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"MEN AT WORK" SIGNS OF TROUBLE FOR YOUNG MEN TODAY

HEARING

BEFORE THE

JOINT ECONOMIC COMMITTEE CONGRESS OF THE UNITED STATES

ONE HUNDRED SECOND CONGRESS

SECOND SESSION

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"MEN AT WORK"
SIGNS OF TROUBLE FOR YOUNG MEN TODAY

FRIDAY, SEPTEMBER 4, 1992

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

The Committee met, pursuant to notice, at 10:46 a.m., in room SD-620, Dirksen Senate Office Building, Honorable Paul S. Sarbanes (chairman of the Committee) presiding.

Present: Senator Sarbanes and Riegle

Also present: Lee Price and James Klumpner, professional staff members.

OPENING STATEMENT OF SENATOR SARBANES, CHAIRMAN

SENATOR SARBANES. The Committee will come to order.

The second hearing this morning, American Workers At Labor Day 1992, is intended to examine the trends and prospects for U.S. jobs and incomes.

As we discussed at the previous hearing, which just took place when we received the employment and unemployment figures from the Bureau of Labor Statistics, the Nation's jobs and earnings still seem mired in a recession.

The wagon is really still in the ditch.

Before that recession began more than two years ago, however, much of the American labor force was feeling intense pressure and indeed distress.

Two days ago, the Joint Economic Committee released a study done by the Majority Staff on trends and trend earnings over the last four decades.

It shows that the terms of the American dream have changed significantly for most American men. Young men make significantly less today than two decades ago.

In addition, until the seventies and even more so in the eighties, men of all educational levels saw significant income gains virtually until retirement.

In other words, if you go back to the fifties and sixties and plot the expectations and what happened to people, you could anticipate improvements in your earnings virtually over the course of your working lifetime.

Today, those without a college degree, some three quarters of all men, 75 percent of our population, cannot expect income gains much beyond the age of forty. They start out, they get some improvement in their earnings situation. It then seems to reach a plateau, and then beyond forty it in fact starts to fall..

Ideally, incomes should be rising for everyone, even as the nation maintains a strong trade balance. Unfortunately, in the United States, not only has the typical worker's income not improved, but the Nation now runs chronic large trade deficits.

In fact, we have gone from being a creditor nation in the mid-eighties to becoming a debtor nation, and our debtor status has worsened with each passing year as we continue to run large trade deficits.

SENATOR RIEGLE. If you'll yield, just on that point. The numbers, just since 1980, are that our cumulative trade deficit with the rest of the world is now $1.2 trillion. I mean, it is absolutely a breathtaking number. And we'll add probably $65 or $70 billion more in trade deficit just this year.

SENATOR SARBANES. The contrast with our major industrial competitors, Germany and Japan, could not be more stark. Both have managed to provide significant income gains for the typical worker, and at the same time they have strengthened their trade balances.

In fact, if you compare real compensation per hour—this is sourced from the OECD—from 1977 coming forward, you can see that the United States has stayed at about level, which comports with the median income figures that we were talking about earlier. And both Germany and Japan have had significant improvements in real compensation per hour over this fifteen-year period.

Now, how do they accomplish this? What is it that the Germans and the Japanese are doing that enables them to have that kind of performance?

There are, of course, many differences amongst our three economies.

Some have argued that Germany and Japan develop better skills in their work force through their systems of education and employer training. In effect, they compete through high skills, where we have tended to compete more through low wages. In fact, a successful high-skill strategy can deliver high wages, while a low-wage strategy tends to accept low skills. Of course, that is part of the thrust of the *Fortune* article: "Why the shortage of high-wage jobs threatens the U.S. economy." This article underscores that.

It says, solid middle class jobs, the kind that allow a single worker to be the family breadwinner, have been disappearing in record numbers, and are being replaced, more often than not, by lower wage jobs, many of them astonishingly inadequate.

Suddenly, millions of Americans worry not merely about staying employed, but about staying employed in jobs that will support anything close to their current standard of living.

SENATOR RIEGLE. Would you just yield, at that point, for a moment?

I think it's significant that this article in *Fortune Magazine*, which is one of the leading business journals, wasn't quoting somebody else.

What Senator Sarbanes just read is their conclusion, their commentary, after going out and studying this issue at great length. They've come back and said that.

But it relates to a point that Lester Thurow from MIT said to us the other day in a hearing in the Banking Committee, where he drew that relationship between this reliance on a low-wage strategy.

Now, President Bush wants to go into this free-trade agreement with Mexico, where Mexico is genuinely a third-world economy, with third-world wages, workplace and environmental standards. The 50-cent-an-hour wages in Mexico will create a situation in the American workplace where, according to Lester Thurow, fully a third of the American work force, unless they go through a massive education and training program in order to get up to an entirely different level of high skill, is going to have to compete directly against Mexico labor, which is earning 50 cents an hour.

In other words, you're going to have a major impact on a massive core of the American economy with this low-wage strategy when you now introduce it into a free-trade agreement with a third world country. It is going to have a devastating effect on job base.

I also see that happening, by the way, in the high-skill area. Because I see that Ford, Chrysler and GM have already taken and located over 70 auto plants of one kind or another in Mexico, even without a free- trade agreement. So we're losing even the high skilled jobs to Mexico.

But the danger of a massive wipeout of jobs is far greater because of precisely this, I think, unsound job development track that America has been on for the last several years.

I thank you for yielding.

SENATOR SARBANES. We are pleased to have our three witnesses here to discuss job and income trends.

Ira Magaziner has worked with ex-Secretary of Labor Ray Marshall on a project that draws on experiences abroad, to propose a high-skill\high-wage path for the United States.

Larry Mishel, the Research Director of the Economic Policy Institute, is the co-author of a book soon to be released, in fact, I think next week, if I'm not mistaken, entitled the *State of Working America*. And I have heard very good advance reports about the book.

Finally, we will hear from Morgan Reynolds, a labor economist at Texas A&M University.

Gentlemen, we are pleased you are here. We'll include your full statements in the record, as submitted to the Committee.

The earlier hearing ran on somewhat longer than we had anticipated, and if you could hit the high points and summarize your statements in about ten minutes, we would very much appreciate that. We do want you to be able to make the points that you want to make, but it would be helpful.

We will hear the entire panel first, and then have a question session directed to the panel.

Let us begin with you, Mr. Magaziner, and then move right across to Mr. Mishel and Mr. Reynolds.

Please go ahead, Mr. Magaziner.

STATEMENT OF IRA C. MAGAZINER

MR. MAGAZINER. What I'd like to focus on today is not a recitation of the problem, because I think we are all too aware of the problem, but rather to focus a little bit on what I see as potential solutions to the problem.

The first thing we have to understand is that the problems we're suffering now, although they're made worse by the recession, will not be solved simply by recovery from this recession.

The fundamental underlying problem that we've had, that has led to a decline in wages and the threatening of jobs, is the fact that productivity in this economy has been going up at less than 1 percent a year for almost 20 years now, on average. And it's been particularly poor over the past couple of years.

And unless productivity improves at a faster rate, it's going to be very difficult to improve living standards over the long term.

Now, there are many things that contribute to productivity improvement. I'll just dwell on three where I think the government has a particularly important role to play.

One is the people, how well people are educated and skilled. Second is how strong our technology base is. And the third is how modern our infrastructure is. And if I can just make a couple of comments about each of those.

SENATOR SARBANES. Now, that is, how well our people are educated, and how strong is our technology base.

MR. MAGAZINER. Yes, the educational skills, technology base, and the third is our physical infrastructure.

Fundamentally, what improves productivity over the long term is when your workers are becoming more skilled, when they have better tools to work with, a better technology base supporting them, and when the physical infrastructure can support the improved productivity in the economy.

Let me just throw out a couple of suggestions about what to do to improve in each of these areas.

With respect to the education and skill base in the country, we need to take the following steps:

We need to create a lifelong learning system in this country that makes sure, from very early on, that kids start off with an even chance. When we have one out of every four children being born into poverty in this country, and when we can't afford to waste any one of them in terms of their future potential contribution to this economy, it means that we need, from very early on, to have serious investment in parenting programs, in child nutrition, in fully funding Head Start, in trying to add funds to Chapter One programs that can have the kind of small classes and small school sizes in the elementary years that are particularly important for kids from disadvantaged backgrounds.

We need to be able to reach out and integrate social services better into the schools for those kids.

We need to have educational standards in our schools that allow us to measure our accomplishment and provide a quality control system on the educational system.

We need most importantly to have a system of education and training for those who are not going to go on and graduate four-year colleges.

We do a reasonably good job in this country educating the 25 percent of our people who graduate four-year colleges in relation to other countries. We do a lousy job with the other 75 percent.

What we need is to focus on developing professional and technical programs for those students who could be modeled on the type of two-plus-two program which now have begun to exist in a number of states, where we provide serious apprenticeship training, serious professional and technical training for those who are going to go directly into the work force and not graduate four-year colleges.

And finally, we need a serious universal program to provide incentives for retraining of our adult work force.

While we spend $300 billion a year in this country educating people between ages six and twenty-one, we spend only $30 billion, 10 percent as much, educating people and training them between ages twenty-one and sixty-five.

So we assume that you've learned 90 percent of what you need to know by the time you're twenty-one, which, if it were ever true, is not going to be true in the future.

What's worse is that we spend over 70 percent of our adult education training money on the already college-educated.

So basically we have perpetuated the system that is geared towards educating——

SENATOR SARBANES. I missed that point. We spend what now?

MR. MAGAZINER. Over 70 percent of the total that we spend on adult education and training in this country, the $30 billion that we spend, is spent on the already college educated. So it is spent on the relatively small percentage of our people who are already graduates of colleges.

SENATOR SARBANES. And is that in sharp contrast to other countries?

MR. MAGAZINER. In sharp contrast to other countries, yes.

SENATOR SARBANES. Germany, Japan——

MR. MAGAZINER. We studied six other nations in detail: Germany, Japan, Singapore, Denmark, Sweden, Ireland.

In all those countries, they have serious professional and technical programs for those who are not going to graduate four-year colleges. They put a tremendous emphasis on school-to-work transition programs that better educate those people. And they also put a much more serious emphasis on training of adult workers, not just displaced workers, although that needs to be done, but general programs to upgrade the skills of all the workers in the economy.

And what we have, unfortunately, is that we have been moving more towards a really elitist kind of educational system, where, if you're from a good family in terms of economic background or educational background, you can basically get a good education in this country. If you can afford to pay for it, or if you live in those neighborhoods where the local tax base can afford to pay for it, then you can get good education.

If you don't, and particularly if you're from a disadvantaged area, you start out with almost three strikes against you from the time you enter school.

And then what we do is we start tracking kids, whether we ever admit it or not, we start tracking kids when they get to high school. Kids are asked to declare, are they going to go on a college path or a general curriculum or voc path.

And then too often we start treating those kids that chose the voc path or the general ed path as second class citizens, and they don't get the serious attention that those going on to college get.

And then we spend, on average, about $5,000 a year per pupil of public money on kids going to college, whereas we spend only $50 per student for those who don't go to college, and then that gets perpetuated into the adult work force where we train only the college educated.

SENATOR RIEGLE. The thing I'm struck by is that these other countries, which have this different pattern that you've just laid out, it seems to me that they accomplish two goals at once.

Number one, they have a stronger economic performance. And we're seeing that in terms of not just the general economic enrichment of the country, but also there's more equalitarianism. It's generally a fairer system because everybody has a chance to participate more fully and to come closer to achieving their own personal level of potential throughout their lifetime.

And so both are very attractive reasons to go to an Americanized strategy of that kind.

MR. MAGAZINER. Exactly. I think, in a sense, they're being able to live the American dream better than we are, because the American dream always said that through hard work, and if you're willing to apply and educate yourself, and so on and so forth, you can move ahead no matter what your background, that you don't have to be born an aristocrat to advance.

Unfortunately, in this country now, the way we're going, very often, if you're born into poverty or if you don't have those initial advantages, your fate is sealed. And I think what is crucial to understand here is that increasingly in the future, in the way we organize our private-sector economy, we're going to be moving towards types of work organization that depend upon better skilled and better educated front-line workers. So we're going to get away from the world where all a worker does on the assembly line is to screw in four bolts eight hundred times a day, and do their job and collect their paycheck.

Increasingly, workers on the front lines are going to have to understand how to use computers, how to do statistical quality control, how to work in teams to solve problems, how to maintain machinery, how to be multiskilled. They're going to have to be much better educated and skilled to earn a high living standard.

So basically we are shooting ourselves in the foot by not educating the majority of our people up to the kinds of levels that are happening in Germany or Japan, or I would add, even Singapore or Korea now. And that's going to take hold unless we do something about it.

In the interest of time, let me run through the other two pieces very quickly.

The second factor that contributes to productivity is the technology base that we have.

There has never been, in recorded history, a world economic leader who was also not a world technology leader. Right now, half of our technological expenditures in this country come from the Federal Government, over $76 billion a year. Most of it is still directed towards defense, some towards energy and other areas.

Real R&D spending in this country has been going up at a much, much slower pace for over a decade now than in other countries with whom we compete.

And in those other countries, the public sector plays a supporter role to industry in helping industry-led programs for long-term technology development.

We don't do that in this country, and I would suggest we need to do that if we're going to get our productivity rates up and be competitive.

So I think we need some type of public programs to support the development of commercial research and development. I would suggest that out of the $76 billion we spend on Federal Government R&D now, if we were to take something in the neighborhood of about $10 billion a year of that amount, which would allow us to match what the Europeans are doing, and put that amount into the support of commercial research and development, we would get some potential productivity improvement from that endeavor, in the long run.

The final area has to do with infrastructure. And here I would like to sound a warning, as well as provide the opportunity.

We are embarked upon a reduction in our defense spending now, which is appropriate, given world conditions. But if we continue on the path that we are now on, we are going to lay off about a million and a half people who are directly employed now in defense. There's going to be a multiplier of about three times on that, which means somewhere between five to seven million people are going to lose their jobs, mostly high-paying jobs, in the next four to five years.

Right now, all we have for adjustment is a handful of training programs and other kinds of small incentive programs that are going to address, by no means, the problems that are going to be created by those defense layoffs.

And if we're not careful, what we're going to do is take an already vulnerable economy and really put it into the toilet by what we're planning to do.

Now, there's a solution for this. And the solution has to do with investing in our infrastructure in a way in which both will enhance our overall productivity and also provide a smooth transition for people from laid off defense plants.

Up until about fifteen years ago, we had the most modern physical infrastructure in the world. Our transportation, communications, and energy and environmental systems were the best in the world.

We have cut our investment dramatically during that period, particularly the federal portion of our investment. And, as a result, other nations now are developing more modern infrastructures than we have.

It has long been recognized that, going back to Adam Smith or back to George Washington, who were very interested in the development of the inland waterways in Virginia and so on, physical infrastructure needs to have public-sector involvement, because the paybacks are too long for the private sector to do on its own.

Now, the real match here is that, if you look at the infrastructure needs that we have for 21st century infrastructure, transportation—I mean, high speed rails, intelligent highways, fiberoptic broad band communications systems, modern recycling systems to replace the solid waste dumps that we have now, the combined sewer overflow systems that are now over a hundred years old in eleven hundred of our cities, modernizing those pieces of our infrastructure—the skills required to do that are very similar to the kinds of skills that we're now laying off in our defense plants.

If you look in my home state, Rhode Island, at the kind of metal working skills that we have—making submarines, high pressure welding—they are precisely the kinds of skills that you'd need to make the rails for high speed rail, or the kinds of skills you'd need to make the tanks for combined sewer overflow systems, and so on.

The kinds of electronic guidance skills we have for weaponry are exactly the kind of electronics guidance skills that you would need to develop a high-speed rail system or an intelligent highway system.

And I could go through a whole long list.

SENATOR SARBANES. Let me just add, because I have had some experience dealing with industries in my own state, people who are doing radar for military purposes can just walk right over and start doing radar for civilian purposes, in order to upgrade the air traffic control system at airports all around the country, which desperately need it.

MR. MAGAZINER. Exactly. There are lots of examples like that. And I think that what's needed is a system where we increase the funds that we're taking out of defense now and shift them over into stimulating an infrastructure investment program.

For example, we take $20 billion a year out of what is now defense spending or defense cuts and use this amount to stimulate a program where local municipalities, states, private investors could develop programs, raise some of the funds themselves, and then be able to have access to some of the federal funds on a revolving loan basis or a matching grant basis, and therefore be able to decentralize the decisionmaking on the development of these projects. Next, the Federal Government would say, we're going to support, maybe, ten high-speed rail systems or fifty combined sewer overflow systems, or whatever, and stimulate people in local environments to compete for those. Then, those projects would be let out to the private sector, to build and to manufacture for, with just two stipulations.

One stipulation being that they would have to show, as part of their bid, how they were going to pick up or use an existing defense facility, either subcontract to it or buy it outright.

And, second, a certain piece of the manufacturing would be done by people who are coming off of welfare in a welfare-to-work program, so we can provide some assistance to our poorer areas in the country.

And then you can use the user fees from these projects to help create a revolving fund to help pay back the investments, so you could create a longer term investment fund here.

Now, if you do this, you can get a smoother defense conversion, number one.

Number two, you can modernize our infrastructure which is crucial to our productivity development as a nation.

Number three, you can help stimulate new manufacturing industries, the companies that would be making the equipment and the goods that are needed for these infrastructure products, much as the Federal Highway Program in the fifties stimulated our construction equipment industry and our engineering industries.

And then, fourth, you could develop local sources of investment that would then be able to be on-going as these revolving funds churned themselves over the years.

SENATOR RIEGLE. Let me just say to you there, and I'll just take a minute because we have all three of you to hear from, I think you're exactly right. There can be little refinements on the margin, but that's a sensible, intelligent strategic economic plan for the country.

And, as you point out, other countries have done this. And they've done it earlier than we have, and so they're ahead of us now, making——

SENATOR SARBANES. We haven't done it at all.

SENATOR RIEGLE. No, we haven't done it. They've done it, and so they're out ahead, and we're still flopping around here.

But the problem is, when that issue is posed, you run into kind of a philosophic fork in the road. In a sense, you're saying this problem is so big, it's so national in scope, that government and the private sector really have to think and work together.

That's what I'm hearing you saying. We have to have a team approach. I call it a team America approach, where business and government and labor sit down and fashion an aggressive adjustment economic growth strategy.

But there are some people, even after the disaster of the economic performance of the eighties, who will argue that if government, in any way, shape or form, is involved, even in a discussion of this sort, that somehow or another we're going to come out worse off than we are if we sit down and talk with them.

Now, I think that's crazy. But the point is, somehow we have to vault over the objections of people who are philosophically set in their mind. And basically it is the extreme free-market approach where they say, just let nature take its course and eventually, it may be dog eat dog, but finally we'll end up with the best result.

I think all the evidence is to the contrary, which is causing us to fall behind.

MR. MAGAZINER. If you'll look at what I've proposed, first of all, I'm a believer in markets and I'm a believer in a private enterprise system.

SENATOR RIEGLE. So am I.

MR. MAGAZINER. So I'm not proposing that the government, in any way, try to dictate investment or take over the country by any means.

SENATOR RIEGLE. That's right. Nor am I.

MR. MAGAZINER. Throughout our history, going back to colonial days, it has been accepted that the government has a role to play in education, and that there is a role for a public education system.

And it has been accepted that government has a role to play in the building of the basic infrastructure, the transportation, communication, waste disposal infrastructure. And we could name most of our great presidents who significantly added to that, both Democrat, Republican, Whig, however far you want to go back. They recognized that role, and it has long been established in economic theory, even going back to Adam Smith who was the champion, after all, of markets, but acknowledged that the government had a role to play in infrastructure development.

The only thing that would be without that kind of long historical precedent would be what I've proposed on a technology policy.

But even here, we have had, since the early fifties, a long-time science policy in the country, which we recognized was necessary. And I think there's a growing body of evidence that broadening that policy to include a technology policy, because there are so many externalities involved with long-term technology development, is something which can be an assistance of the market, rather than in some way replacing the market.

And don't forget, you already have a situation where the Federal Government spends half the R&D dollars in the country. So it's not something where we're saying, increase the federal role. We're saying, take some funds that we now spend on defense R&D, and recognize the shift that is taking place in what's important to us in the world, and put it in support of commercial R&D.

The final argument that I'd make is that we stand alone in not doing these things. Virtually every other government in the world, whether run by conservatives, liberals, social democrats, have recognized the value of policies like this, and have done so for many years.

The Japanese Government and the German Government have been conservative governments for a long time. And they have backed the kinds of technology policies, major infrastructure investments, and federal role and state role in training, that I am suggesting.

So it should not be an ideological issue.

[The prepared statement of Mr. Magaziner follows:]

PREPARED STATEMENT OF IRA C. MAGAZINER

America is at a crossroads. We can choose an economy that relies upon low wages, or we can create a high wage economy by building high performance work organizations and the high skills needed to sustain them. America has been making a silent choice for the low wage path.

Productivity improvement is the engine that drives living standards long term. Since 1973, U.S. productivity has risen at only one percent per year. It now takes nearly three years to achieve the same productivity improvement we used to achieve in one year. Because of this downturn, real weekly earnings have fallen by more than 15 percent since 1969, with the greatest decline affecting the bottom 70 percent of our workers.

If U.S. productivity continues to falter, real income will continue to drop.

Though many factors contribute to productivity improvement, I will focus on three important ones which require government leadership:

- People who are well educated.
- A strong technology base.
- A modern infrastructure.

PEOPLE WHO ARE WELL EDUCATED

We are entering a new era where the wealth of nations will be determined not by military might but by commercial competitiveness. And success in that economic competition will depend not on the brilliance of a select handful, but on the productive capacity of all the people. The policies that made America rich when strong backs, long hours, and simple routine could produce a good day's pay simply won't do the job in a world where workers must use computers, exercise judgment, and work in teams.

High Performance Work

The organization of America's work places today is largely modeled after the mass production system made famous by Henry Ford in the early 20th century. The premise is simple: Complex jobs are broken down into a myriad of discrete, simple tasks, which workers repeat continuously.

From the turn of the century through the 1960s, the United States prospered under this system, creating millions of new jobs for immigrants and farmers migrating to the cities. With our vast domestic market encouraging more capital investment, mass production helped make the United States the most productive, richest and largest manufacturer in the world with the largest middle class of any nation. Success in manufacturing caused the principles of mass production to spread to the service sector -- to our hospitals, banks, retail stores, and schools.

Under this model of work, most employees need not be highly skilled. It is far more important that they be reliable, steady and willing to follow directions. By limiting work to short cycles that are repeated hundreds of times a day, workers learn how to perform the tasks more quickly and effectively.

The system is controlled centrally by managers, planners and supervisors. This group does the thinking for the organization, interacting with customers and suppliers, designing products, determining production, planning strategy and budgets and motivating and disciplining workers on the line. An extensive hierarchical supervisory structure with elaborate administrative procedures allows management to control those employees who actually "make" the product or "provide" the service.

As the new century approaches, the old work organization will not support a high wage nation like the United States.

Today, customers are prepared to pay higher prices for quality, variety and immediacy. To succeed in the new global marketplace, high-wage nations can continue to earn higher wages only by producing the highest quality goods and services, providing greater product choice, introducing new products more frequently, and creating automated systems that are more complex than those that can be operated in low-wage countries.

Increasing variety and immediacy complicates production; the number of tasks to be performed by front-line workers increases exponentially, and the tasks change frequently.

More planners are needed to develop procedures for new product introductions and more schedulers are needed to schedule greater product variety. As more automation is used, more set up time and maintenance people are needed. As quality requirements increase, more checkers are needed to check the checkers already in place to assure quality. To control all this, administrative guidelines, rigid preplanning, work procedures and service functions multiply until bureaucracy overwhelms efficiency and quality. The system becomes inflexible, cumbersome and slow to respond.

There is an alternative. Over the past decade, organizations in the United States and abroad have moved toward high performance work. The guiding principle of this system is to reduce bureaucracy by giving authority for a wide range of tasks to front-line workers. Workers are asked to use judgment and make decisions. Management layers disappear as front-line workers assume responsibility for many of the tasks that others used to perform -- from quality control to scheduling.

This type of work reorganization requires investment in education and training. Workers need to be educated in order to function in the high performance work place. They need to be multi-skilled to perform a variety of tasks and to assume increasing responsibilities. Supervisors also need to learn a new style of management. As front-line workers learn to supervise themselves and monitor their work, middle-level managers must move into the role of a coach, sharing information with workers.

As employees' responsibilities are redefined, their pay levels often rise to reflect their new qualifications and increased capabilities. The productivity and quality gains — together with the savings derived from a reduced administrative bureaucracy — more than offset the costs of higher wages and skill development. Lower costs are achieved by reducing overhead, lowering inventory, and reducing mistakes and rework.

Whatever the industry or institution — from factories to offices, schools to government agencies — these new work organizations share the following principles:

- Organizations are goal oriented. There is a strong emphasis on a common mission and an institution-wide focus on continuous improvement.

- Authority and responsibility are decentralized. Managers or administrators develop objectives, but front-line workers determine the means to achieve those objectives.

- Front-line workers, independently and in teams, suggest and formulate policy, as well as process and product improvements, and are instrumental in solving problems. Strong communication exists at all levels and is streamlined by flattening the organizational hierarchy.

- The work environment and work schedule are redesigned. The work place is often cleaner, roomier, brighter, with work stations and equipment situated for better communication and interaction. Rigid scheduling is replaced with flexible blocks of time to permit intensive work on a single task, team planning and team teaching.

- Work is defined as an entire job rather than discrete tasks. Front-line workers use judgment, make decisions and have responsibilities beyond specific functions.

- There is a higher ratio of direct front-line workers to indirect managers or administrators.

- Many indirect functions are assigned to direct workers. Within a team, employees handle their own scheduling, inventory, minor maintenance, resources, personnel issues and quality. Indirect workers' jobs are redefined. Supervisors, managers and administrators coach and support rather than discipline.

- Technology no longer drives the process, but assists workers in performing their jobs. Workers, not machines, control the pace of work.

- Jobs are flexible. Through education and training, workers have the ability to perform a variety of jobs. Rotation may be spontaneous or managed to balance workloads. Employees are allowed to take initiative and work collaboratively.

- Seniority compensation is often supplemented with compensation based on skills, knowledge and group performance.

By organizing work under these guidelines, companies have improved quality, productivity and customer and worker satisfaction.

There are examples of companies that are beginning to function as high performance work organizations. In most cases, these are our best and most productive companies. A few good examples are not enough. We need to learn from those institutions that have taken steps toward high performance work, and provide incentives for others to move in a similar direction.

Our Education Challenge

If we are to meet the needs of the high performance workforce, we must create a human investment system to educate and train Americans from early childhood through their adult working life. Our success in developing the world's preeminent learning system will be the most important factor in determining our future standard of living.

In the nineties and beyond, what we earn will increasingly depend on what we can learn, and on how well we can apply what we learn in the workplace. A college graduate joining the labor force this year will earn 70 percent more than a high school graduate. The earnings of younger workers who dropped out of high school, or who got no more training after finishing high school, fell by more than a fifth over the last 10 years.

Despite the importance of education and skills, we are failing to provide adequate training to the majority of our people.

- Millions of our children arrive at school already behind because of parental drug or alcohol addiction, poverty or the lack of a stable home environment.

- Over 25 percent of our students drop out before finishing high school.

- The majority of our students who do not go on to four year colleges have few options to gain skills relative to their counterparts in other nations.

- Many qualified students are finding it harder to afford a college education as costs skyrocket and available financial aid fails to keep pace.

- America under-invests in adult training programs, compared to other nations.

World Class Educational Standards

We need to set and meet world class standards. Today we have an educational system that too often moves people up the ladder whether they study or not, and dumps people into the workforce whether or not they have the skills it takes to succeed. We're too soft-hearted to make kids meet tough standards. We worry that flunking tests bruises their self-esteem. But it's a lot crueler to let them remain uneducated, and live poor.

We must develop a meaningful national examination system. The exams should be benchmarked to match the best in the world. The standards we set shouldn't be used simply to measure results. They should be used to increase expectations, and to give schools incentives to improve students' performance.

It is just not true that only our most gifted students can do demanding work. Our competitors all around the world know that it's effort, not ability, that matters most for educational achievement. That is the real lesson of the outstanding results achieved in inner-city poor and rural schools by remarkable teachers.

All over this country, when parents and teachers and administrators challenge American kids to do their best, they come through with world class performances. It is not a question of <u>their</u> ability. It is a question of <u>our</u> commitment.

A Level Playing Field for All Children

Our second educational challenge is to make sure that all of our children start out on a level playing field, because national standards can't be fair unless we do. We have to work hard to see that every American school has a challenging, rich curriculum, that every teacher has the opportunity to develop the skills that he or she needs to teach well.

In the past, the poor, minorities and immigrants have too often been victims of a system which held them to lower standards than others and provided fewer opportunities. Too often, less is expected. Less is provided. We shouldn't be surprised when less is delivered.

We've got to fix that. Fortunately, we know how. For starters, study after study shows that the Head Start program pays off big. Surely a country that found $500 billion dollars to bail out the savings and loan industry can find $5 billion dollars to fund fully the Head Start program. Surely we can carry out the recommendation of the National School Readiness Task Force to enable states and localities to offer prenatal care, day care, and family support services that can prevent learning problems and equip children to make the most of school.

Surely we can provide more funds for the Chapter One program, so that we can have smaller classes in the early grades for poor and disadvantaged children. There is now ample evidence to demonstrate that class sizes with 15 children to one teacher in the early grades can produce measurable and lasting gains, which increase the chances of poor children staying in school and succeeding.

Increase the Graduation Rate

We should launch an all-out effort to increase our high school graduation rate to 90 percent by the year 2000. Nearly a quarter of our high school students fail to graduate on time. In some cities the drop out rate is 50 percent. These dropouts are doomed to a series of low skilled, low wage jobs, or a life on the outskirts of society, which often leads to crime and prison.

It's no wonder we have the highest incarceration rate in the world and spend more money to keep people in prison than to send them to college. We need to make something of the lives we're wasting.

Some kids are going to drop out no matter what we do. We can't just write those kids off. We should form a youth opportunity corp that would recruit young high school dropouts for a year or two, pay them entry level wages, and help them develop self discipline and productive skills. Since we're scaling back our military forces as the Cold War ends, why don't we make the most of the training facilities and the expert personnel in our military -- the best training ground on earth -- by using them to teach in the youth opportunity corp?

A youth opportunity corp would give dropouts the opportunity and the discipline to complete their high school diploma at the same standards as everyone else and a second chance to earn a decent living.

A National Education Trust Fund

No American who is qualified should be denied the opportunity to pursue further education after high school due to inadequate financial resources. Pell Grants should be retained, but we ought to scrap the existing student loan program. We waste over $3 billion dollars yearly on loan defaults and $1 billion dollars in bank subsidies every year. We should replace it with an education trust fund.

This trust fund would give every American, regardless of income, the right to borrow the money to finance a college education. But a student would have to be willing to pay the money back as a small additional percentage to their income taxes.

A National Apprenticeship Program

We should challenge American business to help Americans develop skills in the work place. Something's wrong with a country that strips the dignity from blue collar work by permitting younger workers with a high school diploma to watch their earnings drop 20 percent over a decade.

America still has a good college system, and we should cherish it. But no more than 25 percent of the kids in any age group in any country in the world graduate from four-year colleges. Increasingly, the skills of the other 75 percent will determine whether we succeed economically as a nation.

Today in America, we often pay too little attention to those not graduating from college. They live as second-class citizens in our schools. By contrast, in Europe, serious professional, technical and apprenticeship programs exist for the non-college bound, to provide a high quality education and a smooth transition from school to work.

I propose to engage industry and our schools in an effort to create industry- certified apprenticeships where students can pursue 3-4 year programs starting in high school and continuing at community colleges or technical schools to advance their education and skills so that they are prepared to enter the high performance work world of the future.

Industry associations will help define the standards for these programs. They will be asked to provide work-based learning opportunities and part-time summer jobs for students enrolled in the programs. And they should give preference in hiring to students who complete the course. The education trust fund I proposed earlier would pay for students wishing to enter apprenticeships.

Today, college may seem the only path to success. We need to change this. We must provide multiple educational options leading to success. A national apprenticeship program will provide that opportunity for the neglected majority who do not graduate four-year colleges.

Worker Training

Most other developed countries require companies to contribute to universal worker training systems. We do not. As a result, many U.S. companies do not invest in worker training because they fear that trained workers will leave them, preventing them from realizing the return on their investment.

Inducements should be provided for U.S. companies to train their workers or to contribute to public efforts to train adult workers in general.

Creating a broad based system for training in the U.S. would encourage companies to move towards high performance work and would help equip our existing workers to continue to increase their earnings to retirement.

A STRONG TECHNOLOGY BASE

Since colonial days, one of the reasons America has prospered is our knack for using scientific knowledge to create commercial products. Americans have always been a practical people. Maybe we didn't always pioneer the basic science. But we used to hold the lead in putting science and technology to real-world uses.

More recently, we have been strong scientifically, but we seem to have lost a lot of our talent for converting science into products. Too often, we have won the battle of claiming patents, but lost the war of creating wealth.

Here are some examples of what I'm talking about.

- American scientists at Raytheon invented the microwave oven. But today, it is Korean and Japanese companies who produce 90 percent of the world's microwave ovens – including most of the microwaves in American kitchens.

- American scientists at RCA invented the color television. But today, European and East Asian companies produce over 97 percent of the world's color televisions, including 85 percent of the TVs Americans watch.

- American scientists at Ampex invented the VCR. But today, Japanese, Korean and European companies produce over 99 percent of the world's VCRs including virtually all of those bought by Americans.

- American scientists funded by the Defense Department invented the numerically controlled machine tool. But today, European and Japanese companies produce over 75 percent of these machines, including six out of ten machines at work in American factories.

- American scientists at AT&T's Bell Labs and at Texas Instruments invented the basic technology that led to the world's first memory chip. But today, Japanese companies produce over 80 percent of the world's memory chips, including over 50 percent of those bought by American companies.

- American scientists backed by NASA sent the first commercial communications satellites into space. But today, a European company called Aerienne Espace has over half of the commercial space launching business.

- American scientists at Bell Laboratories first invented the solar cell to convert sunlight to electricity. But today, Japanese and European companies have well over 70 percent of the world market.

- American scientists at IBM first invented high temperature superconductors, just six years ago. But today, the Japanese are already ahead in commercializing products from this new technology.

I am afraid that I could continue this list for pages. There are cases where America <u>still</u> leads the world in commercializing products, of course. But the list of squandered leads is growing faster.

More than half of our trade deficit is with nations like Japan, Germany, France, Sweden, Holland, Switzerland and Denmark who pay higher wages and higher benefits to their workers than we do to ours. They don't beat us with cheap labor, they beat us with technology and skills.

In former days, basic research was done in universities. Then, company or government laboratory scientists read the papers produced and began to think of new technologies. Then, company product divisions began to engineer product prototypes to take to their customers. Then, customers looked them over and suggested modifications. Then, products were introduced to the market. Then, companies worked on ways to manufacture these new products more efficiently. The process from basic science to mass production took decades.

Today, this process doesn't move in slow, steady steps any more. The whole process is accelerated, and the stages overlap. Even before the basic science is proven, applied research often begins, product developments gets underway, market research is done, and manufacturing processes are developed ... and here is where we fall behind.

In America, these early steps towards technology commercialization are usually taken by companies working on their own. They compete head-to-head with each other, often duplicating each other's work as they compete. In Europe and Japan, these steps in what is sometimes called the "pre-competitive" stage are taken in cooperation. Companies work with each other, and with government-supported research institutes and universities, to accelerate the process of turning science into marketable products. In Europe and Japan, it is only when the first generation of products is ready to be developed that competition is promoted – and then companies compete fiercely with each other. More and more, what we're seeing is that the early-stage competition is among nations, and the later stage among companies. That presents us with a problem, because in America, these kinds of partnerships have been frowned upon as meddling with the free market.

Some of us may not philosophically approve of any kind of government involvement in industrial development. But it is the reality in today's international marketplace. More to the point, when done with care and good sense, it can work. If we want to live up to the American legacy of practicality, we can't let our bias blind us to the effectiveness of the right kinds of technology policy.

European governments spend billions of dollars each year to pioneer the products of the 1990s. The Europeans are determined. Over $25 billion dollars of government money went to finance the development of Airbus. The investment has paid off. Airbus has 25 percent of the world's commercial jet aircraft market, surpassing Lockheed and McDonnell Douglas, and Europe benefits from the creation of 50,000 high skilled jobs and $5 billion of positive trade balance.

In Japan, billions are being spent on dozens of joint projects bringing together companies, government laboratories and universities to develop new products in biotechnology to new high performance materials to new electronic devices.

What do we have to match these efforts? A few hundred million dollars funnelled through the Defense Department for a handful of projects, and a recently passed $50 million fund in the Department of Commerce. Germany and Japan now spend far more than us relative to the size of their economies on commercial research and development. And the results are about what you'd expect – the foreign share of patents granted in the U.S. has exploded.

There are a few dozen basic technologies which will support new growth industries and revitalize traditional ones over the next decade. We cannot predict which will be the most important, or the pace of their commercialization. But we already have a pretty good idea of what most of them are. A major economic power must be competitive in all of them. The Japanese and the Europeans have explicit plans to do just that. They are putting money and resources behind their plans. We are only haphazardly doing so through defense spinoffs and occasional programs like Sematech. When we had a lock on technical leadership, we licensed the Japanese and Europeans. It is unclear whether they will do the same for us.

We should create a national civilian research and development program to support private sector R&D in future commercial technologies.

This program would promote basic research, product development, applications engineering and prototype manufacturing.

We already spend almost $76 billion annually on public research in this country, but most of it has little commercial value. Over 60 percent of these funds go to defense R&D. I propose shifting $10 billion of these funds to help stimulate commercial R&D.

Now, I'm not talking about a hand-out to private business, and I'm not talking about a go-it-alone government program. Companies should take the lead in defining projects and should be required to put up at least 50 percent of funds to be invested.

I'm also in favor of extending the R&D tax credit to make it permanent, so that companies can make long-term plans to invest in more R&D.

Research and development investments are expensive and risky. They also tend to have "spillover" effects that benefit the rest of us, not just the companies who pay for them. That's why it's proper for government to help support companies who increase their R&D investments.

No major nation in recorded history has been the world's economic leader unless it has also been the world's technology leader. We must invest to ensure that America takes back its technological lead.

<u>BUILDING A MODERN INFRASTRUCTURE</u>

We face two challenges during this next decade. We must convert much of our military base to commercial use without disrupting our people and we must create the world's leading economic foundation for 21st century commerce.

Up until 15 years ago, America's economic foundation -- our infrastructure -- was second to none. Today, after a decade of shameful neglect, our economic foundation is losing its competitive edge. Our infrastructure investments have collapsed. If this trend continues, our economy won't have a base upon which to build.

But we've still got a chance to catch up. With the end of the Cold War, we have an opportunity to shift resources into a campaign to build a preeminent economic foundation for the 21st century.

I propose a plan to fit together four goals. One goal, is to create the world's best economic support base. Second is to keep the defense industrial base busy in peacetime, by phasing resources <u>out</u> of military production and <u>into</u> infrastructure investment. Third is to give a boost to infrastructure-related manufacturing industries with potential for major export growth. The fourth goal, running through the other three, is to provide good jobs to American workers.

For starters, we've got to quit letting our conventional infrastructure rot. We should accelerate the repair of our roads, bridges, sewers, and the rest of our support systems. But just recovering from neglect isn't good enough. We can't be content just to catch up. We've got to move ahead. A world-leading infrastructure for the 21st century will require high speed transportation and communication systems. It calls for clean, efficient power generation. And we'll also need comprehensive waste management systems.

Transportation

Since colonial times, American leaders have consistently understood the importance of transportation to economic success. Decade after decade, with each new advance in transport technology, America led in the development of efficient roads, canals, ports, railroads, airports and super-highways.

But over the past two decades, we have fallen behind our main economic competitors. They have invested heavily in new technologies. We haven't. To ensure our future economic success, we must build a 21st century transportation infrastructure, including high-speed rail, "intelligent" highway systems, and efficient short-haul air transportation.

High Speed Rail

High speed rail transportation can be economically sensible, energy-conserving, environmentally sound, and safer than auto and air travel.

Overcrowding and delays in our major urban centers cost society in terms of lost time and productivity. Our highways and airports are congested because few real alternatives exist. High-speed rail systems would shift some of the traffic burden away from our congested streets and airways. Technologies exist today in other countries to dramatically increase train speed.

Germany, France and Japan -- countries that have traditionally relied on rail transportation for short and medium-length trips -- already benefit from train travel at speeds of 160-190 miles per hour, and technicians are testing ideas that will lead, before too long, to trains hitting 300 miles per hour. The U.S. has no high-speed ground transportation manufacturing capability, and only one U.S. passenger railcar manufacturer. Now, our transportation needs aren't the same as other countries, but there's still a big place for high-speed rail travel in America. We need to catch up.

"Intelligent" Highways

Technological advances will soon make possible a dramatic improvement in intercity travel. By linking "smart cars" with "smart highways" in an intelligent vehicle highway system we can improve the speed of automobile travel and the capacity of major highway travel corridors.

U.S. cities are currently experimenting with simple sensor and communications systems which alert passengers to traffic conditions automatically, so they can adjust their routes to fit road conditions. Machines on the drawing boards will actually convey vehicles in automated high-speed lanes. We don't know exactly what these new technologies are going to look like, but we do know it's going to be crucial for America not to get left behind.

Short-haul Aircraft

"Tiltrotor" aircraft take off about like a helicopter, but then fly like a conventional airplane. These airplanes can operate from very small airports. And that frees up space at larger airports for long haul traffic. It also offers greater convenience for short-haul travellers.

The U.S. has fallen behind other nations in the development of short-haul turbo prop planes for commercial travel. A successful commercial development of tilt-rotor technology would allow us to "leapfrog" foreign competitors in short travel aviation.

Communication

We can't compete if we can't communicate. A world-leading communications foundation in the 21st century will require "intelligent networks" which can store, process and distribute information. We'll also need to work on getting fiber optic transmission lines to most homes and workplaces. And we'll need better and better software systems and data bases to support the communication system.

Developing the world's best communication network will require investmen[illegible] in high-speed computing, glass fiber, data compression, network management software, a[illegible] other areas. It also calls for moving forward to implement technology we've already developed, including fiber cable, analog to digital conversion devices, and getting existing information -- public records, databases, libraries, educational materials and so on -- converted into the right format and put on line where people using the new technologies can get at it.

Power Generation

Cheap, efficient power generation will be an essential part of an economically competitive infrastructure for the 21st century. And it's also got to be able to meet environmental standards, even as those standards become more and more ambitious in the decades ahead.

Over the next decade, we can expect significant strides in developing new kinds of fuel cells, advanced batteries and even compressed-air energy storage. We can also look forward to continuing progress in alternative energy sources such as photovoltaics, solar-thermal electric systems, geothermal systems, wind generators and ocean thermal energy conversion. We need to be ready to take these discoveries out of the laboratory and onto construction sites.

The U.S. has pioneered the creation of most of these technologies. But other countries are taking the lead in developing, applying and manufacturing them.

Waste Disposal

Successful economies of the 21st century will have to find efficient ways to dispose of their waste with minimal pollution. By the year 2000, Americans are expected to generate over 216 million tons of municipal solid waste each year.

Currently, we ship most of this waste to landfills. More recently, we have increased the portion we recycle and incinerate. Efficient systems to recycle waste will have to be developed and put into wide use if we are to avoid costly pollution problems.

Similar challenges exist with waste water and septage and sludge disposal. Most municipalities have combined sewer overflow systems which are fifty to a hundred years old, and which cannot process waste when rains overload the sewage systems. New solutions are needed to regulate the flow of waste water and sewage, and major investments are required in holding tanks, control valves and pipe replacement.

A Competitive Infrastructure Industry

American companies played a leading role in serving the world with the prior generation of infrastructure technologies. The United States exported locomotives, cars and trucks, airplanes, road building equipment, copper telephone cable, electromechanical and electronic telecommunication switching devices and control panels, power plants and gas turbines, sewage treatment plants, process control computers and instruments for many of these plants. American companies provided engineering services to the world to design and build these facilities.

Our companies seized leading positions through the experience they gained as they built facilities in the United States which were ahead of anything else in the world. This experience, and the chance to spread R&D costs over a large home market base, gave U.S. companies a "leg up" on foreign competition.

It can happen again, if we make it happen. Companies which pioneer products and establish efficient manufacturing facilities to supply the transportation, communication, power generation and environmental infrastructures of the 21st century will have booming international businesses. These companies will be on the leading edge of technology. This technological lead can create high value-added jobs which cannot easily be bid away by low-wage countries.

An aggressive program to build up America's infrastructure would help spawn competitive U.S. industries which could provide returns to the U.S. economy for many decades to come.

<u>Defense Conversion and Infrastructure</u>

With the decline of the Cold War, it no longer makes sense to invest hundreds of billions of dollars in weapons that are unlikely ever to be used. But cutbacks in defense spending can cause hardship for communities which depend upon defense contractors for high-paying, steady jobs. We need a plan for preserving these jobs in a peacetime economy, and infrastructure can be the key to that plan.

Some people propose utilizing savings from defense cuts to fund retraining programs. But this is not enough, on its own, to solve the problem. There are not enough of the right kinds of jobs available for these retrained workers. Others want to apply all of the savings directly to deficit reduction. But if millions lose jobs, the increased requirement for public unemployment insurance, welfare and other assistance programs could swallow up a big part of the savings.

To simply cut defense expenditures and allow the people and facilities now used for defense manufacture to be "mothballed" would have disastrous short-term, and potentially, long-term consequences. As contracts are cancelled, plants will scale back or shut down [illegible]. Add to this pool of displaced [illegible] workers in manufacturing, wholesale, retail and service companies whose existence depends upon the flowing stream of military funding. The multiplier effect could put millions of workers on the streets.

Lost jobs mean higher unemployment rates, more individuals without health benefits, longer welfare rolls and fewer people in the tax base. And, already weak financial institutions will find themselves with loan and mortgage defaults by faltering businesses.

In short, the commercial economy will have great difficulty absorbing the shock on its own in any reasonable amount of time. We cannot leave it to ma[illegible] forces aided by a "grab bag" of economic adjustment measures to regenerate the jobs and [illegible] will be lost.

Many of the skills and technologies required to build our infrastructure for the 21st century are similar to those now used in our defense industries. Engineers and workers used to designing and producing pressurized parts for submarines will find a use for their talents in the pressurized parts needed for high efficiency power generation or incineration facilities. Workers used to welding parts for military vehicles or munitions will find a need for their metalworking skills in the fabrication of sewer overflow pipes and tanks or rails and railcars for high speed train systems. Electronic guidance experts can be challenged by the requirements for intelligent highway systems. Military communications personnel will find applications for their skills in the growing commercial communications sector. Some retraining will of course be necessary, but not a massive amount.

To re-deploy these capabilities from defense to commercial infrastructure industries is our key challenge. And the government has a role, and a responsibility to stimulate market forces and private players to meet this challenge. Market forces alone will not drive the change for three reasons. First, most of the companies now producing defense goods lack knowledge of how infrastructure businesses work, and in many cases are ill-equipped to serve commercial markets. Second, prudent companies will be reluctant to invest in these new businesses unless they can see a sizable long-term market developing. And third, defense engineers often lack the cost-control mentality so important to a commercial business.

The 21st Century Economic Foundation Trust

Over the next decade I propose to place $200 billion of federal funds into a trust fund to carry out a transformation of our economic foundation. The trust fund would leverage this seed money with additional funds from state and local governments and private investors.

The fund would stimulate states, municipalities, local authorities and private interests to undertake the building of these projects. The creation of large predictable markets for infrastructure would in turn stimulate private industry to invest to serve the new markets. Companies wishing to bid on projects which use federal funds could be required to purchase or subcontract work to existing defense facilities to help them convert to peacetime use. They may also be required to establish or subcontract some work to facilities in poor urban or rural areas and to utilize former welfare workers as part of their workforce.

There are a number of different ways the fund can be organized, for instance as a series of revolving loan accounts or as a system modeled along the lines of Fannie Mae.

Revolving Loan Accounts

The federal government could establish a series of independent authorities designated to oversee the development of various infrastructure projects, i.e. a rail authority, a communications authority, etc. Each authority would make grants, below-market, or market rate loans to states and localities for infrastructure projects. Depending upon the risk inherent in the project and the local authority's ability to pay, a match of between 20-50 percent could be required as a condition of participation. The funds would replenish themselves as loans are repaid. States and localities currently use revolving funds such as those for waste water treatment and sewage programs.

The federal government would commit to financing a certain percent of the cost of a project; states and municipalities or private investors would make up the remainder. User fees, such as today's road tolls or solid waste disposal charges could finance the private and public cost of local bond issues or private investments.

This option requires that each infrastructure project generate adequate user fees to finance the borrowing or provide a return on the capital. Depending upon the project, user fees could pay back the entire federal share as well as the local public or private shares, or part of the federal share could be used as a grant. Rather than encouraging the maxim of "getting something for nothing", this plan forces realistic planning and economic construction. This is also a step towards a capital budget in which the need to invest for the sake of future generations is protected by its own revenue streams.

Establishing specific revenues that replenish the fund is a way to assure that our generation's commitment to the future is kept and that federal government investment in public facilities will not be cut by the growth in the consumption budget.

"A Fannie Mae Type Structure"

In the past, the federal government has stimulated private resources for specific types of projects such as housing and student loans through organizations like Fannie Mae that buy mortgages or loans from banks and thrifts so that they can grant additional loans with the same equity. The federal government could create a federally-chartered investment corporation to buy infrastructure loans to stimulate additional investment in infrastructure.

For example, a bank could make a loan to a municipality or a corporation for the construction of a new wastewater treatment plant. The government could buy the loan from the bank, enabling the bank to make another loan without taking on additional risk.

Fannie Mae, Freddie Mac and other federally-chartered corporations ensure the safety of their investments by creating well-defined parameters for the loans that they will buy. Banks respond by selling loans based on these parameters. Infrastructure loans would be based on similar well-defined parameters -- a key difference would be that these parameters may differ depending on whether the loan was to repair a bridge, build a new leading edge wastewater treatment plant, or build a high speed rail system. The federal government could ensure its investment further by requiring municipalities to take some of the risk -- guaranteeing a portion of defaulted loans.

The corporation would finance itself from the federal funds put into the corporation, leveraged by securities issued to the public through the stock exchange. The securities would pay principal and interest on the loans.

User fees such as road tools, waterway charges or utility fees, could generate a reasonable return on investments the private sector makes in infrastructure. States like California, Texas, Arizona, Florida and Virginia, among others, have stimulated private investment in infrastructure through legislation that enables the private sector to own, construct, develop and operate toll roads. We could amend the 1986 Tax Act to allow greater flexibility in involving the private sector to plan, finance, construct and manage infrastructure projects.

This approach would remove the rigidities and inefficiencies that has characterized federal involvement in public works projects in the past.

Over the course of the next few decades, we are going to need scores of projects in each area of infrastructure. This campaign to rebuild our economic underpinning -- as a bonus -- can provide a substantial, predictable market to attract private industry to enter these new businesses.

In this way, the government is not forcing industry's hand. Instead, it is offering private business real market opportunities. Some existing defense companies may try to make the transition, others will not. Companies who do bid on these projects will purchase facilities and hire workers from the current defense contractors who do not. The criteria by which their bids are evaluated should explicitly encourage them to do so, and also to carry out necessary retraining programs for workers.

Creating a 21st century economic foundation for our nation is a challenge which if met, will help ensure American preeminence well into the next century. These investments will provide a firm foundation for our economy and ensure that our loyal defense workers can transfer their skills and dedication to our next challenge – the defense of the American dream.

THE PATH TO HIGH WAGE JOBS

The real wage declines which have occurred in the U.S. over the past two decades can only be reversed by improving American productivity. Increasing investment in our economy is the key to improving productivity.

While private sector investment must lead, government does have an important role to play, by helping create a more skilled workforce, helping building America's commercial technology base and helping to modernize America's infrastructure.

SENATOR SARBANES. Mr. Mishel, we'll be happy to hear from you.

Thank you very much, Mr. Magaziner.

STATEMENT OF LAWRENCE MISHEL, RESEARCH DIRECTOR, ECONOMIC POLICY INSTITUTE

MR. MISHEL. Thank you very much, Mr. Chairman.

As you mentioned, I'm the Research Director of the Economic Policy Institute, a Washington-based think tank, and I've just completed a comprehensive study of the trends in income, wages, employment, wealth, and poverty, called the *State of Working America*.

SENATOR SARBANES. Am I correct that that book is coming out next week?

MR. MISHEL. It's released, available on Monday, Labor Day.

SENATOR SARBANES. Monday. How long a book is it?

MR. MISHEL. Much longer than we wanted, but it's 500 pages, 240 tables, 80 graphs, and many months of work.

SENATOR SARBANES. Sounds like a very comprehensive coverage of the subject.

MR. MISHEL. Yes, I think it is.

Today, I want to focus my remarks on the nature of the current recession.

Unfortunately, Mr. Chairman, this recession has been neither short nor shallow. We know it hasn't been shallow because the income losses to the average American in this recession have been greater than in any other recession in the last 30 years.

We know it hasn't been short because the average length of a recession in the postwar period has been 11 months. Estimates of the length of this recession begin at eighteen months and continue, so today we may still be in a technical recession.

And, as I said, in any kind of income sense, in the kind of sense of an average American, you cannot even say that there's been any recovery because our incomes are still now far below what they were in 1989 or in 1990.

SENATOR SARBANES. Clearly we are still in a jobs recession.

MR. MISHEL. Absolutely. And I'll go into that and comment on the BLS report this morning.

The current recession is at least 50 percent greater than average, assuming the lowest estimate of the length of this recession, and is probably at least double the length of the average recession.

In terms of the shallowness of the recession, as I said, each American has lost \$685 in this recession. In contrast, the 1981-82 recession cost each American \$141.

SENATOR RIEGLE. Now, when you say each American, you mean that with a family of four, you have to multiply 685 by four.

MR. MISHEL. Exactly. And being an economist, I could probably even do that.

[Laughter.]

The reason why this has been a very costly recession in terms of income is that the actual income decline from the beginning of the recession to now has been larger than all but one of the prior recessions, and because we have a very lengthy recession, it's been a very sustained fall in income. And so the cumulative loss of income in this recession has been extraordinarily large.

You might think, judging from the unemployment rate, that this has been a shallow recession, and some commentators have speculated about that. We haven't reach the high unemployment rates of 1982 or 1975.

This can be fully explained by the fact that there has been extraordinarily slow growth in the size of the labor force.

Because, one, we're in the baby bust period. The number of people graduating college, graduating high school, looking for their first job, is far lower than what it used to be ten or twenty years ago.

And the percentage of the women wanting to work in the labor force is growing but hardly at all, and much slower than it used to be.

The result is that in the 1980s, the labor force grew two million people a year. But since 1990, it's grown at only half that pace.

Had the labor force grown in this recession, as it had in the prior five recessions, we would have an unemployment rate today of nearly 10 percent.

So it's a little bit misleading to think about this as shallow because of what may seem like a modest rise in unemployment.

SENATOR SARBANES. Well, it is not that modest, but it is less than in the previous recession. It has actually gone from 5.3 to 7.6 percent since June of 1990.

MR. MISHEL. Right. Absolutely.

The unemployment rate also has to be understood in the context of the amount of permanent job loss, which you discussed in the prior hearing.

This recession has had as much or more permanent dislocations of workers, permanent job loss, as in even the much deeper recession of 1981-82, in terms of the rise of unemployment.

And new statistics from the Department of Labor Bureau of Labor Statistics show this. They recently released a report on what they call displaced workers. And they asked people whether, over a five-year period, they were permanently displaced from their jobs because of a plant shutdown, a facility shutdown, their jobs were eliminated or there was slack work. These are people who have lost a job and there's no expectation that it will come back.

And in this graph, you can see that over the 1987-1991 period, that five-year period, there were 12.3 million people permanently displaced from their jobs.

From 1979 to 1983, which covers the 1981-82-83 recession, there were 11.5 million people permanently displaced. So we see that there's more displacement in recent years than even in the early 1980s.

SENATOR SARBANES. Even though the unemployment rate in the early eighties was much higher?

MR. MISHEL. Exactly. That's exactly the point.

Which brings me also to talk about one of the very significant characteristics of this recession that you mentioned in the earlier hearing, which is the peculiarly white-collar nature of the current recession, compared to prior recessions.

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In the BLS data, you can see that in the recent five-year period, 5.7 million white-collar workers permanently lost their jobs because of shutdowns or job elimination.

In contrast, 3.8 million lost their jobs in the earlier period.

The amount of white-collar displacement in the last five years is 50 percent greater than that of the earlier period.

Let me just comment on who white-collar workers are, so that——

SENATOR RIEGLE. Let me just say one thing.

What you've just laid out here shows, both in the blue collar sector and in the white-collar sector, what looks like a lower unemployment rate now versus the last recession's, is actually masking a bigger job loss problem.

In other words, it actually is not capturing and telegraphing through to the country the magnitude of the genuine job loss, both in blue-collar and white-collar work.

And I think that's partly what's coming back through these public opinion polls, where people themselves, in their own experience and in their own neighborhoods and families, see this decline. And they're expressing it in terms of this great anxiety, because they see the economic future slipping away.

And yet, part of the way we present this data does not get beneath the surface into the guts of what's happening, which you're doing here now.

So it's a very valuable revelation that you're giving. The fact that even though the surface unemployment numbers, in comparison to the last recession, may not look as high, the underlying problem is in fact worse.

MR. MISHEL. Right. Exactly, Senator.

I would say that we have more economic scarring of the work force in this recession than in the last recession. That's the way I would put it.

And the only reason that we don't have higher unemployment is that there are fewer people looking for their first job or trying to re-enter the labor market.

Which is the flip side of what the Commissioner of BLS told you earlier, which is that we have more unemployment due to people who were either temporarily laid off, but especially people who were permanently laid off, separated from their jobs in this recession, than in earlier recessions.

SENATOR SARBANES. Well, in earlier recessions, you had a larger labor force, and you also had a number of the people who were unemployed were only temporarily unemployed and were waiting to be called back.

In this recession, many more people are permanently displaced from their jobs, they are out, they are finished. I mean, they have not been told, you are going to be laid off, and we hope, in six months or nine months, things will pick up, and then you can expect to be called back. They are just told, you are finished, period, even if things get better, we are not going to bring you back.

MR. MISHEL. I think there are two other factors that explain the economic anxiety that you noted, Senator Riegle.

One is that this recession has affected a whole new group of workers who seemingly escaped the effect of earlier recessions. And that is the white-collar labor force, which ranges from people that are executives and managers, administrators, technical workers, sales workers and clerical workers.

The survey, as I said, showed that there was 50 percent more displacement of white-collar workers in the current downturn than in the 1980s recession.

We have also seen that white-collar employment is growing half as fast in the early 1990s as in the early 1980s during the prior recession.

And we see that this is the first recession for which we have data, over the last five or six, that unemployment among white-collar workers rose more than among blue-collar workers. That is, we have roughly 1.2 million more white-collar workers unemployed today than we had two years ago. The increase in unemployment was actually less among blue-collar workers than among white-collar workers.

In prior recessions, the usual case was that white-collar unemployment grew far less than blue-collar unemployment. But yet, in this recession, the white-collar unemployment has actually grown more.

And I think this signifies that we have seen the end of the white-collar boom, that we no longer have prosperity in a whole range of industries, such as retail trade and finances, insurance, banking and real estate. And that the so-called restructuring of firms in the service sector and the manufacturing sector, which was claimed to give us great productivity, is actually just diminishing a broad range of job opportunities for even the college elite and other types of white-collar workers.

But we have had more than just employment problems. I think the other element of the economic anxiety is that we have very serious income problems, and that has not been paid attention to when we focus just on employment and unemployment.

Fundamentally, you only get good income growth if hourly wages and benefits are rising.

We have two available measures of hourly compensation from the Bureau of Labor Statistics.

One basically shows that hourly wages and benefits are no higher today than in the first quarter of 1989. The other actually shows that hourly compensation is down around 1 or 2 percent. You cannot get income growth with such growth in hourly compensation.

This follows a decade where hourly compensation actually declined.

For most workers, however, the decline has been more. For the 80 percent of workers that BLS calls the production worker, nonsupervisory worker, this is 80 percent of all wage and salary workers, hourly and weekly wages have fallen 3.5 percent since the beginning of 1989.

As you know from the hearing yesterday, the Census Bureau just released its report on what the income of the typical American family was in 1991.

Between 1989 and 1991, the typical family lost $1,640 in income, wiping out the entire gain in income of a typical family from 1979 to 1989.

And I would point out that that——

SENATOR RIEGLE. So a whole decade's worth of gain was subtracted and taken away. Is that right?

MR. MISHEL. In just two years.

And you should also note that the income decline from 1989 to 1991 was even greater than the 1980 to 1982 income decline in the earlier recession, in a period of very fast inflation, as well.

We can also look at another measure of income that is available on a quarterly basis—and more up to date—per capita nontransfer income. This is market-based per capita income. It excludes people's transfer income, such as unemployment insurance, social security, or other things that are not generated by the market.

Here's what the private sector has been providing for the American people since the beginning of 1989.

There has been a fall of 4.4 percent, or $552, since the first quarter of 1989.

SENATOR RIEGLE. Again, that is per capita?

MR. MISHEL. This is per person, $550. It's around $2,000 for a family of four.

If you'll note, the recession started at this point. You can see that there's a very steep decline, and it's gone on for a long period of time.

Basically, from this trend, we can show what I mentioned at the beginning of my testimony, that every American has lost essentially $685 in this recession from what they would have had if they had maintained the income level at the beginning of the recession.

SENATOR SARBANES. What is the date on that point, right there?

MR. MISHEL. The big downward movement is in the second quarter of 1990, basically April, May and June of 1990, a little over two years ago. There was actually a decline, you might note, from 1989, at the beginning of 1989 to 1990.

SENATOR SARBANES. Is the bottom scale by quarters?

MR. MISHEL. Yes. These are quarters.

SENATOR SARBANES. Okay. So it begins when? in 1989?

MR. MISHEL. It begins in the first quarter of 1989.

SENATOR SARBANES. The first quarter of 1989, and runs until the second quarter of 1992, is that right?

MR. MISHEL. Right. Which is the latest available data.

SENATOR SARBANES. Right.

MR. MISHEL. I think, in some ways, my computation of the income loss of the average American during the current recession is very conservative in the following way.

You could expect, in any period of time, that incomes would be growing. I mean, per capita income has been growing over the entire postwar period. It grew from 1979 to 1989.

If we compare how people have done against what might have been expected with the similar growth that we had from '79 to '89, we see that each person has lost $1164 during this recession, or a family of four losing roughly $4700.

This is a tremendous income loss, and I think it shows that, in no way, can we consider this recession shallow, and we know that it's the longest.

And on that point, I'll just close, and look forward to your questions later.

Thank you.

[The prepared statement of Mr. Mishel follows:]

PREPARED STATEMENT OF LAWRENCE MISHEL

Mr. Chairman, thank you for the opportunity to testify about the employment situation and the income problems facing American workers. I am the Research Director of the Economic Policy Institute, a Washington, D.C. based think-tank. With my co-author, Jared Bernstein, I have just completed a book, entitled *The State of Working America*, which presents a comprehensive analysis of trends in incomes, wages, employment, wealth and poverty in recent years and over the post-war period.

Today I will focus my remarks on the nature of the current recess ion and the accompanying income and wage problems since the beginning of 1989. In July there were 9.8 million unemployed workers and 6.3 million workers who were working part-time but wanting full-time work. In addition, in recent months there have been more than one million workers wanting a job, but too discouraged to look for one. In total, more than seventeen million workers, representing 13.2% of the labor force, were unemployed or underemployed in July. Since the first quarter of 1989 there has been a 3.4 million increase in unemployment and a rise of 4.6 million in the number of underemployed Americans (see Table 1).

There are a number of important dimensions of the early 1990s recession that need to be understood. First, although there has been no officially declared end of the early 1990s recession we do know that it has been the most protracted recession in the post-war period, lasting at least one and a half years and perhaps extending to this day and beyond. In contrast, the average length of the eight prior recessions was just eleven months, at most half as long as the early 1990s recession (see Table 2).

Second, this recession has been neither short nor shallow, contrary to the expectations of both the Federal Reserve Board and the administration. We are fortunate that the sizeable losses of income, output and employment in this recession occurred at a time when the labor force has grown very slowly. Because of the baby bust, there has been only a small number of people entering the labor force looking for their first job. We have also seen only modest increases in women's labor force participation, the consequence of sluggish job creation in industries where women are likely to work. The result has been a growth in the labor force of just 1.1 million a year during this recession, far slower than the annual labor force growth of 1.9 million from 1979 to 1989.

If we had had the type of labor force growth that prevailed in prior recessions the unemployment rate today would be close to ten percent rather than just 7.7%. For instance, the labor force grew at an annual rate of 1.9% in the prior four recessions, but only at an 0.9% rate in the early 1990s recession, a rate 1.0% less per year (Table 3). With the historical rate of labor force growth there would have been an additional two percent of the labor force unemployed today (one percent more each year from 1990:2 to 1992:2).

Third, there has been as much, or more, <u>permanent</u> job loss and job destruction in this recession as in prior recessions (Table 2 and Figure 1). We can see by examining the BLS data which separates the unemployed into those who were permanently laid-off and those who were either temporarily laid-off or looking for their first job (or reentering the labor market or having quit their job). Roughly three-fourths of the rise in unemployment in the early 1990s (1.6% of 2.2%) has been due to the permanent loss of jobs. In contrast, in the four prior recessions only about forty percent of the rise in the unemployment rate was due to permanent job losses. The actual increase in permanent job loss in the early 1990s recession, perhaps surprisingly, has been the same as in the deepest recession of the post-war period, from 1981 to 1982 (Table 2). This confirms our point that the seemingly modest rise in unemployment in the early 1990s recession is due to slow labor force growth and the failure of unemployment to rise among entrants and reentrants. Thus, the early 1990s recession has caused as much economic "scarring" of the work force as the early 1980s recession and much more than in other recessions.

Another factor causing a rise in unemployment is a lengthening of the time an unemployed worker spends unemployed before finding a job (or leaving the labor force). For instance, the average duration of (in-progress) unemployment rose to 18 weeks in the second quarter of 1992, up from 11.8 weeks at the start of the recession (Table 1). This protraction of unemployment reflects the slow rate of job creation and the difficulties the unemployed are having finding new work.

Fourth, it is important to understanding the peculiarly white-collar nature of the current recession. This is the only recess ion of the last thirty years where more white-collar than blue-collar workers lost their jobs (although the rise in the blue-collar unemployment rose more and is now higher, see Table 4). In only one of the prior five recessions did white-collar unemployment grow as much as half that of blue-collar unemployment. There has also been an historically slow growth of white-collar jobs during the early 1990s recession (Table 5). Over the last eight quarters only 643,000 white-collar jobs were created, a rate of about 332,000 annually. In contrast, during the five quarters of the 1981-82 downturn there was a growth of 827,000 white-collar jobs, an annual rate of 662,000 jobs or twice the annual number of white-collar jobs as created in the early 1990s.

Data from a recently released Bureau of Labor Statistics survey of workers permanently displaced from their jobs over the last five years confirms our analysis in several ways. There has been as much job destruction in the early 1990s as in the much deeper early-1980s recession and there was a much greater rate of job loss among white-collar workers in the early 1990s recession. For instance, 12.3 million workers permanently lost their jobs over the 1987-1991 period. In contrast, nearly one million fewer workers were permanently displaced over the 1979-1983 period (Table 6 and Figure 1). The greater number of permanent job displacements in recent years is more than accounted for by the greater job losses among white-collar workers (Table 6). Whereas 3.8 million white-collar workers lost their job in the early 1980s (1979-83) there were 5.7 million white-collar workers who lost their job over the 1987-1991 period, an amount fifty percent greater (Figure 1). More than a million more professional and managerial workers and 864,000 more technical, sales and administrative support workers lost their jobs over the 1987-1991 period than over the 1979-1983 period.

This greater job loss among white-collar workers occurred in every type of major white-collar occupation, but was most pronounced among managers, executives and administrators and among administrative support and clerical workers (Table 7).

The growth of unemployment and underemployment in recent years has been accompanied by a steady deterioration in the (inflation-adjusted) incomes, led by the declines in the wages and benefits of American workers. For instance, the hourly and weekly earnings of production and nonsupervisory workers, a group comprising eighty percent of the work force, have fallen 3.5% since early 1989 (Table 8). There are two available measures of hourly compensation (Figure 2). The non-farm business measure of compensation shows hourly compensation essentially flat since 1989, being the same in the most recent quarter as in the first quarter of 1989. The other measure shows hourly wages and compensation declining, respectively, by 2.2% and 0.8%. These data, by the way, show that benefit increases have only partially offset the reduction in wages in recent years.

With wages falling it is not surprising to find that all of the available measures of income show declines over the 1989-1992 period. The data released by the Census Bureau yesterday show that the typical family's income fell $1,640 from 1989 to 1991, a full 4.4%. This recent income loss more than reverses the modest income gain over the prior ten years. Data for the most recent quarter show market-based (non-transfer) per capita incomes are down 4.4% from early 1989 (Figure 3). These data indicate that each person is receiving $552 less (in annualized 1987 dollars market-based income now than at the start of 1989. Data on the median wage and salary income of families also show incomes down from 1989 levels (Figures 4 and 5), with no growth over the last seven quarters (Figure 4).

In terms of income losses this recession has been far more damaging than other recent recessions. The current recession has cost each person $685. In contrast, there was only a $141 per person loss of income in the 1981-82 recession. The reason that the income losses in this recession are so large is that the actual decline in income has been larger than all but one of the five prior recessions and this income decline has occurred over a longer period of time because of the length of the recession. The result is that more income was lost in this recession than in any other recession since 1960.

My calculation of income loss only counts the degree to which incomes have been lower than those of the second quarter of 1990. However, we could have expected incomes to be growing in this period. If we compare the actual income decline during the recession against the longer term trend in income growth (from 1980:1 to 1990:2) we see that the cumulative income loss per person in this recession was $1,164 (Figure 6).

Mr. Chairman, I am sorry to report that the economy is failing nearly every American. We are currently experiencing a protracted recession which has reduced our incomes and generated significant levels of underemployment and job loss.

TABLE 1
Unemployment and Underemployment, 1989-1992

Time	Unemployed (000)	Involuntary Part-Time (000)	Discouraged Workers (000)	Total Underemployed* (000)	Unemployment Rate	Underemployment Rate**	Average Duration of Unemployment (weeks)
1989:1	6,402	4,958	882	12,261	5.2%	9.9%	12.4
1989:2	6,479	4,965	851	12,295	5.2	9.9	11.8
1989:3	6,553	4,872	814	12,239	5.3	9.8	11.6
1989:4	6,664	4,783	809	12,256	5.4	9.8	11.7
1990:1	6,537	4,884	776	12,197	5.2%	9.7%	11.9
1990:2	6,583	4,906	861	12,350	5.3	9.8	11.8
1990:3	6,986	5,162	827	12,975	5.6	10.3	12.2
1990:4	7,453	5,476	956	13,885	6.0	11.0	12.4
1991:1	8,103	5,865	982	14,950	6.5	11.9%	12.8
1991:2	8,467	5,929	952	15,348	6.7	12.1	13.5
1991:3	8,499	6,076	1,064	15,639	6.8	12.4	14.1
1991:4	8,711	6,344	1,094	16,149	6.9	12.8	14.9
1992:1	9,138	6,575	1,084	16,797	7.2	13.2	16.8
1992:2	9,545	6,279	1,125	16,949	7.5	13.2	18.0
July 1990	9,760	6,324	n.a.	n.a.	7.7	n.a.	18.3

* Number of unemployed, discouraged or involuntary part-time civilian workers.
** Total underemployed as a share of labor force and discouraged workers.

Source: Economic Policy Institute analysis of Bureau of Labor Statistics data.

TABLE 2
Changes in Unemployment in Postwar Recessions

Recessions: Beginning and Ending Quarter	Unemployment Rate Peak	Trough	Changes in Unemployment by Cause: All Unemployment	Permanent Job Loss	Other Reasons*	Duration o Contractio
1948:4-1949:4	3.8%	7.0%	3.2%	n.a.	n.a.	11 Months
1953:3-1954:2	2.7	5.8	3.1	n.a.	n.a.	10
1957:3-1958:2	4.2	7.4	3.2	n.a.	n.a.	8
1960:2-1961:1	5.2	6.8	1.6	n.a.	n.a.	10
1969:4-1970:4	3.6	5.8	2.2	0.9%	1.3%	11
1973:4-1975:1	4.8	8.2	3.4	1.3	2.1	16
1980:1-1980:3	6.3	7.7	1.4	0.6	0.8	6
1981:3-1982:4	7.4	10.7	3.3	1.7	1.6	16
Average of prior recessions	4.8	7.4	2.7	--	--	11
1990:2-1992:2	5.3	7.5	2.2	1.6	0.6	22

* Includes unemployment due to temporary layoff or quits and of new entrants re-entrants who have not yet found work.

Source: Economic Policy Institute analysis of Bureau of Labor Statistics da

TABLE 3
Changes in Labor Force Levels
and Participation in Recessions, 1969-1992

Recession	Labor Force Growth Total	Men	Women	Change in Labor Force Participation Rate* Total	Men	Women
	(Annual Growth)					
1969:4-1970:4	2.4%	2.2%	2.8%	0.1%	-0.3%	0.4%
1973:4-1975:1	2.2	1.2	3.6	0.1	-0.7	0.7
1980:1-1980:3	1.4	0.9	2.1	0.0	-0.4	0.2
1981:3-1982:4	1.7	1.2	2.4	0.2	-0.1	0.6
1990:2-1992:2	0.9	1.0	1.1	0.0	-0.1	0.1

* Percentage point change annualized.

Source: Economic Policy Institute analysis of Bureau of Labor Statistics data.

TABLE 4
Change in Unemployment Rate by Occupation Gender, Race, and Industry, 1990-1992

Group	1990:2	1992:2	Change in Unemployment
All	5.3%	7.5%	2.2%
Occupation			
Managers, Prof	2.1	3.2	1.1
Tech, Sales, Admin	4.0	5.7	1.7
Craft	5.3	8.8	3.5
Operatives & Laborers	8.4	11.2	2.8
Gender			
Adult Men	4.7	7.2	2.5
Adult Women	4.7	6.3	1.6
Race/Ethnic			
White	4.6	6.5	1.9
Black	10.6	14.5	3.9
Hispanic	7.6	11.2	3.6
Industry			
Construction	10.5	17.0	6.5
Manufacturing	5.5	7.9	2.4
Services	5.0	6.9	1.9

Source: Economic Policy Institute analysis of Bureau of Labor Statistics data.

TABLE 5
Changes in Employment and Unemployment in Recessions by Occupation

Recessions: Beginning and Ending Quarter	Change in Employment (000)		Change in Unemployment (000)		Peak Share of Employment	
	White-Collar	Blue-Collar	White-Collar	Blue-Collar	White-Collar	Blue-Collar
1960:2-1961:1	764	-1,142	210	592	43.0%	36.9%
1969:4-1970:4	695	-737	516	971	47.7	36.0
1973:4-1975:1	871	-2,004	765	1,903	48.1	35.1
1980:1-1980:3	721	-1,557	253	1,013	51.5	32.4
1981:3-1982:4	827	-2,583	826	2,124	52.7	31.3
1990:2-1992:2	643	-1,500	1,130	1,018	57.0	26.7

Source: Economic Policy Institute analysis of Bureau of Labor Statistics data.

TABLE 6
Amount of Worker Displacement, 1979-1991

Time Period	White-Collar Displacement (000)* Total White-Collar	Managers and Professionals	Technical, Sales and Administrative	Total Displacements (000)
1979-1983	3,775	1,133	2,642	11,474
1981-1985	4,181	1,656	2,525	10,837
1983-1987	4,350	1,537	2,813	9,722
1985-1989	4,202	1,588	2,614	9,170
1987-1991	5,699	2,193	3,506	12,293

*Workers experiencing permanent job loss due to a facility closing, job elimination or slack work.

Source: Economic Policy Institute analysis of Bureau of Labor Statistics Displaced Worker Surveys.

TABLE 7
Number and Rate of Displacements in Early-1980s and Early-1990s Recession

	Total Displaced Workers* (000)		Displacement Rate**	
	1979-1983	1987-1991	1979-1983	1987-1991
White-Collar	3,775	5,699	7.3%	8.9%
Managers	879	1,406	8.4	9.5
Professionals	604	787	4.9	5.1
Technicians	295	388	10.0	10.8
Sales	1,100	1,325	10.8	10.6
Administrative Support	1,247	1,792	8.0	10.2
Non-White-Collar	7,699	6,594	18.6	14.1
Total	11,474	12,293	12.3	11.1

* Workers experiencing permanent job loss due to a facility closing, job elimination or slack work.
**Number of displaced workers as a percent of mid-point employment levels.

Source: Economic Policy Institute analysis of Bureau of Labor Statistics Displaced Worker Surveys.

TABLE 8
Wage and Compensation Trends, 1989-1992
(1991 Dollars)

	Production and Nonsupervisory Workers*			Private Sector Hourly Pay***		
	Average Hourly Earnings	Average Weekly Earnings	Nonfarm Business Hourly Compensation**	Wages	Benefits	Total
1989:1	$10.64	$366.24	$17.80	$12.98	$1.40	$15.79
1989:2	10.58	365.52	17.59			
1989:3	10.60	368.17	17.61			
1989:4	10.60	367.27	17.67			
1989 Annual	10.60	367.20	17.66			
1990:1	10.49	359.74	17.58	12.89	1.44	15.74
1990:2	10.51	361.97	17.74			
1990:3	10.43	361.74	17.71			
1990:4	10.32	356.06	17.64			
1990 Annual	10.44	359.96	17.66			
1991:1	10.30	349.11	17.62	12.56	1.45	15.40
1991:2	10.37	354.16	17.76			
1991:3	10.36	356.63	17.79			
1991:4	10.33	356.58	17.79			
1991 Annual	10.34	354.32	17.73			
1992:1	10.35	352.52	17.84	12.70	1.53	15.67
1992:2	10.27	353.41	17.81			

* This group comprises over eighty percent of payroll employment. From Bureau of Labor Statistics establishment survey.
** From Bureau of Labor Statistics productivity series.
***Levels of Employer Costs per Hour Worked from Bureau of Labor Statistics Employment Cost Index series.

Source: Economic Policy Institute analysis of Bureau of Labor Statistics data.

TABLE 9
Income Trends, 1989-1992

	Median Family Income ($1991)	Disposable Per Capita Non-Transfer Income ($1987)	Median Family Weekly Wage ($1991)
1989:1		$11,794	$676
1989:2		11,673	685
1989:3		11,635	692
1989:4		11,675	692
1989 Annual	$37,579		686
1990:1		11,744	685
1990:2		11,741	688
1990:3		11,661	683
1990:4		11,581	669
1990 Annual	36,841		681
1991:1		11,364	670
1991:2		11,365	667
1991:3		11,324	669
1991:4		11,315	669
1991 Annual	35,939		669
1992:1		11,308	668
1992:2		11,272	670

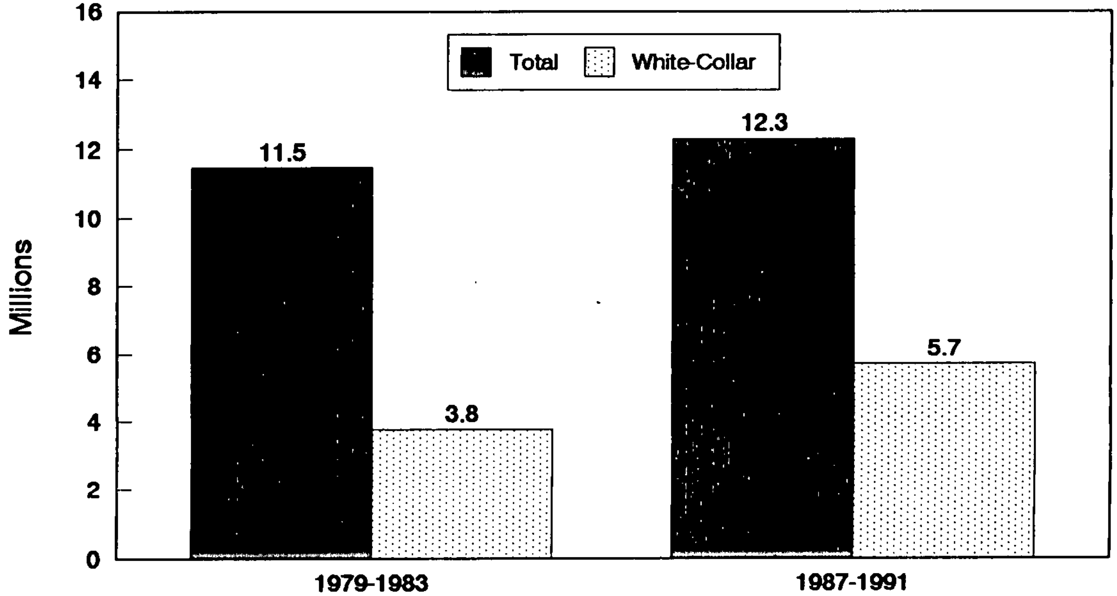
Source: Economic Policy Institute analysis of Bureau of Census (Median Family Income), Bureau of Labor Statistics (Median Family Wages) and Bureau of Economic Analysis (Disposable Per Capita Income) data.

TABLE 10
Loss of Income in Recent Recessions

Peak	Trough	Per Capita Non-Transfer Income		Change		Cumulative Loss
		Peak	Trough	Percent	Dollar	Per Person*
1960:2	1961:1	$6,717	$6,637	1.2%	$80	$55
1969:4	1970:4	8,721	8,706	0.2	16	2
1973:4	1975:1	9,723	8,903	8.4	820	659
1980:1	1980:3	10,192	9,881	3.0	311	141
1981:3	1982:4	10,140	9,940	2.0	200	141
1990:2	1992:2	11,741	11,272	4.0	469	685

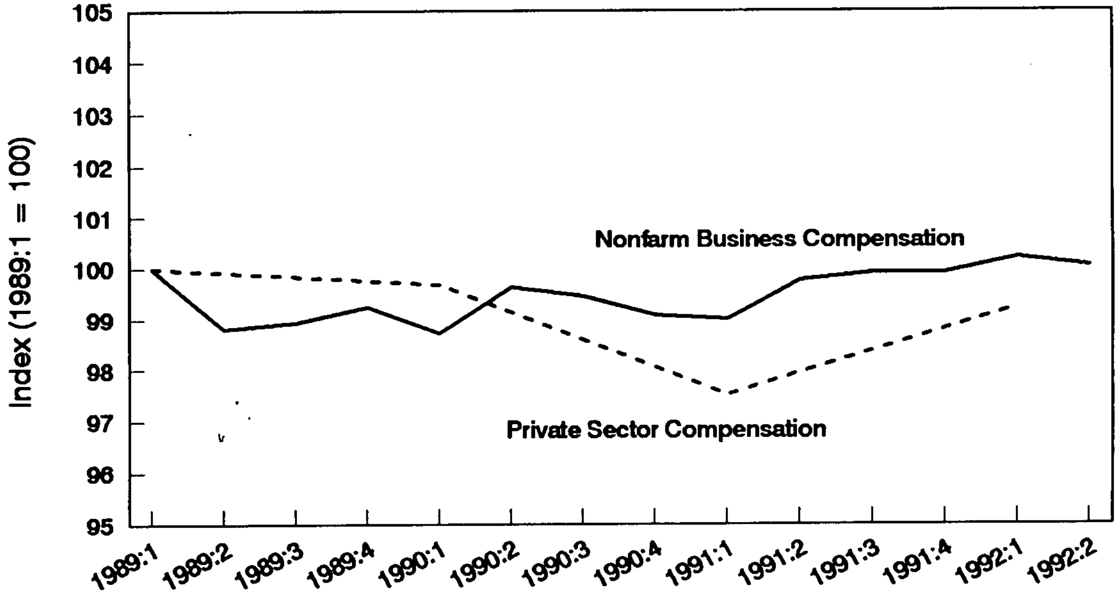
* Income loss relative to maintaining income in peak quarter.

Figure 1
Permanent Job Displacements, 1979 - 1983 and 1987 - 1991



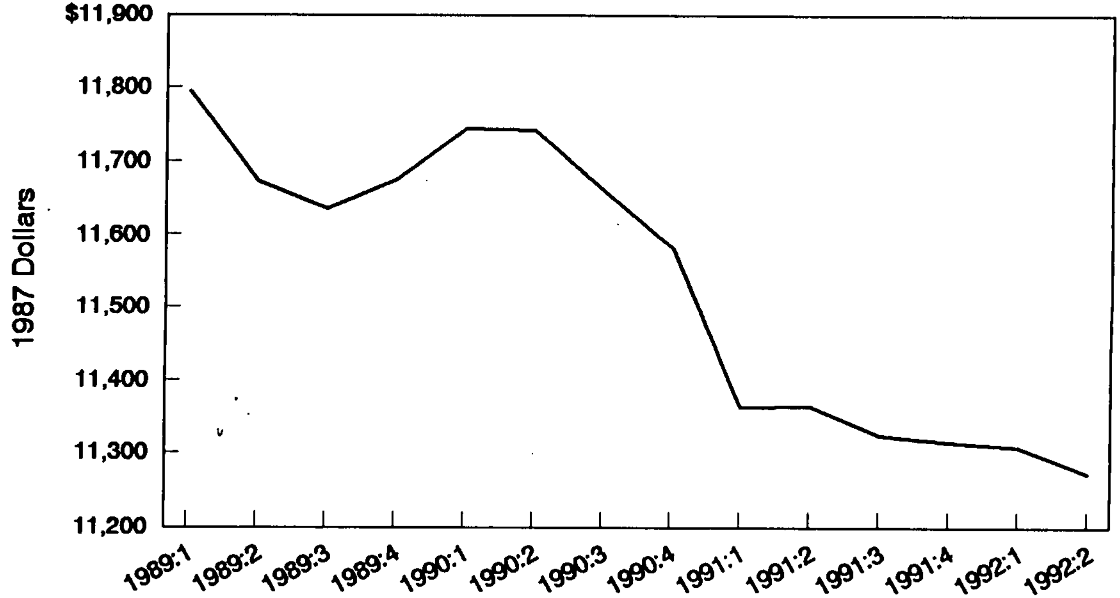
Source: Economic Policy Institute analysis of Bureau of Labor Statistics data.

Figure 2
Hourly Compensation,
1989:1 - 1992:2



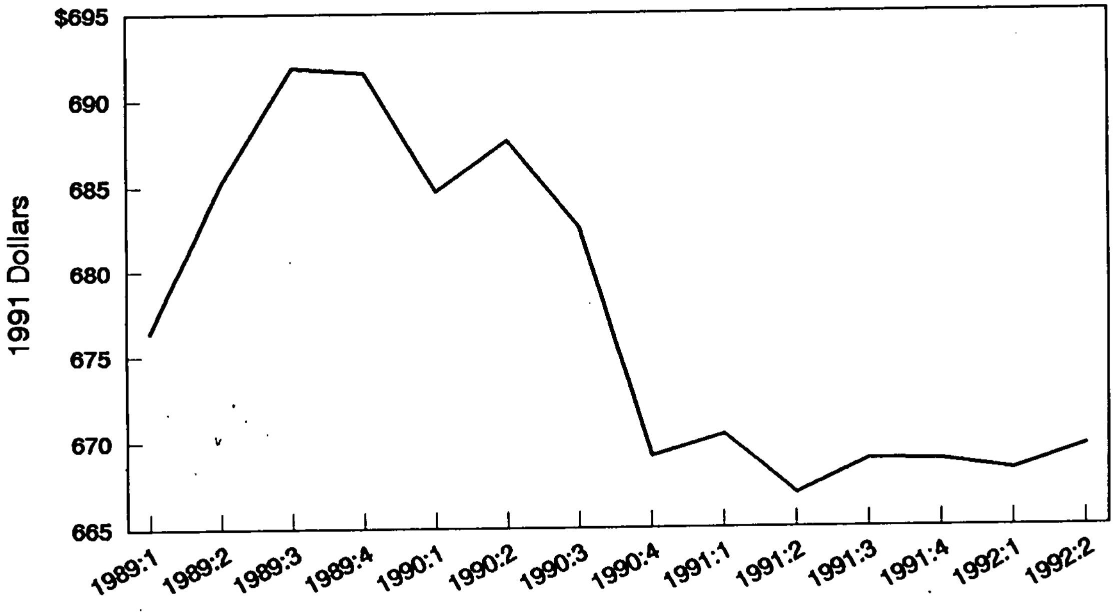
Source: Economic Policy Institute analysis of Bureau of Labor Statistics data.

Figure 3
Disposable Per Capita Non-Transfer Income, 1989:1 - 1992:2



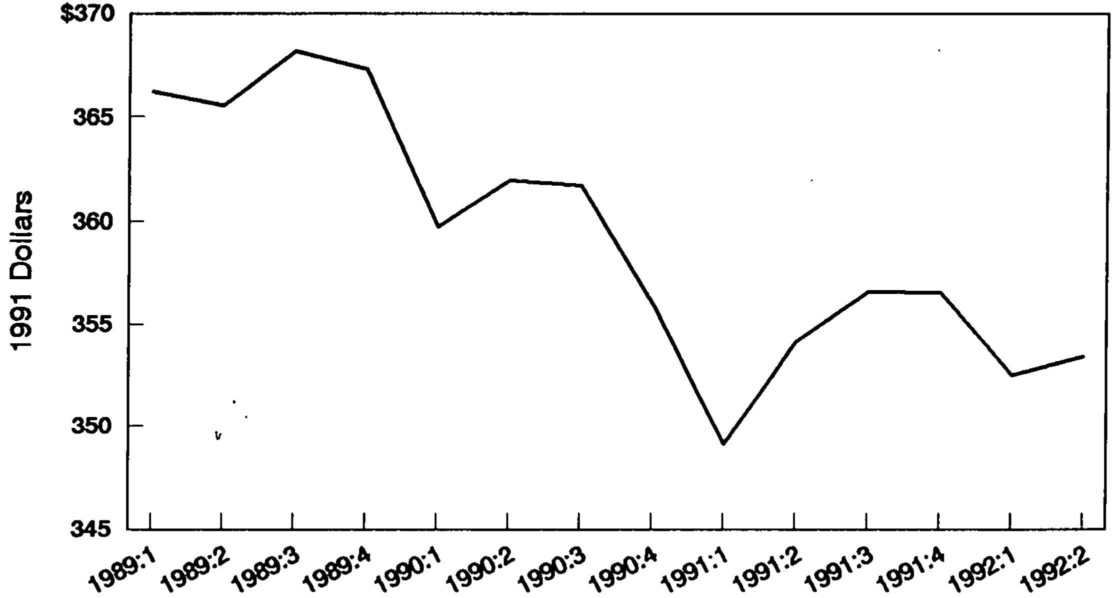
Source: Economic Policy Institute analysis of Bureau of Economic Analysis data.

Figure 4
Median Family Weekly Wage and Salary Income,
1989:1 - 1992:2



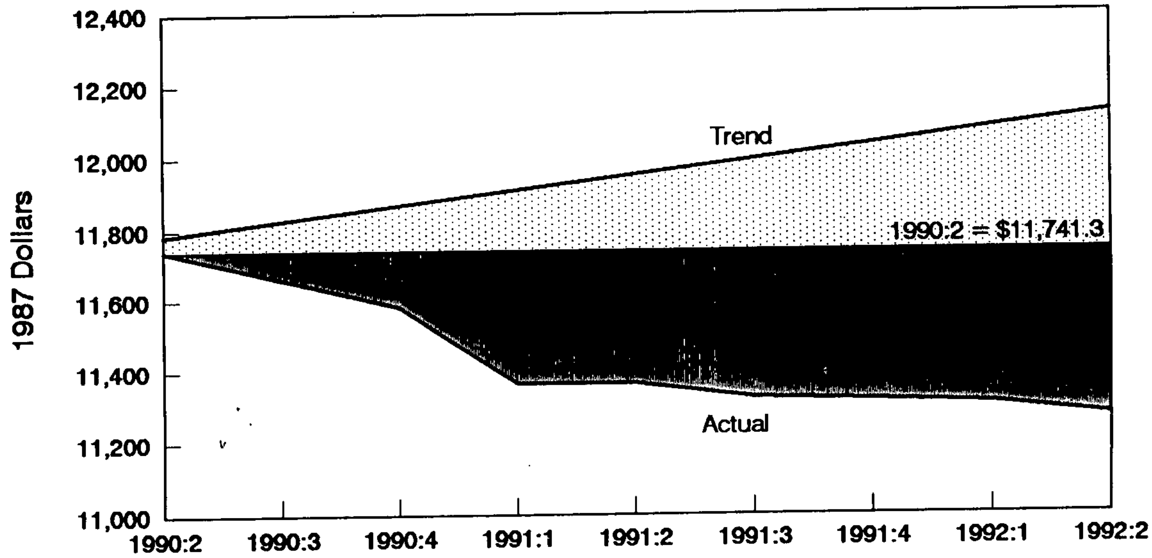
Source: Economic Policy Institute analysis of Bureau of Labor Statistics data.

Figure 5
Average Weekly Earnings,
1989:1 - 1992:2



Source: Economic Policy Institute analysis of Bureau of Labor Statistics data.

FIGURE 6
Disposable Per Capita Non-Transfer Income Trends, 1990:2 - 1992:2



Source: Economic Policy Institute analysis of Bureau of Economic Analysis data.

SENATOR SARBANES. Thank you very much, Mr. Mishel. That was very helpful testimony, and we look forward to your book on the *State of Working America*.

Mr. Reynolds, please proceed.

STATEMENT OF MORGAN O. REYNOLDS, PROFESSOR OF ECONOMICS, TEXAS A&M UNIVERSITY, COLLEGE STATION, TEXAS, AND SENIOR FELLOW, NATIONAL CENTER FOR POLICY ANALYSIS, DALLAS, TEXAS

MR. REYNOLDS. Thank you for this invitation.

I'm pleased to be here to address this vital topic in an election year or any other year, for that matter.

I want to divide my remarks into two sections.

One is to talk about the short run, and some briefer remarks about the long run.

We've heard a lot of depressing talk today and it's backward looking.

That is, I agree with a good deal of what has been said. We have had a recession. We're moving sideways, more or less, up until this point.

But to get a clear understanding of what has gone on and what is about to go on requires us to understand a little bit more about the market economy.

There's been an awful lot of talk here about quantities, but none about prices.

Adam Smith's name was mentioned, a master in economics. And that's very useful, because we should recall his apt metaphor, the invisible hand.

The invisible hand, namely, millions of market prices changing daily, are what coordinates human action, dovetails action, make the system work.

It is not people in Washington, as Senator Riegle said. I liked his remark that we're still flopping around. Amen.

That doesn't mean that we shouldn't have strong confidence in the fact that we are on the verge of a recovery.

Let's recognize that when we have serious problems in the economy, what we have is discoordination, a form of chaos. The obvious manifestations of this are lots of unemployed labor and, as well, idled capital of various kinds that is not being used to produce prosperity.

Why is this? The first thing an economist would say is, if something is in massive excess supply, if we have a glut of something, their prices are too high to be sold, they're too high for current market conditions.

Let me give you my bottom line on the short run, and this model really works well in explaining our fluctuations, our ups and downs in employment and unemployment.

In our political economy, total employment cannot grow unless money spending grows more rapidly than labor compensation per hour. Whether it's good or bad, it's true.

The recent past is just another instance of this. Our last strong year of employment growth was 1989. And since then we've stagnated, staggered through recession number nine since World War II.

And, as is well known here, unemployment has officially been reported as risen from about 6.5 million, on any day, to more than nine million.

Why? Why? We have a mixed economy, a mixture of markets or capitalism and sizable government or socialism. And the blame, of course, can be put in either direction.

I blame government—that is, mistakes in the recent past, in the management of government policy that has staggered an economy the size of the United States, a predominantly market economy, for months and months on end. And these mistakes could be described in three categories: monetary, fiscal and regulatory mistakes.

Now, money is number one. Money growth plays a big role in how rapidly money spending changes. And there was a sharp drop in monetary growth in 1989.

The money supply, as measured by that, grew less than 1 percent. That was down sharply from the previous year, 5 percent, or nearly 9 percent during the preceding years of the 1980s.

Now, since then, money growth has sharply inflated. And this gives me reason for optimism.

Why do these monetary fluctuations, why are they so important in terms of their short-term effects on employment and output?

Essentially, it's because pricing in the market, basically market-determined but somewhat political as well, doesn't react quickly. This has been known since Henry Thornton 1802, on up to the present. Labor prices and capital prices have longer term commitments, and they don't react quickly. They wait around.

We get temporary gluts and surpluses of various factors of production, and quite frequently their prices continue rising at their old, no longer sustainable rates.

So this is the basic explanation for why we have fluctuations, over the course of the business cycle, as different rates of spending hit the economy. Namely that prices get out of relation with each other.

Then, as you go through a slump, the prices come back into better relation with each other, employment revives, output growth revives. And that's just what we're doing right now.

So sustained slack, as long as the price system is free to operate, reasonably free to operate, is not a long-run problem. It is a serious short-run problem, and of course it affects some people much more severely than others.

So this can all be summarized in a simple equation, as economists are want to urge on the public, and this equation works like gangbusters for 1980 through 1991. That is, if you take total hours of employment, I can explain 92 percent of their fluctuation, just based on changes in the rate of money spending and changes in compensation per hour.

The slower is the growth in compensation per hour, the more rapid is job creation or employment growth. This is just simply a fact of economic life that prices matter and the prices of labor matter.

And, of course, the more rapid is money spending, the more rapid is employment growth.

Now, there are some secondary or minor factors that could be listed. Nobody knows how important these are. But let me just list these as possible government errors that put us in a recession and sustained it.

One, the 1990 budget deal which raised taxes just as we were entering the recession. The increase in the minimum wage in the last couple of years is up 27 percent. More regulations, mandated benefits, which raised the effective price of labor. More generous unemployment benefits, which allows people to have a higher reservation price, to hold out longer in making adjustments.

We've had corporate debt overhang, which calls for restructuring, getting nonlabor costs under control. And then we've had, of course, Canada and the United Kingdom go into a recession before we did. You can point to depressed global economy.

These are very secondary, in my view, for short-term business fluctuations.

Now, here's the good news. I'm in the unusual position of being the bearer of good news, both short and long run. The recession is about over. I know we've heard this, some partisan talk about this, but——

SENATOR RIEGLE. You have to admit, we've been hearing that for a long time. We've been hearing that for two years.

MR. REYNOLDS. Well, let me give you two sound reasons why I believe that's right. I believe my equation, which is in the record. And that is, one, we have the so-called natural recuperative re-coordinating powers of the market economy at work. In other words, Adam Smith's invisible hand, which I'm trying to make more visible, is bringing down the rate of increase in compensation per hour, to something like 3 percent or maybe less. And that's going to stimulate more employment and hence recovery. Because when people are working, they're going to produce more output.

The second factor is——

SENATOR RIEGLE. Could I just stop you there, just for a minute? And I want you to continue.

But, in effect, what that's saying is that the way to solve this problem is for people to work for less. In other words, if wages drop, there'll be an equilibrium struck at some point, the market forces will work and so forth.

And that may well be right in an economic model sense. I think when you say that to the public—especially when they see what's happening to workers in Japan, workers in Germany, and others moving ahead. In effect, we're saying, look, just tighten your seatbelt. This is going to work out all right as long as you're willing to settle for less income going down the road, because we have to do that to equilibrate the free-market forces.

I mean, you're not really offering that, are you, as——

MR. REYNOLDS. I'm not running for office, and I'm offering this as an explanation.

And the truth is, in an inflationary economy, it's not so much absolute wage cuts, in most instances, as a moderation in the rate of wage increase. We're still getting average compensation increases.

So I'm arguing this as an economist, not as something to sell to the general public. I'm not saying this is easy to sell.

So the central, major factor is that we have to look at what the Central Bank's been doing, and they've been inflating the money supply.

Of course, there are loose linkages here between what they do and the economy, in general. We might want to talk a little bit about that.

So the basic argument is that money stimulus is going to allow us to put these prices into better relation with each other, and I'm predicting, over the next year or so, probably a 3 percent growth in employment, three million plus jobs, although I have this in hours.

It depends on how businesses react and so on.

Now, there's some secondary reasons to be optimistic. Corporate profits are growing. This is almost a sure sign that lagged employment growth will follow.

Dun and Bradstreet, I believe, reported some survey optimism among business leaders as the highest in eight years.

The labor share is also behaving correctly for recovery.

Now, over the longer run, when we're talking two and three decades out, the prospects for American workers depends on to what degree do we tilt towards capitalism, the market economy versus more government intervention.

Productivity, of course, everybody agrees is the key to higher real wages and income growth over the long run.

The proximate causes of that are more capital investment, more skilled workers, more technological progress, and better coordination, better constant reallocation of labor and capital in their most productive uses.

How do you get that? Adam Smith wrote the bible in effect on that.

Let me quote the master.

> Little else is requisite to carry a state to the highest degree of opulence from the lowest barbarism but peace, easy taxes, and a tolerable administration of justice, all the rest being brought about by the natural course of things.

So what we need is a supportive legal framework for the market system to work and produce wealth. For well over two centuries, we've been at it, and we're the wealthiest nation on earth by far. I don't think we should look to Japan or Germany for models, except as their experiments work or fail.

But we're far more successful than our European or Japanese competitors.

Now, how are we doing on Adam Smith's instruction? I say that we're not doing very well. Peace, we have some reason for optimism. Taxes are not easy. And many of the government programs are doing considerably more harm than good.

However, I'm optimistic about the long run. I think that too many of the failures of government are becoming too manifest. If we look at the educational system, especially in our inner cities, we see it as unresponsive, centralized, monopolistic and inefficient, and poorly serving our most disadvantaged and poorer citizens.

So I think, over the long run, we're going to make some dramatic changes that will improve the skills of our younger generation, and this through a more responsive, decentralized, and competitive, more efficient schooling system.

And then finally, on the poverty front, by world standards, of course, poverty is not severe in the United States. We've clearly not licked the problem.

On the other hand, the war on poverty, in a sense, has almost been won, but nobody's happy or celebrating, in the sense of really serious material deprivation on a substantial scale. It largely has been won; we've made enormous progress on this. But yet there's no celebration. Why?

Well, in the more fundamental sense, we might have a more serious poverty problem than ever. Namely, a larger number of people who are unproductive or dependent and\or irresponsible. And what the poor most need is not some kind of entitlements or handouts, but clearly more job opportunities and more liberty in a growing expanding economy.

So I urge us to move policy in a direction to allow the market system to expand, to resume its expansion.

Thank you.

[The prepared statement of Mr. Reynolds follows:]

PREPARED STATEMENT OF MORGAN O. REYNOLDS

I am pleased to be here this morning to address the state of American workers. Few topics are more vital in an election year ("jobs, jobs, and more jobs"), or any year for that matter.

IN THE SHORT RUN

A clear understanding of what is going on currently in our labor markets requires us to see some of the work performed each day by the invisible hand, in Adam Smith's eloquent metaphor. The price system Consists of literally millions of market prices, many changing daily. The system coordinates human action; to Coordinate means to work harmoniously together, to dovetail actions. If many of these prices are significantly "wrong" for a sustained period, chaos results (serious. discoordination). In particular, high unemployment of both labor an capital (a massive glut of unpurchased services) signals that their prices are too high for market conditions.

What is my bottom line? On the short run economy, the principle is this:

- In our contemporary political economy, total employment cannot grow unless the volume of money spending rises more rapidly than labor compensation per hour.

The recent past is just another instance of this conclusion. The last strong year of employment growth was 1989 (see Table 1, column 1). Since then, employment has stagnated, as we have suffered through post-World War II recession number nine. By official estimates, the numbers unemployed have risen from about 65 million to more than 9 million.

Why? Only government errors are big enough to throw an economy the size of the United States off course and keep it staggering for an extended period. The cause of our short run difficulties, I believe, is monetary, fiscal and regulatory mistakes. Number one was the sharp cut in monetary growth in 1989. The M1 measure of the amount of money grew less than 1% in 1989, down sharply from the 4.9% in 1988 and the 1981-88 average of 8.6%. The direct consequence was a drop, after a lag, in the rate of growth of money spending in both 1990 and 1991 (see Table 1, column 2).

Fluctuations in the rate of growth of money Spending have important short-run effects on employment and output. Why? Essentially because pricing especially for labor, does not react quickly enough to sustain reasonably full employment. We get "gluts" or surpluses of goods, including labor services, because the prices of these goods and services are no longer consistent with market conditions. Their prices continue going. up at old, no longer sustainable rates. Eventually, after a good deal of economic pain, however, people adjust to the new conditions, markets begin to move toward market-clearing prices, and growth resumes because prices come into better relation with each other again.

The indispensable role of pricing in Coordinating economic activity has been underemphasized. Too few of my colleagues in the economics profession have emphasized the importance of prices in aggregate analysis and, in particular, price-cost margins for business. John Maynard Keynes (1931), however, wrote, "there is no positive means of curing unemployment except by restoring to employees a proper margin of profit" (p.234). Benjamin M. Anderson, Jr. (1949) wrote:

> With respect to business, there is one outstanding fact. Business expands when profits are improving. Business contracts when profits decline or when there is a serious threat to profits. Now, profits are what is left of gross income after costs are subtracted, and the labor factor in costs is overwhelmingly important (pp. 436-37).

Milton Friedman (1977) made the argument pointedly in his Nobel lecture: "... the apparent tendency for an acceleration of inflation to reduce unemployment... can be explained by the impact of unanticipated changes in nominal demand on markets characterized by (implicit or explicit) long-term commitments with respect to both capital and labor" (p. 456).

Sustained slack in labor and capital markets is partly market-determined and partly politically-determined. People make mistakes, they over- or under-anticipate inflation, they set prices too high or too low, they adjust with lags, they hold off for inflation to resume in modern governments committed to "full employment," they "grope." These slow market adjustment speeds are aggravated by union- and government-imposed minimum prices for labor, work restrictions, mandated benefits (higher costs to employers and consumers), employment taxes (not "contributions" to social insurance), and transfers to the idle.

On the downswing, labor prices do not react quickly to an unexpected deceleration in money spending. Price-cost margins get squeezed and many businesses find that they must reduce their losses via lay-offs and smaller levels of production, Meanwhile, labor prices, like a supertanker trying to turn, tend to keep going at their old, unsustainable pace after the reduction in the growth of money Spending, thereby pricing some workers, especially newer entrants, the lower skilled, and minorities, out of jobs. State barriers (also termed "pro-labor policies") especially harm job prospects for new entrants, the young, the unskilled, and minority workers.

Short run fluctuations in total hours employed can be statistically accounted for very well by changes in only two factors:

1) changes in the volume of money Spending (strongly influenced by monetary growth), and

2) changes in hourly labor compensation.

Rapid increases in money spending, all else equal, stimulate employment, while increases in labor compensation depress the quantity of labor demanded [or, increases in the aggregate demand curve for labor stimulate employment, while increases in wage rates reduce the amount demanded]. A simple linear equation supports this reasoning very well: it fits the postwar data tightly. If we use the annual data for 1980 to 1991, for example, we have:

$$\text{\%Chge Hrs Empl.} = .76 + \underset{(.09)}{.70}(\text{\%chge Money Spending})$$

$$-\underset{(.09)}{.78}(\text{\%Chge Compensation per Hr})$$

$$\text{Observations} = 12, \text{d.f.} = 9, R^2 = .92$$

Dare I call it "Reynolds' equation?" Basically, it says that if hourly labor compensation rises more rapidly than total Spending, then employment declines. Variation in the rates of change in spending and wage costs account for nearly all (92%) of the short run variation in total hours employed. The same model also works well with, quarterly data and longer U.S. time series.

Monetary fluctuations combined with "wrong prices" account for the bulk of our recent difficulties, but each recession is unique; factors which may have played a minor role in the downward spiral include:

- The 1990 budget deal which raised taxes just as we were entering a recession.
- The 1990 increase of 27% in the mandated national minimum wage significantly raised the cost of low skill labor, decreasing its use.
- Growing regulations in labor markets such as mandated benefits raised the cost of labor.
- More generous unemployment relief to enable greater withholding of labor.
- Adjustments required by the corporate debt overhang.
- Recessions in Canada and the United Kingdom, a depressed global economy, and other international events.

For the near future, however, pessimism should be put aside. why? We are coming out of the recession. Two factors are paramount:

- The "natural" recuperative (recoordinating) powers of a predominantly market economy have been at work: the invisible hand, to borrow a rich metaphor, has moderated wage increases, thereby stimulating employment and recovery. (This is also reflected in a rise and more recent decline in labor's share of national income-labor productivity is rising relative to pay; and in rising corporate profits; and in the highest optimism among business leaders in eight years).
- The Federal Reserve Bank has pushed the money pedal to the metal, inflating M1 8.6% in 1991 and 8.8% so far this year.

So a near-term boom is in place. Reynolds' equation puts us in a position to estimate its size: If average hourly compensation increases only 3% during the next twelve months and money Spending increases by 7%, then the predicted rise in hours employed is 3.3%. This translates into some 3 million new jobs, the remaining increase being additional hours for the already-employed. No one, of course, should put any confidence in the "exactness" of such predictions. Also, unemployment will not decline as rapidly as hours expand.

Monetary stimulus helps us to put prices into better relation with each other, and thereby helps to end a recession, but it would happen anyway under a sound money regime. Electoral cycles are short, however, and office-holders want the stimulus now. Like drugs, the "high" is temporary and the long run consequences of boom-bust cycles are less pleasant If more jobs and wealth just required runn/ printing presses faster, every nation on earth would be rich. Money inflation is strictly a short run fix.

IN THE LONG RUN

My analysis implies that neither total employment nor unemployment is a long run problem, provided government basically leaves the price system free to operate. The important issue for worker prosperity in the long run is productivity. Total output is total hours worked times the amount produced per hour. Real wages basically increase at the economy-wide advance in productivity (actually slightly faster in a healthy economy).

How can productivity be boosted? The means are obvious and well-known: more capital investment, more skilled workers, more rapid technological progress, more entrepreneurship, and more effective coordination to direct labor and capital into their most valuable uses. Capitalists, ultimately, are workers' best friends because capital is the engine of economic progress. Income growth also is the only sound means to reduce economic hardship and income inequality over the long haul.

So how can these results be encouraged? Capitalism, and its associated legal framework, is the answer. As Adam Smith summed it up:

> Little else is requisite to carry a state to the highest degree of opulence from the lowest barbarism, but peace, easy taxes and a tolerable administration of justice; all the rest being brought about by the natural course of things. All governments which thwart this natural course, which force things into another channel, or which endeavor to arrest the progress of society at a particular point are unnatural and to support themselves are obliged to be oppressive and tyrannical (cited by West, 1976, pp. 58-59).

Adam Smith could hardly imagine the behemoth governments we had today, nor their multifarious attempts to "force things into another channel." Peace among governments is always an "iffy" proposition but we are entitled to some long range optimism. Taxes are far from easy, of course, and every dollar of tax revenue probably costs taxpayers $1.50 if we figure in administration and reduced production lost to American families (Payne, 1992). Federal deficit spending also subtracts capital virtually dollar for dollar from the productive sector, further impeding progress against poverty. And, on the spending side, we may not get all the government that we pay for, but it does harm enough as it is.

Nonetheless, I am tremendously optimistic about the future prosperity of American workers. Why? Because the welfare state not only lives on borrowed dollars, but also on borrowed time. the mixed economy i s an unstable mixture of capitalism and socialism, and, just as in the rest of the world, the future mixture will shift decisively toward voluntary cooperation, namely capitalism. Two or three decades hence we will live in a much better world. In education, for example, we will enjoy a responsive, de-centralized, competitive, and efficient system that replaces today's unresponsive, centralized, monopolistic, and inefficient systems. Cracks in the public school establishment story are widening and the confidence of a skeptical public erodes further daily. After the impending collapse, human capital and skills will soar, and with them, productivity.

The information revolution is following hard on the heels of the intellectual revolution. The mobility of workers, capital, and information is up. In this new environment, lies, even big lies, simply cannot last as long as they once did. Government cannot deliver the goods, while free markets do, and it is becoming obvious to all. If confidence in the efficacy of government finally collapsed in closed societies, it will in open societies too. so government will roll back, perhaps enough to perform its handful of functions properly. Big organizations are failing around the world. In the twenty-first century people will not share this century's confidence in the omnipotent, healing state. On the contrary, their confidence will reside in the individual, family, enterprise, and voluntary associations within a private property, free market, sound money, limited government system.

Is the classical liberal, constitutional approach to government policy--where the law applies impartially, generally, and equally to all citizens, regardless of group affiliations--really so ascendant? I think so. On the merits, blind-folded administration of justice for all citizens is to everyone's advantage, most of all the least advantaged and least influential citizens in our community. Most of the poor and disadvantaged do not need the forced relief of the redistributive state; even the intellectually innocent have begun to realize some of the enormous harm done to intended beneficiaries by the welfare system.

On poverty, arguably our system of private markets and charitable programs has nearly put an end to serious material deprivation in America. In a sense, we won the war on poverty. But nobody is celebrating. Why not? Because poverty is more than a lack of income or access to services. The only long run cure is for poor persons to acquire the discipline, skills, and values that enable most of us to stay productive enough to avoid poverty. Today's poverty problem is probably worse than ever in the more fundamental sense of a larger number of adults who are unproductive, dependent, and irresponsible. the poor most need the job opportunities and liberty of a growing marketplace under the protective or "nightwatchman" state.

No one knows the future. But if my scenario is remotely correct, maybe we should devote some attention to the transition from welfare state to capitalism. It would be nice to be better prepared than we were for the collapse of communism.

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TABLE 1: ANNUAL PERCENTAGE CHANGE IN TOTAL HOURS OF NONFARM EMPLOYMENT, MONEY SPENDING (GDP), AND COMPENSATION PER HOUR, UNITED STATES 1980-1991

Year	(1) % Chge Hrs Empl	(2) % Chge Money Spending	(3) % Chge Compensation per Hr
1980	-0.8	8.8	10.7
1981	0.7	11.9	9.6
1982	-2.4	3.9	7.5
1983	2.0	8.1	3.9
1984	6.0	10.9	4.0
1985	2.5	6.9	4.2
1986	0.9	5.7	4.9
1987	3.3	6.4	3.4
1988	3.5	7.9	4.1
1989	2.7	7.0	3.4
1990	0.3	5.1	5.2
1991	-0.1	2.9	8.2

Source:

(1) *Economic Report of the President, February 1992*, USGPO, p. 349 for years 1980-1990; 1991 figure calculated from U.S. Department of Commerce, *Survey of Current Business*, February 1992, p. C-2, and March 1992, p. C-2.

(2) *Economic Report of the President, February 1992*, p. 298.

(3) Ibid., p. 349 for years 1980-1990; 1991 figure calculated from U.S. Department of Labor, *Monthly Labor Review*, May 1992, p. 99.

SENATOR SARBANES. Thank you very much.

Mr. Magaziner, I wanted to follow up on this worker training point that you made.

As I understood it, you said that we spend only 10 percent of our education dollar educating people after they've finished college. Is that right?

MR. MAGAZINER. After age 21, yes.

SENATOR SARBANES. After what?

MR. MAGAZINER. Age 21.

SENATOR SARBANES. After age 21. And that's in contrast with what the European countries and Japan do, I take it?

MR. MAGAZINER. Yes.

SENATOR SARBANES. Now, this chart shows the share of workers trained by the current employer. In other words, the extent to which the employer is training his workers. And it shows that the Japanese are well above the United States in that; in fact, 70 percent and above.

Now, what this scale along here shows is the educational attainment of the worker. In other words, less than high school, the American employer trains about 20 percent of his work force. The Japanese employer is at 70 percent.

This is high school, where we move up a bit. This is one to three years of college. And this is four years of college.

So the Japanese employer trains a significantly larger percentage of his work force than ours do, but a much more significant part at the lower educational levels.

In fact, I think you said that 70 percent of the money spent by employers training their workers in the United States was spent on college-educated workers. Is that correct?

MR. MAGAZINER. Yes, that's right.

SENATOR SARBANES. How do you explain this?

First of all, the gap isn't even close with regards to college educated people, which is where the American focus is. And, of course, this gap is larger, much larger, as you move down the level of educational attainment.

MR. MAGAZINER. I think there are two explanations. One is that too many American companies, I think, have stuck with traditional forms of work organizations, which basically assume that a relatively small percentage of the people are going to do the thinking for the organization. And they basically plan work processes for the front-line workers in great detail. And you assume that the front-line workers do simple repetitive tasks over and over again.

SENATOR SARBANES. Sort of turn them into a human machine, I think.

MR. MAGAZINER. Yes, more or less. And, in fact, in the early Frederick Winslow Taylor days, it was literally that. You wanted to create workers who would be machine-like.

Therefore, there's been more emphasis by American employers on investing solely in capital as a way to upgrade productivity, rather than in the skills of workers.

I think in Japan, what they realized earlier than we did, although it was Americans who taught it to them, was that in today's world, with today's modern, complex product mix, introducing new technologies, more frequently trying to customize products for markets and services for markets, that you needed a more flexible work place, and that attaining lower cost in the long run, better productivity in the long run, came from investing more in the skills of your workers, so they could use the capital you were investing in better.

And they've moved to different kinds of work organizations where they will typically delegate more responsibility to those on the front lines, and they create less of a bureaucracy on top of those people. And they achieve better productivity that way, and also, by the way, better quality. So that's one reason.

The second reason, which is a public issue, is that I think in Japan, there tends, although this can, to some extent, be misleading, but there tends to be, among the larger companies, still a lifetime employment system, where companies basically view investments that they make in their workers as long-term investments, because those workers are going to be with them, in one way or another, throughout their working lives.

In America, too often, when we interviewed companies on our Commission and said, why don't you invest more in training, the answer was well, I could train somebody and then he'll walk across the street, to my competitor, to some place else, and I lose all my money.

And so there's not that same incentive, because you don't know what's going to happen in work. You buy a piece of machinery, you know it's yours; you invest in a worker, you're not sure where that worker's going to be three years from now.

So I think those of——

SENATOR SARBANES. Well, this proposal of Governor Clinton's, where an employer commits a certain amount to training his workers, or failing to do that, he contributes that amount into a public fund that would train the workers, would be designed, I take it, to get at that very problem. So a company would not be reluctant to train its workers because it feared they would then leave the company, because the company, in effect, has to make that commitment to training. Of course, it would eliminate that company's apprehension about a commitment to training. Would that be correct?

MR. MAGAZINER. Yes. If you look at other countries—not Japan, because they have the lifetime learning system—where there is a lot of labor mobility, the way they've solved this problem is precisely that. They've created universal systems which involve virtually all companies training in some way or another.

So, if you add together the different programs in Germany, for example, companies are required by law to spend about 3.5 percent of the payroll on training. In Sweden, it's 2.5 percent. In France, it's 1.5 percent. In Singapore, it's 1 percent, and in Ireland, it's 1 percent. And we can go through a whole long list. And they do it in different ways, but they basically have that kind of requirement.

As we interviewed companies in those countries, they said they didn't hesitate to do that, because they knew everybody else was as well. And if the employee left, then they could hire an employee who has been trained somewhere else. And so that universality in the system was important.

Right now, about 15,000 companies in America do about 98 percent of the training that takes place, out of the millions and millions of companies that we have.

So, I think, although I can't speak for Governor Clinton, I think the proposal that has been put forward calls for gradually phasing in this kind of training over the decade, but recognizing that very small companies might not be able to do it, or it might be too burdensome. It begins only with companies above a certain size so that it doesn't put an undue burden on a local retailer that has only three or five employees, or whatever.

MR. REYNOLDS. Can I, Mr. Chairman, make a comment?

SENATOR SARBANES. Surely.

MR. REYNOLDS. This is a false economic argument, even though an economist as great as Alfred Marshall endorsed it.

There is no problem of underinvestment in worker training, provided wages and salaries are flexible. Suppose you have two jobs offering the same compensation, but one features a training component that will raise your productivity for the future, as well.

Well, people would want the training component job. That would keep down the wage. In effect, the employer could offer a lower starting wage or lower wages while their productivity is lower, and then raise wages due to the competitive component later on when the workers are more productive.

So the usual analysis is that the workers actually pay for their training, and it's a perfectly general phenomenon, so there's no problem of underinvestment.

MR. MAGAZINER. I understand. If you took the global economy as one unit, which it's increasingly becoming, your argument is correct.

Theoretically, I think the problem that you have is that if your concern, as these gentlemen's concern has to be, is to say okay, I'm sitting here in a country now that, on average, has higher wages than a lot of other countries, and what I want to do is not necessarily say to my people, well your wages have to come down in order to——

MR. REYNOLDS. Well, until higher productivity——

MR. MAGAZINER. I understand. But what I'm saying is that in a dynamic sense, the company could say, okay, I'll do my low wage thing and put my training into a plant in Singapore or into a plant in Mexico or wherever, rather than into my American plant, because that way I can put it into a place where I have a lower wage.

Now, that American worker, under your theoretical case, could say, okay, I'll go from Michigan and take that job at a lower wage, get the training. But that's not really very realistic in the real world.

So I think theoretically, I understand what you're saying, but——

SENATOR SARBANES. Yes, the company shifts the jobs but the American worker cannot shift his location. The company can put the job in Mexico and work on that theory, do a lower wage and the increase in productivity over time and so forth. But that does not help the American worker. In fact, that simply moves his job out of this country and into some other country. That is exactly the problem.

SENATOR RIEGLE. Yes. That's already what's happening in the auto industry. Without the Free Trade Agreement with Mexico, we've had 70 auto plants —Ford, Chrysler and GM plants—go to Mexico, and we're now seeing all these plant closings across the United States. That's just the auto industry.

We've had a more recent example of making typewriters up in Cortland, New York, with the Smith Corona Company doing precisely the same thing.

Could I pursue that, just for a minute, just on the trade front? I want to, if I may, refer to a chart that I sent down, and if I can get Senator Sarbanes to hold it up. I just want to relate this to what our performance has been over a period of time, and try to figure out where we go from here.

This chart shows the cumulative trade deficit in the United States since 1980. And this chart down at the bottom starts at 1980, and it comes through where Senator Sarbanes' thumb is, to 1992, the present time.

If we had a chart that went back in time to the seventies and sixties and fifties, all the way back to the start of the century, you'd find that prior to going into this red deficit position that we actually had a positive balance of trade. We were up above the zero line, going all the way back to about 1914.

But in the eighties, the accumulation of a lot of things caught us in a situation where we started to run these trade deficits. What is so stunning is what's happened in such a short space of time, given our earlier history. We've gone from 1980, twelve years now, up to 1992. And this scale is notched in hundred billion dollar segments.

So you can see this cumulative trade deficit, since 1980, has now gone through the trillion dollar mark, which would be right here on that scale. We're now down here approaching $1.2 trillion, in terms of this aggregate trade deficit with the rest of the world.

Something is terribly out of phase with us, and I want to go to the second chart, right here.

Now, if you take this chart, if Senator Sarbanes will hold that up again. It's very striking because this, in a sense, is an overlay of time on this miserable trade performance of the United States, as we've become this leading debtor nation, and have had all this drain of wealth and jobs out of the country.

But if you look at what's been going on in these other countries, they've been using different overall economic strategies, but they have worked quite well within their societies.

So Japan chose this real compensation per hour, which takes into account productivity improvement, worker skill, and the industries in which they're working, and so on. They've been at a nice steady climb since 1977, and of course that's helped them create this huge trade surplus for them, which of course is a trade deficit for us.

And the same is true with Germany. I think they're the two most important relevant comparison countries in terms of major industrialized countries, competitive countries.

But if you then look at the United States, you see this very anemic performance. We're lagging way behind these other countries.

Now, with that as the background, I want to pose this point, and then ask you to respond to it.

I had a chance to study economics in some good universities myself, and so, I have had a chance to deal with these concepts for a long period of time and do it with some outstanding professors at the University of Michigan, Michigan State, Harvard Business School, and other places.

What I'm finding is that other nations now have decided to adapt their form of capitalism and their free market philosophy, which they essentially have, as I think all of us here do.

But they've decided that they need a more unified strategy in their public and private sector, and their work forces and citizens. And they have decided that they have to orchestrate that strategy in a way to get onto these improving lines into the future, in terms of their national output and income, and their economic performance as a nation.

So they have concentrated on education, on infrastructure, on worker retraining, lifetime worker retraining and so forth.

We've done very little of that in the United States. We've let that just get sorted out by whatever way the market forces, the mixed bag, would bring it out.

SENATOR SARBANES. Actually, we have allowed our infrastructure to deteriorate. The fact was that we used to have a clear understanding that infrastructure was a very important responsibility that needed to be discharged.

And, of course, one of the major infrastructure projects that this country ever undertook was under a Republican president, President Eisenhower, which was the Interstate Highway program.

SENATOR RIEGLE. Exactly.

SENATOR SARBANES. And it's only in relatively recent time that we've simply allowed the U.S. investment in infrastructure to deteriorate to the point where, in many respects now, we have second-class infrastructure.

SENATOR RIEGLE. The roads are falling apart all over the place. We see it in Michigan in the bridges and so forth.

I was in Pittsburgh this past week. I was coming back from downtown Pittsburgh, out to the airport, traffic was slowed down, and I had a chance to look at these concrete dividers on the highway that keep one lane of traffic from coming across the center to the other side. They're all rotting away. I mean, the concrete's rotted away. It's in a pile on the ground, and the steel girders that run down through it, that reinforce the concrete, are all rusting away.

I had just been speaking to a group of steel workers who had lost over 100,000 steel worker jobs. I'm driving back and I see the infrastructure rotting away, right before our eyes, and we obviously need these steel girders to rebuild this particular stretch of highway, not to mention all the other things that we need to be doing in this country.

And I thought to myself, why can't we couple these unused steel mills and these unused steel workers who are sitting on the sidelines and who have this skill, and put them to work to build these steel girders, so we can come back out here and rebuild this highway before it literally falls to pieces.

We've had any number of bridges collapse recently in the United States. But quite apart from those that have literally fallen down into the rivers that they cross, killing people and everything else, is that we now have an inventory of unsafe bridges in this country that is enormous, that have to be rebuilt. Or water systems, or, as you say, fiberoptic networks, and other things that we need to be doing.

There's so much work that needs to be done.

But coming back, when you look at this chart of the other nations, what they have done is two things. They've taken the invisible hand and then some visible hand. That is, they've put the two together and worked out a cooperative national strategy that is working very effectively for them in the international economy.

And they are not sacrificing their workers to low wages. The Germans are not running their workers into an impossible wage competition with the Mexicans. Or, in the case of Europeans, when Turkey wanted into the Common Market, they were kept out because they were a third world economy with low wages like Mexico. And the Germans were not prepared to have their workers caught in a situation where they had to compete against Turkish wages, and so they kept them out.

That's the different theory that's being practiced by Bush. I happen to think it's wrong here, because I think it's very destructive to us.

But without getting off on that point about the Mexico Free Trade Agreement and the dangers that it poses to our country, it seems to me that the data is now in. We have to have a new economic strategy where, within the scope of our past history and free market practices, the invisible hand and the visible hand have to both be used here to shape a strategy that solves these deficits in education, solves these deficits in technology, solves these deficits in terms of worker training, and really start to move us, and particularly in key industries.

These nations are also deciding which industries they want for the future, which industries are going to be valuable through the nineties and into the next century.

So they're making sure that they're not missing those industries or having those jobs in those industries and that national wealth doesn't go to some other country.

Now, if we don't have some kind of a new mixed strategy of that kind—and I might just make two other points.

We did that during World War II. When we were faced with an international danger that required cooperation and a very sophisticated national economic response, we put it together in this country.

Business and government and labor got together. And we went on an economic surge and we went out and mobilized and won World War II. It was a phenomenal effort in national cooperation.

Once the war was over and the other countries were beaten down, we forgot what we knew during the war time. And the other countries have come back, as we now see, particularly in the last decade.

Now, we're in a new kind of a war. We're in an economic war and we're losing it. That's what that trade deficit chart shows. We're losing the international economic war, and we're losing it in terms of compensation per hour of our workers. And even worse than that, we're building an underclass in this country, which today's headlines tell us about, where the underclass is growing; there is more and more poverty. And we're seeing a disintegration of our social order.

We're seeing more and more of a Clockwork Orange society where there's violence, random violence. You are from Texas A&M. I have to tell you that if you walk the wrong direction in this town, and you go down to take the subway and you do it at dusk, you run the risk, as anybody does in this town, of being shot and killed, because we've had that happen. And it isn't just unique here. It's happening down in Texas and happening in the fifty states.

We're imposing terrible stresses on our society because we have a malfunctioning economy, and we just won't wake up to the fact that we have to come up with a new strategy and orchestrate this effort.

That does not mean government calling the signals. I mean that's a false and phony issue. Nobody's suggesting that. But you can't put government totally on the sidelines here, when what you need is a mobilization and a focused effort that allows you to start to close these gaps.

Otherwise, we're not going to close them, because other countries now have a lead on us in these areas. They're not only not going to wait for us, they're laughing at us.

The Japanese have been laughing at the United States. They belittle our work force. In fact, off to the side, they laugh at our government because of the lack of direction and the fact that we don't have any plan that gets us going at full speed, such as these other nations are doing.

I think this is a clear and present danger to this country. I think the country is in real danger of losing its economic future, if we don't construct this plan. In fact, we are losing its economic future each day.

And frankly, it's not enough to leave it to the invisible hand. We've left it to the invisible hand. The invisible hand doesn't get this job done. The invisible hand doesn't provide the education, doesn't provide the job training, doesn't provide the allocation of money and resources into the technological areas.

That's what these other countries have found. They've decided they have to augment it, that they have to have the invisible and visible hand working together in a very intelligent strategy.

Now, what it comes down to, to me, is that we have to decide. Are we so stupid here in the United States that we can't figure out a strategy that's at least as effective as the strategy that the Japanese and the Germans have?

I think we can. But if we start by saying that we can't even think about it, first of all, that there's no real problem. So we go off and work on something else, instead of working on what is the overriding driving central issue of the day, namely, the problems and damage being done to the U.S. economy and the U.S. work force.

We end up saying, first of all, there is no problem, and second of all, well, if we're going to finally recognize there is a problem, we really can't do anything about it because, if government somehow becomes a partner in all this, such as we had in World War II, we're going to end up losing rather than winning.

We're losing today.

And if this U.S. Mexico Free Trade Agreement goes through—which is really a jobs program for Mexico, as Lester Thurow testified, just a couple of weeks ago—a full third of the American work force without appreciable job skills is going to find itself competing directly with Mexican labor that earns, on average, about 50 cents an hour. And there is no way that they can effectively do it.

Now, you can have a free-market response to that, and the free-market response is going to be very simple. The jobs are going to be snuffed out here. The work's going to go down to Mexico, and we're going to have a bigger underclass.

We're going to have a headline like this a year from now, where we've probably added another two or three or four million people to poverty. And our cities are going to be falling apart. We're going to be at war with ourselves because we don't have a strategy to do anything about it.

First of all, that's crazy economics, but it's also is unwise national policy.

I mean, we're squandering our people. We're squandering our people's future. We're turning away from our people's needs. That's why people are so frustrated. That's what the Ross Perot thing, I think, was about.

The political rebellion that's out in the country is in the citizenry where people actually feel this economic erosion. They feel this loss of real income over the last three years. They see their kids' economic future being diminished. They're scared to death of it.

They don't want to see America continue to slide backward, and the middle class continue to shrink and people slide back into poverty. They want a change, and they want an intelligent change. And you can't leave government on the sidelines.

Government can't run the show, but we're going to have to have an Americanized model and a new economic strategy that can compete effectively against the Germans and the Japanese. And if we don't, we're going to lose our future to them, as we have been doing for the last ten years, and which that trade chart shows.

People can talk from now until doomsday, and it doesn't talk away the fact that we're $1.2 trillion upside down in foreign trade over the last decade, because we've been out to lunch. We've had a bad economic strategy. Trickle down doesn't work. It may drive up the price of paintings at Sothebys, and we may sell a few more half a million or million dollar yachts and have a few more very fancy apartments on Fifth Avenue for those that can afford them. But, at the same time, we end up with an enlarging underclass, more people in poverty, more and more people sliding backward in terms of their incomes, and a country in deep trouble.

That's the choice we face.

Senator Sarbanes. Well, I think that is a very powerful statement of the situation we confront.

I just want to put a couple of questions.

Mr. Mishel, why do you think this recession has affected white-collar workers so much more than previous recessions?

And let me just make this observation. It's very interesting to me that all of a sudden a whole sector of our economy who never understood, and in many instances had not very much sympathy with blue-collar workers, who were always encountering these job layoffs and the question of unemployment insurance and how do you have health coverage for your family when you've lost your job and everything else, all of a sudden now, because of the way this recession has worked, there's a growing understanding and sensitivity in the sector of the population that largely was previously oblivious to that situation, because they are experiencing it themselves.

And they now have come to understand what it means to have been an effective worker doing your job, playing by the rules, and through no fault of your own, losing your job, and then having to face the problem of how do you support your family, how do you meet your health-care needs and so forth.

It's my perception that many, many people classified as white-collar, who have never had this experience before, either themselves or their acquaintances or friends or neighbors are now encountering it for the first time, and as a consequence are beginning to develop an understanding of the problems that blue-collar workers have periodically come up against as the nation goes into recessions.

What is it that has brought them into this recession, as well?

MR. MISHEL. First, let me comment on blue-collar workers, then on white-collar workers.

It's important to understand that the unemployment rate of blue-collar workers is obviously now far higher than it was a few years ago.

SENATOR SARBANES. Oh, yes. It is still a blue-collar recession, as well. *Fortune* was right to put on the cover, in my opinion, what is obviously a blue-collar worker looking out at a parched countryside, when they talk about a job drought. But they were also right, I think, to put on the inside, a white-collar worker facing the same situation.

So they, in effect, have underscored, as it were, the double dimension of this recession and what confronts both the white-collar worker and of course the blue-collar worker.

I have always regretted the fact that the society generally didn't seem to appreciate what the blue-collar worker was up against.

It's very difficult for them. They usually don't have savings put aside of any significant degree. They lose their job and they're really dependent on unemployment insurance. They tend to lose their health-care and so forth.

But a lot of white-collar workers are now experiencing the same thing really for the first time, and are beginning to hopefully develop an understanding of the problem.

MR. MISHEL. Exactly. I mean, the unemployment rate among white-collar workers has risen more than usual in a recession, but the white-collar unemployment rate is still lower than what the blue-collar unemployment rate was going into the recession. But still I think the point stands that this has been a peculiarly white-collar recession.

I think the reason is that we are paying the price for the unbalanced growth of the 1980s. We had too much commercial real estate, too much building for tax shelters rather than shelters for offices and housing. So we had a much overexpanded real-estate sector.

We're paying the price for the problems in the insurance industries, in banking.

We have a highly leveraged retail sector that hasn't increased sales in five years, and which is going through a lot of bankruptcies.

We have basically no growth in all of the white-collar intensive industries. Plus, the lean and mean strategy of American business, which was cut to the bone in the early and mid-part of the 1980s, has moved upscale to the white-collar work force as firms are now drastically cutting white-collar employment, both in manufacturing and in services.

The combination of these effects is to create a lack of growth in white-collar employment, and also very serious income problems.

You might note, Senator Riegle, that the current recession has not only led to a very high increase in poverty, but that the largest income losses from 1989 to 1991 were in the very best-off families in the upper 5 percent.

We don't have any data on the upper 1 percent. And I would bet that they may not have been hurt as much. But it's not only that trickle down has not worked for the vast majority of Americans, it's no longer even working for the people who get the first trickle.

SENATOR SARBANES. Now, Mr. Magaziner, let me ask you this question.

I note that the European Community is embarking on, I think, a $30 billion investment in developing a rapid inter-country rail system. Is that correct?

MR. MAGAZINER. Yes, I believe so.

SENATOR SARBANES. Of course, that dwarfs anything we have thought about doing in this country, doesn't it?

MR. MAGAZINER. Yes. And I think, in general, if you look at both Europe and Japan, there are plans for major, major infrastructure investments.

The Japanese have approved a $300 billion program for infrastructure investment over the next five years. And in Europe, there are a series of programs including the rapid transit program that you've talked about.

And the Japanese are embarked upon, as are the French and the Germans, long-term, 15- to 20-year programs to completely bring broadband fiberoptic communication around the country to offices and homes, so there are major initiatives underway elsewhere in the world for——

SENATOR SARBANES. I take it that it is your view that much of what a major infrastructure investment program would require, in terms of human capital, could effectively draw on a lot of the abilities and capacities that have heretofore been in the American defense industry?

MR. MAGAZINER. Absolutely.

SENATOR SARBANES. And if you are going to be bringing down defense spending because it's no longer needed to address the security threat, and yet you have some very talented people who have worked in those defense industries for many years, the one place in which their talents could be very effectively put to work would be in a major infrastructure investment program?

MR. MAGAZINER. Yes. And, as I said, we've done a study of the skill sets, and they match pretty closely, so you're not having to talk about a major, major reorientation of that work force.

The other thing I would say is, one problem that we've always run into when we think about it, is that we say, well, a number of the companies that do defense work don't really have experience in the commercial marketplace, so they really can't make that transition.

But in the proposal I'm making, you don't depend on that. You basically are letting the marketplace decide what companies want to go in and respond to these requests for bids on infrastructure programs, but you're just saying that, as part of their overall bid process, they'll pick up one of these defense plants. So you make the defense contractor whole because that defense contractor's plant is sold or subcontracted to, and the new company that's going to go into that business and do the business then is one that is capable and can gear up to doing it.

One of the problems we have, just to make the point clear about what you're saying about Europe and Japan, if you want to look now to engineer or construct a high-speed rail system or an intelligent highway system, or a modern recycling system for solid waste, or a modern combined sewer overflow system or whatever—I can go on and an on—you'll find that a lot of the leading manufacturers in the world are not in the United States, because companies have been stimulated by programs in Europe and Japan to go into those businesses.

SENATOR SARBANES. Yes. We are building mass transit, and we have to import the subway cars from outside of the country.

MR. MAGAZINER. Exactly. It's crazy.

SENATOR SARBANES. We do not build subway cars in this country for the mass transit systems. And yet we need mass transit to meet the transportational needs of the major urban areas. They are energy efficient and they are an environmentally positive development.

MR. MAGAZINER. Exactly. And just to give you an idea of that on the mass transit side—I mean, we're not talking science fiction here. In Europe and in Japan, you can ride trains that go on average 180 to 200 miles an hour. Within five to ten years, there'll be trains, because they're already in prototype, going up to 300 miles an hour in those places.

And, you know, that would mean going from, say, Boston to Washington in our crowded corridor in about an hour and a half.

Well, if you had a train system that did that, you would substantially change the equation on gasoline usage, pollution, airport congestion, a whole range of other types of things.

SENATOR RIEGLE. Wasted time of our people.

MR. MAGAZINER. Wasted time of the people and so on.

And so we're not talking science fiction here. We're talking things that are real in these other countries.

And here, if I want to go from Boston to New York, I have to change and wait for a train, because we're not electrified part of the way in New Haven, and so on and so forth.

I just come back to the point that has been read into recorded history, as far back as it goes, that there has never been a world economic leader that did not have the world's best infrastructure and the world's best technology base. It just hasn't been there.

SENATOR RIEGLE. Mr. Magaziner, can I just ask you this question. Mr. Reynolds makes the point that eventually the invisible hand will sort all this out.

You may have an awful lot of disruption and displacement in the mean time, but sooner or later there'll be an equilibrium reached.

And the concern that I have, if we give full weight to that approach, especially when you see what's going on in the world today, it seems to me that that doesn't get us where we need to be. In other words, we have, in large measure, tried that and that's——

MR. MAGAZINER. Well, see, there are two issues. I think theoretically that I understand what he's saying.

But, as we move towards a global economy, the invisible hand will equilibrate across the global economy.

And so basically, if you allow that to happen when you're sitting in one of the higher income countries, if you're not trying to accelerate your own development, you're going to have trouble because you're going to equilibrate downward. But I don't think that's good policy for the United States, to just wait for all those things to work themselves out.

And the second thing is——

SENATOR SARBANES. And the other advanced countries are not practicing that.

MR. MAGAZINER. Exactly. The other advanced countries are recognizing this, and they're saying we have to accelerate our movement towards the high productivity society because we want the world to globalize. I mean, they're not saying protect.

As this begins to happen, we have to accelerate our own skills development, our own technology development, our own infrastructure development, so that as things globalize we will be in good shape.

And I think that's a more forward looking strategy that supplements the free market.

SENATOR SARBANES. Well, gentlemen, thank you very much. This has been a helpful panel. We very much appreciate your testimony.

The Committee stands adjourned.

[Whereupon, at 12:32 p.m., the Committee adjourned, subject to the call of the Chair.]

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