are only very peripherally involved in the whole operation. But if we are held to be 1 percent responsible, and nobody else has any money, we could be held 100 percent responsible for the bills.

REPRESENTATIVE HAMILTON. Let me ask you a final question.

REPRESENTATIVE SCHEUER. The penultimate question.

REPRESENTATIVE HAMILTON. Go ahead.

REPRESENTATIVE SCHEUER. No, I will ask after yours.

REPRESENTATIVE HAMILTON. I will give you that privilege. Just in general, the Joint Economic Committee, over a period of time, has had quite an interest in the quality of economic statistics. What is your impression? What is your impression of the professionals?

MR. THUROW. I think the answer is that the statistics have gotten worse, not because the statistics got worse but because the economy has changed. It was clear, if you look at our statistics on the service sector, which is now a huge fraction of the total, we have much worse statistics than we do on manufacturing.

REPRESENTATIVE HAMILTON. We haven't kept up.

MR. THUROW. We haven't kept up. The other thing that is happening is especially, if you look at these things like the income numbers, the time lag between when they are collected and when they are published is getting longer and longer. So I think there is an issue about speeding up the publication of some of these data series. It used to be that if they collected the income numbers for 1992 in April 1992, they would get their preliminary reports out in December. Now, their preliminary reports are coming well into 1993.

REPRESENTATIVE HAMILTON. How do we do with economic statistics compared to Germany and Japan?

MR. THUROW. I think probably our economic statistics are as good or better than anybody else's in the world.

REPRESENTATIVE HAMILTON. Jim.

REPRESENTATIVE SCHEUER. How do we get the American people to ratchet up their rate of savings and ratchet down their rate of consumption so that we have money left for research and development, plant and equipment, and you name it?

MR. THUROW. I will give you the economic answer. Then you tell me how you do it politically. I think this is genuinely one of those things where the economics is simple, the politics is difficult. We know how to get savings up. You basically squeeze down on consumer credit, because if you look at why the savings rate went down in the 1980s, it wasn't that Americans saved less, it was because they borrowed more to finance personal consumption. Of course, we calculate savings by taking income and subtracting consumption.

The rest of the world doesn't have a 60-month, no downpayment car loan. The rest of the world requires a much bigger downpayment to buy a house. Forty percent is the rule in Germany, Italy, or Japan. The problem is, if you can get everything you want without saving any money, why should you save any money. You only save money when there are things you can't have unless you are willing to save money. So I think the big thing on the personal savings rate is, to some extent, squeezing down on various forms of consumer and mortgage credit. You could probably also do something——

REPRESENTATIVE SCHEUER. I am leaving Congress in January. I am retiring. Lee will still be here.

MR. THUROW. You can run for office in the grandeur against credit cards. The other thing, though, is to move the tax system towards the consumption tax system where you basically ... I don't think you can do it with IRAs, because the problem in the United States is that have such a flexible system for moving money into an account without really saving the money, which I think would be very hard to police and to have a real IRA in the United States.

REPRESENTATIVE SCHEUER. How much of a consumption tax are you talking about?

MR. THUROW. Europeans have a 15 percent value-added tax. If you went to a 15 percent value-added tax and rolled back the payroll tax, I think we would all be better off. The incentive system would be better in the workplace because the wages paid by the employer would go down. The incentive system would be better in the family because more of the burden would be on consumption rather than on savings. And the incentive system would be better in international trade because that would be 15 percent of our taxes that we could hand back on exports. So I think, if you think of the whole range of issues, there is a very powerful case out there for an integrated value-added tax.

REPRESENTATIVE HAMILTON. Well, thank you very much. Nice to have you with us this morning, and we stand adjourned.

MR. THUROW. A pleasure.

[Whereupon, at 11:20 a.m., the Committee adjourned, subject to the call of the Chair.]

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ROUNDTABLE CONVERSATION WITH CHARLES SCHULTZE ON THE STATE OF THE ECONOMY AND ECONOMIC POLICY

WEDNESDAY, AUGUST 12, 1992

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, DC.

The Committee met, pursuant to notice, at 10:00 a.m., in room 2359, Rayburn House Office Building, Honorable Lee H. Hamilton (vice chairman of the Committee) presiding.

Present: Representative Hamilton.

Also present: Charles Stone, James Klumpner and Steven Baldwin, professional staff members.

OPENING STATEMENT OF REPRESENTATIVE HAMILTON, VICE CHAIRMAN

REPRESENTATIVE HAMILTON. The meeting of the Joint Economic Committee will come to order.

Today is another in a series of roundtable conversations, which the Joint Economic Committee is holding with prominent economists, to discuss the state of the economy and economic policy. We are pleased to have as our guest today Charles Schultze, Senior Fellow in the Economic Studies Program at the Brookings Institution, and past President of the American Economics Association. Dr. Schultze served as Chairman of the Council of Economic Advisers in the Carter Administration, and was Director of the Bureau of the Budget in the Johnson Administration. His latest book is *Memos to the President, a Guide Through Macroeconomics for the Busy Policy Maker*.

We are pleased to welcome you, Dr. Schultze, and we look forward to your comments. As you know, we didn't ask you to prepare a formal statement for this. We want to have a conversation with you covering a lot of different items. But I do want to give you an opportunity to open with whatever comments you feel appropriate before we turn to some questions.

STATEMENT OF CHARLES SCHULTZE, SENIOR FELLOW, ECONOMIC STUDIES PROGRAM, THE BROOKINGS INSTITUTION

DR. SCHULTZE. Thank you, Mr. Chairman. Let me spread myself a little bit and ramble about the short-run and long-run economic situation in the country, at least as I see it.

I think the country suffers not from one but from two major economic problems, and they are often confused. First is a short-run problem of the extremely sluggish economy from the recent recession. The struggle to return to something like a 5.5, 6 percent unemployment rate is going very slowly.

The second is a long-run problem, and in my view a more serious problem. Even after recovery, high employment, whenever that comes, the long-run growth of this economy promises to be slow, and the burden of that slow growth will continue to fall heavily on the bottom half of the income distribution.

Let me start with the first problem, the recession. I don't have to tell this Committee that the recession is essentially a problem of inadequate spending. Total spending by consumers and investors and government simply falls below what business can produce with their full complement of workers, so they lay workers off, they can't sell the output of all their workers.

Demand falls below the economy's productive potential, and we get unemployment, idle capacity, low profits, recession.

Why is this recovery so sluggish? I guess my honest answer is, I am not fully sure. But let me speculate a little. I think the main problems are essentially financial.

First is the overhang of the debt in 1980. I stress particularly the impact on business. Other people stress consumer debt. I don't think the consumer debt is as big a problem as the business debt.

The very large flow of interest payments relative to equities, the fears engendered by mushrooming bankruptcies, all have kept business attitude very, very cautious, and they will continue to be cautious until that debt is worked down. It is being worked down, but it is going to take some time. We are paying for the go-go period of the late 1980s.

And the second problem, as you know, is the capital shortage of American banks. For a lot of reasons, which I need not go into here, many banks tend to be short of capital and somewhat burned from sour loans in the past, and they react by doing two things.

First, shifting their portfolio away from loans towards safe securities like T-bills. But I must remind everybody that when banks shift to making fewer loans and buy more securities, the people who sell the securities don't put the money in the mattress. It finds its way back into the credit stream, but by other routes, through commercial paper, mutuals, direct placements, and through all sorts of ways.

Second, when banks have a capital shortage, they can't increase their deposits, so they lower their CD rates, the rates they pay for money, and discourage deposits. But again, the people who would have otherwise made deposits into the bank don't put the money into the mattress. It goes into mutual bond funds, mutual stock funds, back into the credit markets, but through other routes.

The problem is that these other routes, bypassing the banks, are more inefficient. It is a higher effective cost of borrowing to business because they are getting the money from less familiar routes and new routes, which aren't as efficient. Second, some firms, particularly small business firms, simply can't use the new channels.

There is a greater spread between the effective rate charged to business firms and market interest rates. A gap opens up. So the Fed has to work harder to get the job done. The Fed can't look at past recessions and say, how much did we have to do, and do the same thing now. It has to work even harder.

And perhaps, until recently, the Fed hadn't done that. In most, though not all, other recoveries, or at the trough of the recession, the early recoveries, real short-term interest rates were negative. But until last month or so, all through the trough of the recession and the early recovery, real short-term interest rates measured by T-bills stayed positive.

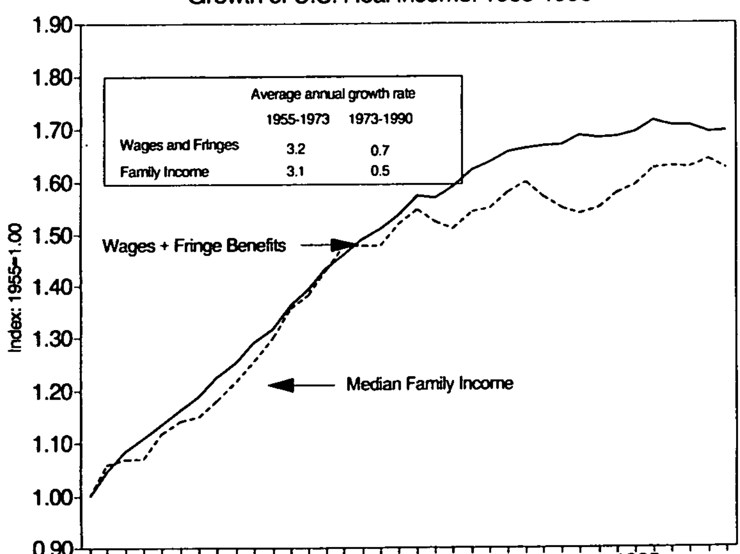
Finally, they are back down to zero, but in a lot of other recessions they got below zero, and my proposition is that the banking problem means that the Fed should be working harder, not less hard.

What about budget stimulus as a temporary device to get the economy stimulated again while these financial problems are gradually being worked off? Let me postpone discussion of that until I say something about the long-term problem, because they are intimately connected.

While the sluggish recovery is a problem of too little spending relative to the Nation's potential or capacity, the long-term problem is that our capacity or potential hasn't been growing very much and isn't likely to. Ever since the early 1970s—this is not a matter of Republican or Democratic Administrations—the growth of productivity has sharply slowed, and necessarily, then, the growth of income, compensation per worker, income per family has slowed.

Chart 1 simply plots what has been happening to two measures of the growth of incomes. Compensation per hour, wages, fringe benefits, and family income (see chart below). You can see visually and from the numbers that from an average annual growth rate in the mid-1950s to the early 1970s of 3 percent, it has dropped somewhere in the neighborhood of half-a-percent.

Growth of U.S. Real Income: 1955-1990



Note: The data are in logarithms so that equal percentage changes take up the same verticle distance in the future

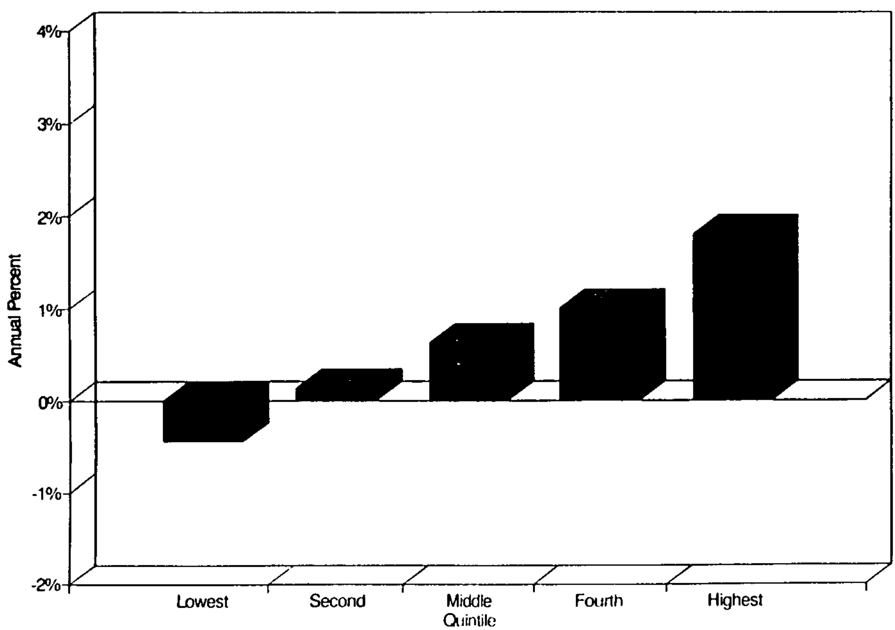
Lowest Second Middle Quintile Fourth Highest

This has been going on, as you can see, since the early 1970s. For almost 20 years, the American economy has been growing slowly.

A related problem, and I will try to show what the relationship is in a moment, is the fact that not only have we grown slowly, but the growth we have had has been highly unequally distributed. Charts 2 and 3 tend to give some measure of that.

Chart 2 is actually put together by the CBO, and is the annual change in family incomes (see chart below). Now, family incomes are adjusted to account for the fact that the number of persons per family has been falling, so you don't need as much income per family. This is the annual percentage change, inflation adjusted, in family incomes.

Annual % Change of
Family Incomes 1979-89



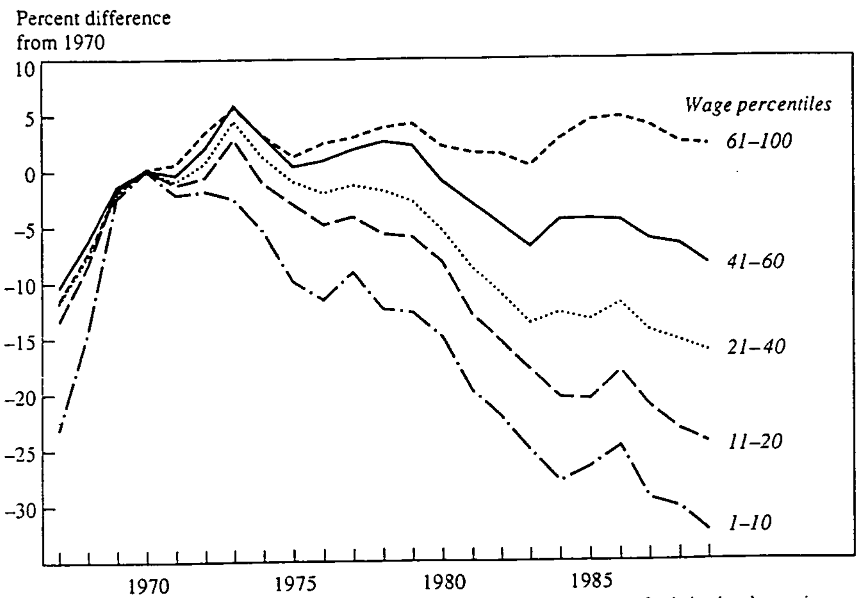
If you look at the middle quintile, you look at the middle fifth, it gives you the average. It has been growing less than 1 percent a year, something like half-a-percent a year.

But the worst off 20 percent of American families are doing worse than they did in the past. Over the past 10 years, their income has actually fallen.

The next quintile is actually nothing. And even the top fifth isn't doing much better than 1 percent a year.

Turn to Chart 3, then can you see what, to me, is an absolutely frightening picture (see chart below). This is a relatively recent set of numbers put together by some economists and published in a Brookings Panel volume, which looks at what has been happening to real wages by the level of wages; that is, each decile of the wage distribution, the bottom tenth—the lowest 10 percent workers, the next lowest 10 percent, and so on.

Real Hourly Wages Relative to 1970 by Percentiles of the Wage Distribution, 1967–89



Source: Authors' calculations from March CPS. The figure shows the evolution of relative hourly earnings, measured by the difference of the annual average of log weekly wages and the 1970 average of log weekly wages for the indicated percentiles of the wage distribution. See the text for a description of methods.

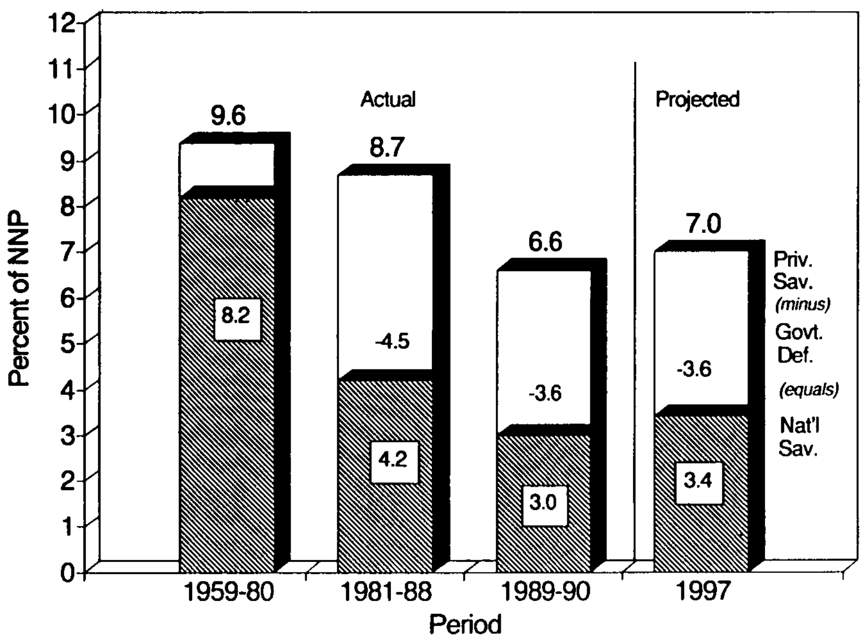
As you can see, the least skilled, least educated, lowest paid 10 percent of workers in 1989 had real wages approximately 30 percent below what they were 20 years ago.

The next 20 percent, the second lowest paid, or 25 percent down. If you let your eye average all the way up through the bottom 40 percent of the workers, you put them all together, they are something like 15, 20 percent below where they were 20 years ago.

There is a great possibility that this may be the first generation in American history in which a very large fraction of the people are going to do worse than their parents. I think the two facts turn out to be related to each other, the slow growth and the maldistribution of the growth. But as I say, let me come back to that.

I think there are three major elements—there are a lot of elements and some mysteries—but I want to single out three major elements underlying the lack of long-term growth in the American economy, and give some sense of where policy ought to push. First and most well-known by now—I am tired of talking about it—is the fall in the national saving rate, which is labeled Chart 4 in the presentation. It is the bar chart on the U.S. national saving rate (see chart below).

U.S. National Savings Rate (1959-97)



The American national saving rate has collapsed in the past 10 years. By "national saving," I simply mean aggregate income that is produced in the economy minus the amount of public and private consumption—what is left over for investment.

National saving has two components. First, private saving, which is the top numbers on the bar. For example, in the 20 years prior to 1980, private saving by households and business firms was about 9.6 percent of national income. Out of that, you have to subtract the amount taken by the budget deficit, because the dollars taken away from private saving to finance the budget deficit are not available to finance investments. So national saving is 9.6 percent minus 1.4 percent of national income, which was the average budget deficit in those years, leaving a little bit over 8 percent of national income for saving. Now, this is net, after depreciation. By 1989-90—I use those years rather than bring in the later recession years; these are the last semi-normal years—the national saving rate collapsed down to 3 percent. Two things happened. Private savings fell from 9.6 to 6.6, and the budget deficit rose.

Our 3 percent of national income that we save can be compared to a comparable number in Japan, same definitions, of about 17 percent. Germany, about 11 or 12 percent.

Other major OECD countries outside the United States; that is, you take the United States out and do the average, you are in the neighborhood of 11 percent. We are 3 percent, well below our own past history and well below other countries. And the prospects at the moment are not very good for much change in the future.

If I use the latest CBO projections, these are slightly out-of-date, but they are approximately right, and assume a tiny bit of recovery in private saving—there is no reason to assume anything in particular, but I just round it up—the American national saving rate, which is now 3 percent, might move up a hair or so, between 3 or 4 somewhere, but there is no big relief in sight.

That, I think, is the first major problem. There are two consequences when the country drops its national saving. Either you have got to invest less or you got to borrow abroad, and we did some of both.

As national saving drops, domestic investment, plant, equipment and housing dropped. But it didn't drop as far as saving did, because we made up some of the difference by borrowing from abroad. Either one hurts your long-term growth if you don't invest, and productivity doesn't go as fast. And if you borrow, you have to repay it with interest. So some of your income goes there.

The second problem is education. Here is where I think there is an intersection between the slow growth of the economy and the maldistribution. Going back to the numbers that I showed earlier on how much worse the bottom half of the population is doing than the top half, both in wages and in income, the big distinguishing feature between those who have done well and those who haven't—there are other distinctions—but the biggest one is education.

Young high school males, 19 to 24—I forget the exact age grouping—but in 1987 they earned 16 percent less than they did in 1974. Other numbers of comparable magnitude are available.

The premium to a college education has risen significantly, not so much because college earnings have risen rapidly, they haven't. It is because earnings of those who haven't gone to college have fallen substantially. The earnings of those who go to high school, or who drop out of high school but go no further than that, have suffered substantially in the last 10 to 15 years.

Some people say this is because of the loss of traditional blue collar industries like auto, steel, some of those other big ones. People who have looked at this say, yes, it is part of the story, but it is only, maybe, 20 percent, 30 percent of the story, the decline in the relative wages of the unskilled.

Some say America is no longer creating good jobs; we are becoming a nation of hamburger flippers and boutique workers. When you start to think about that, that makes no sense at all. If American industry was principally creating a demand for low-skilled, low-education workers, and not much demand for high-skilled, high-educated workers, you would find the relative wages of the low-skilled rising compared to the wages of the high skilled. Just the opposite has happened.

It is the high-skilled, college-educated, graduate school professionals who do well and the low-skilled who do poorly, which is not consistent with the idea that employers just aren't interested in hiring high school people.

I think, rather, there is an accumulation of evidence that the American elementary and secondary education system is failing to turn out workers with the necessary skills, competence and ability. I am talking about the one-half of American workers—the one-half of people coming into the labor force who don't go beyond high school. I think the situation begins to reverse itself in college, but at the high school level, we are not turning out workers.

The quality may actually have deteriorated, but perhaps more importantly, in the modern world, as technology advances in the United States and around the world, the demand is for more knowledge, more competence, more ability. And so merely by standing still, the qualities of the people coming out, relative to what is needed, in some sense, deteriorate.

There is, in other words, not so much a surplus of good jobs as a surplus of trained and competent high school graduate workers. You have seen, I am sure, the increasing evidence of how poorly American high school students do on any kind of international tests. The measures are mainly made in math and science, and, unfortunately, it looks as if it gets worse the further along in school. In the fifth grade, we are in the middle, maybe. By the 12th grade we are at the bottom.

This problem is exacerbated by increasing globalization of trade. More and more, what counts in the world economy to be competitive is not natural resources and advantages. Or even quite so much the amount of capital you have—although that is still important—but it is the skills, quality and competence of the work force.

More and more international trade consists of the creation of new, highly specialized, high quality products that can compete around the world, and that requires a high-quality work force to do it. And if you are at the frontier, if you are the leading country, and your educational system is not turning out people continually improving along this line, they are going to be hurt, not only by what is happening in their own country, but by the fact that they are now competing with workers in Mexico, Taiwan, Singapore and Korea, who have at least enough skills. The top of their labor force is competing with the bottom of ours.

So it is a combination of education exacerbated by the globalization of trade, and the globalization of trade is not going to stop. So education is our second problem.

We don't save anything. I exaggerate. We save damn little. And our educational system, at a minimum, relative to what is required, and probably even absolutely, has deteriorated at the elementary and secondary level.

The third one, I think—and I will be very brief—is research and development. Federal support of civilian R&D as a fraction of our GNP is relatively low compared to some other countries, at least. Germany, for example.

But even more importantly, if you look at what we spend on civilian R&D on, which is much, much more than other countries, it is health and space. Outside of health and space, there is an amazingly small fraction of federal dollars available for R&D.

About $21 billion, as far as can I tell, in the 1992 budget, counting $8 billion or $9 billion for defense, which probably has civilian applications, is available for supporting civilian R&D. That is four-tenths of 1 percent of our GDP. And I think that is far too small.

Now, mind you, we do so little outside of health and space. I am not saying space has no economic payoff. But compared to what other countries do, we are quite low.

Let me briefly say something about policy, and then I'll quit. I think, to the extent that I am right on this, points of policy in three areas, the most obvious and perhaps the hardest to do politically is to increase the national saving rate.

Since I don't believe that tax incentives do much to raise private saving—I think not all—but the bulk of the evidence suggests that you don't get much, and even if you get something, it is clearly not going to be big enough to do the job of raising the American national saving rate back to some respectable level. We are going to have to do it by decreasing the take of the budget deficit out of our limited saving. That is, get rid of the budget deficit. That is one, and most obvious. Sometimes I think least likely to be done.

Second is education. Education is just the opposite of the budget deficit, in the sense that in the case of the budget deficit, it is my view that a lot of people know what ought to be done. The economics is easy. The politics is impossible.

In the case of education, it is my view that it is hard as heck to figure out exactly how to go about reforming the system, but every political leader would give his left arm for a reasonably good way of doing it. I think you could get a lot of bipartisan support with a lot more resources for education if people were convinced, by Lord, we know how to do it, we just need more money, you would get it. Just the opposite of the deficit.

Let me suggest two possibilities, both of which come from other people—they are not my own. One from Cornell Professor John Bishop, who observes the following interesting facts about the American connection between the workplace and schools. Everything I am going to say is dealing with that half of the new entrants to the labor force that don't go beyond high school. So I am only talking about people who come into the work force with no more than a high school education. There is good evidence that there is a positive relationship between the way a worker performs on the job and his prior performance in school. Good school performance is associated with good job performance. But interestingly enough, there is no, at least for males, correlation between what a worker earns and how well he performed in high school.

That is, for the large number of kids who are not going to go on to college, it turns out that it doesn't make a darn bit of difference if you get a B or a D in your first five or ten years of school. Eventually, it does make a difference.

That implies, from casual observation, unlike firms in other countries, American business firms, for various reasons, do not do any kind of screening and sorting workers with high school education or less. They don't get school records. They don't get recommendations from teachers.

Whoever heard of a high school teacher giving a recommendation? Whereas in a lot of other countries there is a very close connection.

Now, that, in and of itself, would harm productivity. It isn't so much that you expect better workers who did better in schools to be paid more on the same job, but if there was a good sorting process, they would get slotted into the better jobs. And not doing that is an important reason—I don't know how big—for inefficiency. More important is the incentive effect.

The word goes back, it doesn't make a darn bit of difference. If you are not going to go on to college, it doesn't make any difference. One educator has written about this very effectively and said, in effect, in a lot of schools, there is a compact between the teacher and the student—those who aren't going on to college, you don't hassle us, and we won't hassle you.

Colleges indirectly, subtly, put all kinds of pressure on teachers and students to do well. Grades depend on what kind of schools you get into; in some places, what kind of financial assistance. There is nothing like that for the kid who isn't going on to college. And again, I remind you, it is roughly half.

So, clearly, one direction of effort is that much better links between school and workplace; federal efforts to develop racially unbiased tests of performance; administrative mechanisms to make it possible to get records—all is done throughout the states, but maybe the Federal Government could help. There are all sorts of ways of encouraging a better relationship.

The second looks not at the school but at people who are already out of school and in the work force. No matter how well you do in the schools, it is going to be years and years and virtually a generation before you change the workplace, so more training for people in the workplace now.

My friend Gary Burtless is developing a proposal, which is a kind of "pay or play" training proposal, that would require firms to devote 1½ to 2 percent of their payroll to train workers at high schools who have high school or maybe one year of college or less education. Right now, if you required higher training, you would simply go to middle level executives and white collar workers.

If you don't do the training, you have got to pay into a fund about half-a-percent of the difference between zero and what you should have done. There are all kinds of problems with this. It is not fully worked out. But I think the French do something like that. They have a requirement on training.

There are all kinds of reasons why firms don't train enough, left to themselves. What happens is, you train a worker and in the American work force, the turnover is so great, you don't capture the investment. But if everybody is doing training, it wouldn't matter so much. It is worth considering.

And finally, R&D. I think you can make a good case that we not only need to reallocate, but spend more on civilian R&D, research with potential economic and commercial payoff. But before I did that, I would want to reform the way the Federal Government now passes out R&D.

More and more and more, unfortunately, civilian R&D is becoming a pork barrel. It is written into appropriation bills line by line. Every little college these days has a congressional sponsor to put something into the appropriations bill. If you go into research with economic and commercial R&D, there is going to be great pressure from industry.

So I think we need to invent the equivalent—mind you, not the same thing, but the equivalent—of the NIH peer review approach for greatly increasing and awarding Federal R&D money for pre-competitive research with economic and potential payoff, allocated by technological promise, not by somebody's plan for the American future industry structure. I don't want to pass it out to favored industries. I want to pass it out just the way NIH research does, where it has the greatest promise. If you can find the best way of making bricks, let's do it. It is better technology.

So R&D, education, and budget deficit would be my high priorities.

With respect to the recession, I am in a dilemma, and a lot of people are, because the short-run and long-term objectives clash.

I would like to have seen the Fed come down more vigorously, and even now I think there is 3 percentage points difference between 3 and zero. And I would like to see rates even lower. If this were a normal time, I would say, okay, we ought to do something on the budget, as well. I have been against that, mainly because what we need in the short run is more spending. What we need in the long run is less consumer spending and more investments.

If we simply add to the budget deficit in order to stimulate the economy now and make the budget deficit worse in the future, it is going to help our short-run problem and hurt our long-run problem.

Theoretically—and I have a number of colleagues who signed a letter to this effect—we would want to have a temporary program that stimulates various kinds of public and private investment, but make it temporary. And my reluctance there is not economic, it is political, because I am just plain scared to death that what is billed as temporary won't stay temporary, and we just take a budget deficit which is already going to be huge and extend it.

If you will give me the courtesy of three more minutes, there is one other thing that I want to call your attention to, which has just begun to hit me. It is something everybody knows about, but I hadn't realized how bad it was. It is the macroeconomic consequences of health-care costs.

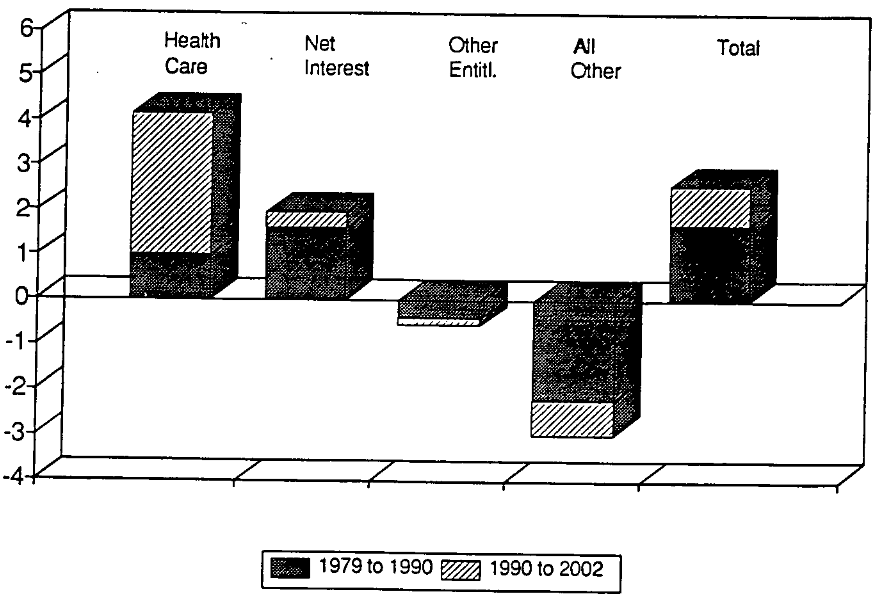
Not the things people normally talk about. I made a rough calculation yesterday afternoon that I might want to check, but I think it is right.

Given the Congressional Budget Office's long-term forecast of the growth in GDP per capita between 1989 and 2000—the decade of the 1990s—and a continuation of the growth in health-care costs that we have been having, 60 percent of the growth in the Nation's per capita GDP will go for health-care spending, and 60 percent—$6 out of every $10—will go for increases in health-care spending.

Again, if I didn't make an arithmetic slip in my calculations, per capita GDP will go up. I am sorry, per capita, now, not per family, but per capita health-care spending. Everything we spend on health care, including research, will go from $2,700, in 1992 dollars, at the beginning of the decade, to $4,900 at the end of the decade. Per capita money. Health-care cost. And it alone is now driving the budget deficit up and keeping it from shrinking.

If you look at my final chart, which is a little complicated, but it is the change in budget spending as projected by the CBO on current policy, from before all this started in 1979—the last high employment year before the really big deficit started—out to 2002, this is various categories of Federal spending as a share of GDP. The dark colored blocks are what happened from 1979 to 1990. And the light colored are what is likely to happen over the next roughly 10 years (see chart below).

CHANGE IN BUDGET SPENDING: 1979 to 2002
Share of GDP; percentage point change



All this talk about entitlement spending is misleading. Between 1979 and 1990, if you take all entitlements except health care, including Social Security, they are going to go down as a share of GDP. Not much, but they will.

For a lot of reasons, between 1979 and 1990, we ran great big budget deficits. Net interest payments rose to bite us in the rear end, so we kind of bit ourselves and pulled ourselves into trouble by our own bootstraps.

So the first stage of this was net interest spending rising because of big deficits, and moderate, but still significant health-care spending, more than offsetting increases everywhere else. But from now on out, it is going to be health-care spending. The total growth in budget spending over the period is only about half of what is going into health-care spending over the whole 23 years period. And that is what is eating us out of house and home, driving the budget deficit up.

Even though, if you look at the other entitlements, actually Ronald Reagan did wreak a revolution. Non-health care, particularly nonentitlement spending dropped very, very substantially, if you put them all together, defense and civilian combined. So, from a macroeconomic standpoint, there is very little left over to do anything within our EDP growth.

REPRESENTATIVE HAMILTON. Very good. Charlie, we appreciate that. On the short run, we don't do anything. You leave it to the Fed, is that it? They kick the interest rates down a little more. They have kicked them down 15 or 20 times?

DR. SCHULTZE. That is right. But again——

REPRESENTATIVE HAMILTON. But they can do it more, is that it?

DR. SCHULTZE. Real short-term interest rates are now zero. Inflation is running about 3 percent. You can get it down lower than that.

REPRESENTATIVE HAMILTON. And you think they should?

DR. SCHULTZE. I think they should, number one. Number two, I get uneasy about this recommendation. The growth is so slow, we are just not picking up at all. Long-term growth in the United States is about 2 percent. To pick up, you have got to grow faster than 2 percent to pick up, and we are not doing it.

REPRESENTATIVE HAMILTON. On the fiscal side, what would you do for the short term?

DR. SCHULTZE. I guess, I would still do nothing.

REPRESENTATIVE HAMILTON. You would do nothing?

DR. SCHULTZE. But I get weaker and weaker in that conviction every month as the disappointing statistics go by. Not for economic reasons, but, quite frankly, since I think the long run is more——

REPRESENTATIVE HAMILTON. More serious?

DR. SCHULTZE. Let me——

REPRESENTATIVE HAMILTON. Part of your prescription is just patience.

DR. SCHULTZE. Patience. It is easy for somebody with a job and a good income to say patience. Let me make a political point—economic/political.

For a long time, I was puzzled why a recession whose depth, not whose length, but whose depth is really quite shallow compared to other postwar recessions. It is much better than 1975 or 1980. There appears to be much greater outrage.

And I think that recession triggered off a recession of a long-term problem, that the slow growth of income, the actual decline in income for those in the bottom 20, 40 percent of the population, is imperceptible. Little tiny bit by little tiny bit.

I think the recession triggered that off, and people are much more disturbed than a normal recession of this magnitude would have caused, and the problem isn't just jobs. Job creation has been terrible. But the gap between full employment and where we are now is a good bit smaller than we have had. So I think the——

REPRESENTATIVE HAMILTON. What do you say today to the person who says they can't get good jobs? How do you give a response to that? What do you have to do to get good jobs at decent wages?

DR. SCHULTZE. Have more skills. There are two parts you have to do. One, you have to get the economy back up to full employment. That is, I think, 20 percent of the problem. I made "20 percent" up, but I mean significant.

REPRESENTATIVE HAMILTON. Okay. Get it up to full employment, and you suggest increasing the savings rate, improving the education system, and kicking more money into civilian R&D. Take a look at those things. The first one, getting the savings rate up, that is a long-term prospect.

The solution to every problem in America is better education. And as you say, we don't know how to do it.

So the first two, even if you know what to do, are going to be very tough to get there.

DR. SCHULTZE. Right.

REPRESENTATIVE HAMILTON. And the civilian R&D, maybe that is a little clearer. But your solutions don't give us much hope in the short run.

DR. SCHULTZE. No. It took 20 years to get here.

REPRESENTATIVE HAMILTON. And it is going to take 20 years to get out of it.

DR. SCHULTZE. I don't like to say that, but——

REPRESENTATIVE HAMILTON. But you don't see any way out of that dilemma?

DR. SCHULTZE. You could concoct a risky but possibly successful strategy to do the first 20 percent. Let's say you did it. We could get back up to where we were before. But from there on out, not only do I not know of any quick payoff, but I think I would be very suspicious of people who say by, anything, cutting capital gains taxes, a big new education program of some kind, I simply do not know——

REPRESENTATIVE HAMILTON. There is a kind of split, it seems to me, in the public discussion, among those who, on the one hand, want to kick in with extra investment spending for infrastructure and R&D; and, on the other hand, those who want to do that but also get budget deficit reduction. Where do you come down on that?

You would not forget about the deficit reduction. That is a very important thing for the reason that you have set out. Therefore, you would come down on the position that approaches which would kick in more money for good investment, let's say, productive——

DR. SCHULTZE. Public investment?

REPRESENTATIVE HAMILTON. Public investment, that is not the way to allocate——

DR. SCHULTZE. No, I guess not. In fact, I have a paper coming out shortly that says that the way to do it is to look at both of them together and decide very roughly that you are going to take any resources that you can raise, by tax increases or spending cuts, and do it about four to one. I would do four, deficit reduction; and one dollar, public.

I think the need for public investment is overstated. My colleague at Brookings, Cliff Winston, says that in the case of highways and airports, if we would change the way we charge for and design highways, we could do what we need to do with very little additional spending.

I would be willing to spend more money on education, but I haven't yet seen a program that tells me——

REPRESENTATIVE HAMILTON. Where you put it?

DR. SCHULTZE. I would be willing to do it. I would raise my ratio. I would give that the top priority if I——

REPRESENTATIVE HAMILTON. You don't think the problems in education are fundamentally lack of money?

DR. SCHULTZE. No. Again, I have mentioned two schemes, but one of them is actually training, not education. Certainly, it would be top priority. In reality, I don't think laying concrete, either in airports or highways, is anywhere near as important as people think.

Education, I don't know where to put it. R&D, I would put more money in, but even if you did a lot, you are not talking about great big money. And there may be some other things. I don't want to suggest there is nothing.

REPRESENTATIVE HAMILTON. Are you a minority voice on this infrastructure investment idea?

DR. SCHULTZE. As a Democratic economist, quote, unquote, I probably am.

REPRESENTATIVE HAMILTON. Why is it that you have less confidence in the infrastructure giving you a better bang?

DR. SCHULTZE. Because I have read Winston's book. There are some other works. For example, as a very, very rough first approximation, there are two things you can do with road money. I mean, we are not going to be adding any more new routes. That is not the point. Number one, you can keep them up to snuff. Apparently, what we are now doing, after the infusion put in several years ago, is approximately doing the surveys of the condition of the highways, which is approaching something that is not bad.

The second thing you do is to put more lanes in, get rid of congestion. Winston's argument, and I fully agree, in about five more years, it will be congested and right back up to where it is now. You have to find a way of dealing with congestion, and Winston suggests that we start taxing—it is now technologically possible—by congestion charges.

REPRESENTATIVE HAMILTON. But improving infrastructure is not just a matter of building more or better roads. Enormous amounts of time are wasted just sitting on the airport runway. It takes an hour-and-a-half to get into Fort Worth, as well as a lot of other cities. You have a parking lot out here on 395. That is a tremendous waste of talent and productivity.

DR. SCHULTZE. Winston says, the way do you it is to charge peak load pricing. The problem with the airports are the peak hours, so force people onto the other hours. If you build more runways, in five years you will find yourself in the same place. I would argue that you don't need much money. Education, there is a question mark. R&D, yes. There may be some other areas.

REPRESENTATIVE HAMILTON. Going back to the short run for a minute. One of the things, when you are analyzing why we have the slow recovery, you talk about the financial factors—debt, capital shortage, and so forth. Are we working ourselves out of that, and at what rate are we working ourselves out of it?

DR. SCHULTZE. We are working our way out of it, although I have not seen or done any work which would quantitatively say how much. That is, if you just look at bank profits and see that they are improving their net worth and, therefore, their capital base, but I don't know exactly how fast.

REPRESENTATIVE HAMILTON. But there is a steady line of improvement there.

DR. SCHULTZE. As far as can I tell, there is. They don't lower interest rates alone. The one good thing that I noticed two weeks ago is that GNP showed a pretty hefty increase in business spending on equipment. Now, I don't know whether that may be something freakish or flukey. I didn't dig into it.

REPRESENTATIVE HAMILTON. And on the Fed, again, on the short term, what kind of a grade would you give it?

DR. SCHULTZE. B-minus.

REPRESENTATIVE HAMILTON. They have lowered the rates, but too slowly?

DR. SCHULTZE. Too slowly, that is my criticism. Now, mind you, I have to confess, if you had asked me this seven or eight months ago, I would have said maybe a B-plus, because I wasn't fully aware of this proposition as I am now, which compared to prior recessions, the nature of the problem means that we have to work harder.

REPRESENTATIVE HAMILTON. One of our economists said in these conversations, not only have we lost the fiscal policy tool, but we have lost the monetary tool as well to deal with the economy, because Fed action doesn't give you the kind of punch it wants, because of the changing time.

DR. SCHULTZE. For any given unit of Fed action you may get less, but you can do more units of action. Let me add one other thing.

It is conceivable—I wouldn't agree with it—but it is conceivable that there is something else going on, that the Federal Reserve is seizing this opportunity—it is not a deep recession—of being extremely cautious in order to drive that inflation rate down to 2 percent, which it looks like they may be doing. So it may not be a diagnostic problem at all. It may be very deliberate.

REPRESENTATIVE HAMILTON. The Fed Chairman says we ought to have zero inflation. That ought to be the policy goal. What do you think of that?

DR. SCHULTZE. That would be fine if I could snap my fingers and do it. A 2 or 3 percent inflation rate is perfectly liveable. So I don't think it is worth the pain. I don't know whether that is what is going on. But it is actually successful.

REPRESENTATIVE HAMILTON. There are those who argue that you ought to have zero inflation as your objective of economic policy, period.

DR. SCHULTZE. And I say, I would like to have 1 percent unemployment and zero inflation, but you can't do it.

REPRESENTATIVE HAMILTON. But as an objective of American economic policy, just to have zero inflation, that is insufficient, incomplete.

DR. SCHULTZE. I agree. It is a combination of inflation and all sorts of things. Actually, since you know you are going to have other recessions, one way to do this is simply to let every recession take it down a percentage point or so, but then not try to keep doing it.

REPRESENTATIVE HAMILTON. What is full employment, now? You used the figure, 5.5, 6 percent. Is that what we ought to aim for?

DR. SCHULTZE. Again, you get to be very precise. I don't know, but it is my observation that as the economy broke through 5.75 or 5.5 percent coming up—we did for a while—you could begin to see wages and prices start to escalate, just slowly.

So, without wanting to say that anybody knows exactly where it is, I would say somewhere between 5.5 and 6 percent. It looks as if——

REPRESENTATIVE HAMILTON. On the savings rate chart, you didn't have a lot of confidence in tax incentives to get the savings rate up.

DR. SCHULTZE. And I sure don't——

REPRESENTATIVE HAMILTON. That is on the basis of your analysis of your studies, I presume.

DR. SCHULTZE. Right.

REPRESENTATIVE HAMILTON. Those proposals for IRAs and the like don't impress you that much?

DR. SCHULTZE. The evidence is mixed. There are some evidence and some studies that suggest that they would help. I think the evidence mainly is on the other side, but it is mixed. The key thing is, even if they were successful, you are not going to get a lot of them. The saving rate went down by 5 percentage points.

REPRESENTATIVE HAMILTON. Why did it go down?

DR. SCHULTZE. I don't know. I know some of the reasons why it didn't go down.

REPRESENTATIVE HAMILTON. Did we change the incentives in any substantial way?

DR. SCHULTZE. If anything, they worked the other way.

REPRESENTATIVE HAMILTON. They increased the incentives.

DR. SCHULTZE. If you look at the 1980s when this happened, number one, real interest rates were higher than we ever had before. You got more for your money. We lowered marginal tax rates, you kept even more of it, and we did have IRAs.

REPRESENTATIVE HAMILTON. But it still winds down. So it is less an economic matter than a cultural matter.

DR. SCHULTZE. I don't know what it is, because it is mysterious. It may be economic, it may be cultural, but I can't figure it out, and people whom I know have not really been able to, either.

REPRESENTATIVE HAMILTON. You mentioned the Japanese and the Germans saving rate—17 for the Japanese and 11 or 12 for the Germans. If you look at their systems, do they have a lot more incentives for savings than we have?

DR. SCHULTZE. Well, for years the Japanese did what we finally got around to doing. They didn't let people deduct interest on installment debt and on other kinds of debt. To tell the truth, I am not familiar with what they do on mortgages. There are things you could do. I would like to see the mortgage thing tightened up so that you don't get the mortgage deduction for mortgages above a certain amount.

REPRESENTATIVE HAMILTON. What I am getting at is, you don't really know why the Japanese have a better savings rate?

DR. SCHULTZE. No.

REPRESENTATIVE HAMILTON. Is it correct to say that there are no clear economic reasons for that?

DR. SCHULTZE. There are none that are clear to me. I think there are attitudinal and cultural reasons, which is not to suggest there is nothing in their policies that we could imitate, but I don't think it is the major thing.

REPRESENTATIVE HAMILTON. On taxes today, what would you do?

DR. SCHULTZE. Today?

REPRESENTATIVE HAMILTON. Yes.

DR. SCHULTZE. I wouldn't do anything today. If you ask me what would I do long-term, that is another matter.

REPRESENTATIVE HAMILTON. Let's go to both of them. You wouldn't do anything today, but what about this maldistribution of income.

DR. SCHULTZE. But that is before taxes. If you look at the same CBO numbers after taxes, what you find is that you made a difference to the people in the top 20, particularly top 5 percent.

REPRESENTATIVE HAMILTON. What about the view that we ought to reduce taxes for middle-income people and increase the taxes on high-income people. Do you buy that principle?

DR. SCHULTZE. No, because, number one, every nickel of tax increase, you want to use it for private and/or public investment.

REPRESENTATIVE HAMILTON. So you would have no shift in the tax code today for the short term?

DR. SCHULTZE. Short term, correct. If I were trying to design a temporary tax proposal, it would be something like a temporary investment tax credit. We do not need to stimulate more consumption. It goes against our long-term——

REPRESENTATIVE HAMILTON. Then on the longer term, what would you do with regard to taxes?

DR. SCHULTZE. Anything you would tell me that I could pass politically, we will start with that.

REPRESENTATIVE HAMILTON. You want more revenue.

DR. SCHULTZE. I want more revenue.

REPRESENTATIVE HAMILTON. What about consumption—the value added tax.

DR. SCHULTZE. Again, I am coming out with a paper in about a month, a very complicated set of proposals which combines financing some health-care insurance with an earmarked value-added tax for health care. If you look at polls, it turns out that people state on polls that they are willing to pay higher taxes for a very specific purpose. If you look at American history, I would say since 1980, we have never raised general taxes for civilian spending. What we did was raise taxes during wars, then let the defense budget go down and keep it. It is very hard to raise general taxes.

So this proposal says, put on a value-added tax to finance some—I list what they are—existing federal health-care programs, plus anything new. The first part goes to reducing the budget itself. The second part goes to financing an extension of health-care insurance.

REPRESENTATIVE HAMILTON. That is an interesting observation that you made a moment ago. We don't increase taxes.

DR. SCHULTZE. No.

REPRESENTATIVE HAMILTON. For other than defense purposes. Is that what it amounts to?

DR. SCHULTZE. And earmarked taxes. We have increased Social Security taxes. But if they are not earmarked, they are general——

REPRESENTATIVE HAMILTON. You are talking about income taxes?

DR. SCHULTZE. Correct. Income, sales—you name it. The exception is after Reagan's huge tax cut, we took some of it back, with a general tax increase. I wouldn't say that we have never done it, but in the last 40, 50 years, and since the Korean war—to state the precision of it—every dime of increase in civilian spending over the last 35 years has come about through a gradual and erratic decline in the defense budget.

Now, let me make one other point about the earmarked value-added tax for health-care purposes. Public finance experts don't like earmarked taxes, because people spend up to the amount raised. However, you notice that here is a case where, if you put on a value-added tax, its revenues will grow about as fast as GNP, but health-care spending is going like that.

I would actually write into the budget agreement a point of order language that you could not put general appropriations into that fund. You either have to cut health care costs or you have got to raise taxes. And it confronts the Congress and the President, say, every two years with that decision, which, I think, has another good advantage.

Alternatively, you could have a gasoline tax.

REPRESENTATIVE HAMILTON. You also mentioned the poor productivity performance record.

DR. SCHULTZE. Right.

REPRESENTATIVE HAMILTON. Are your recommendations made with that in mind?

DR. SCHULTZE. Yes, sir. The more investment, education——

REPRESENTATIVE HAMILTON. The best way to get productivity up is to increase the level of training.

DR. SCHULTZE. I would say increase the level of training—it will work very slowly—increase the quality of education, and more R&D. This all goes to productivity.

REPRESENTATIVE HAMILTON. There is an article in the *Wall Street Journal* this morning about the statistics on productivity increases.

DR. SCHULTZE. Services? I glanced at it. Again——

REPRESENTATIVE HAMILTON. The argument being, I think, that the statistics aren't that good and that we have had better increases in service productivity than generally thought.

DR. SCHULTZE. A couple of colleagues of mine looked at that carefully some years ago and said, sure, there is a problem, but there is no great big bias. Now, notice, the question is, what happened to the level of productivity growth? I have no confidence at all that our measures of productivity growth are that good, in terms of their absolute numbers.

Who knows how you value the worth of an ATM machine? The real question is the change in it. It is conceivable that we were measuring it much worse after 1973 than before. But I find no evidence of why that should be the case.

So why is it, if we are measuring it so badly, that we were apparently doing quite well up until 1973, and then all of a sudden, I don't find any evidence.

REPRESENTATIVE HAMILTON. We have an announcement this morning of a free-trade accord for North America.

DR. SCHULTZE. By the way, I may have misstated the other work on service productivity. I think the conclusion was that you don't get a lot out of it when you review it, but I like to review that. Go ahead.

REPRESENTATIVE HAMILTON. We had an announcement this morning from the President on a free-trade agreement, NAFTA. Would you support that?

DR. SCHULTZE. Yes. I have not spent a lot of time looking into the details. I can't say it is perfect, but basically——

REPRESENTATIVE HAMILTON. It is not even available yet.

DR. SCHULTZE. Yes, I would.

REPRESENTATIVE HAMILTON. If you are a member of Congress, you just go in and vote for it? Would you insist that there be more money for training assistance, or more money for environmental cleanup, or whatever?

DR. SCHULTZE. I wouldn't finance it the way Congressman Gephardt wants to finance it, but if you finance more training—since that is a good thing anyway—I would do it. I wouldn't tie it to——

REPRESENTATIVE HAMILTON. You wouldn't link it?

DR. SCHULTZE. I wouldn't link it.

REPRESENTATIVE HAMILTON. We have a lot of economic plans floating around out there. One of the things that comes into the political debate all the time is, my plan is going to create so many jobs, your plan is going to lose so many jobs. What I want to get from you is, when you look at the plan that Bill Clinton puts forward, or George Bush puts forward, how do you evaluate it? How do you approach it? What are the kinds of things you are looking for, the criteria?

DR. SCHULTZE. In the first place, unfortunately, you have to approach it in a rather complicated manner. I can't stress enough the importance of distinguishing the short-run problem of creating more spending, so we can get more jobs from the longer run problem of increasing the supply potential of the economy, so the jobs we have, in effect, pay better.

As far as I can see, none of the plans do much on the first task to create immediate jobs, because that is going to mean an increase in the deficit in which you have to spend money without taking it back in taxes. And all the rest of it, I think, is just political hokum. People putting numbers on it.

In the long run, it is not a question of creating jobs. In the long run, ten years from now, there are going to be roughly as many people employed, whether it be George Bush's plan, or Clinton's plan, or Perot's plan. The real question is, what kind of income will the American people be earning?

The unemployment rate ten years from now is not going to be a lot different than five years from now, or seven years from now. So the whole question of how many jobs it is going to create, in the long range, doesn't make any sense. It is whether it is going to make people more productive, or make business firms more productive.

So, in the short run, I don't think any of them do much to change jobs. In the long run, jobs aren't the question. It is jobs at what wages.

REPRESENTATIVE HAMILTON. I wanted to ask about your view on industrial policy, too. You are usually a skeptic with respect to that, are you not?

DR. SCHULTZE. What is in a name? But if by industrial policy, you fundamentally believe that the government should use subsidies, loans, or trade protection to favor some industries because those are the industries of the future I am against it. If you mean by industrial policy more training and R&D, I am for it.

REPRESENTATIVE HAMILTON. Well, you said something about investment in pre-competitive research? What is pre-competitive research?

DR. SCHULTZE. Essentially it is not at the stage where you are developing a final product. It is the kind of research that underlies technology, better fundamental techniques. Some of the stuff that Sematech is doing, you might say, is pre-competitive.

REPRESENTATIVE HAMILTON. Supercolliders?

DR. SCHULTZE. No. Supercolliders aren't "pre" anything. Space station. Both of them, especially space station. The space station, supercollider, I would put low on my priority.

REPRESENTATIVE HAMILTON. You have a deep skepticism about the ability of government to allocate R&D money generally.

DR. SCHULTZE. Not a skepticism that can't be overcome, but under current circumstances, that is correct. I think we need to think through how we do it. But we need to do it, though.

REPRESENTATIVE HAMILTON. I am jumping around quite a bit. The problem of defense conversion, cutting back military spending, losing jobs because of that and so forth, where do you rate all of this, and what would you do about it? Do we need a separate program to deal with that?

DR. SCHULTZE. Mainly, no. I say, mainly, because past experience—what I know about it—suggests that the best way to create those jobs is to have other jobs available, not try to convert every defense factory into a civilian factory.

REPRESENTATIVE HAMILTON. There is going to be some dislocation as you go through all this.

DR. SCHULTZE. Correct. The question is what can you do through monetary policy or, finally, if we have to, fiscal policy, to create other jobs, rather than try to do it defense plant by defense plant. That is not to suggest individual communities can't do it, individual plants can't do it. But I think past experience would suggest generally that it is creating new jobs.

REPRESENTATIVE HAMILTON. I want to go back to the question of fairness and maldistribution. You are not going to do much about that.

DR. SCHULTZE. I think, ultimately, not the only thing, but training and education are the ways to do it, because I don't think that American industry is fundamentally not creating those jobs.

REPRESENTATIVE HAMILTON. Do you think most of the tax breaks in the 1980s went to the very wealthy?

DR. SCHULTZE. Yes. I put that 13th on——

REPRESENTATIVE HAMILTON. Should we correct that?

DR. SCHULTZE. I put it 13th on my list of priorities.

REPRESENTATIVE HAMILTON. Why is it so far down?

DR. SCHULTZE. I don't mind taking some of that money back. I am all for that. I just don't want to use it for other tax cuts.

So don't misunderstand me. That is a good place to get some money. But you are not going to solve the income distribution problem with taxes. They are peanuts compared to the magnitude of the problem, for the broad bulk of people in mid-to-lower income.

REPRESENTATIVE HAMILTON. There is a quotation by a Brookings economists from *Business Week*. I will read the whole paragraph. He is talking here about the Clinton plan. And a number of commentators have faulted it for downplaying the federal deficit, for raising taxes on the wealthy, for increasing public investment, for calls to slash entitlements.

I am quoting now:

> In my view, the proposal deserves praise, not condemnation, on all these counts. Economists from different persuasions tell three different stories about how deficits affect the economy. The first story, shared by Brookings Institution moderates and Wall Street conservatives, large deficits are lethal for the economy because they drive up capital costs and crowd out productive private investment. The only trouble with this story is, the federal deficit is at a 30-year high, while short-term interest rates are at a 30-year low.

DR. SCHULTZE. To the broad question first, I would say that there are really three fundamentally different approaches to what we ought to be doing. One is President Bush's, which is to cut capital gains tax. That is basically nothing.

Second, there is a plan that would raise more money from tax increases and use it for public infrastructure. That is Clinton's.

And third, there is Perot's plan, to raise a lot more in taxes and spending cuts, and use some for public investment but heavily for deficit reduction and, therefore, private investment.

I rank them in reverse order. I prefer 3; if I can't get 3, I will take 2; 1 is at the bottom of the list.

With respect to the deficit, in the short run, the deficit is not the problem. In the short run. Again, I keep coming back to that distinction. In the long run, it is not catastrophic. If it were, we would have done something about it. That is the tragedy of it, it never was catastrophic. A little drip of water. And I think, in the short run, I agree, and I am calling for——

REPRESENTATIVE HAMILTON. Clinton's plan comes down number 2 in your list, is that right.

DR. SCHULTZE. Exactly. He comes down number 2. He implies that a dollar's worth of public investment is worth substantially more than a dollar's worth of private investment. And I see, on average, in the aggregate, no evidence. I don't agree with that.

REPRESENTATIVE HAMILTON. Okay. What is your general impression of economic statistics today? Are they better, worse than they were? Is it something we need to put a lot of emphasis on?

You know, the JEC had an interest in that for a period of time.

DR. SCHULTZE. There are two questions. Has the quality deteriorated? And second, whether it has or not, are there things we ought to do to improve it?

I don't know enough to give a responsible answer to the first question about deterioration. I can't but believe that the budget stringencies in the past ten years haven't had some effect. But since I haven't really looked at that, there is no use in pretending.

REPRESENTATIVE HAMILTON. But you are in touch with economists. Are they complaining about the quality, or is that not even a matter of topic of discussion?

DR. SCHULTZE. I guess I would have to say that I have not——

REPRESENTATIVE HAMILTON. You have not focused on that.

DR. SCHULTZE. It is not so much that I haven't focused on it, but I can't say it has been a main topic of conversation among my friends. We grouse and suggest everything is going to pot. We probably were doing that 10 years ago. I have no main feeling on it.

There are a number of other things that we could do to improve statistics. In some cases, we have great statistics; in other cases, we are falling behind what can be done in other countries.

We know far too little about savings, as a case in point. It is very difficult to get, by age, sex, race, the same person followed over time. That is very hard to do. Very expensive, but very important.

REPRESENTATIVE HAMILTON. As you look out over the next 10, 20 years in the American economy, the performance of the American economy, how do you feel about it? Optimistic?

DR. SCHULTZE. No. Unfortunately. I am not a doom and gloomer. I think we will ultimately lick the current recession, and we will manage to grow, quite slowly, and the people at middle and lower incomes will continue to be dissatisfied.

REPRESENTATIVE HAMILTON. We are not going to have the growth rates that we had in the 1950s or 1960s.

DR. SCHULTZE. In any event, we are not going to do that. The question is, can we get back a chunk of it? Can we do better? And even with the best policies in the world, we move back slowly.

REPRESENTATIVE HAMILTON. And finally, what do you think about the competitive challenge? The Japanese and Germans and so forth. Do you have a sense that we are in deep trouble with respect to our competitive position in the world? Is it something that ought to be an absolute high priority for policymakers?

DR. SCHULTZE. I never know what competitiveness means, frankly. If we are doing poorly, it is going to hurt our living standards, regardless of whether other countries are doing well or not.

Let me give you an illustration. The invention of the next new, big advance in computers. There are three possibilities. The United States could make it, with or without our government. The Japanese could make it. Or nobody.

If we are not going to make it, some people would prefer a world in which nobody makes it. If we are doing poorly with our productivity, we are going to suffer, if we never had an import or an export.

If other countries do well in their productivity growth, yes, they will give us some trouble, but in the long run, we will gain gradually. In the modern world, knowledge seeps out and we gain gradually.

So I worry about how we are doing. I worry much less about how well other countries are doing, except as an indicator of what we might aspire to.

REPRESENTATIVE HAMILTON. Does the trade deficit bother you?

DR. SCHULTZE. Only that it is a sign of too little saving and, therefore, borrowing from abroad. Not in and of itself, but as a sign of something else we are doing wrong, yes.

REPRESENTATIVE HAMILTON. Okay. Thank you very much. We appreciate it. We stand adjourned.

[Whereupon, at 11:25 a.m., the Committee adjourned, subject to the call of the Chair.]

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THE U.S. INVESTMENT GAP

HEARING

BEFORE THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

ONE HUNDRED SECOND CONGRESS

SECOND SESSION

MAY 8, 1992

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WITNESSES, STATEMENTS, AND SUBMISSIONS FOR THE RECORD

FRIDAY, MAY 8, 1992

THE U.S. INVESTMENT GAP

FRIDAY, MAY 8, 1992

CONGRESS OF THE UNITED STATES,
JOINT ECONOMIC COMMITTEE,
Washington, DC.

The Committee met, pursuant to notice, at 10:35 a.m., in room SD–628, Dirksen Senate Office Building, Honorable Paul S. Sarbanes (chairman of the Committee) presiding.

Present: Senator Sarbanes and Bingaman, and Representatives Armey and Obey.

Also present: Lee Price and Mark Forman, professional staff members.

OPENING STATEMENT OF SENATOR SARBANES, CHAIRMAN

SENATOR SARBANES. We will now turn to our second hearing this morning. The Joint Economic Committee is meeting to examine investment in the U.S. manufacturing sector, relative to our major foreign competitors. If Mr. Courtis, Mr. Choate and Mr. Barfield would come forward, we will commence with our second hearing this morning.

[Pause.]

In our second hearing this morning the Joint Economic Committee is meeting to examine investment in the U.S. manufacturing sector, relative to the investment made by our major foreign competitors.

Twenty or thirty years ago, few American businesses or policymakers paid much attention to the investments being made by foreign competitors. American producers held a strong technological lead in most major industries. Rivals here at home posed the primary competitive threat to most American producers. So, when they talked about competition, they thought about other American producers rather than producers overseas.

Today, virtually all major American producers face stiff competition from foreign producers. A growing number of U.S. industries no longer hold technological leadership and some have fallen behind their foreign rivals. The future prosperity of the American economy will hinge less on whether we do better than our own past history, and more on whether we can do better than our foreign rivals.

Unfortunately, debates over investment in the United States too often ignore the importance of foreign competition. Some point to one set of numbers to argue that investment in the 1980s was modestly better than the 1970s, while others point to other numbers indicating that the 1980s were much worse. In other words, they make a chronological comparison solely within the United States. Meanwhile, major foreign rivals such as Japan and Germany, are investing at higher rates than the United States by virtually all measures.

At today's hearing, we want to put aside the comparisons of U.S. time periods and focus on current international comparisons. In particular, we have asked our witnesses to compare the recent investment patterns of the United States and our major foreign economic rivals, particularly Japan.

In recent years, while U.S. investment in the manufacturing sector has been slumping, Japanese investment in manufacturing has been booming. Despite a population half our size, Japan's manufacturers have spent more on investment than manufacturers in the United States, both in R&D and in plant & equipment. Other evidence shows Japanese producers investing more than American producers to train the average manufacturing worker.

This "investment gap" between the U.S. manufacturing sector and its major foreign rivals will have a lagged effect on U.S. producers. It will take several years for Japan's spurt of investment in new product design and process modernization to work its way through the factory and to then be reflected in a greater share of world markets. Likewise, a slump in our investment would take a period of time to work itself through and be reflected in a declining share of world markets. Thus, we will not observe the full effect of this gap on sales and in jobs and on the trade balance until later in this decade.

We have with us this morning some witnesses who have analyzed the recent investment patterns in the United States and abroad, and they will share with us their observations of the likely effect that this will have on U.S. producers in the years ahead. We are particularly interested in hearing about their perspective on the competitive position of specific U.S. industries.

Mr. Ken Courtis is a financial analyst based in Tokyo who is thoroughly familiar with the investments being made in the Japanese manufacturing sector, and has also been examining U.S. industries.

Mr. Claude Barfield is a trade economist at the American Enterprise Institute. He has written about American research and development activities. Mr. Pat Choate is the director of the Manufacturing Policy Project and has had a longstanding interest in the competitive position of U.S. manufacturing industries. Gentlemen, we are very pleased to welcome you to the committee. We are looking forward to this panel.

We have your full statements, so if you could, please summarize them for the record. After we have heard from all three of you, we will go to questions. Before I turn to you, Mr. Courtis, I will defer to any of my colleagues who may have some remarks.

OPENING STATEMENT OF REPRESENTATIVE ARMEY

Representative Armey. Thank you, Mr. Chairman. I'm going to ask that my formal remarks be placed in the record. In addition to that, let me thank you for calling these hearings, and I express my welcome to each of the panel members. Particularly, I am delighted to see Mr. Choate, a former graduate school colleague of mine. I should mention, Pat, this last week I had the opportunity to visit with Professor Hibden, and we still agree that microeconomics is number one. I should think Jim and I will always share that conviction.

Mr. Chairman, other commitments will not allow me to remain for the hearings and so I must go. Before I do, I wonder if I could anchor my side with a couple of quotes from Adam Smith. In the hearings, I always worry about the fact that they may go astray and down the primrose path of protectionism or national industrial policy, so if I could just cite Smith, with respect to both of those.

With respect to the question of whether or not there should ever be public direction of the Nation's capital, Smith's great observation, and my favorite Smith quote is:

> No where would it be so dangerous as in the hands of those who had folly and presumption enough to think themselves fit to exercise it.

Then, secondarily, with respect to the fear that we may move in a protectionist direction, let me just cite Smith's observation about trade, as he cited the wonders of specialization and exchange and said:

> What is wise and prudent for individual families can scarce be folly for great nations.

With two quotes from Adam Smith, I am absolutely confident that we have built a foundation of truth that can not be endangered and I therefore must move on to my other duties.

Gentlemen, again I thank you for being here and I look forward to reading your testimonies. Thank you, Mr. Chairman.

SENATOR SARBANES. Congressman Obey, any comments?

[No response.]

SENATOR SARBANES. We are pleased to be joined by Senator Bingaman, who has taken a keen interest in this competitive issue. Senator Bingaman, any comments?

SENATOR BINGAMAN. I have no statement. I appreciate the witnesses and appreciate your having the hearing.

SENATOR SARBANES. Mr. Courtis, we would be happy to hear from you, sir.

STATEMENT OF KENNETH COURTIS, FIRST VICE PRESIDENT, DEUTSCHE-BANK CAPITAL MARKETS

MR. COURTIS. Mr. Chairman, members of the Committee, I am delighted to be here with you this morning. I express my gratitude for the gracious invitation to come and share with you a few ideas that we have in looking at the investment and research figures about Japan and North America.

You have asked me today to address these issues and to set them into perspective. I think that it is interesting to take a minute or two to consider the serious problems that Japan faces today. The economy is in a recession, a recession that will take another two or three years to really unwind itself. This recession comes after a remarkable growth faze in Japan. In just the last 60 months, compared to America over the last decade, the Japanese economy has increased by 30 percent in real terms, from 1979 to 1989, which grew at 30 percent. Japanese manufacturing has increased by 34 percent in real terms over that period.

Over the last 60 months, that growth cycle in Japan was essentially driven by capital investment. From 1986 to 1991, that economy invested just over three trillion dollars in net new manufacturing plant and equipment investment and another 500 billion dollars in R & D. That has given this economy even more momentum, such that, as it goes through this recession, it melts off the fat that was accumulated during the heady growth period of the 1980s and restructures and slashes costs. And I believe it will come out of this recession even stronger than it has been in the past.

But this massive investment in Japan that we have seen over the last five years is not something new. Indeed, it is characteristic of the Japanese economy over the last 30 years. Indeed, as a proportion of GNP, Japan has invested more than the United States every year for the last quarter of a century. But it probably didn't matter much in the 1960s when Japan, relative to America, was about the size of Korea today but it certainly does now when that economy is 60 percent the size of the United States.

If you take the figures that the IMF released two weeks ago about long-term sustainable growth rates, if these trends were to continue over the next decade, the economy of the United States and the economy of Japan would be about the same size, on the basis of current figures.

Mr. Chairman, you mentioned the things that are now in the pipeline, on the basis of investments that have already been made by the mid-1990s, Japan will have a manufacturing base that is larger than that of the United States.

Already we can see in the trade numbers the effects of this massive investment in R&D. Remember the Plaza Accord? The devaluation of the dollar was designed to resorb the Japanese trade account surplus.

Remember on the eve of Plaza in 1984, the trade account surplus was 44 billion dollars. So far this year, the trade account surplus of Japan is running at an annual rate of three times that, at 132 billion dollars a year. The increase in the trade account surplus is a direct result of Japan's increased competitiveness, which itself is an increase as a direct result of this massive investment and R&D.

On a per capita basis—and I submit that that is a proper basis for evaluating these numbers—in 1991, Japan outinvested America by about $3,200 per capita. Japan's investment was $5,320 per capita. America was $2,177 per capita.

At that point, the gap is no longer a quantitative one. It starts to become qualitative. If I am investing $2,000 a year, maybe I have the best electric typewriter available. If my competitor is investing $5,400 a year, his people have an engineering work station, and it doesn't matter how long or how hard I work with my typewriter. I can't be competitive over the long term with someone who is working with an electronic work station.

So it is that investment gap that I think is critical to the economic position of this country during the period ahead. When you look at that investment gap on a per capita basis and you aggregate it, the numbers then become really of the type that should focus our mind. The investment gap screams out to be addressed. The investment gap is about three quarters of a trillion dollars on a nominal basis, when we aggregate it for population size.

But even if we were to use, Mr. Chairman, the purchasing power parity index that the OECD or the IMF proposes—and I hesitate to do this because the purchasing power parity index is based on the price of consumer goods and there is no agreement about what PPP should be. Estimates vary between 138 yen to the dollar and 212 yen to the dollar. But let's just take the recent IMF, one which is 192 yen to the dollar. Even on that basis, Japan outinvested America last year on a per capita basis, aggregated for the population, by $400 billion. You can make the argument that the yen is undervalued at these exchange rates, otherwise why would this economy have a $130 billion trade surplus.

So how ever you cut the numbers, even if you take the approach that minimizes the gap, the gap is huge and increasing, and will increase at an increasing pace through the 1990s, unless the current course of affairs is reversed.

Let me go on to the second gap that I see emerging, and that is the gap in research. In 1991 the Japanese invested about $825 per capita in research. North America and America invested about $600 per capita. Of the research in North America, the research of the United States, about 45 percent is government funded. Of that government funded research, about four-fifths of that is related to military expenditure.

If, in the post-Cold War era, military budgets are unwound, we will find very quickly that that small gap is now starting to open up in the research field is going to very quickly accelerate. Certainly, the Japanese are moving on their part to accelerate, to deepen the gap, because they have established as a research target for 1996 3.5 percent of GNP. Research to GNP in North America peaked in the mid-1980s and is now running at 2.8 percent of GNP. So the gap now will become increasingly important if military research cannot be replaced by corporate-sector research.

Mr. Chairman, I submit that what we are seeing in the marketplace today, the new products coming out of Japan, the lower cost structure coming out of Japan is really the result of decisions made in Japan by corporate Japan in the mid-1980s, in the post-Plaza period. The things that are coming out of the pipeline by the mid-1990s will be the result of decisions that are made now.

When we look at the decisions that Japan has made over the early 1990s, we can already see where their position is. In the 36 fastest growing industrial sectors in 1980, America was ahead or leading in 31, Japan ahead or leading in nine. In 1990, of the 36 fastest growing industrial sectors, America was ahead or leading in 24, Japan in 17.

On the basis of the best information that we have with capital investment and on R & D and talking to what I think are the best minds on these issues around the world, our projections are that if the current course of affairs is not changed by the year 2000 in the 36 fastest growing industrial sectors, Japan will be ahead or leading in 31 and America will be ahead or leading in only 16. That is the nature of the shift in the international economic industrial balance of power that I think, over the long term, would condition the international political role that America can play.

Thank you very much.

[The prepared statement of Mr. Courtis, together with attachments, follows:]

PREPARED STATEMENT OF KENNETH COURTIS

Good Morning,

My name is Kenneth Courtis; I am First Vice-President of Deutsche-Bank Capital Markets, and lecture at Tokyo and Keio Universities. As Strategist and Senior Economist for the Deutsche Bank Group in Asia, I conduct analysis on major economic, industrial, technological and financial developments in Japan and the Pacific, and attempt to assess their impact on the world economy. It is an honour to be with you today.

You have asked me today to address the questions of recent developments in the Japan's domestic economy and financial markets, the longer-term trends at work in the Japanese economy, and to compare these with U.S. industrial performance.

Japan today is facing a number of serious problems. After five years of unprecedented expansion, during which the economy grew by an amount equal to the entire annual GNP of France, the world's fourth largest economy, Japan is today in recession. Although both the equity and real estate markets have fallen substantially from the peak of early 1990, both markets are yet to bottom. More pain is ahead. Caught in the tightening jaws of a policy-induced liquidity squeeze, a sharp decline in earnings, and the inability to raise new funds in the equity market, corporate Japan has entered still another phase of sharp cost cutting, and rationalization.

One immediate result of this situation is that wage increases this year will be the lowest since 1985, and so consumer spending, which has already slowed from the heady pace of the late 1980's, will slow still further. That is the key reason why imports to Japan have been so weak in recent months, and are set to remain anemic during the period ahead. At the same time, Japan's exports have surged.

The direct and immediate result of these dynamics is that Japan is currently running a trade account surplus at an annual rate of $132 billion. That is two and half times the trade surplus in 1984, on the eve of the Plaza Accord which was presented at the time as the panacea for eliminating Japan's trade surplus.

The key reason that Japan's exporters have moved so aggressively back on to the attack in world markets, however, is not the recession in Japan's domestic economy. Rather, it is the result of the unprecedented levels of private sector plant and equipment investment and the building commitment to research and development that now characterize Japan's domestic economy.

From 1986 through the end of last year, total private sector plant and equipment investment in Japan's domestic economy exceeded $3 trillion dollars. In addition, Japan committed another $500 billion to research and development. It is this massive investment that has been critical to the strategic repositioning of the Japanese economy since the mid-1980's and which, despite the present recession, positions Japan to continue to have the fastest growing economy in the OECD economy through the 1990's.

Indeed, rather than the current recession announcing the eclipse of Japan as an economic super-power, analysis of the deeper, long-term forces at work in the economy suggests that the effect of the current transition will be to set the economy on track for a new period of explosive expansion, and a still stronger international competitive position than the country enjoys today.

Further, should current long-term trends continue, I expect Japan to become the world's number one manufacturing power by the mid-1990s, and surpass the United States as the world's largest economy early in the next decade. That would perhaps leave the United States as the world's leading political power, but would mean that America would have slipped to second place as a world economic power.

Today, America's manufacturing sector is roughly $1.2 billion and that of Japan $1 trillion. Should present trends remain in place, Japan's manufacturing sector would exceed that of the United States in absolute terms as early as 1996.

Three forces at work in the economies of Japan and the United States are key to driving these shifts in the international economic, industrial, and financial balance of power:

1. A building investment gap between Japan and the United States which is seeing Japan widely out-distance America in the installation of new investment in plant and equipment.

2. An widening deployment gap that sees Japan deploy state of the art manufacturing equipment faster and more widely than the United States.

3. An expanding performance gap which is seeing Japan's leading corporations play an increasingly dynamic and leading a role overall in an ever larger number of critical industrial sectors for the future.

Of these, the most striking factor is the investment gap between Japan and the United States.

In absolute dollar terms, Japan has been out-investing the United States by an increasing amount since the late 1980's. On the basis of nominal data, Japan out invested the United States by just over $110 billion in 1991.

When one thinks of the relative price structure of the two countries, the widely documented difference in prices between the two countries leads at first to think that nominal figures overstate the investment gap. Is it not the case that typically Japanese products that one finds in the shops of America are cheaper than they are in Japan?

That certainly is the case for a wide variety of consumer products. But when one considers only investment goods, it is the reverse that is the case. Capital equipment is typically cheaper in Japan than it is abroad. As a result, when investment figures are set on a real basis, after adjusting for inflation, the investment gap widens still further, and was some $230 billion last year.

But even these figures do not allow to measure the real extent of the building investment gap between Japan and the United States.

Japan's economy is only three-fifths that of the United States, and its population is only just half of that of America. What is critical from an international competitive perspective is not absolute dollar values of capital investment, but rather the investment effort a country is making relative to its overall GNP.

From this perspective, not once in a quarter of a century has America invested as much as Japan. And the gap has doubled since the mid-1980's, such that while America has invested just over 10% of its GNP in new plant and capital equipment in recent years, Japan has climbed up to 20% of its GNP.

In absolute dollar terms, on an inflation-adjusted basis,that means that Japan out-invested America last year by some $440 billion. While capital investment will be down this year and next in Japan because of the recession, this already massive investment gap is set to widen still further through mid-decade.

When measured on a per capita basis, which analysts agree is the most appropriate base of measure, the investment gap takes on its full, critical importance. In 1991, Japan invested some $5,320 per capita, while America invested $2,177. When measured on a total population basis, that means that the investment gap was an enormous $794 billion dollars in 1991.

Some analysts contest these figures and argue that purchasing price parity (PPP) adjustments to the data must be made in order to take a real measure of the comparable investment effort being made in the two economies. With estimates of the PPP yen to dollar exchange varying between 138 and 212 yen to the dollar, it is far from clear how useful such calculations are for analytical work.

Further, PPP calculations are based on comparable baskets of consumer goods, between economies, and so do not capture what is really at issue: the international competitive effect of the widely different investment effort being made by Japan and the United States. Since capital equipment is typically cheaper in Japan than the U.S., it makes little sense to use the consumer PPP to measure differing levels of investment between the two nations.

But even when the PPP exchange rate most favorable to the United States is used, the trend to a widening investment gap remains unchanged. America's investment gap with Japan is absolutely enormous, and continues to expand on a long-term basis.

Mr. Chairman, I would ask permission at this point to submit for the record a series of charts on the investment performance of the United States and Japan.

I would be happy to respond to any questions. Thank you.

JAPAN AND UNITED STATES THE WIDENING INVESTMENT GAP AND THE EMERGING RESEARCH GAP

KENNETH S. COURTIS
STRATEGIST AND SENIOR ECONOMIST
DEUTSCHE BANK CAPITAL MARKETS
(ASIA)

HONG KONG AND TOKYO
MAY 1992

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JAPAN AND UNITED STATES TOTAL CAPITAL INVESTMENT

(In NOMINAL U.S. $ BILLIONS)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAPAN	163	173	194	217	317	386	498	534	596	661
UNITED STATES	414	400	469	504	492	497	545	571	587	550
INVESTMENT GAP (US MINUS JAPAN)	251	227	275	287	175	111	47	37	-9	-111

NOTE: Data are nominal and based on total private sector plant and equipment investment for Japan and U.S. Currency conversions are based on average annual exchange rate.

JAPAN AND UNITED STATES
CAPITAL INVESTMENT TO GNP
(PERCENT OF NOMINAL GNP)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAPAN	14.9	14.5	15.2	16.1	15.9	15.9	17.1	18.5	19.5	19.5
UNITED STATES	13.1	11.7	12.4	12.5	11.5	10.9	11.1	10.9	10.6	9.7
INVESTMENT GAP (US MINUS JAPAN)	-1.8	-2.8	-2.8	-3.6	-4.4	-5.0	-6.0	-7.6	-8.9	-9.8

NOTE: Data are based on total nominal private sector plant and equipment investment for Japan and U.S.
Currency conversions are based on PPP exchange from IMF.

JAPAN AND UNITED STATES
CAPITAL INVESTMENT PER CAPITA
(IN NOMINAL U.S. DOLLARS)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAPAN	1,372	1,449	1,610	1,791	2,601	3,159	4,057	4,331	4,672	5,320
UNITED STATES	1,783	1,707	1,979	2,106	2,036	2,037	2,213	2,308	2,348	2,177
INVESTMENT GAP (US MINUS JAPAN)	411	258	369	315	-565	-1,122	-1,844	-2,023	-2,324	-3,143

NOTE: Data are based on total nominal private sector plant and equipment investment for Japan and U.S.
Currency conversions are based on average annual exchange rate.

JAPAN AND UNITED STATES
TOTAL CAPITAL INVESTMENT
(In REAL U.S. $ BILLIONS)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAPAN	164	178	198	222	331	422	552	590	640	725
UNITED STATES	418	406	473	504	483	481	513	524	530	495
INVESTMENT GAP (US MINUS JAPAN)	253	228	275	282	152	59	-39	-66	-110	-230

NOTE: Data are based on total real private sector plant and equipment investment for Japan and U.S. Currency conversions are based on average annual exchange rate.

JAPAN AND UNITED STATES
CAPITAL INVESTMENT TO GNP
(PERCENT OF REAL GNP)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAPAN	15.8	15.8	16.7	18	18.5	19.2	21.1	23.2	25.1	25.3
UNITED STATES	11.6	11.0	12.5	12.5	11.8	11.8	12.3	11.7	11.6	11.2
INVESTMENT GAP (US MINUS JAPAN)	-4.2	-4.8	-4.2	-5.5	-6.7	-7.4	-8.8	-11.5	-13.5	-14.1

NOTE: Data are based on total real private sector plant and equipment investment for Japan and U.S.
Currency conversions are based on average annual exchange rate.

JAPAN AND UNITED STATES
CAPITAL INVESTMENT PER CAPITA
(IN REAL U.S. DOLLARS)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAPAN	1,375	1,455	1,615	1,791	2,635	3,257	4,201	4,527	4,831	5,491
UNITED STATES	1,800	1,733	1,996	2,106	1,999	1,972	2,083	2,118	2,120	1,960
INVESTMENT GAP (US MINUS JAPAN)	425	278	381	315	-636	-1,285	-2,118	-2,409	-2,711	-3,531

NOTE: Data are based on total real private sector plant and equipment investment for Japan and U.S.
Currency conversions are based on average annual exchange rate.

JAPAN AND UNITED STATES
TOTAL CAPITAL INVESTMENT

(U.S. $ BILLIONS on a PPP basis)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAPAN	147	161	188	217	287	316	382	404	411	464
UNITED STATES	414	400	469	504	492	497	545	571	587	550
INVESTMENT GAP (US MINUS JAPAN)	267	239	281	287	205	181	163	167	176	86

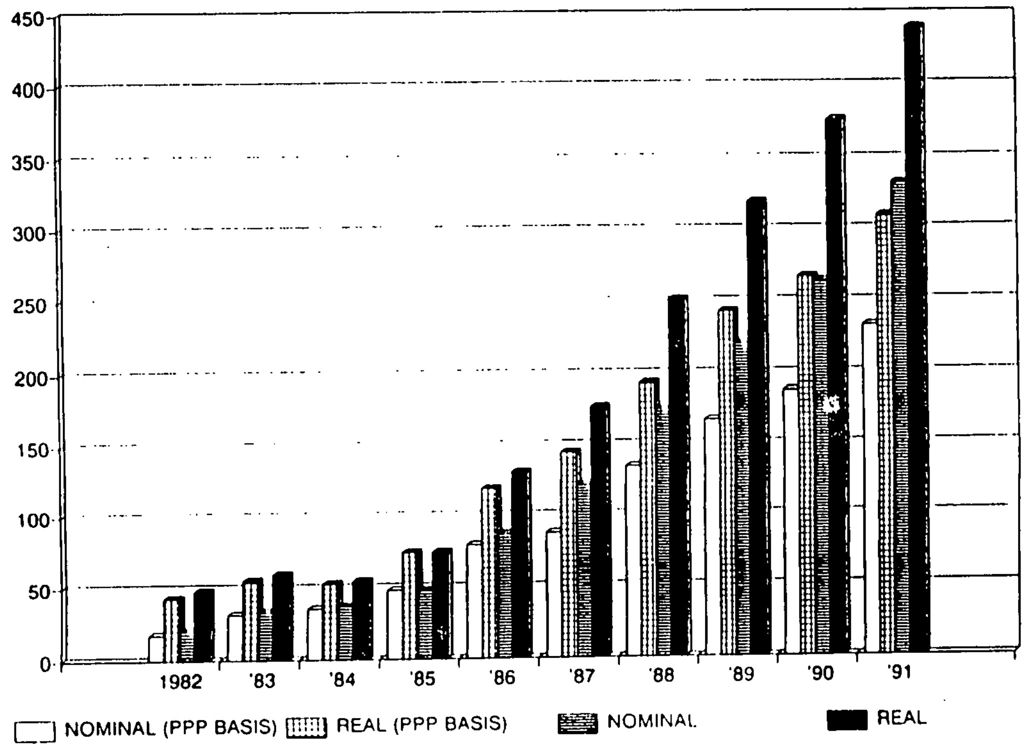
NOTE: Data are based on total real private sector plant and equipment investment for Japan and U.S.
Currency conversions are based on PPP exchange rate from IMF.

JAPAN AND UNITED STATES
CAPITAL INVESTMENT PER CAPITA
(IN U.S. DOLLARS ON A PPP BASIS)

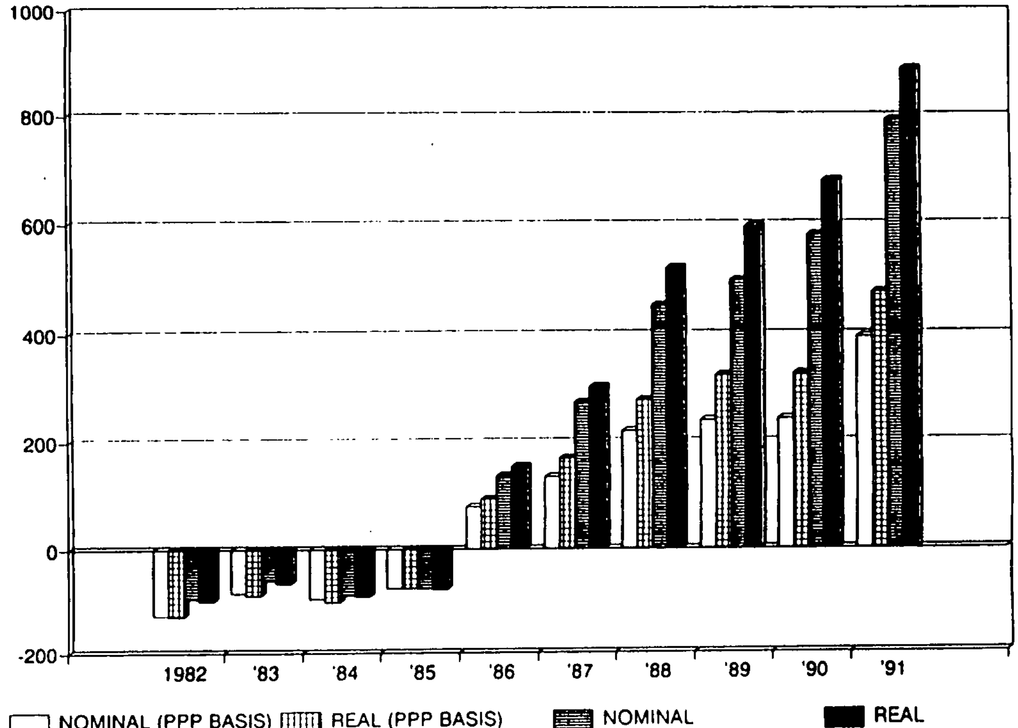
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAPAN	1,240	1,351	1,584	1,791	2,356	2,586	3,108	3,275	3,317	3,735
UNITED STATES	1,783	1,707	1,979	2,106	2,036	2,037	2,213	2,308	2,348	2,177
INVESTMENT GAP (US MINUS JAPAN)	543	356	395	315	-320	-549	-895	-967	-969	-1,558

NOTE: Data are based on total private sector plant and equipment investment for Japan and U.S.
Currency conversions are based on PPP exchange from IMF.

JAPAN AND UNITED STATES
INVESTMENT GAP ON A PROPORTION OF GNP BASIS
(IN US $ BILLIONS)



JAPAN AND UNITED STATES
PER CAPITA INVESTMENT GAP ON A TOTAL US POPULATION BASIS
(US $ BILLIONS)



JAPAN AND UNITED STATES
PER CAPITA INVESTMENT GAP ON A TOTAL US POPULATION BASIS

(IN US $ BILLIONS)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NOMINAL (PPP BASIS)	-126	-83	-94	-75	77	134	220	239	242	394
REAL (PPP BASIS)	-129	-88	-101	-75	94	169	279	323	327	478
NOMINAL	-95	-60	-87	-75	137	274	454	500	581	794
REAL	-98	-65	-90	-76	154	302	522	596	678	891

JAPAN AND UNITED STATES
INVESTMENT GAP ON A PROPORTION OF GNP BASIS

(IN US $ BILLIONS)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NOMINAL (PPP BASIS)	17	31	35	48	79	87	134	166	187	232
REAL (PPP BASIS)	43	55	53	74	119	144	192	242	267	309
NOMINAL	20	33	36	48	87	121	174	220	264	332
REAL	20	33	36	48	87	121	174	220	264	440

JAPAN AND UNITED STATES
TOTAL R&D

(IN NOMINAL U.S.$ BILLIONS)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAPAN	26	30	33	37	55	68	83	86	90	100
UNITED STATES	81	88	100	116	122	128	136	145	151	157
INVESTMENT GAP (U.S. MINUS JAPAN)	55	58	67	79	67	60	53	59	61	57

NOTE: Data are nominal and based on total R&D spending for Japan and U.S.
Currency conversions are based on average annual exchange rate.

JAPAN AND UNITED STATES
R&D PER CAPITA

(IN NOMINAL U.S. DOLLAR)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAPAN	221	253	276	308	448	556	675	695	725	854
UNITED STATES	349	376	422	485	503	523	554	585	603	622
INVESTMENT GAP (U.S. MINUS JAPAN)	128	123	146	177	55	-33	-121	-110	-122	-232

NOTE: Data are nominal and based on total R&D spending for Japan and U.S.
Currency conversions are based on average annual exchange rate.

JAPAN AND UNITED STATES
R&D TO GNP

(% OF NOMINAL GNP)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAPAN	2.4	2.5	2.6	2.8	2.7	2.8	2.9	3.0	3.0	3.1
UNITED STATES	2.6	2.6	2.6	2.9	2.8	2.8	2.8	2.8	2.7	2.8
INVESTMENT GAP (U.S. MINUS JAPAN)	0.2	0.1	0.0	0.1	0.1	0.0	-0.1	-0.2	-0.3	-0.3

NOTE: Data are based on total R&D spending for Japan and U.S.
Currency conversions are based on average annual exchange rate.

JAPAN AND UNITED STATES
TOTAL R&D

(IN REAL U.S.$ BILLIONS)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAPAN	27	31	34	37	55	68	84	85	89	102
UNITED STATES	87	92	102	116	120	124	129	133	134	137
INVESTMENT GAP (U.S. MINUS JAPAN)	60	61	68	79	65	56	45	48	45	35

NOTE: Data are based on total real R&D spending for Japan and U.S.
Currency conversions are based on average annual exchange rate.

JAPAN AND UNITED STATES R&D TO GNP

(% OF REAL GNP)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAPAN	2.4	2.5	2.6	2.8	2.8	2.9	2.9	3.1	3.2	3.3
UNITED STATES	2.4	2.5	2.6	2.9	2.9	2.9	2.9	2.9	2.9	3.0
INVESTMENT GAP (U.S. MINUS JAPAN)	0.0	0.0	0.0	0.1	0.1	0.0	0.0	-0.2	-0.3	-0.3

NOTE: Data are based on total real R&D spending for Japan and U.S.
Currency conversions are based on average annual exchange rate.

JAPAN AND UNITED STATES
R&D PER CAPITA

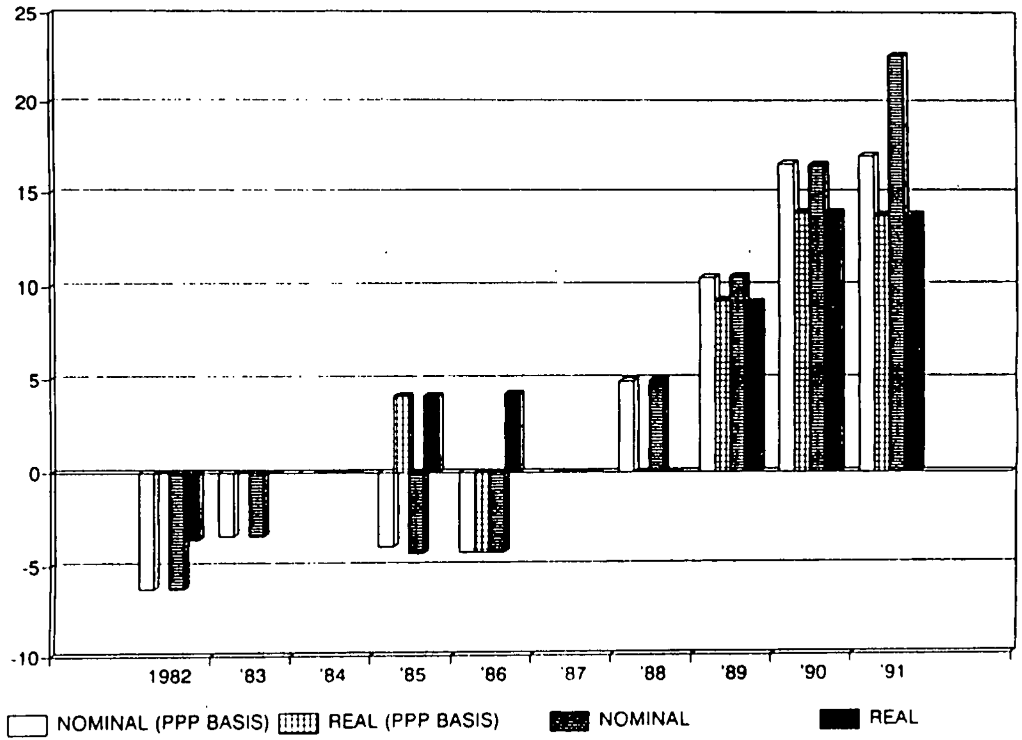
(IN REAL U.S. DOLLAR)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
JAPAN	229	259	279	308	448	559	681	690	716	822
UNITED STATES	375	393	432	486	497	509	526	536	537	544
INVESTMENT GAP (U.S. MINUS JAPAN)	146	134	153	178	49	-50	-155	-154	-179	-278

NOTE: Data are based on total real R&D spending for Japan and U.S.
Currency conversions are based on average annual exchange rate.

JAPAN AND UNITED STATES
R&D GAP ON A PROPORTION OF GNP BASIS

(U.S. $ BILLIONS)

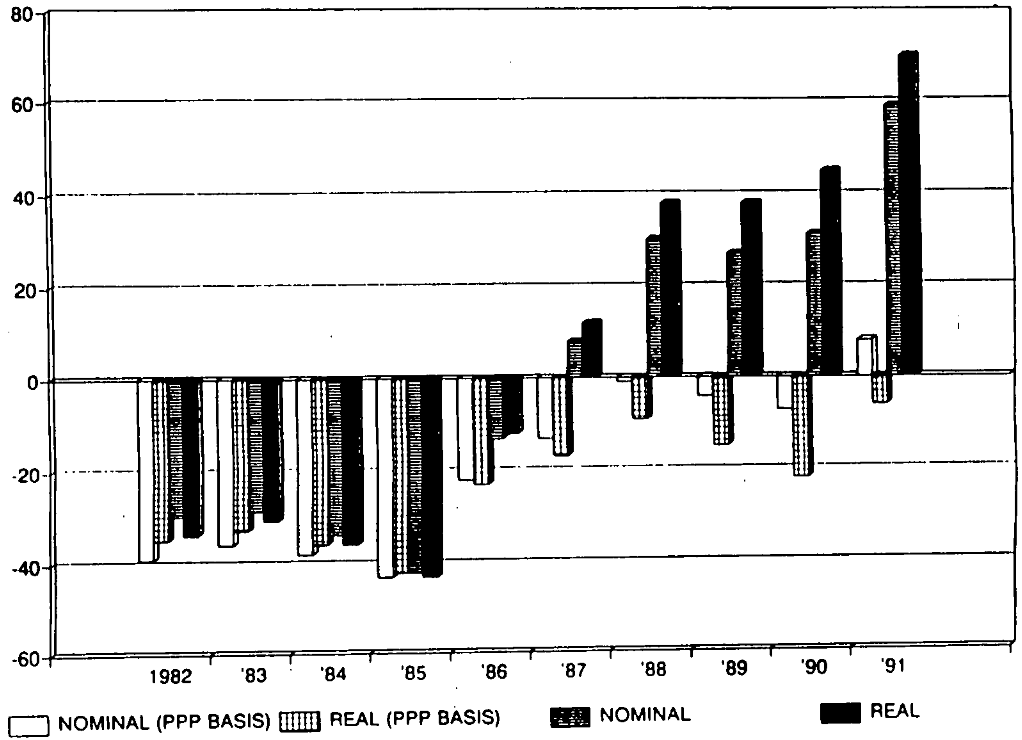


JAPAN AND UNITED STATES
R&D GAP ON A PROPORTION OF GNP BASIS
(U.S. $ BILLIONS)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NOMINAL (PPP BASIS)	-6.3	-3.4	0	-4	-4.3	0	4.9	10.4	16.6	17
REAL (PPP BASIS)	0	0	0	4.1	-4.2	0	0	9.2	13.9	13.8
NOMINAL	-6.3	-3.4	0	-4.4	-4.3	0	4.9	10.5	16.5	22.7
REAL	-3.6	0	0	4.1	4.2	0	0	9.1	13.9	13.8

JAPAN AND UNITED STATES
PER CAPITA R&D GAP ON A TOTAL US POPULATION BASIS

(U.S. $ BILLIONS)



JAPAN AND UNITED STATES
PER CAPITA R&D GAP ON A TOTAL US POPULATION BASIS

(U.S. $ BILLIONS)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NOMINAL (PPP BASIS)	-39	-36	-38	-43	-22	-13	-1	-4	-7	8
REAL (PPP BASIS)	-35	-33	-36	-42	-23	-17	-9	-15	-22	-6
NOMINAL	-30	-29	-34	-42	-13	8	30	27	31	59
REAL	-34	-31	-36	-43	-12	12	38	38	45	70

SENATOR SARBANES. Mr. Barfield, we would be very happy to hear from you.

STATEMENT OF CLAUDE BARFIELD, COORDINATOR, TRADE POLICY STUDIES, THE AMERICAN ENTERPRISE INSTITUTE

MR. BARFIELD. Thank you very much, Mr. Chairman.

Because the hearing was put together fairly quickly and I had to think about what would be a contribution, in terms of testimony, to launch us into questions, and because with much of what Mr. Courtis has to say about the investment gap, I don't disagree, I thought I would look at the outputs out of the United States for the last decade to give us another launching point for whatever discussion you want for the rest of the time period.

So what I have done is put together a group of charts, and I would like to walk briefly through them and then we can get on to the discussion. You have, I think, the charts in front of you.

Basically, what I wanted to do was take a look at U.S. manufacturing vis-à-vis not so much Japan—not Japan at all—but vis-à-vis the rest of the world and vis-à-vis where the restructuring of our economy, vis-à-vis earlier times, to give us some sense of where it seems to be trending.

SENATOR SARBANES. Could I interject? When you say the rest of the world, you are taking about everybody, is that right?

MR. BARFIELD. Yes. You will see that when I talk about growth rate, I am focusing on either externally everyone or what is happening internally in the United States. I'm not particularly focusing on Japan.

SENATOR SARBANES. Or even the industrial countries?

MR. BARFIELD. No.

SENATOR SARBANES. You are including all of the underdeveloped countries?

MR. BARFIELD. That's right. I don't think it would be important in the equation—the underdeveloped—except for those countries, such as the gang of four, which are now appearing in terms of percentages of exports, percentages of GNP. I don't think the lower level of the world economies are important in any sense for our discussion today.

From Chart 1, you can see manufacturing import into the United States has grown faster than the rest of the world, from 1979 to 1989. Chart 1 shows, according to World Bank data, U.S. output of manufacturing grew at an average compound rate of about 3.8 percent. From 1980 to 1989, world manufacturing grew at a somewhat lower rate of 3.5 percent. Our output, just for comparison with the World Bank, does have comparisons for the United States. It doesn't have them for the rest of the manufacturing world from 1965 to 1980, which is not on here. Our average compound rate was about 2.5 percent.

SENATOR SARBANES. Would those figures change significantly if the base year was not a recession year? 1980 was a recession year.

MR. BARFIELD. I think 1980 would be a lag in output. You are comparing the same years roughly. It is not a peak. 1989 is the end of a growth period for the United States, where you're actually slowing down a little bit. From 1979 to 1980 was about the same. There may be some adjustment, but it has not been thrown in to say it is a year of recession and a year of growth.

U.S. manufacturing grew somewhat more rapidly than the average growth of nonmanufacturing sectors in the U.S. economy. As Mr. Courtis pointed out, I think the constant dollar output of U.S. manufacturing grew by about 34 percent. Since the rest of the U.S. economy did not grow quite so fast, this meant that the share of manufacturing in U.S. constant dollars between 1979 and 1989 grew from 22.3 percent of GNP to 22.6 percent.

I want to talk a little bit about the other charts and tables—the restructuring within the manufacturing sector. While U.S. manufacturing overall has experienced substantial growth changes in output for individual industries, manufacturing has varied widely. Machinery has been the fastest growing U.S. manufacturing industry, with production more than doubling in ten years, and here I would refer to Chart 3 and Table 1.

Exceptionally strong growth was also recorded for petroleum and coal products, up 80 percent. Transportation equipment, other than motor vehicles, is up almost 80 percent. Rubber and plastic products, 56 percent. Electric and electronic equipment, up about 50 percent.

The other end of the spectrum: manufacturers of tobacco, leather products, natural resources and primary metals, as you can see, have declined dramatically.

Look at Table 2. If you would refer to these next changes, it relates to changes in industry shares of total U.S. manufacturing input. Table 2 shows the share of total manufacturing output accounted for by each manufacturing industry in 1979 to 1989, as well as their rank order in each year.

The largest single change or gain has been the rise in the share of machinery, from 12 percent of U.S. manufacturing since 1979 to 18.8 percent in 1989. The largest single decline in share or gain is primary metals, down from 7.4 percent to 4 percent in 1989.

Now, Chart 4 shows the change in the share of U.S. manufacturing output, between 1979 and 1989, for each of the 21 manufacturing industries. It is striking that U.S. manufacturing sectors gaining share tend to be those that one would expect the production of higher technology products are located: machinery and electronic equipment, nonautomotive transportation equipment—aircraft, in particular—chemicals and allied products. In fact, these four sectors increase their collective share of U.S. manufacturing output, from 33 percent, or just over 33 percent, in 1979 to 43 percent, to almost 44 percent in 1989.

The point that is made by these charts is that what you are seeing, in terms of the internal restructuring of the American economy, is a gradual shift, and this was not new to this decade. I think the trend went along at the same pace that you would have found if you had taken 1970 to 1980 or 1960 to 1970, from lower to higher value manufacturing products; or in a simply form, from lower technology to higher technology products. This has been, I think, a long-term trend in the U.S. economy, and it continued unabated in the 1980s.

There are numbers of export expansions. Export expansion has aided the growth of manufacturing output. Between 1979 and 1989, U.S. real, nonagricultural exports—90 percent of which are manufacturers—rose at an average compound rate of 4.6 percent—and here I would refer you to Chart 7—compared to a 2.5 growth in real, gross domestic product. As a result, nonagricultural exports rose from 5.1 percent of constant dollar GNP in 1979 to 6.4 percent in 1989.

Before I get to the final point on exports, there is a final chart, which I included that also shows, in terms of our exports and international competitiveness, what you have seen from the restructuring internally, and that is our high technology exports from 1982, when we came out of the recession—excuse me, 1986—at the point where the recovery was in juxtaposition with a lower dollar, increased dramatically to about $37 billion by 1990, which is the last year that I take.

I should make one point. This is at a time, if you take the rest of the 1980s when the manufacturing trade balance went deeply into deficit, but the high technology exports—and I should say that what I am using here is a Department of Commerce measure, which is now standard, and which they just brought into effect about two or three years ago, where they abstract out from the individual, larger sectors. From electronics, they abstract out the higher value-added elements of electronics machinery—steel or whatever. So it is disaggregation that gets you to the most intensely R&D components or R&D-based components of our export performance. There we did quite well, as one would have expected, from the restructuring of the economy internally.

SENATOR SARBANES. Do you take the aerospace category as being a high technology category?

MR. BARFIELD. Yes. I'm sure they do. This is not mine. This is the Commerce Department. I'm sure that this particular measure does. As I say, what they're trying to do is to go beyond the disaggregation that they had attempted earlier within sectors so that there may be some component. I'm not familiar enough with the internal dynamics of the way they do this to know if there is any particular component. In aerospace I would think most of it is included.

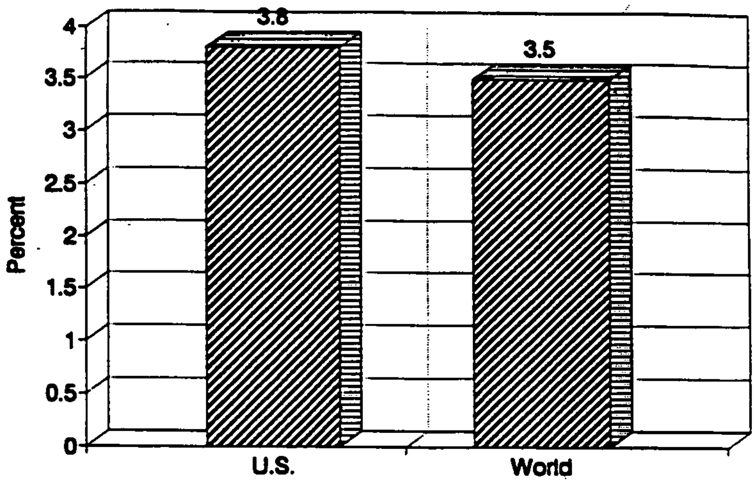
Thank you very much.

[The tables of Mr. Barfield presented at the hearing follow:]

Annual Average Growth Rate
for Manufacturing Output: 1980 to 1989

Source: World Bank (See Text)

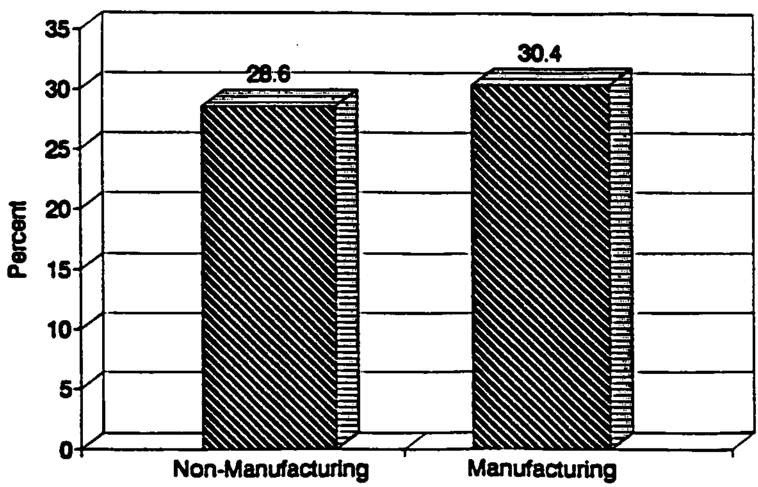
Chart 1



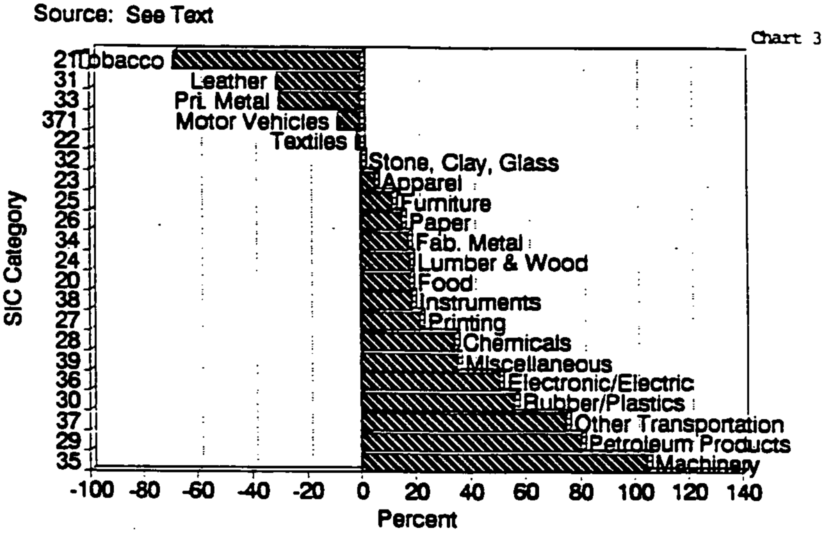
Growth of Real U.S. GNP
1979 to 1989

Source: See Text

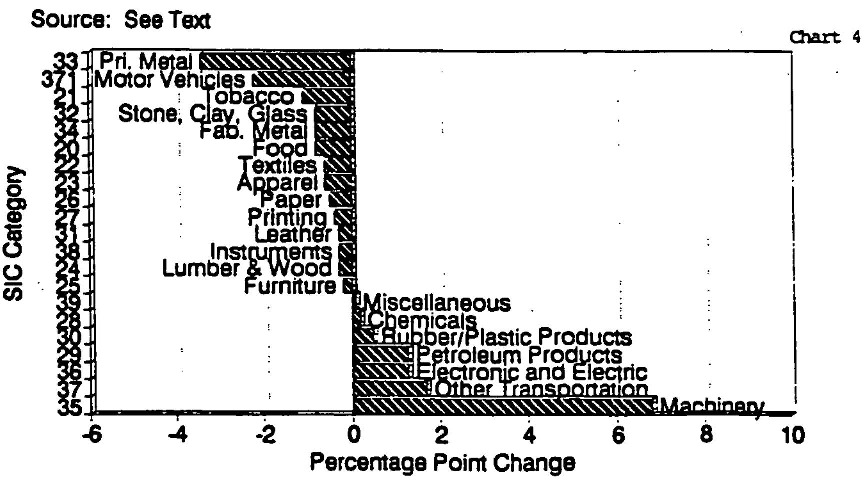
Chart 2



Growth of U.S. Manufactures
by SIC Category: 1979 to 1989



Change in Share of U.S. Manufacturing
Output 1979 to 1989: 21 SIC Categories



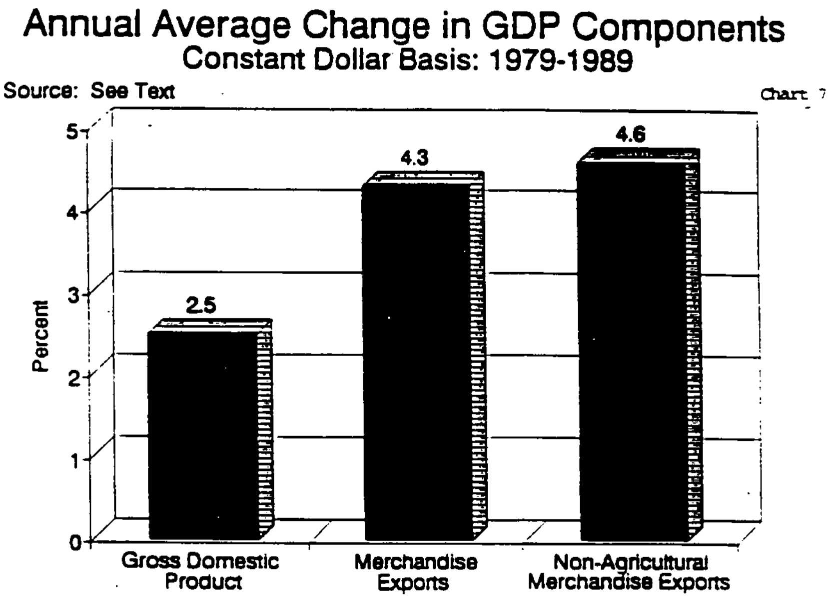

Annual Average Change in GDP Components
Constant Dollar Basis: 1979-1989
Source: See Text
Chart 7
Percent
0
1
2
3
4
5
2.5
4.3
4.6
Gross Domestic Product
Merchandise Exports
Non-Agricultural Merchandise Exports

Table 1

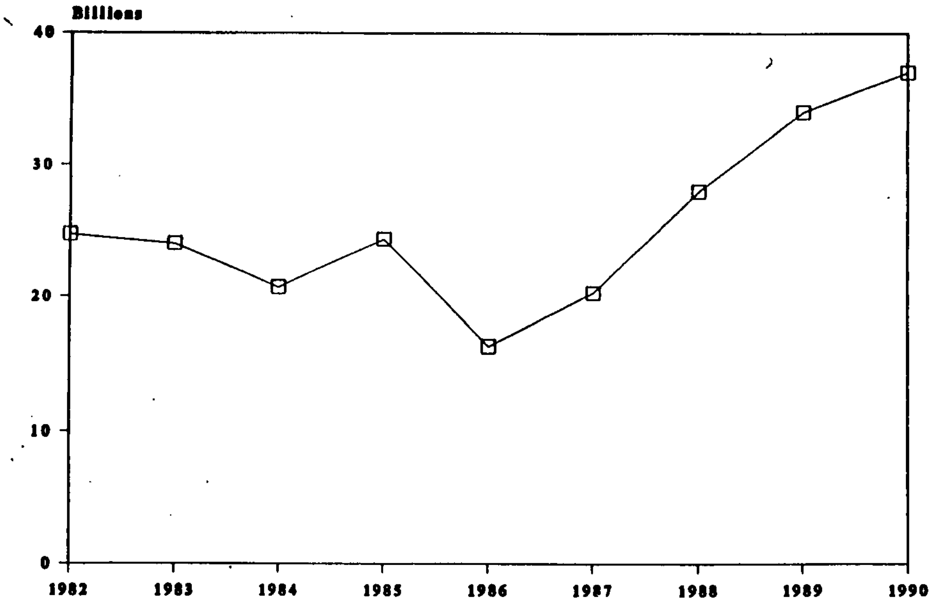
	Percent Change 1979 to 1989	1989 ($Billions Constant 1982)	1979 ($Billions Constant 1982)
Gross National Product	29.0%	4,117.7	3,192.4
Non-Manufacturing	28.6	3,188.7	2,480.2
Manufacturing	30.4	929.0	712.2
Durable Manufactured Goods	34.8	583.7	433.1
Lumber and Wood Products	18.0	25.6	21.7
Furniture and Fixtures	11.9	12.2	10.9
Stone, Clay and Glass Products	0.4	23.6	23.5
Primary Metal Industries	- 30.0	36.9	52.7
Fabricated Metal Products	17.5	65.8	56.0
Machinery, except Electrical	104.3	174.9	85.6
Electric and Electronic Equipment	50.8	90.8	60.2
Motor Vehicles and Equipment	- 8.3	47.3	51.6
Other Transportation Equipment	79.2	63.8	36.5
Instruments and Related Products	18.8	26.6	22.4
Miscellaneous Manufacturing Industries	35.0	16.2	12.0
Nondurable Manufactured Goods	23.4	345.4	279.0
Food and Kindred Products	18.2	70.3	59.5
Tobacco Manufactures	- 68.7	3.1	9.9
Textile Mill Products	- 1.8	16.7	17.0
Apparel and other Textile Products	5.2	22.4	21.3
Paper and Allied Products	15.0	33.0	28.7
Printing and Publishing	21.6	45.1	37.1
Chemicals and Allied Products	34.2	76.1	56.7
Petroleum and Coal Products	80.3	44.9	24.9
Rubber and Miscellaneous Plastic Products	56.3	30.8	19.7
Leather and Leather Products	- 31.0	2.9	4.2

Table 2

Industry Rank in <u>1989</u> (and Share of Total Production of <u>Manufactures</u>			Industry Rank in <u>1979</u> (and Share of Total Production of <u>Manufactures</u>
	(100.0%)	ALL MANUFACTURING INDUSTRIES	(100.0%)
1.	(18.8%)	Machinery, except Electrical	1. (12.0%)
2.	(9.8%)	Electric and Electronic Equipment	2. (8.5%)
3.	(8.2%)	Chemicals and Allied Products	4. (8.0%)
4.	(7.6%)	Food and Kindred Products	3. (8.4%)
5.	(7.1%)	Fabricated Metal Products	5. (7.9%)
6.	(6.9%)	Transportation Equipment, except Motor Vehicles	9. (5.8%)
7.	(5.1%)	Motor Vehicles and Equipment	7. (7.2%)
8.	(4.9%)	Printing and Publishing	8. (5.2%)
9.	(4.8%)	Petroleum and Coal Products	11. (3.5%)
10.	(4.0%)	Primary Metal Industries	6. (7.4%)
11.	(3.6%)	Paper and Allied Products	10. (4.0%)
12.	(3.3%)	Rubber and Misc. Plastic Products	16. (2.8%)
13.	(2.9%)	Instruments and Related Products	13. (3.1%)
14.	(2.8%)	Lumber and Wood Products	14. (3.0%)
15.	(2.5%)	Stone, Glass and Clay Products	12. (3.3%)
16.	(2.4%)	Apparel and Other Textile Products	15. (3.0%)
17.	(1.8%)	Textile Mill Products	17. (2.4%)
18.	(1.7%)	Misc. Manufacturing Industries	18. (1.7%)
19.	(1.3%)	Furniture and Fixtures	19. (1.5%)
20.	(0.3%)	Tobacco Manufactures	20. (1.4%)
21.	(0.3%)	Leather and Products	21. (0.6%)

Chart 2.

HIGH TECHNOLOGY TRADE BALANCE



Source: Department of Commerce

SENATOR SARBANES. Thank you.

Mr. Choate, please proceed.

STATEMENT OF PAT CHOATE, DIRECTOR, THE MANUFACTURING POLICY PROJECT

MR. CHOATE. I would submit my statement and I would like to make three sets of comments, one on some highlights on a statistical compendium, which I enclose; second, what this means; and, third, some areas that I think merit some attention.

As to the question of the status of American manufacturing, what we see in comparison with Germany and Japan is that the United States is not making the investment that is necessary to retain our competitiveness vis-à-vis those economies, as Mr. Courtis indicates.

I would also suggest that when one takes a look at American manufacturing over time, the United States is not making the investments that are required to retain its prior role in our economy and to maintain its prior competitiveness levels.

I could point out a number of statistics that indicate something about this. First, manufacturing has fallen from 23 percent of all jobs in 1969 to roughly 14 percent today.

SENATOR SARBANES. 14 percent?

MR. CHOATE. 14 percent. Government now accounts for more jobs in the United States than manufacturing. A dramatic change.

Third, more manufacturing jobs were lost than gained in our Nation's top 20 cities. Of the nine cities that lost jobs, they lost more than two million manufacturing jobs. Of the 11 cities that gained jobs, they gained fewer than 825,000 jobs.

The manufacturing share of the gross national product, as measured in actual dollars, declined from 28 percent in the mid-1960s to roughly 19 percent in 1989. The manufacturing share of the state gross product declined in 42 states over the past decade. And the net fixed U.S. investment, as a share of the GNP, has declined steadily since 1989.

This measures and reflects itself in our trade balances, obviously. Between 1983 and 1991, the United States accumulated a manufacturing trade deficit of $739 billion. Between 1980 and 1991, the United States manufacturing trade deficit with Japan was $590 billion. When we take a look at Japan and Germany and exclude them in the period 1980 to 1991, the United States actually had a manufacturing trade surplus. It really says that our competitors are getting real benefits from their investments and activities.

What are the consequences of this? I think there are several, and I will expand on others, which are not my comments. First of all, the manufacturing base by being strong and growing, as is happening in Germany and Japan, is a major source of wealth creation.

Second, it underpins the service base. Increasingly, what we see as foreign companies move abroad with a manufacturing base, they bring service industries: architectural services, engineering services, financial services. If you lose your manufacturing base, it will not necessarily be replaced by the high value-added business service base.

When we take a look at the Japanese in our markets today, we find, for example, that they now do roughly 16 percent of all of the commercial banking. They've brought their banking system with them. In California they now do roughly 36 percent of all of the commercial banking activities.

SENATOR SARBANES. That is what the British thought they would do, and it did not work.

MR. CHOATE. Absolutely.

SENATOR SARBANES. The British thought that manufacturing goes somewhere else, but they would do the banking, and the insurance, and the legal work. They did it for awhile. They had a lag, but then it just de-routed right away and went right to the manufacturing base, didn't it?

MR. CHOATE. Absolutely. And it is particularly critical in economies, such as in Germany and in Japan, where you are dealing with these large conglomerates, where all of the the elements—manufacturing, service, architect, engineering—are found within one financial or economic group itself—the Kereitsu relationship. As you lose the manufacturing base, you have a diminished capacity to create jobs and, particularly, to create jobs in certain parts of the country where you want and need jobs, as in the urban areas.

Fourth, as you lose the manufacturing base you lose a certain know-how. As a consequence of that, you lose succeeding generations of technology. For example, as the United States has moved out of the consumer electronics industry, we have lost the capacity to go to the succeeding ways of consumer electronics industries.

Fifth, as you lose wealth creation, you lose a certain political influence in the world. I believe that we are at a point now, at the end of the post-Cold War period, that political influence is going to come more from economics and science and technology and wealth creation than it is from the tools of war. We see ourselves already in a diminished capacity, vis-à-vis Europe and Japan because of the weakening of our economy, vis-à-vis their economy.

And, sixth, and perhaps most importantly, we lose our capacity as a society to undertake and make certain social investments that we need, in truth because of the weakened condition of our economy. Over a long period of time as a country, we have been unable to make the necessary investments that we need, the training that we need in infrastructure, that we need in housing.

As to some actions that are required, above and beyond the microeconomic measures that have been discussed many times here before this Committee, I would bring attention to three actions that require special attention if we are going to have the levels of investment that we need.

The first is that we must reduce the pressures on American business to go for the short-term results. As I trace this out—and I have testified before this Committee before on this—the primary source of those pressures for short-term results is found in the operation today of the New York capital markets.

What we now find is a circumstance in which the majority of the shares of our 200 largest corporations are owned by institutions, pension funds, insurance companies, etc. Pension funds and institutions own 39 percent of the equities listed on the New York Stock Exchange. Since 1921, institutions have been given exemptions from certain taxes on the assumption that they would be the most patient of capital, that they would think in the long term.

What we have seen over the past 12 or 15 years, is that they have been the most impatient of capital. Today, institutional investors do roughly 90 percent of all of the trades on the New York Stock Exchange, we find, from the mid-1980s to the present. Where in the mid-1960s, for example, institutional investors were doing nine large block transactions a day. That's 10,000 shares. By 1980 they were doing slightly less than 600 per day. We are now to a point where they are doing roughly 4,000 per day.

We find a circumstance in the 1960s and 1970s where the total value of the New York Stock Exchange was turning over roughly every four or five years. It is now turning over roughly every 24 months. This is the source of pressure on companies. Their owners, which are the institutions, are demanding short-term results, and if they do not give those results, they will walk away from them.

Now, that must be solved if we are going to have the long-term, patient investment that is required to compete with the Japanese and Europeans.

The second major area is an area that received a great deal of attention early on in this century, but over the past 20 or 30 years has fallen out of disfavor for discussion. That is, competitive policy, particularly as it pertains to cartels.

As we now look around the world, what we find is that large numbers of our competitors operate in cartels. And what we also find is that those cartels are sanctioned and supported by the state. Time and again, in industry after industry, these cartels, working with their governments, have been able to close off their market from foreign competition, earn substantial monopoly profits, take those monopoly profits, and then target industries and countries and be able to subsidize market penetration, dumping and other anticompetitive actions by market share, and take over industry.

Now, for roughly 20 years, the policies of the United States government has been, by and large, to overlook those cartels and those actions, even when they extend their operations into the United States.

I am suggesting that if we are going to have an environment that will permit American companies to invest, it requires now that the United States make an aggressive attack upon those cartels, particularly when they are operating within our economy.

And, finally, what we require now that the Cold War is over is a major re-thinking of American trade policy. In the Cold-War era, we could have a trade policy that, in effect, said that we wished other countries to alter their institutions, financial organizations and approaches so that they would be like the United States. We would make that demand under the assumption that others may or may not do it but we could overlook the fact that they didn't do it because we wanted to maintain them into the strategic lines against the Soviet Union.

We're now at the point where we know that other economies are essentially organized around four different types of economic models: a communist model, a mixed model in Europe, a network capitalist model in Japan, and then a more or less market economy here. The Japanese, the Europeans and others are not going to make the fundamental shifts in their institutions so that they can be like us and have theoretical free trade.

The question for us then is to think our way through on how we are going to expend trade with other countries and play by whatever rules they want to play with. If, with the Canadians, you can have a free-trade agreement, free trade makes sense. If, with the Europeans, a mixed trade arrangement is necessary, some free trade, some managed trade, then we should have that. And with the Japanese and other economies where free trade is simply impossible, then it becomes necessary for us to find a way to have a relationship that accepts their economic model as it is, but expands trade and does not sacrifice the interest of our companies and our workers.

Thank you.

[The prepared statement of Mr. Choate, together with attachment, follows:]

PREPARED STATEMENT OF PAT CHOATE

Mr. Chairman and Members of the Committee:

I am pleased to have this opportunity to share some thoughts with you on American investment, manufacturing and jobs.

As part of my testimony, I am attaching a compendium of statistics that will be part of a forthcoming report, *The Status of American Manufacturing and Jobs*. For today's hearing, information is provided on the status of manufacturing in the home states of each Member of this Committee.

HIGHLIGHTS OF AMERICAN MANUFACTURING TODAY

The United States has a strong and diverse manufacturing base. Yet, it is neither keeping pace with either its prior performance nor with that of its competitors. As a consequence, the job and tax base of the nation, and particularly many of our major urban areas, are threatened.

Specifically:

- Manufacturing has fallen from 23 percent of all jobs in 1969 to less than 14 percent today;
- Government now accounts for more jobs in the United States than manufacturing;
- More manufacturing jobs were lost than gained by the nation's twenty largest metropolitan areas between 1969-89. Nine cities lost a total of 2 million manufacturing jobs and eleven cities gained 825 thousand jobs;
- The manufacturing share of the Gross National Product (GNP), as measured in actual dollars, declined from 28 percent in 1965 to 19 percent in 1989;
- The manufacturing share of the Gross State Product (GSP) declined in 42 states between 1979 and 1989;
- Net fixed U.S. investment as a share of GNP has declined steadily since 1985.

- Between 1983 and 1991, the United States accumulated a manufacturing trade deficit of $739 billion.

- Between 1980-91, the U.S. manufacturing trade deficit with Japan amounted to $590 billion.

- Excluding Japan and Germany, the United States had a manufacturing trade surplus between 1980-91.

WHAT MUST BE DONE

If America is to have a strong manufacturing base in its future, the nation urgently needs to increase its investment in manufacturing. Beyond increasing savings, three other actions are required if this is to happen -- reduce the pressures on companies for short-term results, attack foreign cartels, and adopt pragmatic trade policies.

Reduce Pressures for Short-Term Results

If American manufacturers are to make the investments that are required to remain competitive, they require an economic environment that permits and encourages long-term action. The creation of such an environment hinges on a reduction in the demands of investors for immediate returns, regardless of longer-term consequences.

In turn, this requires a recognition that control of America's major corporations has steadily shifted from individual investors to financial institutions -- pension funds, insurance companies, foundations, investment companies, educational endowments, trust funds, and banks. This shift has far-reaching consequences, because individuals and institutions invest in the stock market for sharply different reasons; individuals are primarily investors looking for long-term performance; institutions are pursuing short-term profits. Thus, at a time when U.S. manufacturers need to be making long-term investments to meet global competition, the new owners -- the institutions -- are pressing for quick results.

Institutions now hold so much equity and are such a powerful presence in stock markets that most corporations must respond to these demands. Specifically, institutions hold more than 39 percent of all equities listed on the New York Stock Exchange (NYSE) and hold half to two-thirds of the stock of the nation's 200 largest corporations.

Yet, their biggest impact comes not through mere ownership but through the growing pace of their transactions. In 1953, when institutions controlled about 15 percent of the equities listed on the NYSE, their trades constituted a quarter of stock market transactions. Today, institutional trades constitute almost 90 percent of transactions.

As a result of such hyperactive trading, the fundamental focus of the stock market has been transformed from long-term investing to short-term speculation. This shift can be gauged by both the rising volume of large-block stock transactions (10,000 shares or more) by institutions, and the quickening pace at which the entire value of stocks listed on the NYSE is traded.

The exchange reports a two decade trend of steady increases of large-block transactions, and they are overwhelmingly by institutions. In 1965 there were, on average, only nine large-block transactions a day, constituting 3 percent of the daily volume of the market. By 1980 the average number had risen to 528 per day. By 1991, it had risen to more than 3,878 per day, or half of the total volume on the NYSE.

Because institutions own such a large share of all stock, and trade that stock so zealously, there has been a sharp increase in the turnover rate of the entire NYSE (the pace at which the total value of stocks listed on the exchange is traded). Until a decade ago, the turnover rate was less than 20 percent a year. By 1991, it was up to 48 percent. At the 1970s pace, it took 5 years for the entire value of the stock market to turn over, but today it takes only 24 months. This is speculation, not investing.

In the speculative, short-term-oriented equity markets that now exist, only a few American firms have sufficient profits and assets to make the commitments that long-term global competitiveness requires without sacrificing shorter-term earnings. Most companies are obliged to focus their efforts and resources on results that can bolster the price of their stock.

Fast results and short-term earnings have become the obsessive goal of too many American companies. The pursuit of these objectives diverts resources from investment in modern plant and equipment, research, technology and training to clever financial manipulations. It sacrifices market share to high quarterly earnings. And it discourages workers from making long-term commitments to companies.

The solution is relative simple. Create an environment that will encourage institutional investors to invest rather than speculate. Two possibilities would be to impose a stock transfer tax or impose a capital gains tax on the short-term trading profits of institutions. Either approach will encourage long-term investment.

Attack Foreign Cartels

A growing body of evidence reveals the existence of anti-competitive cartels in other nations.

As these foreign companies have extended their investments and operations inside the United States, they have brought their cartels and anti-competitive practices with them.

Generally, these cartels are tolerated, even sanctioned, by their home governments. Often, they are supported by their governments with policies that restrict foreign imports, thereby allowing the cartels to generate monopoly profits that can be used to subsidize dumping and other predatory practices in targeted markets.

When targeted by a cartel and its mother country, American manufacturers are vulnerable, and as the experiences of the U.S. consumer electronics industry reveal, they can be destroyed.

The United States Government has long been hesitant to investigate antitrust violations by foreign cartels, even those operating inside the United States. For many years, the guiding principle adopted by a succession of Administrations has been to ignore predatory pricing and related anticompetitive practices as long as no harm was done to consumers. Recently, the U.S. Justice Department has indicated that it may alter this position.

Yet, the principal action taken to date has been to encourage foreign governments to enforce their antitrust laws on their own companies.

If American manufacturers are to make the investments that are necessary to meet the global competition that they face, they require assurances that foreign cartels cannot operate with impunity inside the United States.

Adopt Pragmatic Trade Policies

American manufacturers do well in the global marketplace. But if they are to continue to do well and provide the profits that they need for additional investment, the United States requires trade policies which recognize and accept the fact that other nations have organized their economies in ways that are both manifestly and subtly dissimilar from ours, reflecting inherent differences in history, national aspirations, and institutions.

The structure and dynamics of the various national economies -- what for simplicity can be called rules -- can basically be classified as either operating by American rules, European rules, Japanese rules or Communist rules.

Communist rules foster a command economy in which the state owns the means of production and makes virtually all of the decisions on outputs and distribution. European rules nurture a mixed economy. American rules foster market capitalism. Japanese rules foster what economists call "network capitalism" -- an approach to production, distribution and competition that closely blends the power of the state with the flexibility of the marketplace.

It is unlikely that other nations will reorganize their production and distribution systems, their industrial structures, their financial methods and their business-government relationships so that they simulate America's and thereby adopt a free trade international trade regime..

The practical solution, of course, is for America to deal with other nations as they are and not as we wish them to be. For those nations that organize their economies with American rules, or something close to them such as Canada, we can pursue a free trade strategy. Managed trade is required with those nations that operate under Japanese rules. For Europe, the answer is some combination of free and managed trade.

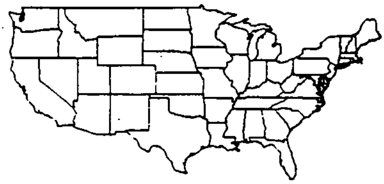
The goal, in all cases, is to expand trade with other nations for the mutual benefits that can be created, and do so without punishing others for their success or sacrificing the interests of American workers and industry.

A more practical trade policy will provide an environment that will allow American manufacturers to invest with greater confidence.

CONCLUSION

Manufacturing is a primary source of America's wealth, but it is now being seriously challenged by foreign competitors. If this challenge is to be successfully met, U.S. industry must produce fully competitive goods and American government must create an economic environment that enables manufacturers to innovate, invest, and quickly take a product from development to market domination.

Nothing less will do.



THE STATUS OF
AMERICAN MANUFACTURING AND JOBS

[Preliminary Information from the Forthcoming Report]

Prepared by:
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For:

The Manufacturing Policy Project
Washington, D.C.

May, 1992

THE STATUS OF
AMERICAN MANUFACTURING AND JOBS

Charles W. McMillion
MBG-Washington

An Overview

1. United States Business Cycles and Job Growth: Three Recent Economic Expansions
   * In the 1982-89 economic expansion, manufacturing jobs growth was the slowest on record.
   * High wage durable manufacturing experienced especially sluggish growth.

2. Charting Job Loss in Manufacturing: 1969-1992
   * Manufacturing has fallen from 23% of all jobs in 1969 to less than 14% today.
   * There are now fewer jobs in manufacturing than at any time since the mid-1960s.

3. Recent U.S. Manufacturing Job Loss: 1985-90
   * Manufacturing employment declined in the five years leading to the 1990-91 recession.
   * Job losses in manufacturing were led by electronics and machinery.

4. Manufacturing Job Losses Continue in the Recovery Year to March, 1992
   * A traditional engine of recovery, 194,000 durable goods jobs were lost in the past year.
   * Machinery, electronics and precision instruments have accounted for most job losses.

5. The State of the States: Manufacturing Job Loss/Gain, Year to February, 1992.
   * New Mexico, Rhode Island, Maryland and Massachusetts suffered the most severe job losses.
   * Several smaller states continue to create small numbers of manufacturing jobs.

6. Employment Structure in the 20 Largest Metropolitan Areas: 1969-89
   * New York, lost 750,000 manufacturing jobs between 1969-89.
   * Los Angeles: manufacturing fell from 25% of all jobs in 1969 to 16% in 1989.
   * Chicago: lost 380,000 manufacturing jobs in the twenty years to 1989.
   * San Francisco: manufacturing job growth has not quite kept up with overall growth.
   * Philadelphia: lost 240,000 jobs in manufacturing from 1969-89.
   * Detroit: lost 33,000 jobs between 1969-79 but lost more than 141,000 from 1979 to 1989.
   * Boston: added manufacturing jobs in the 1970s but lost 47,000 from 1979-89.
   * Washington, D.C.: manufacturing jobs have remained about 3.3% of total jobs since 1969.
   * Dallas-Fort Worth: manufacturing job growth has not kept up with total growth.
   * Houston: added manufacturing jobs in the 1970s but lost jobs in the 1980s.
   * Miami: added manufacturing jobs in the 1970s but lost jobs in the 1980s.
   * Atlanta: manufacturing jobs have fallen from 20% of all jobs in 1969 to 10% in 1989.
   * Cleveland: lost more than 150,000 manufacturing jobs in the 20 years to 1989.
   * Seattle: manufacturing jobs have not kept up with total job growth.
   * San Diego: manufacturing jobs increased by almost 70,000 between 1969-89.
   * Minneapolis-St. Paul: Total job growth has outstripped manufacturing job growth.
   * St. Louis: the share of total jobs accounted for by manufacturing declined from 27% to 16%.
   * Baltimore: manufacturing fell from 21% to 9.5% of total jobs between 1969-89.
   * Pittsburgh: between 1969-89, manufacturing fell from 29% to 12% of total jobs.
   * Phoenix: total job growth has outstripped manufacturing job growth.

7. U.S. Job Structure: March. 1992
   * Government now accounts for more jobs than manufacturing.
   * Services and Retail/Wholesale trade accounts for 50% of nonfarm jobs.

8. Employment Structure in the States
   * Manufacturing accounts for more than 20% of jobs in only 14 states.
   * Services account for less than 20% of jobs in only 3 states.

9. Net Fixed Investment and Business Investment in the U.S.
   * Net fixed investment as a share of GNP has fallen well below trend since 1981.
   * Business investment in new plant and equipment have declined sharply since the 1960s.

10. U.S. Manufacturing Trade Imbalance
   * Between 1983 and 1991. the U.S. accumulated manufacturing trade deficits of $739 billion.
   * Improvement since 1988 has come principally from sluggish imports rather than export growth.

11. U.S. Manufacturing Trade by Industry: 1991
   * Clothing. new cars from Japan and telecommunications equipment account for the entire deficit.
   * Airplanes provide the U.S. with a $21 billion trade surplus.

12. U.S. Manufacturing Trade Deficits with Japan and Germany
   * Between 1980-91 U.S. manufacturing deficits with Japan amounted to $590 billion.
   * At $60 billion in 1991. the deficit with Japan exceeds the entire U.S. manufacturing trade deficit.
   * Excluding Japan and Germany. the U.S. had a manufacturing trade surplus between 1980-91.

13. Major U.S. Imports to and Exports from Japan
   * Autos. electronics and nuclear reactors account for 72% of U.S. imports from Japan.
   * Nuclear reactors. electronics and aircraft account for 27% of U.S. exports to Japan.

14. Major U.S. Imports to and Exports from Germany
   * Nuclear reactors. autos and electronics account for 57% of U.S. imports from Germany.
   * Nuclear reactors. aircraft and electronics account for 50% of U.S. exports to Germany.

15. Manufacturing Share of Gross National Product
   * The actual dollar share of manufacturing declined from 28% of GNP in 1965 to 19% in 1989.
   * So-called "constant output" measures of manufacturing share of GNP are severely flawed.

16. Manufacturing Decline: Graphing the shares of GSP in the States
   * Indiana and Ohio
   * Massachusetts and Maine
   * Wisconsin and Delaware
   * Tennessee and New Hampshire
   * Maryland and Florida
   * Texas and New York
   * Idaho and California
   * Nevada and New Mexico

17. Manufacturing Growth and Decline: Share of GSP in the States. 1979-89
   * New Mexico. the Dakotas and Mississippi saw manufacturing rise of GSP share in the 1980s.
   * Maryland. New York and Connecticut suffered steep decline in manufacturing during the 1980s.

18. Manufacturing Decline in the States: Full Table of Manufacturing Share of Gross State Product
   * Seven states had manufacturing sectors account for more than 25% of GSP in 1989.
   * In 1989. manufacturing accounted for less than 10% of GSP in 9 states.

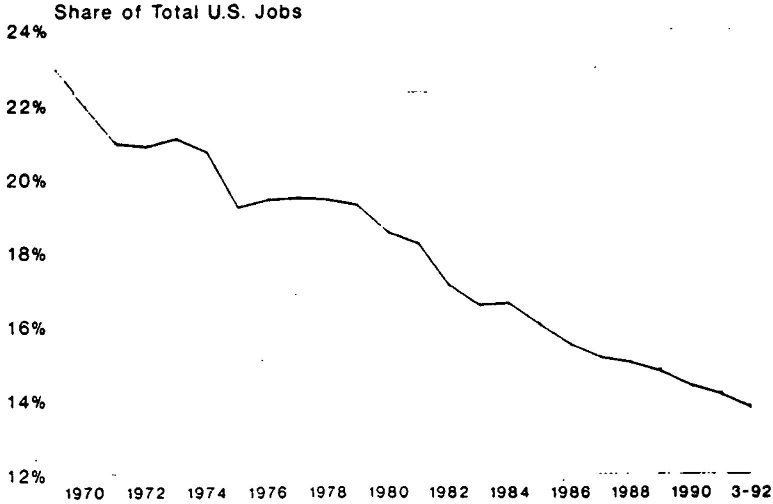
UNITED STATES BUSINESS CYCLES AND JOB GROWTH

THREE RECENT ECONOMIC EXPANSIONS

INDUSTRIES/SECTORS	ANNUAL JOB GROWTH 1982-89	1975-79	1970-73	SHARE OF JOB GROWTH 1982-89	1975-79	1970-73
TOTAL EMPLOYMENT GROWTH/YEAR	3,254,043	3,613,625	2,367,233	100.00%	100.00%	100.00%
WAGE AND SALARY	2,712,857	3,147,750	1,964,333	83.37%	87.11%	82.98%
PROPRIETORS	541,186	465,875	402,900	16.63%	12.89%	17.02%
FARM	(64,714)	(25,000)	(21,667)	-1.99%	-0.69%	-0.92%
MINING	(62,300)	63,675	6,700	-1.91%	1.76%	0.28%
CONSTRUCTION	266,071	307,100	229,300	8.18%	8.50%	9.69%
GENERAL BUILDING CONTRACTORS	71,288	91,875	85,400	2.19%	2.54%	3.61%
HEAVY CONSTRUCTION CONTRACTORS	(11,114)	45,175	18,900	-0.34%	1.25%	0.80%
SPECIAL TRADE CONTRACTORS	205,900	170,050	125,000	6.33%	4.71%	5.28%
MANUFACTURING	107,214	707,575	245,867	3.29%	19.58%	10.39%
NONDURABLE GOODS	46,857	173,475	31,833	1.44%	4.80%	1.34%
FOOD AND KINDRED PRODUCTS	29	17,200	(22,967)	0.00%	0.48%	-0.97%
TEXTILE MILL PRODUCTS	(4,286)	5,275	16,900	-0.13%	0.15%	0.71%
APPAREL AND OTHER TEXTILE PRODUCTS	(8,457)	16,175	15,033	-0.26%	0.45%	0.64%
PAPER AND ALLIED PRODUCTS	4,686	16,250	(667)	0.14%	0.45%	-0.03%
PRINTING AND PUBLISHING	47,771	45,125	4,833	1.47%	1.25%	0.20%
CHEMICALS AND ALLIED PRODUCTS	(1,086)	23,625	(5,233)	-0.03%	0.65%	-0.22%
PETROLEUM AND COAL PRODUCTS	(6,286)	4,550	(1,200)	-0.19%	0.13%	-0.05%
TOBACCO PRODUCTS	(2,271)	(975)	(667)	-0.07%	-0.03%	-0.03%
RUBBER AND MISC. PLASTICS PRODUCTS	28,557	46,025	32,767	0.88%	1.27%	1.38%
LEATHER AND LEATHER PRODUCTS	(11,800)	225	(6,967)	-0.36%	0.01%	-0.29%
DURABLE GOODS	60,357	534,100	214,033	1.85%	14.78%	9.04%
LUMBER AND WOOD PRODUCTS	27,986	40,950	23,433	0.86%	1.13%	0.99%
FURNITURE AND FIXTURES	13,829	19,750	25,633	0.42%	0.55%	1.08%
PRIMARY METAL INDUSTRIES	(22,614)	27,250	2,233	-0.69%	0.75%	0.09%
FABRICATED METAL PRODUCTS	2,386	63,150	40,033	0.07%	1.75%	1.69%
MACHINERY AND COMPUTER EQUIPMENT	(14,800)	111,000	36,433	-0.45%	3.07%	1.54%
ELECTRONIC EQUIP. EXC. COMPUTER EQUIP	(38,829)	106,225	35,667	-1.19%	2.94%	1.51%
TRANSPORT EQUIP. EXCL. MOTOR VEHICLES	23,400	41,750	(19,967)	0.72%	1.16%	-0.84%
MOTOR VEHICLES AND EQUIPMENT	20,414	53,350	51,600	0.63%	1.48%	2.18%
STONE, CLAY, AND GLASS PRODUCTS	3,586	21,400	17,600	0.11%	0.59%	0.74%
INSTRUMENTS AND RELATED PRODUCTS	45,600	35,525	10,033	1.40%	0.98%	0.42%
MISC. MANUFACTURING INDUSTRIES	(600)	13,750	12,333	-0.02%	0.38%	0.52%
TRANSPORTATION AND PUBLIC UTILITIES	109,957	161,275	71,067	3.38%	4.46%	3.00%
COMMUNICATIONS	(17,671)	34,350	18,467	-0.54%	0.95%	0.78%
WHOLESALE TRADE	140,543	200,325	120,533	4.32%	5.54%	5.09%
RETAIL TRADE	642,000	653,500	445,800	19.73%	18.08%	18.83%
FINANCE, INSURANCE, AND REAL ESTATE	316,029	357,025	270,667	9.71%	9.88%	11.43%
SERVICES	1,433,043	956,850	744,800	44.04%	26.48%	31.46%
HOTELS AND OTHER LODGING PLACES	68,557	37,775	38,133	2.11%	1.05%	1.61%
PERSONAL SERVICES	61,514	47,525	(16,600)	1.89%	1.32%	-0.70%
PRIVATE HOUSEHOLDS	(28,714)	(30,500)	(61,000)	-0.88%	-0.84%	-2.58%
BUSINESS SERVICES	275,971	288,300	153,333	8.48%	7.98%	6.48%
AMUSEMENT AND RECREATION SERVICES	93,043	45,050	52,500	2.86%	1.25%	2.22%
MOTION PICTURES	43,771	4,200	1,967	1.35%	0.12%	0.08%
HEALTH SERVICES	285,757	239,125	289,533	8.78%	6.62%	12.23%
LEGAL SERVICES	56,886	38,650	29,833	1.75%	1.07%	1.26%
EDUCATIONAL SERVICES	58,443	21,325	41,100	1.80%	0.59%	1.74%
GOVERNMENT AND GOVERNMENT ENTERPRISES	310,857	185,000	224,000	9.55%	5.12%	9.46%
FEDERAL, CIVILIAN	37,143	9,750	(21,000)	1.14%	0.27%	-0.89%
MILITARY	21,571	(57,750)	(155,333)	0.66%	-1.60%	-6.56%
STATE AND LOCAL	252,143	233,000	400,333	7.75%	6.45%	16.91%

MBG–Washington and the U.S. Department of Commerce, BEA: All Full and Part Time Employment.

U.S. MANUFACTURING JOBS



MBG-Washington & US Dept of Labor, BLS

RECENT U.S. MANUFACTURING JOB LOSS

INDUSTRY/SECTOR	NET JOB CREATION 1985–90
TOTAL EMPLOYMENT	13,977,600
WAGE AND SALARY	12,478,000
PROPRIETORS	1,499,600
FARM	(353,000)
NONFARM	14,330,600
PRIVATE	12,454,600
MINING	(274,200)
COAL MINING	(49,100)
OIL AND GAS EXTRACTION	(233,200)
CONSTRUCTION	826,900
GENERAL BUILDING CONTRACTORS	146,600
HEAVY CONSTRUCTION CONTRACTORS	(36,100)
SPECIAL TRADE CONTRACTORS	716,400
MANUFACTURING	**(21,800)**
NONDURABLE GOODS	296,400
FOOD AND KINDRED PRODUCTS	68,500
TEXTILE MILL PRODUCTS	(1,500)
APPAREL AND OTHER TEXTILE PRODUCTS	(73,400)
PAPER AND ALLIED PRODUCTS	21,700
PRINTING AND PUBLISHING	194,200
CHEMICALS AND ALLIED PRODUCTS	45,000
PETROLEUM AND COAL PRODUCTS	(21,100)
TOBACCO PRODUCTS	(10,000)
RUBBER AND MISC. PLASTICS PRODUCTS	104,800
LEATHER AND LEATHER PRODUCTS	(31,800)
DURABLE GOODS	**(318,200)**
LUMBER AND WOOD PRODUCTS	62,000
FURNITURE AND FIXTURES	15,000
PRIMARY METAL INDUSTRIES	(53,700)
FABRICATED METAL PRODUCTS	(51,800)
MACHINERY AND COMPUTER EQUIPMENT	(77,200)
ELECTRONIC EQUIPMENT, EXC. COMPUTER EQUIP.	(514,600)
TRANSPORTATION EQUIP. EXCL. MOTOR VEHICLES	79,300
MOTOR VEHICLES AND EQUIPMENT	(55,100)
STONE, CLAY, AND GLASS PRODUCTS	(6,800)
INSTRUMENTS AND RELATED PRODUCTS	286,100
MISCELLANEOUS MANUFACTURING INDUSTRIES	(1,400)
TRANSPORTATION AND PUBLIC UTILITIES	652,800
WHOLESALE TRADE	508,400
RETAIL TRADE	2,534,800
FINANCE, INSURANCE, AND REAL ESTATE	1,071,300
SERVICES	6,910,300
HEALTH SERVICES	1,774,600
GOVERNMENT AND GOVERNMENT ENTERPRISES	1,876,000
FEDERAL, CIVILIAN	224,000
MILITARY	(70,000)
STATE AND LOCAL	1,722,000

MBG–Washington and U.S. Department of Commerce, BEA.
All full and part–time jobs.

RECOVERY YEAR TO MARCH, 1992
MANUFACTURING JOB LOSS CONTINUES

INDUSTRY	NET JOB GAIN/LOSS	PERCENT GAIN/LOSS
Total	(16.000)	−0.01%
Total private	(159.000)	−0.18%
Goods-producing industries	(385.000)	−1.61%
Mining	(55.000)	−7.70%
Oil and gas extraction	(37.000)	−9.20%
Construction	(136.000)	−2.88%
General building contractors	(68.000)	−5.69%
Manufacturing	**(194,000)**	**−1.05%**
Production workers	(50.000)	−0.40%
Durable goods	(203.000)	−1.92%
Production workers	(70.000)	−1.01%
Lumber and wood products	14.000	2.02%
Furniture and fixtures	1.000	0.21%
Stone, clay, and glass products	(6.000)	−1.15%
Primary metal industries	(24.000)	−3.31%
Blast furnaces and basic steel products	(8.000)	−3.05%
Fabricated metal products	(19.000)	−1.40%
Industrial machinery and equipment	(89.000)	−4.40%
Electronic and other electrical equipm	(44.000)	−2.75%
Transportation equipment	(1.000)	−0.05%
Motor vehicles and equipment	73.000	9.89%
Instruments and related products	(32.000)	−3.27%
Miscellaneous manufacturing	(3.000)	−0.82%
Nondurable goods	9.000	0.11%
Production workers	20.000	0.37%
Food and kindred products	(12.000)	−0.71%
Textile mill products	16.000	2.42%
Apparel and other textile products	27.000	2.68%
Paper and allied products	(3.000)	−0.43%
Printing and publishing	(32.000)	−2.07%
Chemicals and allied products	1.000	0.09%
Petroleum and coal products	(1.000)	−0.63%
Rubber and misc. plastics products	15.000	1.76%
Leather and leather products	(2.000)	−1.65%
Service-producing industries	369.000	0.43%
Transportation and public utilities	(27.000)	−0.46%
Transportation	22.000	0.62%
Communications and public utilities	(49.000)	−2.15%
Wholesale trade	(118.000)	−1.93%
Durable goods	(108.000)	−3.04%
Nondurable goods	(10.000)	−0.39%
Retail trade	(110.000)	−0.57%
General merchandise stores	(71.000)	−2.96%
Food stores	(47.000)	−1.45%
Automotive dealers and service station	(2.000)	−0.10%
Eating and drinking places	31.000	0.47%
Finance, insurance, and real estate	(29.000)	−0.43%
Finance	3.000	0.09%
Insurance	(25.000)	−1.17%
Real estate	(7.000)	−0.54%
Services	510.000	1.78%
Business services	73.000	1.39%
Health services	384.000	4.73%
Government	143.000	0.78%
Federal	29.000	0.98%
State	(10.000)	−0.23%
Local	124.000	1.12%

MBG–Washington and the U.S. Department of Labor, BLS. Nonfarm Establishment Survey, Seasonally Adjusted.

U.S. MANUFACTURING JOBS

THE STATE OF THE STATES

STATES	JANUARY 1991 (Thousands)	JANUARY 1992 (Thousands)	FEBRUARY 1991 (Thousands)	FEBRUARY 1992 (Thousands)	CHANGE: YEAR TO 1-1992 (Percent)	CHANGE: YEAR TO 2-1992 (Percent)
1 New Mexico	42.6	39.5	42.4	39.4	−7.28%	**−7.08%**
2 Rhode Island	93.0	88.2	92.8	87.5	−5.16%	**−5.71%**
3 Maryland	197.1	186.2	194.4	183.8	−5.53%	**−5.45%**
4 Massachusetts	496.9	470.3	492.3	466.7	−5.35%	**−5.20%**
5 Arizona	181.0	171.0	179.5	170.3	−5.52%	**−5.13%**
6 Oklahoma	167.7	166.2	169.6	161.4	−0.89%	**−4.83%**
7 New Jersey	561.2	539.0	562.6	535.8	−3.96%	**−4.76%**
8 District of Columbia	15.0	14.5	15.2	14.5	−3.33%	**−4.61%**
9 New York	1057.9	1013.0	1059.3	1013.8	−4.24%	**−4.30%**
10 California	2041.8	1964.1	2039.3	1959.4	−3.81%	**−3.92%**
11 Connecticut	330.3	318.2	327.3	316.1	−3.66%	**−3.42%**
12 Utah	106.8	103.2	106.8	103.6	−3.37%	**−3.00%**
13 Hawaii	20.8	19.6	20.7	20.1	−5.77%	**−2.90%**
14 Pennsylvania	988.2	957.1	976.2	951.9	−3.15%	**−2.49%**
15 Oregon	208.7	202.5	208.0	203.0	−2.97%	**−2.40%**
16 New Hampshire	100.2	97.1	98.8	96.5	−3.09%	**−2.33%**
17 Vermont	44.2	42.7	43.7	42.7	−3.39%	**−2.29%**
18 West Virginia	84.4	82.3	83.9	82.1	−2.49%	**−2.15%**
19 Florida	502.1	489.7	499.5	489.0	−2.47%	**−2.10%**
20 Illinois	954.1	932.3	949.1	929.3	−2.28%	**−2.09%**
21 Maine	97.4	95.1	96.0	94.2	−2.36%	**−1.88%**
22 Iowa	232.4	225.1	231.3	227.4	−3.14%	**−1.69%**
23 Louisiana	184.5	185.6	185.4	182.7	0.60%	**−1.46%**
24 Virginia	414.9	405.9	411.2	405.4	−2.17%	**−1.41%**
25 Washington	346.5	343.2	346.8	342.0	−0.95%	**−1.38%**
26 Colorado	186.4	184.2	185.1	182.8	−1.18%	**−1.24%**
27 Ohio	1073.9	1046.1	1058.9	1046.4	−2.59%	**−1.18%**
28 North Dakota	17.9	17.6	17.9	17.7	−1.68%	**−1.12%**
29 Wyoming	9.5	9.4	9.2	9.1	−1.05%	**−1.09%**
30 Nebraska	98.8	98.9	99.6	98.7	0.10%	**−0.90%**
31 Texas	989.8	978.8	986.3	977.7	−1.11%	**−0.87%**
32 Nevada	26.4	25.9	26.2	26.0	−1.89%	**−0.76%**
33 South Carolina	371.4	367.5	368.6	366.1	−1.05%	**−0.68%**
34 Missouri	415.7	404.8	411.8	410.3	−2.62%	**−0.36%**
35 Minnesota	392.2	387.6	387.9	387.9	−1.17%	**0.00%**
36 Montana	21.7	21.6	21.4	21.4	−0.46%	**0.00%**
37 North Carolina	830.2	828.9	823.9	824.8	−0.16%	**0.11%**
38 Tennessee	500.3	501.0	497.8	499.2	0.14%	**0.28%**
39 Kentucky	277.9	279.2	279.0	279.8	0.47%	**0.29%**
40 Georgia	541.3	543.7	537.1	539.4	0.44%	**0.43%**
41 Michigan	895.4	876.2	884.9	890.0	−2.14%	**0.58%**
42 Wisconsin	542.0	540.4	536.8	540.0	−0.30%	**0.60%**
43 Indiana	615.1	610.5	606.3	610.3	−0.75%	**0.66%**
44 Alabama	376.8	378.2	374.8	377.3	0.37%	**0.67%**
45 Kansas	181.9	183.2	181.9	183.2	0.71%	**0.71%**
46 Mississippi	243.7	248.3	241.1	247.0	1.89%	**2.45%**
47 Arkansas	229.6	235.3	229.1	234.8	2.48%	**2.49%**
48 Idaho	61.1	63.1	61.3	62.9	3.27%	**2.61%**
49 Delaware	71.4	69.3	66.0	69.0	−2.94%	**4.55%**
50 Alaska	13.3	14.0	14.7	15.5	5.26%	**5.44%**
51 South Dakota	33.9	36.3	34.2	36.5	7.08%	**6.73%**

MBG–Washington and the U.S. Department of Labor, BLS
Nonfarm Establishment Series: Not Seasonally Adjusted

NEW YORK–N. NEW JERSEY–LONG ISLAND, NY–NJ–CT (CMSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	8 348 696	8 584.531	10 211 154	100.0%	100.0%	100.0%	235.835	1.626.623
WAGE AND SALARY	7 684 963	7 784 445	8 967 414	92.0%	90.7%	87.8%	99.482	1.182.969
PROPRIETORS	663 733	800 086	1 243 740	8.0%	9.3%	12.2%	136.353	443.654
FARM PROPRIETORS	6 798	7 075	5 727	0.1%	0.1%	0.1%	277	(1 348)
NONFARM PROPRIETORS	656 935	793 011	1 238 013	7.9%	9.2%	12.1%	136.076	445 002
TOTAL FARM	14 642	15 400	11 437	0.2%	0.2%	0.1%	758	(3 963)
TOTAL NONFARM	8 334.054	8.569 131	10 199.717	99.8%	99.8%	99.9%	235.077	1.630.586
PRIVATE	7 158.952	7.311 220	8 833 419	85.7%	85.2%	86.5%	152.268	1.522.199
AG SERV FOR FISH AND OTHER	30.565	39 654	63 000	0.4%	0.5%	0.6%	9.089	23.346
MINING	7 307	9 456	10 875	0.1%	0.1%	0.1%	2.149	1 419
CONSTRUCTION	332 765	285 592	468 829	4.0%	3.3%	4.6%	(47.173)	183.237
MANUFACTURING	**1.980.328**	**1.596.789**	**1.255.179**	**23.7%**	**18.6%**	**12.3%**	**(383.539)**	**(341.610)**
TRANSPORTATION AND PUBLIC UTILITIES	575 803	549 170	572 779	6.9%	6.4%	5.6%	(26.633)	23 609
WHOLESALE TRADE	536 792	607 024	693 950	6.4%	7.1%	6.8%	70.232	86 926
RETAIL TRADE	1 168 040	1 200 131	1 392 941	14.0%	14.0%	13.6%	32.091	192.810
FINANCE INSURANCE AND REAL ESTATE	722 580	796 076	1 097 447	8.7%	9.3%	10.7%	73.496	301 371
SERVICES	1 804 772	2 227 328	3 278.419	21.6%	25.9%	32.1%	422.556	1.051 091
GOVERNMENT & GOVT ENTERPRISES	1 175 102	1 257 911	1 366 298	14.1%	14.7%	13.4%	82.809	108.387
FEDERAL CIVILIAN	191 281	174 963	180 636	2.3%	2.0%	1.8%	(16.318)	5.673
MILITARY	117 673	70 884	67 401	1.4%	0.8%	0.7%	(46.789)	(3 483)
STATE AND LOCAL	866 148	1 012 062	1 120 259	10.4%	11.8%	11.0%	145.914	108.197

LOS ANGELES–ANAHEIM–RIVERSIDE, CA (CMSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	4 404 191	6 013 890	7 957 065	100.0%	100.0%	100.0%	1.609 699	1 943 175
WAGE AND SALARY	3 998 315	5 335 079	6 850 368	90.8%	88.7%	86.1%	1.336.764	1.515 289
PROPRIETORS	405 876	678 811	1 106 697	9.2%	11.3%	13.9%	272.935	427 886
FARM PROPRIETORS	9 894	10 889	11 282	0.2%	0.2%	0.1%	995	393
NONFARM PROPRIETORS	395 992	667 922	1 095 415	9.0%	11.1%	13.8%	271 940	427.493
TOTAL FARM	41 876	44 405	41 744	1.0%	0.7%	0.5%	2.529	(2.661)
TOTAL NONFARM	4 362 315	5 969 485	7 915 321	99.0%	99.3%	99.5%	1.607.170	1.945 836
PRIVATE	3 686 187	5 175 916	6 993 389	83.7%	86.1%	87.9%	1.489.729	1 817 473
AG SERV FOR FISH AND OTHER	29 088	55 529	88 403	0.7%	0.9%	1.1%	26.441	32.874
MINING	19 098	21 893	18 485	0.4%	0.4%	0.2%	2.795	(3 408)
CONSTRUCTION	180 212	263 064	404 826	4.1%	4.4%	5.1%	82.852	141 762
MANUFACTURING	**1.100.755**	**1.266.412**	**1.311.658**	**25.0%**	**21.1%**	**16.5%**	**165,657**	**45,246**
TRANSPORTATION AND PUBLIC UTILITIES	221 811	277 892	328 825	5.0%	4.6%	4.1%	56.081	50 933
WHOLESALE TRADE	232 500	349 062	464 288	5.3%	5.8%	5.8%	116.562	115 226
RETAIL TRADE	693 734	961 999	1 236 702	15.8%	16.0%	15.5%	268.265	274.703
FINANCE INSURANCE AND REAL ESTATE	278 975	482 243	701 771	6.3%	8.0%	8.8%	203.268	219.528
SERVICES	930 014	1 497 822	2 438 431	21.1%	24.9%	30.6%	567.808	940 609
GOVERNMENT & GOVT ENTERPRISES	676 128	793 569	921 932	15.4%	13.2%	11.6%	117.441	128.363
FEDERAL CIVILIAN	109 200	110 187	123 067	2.5%	1.8%	1.5%	987	12 880
MILITARY	120 220	84 883	110 376	2.7%	1.4%	1.4%	(35.337)	25.493
STATE AND LOCAL	446 708	598.499	688 489	10.1%	10.0%	8.7%	151.791	89.990

MBG–Washington and the U S Department of Commerce, BEA. Table CA25: Full & Part Time Employment, May 1991.

DETROIT–ANN ARBOR, MI (CMSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	1976376	2234844	2443158	100.0%	100.0%	100.0%	258.468	208.314
WAGE AND SALARY	1832531	2058212	2194739	92.7%	92.1%	89.8%	225.681	136.527
PROPRIETORS	143845	176632	248419	7.3%	7.9%	10.2%	32.787	71.787
FARM PROPRIETORS	9706	9565	8244	0.5%	0.4%	0.3%	(141)	(1.321)
NONFARM PROPRIETORS	134139	167067	240175	6.8%	7.5%	9.8%	32.928	73.108
TOTAL FARM	14940	13780	11145	0.8%	0.6%	0.5%	(1.160)	(2.635)
TOTAL NONFARM	1961436	2221064	2432013	99.2%	99.4%	99.5%	259.628	210.949
PRIVATE	1703487	1914291	2122312	86.2%	85.7%	86.9%	210.804	208.021
AG SERV FOR FISH AND OTHER	4585	7421	13558	0.2%	0.3%	0.6%	2.836	6.137
MINING	1755	2367	2649	0.1%	0.1%	0.1%	612	282
CONSTRUCTION	88094	87057	93092	4.5%	3.9%	3.8%	(1,037)	6.035
MANUFACTURING	677082	643609	502595	34.3%	28.8%	20.6%	(33,473)	(141,014)
TRANSPORTATION AND PUBLIC UTILITIES	94877	97461	96842	4.8%	4.4%	4.0%	2.584	(619)
WHOLESALE TRADE	94014	106510	121087	4.8%	4.8%	5.0%	12.496	14.577
RETAIL TRADE	304481	364186	428805	15.4%	16.3%	17.6%	59.705	64.619
FINANCE, INSURANCE, AND REAL ESTATE	102841	134388	167060	5.2%	6.0%	6.8%	31.547	32.672
SERVICES	330062	462138	691046	16.7%	20.7%	28.3%	132.076	228.908
GOVERNMENT & GOVT ENTERPRISES	257949	306773	309701	13.1%	13.7%	12.7%	48.824	2.928
FEDERAL, CIVILIAN	36273	34937	35509	1.8%	1.6%	1.5%	(1.336)	572
MILITARY	18904	12317	12906	1.0%	0.6%	0.5%	(6.587)	489
STATE AND LOCAL	202772	259519	261386	10.3%	11.6%	10.7%	56.747	1.867

BOSTON–LAWRENCE–SALEM, MA–NH (CMSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	1799780	[illegible]	2591834	100.0%	100.0%	100.0%	260 264	531 790
WAGE AND SALARY	1666843	1869845	2268153	92.6%	90.8%	87.5%	203,062	398 308
PROPRIETORS	132937	190199	323681	7.4%	9.2%	12.5%	57 262	133 482
FARM PROPRIETORS	2154	1980	1819	0.1%	0.1%	0.1%	(174)	(161)
NONFARM PROPRIETORS	130783	188219	321862	7.3%	9.1%	12.4%	57.436	133.643
TOTAL FARM	4897	5628	3975	0.3%	0.3%	0.2%	731	(1 653)
TOTAL NONFARM	1794883	2054416	2587859	99.7%	99.7%	99.8%	259.533	533.443
PRIVATE	1526631	1752112	2281115	84.8%	85.1%	88.0%	225.481	529.003
AG SERV FOR FISH AND OTHER	7632	9958	17468	0.4%	0.5%	0.7%	2.326	7 510
MINING	[illegible]	[illegible]	1682	0.0%	0.0%	0.1%	298	676
CONSTRUCTION	87212	71523	121114	4.8%	3.5%	4.7%	(15,689)	49 591
MANUFACTURING	403539	409685	362936	22.4%	19.9%	14.0%	6,146	(46,749)
TRANSPORTATION AND PUBLIC UTILITIES	88724	94459	100695	4.9%	4.6%	3.9%	5.735	6 236
WHOLESALE TRADE	100628	109783	148256	5.6%	5.3%	5.7%	9,155	38.473
RETAIL TRADE	294751	325276	394878	16.4%	15.8%	15.2%	30.525	69 602
FINANCE, INSURANCE, AND REAL ESTATE	117227	144839	228485	6.5%	7.0%	8.8%	27.612	83.646
SERVICES	426210	585583	905601	23.7%	28.4%	34.9%	159.373	320 018
GOVERNMENT & GOVT ENTERPRISES	268252	302304	306744	14.9%	14.7%	11.8%	34.052	4 440
FEDERAL, CIVILIAN	53355	47181	48680	3.0%	2.3%	1.9%	(6.174)	1 499
MILITARY	51452	29468	30499	2.9%	1.4%	1.2%	(21.984)	1 031
STATE AND LOCAL	163445	225655	227565	9.1%	11.0%	8.8%	62.210	1 910

WASHINGTON, DC–MD–VA (MSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	1521337	1948009	2754910	100.0%	100.0%	100.0%	426.672	806 901
WAGE AND SALARY	1425402	1789450	2457343	93.7%	91.9%	89.2%	364.048	667.893
PROPRIETORS	95935	158559	297567	6.3%	8.1%	10.8%	62 624	139 008
FARM PROPRIETORS	6235	6644	5793	0.4%	0.3%	0.2%	409	(851)
NONFARM PROPRIETORS	89700	151915	291774	5.9%	7.8%	10.6%	62.215	139 859
TOTAL FARM	10228	10807	8410	0.7%	0.6%	0.3%	579	(2 397)
TOTAL NONFARM	1511109	1937202	2746500	99.3%	99.4%	99.7%	426.093	809 298
PRIVATE	906942	1274108	2045693	59.6%	65.4%	74.3%	367.166	771 585
AG SERV FOR FISH AND OTHER	6018	10234	19275	0.4%	0.5%	0.7%	4 216	9 041
MINING	1877	1947	2306	0.1%	0.1%	0.1%	70	359
CONSTRUCTION	85425	108523	179948	5.6%	5.6%	6.5%	23,098	71.425
MANUFACTURING	53572	64811	92172	3.5%	3.3%	3.3%	11,239	27,361
TRANSPORTATION AND PUBLIC UTILITIES	71224	78670	125908	4.7%	4.0%	4.6%	7,446	47 238
WHOLESALE TRADE	42459	58804	84344	2.8%	3.0%	3.1%	16.345	25 540
RETAIL TRADE	211695	276173	395497	13.9%	14.2%	14.4%	64.478	119.324
FINANCE, INSURANCE, AND REAL ESTATE	88862	135523	214956	5.8%	7.0%	7.8%	46.661	79 433
SERVICES	345810	539423	930902	22.7%	27.7%	33.8%	193.613	391 479
GOVERNMENT & GOVT ENTERPRISES	604167	663094	700807	39.7%	34.0%	25.4%	58.927	37.713
FEDERAL, CIVILIAN	336941	382559	380762	22.1%	19.6%	13.8%	45.618	(1.797)
MILITARY	121878	77490	97628	8.0%	4.0%	3.5%	(44.388)	20 138
STATE AND LOCAL	145348	203045	222417	9.6%	10.4%	8.1%	57.697	19.372

MBG–Washington and the U.S. Department of Commerce, BEA. Table CA25: Full & Part Time Employment, May 1991.

CHICAGO–GARY–LAKE COUNTY, IL–IN–WI (CMSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	3,689,995	4,108,907	4,585,308	100.0%	100.0%	100.0%	418,912	476,401
WAGE AND SALARY	3,444,612	3,780,081	4,093,408	93.4%	92.0%	89.3%	335,469	313,327
PROPRIETORS	245,383	328,826	491,900	6.6%	8.0%	10.7%	83,443	163,074
FARM PROPRIETORS	10,313	9,319	7,078	0.3%	0.2%	0.2%	(994)	(2,241)
NONFARM PROPRIETORS	235,070	319,507	484,822	6.4%	7.8%	10.6%	84,437	165,315
TOTAL FARM	16,582	16,227	11,196	0.4%	0.4%	0.2%	(355)	(5,031)
TOTAL NONFARM	3,673,413	4,092,680	4,574,112	99.6%	99.6%	99.8%	419,267	481,432
PRIVATE	3,215,231	3,566,919	4,045,096	87.1%	86.8%	88.2%	351,688	478,177
AG SERV, FOR, FISH, AND OTHER	6,682	12,210	23,456	0.2%	0.3%	0.5%	5,528	11,246
MINING	6,477	7,075	5,608	0.2%	0.2%	0.1%	598	(1,467)
CONSTRUCTION	171,647	183,425	213,291	4.7%	4.5%	4.7%	11,778	29,866
MANUFACTURING	1,126,157	1,012,179	747,091	30.5%	24.6%	16.3%	(113,978)	(265,088)
TRANSPORTATION AND PUBLIC UTILITIES	230,625	228,776	254,803	6.3%	5.6%	5.6%	(1,849)	26,027
WHOLESALE TRADE	244,219	281,840	318,628	6.6%	6.9%	6.9%	37,621	36,788
RETAIL TRADE	556,726	643,297	745,970	15.1%	15.7%	16.3%	86,571	102,673
FINANCE, INSURANCE AND REAL ESTATE	219,415	313,163	390,743	5.9%	7.6%	8.5%	93,748	77,580
SERVICES	651,467	881,289	1,339,640	17.7%	21.4%	29.2%	229,822	458,351
GOVERNMENT & GOVT ENTERPRISES	458,182	525,761	529,016	12.4%	12.8%	11.5%	67,579	3,255
FEDERAL, CIVILIAN	80,962	72,963	76,316	2.2%	1.8%	1.7%	(7,999)	3,353
MILITARY	67,817	42,841	48,151	1.8%	1.0%	1.1%	(24,976)	5,310
STATE AND LOCAL	309,403	409,957	404,549	8.4%	10.0%	8.8%	100,554	(5,408)

SAN FRANCISCO–OAKLAND–SAN JOSE, CA (CMSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	2,183,789	2,944,693	3,878,978	100.0%	100.0%	100.0%	760,904	934,285
WAGE AND SALARY	1,969,825	2,593,124	3,295,649	90.2%	88.1%	85.0%	623,299	702,525
PROPRIETORS	213,964	351,569	583,329	9.8%	11.9%	15.0%	137,605	231,760
FARM PROPRIETORS	9,252	9,959	[illegible]	0.4%	0.3%	0.3%	707	(219)
NONFARM PROPRIETORS	204,712	341,610	573,589	9.4%	11.6%	14.8%	136,898	231,979
TOTAL FARM	28,956	[illegible]	26,582	1.3%	1.0%	0.7%	(350)	(2,024)
TOTAL NONFARM	2,154,833	[illegible]	3,852,396	98.7%	99.0%	99.3%	761,254	936,309
PRIVATE	1,594,370	2,432,891	3,323,175	77.6%	82.6%	85.7%	738,521	890,284
AG SERV, FOR, FISH, AND OTHER	13,322	23,358	39,152	0.6%	0.8%	1.0%	10,036	15,794
MINING	3,154	[illegible]	7,510	0.1%	0.2%	0.2%	1,606	2,850
CONSTRUCTION	103,889	141,292	197,564	4.8%	4.8%	5.1%	37,403	56,272
MANUFACTURING	367,596	480,981	541,481	16.8%	16.3%	14.0%	113,385	60,500
TRANSPORTATION AND PUBLIC UTILITIES	164,579	168,045	184,604	7.5%	5.7%	4.8%	3,466	16,559
WHOLESALE TRADE	109,434	145,268	194,600	5.0%	4.9%	5.0%	35,834	49,332
RETAIL TRADE	318,356	463,144	603,653	14.6%	15.7%	15.6%	144,788	140,509
FINANCE, INSURANCE AND REAL ESTATE	160,570	262,677	362,521	7.4%	8.9%	9.3%	102,107	99,844
SERVICES	453,470	743,366	1,191,990	20.8%	25.2%	30.7%	289,896	448,624
GOVERNMENT & GOVT ENTERPRISES	460,463	483,196	529,221	21.1%	16.4%	13.6%	22,733	46,025
FEDERAL, CIVILIAN	112,178	94,614	97,537	5.1%	3.2%	2.5%	(17,564)	2,923
MILITARY	92,244	56,971	63,479	4.2%	1.9%	1.6%	(35,273)	6,508
STATE AND LOCAL	256,041	331,611	368,205	11.7%	11.3%	9.5%	75,570	36,594

PHILADELPHIA–WILMINGTON–TRENTON, PA–NJ–DE–MD (CMSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	2614551	2748017	3280428	100.0%	100.0%	100.0%	133,466	532,411
WAGE AND SALARY	2410079	2508133	2914220	92.2%	91.3%	88.8%	98,054	406,087
PROPRIETORS	204472	239884	366208	7.8%	8.7%	11.2%	35,412	126,324
FARM PROPRIETORS	10447	8887	7509	0.4%	0.3%	0.2%	(1,560)	(1,378)
NONFARM PROPRIETORS	194025	230997	358699	7.4%	8.4%	10.9%	36,972	127,702
TOTAL FARM	22454	20971	17932	0.9%	0.8%	0.5%	(1,483)	(3,039)
TOTAL NONFARM	2592097	2727046	3262496	99.1%	99.2%	99.5%	134,949	535,450
PRIVATE	2161198	2295233	2813159	82.7%	83.5%	85.8%	134,035	517,926
AG SERV, FOR, FISH, AND OTHER	9155	14225	23457	0.4%	0.5%	0.7%	5,070	9,232
MINING	2513	2771	2791	0.1%	0.1%	0.1%	258	20
CONSTRUCTION	127381	124116	175542	4.9%	4.5%	5.4%	(3,265)	51,426
MANUFACTURING	725161	585982	484184	27.7%	21.3%	14.8%	(139,179)	(101,798)
TRANSPORTATION AND PUBLIC UTILITIES	134501	133822	137614	5.1%	4.9%	4.2%	(679)	3,792
WHOLESALE TRADE	124749	142566	175388	4.8%	5.2%	5.3%	17,817	32,822
RETAIL TRADE	381125	434603	523284	14.6%	15.8%	16.0%	53,478	88,681
FINANCE, INSURANCE, AND REAL ESTATE	141350	189291	271908	5.4%	6.9%	8.3%	47,941	82,617
SERVICES	515263	667857	1009207	19.7%	24.3%	30.8%	152,594	341,350
GOVERNMENT & GOVT ENTERPRISES	430899	431813	449337	16.5%	15.7%	13.7%	914	17,524
FEDERAL, CIVILIAN	101497	81424	90206	3.9%	3.0%	2.7%	(20,073)	8,782
MILITARY	98854	44782	51290	3.8%	1.6%	1.6%	(54,072)	6,508
STATE AND LOCAL	230548	303607	307841	8.8%	11.1%	9.4%	75,059	2,234

MBG–Washington and the U.S. Department of Commerce, BEA. Table CA25: Full & Part Time Employment, May 1991.

DALLAS–FORT WORTH, TX (CMSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	1,139,896	1,641,863	2,309,442	100.0%	100.0%	100.0%	501,967	667,577
WAGE AND SALARY	1,024,839	1,456,029	1,992,749	89.9%	88.7%	86.3%	431,190	536,720
PROPRIETORS	115,059	185,836	316,693	10.1%	11.3%	13.7%	70,777	130,857
FARM PROPRIETORS	10,916	11,833	10,652	1.0%	0.7%	0.5%	917	(1,181)
NONFARM PROPRIETORS	104,143	174,003	306,041	9.1%	10.6%	13.3%	69,860	132,038
TOTAL FARM	15,146	14,862	12,537	1.3%	0.9%	0.5%	(284)	(2,325)
TOTAL NONFARM	1,124,752	1,627,003	2,296,905	98.7%	99.1%	99.5%	502,251	669,902
PRIVATE	991,170	1,437,589	2,049,724	87.0%	87.6%	88.8%	446,419	612,135
AG SERV., FOR. FISH., AND OTHER	3,621	6,427	13,604	0.3%	0.4%	0.6%	2,806	7,177
MINING	12,908	28,408	35,102	1.1%	1.7%	1.5%	15,500	6,694
CONSTRUCTION	67,966	102,686	103,473	6.0%	6.3%	4.5%	34,720	787
MANUFACTURING	270,328	311,600	351,062	23.7%	19.0%	15.2%	41,272	39,452
TRANSPORTATION AND PUBLIC UTILITIES	70,646	96,766	142,634	6.2%	5.9%	6.2%	26,120	45,868
WHOLESALE TRADE	86,249	130,508	155,045	7.6%	7.9%	6.7%	44,259	24,537
RETAIL TRADE	180,828	281,391	391,055	15.9%	17.1%	16.9%	100,563	109,664
FINANCE, INSURANCE, AND REAL ESTATE	82,702	138,525	229,830	7.3%	8.4%	10.0%	55,823	91,305
SERVICES	215,922	341,278	627,929	18.9%	20.8%	27.2%	125,356	286,651
GOVERNMENT & GOVT ENTERPRISES	133,582	189,414	247,181	11.7%	11.5%	10.7%	55,832	57,767
FEDERAL CIVILIAN	24,392	33,273	42,426	2.1%	2.0%	1.8%	8,881	9,153
MILITARY	21,103	14,895	21,303	1.9%	0.9%	0.9%	(6,208)	6,408
STATE AND LOCAL	88,087	141,246	183,452	7.7%	8.6%	7.9%	53,159	42,206

HOUSTON–GALVESTON–BRAZORIA, TX (MSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	963,399	1,685,691	1,981,700	100.0%	100.0%	100.0%	722,292	296,009
WAGE AND SALARY	873,360	1,522,484	1,721,079	90.7%	90.3%	86.8%	649,124	198,595
PROPRIETORS	90,039	163,207	260,621	9.3%	9.7%	13.2%	73,168	97,414
FARM PROPRIETORS	6,039	7,234	6,464	0.6%	0.4%	0.3%	1,195	(770)
NONFARM PROPRIETORS	84,000	155,973	254,157	8.7%	9.3%	12.8%	71,973	98,184
TOTAL FARM	9,393	10,347	8,764	1.0%	0.6%	0.4%	954	(1,583)
TOTAL NONFARM	954,006	1,675,344	1,972,936	99.0%	99.4%	99.6%	721,338	297,592
PRIVATE	834,532	1,494,715	1,725,355	86.6%	88.7%	87.1%	660,183	230,640
AG SERV., FOR. FISH., AND OTHER	4,569	[illegible]	11,977	0.5%	0.4%	0.6%	2,580	4,828
MINING	30,886	[illegible]	76,146	3.2%	4.6%	3.8%	47,033	(1,773)
CONSTRUCTION	83,005	[illegible]	138,828	8.6%	10.4%	7.0%	92,543	(36,720)
MANUFACTURING	161,712	244,707	192,076	16.8%	14.5%	9.7%	82,995	(52,631)
TRANSPORTATION AND PUBLIC UTILITIES	70,029	[illegible]	124,411	7.3%	6.6%	6.3%	41,077	13,305
WHOLESALE TRADE	72,179	124,610	123,202	7.5%	7.4%	6.2%	52,431	(1,408)
RETAIL TRADE	151,399	261,264	314,677	15.7%	15.5%	15.9%	109,865	53,413
FINANCE, INSURANCE, AND REAL ESTATE	58,037	119,684	162,386	6.0%	7.1%	8.2%	61,647	42,702
SERVICES	202,716	372,728	581,652	21.0%	22.1%	29.4%	170,012	208,924
GOVERNMENT & GOVT ENTERPRISES	119,474	180,629	247,581	12.4%	10.7%	12.5%	61,155	66,952
FEDERAL CIVILIAN	19,494	21,235	26,942	2.0%	1.3%	1.4%	1,741	5,707
MILITARY	11,746	10,292	14,675	1.2%	0.6%	0.7%	(1,454)	4,383
STATE AND LOCAL	88,234	149,102	205,964	9.2%	8.8%	10.4%	60,868	56,862

MIAMI–FORT LAUDERDALE, FL (CMSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	835319	1263373	1732652	100.0%	100.0%	100.0%	428,054	469,279
WAGE AND SALARY	748640	1096698	1459484	89.6%	86.8%	84.2%	348,058	362,786
PROPRIETORS	86679	166675	273168	10.4%	13.2%	15.8%	79,996	106,493
FARM PROPRIETORS	1229	1829	1964	0.1%	0.1%	0.1%	600	135
NONFARM PROPRIETORS	85450	164846	271204	10.2%	13.0%	15.7%	79,396	106,358
TOTAL FARM	5091	7039	7278	0.6%	0.6%	0.4%	1,948	239
TOTAL NONFARM	830228	1256334	1725374	99.4%	99.4%	99.6%	426,106	469,040
PRIVATE	724876	1106840	1532018	86.8%	87.6%	88.4%	381,964	425,178
AG.SERV.,FOR.,FISH., AND OTHER	6498	9812	18591	0.8%	0.8%	1.1%	3,314	8,779
MINING	1224	1469	2272	0.1%	0.1%	0.1%	245	803
CONSTRUCTION	66165	77496	97351	7.9%	6.1%	5.6%	11,331	19,855
MANUFACTURING	101144	142238	141047	12.1%	11.3%	8.1%	41,094	(1,191)
TRANSPORTATION AND PUBLIC UTILITIES	65989	91500	104627	7.9%	7.2%	6.0%	25,511	13,127
WHOLESALE TRADE	45235	81309	115747	5.4%	6.4%	6.7%	36,074	34,438
RETAIL TRADE	153934	237908	323994	18.4%	18.8%	18.7%	83,974	86,086
FINANCE, INSURANCE, AND REAL ESTATE	61972	119486	177356	7.4%	9.5%	10.2%	57,514	57,870
SERVICES	222715	345622	551033	26.7%	27.4%	31.8%	122,907	205,411
GOVERNMENT & GOVT ENTERPRISES	105352	149494	193356	12.6%	11.8%	11.2%	44,142	43,862
FEDERAL, CIVILIAN	14563	17785	25340	1.7%	1.4%	1.5%	3,222	7,555
MILITARY	16801	13128	12953	2.0%	1.0%	0.7%	(3,673)	(175)
STATE AND LOCAL	73988	118581	155063	8.9%	9.4%	8.9%	44,593	36,482

MBG—Washington and the U.S. Department of Commerce, BEA. Table CA25: Full & Part Time Employment, May 1991.

ATLANTA, GA (MSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969-79	1979-89
TOTAL EMPLOYMENT	822205	1163702	1816548	100.0%	100.0%	100.0%	341,497	652,846
WAGE AND SALARY	758972	1047156	1591594	92.3%	90.0%	87.6%	288,184	544,438
PROPRIETORS	63233	116546	224954	7.7%	10.0%	12.4%	53,313	108,408
FARM PROPRIETORS	5123	6208	5660	0.6%	0.5%	0.3%	1,085	(548)
NONFARM PROPRIETORS	58110	110338	219294	7.1%	9.5%	12.1%	52,228	108,956
TOTAL FARM	7718	8449	7345	0.9%	0.7%	0.4%	731	(1,104)
TOTAL NONFARM	814487	1155253	1809203	99.1%	99.3%	99.6%	340,766	653,950
PRIVATE	693642	978158	1567338	84.4%	84.1%	86.3%	284,516	589,180
AG SERV.,FOR. FISH., AND OTHER	2043	4047	11625	0.2%	0.3%	0.6%	2,004	7,578
MINING	920	1191	2156	0.1%	0.1%	0.1%	271	965
CONSTRUCTION	49377	63294	107826	6.0%	5.4%	5.9%	13,917	44,532
MANUFACTURING	163880	162382	184011	19.9%	14.0%	10.1%	(1,498)	21,619
TRANSPORTATION AND PUBLIC UTILITIES	64648	90190	132224	7.9%	7.8%	7.3%	25,542	42,034
WHOLESALE TRADE	71337	114674	168844	8.7%	9.9%	9.3%	43,337	54,170
RETAIL TRADE	123381	191236	310625	15.0%	16.4%	17.1%	67,855	119,389
FINANCE, INSURANCE AND REAL ESTATE	55335	96488	168981	6.7%	8.3%	9.3%	41,153	72,493
SERVICES	162499	254388	480300	19.8%	21.9%	26.4%	91,889	225,912
GOVERNMENT & GOVT ENTERPRISES	120845	177095	241865	14.7%	15.2%	13.3%	56,250	64,770
FEDERAL, CIVILIAN	28530	34888	45194	3.5%	3.0%	2.5%	6,358	10,306
MILITARY	16801	11928	28268	2.0%	1.0%	1.6%	(4,873)	16,340
STATE AND LOCAL	75514	130279	168403	9.2%	11.2%	9.3%	54,765	38,124

CLEVELAND-AKRON-LORAIN, OH (MSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969-79	1979-89
TOTAL EMPLOYMENT	1354267	1452439	1514819	100.0%	100.0%	100.0%	98,172	62,380
WAGE AND SALARY	1261161	1329349	1355447	93.1%	91.5%	89.5%	68,188	26,098
PROPRIETORS	93106	123090	159372	6.9%	8.5%	10.5%	29,984	36,282
FARM PROPRIETORS	3893	5109	4914	0.3%	0.4%	0.3%	1,216	(195)
NONFARM PROPRIETORS	89213	117981	154458	6.6%	8.1%	10.2%	28,768	36,477
TOTAL FARM	7531	8608	7160	0.6%	0.6%	0.5%	1,077	(1,448)
TOTAL NONFARM	1346736	1443831	1507659	99.4%	99.4%	99.5%	97,095	63,828
PRIVATE	1187969	1266155	1327424	87.7%	87.2%	87.6%	78,186	61,269
AG SERV. FOR. FISH. AND OTHER	3565	5244	9072	0.3%	0.4%	0.6%	1,679	3,828
MINING	2382	2752	2291	0.2%	0.2%	0.2%	370	(461)
CONSTRUCTION	67864	62565	65565	5.0%	4.3%	4.3%	(5,299)	3,000
MANUFACTURING	456985	404701	306417	33.7%	27.9%	20.2%	(52,284)	(98,284)
TRANSPORTATION AND PUBLIC UTILITIES	75835	70647	64194	5.6%	4.9%	4.2%	(5,188)	(6,453)
WHOLESALE TRADE	71806	84787	87091	5.3%	5.8%	5.7%	12,981	2,304
RETAIL TRADE	208824	238172	260319	15.4%	16.4%	17.2%	29,348	22,147
FINANCE, INSURANCE AND REAL ESTATE	66395	87268	102460	4.9%	6.0%	6.8%	20,873	15,192
SERVICES	234313	310019	430015	17.3%	21.3%	28.4%	75,706	119,996
GOVERNMENT & GOVT ENTERPRISES	158767	177676	180235	11.7%	12.2%	11.9%	18,909	2,559
FEDERAL, CIVILIAN	26141	24163	24433	1.9%	1.7%	1.6%	(1,978)	270
MILITARY	11636	8790	8403	0.9%	0.6%	0.6%	(2,846)	(387)
STATE AND LOCAL	120990	144723	147399	8.9%	10.0%	9.7%	23,733	2,676

SEATTLE-TACOMA, WA (MSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969-79	1979-89
TOTAL EMPLOYMENT	860069	1111626	1554306	100.0%	100.0%	100.0%	251,557	442,680
WAGE AND SALARY	785691	984488	1337069	91.4%	88.6%	86.0%	198,797	352,581
PROPRIETORS	74378	127138	217237	8.6%	11.4%	14.0%	52,760	90,099
FARM PROPRIETORS	2851	4423	5021	0.3%	0.4%	0.3%	1,572	598
NONFARM PROPRIETORS	71527	122715	212216	8.3%	11.0%	13.7%	51,188	89,501
TOTAL FARM	6114	9226	9150	0.7%	0.8%	0.6%	3,112	(76)
TOTAL NONFARM	853955	1102400	1545156	99.3%	99.2%	99.4%	248,445	442,756
PRIVATE	659658	913838	1318416	76.7%	82.2%	84.8%	254,180	404,578
AG SERV.,FOR. FISH. AND OTHER	5352	11257	20421	0.6%	1.0%	1.3%	5,905	9,164
MINING	725	1003	1287	0.1%	0.1%	0.1%	278	284
CONSTRUCTION	43278	67288	90816	5.0%	6.1%	5.8%	24,010	23,528
MANUFACTURING	188629	194983	244422	21.7%	17.5%	15.7%	6,354	49,439
TRANSPORTATION AND PUBLIC UTILITIES	49211	61178	80198	5.7%	5.5%	5.2%	11,967	19,020
WHOLESALE TRADE	45351	67739	85518	5.3%	6.1%	5.5%	22,388	17,779
RETAIL TRADE	123410	180343	253379	14.3%	16.2%	16.3%	56,933	73,036
FINANCE, INSURANCE, AND REAL ESTATE	60332	91902	130347	7.0%	8.3%	8.4%	31,570	38,445
SERVICES	145370	238145	412028	16.9%	21.4%	26.5%	92,775	173,883
GOVERNMENT & GOVT ENTERPRISES	194297	188562	226740	22.6%	17.0%	14.6%	(5,735)	38,178
FEDERAL, CIVILIAN	28219	28957	32367	3.3%	2.6%	2.1%	738	3,410
MILITARY	68597	37893	43408	8.0%	3.4%	2.8%	(30,704)	5,515
STATE AND LOCAL	97481	121712	150965	11.3%	10.9%	9.7%	24,231	29,253

MSG–Washington and the U.S. Department of Commerce, BEA. Table CA25: Full & Part Time Employment, May 1991.

SAN DIEGO, CA (MSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	631,492	931,139	1,380,302	100.0%	100.0%	100.0%	299,647	449,163
WAGE AND SALARY	580,422	813,180	1,176,483	91.9%	87.3%	85.2%	232,758	363,303
PROPRIETORS	51,070	117,959	203,819	8.1%	12.7%	14.8%	66,889	85,860
FARM PROPRIETORS	2,843	5,880	6,196	0.5%	0.6%	0.4%	3,037	316
NONFARM PROPRIETORS	48,227	112,079	197,623	7.6%	12.0%	14.3%	63,852	85,544
TOTAL FARM	12,358	17,135	16,798	2.0%	1.8%	1.2%	4,777	(337)
TOTAL NONFARM	619,134	914,004	1,363,504	98.0%	98.2%	98.8%	294,870	449,500
PRIVATE	349,845	645,783	1,047,259	55.4%	69.4%	75.9%	295,938	401,476
AG SERV. FOR. FISH. AND OTHER	4,806	10,035	18,003	0.8%	1.1%	1.3%	5,229	7,968
MINING	694	1,182	1,666	0.1%	0.1%	0.1%	488	484
CONSTRUCTION	25,209	52,324	84,487	4.0%	5.6%	6.1%	27,115	32,163
MANUFACTURING	**70,251**	**103,468**	**138,847**	**11.1%**	**11.1%**	**10.1%**	**33,217**	**35,379**
TRANSPORTATION AND PUBLIC UTILITIES	19,993	30,715	40,687	3.2%	3.3%	2.9%	10,722	9,972
WHOLESALE TRADE	15,103	26,804	47,193	2.4%	2.9%	3.4%	11,701	20,389
RETAIL TRADE	82,303	144,757	219,400	13.0%	15.5%	15.9%	62,454	74,643
FINANCE, INSURANCE AND REAL ESTATE	28,975	70,124	122,040	4.6%	7.5%	8.8%	41,149	51,916
SERVICES	102,511	206,374	374,936	16.2%	22.2%	27.2%	103,863	168,562
GOVERNMENT & GOVT ENTERPRISES	269,289	268,221	316,245	42.6%	28.8%	22.9%	(1,068)	48,024
FEDERAL, CIVILIAN	38,178	40,981	46,047	6.0%	4.4%	3.3%	2,803	5,066
MILITARY	172,148	127,739	144,511	27.3%	13.7%	10.5%	(44,409)	16,772
STATE AND LOCAL	58,963	99,501	125,687	9.3%	10.7%	9.1%	40,538	26,186

MINNEAPOLIS–ST. PAUL, MN–WI (MSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	947,670	1,265,162	1,602,946	100.0%	100.0%	100.0%	317,492	337,784
WAGE AND SALARY	874,559	1,148,799	1,416,037	92.3%	90.8%	88.3%	274,240	267,238
PROPRIETORS	73,111	116,363	186,909	7.7%	9.2%	11.7%	43,252	70,546
FARM PROPRIETORS	10,578	12,910	11,446	1.1%	1.0%	0.7%	2,332	(1,464)
NONFARM PROPRIETORS	62,533	103,453	175,463	6.6%	8.2%	10.9%	40,920	72,010
TOTAL FARM	14,817	17,611	14,911	1.6%	1.4%	0.9%	2,794	(2,700)
TOTAL NONFARM	932,853	1,247,551	1,588,035	98.4%	98.6%	99.1%	314,698	340,484
PRIVATE	802,142	1,080,853	1,397,535	84.6%	85.4%	87.2%	278,711	316,682
AG SERV. FOR. FISH. AND OTHER	2,362	5,024	8,234	0.2%	0.4%	0.5%	2,662	3,210
MINING	654	1,104	1,109	0.1%	0.1%	0.1%	420	5
CONSTRUCTION	50,251	59,825	71,816	5.3%	4.7%	4.5%	9,574	11,991
MANUFACTURING	**231,084**	**256,109**	**271,191**	**24.4%**	**20.2%**	**16.9%**	**25,025**	**15,082**
TRANSPORTATION AND PUBLIC UTILITIES	62,127	69,934	81,293	6.6%	5.5%	5.1%	7,807	11,359
WHOLESALE TRADE	63,957	86,291	96,297	6.7%	6.8%	6.0%	22,334	10,006
RETAIL TRADE	154,100	218,445	272,935	16.3%	17.3%	17.0%	64,345	54,490
FINANCE, INSURANCE AND REAL ESTATE	60,811	95,867	137,445	6.4%	7.6%	8.6%	35,056	41,578
SERVICES	176,766	288,254	457,215	18.7%	22.8%	28.5%	111,488	168,961
GOVERNMENT & GOVT ENTERPRISES	130,711	166,698	190,500	13.8%	13.2%	11.9%	35,987	23,802
FEDERAL, CIVILIAN	20,662	20,633	22,161	2.2%	1.6%	1.4%	(29)	1,528
MILITARY	16,917	11,672	11,888	1.8%	0.9%	0.7%	(5,245)	216
STATE AND LOCAL	93,132	134,393	156,451	9.8%	10.6%	9.8%	41,261	22,058

ST. LOUIS, MO–IL (MSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	1,080,403	1,230,815	1,437,461	100.0%	100.0%	100.0%	150,412	206,646
WAGE AND SALARY	991,432	1,101,787	1,250,651	91.8%	89.5%	87.0%	110,355	148,864
PROPRIETORS	88,971	129,028	186,810	8.2%	10.5%	13.0%	40,057	57,782
FARM PROPRIETORS	10,303	11,091	9,002	1.0%	0.9%	0.6%	788	(2,089)
NONFARM PROPRIETORS	78,668	117,937	177,808	7.3%	9.6%	12.4%	39,269	59,871
TOTAL FARM	12,978	15,153	11,348	1.2%	1.2%	0.8%	2,175	(3,805)
TOTAL NONFARM	1,067,425	1,215,662	1,426,113	98.8%	98.8%	99.2%	148,237	210,451
PRIVATE	916,009	1,050,527	1,257,147	84.8%	85.4%	87.5%	134,518	206,620
AG SERV. FOR. FISH. AND OTHER	2,485	4,488	7,851	0.2%	0.4%	0.5%	2,003	3,363
MINING	2,749	4,498	4,286	0.3%	0.4%	0.3%	1,749	(212)
CONSTRUCTION	50,580	60,902	74,692	4.7%	4.9%	5.2%	10,322	13,790
MANUFACTURING	**288,839**	**264,715**	**231,760**	**26.7%**	**21.5%**	**16.1%**	**(24,124)**	**(32,955)**
TRANSPORTATION AND PUBLIC UTILITIES	72,080	78,066	83,746	6.7%	6.3%	5.8%	5,986	5,680
WHOLESALE TRADE	62,208	73,139	76,379	5.8%	5.9%	5.3%	10,931	3,240
RETAIL TRADE	162,893	198,061	248,202	15.1%	16.1%	17.3%	35,168	50,141
FINANCE, INSURANCE, AND REAL ESTATE	63,177	81,872	109,605	5.8%	6.7%	7.6%	18,695	27,733
SERVICES	210,998	284,786	420,626	19.5%	23.1%	29.3%	73,788	135,840
GOVERNMENT & GOVT ENTERPRISES	151,416	165,135	168,966	14.0%	13.4%	11.8%	13,719	3,831
FEDERAL, CIVILIAN	41,664	36,179	37,861	3.9%	2.9%	2.6%	(5,485)	1,682
MILITARY	18,727	16,025	23,026	1.7%	1.3%	1.6%	(2,702)	7,001
STATE AND LOCAL	91,025	112,931	108,079	8.4%	9.2%	7.5%	21,906	(4,852)

MBG–Washington and the U.S. Department of Commerce, BEA. Table CA25: Full & Part Time Employment, May 1991.

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BALTIMORE, MD (MSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	980 714	1,130 994	1 407 795	100 0%	100 0%	100 0%	150,280	276 801
WAGE AND SALARY	913 718	1,036,452	1 245,482	93 2%	91 6%	88.5%	122,734	209,030
PROPRIETORS	66,996	94 542	162 313	6 8%	8 4%	11 5%	27,546	67 771
FARM PROPRIETORS	4 854	4 959	4 653	0 5%	0 4%	0 3%	105	(306)
NONFARM PROPRIETORS	62,142	89 583	157 660	6 3%	7 9%	11 2%	27,441	68,077
TOTAL FARM	8 386	8 467	7 018	0 9%	0 7%	0 5%	81	(1,449)
TOTAL NONFARM	972,328	1 122,527	1 400,777	99 1%	99 3%	99 5%	150,199	278,250
PRIVATE	747 720	873 133	1 142,758	76 2%	77 2%	81 2%	125,413	269 625
AG SERV FOR FISH AND OTHER	3 709	5 373	10 427	0 4%	0 5%	0 7%	1,664	5 054
MINING	533	483	736	0 1%	0 0%	0 1%	(50)	253
CONSTRUCTION	49 990	62,633	95 010	5 1%	5 5%	6 7%	12,643	32,377
MANUFACTURING	**208,859**	**172,350**	**133,581**	**21.3%**	**15 2%**	**9.5%**	**(36,509)**	**(38,769)**
TRANSPORTATION AND PUBLIC UTILITIES	60 819	63 347	64 848	6 2%	5 6%	4 6%	2,528	1 501
WHOLESALE TRADE	45 296	56 526	69 709	4 6%	5 0%	5 0%	11 230	13,183
RETAIL TRADE	148 680	183,927	237,533	15 2%	16 3%	16 9%	35,247	53,606
FINANCE INSURANCE AND REAL ESTATE	52,962	77 498	114 715	5 4%	5 9%	8 1%	24,536	37 217
SERVICES	176 872	250 996	416 199	18 0%	22 2%	29 6%	74,124	165,203
GOVERNMENT & GOVT ENTERPRISES	224 608	249 394	258 019	22 9%	22 1%	18.3%	24,786	8 625
FEDERAL CIVILIAN	62 961	73 665	77 279	6 4%	6 5%	5 5%	10,704	3,614
MILITARY	51 355	30 052	33 057	5 2%	2 7%	2.3%	(21,303)	3,005
STATE AND LOCAL	110 292	145 677	147 683	11 2%	12 9%	10 5%	35 385	2 006

PITTSBURGH–BEAVER VALLEY, PA (CMSA)

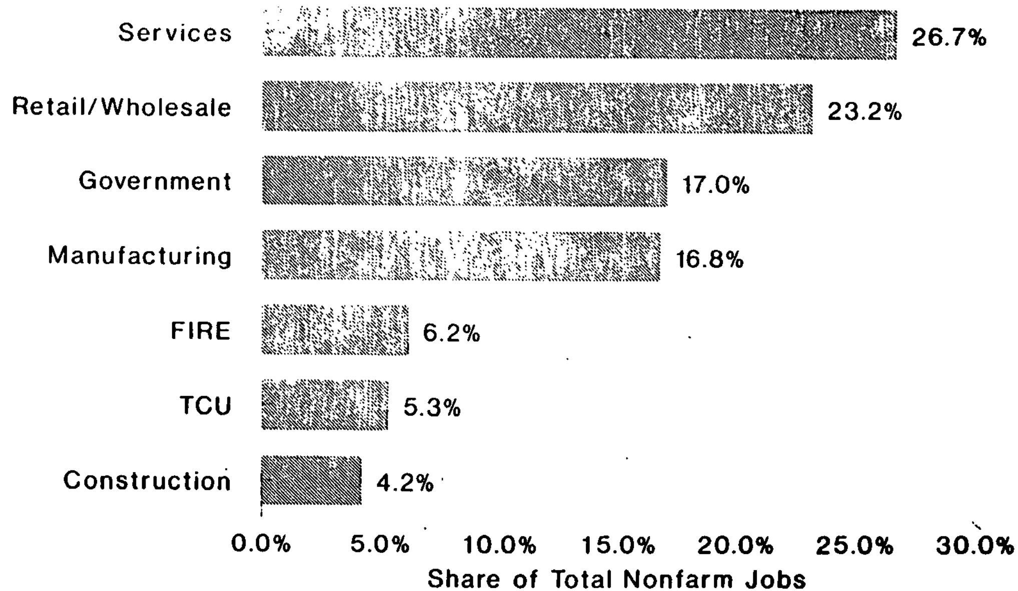
SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	1 053 780	1 137 722	1 126 791	100 0%	100 0%	100 0%	83 942	(10 931)
WAGE AND SALARY	965 195	1 032 995	987 437	91 6%	90 8%	87 6%	67 800	(45 558)
PROPRIETORS	88 585	104 727	139 354	8 4%	9 2%	12.4%	16 142	34 627
FARM PROPRIETORS	4 353	5 603	5 026	0 4%	0 5%	0 4%	1,250	(577)
NONFARM PROPRIETORS	84 232	99 124	134 328	8 0%	8 7%	11 9%	14,892	35,204
TOTAL FARM	5 879	7 032	6 414	0 6%	0 6%	0.6%	1,153	(618)
TOTAL NONFARM	1 047 901	1 130 690	1 120 377	99 4%	99 4%	99 4%	82,789	(10,313)
PRIVATE	915 395	996 095	996 021	86 9%	87 6%	88.4%	80,700	(74)
AG SERV FOR FISH AND OTHER	2 120	3 028	5 043	0 2%	0 3%	0 4%	906	2 015
MINING	9 968	13 786	5 546	0 9%	1 2%	0 5%	3,818	(8 240)
CONSTRUCTION	56 300	64 440	61 650	5 3%	5 7%	5 5%	8 140	(2,790)
MANUFACTURING	**302,039**	**266,819**	**136,931**	**28 7%**	**23 5%**	**12.2%**	**(35,220)**	**(129,888)**
TRANSPORTATION AND PUBLIC UTILITIES	65 887	67 578	60 151	6 3%	5 9%	5 3%	1 691	(7,427)
WHOLESALE TRADE	49 584	55 687	56 632	4 7%	4 9%	5 0%	6 103	945
RETAIL TRADE	166 276	193 615	211 793	15 8%	17 0%	18 8%	27,339	18,178
FINANCE INSURANCE AND REAL ESTATE	49 011	64 361	77 851	4 7%	5 7%	6 9%	15 350	13 490
SERVICES	214 210	266 781	380 424	20 3%	23 4%	33 8%	52,571	113 643
GOVERNMENT & GOVT ENTERPRISES	132 506	134 595	124 356	12 5%	11 8%	11 0%	2 089	(10 239)
FEDERAL CIVILIAN	17 688	18 845	18 816	1 7%	1 7%	1 7%	1 157	(29)
MILITARY	15 443	9 489	12 018	1 5%	0 8%	1 1%	(5,954)	2,529
STATE AND LOCAL	99 375	106 261	93 522	9 4%	9 3%	8 3%	6 886	(12,739)

PHOENIX, AZ (MSA)

SECTOR/INDUSTRY	FULL & PART TIME JOBS 1969	1979	1989	SHARE OF TOTAL 1969	1979	1989	JOB GROWTH 1969–79	1979–89
TOTAL EMPLOYMENT	400 876	748 543	1 203,529	100 0%	100 0%	100 0%	347,667	454,986
WAGE AND SALARY	359 902	666 762	1 030,695	89 8%	89.1%	85 6%	306,860	363,933
PROPRIETORS	40 974	81 781	172 834	10 2%	10 9%	14 4%	40 807	91,053
FARM PROPRIETORS	2 276	2 367	2,660	0 6%	0 3%	0 2%	91	293
NONFARM PROPRIETORS	38 698	79 414	170 174	9 7%	10 6%	14 1%	40,716	90,760
TOTAL FARM	9 546	8 272	7 806	2 4%	1 1%	0 6%	(1,274)	(466)
TOTAL NONFARM	391 330	740 271	1 195 723	97 6%	98 9%	99 4%	348,941	455,452
PRIVATE	322 238	627 135	1 045 047	80 4%	83 8%	86 8%	304,897	417 912
AG SERV FOR FISH AND OTHER	4 603	9 206	14 147	1 1%	1 2%	1 2%	4,603	4,941
MINING	312	691	1 987	0 1%	0 1%	0 2%	379	1 296
CONSTRUCTION	23 480	63,550	72 351	5 9%	8 5%	6.0%	40,070	8,801
MANUFACTURING	**77,047**	**108,641**	**141,492**	**19.2%**	**14.5%**	**11.8%**	**31,594**	**32,851**
TRANSPORTATION AND PUBLIC UTILITIES	18 940	31 476	54,592	4 7%	4 2%	4 5%	12,536	23,116
WHOLESALE TRADE	19 960	40 111	63,422	5 0%	5 4%	5.3%	20,151	23,311
RETAIL TRADE	69 905	135 936	212,676	17 4%	18 2%	17 7%	66,031	76 740
FINANCE INSURANCE, AND REAL ESTATE	28 367	68 692	136,615	7 1%	9 2%	11.4%	40,325	67,923
SERVICES	79,624	168,832	347,765	19.9%	22.6%	28.9%	89 208	178,933
GOVERNMENT & GOVT ENTERPRISES	69,092	113 136	150,676	17 2%	15 1%	12 5%	44 044	37 540
FEDERAL CIVILIAN	10 096	14 010	18,691	2 5%	1 9%	1 6%	3,914	4,681
MILITARY	14 176	14 263	16 764	3 5%	1 9%	1.4%	87	2,501
STATE AND LOCAL	44 820	84 863	115 221	11 2%	11.3%	9 6%	40,043	30,358

MBG–Washington and the U.S. Department of Commerce, BEA. Table CA25: Full & Part Time Employment, May 1991.

U.S. JOB STRUCTURE
(March, 1992)



MBG-Washington and U.S. Dept. of Labor
TCU: Transport, Communication, Utilities

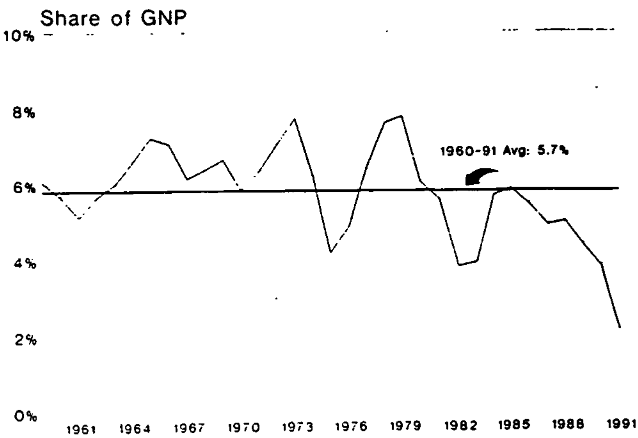
EMPLOYMENT STRUCTURE IN THE STATES

STATE	TOTAL EMPLOYMENT	Employment Shares: Constr.	Mfging	TCU	Trade	FIRE	Services	Government
Alabama	1.643.500	4.62%	23.07%	5.09%	21.70%	4.42%	20.02%	20.30%
Alaska	232.000	3.84%	5.09%	8.84%	20.17%	4.40%	21.77%	31.25%
Arizona	1.548.100	5.14%	11.48%	5.26%	25.22%	6.10%	27.77%	18.17%
Arkansas	971.600	4.08%	24.60%	6.03%	22.25%	4.00%	21.19%	17.47%
California	12 856 300	4.68%	15.54%	4.92%	23.72%	6.52%	27.88%	16.45%
Colorado	1 571.800	4.23%	12.14%	6.27%	24.54%	6.27%	26.87%	18.48%
Connecticut	1.590.700	2.96%	20.26%	4.46%	22.54%	9.17%	27.23%	13.33%
Delaware	343.500	5.30%	20.70%	4.43%	21.95%	9.37%	24.48%	13.74%
District of Columbia	678 600	1.75%	2.23%	3.40%	8.81%	4.69%	38.68%	40.42%
Florida	5 404 400	4.68%	9.18%	4.88%	26.90%	6.52%	30.85%	16.85%
Georgia	2.965.000	4.18%	18.32%	6.70%	24.99%	5.44%	21.72%	18.36%
Hawaii	546.900	5.96%	3.68%	7.79%	25.36%	7.04%	29.51%	20.66%
Idaho	405.800	5.08%	15.80%	5.08%	25.65%	5.10%	21.46%	21.17%
Illinois	5.284 400	3.90%	18.15%	5.78%	24.40%	7.06%	25.65%	14.68%
Indiana	2.558.700	4.58%	24.55%	5.33%	23.79%	4.88%	21.62%	14.97%
Iowa	1 240 400	3.35%	18.53%	4.46%	25.25%	5.76%	24.22%	18.28%
Kansas	1 110 300	3.90%	16.68%	6.34%	24.59%	5.21%	22.71%	19.69%
Kentucky	1 505 200	4.48%	18.97%	5.55%	24.00%	4.05%	22.60%	18.14%
Louisiana	1 634 500	5.89%	11.34%	6.72%	23.40%	4.82%	23.65%	20.89%
Maine	513 500	4.23%	18.56%	4.17%	24.73%	4.81%	24.28%	19.20%
Maryland	2 140 300	6.53%	9.17%	4.75%	24.61%	5.93%	28.96%	19.95%
Massachusetts	2 814 700	2.43%	16.32%	4.36%	23.41%	7.28%	31.97%	13.57%
Michigan	3 912 500	3.12%	23.04%	3.97%	24.06%	4.93%	24.37%	16.29%
Minnesota	2 154 500	3.18%	18.03%	5.12%	24.37%	5.87%	26.71%	16.35%
Mississippi	955 500	3.59%	25.94%	4.68%	21.65%	4.04%	17.56%	21.95%
Missouri	2 337 600	4.09%	17.89%	6.59%	23.96%	5.89%	25.13%	16.24%
Montana	302.700	3.50%	7.53%	6.84%	26.46%	4.46%	25.54%	23.75%
Nebraska	780 200	4.11%	13.32%	5.91%	25.26%	6.45%	25.22%	19.51%
Nevada	643 200	6.98%	4.10%	5.25%	20.51%	4.51%	43.03%	13.40%
New Hampshire	490 200	3.22%	20.38%	3.51%	24.50%	6.26%	26.40%	15.67%
New Jersey	3 570 100	3.48%	15.18%	6.51%	24.38%	6.42%	27.87%	16.09%
New Mexico	586 300	5.08%	6.96%	5.01%	24.05%	4.43%	25.58%	26.16%
New York	7 930 400	3.31%	13.25%	5.25%	20.44%	9.45%	29.93%	18.32%
North Carolina	3 140 200	4.90%	26.68%	4.89%	22.94%	4.28%	19.64%	16.51%
North Dakota	273 800	3.29%	6.54%	6.29%	26.77%	4.67%	26.26%	24.54%
Ohio	4 953 100	3.82%	21.60%	4.45%	24.23%	5.16%	24.99%	15.22%
Oklahoma	1 [illegible] 800	2.94%	13.90%	5.57%	23.48%	4.82%	23.26%	22.64%
Oregon	1 277 500	4.15%	15.89%	5.28%	25.63%	6.58%	24.25%	18.31%
Pennsylvania	5 171 500	4.08%	18.51%	5.34%	23.30%	5.81%	28.60%	13.68%
Rhode Island	435 400	3.17%	21.06%	3.51%	21.38%	5.93%	30.00%	14.91%
South Carolina	1 561 700	5.81%	23.74%	4.28%	22.30%	4.20%	20.12%	19.43%
South Dakota	301 700	3.91%	12.20%	4.64%	26.68%	5.47%	24.56%	21.68%
Tennessee	2 192 600	3.81%	23.47%	5.28%	23.99%	4.59%	22.53%	16.07%
Texas	7 193 000	4.76%	13.49%	6.06%	24.29%	5.93%	24.51%	18.50%
Utah	753 400	4.13%	13.96%	5.72%	24.31%	4.78%	25.66%	20.32%
Vermont	252 100	4.60%	17.10%	4.24%	23.13%	4.40%	28.20%	18.13%
Virginia	2 894 300	5.44%	14.33%	5.15%	22.84%	5.19%	25.98%	20.57%
Washington	2 176 600	5.05%	16.49%	5.19%	23.98%	5.38%	24.35%	19.39%
West Virginia	633 000	4.15%	13.11%	5.78%	23.35%	3.92%	24.15%	20.33%
Wisconsin	2.317 900	3.35%	23.66%	4.83%	23.52%	5.29%	23.92%	15.36%
Wyoming	200 600	5.13%	4.99%	7.23%	22.68%	3.59%	18.10%	28.81%
U.S. TOTAL	109 668 000	4.13%	16.71%	5.34%	23.56%	6.09%	26.40%	17.16%

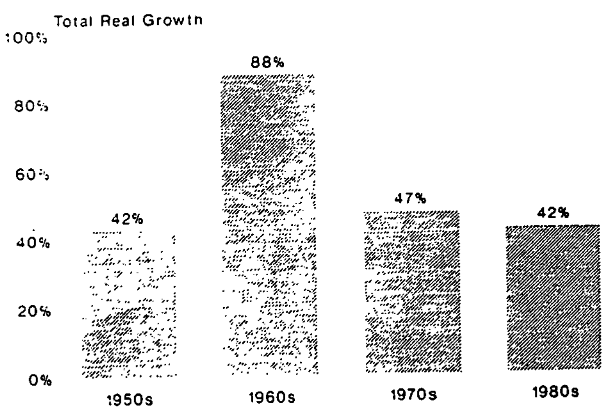
TCU = Transportation, Communications and Public Utility Services FIRE = Finance, Insurance and Real Estate Trade = Wholesale/Retail

MBG – Washington and the U.S. Department of Labor, BLS. (Actual Unadjusted Establishment Data: December, 1991)

NET FIXED INVESTMENT IN THE U.S.

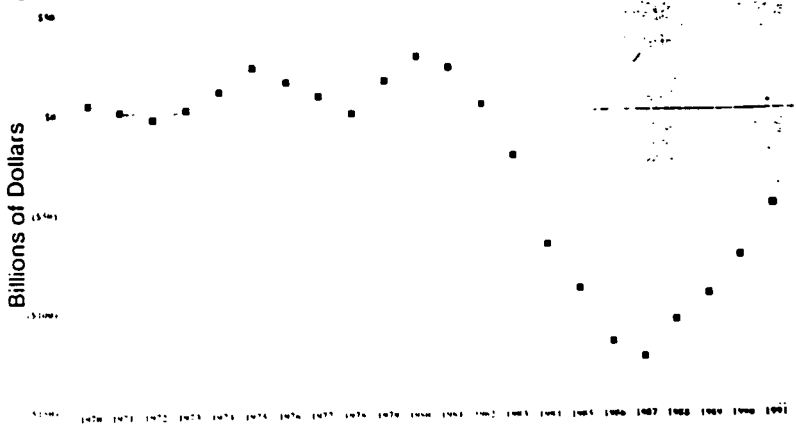


U.S. BUSINESS INVESTMENT
(Constant 1982 Dollars)



MBG-Washington & US Dept of Commerce/BEA

U.S. MANUFACTURING TRADE IMBALANCE



YEAR	MILLIONS OF U.S. DOLLARS EXPORTS	IMPORTS	BALANCE	EXPORT GROWTH
1970	$31.720.1	$27.332.0	$4,388.1	N/A
1971	$32.904.6	$32.103.7	$800.9	3.73%
1972	$36.503.2	$39.710.0	($3.206.8)	10.94%
1973	$48.467.7	$47.130.6	$1,337.1	32.78%
1974	$68.512.6	$57.829.7	$10,682.9	41.36%
1975	$76.869.5	$54.004.0	$22,865.5	12.20%
1976	$83.120.2	$67.631.8	$15,488.4	8.13%
1977	$88,901.7	$80,504.0	$8,397.7	6.96%
1978	$103,633.8	$104,334.4	($700.6)	16.57%
1979	$132,745.4	$117,130.9	$15,614.5	28.09%
1980	$160,651.4	$132,986.5	$27,664.9	21.02%
1981	$171,749.3	$149,752.1	$21,997.2	6.91%
1982	$155,305.4	$151,727.9	$3,577.5	−9.57%
1983	$148,664.7	$170,865.2	($22,200.5)	−4.28%
1984	$164,071.3	$230,909.6	($66,838.3)	10.36%
1985	$168,025.0	$257,477.6	($89,452.6)	2.41%
1986	$179,818.6	$296,652.7	($116,834.1)	7.02%
1987	$199,883.5	$324,443.9	($124,560.4)	11.16%
1988	$255,638.7	$361,381.0	($105,742.3)	27.89%
1989	$287,017.5	$379,425.4	($92,407.9)	12.27%
1990	$315,747.3	$388,806.2	($73,058.9)	10.01%
1991	$345,377.0	$393,070.0	($47,693.0)	9.38%

MBG−Washington and the U.S. Department of Commerce, ITA.

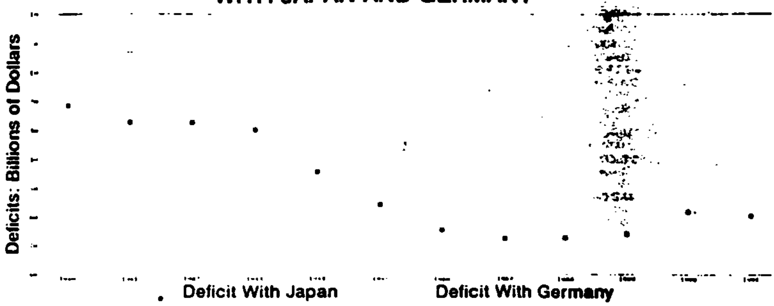
U.S. MANUFACTURING TRADE: 1991

(MILLIONS OF DOLLARS)

INDUSTRY	EXPORTS	IMPORTS	BALANCE
TOTAL	$345,377.0	$393,070.0	($47,693.0)
Clothing	$3,211.6	$26,205.8	($22,994.2)
Vehicles new cars – Japan	$497.3	$20,387.7	($19,890.4)
Telecommunications equip	$9,965.8	$23,469.0	($13,503.2)
Footwear	$542.5	$9,561.0	($9,018.5)
Vehicles new cars – Other	$3,077.2	$10,853.1	($7,775.9)
Vehicles/new cars – Canada	$6,189.5	$13,543.6	($7,354.1)
Toys/games/sporting goods	$2,085.5	$8,823.6	($6,738.1)
Electrical machinery	$29,935.2	$35,103.1	($5,167.9)
Other manufactured goods	$25,108.7	$30,064.2	($4,955.5)
Vehicles/trucks	$3,869.2	$8,261.4	($4,392.2)
ADP equip., office mach	$25,953.6	$30,064.3	($4,110.7)
Iron and steel mill prod.	$4,214.1	$8,312.3	($4,098.2)
Gem diamonds	$209.2	$4,006.1	($3,796.9)
Furniture and parts	$2,113.2	$4,938.3	($2,825.1)
Travel goods	$159.0	$2,345.3	($2,186.3)
Paper and paperboard	$5,961.8	$8,024.4	($2,062.6)
Watches/clocks/parts	$225.3	$2,286.6	($2,061.3)
Textile yarn, fabric	$5,457.1	$6,990.8	($1,533.7)
Platinum	$313.8	$1,663.9	($1,350.1)
Metal manufactures, n e s	$5,169.2	$6,376.2	($1,207.0)
Pottery	$87.1	$1,244.8	($1,157.7)
Rubber tires and tubes	$1,272.7	$2,310.2	($1,037.5)
Metalworking machinery	$2,706.3	$3,622.6	($916.3)
Plastic articles, n e s	$2,236.7	$3,115.4	($878.7)
Nickel	$217.9	$1,062.7	($844.8)
Optical goods	$711.5	$1,485.5	($774.0)
Artwork antiques	$1,240.2	$1,980.8	($740.6)
Photographic equipment	$2,926.2	$3,652.7	($726.5)
Wood manufactures	$1,244.0	$1,907.8	($663.8)
Basketware etc	$1,288.6	$1,913.0	($624.4)
Zinc	$39.4	$651.5	($612.1)
Glassware	$447.9	$938.0	($490.1)
Lighting, plumbing	$874.0	$1,247.2	($373.2)
Motorcycles, bicycles	$1,302.6	$1,635.9	($333.3)
Copper	$1,325.6	$1,600.9	($275.3)
Vehicles chassis bodies	$239.9	$406.8	($166.9)
Rubber articles, n e s	$574.5	$704.8	($130.3)
Silver and bullion	$238.8	$366.2	($127.4)
Vehicles parts	$14,301.5	$14,073.0	$228.5
Chemicals – dyeing	$1,647.5	$1,415.8	$231.7
Spacecraft	$257.3	(–)	$257.3
Glass	$1,127.8	$770.7	$357.1
Aluminum	$3,124.6	$2,409.1	$715.5
Chemicals – inorganic	$4,102.0	$3,298.7	$803.3
Ships, boats	$1,154.3	$248.1	$906.2
Chemicals – cosmetics	$2,360.8	$1,417.3	$943.5
Gold, nonmonetary	$3,295.1	$1,934.8	$1,360.3
Records magnetic media	$4,263.0	$2,786.5	$1,476.5
Chemicals – medicinal	$4,606.2	$3,052.8	$1,553.4
Printed materials	$3,578.8	$1,705.3	$1,873.5
Chemicals – fertilizers	$2,980.0	$919.2	$2,060.8
General industrial mach	$17,107.1	$14,422.5	$2,684.6
Power generating mach	$16,967.5	$14,230.3	$2,737.2
Chemicals – organic	$10,927.9	$8,156.8	$2,771.1
Chemicals – n e s	$6,019.8	$2,123.0	$3,896.8
Specialized ind. mach	$16,565.2	$10,914.2	$5,651.0
Airplane parts	$10,263.6	$4,085.4	$6,178.2
Chemicals – plastics	$10,322.4	$3,785.1	$6,537.3
Scientific instruments	$13,487.6	$6,757.4	$6,730.2
Airplanes	$24,158.2	$3,436.1	$20,722.1

MBG – Washington and the U.S. Department of Commerce, Bureau of the Census, FT900.

U.S. MANUFACTURING TRADE DEFICITS
WITH JAPAN AND GERMANY



	MILLIONS OF U.S. DOLLARS			
Year	EXPORTS TO JAPAN	IMPORTS FROM JAPAN	BALANCE WITH JAPAN	YEN PER DOLLAR
1980	$8,947	$30,471	($21,524)	225.7
1981	$10,080	$37,285	($27,205)	220.8
1982	$9,984	$37,365	($27,381)	248.8
1983	$10,815	$40,731	($29,916)	237.5
1984	$12,161	$56,535	($44,374)	237.5
1985	$12,368	$68,093	($55,725)	238.7
1986	$16,871	$81,202	($64,331)	168.4
1987	$16,317	$83,868	($67,551)	144.5
1988	$21,948	$89,123	($67,175)	128.2
1989	$26,982	$92,925	($65,943)	138.1
1990	$30,904	$89,086	($58,182)	144.9
1991	$31,385	$91,006	($59,621)	134.6

	MILLIONS OF U.S. DOLLARS			
YEAR	EXPORTS TO GERMANY	IMPORTS FROM GERMANY	BALANCE WITH GERMANY	DMARKS PER DOLLAR
1980	$8,000	$11,449	($3,449)	1.815
1981	$7,623	$10,884	($3,261)	2.254
1982	$7,050	$11,450	($4,400)	2.428
1983	$6,489	$12,089	($5,600)	2.554
1984	$7,372	$16,427	($9,055)	2.845
1985	$7,493	$19,527	($12,034)	2.942
1986	$8,809	$24,398	($15,589)	2.170
1987	$9,784	$26,421	($16,637)	1.798
1988	$12,184	$25,901	($13,717)	1.757
1989	$14,894	$24,206	($9,312)	1.881
1990	$16,665	$27,449	($10,784)	1.617
1991	$19,442	$25,489	($6,047)	1.661

MBG—Washington and the U.S. Department of Commerce, ITA.

MAJOR U.S. IMPORTS FROM JAPAN

INDUSTRY (Customs Basis)	THOUSAND DOLLARS 1991*	1990	1989	SHARE OF TOTAL 1991*	1990	1989
ALL COMMODITIES	$74 907.012	$88 834.279	$91.841.766	100 00%	100 00%	100 00%
87--VEHICLES. EXCEPT RAILWAY OR TRAMWAY AND PARTS ETC	$24 948 525	$29 331 228	$30 496 942	33 31%	33 02%	33 21%
85--ELECTRIC MACHINERY ETC SOUND EQUIP TV EQUIP. PTS	$15.890.188	$18 547 792	$19 739 290	21 21%	20 88%	21 49%
84--NUCLEAR REACTORS BOILERS MACHINERY ETC PARTS	$15.689 580	$18 731 275	$19 688.588	20 95%	21 09%	21 44%
90--OPTIC. PHOTO ETC MEDIC OR SURGICAL INSTRMENTS ETC	$4 605 417	$5 128.441	$5.122.070	6.15%	5 77%	5 58%
95--TOYS. GAMES & SPORT EQUIPMENT. PARTS & ACCESSORIES	$1.245.496	$2 507 989	$2.072.633	1 66%	2 82%	2 26%
72--IRON AND STEEL	$1.140.704	$1 592.527	$1.883.386	1.52%	1.79%	2 05%
73--ARTICLES OF IRON OR STEEL	$1.094.719	$1 351.919	$1 405 764	1 46%	1 52%	1.53%
29--ORGANIC CHEMICALS	$965.827	$982.862	$1.075.815	1.29%	1 11%	1 17%
40--RUBBER AND ARTICLES THEREOF	$769.950	$1 061.896	$1.119.945	1.03%	1 20%	1 22%
37--PHOTOGRAPHIC OR CINEMATOGRAPHIC GOODS	$767.950	$893 237	$868 834	1 03%	1 01%	0 95%
39--PLASTICS AND ARTICLES THEREOF	$752.755	$905.413	$881.740	1 00%	1 02%	0 96%
98--SPECIAL CLASSIFICATION PROVISIONS NESOI	$689 754	$830.993	$583.136	0.92%	0 94%	0 63%
82--TOOLS. CUTLERY ETC OF BASE METAL & PARTS THEREOF	$556.209	$389.422	$505.728	0 74%	0 44%	0 55%
91--CLOCKS AND WATCHES AND PARTS THEREOF	$463 369	$399.221	$248 990	0 62%	0 45%	0 27%
88--AIRCRAFT SPACECRAFT AND PARTS THEREOF	$457.279	$441.106	$384 127	0 61%	0 50%	0 42%
99--SPECIAL IMPORT PROVISIONS NESOI	$444 415	$529 542	$470.601	0.59%	0 60%	0 51%
96--MISCELLANEOUS MANUFACTURED ARTICLES	$308 589	$342.151	$316.130	0 41%	0 39%	0 34%
69--CERAMIC PRODUCTS	$308 058	$381 276	$415.529	0.41%	0 43%	0 45%
92--MUSICAL INSTRUMENTS PARTS AND ACCESSORIES THEREOF	$257.049	$324.483	$370.178	0.34%	0 37%	0 40%
54--MANMADE FILAMENTS INCLUDING YARNS & WOVEN FABRICS	$209 129	$222 265	$248.493	0 28%	0 25%	0 27%
94--FURNITURE BEDDING ETC. LAMPS NESOI ETC PREFAB BD	$203 328	$203 147	$170 222	0 27%	0 23%	0 19%
32--TANNING & DYE EXT ETC DYE PAINT PUTTY ETC INKS	$195 366	$177 468	$161.020	0 26%	0 20%	0 18%
38--MISCELLANEOUS CHEMICAL PRODUCTS	$184 942	$203 464	$151 010	0 25%	0 23%	0 16%
48--PAPER & PAPERBOARD & ARTICLES (INC PAPR PULP ARTL)	$180 871	$241.625	$226.342	0 24%	0 27%	0 25%
83--MISCELLANEOUS ARTICLES OF BASE METAL	$177 503	$232.026	$206.003	0 24%	0 26%	0 22%

MAJOR U.S. EXPORTS TO JAPAN

INDUSTRY (FAS Value)	THOUSAND DOLLARS 1991*	1990	1989	SHARE OF TOTAL 1991*	1990	1989
ALL COMMODITIES	$38 520 856	$46 138 436	$42.764 273	100 00%	100 00%	100 00%
84--NUCLEAR REACTORS BOILERS MACHINERY ETC PARTS	$5 188 106	$6 029.716	$5.474.898	13.47%	13 07%	12 80%
85--ELECTRIC MACHINERY ETC SOUND EQUIP TV EQUIP PTS	$3 008 178	$3 216 020	$2 969 004	7 81%	6 97%	6 94%
88--AIRCRAFT SPACECRAFT AND PARTS THEREOF	$2 304 957	$3 482 036	$2 011.911	5 98%	7 55%	4 70%
44--WOOD AND ARTICLES OF WOOD WOOD CHARCOAL	$2 173 476	$2 794 785	$2 816 887	5 64%	6 06%	6 59%
90--OPTIC PHOTO ETC MEDIC OR SURGICAL INSTRMENTS ETC	$2 065 667	$2 157.398	$2.139 442	5.36%	4 68%	5 00%
10--CEREALS	$1 768 837	$2 390.778	$2.402.823	4 59%	5.18%	5 62%
03--FISH CRUSTACEANS & AQUATIC INVERTEBRATES	$1 634 378	$1 739 880	$1 520.812	4 24%	3 77%	3 56%
24--TOBACCO AND MANUFACTURED TOBACCO SUBSTITUTES	$1 361 913	$1 616 747	$1 170.705	3 54%	3 50%	2 74%
02--MEAT AND EDIBLE MEAT OFFAL	$1 291 834	$1 533 286	$1.603.332	3 35%	3 32%	3 75%
29--ORGANIC CHEMICALS	$1 225 419	$1 376 552	$1 454.075	3 18%	2.98%	3 40%
76--ALUMINUM AND ARTICLES THEREOF	$1 224 352	$1 391 758	$1 562.072	3 18%	3 02%	3 65%
27--MINERAL FUEL OIL ETC BITUMIN SUBST MINERAL WAX	$1 123 935	$1 455.646	$1 510.618	2 92%	3 15%	3 53%
87--VEHICLES EXCEPT RAILWAY OR TRAMWAY AND PARTS ETC	$1 086 610	$1 467 580	$913.610	2.82%	3 18%	2 14%
28--INORG CHEM PREC & RARE-EARTH MET & RADIOACT COMPD	$911 826	$975.527	$1.148.434	2 37%	2 11%	2.69%
12--OIL SEEDS ETC MISC GRAIN SEED FRUIT PLANT ETC	$825.170	$1 021 961	$1 046 385	2 14%	2.21%	2 45%
39--PLASTICS AND ARTICLES THEREOF	$705 235	$749 810	$731 236	1 83%	1 63%	1 71%
98--SPECIAL CLASSIFICATION PROVISIONS NESOI	$696 681	$758 862	$573 884	1 81%	1 64%	1 34%
47--PULP OF WOOD ETC WASTE ETC OF PAPER & PAPERBOARD	$596 839	$775 014	$1 000.603	1 55%	1 68%	2 34%
08--EDIBLE FRUIT & NUTS CITRUS FRUIT OR MELON PEEL	$474 808	$478 182	$536.073	1 23%	1 04%	1 25%
38--MISCELLANEOUS CHEMICAL PRODUCTS	$467 836	$478 028	$447.955	1 21%	1 04%	1 05%
48--PAPER & PAPERBOARD & ARTICLES (INC PAPR PULP ARTL)	$436.278	$514 724	$538.905	1.13%	1.12%	1 26%
30--PHARMACEUTICAL PRODUCTS	$423.385	$466 213	$459.964	1 10%	1 01%	1 08%
71--NAT ETC PEARLS PREC ETC STONES. PR MET ETC COIN	$420 927	$476 040	$627.366	1 09%	1 03%	1 47%
74--COPPER AND ARTICLES THEREOF	$415 346	$418.122	$251.969	1 08%	0 91%	0 59%
41--RAW HIDES AND SKINS (NO FURSKINS) AND LEATHER	$335 967	$610.945	$495.178	1 03%	1 32%	1 16%

*1991 data are through October. 1991

MBG–Washington and the U.S. Dept. of Commerce, Bureau of the Census.

MAJOR U.S. IMPORTS FROM GERMANY*

INDUSTRY (Customs Basis)	THOUSAND DOLLARS 1991**	1990	1989	SHARE OF TOTAL 1991**	1990	1989
ALL COMMODITIES	$21 149 523	$28 035 442	$24.774.389	100 00%	100 00%	100 00%
84--NUCLEAR REACTORS BOILERS MACHINERY ETC . PARTS	$5 661 168	$7.222.478	$6.225.363	26.77%	25 76%	25 13%
87--VEHICLES, EXCEPT RAILWAY OR TRAMWAY AND PARTS ETC	$4 476 536	$7 340 205	$6.328.853	21.17%	26 18%	25 59%
85--ELECTRIC MACHINERY ETC SOUND EQUIP TV EQUIP PTS	$1 797 323	$2 026.838	$1.868.939	8 50%	7 23%	7 54%
90--OPTIC, PHOTO ETC, MEDIC OR SURGICAL INSTRMENTS ETC	$1 448 555	$1 664 356	$1.529.936	6 85%	5 94%	6 18%
29--ORGANIC CHEMICALS	$1 028 012	$1 123.276	$1.160.037	4 86%	4 01%	4 68%
98--SPECIAL CLASSIFICATION PROVISIONS NESOI	$578.228	$888.859	$562.292	2.73%	3.17%	2 27%
39--PLASTICS AND ARTICLES THEREOF	$527 059	$650 359	$613.699	2 49%	2 32%	2 48%
72--IRON AND STEEL	$412.218	$641 912	$693.839	1 95%	2.29%	2 80%
73--ARTICLES OF IRON OR STEEL	$390.897	$462.110	$424.566	1 85%	1 65%	1 71%
28--INORG CHEM, PREC & RARE-EARTH MET & RADIOACT COMPD	$324 947	$434 989	$341.327	1.54%	1 55%	1 38%
32--TANNING & DYE EXT ETC DYE, PAINT PUTTY ETC INKS	$321 896	$359 795	$321.308	1 52%	1 28%	1 30%
99--SPECIAL IMPORT PROVISIONS NESOI	$271 499	$344 615	$264.795	1.28%	1 23%	1 07%
38--MISCELLANEOUS CHEMICAL PRODUCTS	$226.126	$266 950	$215.407	1 07%	0 95%	0 87%
48--PAPER & PAPERBOARD & ARTICLES (INC PAPR PULP ARTL)	$195 915	$297.692	$323.755	0 93%	1 06%	1 31%
94--FURNITURE BEDDING ETC LAMPS NESOI ETC PREFAB BD	$184 951	$239.806	$222.019	0.87%	0 86%	0 90%
40--RUBBER AND ARTICLES THEREOF	$184 631	$248.290	$222.113	0 87%	0 89%	0 90%
30--PHARMACEUTICAL PRODUCTS	$170 816	$171 012	$137 203	0 81%	0 61%	0 55%
70--GLASS AND GLASSWARE	$164 474	$200 211	$176.126	0.78%	0 71%	0 71%
71--NAT ETC PEARLS PREC ETC STONES PR MET ETC COIN	$160.818	$182.915	$122.514	0.76%	0 65%	0 49%
82--TOOLS, CUTLERY ETC OF BASE METAL & PARTS THEREOF	$152.991	$204 484	$190.220	0.72%	0 73%	0 77%
76--ALUMINUM AND ARTICLES THEREOF	$128 766	$184 824	$162.120	0 61%	0 66%	0 65%
22--BEVERAGES SPIRITS AND VINEGAR	$128 269	$184 722	$174.299	0 61%	0 66%	0 70%
88--AIRCRAFT SPACECRAFT AND PARTS THEREOF	$127 900	$164 304	$151.161	0 60%	0 59%	0 61%
74--COPPER AND ARTICLES THEREOF	$106 003	$147 893	$151.491	0 50%	0 53%	0 51%
95--TOYS GAMES & SPORT EQUIPMENT PARTS & ACCESSORIES	$100 762	$131 298	$98 652	0 48%	0 47%	0 40%

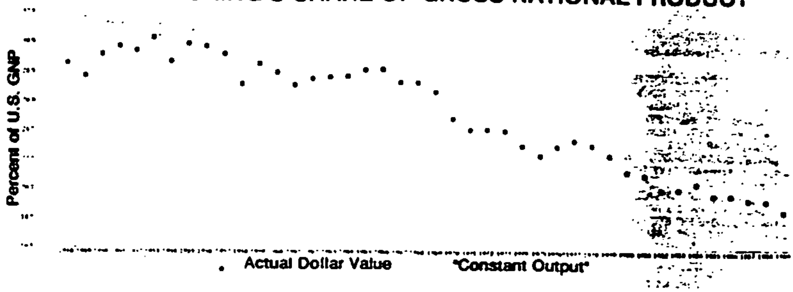
MAJOR U.S. EXPORTS TO GERMANY*

INDUSTRY (FAS Value)	THOUSAND DOLLARS 1991**	1990	1989	SHARE OF TOTAL 1991**	1990	1989
ALL COMMODITIES	$16 660 587	$17 635 380	$16.089.190	100.00%	100 00%	100 00%
84--NUCLEAR REACTORS BOILERS MACHINERY ETC PARTS	$4 191 320	$4 496 495	$4.118.235	25.16%	25.49%	25 63%
88--AIRCRAFT SPACECRAFT AND PARTS THEREOF	$2 532 314	$2 062 974	$2.245.280	15.20%	11.70%	13 97%
85--ELECTRIC MACHINERY ETC SOUND EQUIP TV EQUIP PTS	$1 493 959	$1 876 824	$1 481.326	8 97%	10 64%	9 22%
90--OPTIC PHOTO ETC MEDIC OR SURGICAL INSTRMENTS ETC	$1 406 996	$1 463 553	$1.424.409	8.45%	8 30%	8 86%
87--VEHICLES EXCEPT RAILWAY OR TRAMWAY AND PARTS ETC	$1 183 759	$1 021 650	$769.200	7.11%	5.79%	4 79%
98--SPECIAL CLASSIFICATION PROVISIONS NESOI	$551 156	$615 926	$398 447	3.31%	3 49%	2 48%
29--ORGANIC CHEMICALS	$427 998	$472 047	$412.884	2.57%	2 68%	2 57%
39--PLASTICS AND ARTICLES THEREOF	$370 949	$423 467	$358.261	2.23%	2 40%	2 23%
93--ARMS AND AMMUNITION PARTS AND ACCESSORIES THEREOF	$306 617	$350 802	$452.334	1 84%	1 99%	2 81%
47--PULP OF WOOD ETC WASTE ETC OF PAPER & PAPERBOARD	$189 603	$286 746	$362.394	1 14%	1 63%	2 26%
30--PHARMACEUTICAL PRODUCTS	$236 384	$277 704	$290.394	1 42%	1 57%	1 81%
28--INORG CHEM PREC & RARE-EARTH MET & RADIOACT COMPD	$219 410	$253 374	$264.214	1 32%	1 44%	1 64%
24--TOBACCO AND MANUFACTURED TOBACCO SUBSTITUTES	$218 460	$250 032	$212.879	1 31%	1 42%	1 32%
12--OIL SEEDS ETC MISC GRAIN SEED FRUIT PLANT ETC	$141 741	$244 330	$217.300	0 85%	1 39%	1 35%
38--MISCELLANEOUS CHEMICAL PRODUCTS	$259 402	$234 476	$114 881	1 56%	1 33%	0 71%
44--WOOD AND ARTICLES OF WOOD WOOD CHARCOAL	$205 438	$229 722	$206.876	1 23%	1 30%	1 29%
71--NAT ETC PEARLS PREC ETC STONES PR MET ETC COIN	$131 559	$217 919	$160.553	0 79%	1 24%	1 00%
08--EDIBLE FRUIT & NUTS CITRUS FRUIT OR MELON PEEL	$141 716	$214 569	$174 427	0 85%	1 22%	1 09%
48--PAPER & PAPERBOARD & ARTICLES (INC PAPR PULP ARTL)	$202 209	$154 644	$103.631	1 21%	0 88%	0 64%
52--COTTON INCLUDING YARN AND WOVEN FABRIC THEREOF	$70 625	$147 419	$121 937	0 42%	0 84%	0 76%
40--RUBBER AND ARTICLES THEREOF	$88 607	$112 871	$95.658	0 53%	0 64%	0 60%
97--WORKS OF ART COLLECTORS PIECES AND ANTIQUES	$143 990	$107.465	$81.486	0.86%	0 61%	0 51%
27--MINERAL FUEL OIL ETC BITUMIN SUBST MINERAL WAX	$93 387	$104 718	$104.790	0.56%	0 59%	0 65%
95--TOYS GAMES & SPORT EQUIPMENT PARTS & ACCESSORIES	$109 773	$97 268	$93.561	0 66%	0 55%	0 58%
73--ARTICLES OF IRON OR STEEL	$90 429	$92 967	$67.173	0.54%	0 53%	0 42%

* Data are for the former West Germany only   **1991 data are through October, 1991

MBG-Washington and the U.S. Dept. of Commerce, Bureau of Census

MANUFACTURING'S SHARE OF GROSS NATIONAL PRODUCT



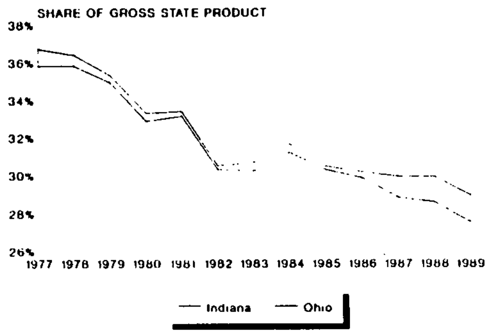
	1949	1953	1957	1961	1965	1969	1973	1977	1981	1985	1989
GNP ($ Billions)											
ACTUAL VALUE	260.4	371.6	451	533.8	705.1	963.9	1359.3	1990.5	3052.6	4014.9	5200.8
CONSTANT 1982 OUTPUT	1109	1435.3	1551.1	1708.7	2087.6	2423.3	2744.1	2958.6	3248.8	3618.7	4117.7
MANUFACTURING											
ACTUAL VALUE	72.2	112.5	131.8	145	198.4	257.1	326.4	465.3	643.1	789.5	966
CONSTANT 1982 OUTPUT	226.3	319.9	332.5	339.4	462.5	536.7	621.3	664.6	678.6	779.2	929
NON-MANUFACTURING											
ACTUAL VALUE	188.2	259.1	319.2	388.8	506.7	706.8	1032.9	1525.2	2409.5	3225.4	4234.8
CONSTANT 1982 OUTPUT	882.7	1115.4	1218.6	1369.3	1625.1	1886.6	2122.8	2293.8	2570.2	2839.5	3188.7
MANUFACTURING SHARE OF GNP											
ACTUAL VALUE	27.73%	30.27%	29.22%	27.16%	28.14%	26.67%	24.01%	23.38%	21.07%	19.66%	18.57%
"CONSTANT 1982 OUTPUT"	20.41%	22.29%	21.44%	19.86%	22.15%	22.15%	22.64%	22.47%	20.89%	21.53%	22.56%
NON-MANUFACTURING SHARE OF GNP											
ACTUAL VALUE	72.27%	69.73%	70.78%	72.84%	71.86%	73.33%	75.99%	76.62%	78.93%	80.34%	81.43%
CONSTANT 1982 OUTPUT	79.59%	77.71%	78.56%	80.14%	77.85%	77.85%	77.36%	77.53%	79.11%	78.47%	77.44%

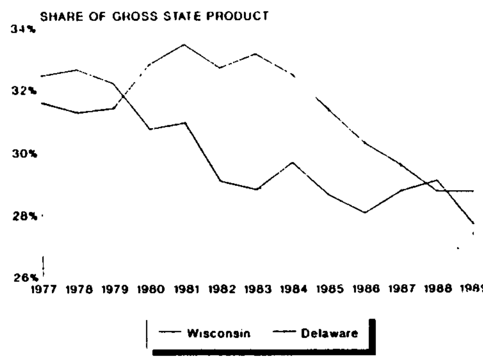
[illegible]

" ...the formidable statistical problems of measuring prices of many services are still present in the new ("Constant Output") estimates; only a substantial research effort over many years holds any promise of overcoming these statistical problems."

Frank de Leeuw, Michael Mohr, and Robert P. Parker, "Gross Product by Industry, 1977-88. A Progress Report on Improving the Estimates," in the <u>SURVEY OF CURRENT BUSINESS</u>, January, 1991. p.26

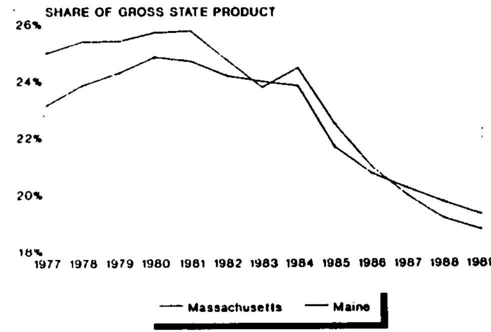
MANUFACTURING DECLINE IN THE STATES

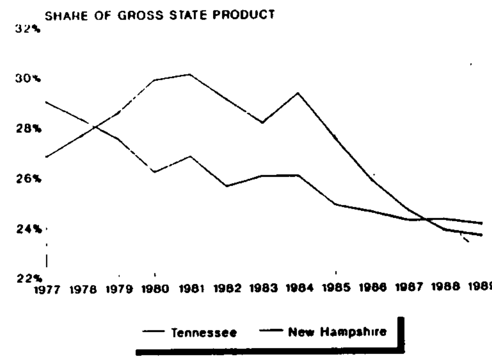




MBG-Washington & US Dept of Commerce BEA

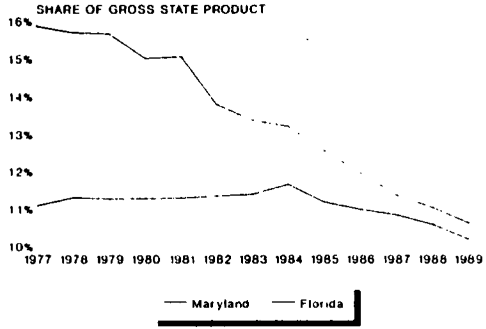
MANUFACTURING DECLINE IN THE STATES

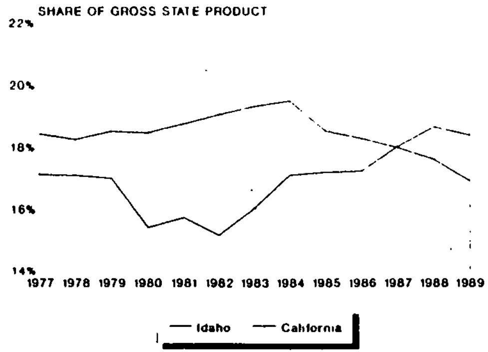




Data are in Actual Unadjusted Dollars

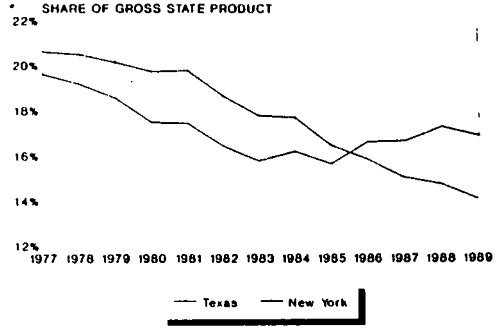
MANUFACTURING DECLINE IN THE STATES

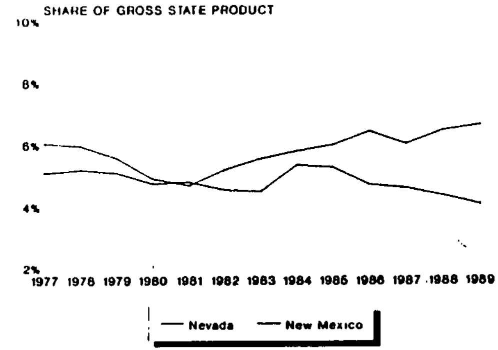




MBG-Washington & US Dept of Commerce BEA

MANUFACTURING DECLINE IN THE STATES





Data are in Actual Unadjusted Dollars

MANUFACTURING GROWTH AND DECLINE

STATE/REGION	SHARE OF GSP: 1979	SHARE OF GSP: 1989	CHANGE IN SHARE
NEW MEXICO	5.57%	6.64%	19.24%
SOUTH DAKOTA	8.46%	9.82%	16.20%
NORTH DAKOTA	5.25%	6.01%	14.49%
MISSISSIPPI	24.42%	27.57%	12.90%
IDAHO	16.98%	18.37%	8.20%
UTAH	15.61%	16.47%	5.50%
LOUISIANA	14.97%	15.66%	4.59%
ROCKY MTN	12.90%	13.16%	1.99%
DIST OF COLUMBIA	3.26%	3.32%	1.87%
ARKANSAS	25.39%	25.00%	−1.53%
MINNESOTA	21.50%	21.13%	−1.75%
WYOMING	3.92%	3.81%	−2.57%
PLAINS	20.51%	19.76%	−3.64%
MISSOURI	23.63%	22.69%	−3.98%
OKLAHOMA	14.88%	14.20%	−4.58%
COLORADO	13.77%	13.12%	−4.77%
KANSAS	19.59%	18.52%	−5.50%
NEBRASKA	14.63%	13.49%	−7.80%
SOUTHWEST	16.86%	15.47%	−8.22%
ALABAMA	25.27%	23.18%	−8.28%
DELAWARE	31.39%	28.72%	−8.50%
CALIFORNIA	18.49%	16.89%	−8.66%
TEXAS	18.53%	16.86%	−9.03%
FLORIDA	11.27%	10.19%	−9.53%
IOWA	24.15%	21.68%	−10.25%
ARIZONA	14.19%	12.71%	−10.44%
FAR WEST	18.72%	16.63%	−11.19%
NORTH CAROLINA	33.93%	29.96%	−11.70%
SOUTHEAST	22.23%	19.63%	−11.72%
ALASKA	5.50%	4.81%	−12.53%
TENNESSEE	27.50%	24.02%	−12.66%
KENTUCKY	27.14%	23.48%	−13.51%
WISCONSIN	32.19%	27.69%	−13.99%
WASHINGTON	19.90%	16.75%	−15.87%
SOUTH CAROLINA	30.67%	25.67%	−16.29%
GEORGIA	23.00%	19.23%	−16.39%
NEW HAMPSHIRE	28.54%	23.55%	−17.50%
INDIANA	35.31%	28.94%	−18.06%
UNITED STATES	**22.85%**	**18.70%**	**−18.16%**
OREGON	24.01%	19.62%	−18.27%
VIRGINIA	19.63%	16.04%	−18.31%
NEVADA	5.08%	4.08%	−19.80%
VERMONT	24.72%	19.74%	−20.13%
MAINE	24.24%	19.29%	−20.44%
HAWAII	5.39%	4.25%	−21.15%
OHIO	34.92%	27.53%	−21.17%
GREAT LAKES	32.44%	25.38%	−21.75%
MONTANA	9.89%	7.71%	−22.07%
WEST VIRGINIA	20.03%	15.59%	−22.19%
MICHIGAN	36.12%	27.43%	−24.05%
ILLINOIS	26.37%	19.85%	−24.72%
PENNSYLVANIA	29.08%	21.58%	−25.81%
NEW ENGLAND	27.06%	20.06%	−25.87%
MASSACHUSETTS	25.37%	18.74%	−26.16%
RHODE ISLAND	29.00%	21.27%	−26.66%
NEW JERSEY	25.77%	18.41%	−28.56%
MIDEAST	22.52%	16.07%	−28.63%
CONNECTICUT	30.04%	21.25%	−29.25%
NEW YORK	20.13%	14.06%	−30.15%
MARYLAND	15.65%	10.63%	−32.10%

MBG−Washington and the U.S. Department of Commerce, BEA.

MANUFACTURING DECLINE IN THE STATES

SHARE OF GROSS NATIONAL/STATE PRODUCT

STATE/REGION	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
UNITED STATES	23.77%	23.44%	22.85%	21.78%	21.53%	20.44%	20.46%	20.82%	19.91%	18.88%	19.53%	19.38%	18.70%
NEW ENGLAND	25.61%	26.88%	27.35%	27.21%	27.28%	26.34%	25.32%	25.75%	23.81%	22.57%	21.48%	20.55%	20.08%
MIDEAST	22.94%	22.73%	22.52%	[illegible]	21.94%	20.47%	19.55%	19.46%	19.25%	17.68%	17.30%	16.79%	16.07%
GREAT LAKES	33.98%	33.56%	32.44%	32.37%	30.19%	27.73%	27.73%	28.56%	27.50%	27.33%	26.63%	25.51%	25.38%
PLAINS	20.85%	20.80%	20.51%	20.30%	19.87%	19.42%	20.19%	[illegible]	19.54%	20.07%	20.31%	20.58%	19.78%
SOUTHEAST	23.48%	22.95%	22.23%	21.12%	20.85%	20.10%	21.87%	21.32%	[illegible]	20.54%	20.38%	20.08%	19.63%
SOUTHWEST	17.77%	17.35%	15.95%	16.07%	15.04%	15.28%	14.67%	15.11%	14.50%	15.40%	15.37%	15.88%	15.47%
ROCKY MTN	13.53%	13.34%	12.90%	11.99%	11.55%	11.43%	11.78%	12.30%	12.23%	12.73%	12.98%	13.35%	13.18%
FAR WEST	19.79%	19.44%	19.72%	18.37%	19.33%	18.37%	18.50%	19.56%	17.96%	17.80%	17.58%	17.27%	16.63%
ALABAMA	25.43%	25.13%	25.27%	24.27%	23.84%	22.94%	23.41%	24.17%	23.21%	23.57%	23.80%	23.99%	23.18%
ALASKA	5.32%	5.52%	5.53%	4.00%	2.71%	2.96%	3.02%	3.04%	2.97%	3.66%	4.20%	4.84%	4.81%
ARIZONA	13.93%	13.72%	14.19%	14.82%	15.16%	13.91%	13.50%	13.95%	13.01%	13.18%	13.28%	13.18%	12.71%
ARKANSAS	25.75%	25.71%	25.38%	24.90%	24.87%	24.33%	25.55%	25.47%	24.35%	24.82%	25.53%	25.50%	25.30%
CALIFORNIA	18.41%	18.23%	18.46%	18.44%	18.73%	19.03%	19.29%	19.47%	18.49%	18.28%	17.98%	17.58%	16.89%
COLORADO	14.19%	14.13%	13.77%	[illegible]	13.29%	12.90%	[illegible]	13.12%	12.56%	12.98%	13.19%	13.31%	13.12%
CONNECTICUT	30.10%	29.54%	30.34%	29.52%	29.44%	29.54%	27.67%	27.53%	25.58%	24.58%	23.24%	21.97%	21.25%
DELAWARE	31.57%	31.24%	31.36%	32.79%	33.45%	32.96%	33.13%	32.48%	31.32%	30.27%	29.57%	28.71%	28.72%
DIST OF COLUMBIA	3.22%	3.21%	3.25%	3.32%	3.35%	[illegible]	3.34%	3.43%	3.47%	3.64%	3.63%	3.47%	3.32%
FLORIDA	11.08%	11.30%	11.27%	11.28%	11.49%	11.34%	11.39%	11.58%	11.17%	10.98%	10.84%	10.50%	10.18%
GEORGIA	24.12%	23.15%	23.30%	22.25%	22.36%	21.15%	21.48%	21.25%	20.48%	20.74%	20.71%	19.91%	19.23%
HAWAII	5.27%	5.79%	[illegible]	5.12%	5.15%	5.00%	4.97%	5.05%	4.97%	4.79%	4.49%	4.52%	4.29%
IDAHO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	17.17%	17.21%	17.99%	18.63%	19.37%
ILLINOIS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21.35%	20.78%	20.42%	20.50%	19.85%
INDIANA	34.70%	36.36%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32.47%	30.17%	29.93%	29.54%	28.94%
IOWA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21.29%	21.08%	22.74%	22.99%	21.58%
KANSAS	[illegible]	19.96%	19.59%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19.32%	19.54%	19.28%	19.22%	18.52%
KENTUCKY	29.58%	28.99%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	24.33%	24.34%	24.17%	24.38%	23.48%
LOUISIANA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.77%	15.04%	15.08%	15.56%	15.86%
MAINE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21.65%	20.73%	20.20%	[illegible]	19.29%
MARYLAND	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	12.54%	11.96%	11.37%	[illegible]	10.83%
MASSACHUSETTS	[illegible]	25.36%	[illegible]	25.58%	[illegible]	[illegible]	[illegible]	[illegible]	22.48%	20.98%	19.95%	[illegible]	18.74%
MICHIGAN	[illegible]	38.58%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	32.23%	31.41%	29.72%	[illegible]	27.43%
MINNESOTA	[illegible]	21.42%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	21.31%	21.27%	21.52%	[illegible]	21.13%
MISSISSIPPI	26.38%	26.34%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	26.70%	27.98%	27.83%	28.34%	27.57%
MISSOURI	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	23.86%	23.54%	23.13%	22.93%	22.69%
MONTANA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.52%	7.81%	7.51%	7.73%	[illegible]
NEBRASKA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13.59%	13.67%	13.95%	14.29%	13.48%
NEVADA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.29%	4.71%	4.61%	4.36%	4.38%
NEW HAMPSHIRE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	27.48%	25.81%	24.58%	23.78%	23.56%
NEW JERSEY	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	22.38%	20.98%	20.23%	19.61%	19.37%	18.41%
NEW MEXICO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.99%	6.42%	6.02%	6.47%	6.54%
NEW YORK	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	15.46%	15.84%	15.03%	14.74%	14.08%
NORTH CAROLINA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	33.94%	31.48%	31.10%	30.38%	29.98%
NORTH DAKOTA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.63%	5.95%	6.53%	[illegible]
OHIO	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	30.29%	29.88%	28.83%	28.61%	27.53%
OKLAHOMA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13.97%	14.64%	14.35%	14.69%	14.20%
OREGON	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19.55%	19.94%	20.32%	20.22%	19.52%
PENNSYLVANIA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	23.52%	23.00%	22.38%	22.38%	21.58%
RHODE ISLAND	[illegible]	[illegible]	[illegible]	29.33%	[illegible]	[illegible]	[illegible]	[illegible]	24.33%	23.90%	22.75%	21.77%	21.27%
SOUTH CAROLINA	[illegible]	[illegible]	30.47%	30.07%	29.79%	[illegible]	[illegible]	[illegible]	25.74%	26.74%	27.02%	26.91%	25.67%
SOUTH DAKOTA	[illegible]	[illegible]	[illegible]	9.62%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	9.48%	9.60%	10.19%	9.62%
TENNESSEE	[illegible]	[illegible]	27.50%	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	24.81%	24.53%	24.17%	24.20%	24.22%
TEXAS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	15.64%	15.61%	15.54%	17.28%	15.86%
UTAH	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	15.18%	16.59%	16.40%	16.92%	15.47%
VERMONT	[illegible]	[illegible]	[illegible]	25.72%	26.27%	[illegible]	[illegible]	[illegible]	23.15%	22.10%	21.19%	20.13%	[illegible]
VIRGINIA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	19.00%	17.94%	17.25%	[illegible]	[illegible]
WASHINGTON	[illegible]	[illegible]	[illegible]	18.79%	[illegible]	[illegible]	[illegible]	[illegible]	16.39%	16.71%	15.88%	15.92%	[illegible]
WEST VIRGINIA	[illegible]	[illegible]	[illegible]	17.98%	[illegible]	[illegible]	[illegible]	[illegible]	14.94%	15.49%	15.42%	15.99%	15.59%
WISCONSIN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	28.51%	29.04%	28.72%	29.07%	[illegible]
WYOMING	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.20%	3.53%	3.86%	[illegible]

MBG—Washington and the U.S. Department of Commerce, BEA. Shares are in Actual Unadjusted Current Dollars for each year

SENATOR SARBANES. Thank you very much. It was a very helpful presentation. I am going to yield to Congressman Obey to take the first round.

REPRESENTATIVE OBEY. I'm sorry. I have to leave very quickly and I didn't think I would stay to ask questions. Let me ask a quick one.

You indicated in your statement, Pat, that two possibilities would be to impose a stop transfer tax, or capital gains tax, on short-term profits of trading institutions. The argument raised against the transfer tax is that the action will just move to some place else outside of the country. How do you respond to that argument?

MR. CHOATE. On the stop transfer tax, you may have some of that action, but if you impose a capital gains tax, you don't really care. Whoever holds that, you're going to be able to take a tax if they sell it, let's say, within two years or three years. The other point that comes to it is that most of this is done by our own institutions, our own pension funds.

Now, what is ironic is that when I take a look at this over the decade of the 1980s, the institutions, when measured on a performance basis on the S&P 500, these folks fell below the standard of the S&P 500. Here they are making the market, and most of them are not hitting the averages. Now, what it really means is that it is not only causing deviant behavior, I would call it, on behalf of corporate America, they're not even getting their returns. They would be better off on returns if they would hold their portfolios long term and help grow the economy and the underlying companies.

REPRESENTATIVE OBEY. Thank you, Mr. Chairman.

SENATOR SARBANES. I think it is a very powerful point. In fact, I am just going to read into the record two paragraphs of your statement that you moved over, because I think they are very important.

I am now quoting you.

> In the speculative, short-term-oriented equity markets that now exist, only a few American firms have sufficient profits and assets to make the commitments that long-term global competitiveness requires without sacrificing shorter-term earnings. Most companies are obliged to focus their efforts and resources on results that can bolster the price of their stock.
>
> Fast results and short-term earnings have become the obsessive goal of too many American companies. The pursuit of these objectives diverts resources from investment in modern plant and equipment, research, technology and training to clever financial manipulations. It sacrifices market share to high quarterly earnings. And it discourages workers from making long term commitments to companies.

Now, let me ask this question: Do you correlate and trace this movement—fast results, short-term earnings—to the nature of the ownership in the marketplace?

MR. CHOATE. Yes, sir.

SENATOR SARBANES. How much of a correlation do you put on that and how much do you think that it is a factor, as compared with other factors?

MR. CHOATE. I think it is a major factor. When we go back, for example, into the early 1950s, what we saw is that institutions owned roughly a fifth of the equities on the New York Stock Exchange. Now, that has only risen to about 39 percent. It is less the ownership, which is large, but it is what these owners are doing with their portfolios, that you measure by the large block transactions and by the turnover rates on the total value of stocks held in the New York Stock Exchange.

What you see is that this really began to take off in the late 1970s and then it really picked up speed in the 1980s where you had these takeovers, these buyouts, and the churning like activities. The New York Stock Exchange, in the late 1980s, did a survey of 353 portfolio managers as to what they were looking towards. Roughly 80 percent of them said they didn't even look at the company, didn't look at the investment, didn't look at the products, didn't look at their market share, they only looked at the numbers, quarterly numbers.

So what you have here is a circumstance where productivity, growth, union agreements, all of the basics that one would take a look at on a long-term basis, are simply discounted. The reason that this occurs and the reason that this can happen is because pension funds pay no taxes. There is no penalty in the current system.

My preference would be a capital gains tax on pension funds and institutions. You buy the stock, you sell it within a year's period of time, you're going to pay a 20 or 30 percent tax rate. If you hold it over that period of time, there will be no tax rate, in other words. So the pension funds and others that are holding and investing long term are really investing rather than speculating. It won't effect them at all, but it will say to the others that are speculating, if you want to do it you can do it, if it makes business sense. You're also saying to them that we are going to bias the rules to the long term over the short term.

What is now happening with our capital markets is that they are responding as rational people in response to the rules that now exist. If we want a long-term attitude and a long-term performance, we have to change the rules, and the capital markets will respond, I think, very profitably to that, and not only to themselves but to society as a whole.

SENATOR SARBANES. I am reminded by your reference that they do not look at the company or its products, but just at the numbers. The same thing, of course, was happening in the S & Ls with the brokered deposits that were coming out of the big investment houses. They did not look at the soundness and the effectiveness of these at all. All they did is find the S&L that was paying the highest rate, and then they made sure that their clients were not already in that S & L so that they had exhausted their Federal Deposit Insurance or their FSLIC insurance coverage. Then they would go ahead and place the deposits to draw the highest return, in effect putting them in the weakest institutions—those that were paying these high returns in order to get an inflow of deposits in order to keep going. If it did not work, then the taxpayer, as we have unfortunately discovered, would end up carrying the burden to honor the insurance.

Again, there was no evaluation of the institution. There was only the attempt to find the highest rate, making sure that the client had not used up his or her insurance coverage, and then funneling the deposit.

MR. CHOATE. That is analogous to what has happened here, the cut research that Ken talks about. You have firms, so they can get their quarterly earnings up, the easiest way to get your quarterly earnings up is to hold back on research. Just cut back on your R&D activity and that will go straight to your bottom line.

You also see another misuse of capital, When they have a cash reserve, they're out buying back their own stock so that they will have fewer shares of stock, and their earnings will have a higher ratio to push up the price of stock.

So, rather than investing in modern plant equipment and R&D, we see these companies spending five hundred million dollars or a billion dollars buying back stock. That is not a way to prepare for the future. That is simply to torque yourself up a little bit as a company so that you look good to the stock market.

MR. BARFIELD. I'm not an expert on capital markets, but on the last point, I would like to make a comment. All of the studies that I know of that were done in the 1980s, which took a look at the impact on R&D by mergers and acquisitions, did not find that R&D had been affected greatly. In fact, it was a wash.

The idea that the fact that you loaded up with debt because of the takeover, using junk bonds or whatever, and that, in turn, had some direct effect on R&D, is just not shown by the empirical evidence.

Now, I make no judgment beyond that, to the larger questions that Pat was talking about, except to say this: Without being qualified to speak about the impact that the tax he proposes would have, I would suggest that the issue on which this is put forward for the short term, quarter-to-quarter, goes much deeper into American capitalism. There are other intrinsic characteristics that the tax may not get at. The way our corporate governance has been handled, our laws about the rights of stock holders vis-à-vis the governing board, the way that our managers operate. In other words, I don't think that this is any panacea to the question of short-termism. They are not all just dependent on the turnover of stock.

SENATOR SARBANES. I understand that, but the factors you are now pointing to have been constant throughout this period. The factors that Mr. Choate was pointing to have changed over this period.

MR. BARFIELD. We may be saying the same thing, Senator, in the sense that I'm saying, if the constant is there, this doesn't have much impact on it. You still may have a set of factors that are constant and may not be effected by the changes that Pat suggests. I'm just saying that this is a more difficult and a more complex question that will not lend itself just to a change in the taxes.

SENATOR SARBANES. All questions are difficult and complex. But, if you have had a trend that you regard as negative, and you have a factor that was present throughout, and you have another factor that changed, it is reasonable to look at the latter factor. That does not mean that the former factor may not also have had an impact, but it would seem to me to be less directly connected.

Mr. Courtis, I wanted to ask you, how long have you been in Japan?

MR. COURTIS. I first started working in Japan when I was in the strategic management consulting business in the 1970s. I then taught at Tokyo University from 1983 to 1986, and I have been in this current position with Deutsche Bank in the global strategy group since the end of 1987, and continue to teach at Tokyo University. So off and on, it could be a decade.

SENATOR SARBANES. How important is this interrelationship that we read and hear about between the government and industry in Japan, in terms of enabling them to mount an overall worldwide economic strategy?

MR. COURTIS. The member of the Committee who had to leave early mentioned Adam Smith, and he said, if we started with Adam Smith we would be in good shape.

That's basically what the Japanese Government also believes. They believe that the role of government is to play the role that Adam Smith indicated, and that is, in a sense, to help formulate the consensus to help build the leadership, to help in the process of determining how strategic resources should be allocated, but leave the actual allocation of those strategic resources to the big corporate groups, to the Kereitsu groups. I think you have a similar situation in a number of European countries.

So the government is not really involved in the implementation of the decision, and you can see that very clearly in the R&D. In fact, in America the government is much more involved in R&D than the government is in Japan. The role of the government then is to essentially provide leadership, bring companies together on major issues of long-term significance.

The other issue that I think is important in this regard, Mr. Chairman, is that the Japanese Government believes that ownership is very important. In Japan, for example, we have the shares in the stock market, rather than being constantly traded and washed, and are largely held by other companies. You have this cross-ownership structure that is very important, and in many respects, it is America that is the anomaly. America is the only economy in the world where ownership is constantly up for grabs. It is constantly thrown like dice on the table.

Among the competitors of America that are doing best ownership is very stable and that stable ownership, that long-term ownership, with capital gains tax and indeed the whole tax structure to promote long-term stable ownership, you have a structure where risk is shared among companies. Where companies share a common objective of building their long-term competitive position because they believe that it is through this long-term, patient investment in R&D, over the long term, they can be competitive.

SENATOR SARBANES. It is your view that that characterizes not only Japan but the European community as well?

MR. COURTIS. There are nuances from one country to another, but the pattern is, in some sense, similar. In Japan, it is the big Kereitsu groups.

You take the six biggest Kereitsu, they represent 20 percent of GNP. That is where the key strategic decisions are made. Once the big Kereitsu get on site, the key ministries—MITI, FINATS and the central bank—plus the academic community, pull the rest of the economy with it.

In Germany and France, you have a slightly different system, but it essentially gets to the same point. In France it is the strategic core holdings around the big banks, and I suppose in Germany it is also around the big banks where it occurs.

I want to submit for the record, Mr. Chairman, that what I think is important in these investment in R&D numbers is that there seems to be a tremendous consensus in Japan that this is important. There seems to be also in Europe a consensus that investment like this and research at this level is important for their future.

What surprises me in the debate in America is that there is still a debate about this, that there is still a question about this that we don't have to make these levels of investments to maintain the standard of living that this economy has. I find that paradox extremely curious.

SENATOR SARBANES. A couple of years ago, the Committee did a study that indicated that the percent of GNP committed to civilian research and development was significantly greater in both Germany and Japan than in the United States. Part of the problem is that we have a heavy commitment to military R&D.

We also have had testimony before this Committee that the transfer from military R&D to the civilian sector is much less now than it used to be. It has become much more highly specialized. There is still some transfer, but there is much less, and we do not get the same benefit in the civilian sector out of the military R&D that we might have at earlier times when the military R&D was less specialized.

MR. BARFIELD. I would like to add just a word about that. I think you have to parse this a little bit further. I agree. I think we need to look at those numbers a little bit.

As Mr. Courtis has said, and I don't think it has been picked up on, a key characteristic that is ignored when we talk about competing with Japan, particularly when people talk about targeting, is that the targeting, certainly since the 1960s, whether you say it has been done by the Kereitsu or individual firms, targeting has been done by the private sector. The Japanese Government public investment in R&D is much less in Japan than it is in the United States, or most other industrial countries.

And then I think you take that a step further and look at the nuances of the European experience where you have had high public investment and a high degree of——

MR. BARFIELD. This is private investment. This is not the government investing.

SENATOR SARBANES. Are you including investment in military R&D when you make that statement?

MR. BARFIELD. Sure. In Japan, you don't have investment in much military.

SENATOR SARBANES. That is right. So, if you compared investment in R&D in Japan with the U.S. investment, obviously the U.S. investment is much greater because we have a heavy military component.

MR. BARFIELD. Even if you take that out, it is still greater. The point is that the investment in Japan has by and large been private investment, and there is a commitment and a consensus that the government—this gets back to the question of investment here—ought to give incentives and to have an economy that allows private companies to invest.

The French have had a very different experience and one in which I would suggest is not the way that we want to go when one thinks about investment. There has been a great deal of public investment. There is a lot of discussion about the EC having spent billions of dollars in electronics, or billions of dollars in Jesse or Esprit. None of these are public subsidy programs. None of those programs actually is working out very well, and they are now in process of rethinking.

So I think that my point is that, in terms of our thinking about the United States economy, we ought to be thinking about how one induces more private investment, not necessarily more public investment.

So, as you come down off of that defense slope with defense R&D coming down, it ought not be substituted, it seems to me, in the first instance by public subsidy or public investment, but by inducement of private investment.

SENATOR SARBANES. Maybe, we need both.

MR. BARFIELD. I don't doubt that you do, but by and large, I don't think economists would disagree with this, that direct private investment has a much greater payoff to society, to an economy, than public investment.

SENATOR SARBANES. I do not know. We get disturbing testimony about the state of higher education in this country and the impact of that on developing the next generation of scientists. Did you want to comment on that, Mr. Choate?

MR. CHOATE. I would like to comment. I would argue, I think, along the lines of MR. BARFIELD. That the United States does it in the most expensive and the least effective way going.

But an advantage that our competitors in Japan have over us is, yes, their government will put money into research project, but their government will also bring together the companies so that when the companies are putting money into a project, at least at the pre-competition stage, they are not duplicating each other and wasting money. In many cases, it is a government formed research cartel that is operating so that all of the results are shared, so when benefits come out there will be a patent pool, and everyone gets the advantages of it, and the government will play the role of coordinator on that.

The companies themselves who are engaged in these processes know, as Mr. Courtis suggests, that they are part of a stable group where 60-plus percent of the stock will be held inside the family of corporations. So there is no risk of take over and just given their sheer size, they will be able to fully exploit the technology.

It seems to me that what we must do in this country is first find ways to be able to work together. And, second, I do think that we have an enormous backlog of investments that we have to make, not only in our infrastructure of activities, but putting money into what are going to be the cutting-edge technologies that Mr. Courtis refers to, that we're falling behind in in the 1990s.

SENATOR SARBANES. I am going to yield to Senator Bingaman now. Before I do that, Mr. Barfield, I would be less than candid with you if I did not tell you that I remain disturbed by this use of the 1980 year in your chart. In your other charts, you use 1979 to 1989. I think, in terms of picking points in the business cycle that are roughly comparable, the use of 1979 and 1989 is appropriate. I do not think that the 1980 to 1989 reference is appropriate, and we have some federal figures from the Federal Reserve index of manufacturing output, which is the subject of your first chart that indicates that from 1979 to 1980 it, in fact, dropped 2½ percent. If the comparison were made between 1979 and 1989 instead of 1980 to 1989, it would be six-tenths of a point less. And if your figure was brought down six-tenths of a point less, instead of a comparison that had U.S. growth at 3.8 percent and the rest of the world at 3.5 percent, it would be 3.2 and 3.5 percent.

You could ask if a 3.5 percent figure still holds, changing the reference date from 1980 to 1979. I do not have those figures, although my guess is that the rest of the world was not in a comparable downturn from 1979 to 1980. A change of that reference point by one year would completely alter the message of your chart, and I just want to make that point to you.

MR. BARFIELD. Let me add finally that I am very much aware of the years and everything I do, or that we do, that we try to do comparable points. This was a U.S. Trade Representatives chart that I was using. I will go back and find that out. I agree that it makes no sense to go from a trough to a peak. It has to go to comparable years.

SENATOR SARBANES. Thank you very much. Senator Bingaman, please proceed.

SENATOR BINGAMAN. Mr. Courtis, let me ask a couple of questions about the charts that you have provided us. This chart on capital investment, Japan and U.S. capital investment to GNP, it shows that Japan is making something around twice the capital investment that we are.

This investment gap, just as a general matter, to put this in some context, are we out of step with the rest of the industrialized world, or is Japan?

MR. COURTIS. I think we are out of step in North America, and I just brought the figures for other countries. Let me just take the 1991 figures. Canada was 15 percent. Korea was 29 percent. Germany was 15 percent—16.2 percent, actually. So it seems to me that the slip is in America.

There was some confusion earlier about research and investment, and it got mixed up. So let me also put the record straight on that. For civilian, nonmilitary R&D in 1991, the United States invested $400 per capita. Japan invested $685 per capita. In 1991 Japan invested, for capital equipment, $5,320 per capita and America $2,174 per capita.

SENATOR BINGAMAN. And those figures combine the public- and private-sector investments?

MR. COURTIS. No. This is only private-sector plant and equipment—$5,320 per capita versus $2,174 per capita.

SENATOR BINGAMAN. And the R&D figures were also private-sector R&D figures?

MR. COURTIS. Private sector, nonmilitary R&D.

SENATOR BINGAMAN. Let me ask about another issue that is not part of what you describe, but see if you can tell us anything about it.

I would assume that your ability to maintain a robust economy and generate decent paying jobs also ties to investment in skill training, job training, and education generally. Is there anything that you can tell us by way of comparison between ourselves and the Japanese, with regard to those kinds of investments?

MR. COURTIS. Yes, I can, Senator. In 1990 the United States had research scientists and engineers working in research in the private sector. Seventy-seven people for every 10,000 workers. The Japanese had 89. The Japanese policy target for the year 2000 is to have 110 scientists—research scientists and engineers engaged in private-sector research for every 10,000 workers.

I don't know what the policy target for the United States is, or indeed if there is one, but if I look at what universities are planning, my figure is that the United States would have about 85 engineers and scientists per 10,000 versus 77 today. Japan would go from 89 to 110. So they have an increase of about 25 percent and America would have an increase of about 10 percent.

SENATOR BINGAMAN. Let me shift to another subject——

MR. BARFIELD. That was private sector.

MR. COURTIS. Yes, that was private sector.

MR. BARFIELD. If you take the total public and private and the number of technology-type technologists, I think it is higher in the United States. It has traditionally been substantially higher.

MR. COURTIS. I don't have those figures with me. I have the overall number of engineers and scientists engaged——

MR. BARFIELD. I think his point is a correct one. It goes back to my point about the private sector. The usual figure given for a nation includes both the scientists and engineers who are working in government laboratories, which are not included in that.

MR. COURTIS. The figures I have are for the overall number of scientists and engineers engaged in research and development for the two economies. In Japan, in 1990, it was 210,000, so it's over all sectors. In the United States, 138,000. In the year 2000, Japan is projecting to have 365,000 scientists and engineers engaged in all activities of research, all sectors. My estimate for the United States is about 180,000.

SENATOR BINGAMAN. Let me ask about this other subject, and get any of you to comment. I guess, Mr. Courtis, I would be interested in your view on it.

I have the distinct impression that investment in high technology manufacturing capability today is not the same kind of investment in manufacturing capability that we faced ten years ago, 20 years ago, in previous periods.

For example, if you want to put in a plant to produce state-of-the-art semiconductors, or microprocessors, or flat-panel displays, the investment is enormous today. In order to do that the entry barrier is substantially greater than it ever has been.

What that leads me to is a concern that gaining an advantage in manufacturing capability, as the Japanese have in some areas, such as flat-panel displays, gaining that advantage gives them a capability to maintain an advantage that didn't exist in previous periods. It gives them an ability to maintain it because they have the availability of cash from the sales, the capital generation that they develop from that. The technology needed to stay at the forefront is difficult and the capital cost of building the plant is just prohibitive.

As I see it, that is why none of our major companies have been willing to invest in flat-panel display production. They can not see any way to get in there and compete, considering the size of the investment that is required.

Give us any thoughts on the general problem of what kind of an advantage being ahead gives us, in the present context, in which we find ourselves.

MR. COURTIS. The liquid-crystal display market is an interesting market, because by the mid-1990s we won't buy a computer that doesn't have a flat screen, and by the late-1990s we won't buy a television that doesn't have a flat screen. That is a $7 billion market that we estimate for 1996. There are 52 Japanese companies fighting for that market. I believe there are four American companies involved in that market.

Take the leader in that field for the moment—Sharp. They have already invested $1 billion in R&D in that field, and they are committed to putting another $600 million in R&D and manufacturing capability between now and 1994. So that is an effort of $1.6 billion.

What we see emerging in these new high-tech information-intensive industries is that the separation between R&D and advance manufacturing is collapsing. That the manufacturing technology that is required to produce these new products, based on these new technologies, is increasingly in itself being generated by the R&D effort. There is a merging of the two. For example, the 50 largest Japanese industrial companies have research projects that are now bigger than their investment budgets. What we see here is a cumulative effect that puts the entry barrier higher and higher and higher.

There is some debate recently, which has occurred in Japan and is being picked up internationally, that Japanese companies in the future will be less and less interested in market share. Nothing could be further from the truth. You have to, in these industries, have a world market base and be competitive on a world scale to remain competitive.

Let's take the example of biotechnology. Over the 1990s, leading-edge biotechnology companies, I estimate, will have to commit to R&D between 16 and 18 percent of their sales on a global basis. But if you aren't competitive on a global basis and you're only working within one market, you will have to fund the same amount of R&D, but only on the revenues coming from one market. So if North American companies fall behind and are pushed out of third markets, pushed out of Asia and Europe, they will have to fund the same amount, carry the same amount of R&D, but on a shrinking revenue base.

That's where it starts, where we go from a cumulative gap to what becomes a qualitative gap, and I think that that's where we are now. That's why it is so important to start to reverse the course.

SENATOR BINGAMAN. Let me ask just a general question. The obvious point that you are making very strongly, Mr. Choate, is that we need to find ways to move from a consumption-based system to much more concentration of an investment for the future.

I guess the idea is that we can do this in our federal budgeting of resources through the tax code. For the private sector, we can build incentives in such things as Mr. Choate referred to, to give the private sector the nudge that they need to look long term and make investments rather than engage in short-term consumption.

I don't know if any of you have things to say about additional actions, or an overall strategy, to get us from such a focus on immediate consumption to long-term investment, but I think that is the crux of where we are falling down.

MR. COURTIS. Senator, I think it is not one policy or another. I watch things in this country from afar, but I am struck by the way the debate often seems to go. It is this policy, or it is more money for research, or it is that tax credit, or it is this change in the banking law that allows the banks to be more actively involved in company ownership, or it is that change in antitrust law.

My sense is that it's not that at all. It is all of it and more. In a sense, it seems to me that we in America have been dealing with this issue on an ad hoc basis. You could deal with these issues on an ad hoc basis when you had the power, the power that America had in the 1950s, 1960s and 1970s.

Just think of it, in 1960—not going from the base year just after the war, but after the rest of the world was largely on a course of rebuilding itself—America represented 34 percent of world GNP and Japan three percent. In 1990 America was 21 percent of world GNP and Japan at 16 percent. By the year 2002, if you take the IMF figures, the United States will be 18 or 19 percent of world GNP and Japan will be 18 or 19 percent of world GNP. And you have similar developments in Europe.

In this world, you can't take ad hoc decisions. You can not take run-off decisions. Voluntary export restraints were going to solve the car problem. Plaza devaluation was going to solve another problem. Semiconductor agreements were going to solve another problem.

What we need now in America, I think, is an overall economic strategy that brings together the resources of this country. Tax policy needs to be mobilized, but trade policy has to be mobilized. Technology policy, education policy, competitive policy, microeconomic policy—it has to be put together in an overall coherence.

The key issue is leadership. Government can't do it. Government can't make the decisions. But what government can do is to provide the leadership, as Smith said, to represent the future to the present, to build a consensus around these long-term goals of rebuilding this economy so that the issues of environment, of the cities, of education, can be dealt with.

It is not only that the Japanese or the Europeans are putting more capital into the hands of their workers but they are also putting more capital into the hands of workers who benefit from more training, who benefit from more intense education, and who work from a stronger infrastructure basis.

It is the whole together, I think, that is now the issue. Now that we are in the post-Cold War era, the issue really is what is America's number one strategic priority? I submit respectfully that the number one strategic priority of America is rebuilding its economic security.

SENATOR BINGAMAN. Mr. Choate, did you want to comment on any of that?

MR. CHOATE. No. I fully agree. Competitiveness is ultimately a package of measures, and that must be our primary national goal in the 1990s.

SENATOR BINGAMAN. Mr. Barfield, do you have a comment?

MR. BARFIELD. We would probably disagree strongly with some pieces of how you got to that, but you cannot disagree that we need a competitiveness package.

I will say, though, on a more pessimistic note, that what Mr. Courtis and even Pat did not say is that, it seems to me, we are still far from a consensus on that. What is the right combination of strategies. It is not, I think, just a question of the fact that we have a President from one party and a Congress from another.

When you get to the specifics of what you would talk about to induce savings and investment—and you may say that this comes back to a failure of political leadership, without assigning blame in any sort of partisan way—the country is ready to turn from consumption to investment, or to reign in those elements of the federal budget that might free up elements to do other things for investment. Whether you're talking about capital gains tax or something else, you're talking about cuts in entitlements.

This gets back to the issues that you guys face up here all the time. Mr. Courtis sounded a clarion call. When you get down to the nitty gritty you're talking about the individual tax bills and entitlements, and what you do about subsidies or trade policies. That kind of thing. I see no sense, yet, that there is a consensus on that.

MR. CHOATE. May I bring a bit of a more optimistic note? As I take a look back over this century, what I observe is that the policy shifts that come when you're going to have a major shift of national direction do not come incrementally. They literally come almost in a seismic shift. That's what happened in 1913 with Woodrow Wilson and the New Freedom: In 1933, with the New Deal and Franklin Roosevelt; in 1980-81, with the Reagan revolution. You get a package of measures.

It seems to me that we are at a point in our national life where such a shift is going to come. Be it 1993 or 1995 or 1997, it's going to come because it has to come, and we can't run with $400 billion budget deficits.

The question is, is what should be in that package of measures? That, it seems to me, is the real challenge. Is to fill up the intellectual cupboard so that when that time comes that our policymakers and our opinion makers can have agreement because ultimately that shift is going to come because it has to come, because we cannot operate much longer in the way that we are now operating.

SENATOR SARBANES. Perhaps. But I am struck by your discussion on the trade question, which I thought was very sensible. You head it "Adopt Pragmatic Trade Policies."

My perception of what has happened in this country is that, unfortunately, it used to be that we regarded the Europeans as caught up in dogma and ideology, so they would not really deal with the real world in a practical, common sense way. They came with ideological fixes, and that is what they tried to impose. Therefore, they had problems. The United States, on the other hand, was pragmatic and practical.

My perception is that, to some extent, that has reversed itself. You talk about free trade, meaning expanding the open-world trading environment, the basic thrust of which is correct. But how to achieve it, as you point out, with others appearing to play by different sets of rules, is a different problem.

The one encouraging sign that I see is that the implosion of the Soviet Union has offered an opportunity, not heretofore present throughout the postwar period, to radically change where we commit our resources, what burdens we bear, how we reallocate those burdens internationally, and what we do with our resources.

But I think, regarding many of the specifics that Mr. Barfield focused on, where there might be disagreement, the extent of the disagreement is heightened if we do not get this basic framework of changes into proper balance.

I think it is very tough on our competitive industries if they are competing on a playing field that is not level because of the way the other economies are working, in particular because of the government's involvement.

We give the Exim Bank a war chest to try to fight the underwrite, which these countries use in their aid program in order to gain the contracts. Our competitors ask, what can we do? We can beat them on cost and quality, and then they take the contract away from us because their government comes to the bargaining table and says to some developing country, if you give us the contract to develop this communications network for your country, we will give you $50 billion, or $100 million, or $200 million of aid.

You do not want them to do that. But if they will not back out, I think that you have to fight fire with fire, and that is why we gave the war chest.

I'm sorry; Jeff?

MR. BARFIELD. I would like to interject on the trade issue. It may not be popular here, but I think, as to pragmatic ideology, we can defend the trade policy, with both parties as highly pragmatic, since 1945. We have greatly benefited by the multilateral system. We have greatly benefited by trading, by gradually moving tariffs down and then gradually moving to try to do something about nontariff barriers. You would have to go back to the so-called golden age between 1870-1914 to see economies benefiting as much as they have since 1945.

It is simply not true, and it is a delusion to think that our problems are because we do not have level playing fields. We have uneven ways of screwing things up over here, with buy America products and voluntary export agreements, and all kinds of ways that we try to manage trade. Our competitors are saying, you guys are screwing around with the system, too. The point is not to look at the way that people distort trade, but to try to find ways to get out of doing that.

To come back to your point, it is certainly a delusion for the United States to think that if somehow the trade practices of Japan or Brazil or whatever country were changed that we would be more competitive. That starts with the trade balance. Our trade problems in the 1980s, which produced so much discussion, were basically a result of microeconomic factors. And some, you are getting at, and I applaud you in this hearing; that is, that we did not save to cover our investments and expenditures. If you don't do that, the money comes in to help you out. We were lucky to have that. It was not because of some uneven playing field.

SENATOR SARBANES. The difficulty I have with that analysis is that it is searching for a factor, and my view is that there are many factors. Of the many factors, I am sure you would agree with a great number of the ones that I would detail. We probably differ in that I think that the other countries have played the trade rules.

MR. BARFIELD. A minor factor.

SENATOR SARBANES. The PRC has a surplus. Our trade balance is the second largest negative trade balance with the People's Republic of China. Next week, we are going to have testimony from Secretary Molford, required under the 1988 Trade Act, about countries that are manipulating the currencies and trading arrangements in order to gain advantage.

When he reported six months ago, the PRC was highlighted as a nation that was doing exactly that through their licensing process and their currency process. They have gone from a roughly equal trade balance in 1986 to where they are going to have a $15 billion trade surplus with the United States. That is only one example. I can cite others. Taiwan, which had begun to improve its position, is now lapsing back, and I can go through the list for you.

I am not asserting that that is the only cause of the trade imbalance and, in fact, I think that there are other very significant causes. We have been touching, I think, on a lot of those here today as the focus of this hearing. But I do not accept the proposition that that is not relevant.

MR. CHOATE. I would argue that it is very relevant. You see slave labor with the economies, you see child labor, but with the Japanese and the Europeans you see a fundamentally different economic structure. For example, Japanese manufacturers have open access to buy manufacturing capacities, to locate facilities and to sell here. Sixteen percent of our manufacturing base is foreign owned. Less than eight-tenths of 1 percent of the Japanese manufacturing base is foreign owned.

SENATOR SARBANES. Eight-tenths of 1 percent?

MR. CHOATE. We have open distribution systems here. You have exclusionary control distribution systems there. We wind up here where banks cannot own and hold major equity. The banks stand at the center of the Kereitsu relationship inside Japan. So what we are really seeing here are economies that are fundamentally organized differently. It has a major effect upon not only trade, but investment as well.

It seems to me that our challenge, now that we are freed up from the Cold War, is one of three things. One, we ignore the differences, but I think it will cost us greatly. Second, we attempt to bully the Japanese and others into being like us, which is going to cause enormous frictions and I think is most inappropriate. Or, third, we find a way to deal with them as they are and not as we want them to be.

The objective is to expand trade, not to impose a free-trade model. We equate free trade with expanding trade. We can get expanding trade in ways other than free trade. If the Japanese and Korean and Taiwanese economies are not structurally possible of having free trade, then the question for us pragmatically is to figure out a way to expand trade with them.

SENATOR SARBANES. Mr. Courtis, you said in your statement that you expect Japan to surpass the United States as the world's largest economy in the next decade. Then you said that that would, perhaps, leave the United States as the leading political power, but it would mean that America would have slipped to second place as a world economic power.

I have to say I have my doubts about how long you can remain the leading world power if you have lost your economic position—particularly in a world which hopefully appears to be changing in the direction where military power will be less relevant, because you do not confront another hostile superpower in which you then assume the leadership of the other block in containing that superpower.

If that position fades, it seems to me that the competition in the future is going to be more and more in the economic arena, or at least that is going to be an essential underpinning. I am deeply concerned that the United States has moved from being a creditor to being a debtor nation, beginning in the late 1970s and then intensifying through the 1980s, with these large trade imbalances. It is hard to stand tall in the saddle if you owe money to everybody you see as you ride into town.

I think that we find ourselves in that position, so I have a little more concern about this than the "perhaps" comment would indicate in your statement. Do you have any reaction to that?

MR. COURTIS. I agree totally with you, Senator. I would go further and say that if this were to happen, we would be setting ourselves up for a great deal of instability in the world, because my view of the way things are evolving is that it is not obvious that we can depend on Japan, at this juncture, of being willing and ready to step in and assume a political center of gravity for the international political system in this eventuality.

Indeed, were they to step in they would, of course, do it on their own terms and with their own values, and America would have to deal with that. America would have to deal with the issue of control, where an increasing element of control over major strategic decisions about technology, industrial base, financial decisions would be made elsewhere.

Small countries have had to deal with that. My country, Canada, lives with that. Belgium lives with that, but they don't have the pretension and they don't have the responsibility of being the ballast for the international political system. So, if we get ourselves into that situation, then what could become a golden era with the end of communism could very quickly slip through our fingers and, like in a fog, it would be difficult to find that opportunity again.

That's why I think it is so fundamentally important for America—and I say that as a non-American—to address this issue today, because, in a sense, what is going to happen through the mid-1990s is already decided. It is already in the pipeline. So, if America does not address this issue and turn the ship of state in a new direction from an international competitiveness perspective, the next decade will be over before it begins.

SENATOR SARBANES. I think that that is a very perceptive point. I heard Shirley Williams speak on this issue, and she said that no one but the United States could play this leadership role. No one else. The other countries do not want to play it, as a general proposition, and, if they tried to play it, they would get a negative reaction from a number of other countries.

It is interesting now that the Europeans want the United States to continue its presence in Europe because they perceive it as an important balance in that environment. My own view is that the American people are prepared to meet that responsibility, but it has to be in a context that is broad enough to encompass meeting what they perceive to be our domestic needs as well.

In other words, I do not think that there is a strong "America first" sentiment, but there is the notion that America ought to be equal. Our own domestic needs need to be addressed at the same time that we meet our international responsibilities. If we fail to meet the domestic needs that we have been talking about today, we will lose the capacity over time to meet our international responsibilities.

Domestic and international responsibilities are interrelated, and our ability to address the competitiveness and productivity questions here at home, these investment questions that you are talking about, are directly related not only to our own internal standard of living, but our ability to help sustain a peaceful and prosperous world environment in which to move forward.

Gentlemen, we thank you very much. It was a very helpful panel, and we appreciate it. The Committee stands adjourned.

[Whereupon, at 12:15 p.m., the Committee adjourned, subject to the call of the Chair.]

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