

**HIGH-WAGE JOBS IN A
COMPETITIVE GLOBAL ECONOMY**

HEARING

BEFORE THE

**JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES**

ONE HUNDRED SECOND CONGRESS

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HIGH-WAGE JOBS IN A COMPETITIVE GLOBAL ECONOMY

WEDNESDAY, SEPTEMBER 16, 1992

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

The Committee met, pursuant to notice, at 10:00 a.m., in room 2359, Rayburn House Office Building, Honorable Lee H. Hamilton (vice chairman of the Committee) presiding.

Present: Representatives Hamilton and Obey, and Senator Bingaman.

Also present: Charles Stone, Glen Rosselli, Dorothy Robyn, and Doug Koopman, professional staff member.

OPENING STATEMENT OF REPRESENTATIVE HAMILTON, VICE CHAIRMAN

REPRESENTATIVE HAMILTON. The meeting of the Joint Economic Committee will come to order.

For much of this century, the United States economy provided good paying jobs for less-skilled workers. But in recent years, technological advances, international trade, and a host of other factors have seriously hurt America's blue-collar middle class, and the gap in income between high school and college graduates has widened dramatically. More recently, even white-collar workers have experienced layoffs and real wage declines.

The purpose of today's hearing is to examine what is happening to the distribution of jobs and earnings in the United States, why it is happening, and what industry and government can do to help create more high-skill, high-wage jobs. In short, what are the ingredients for a high-wage economy?

We are fortunate to have with us today three experts on this topic: Lawrence Katz is a professor of economics at Harvard University and a research associate of the National Bureau of Economic Research. He has done extensive research on changes in the structure of wages, labor mobility, and unemployment. Robert Reich is on the faculty of Harvard's John F. Kennedy School of Government. His latest book, *The Work of Nations: Preparing Ourselves for the 21st Century Capitalism*, looks at who wins and who loses in the global economy, and what America must do to avoid increased economic polarization. James Bennett is a professor of economics at George Mason University and an adjunct scholar of the Heritage Foundation. His research has focused on the economics of government and bureaucracy, labor unions, and health charities.

Gentlemen, we are very pleased to have you with us this morning. We will get under way. I suppose the way to go is Mr. Katz, start with you, and just go across this way and hear the testimony from each one of you before we turn to questions.

Mr. Katz, you may proceed, sir.

(1)

**STATEMENT OF LAWRENCE F. KATZ, DEPARTMENT OF ECONOMICS,
HARVARD UNIVERSITY**

MR. KATZ. I am grateful for the opportunity to testify about trends in the distribution of U.S. jobs and earnings.

I have recently completed several studies examining changes in the U.S. wage structure and income distribution over the last 30 years, and I am currently directing, along with Richard Freeman at Harvard University, a collaborative project between researchers and a large number of OECD countries comparing changes in the structure of wages and employment across OECD countries.

Today, I want to focus my remarks on three issues. The first is what has happened to the U.S. wage and employment structure over the last two decades; the second is whether the patterns we see in the United States are universal among advanced industrial countries, or whether there are differences among countries that depend upon policies and institutions; and, third, what do we think are the major causes of the changes in the U.S. wage structure.

It is quite clear from anyone who has looked at the data, from a wide variety of data sources, that over the last decade wage dispersion has increased dramatically in the United States overall and for both men and women. If one compares the wages of full-time workers at the 90th percentile versus those of the 10th percentile, the wage gap has grown by about 20 to 25 percent over the last decade for both men and women.

This is true if one includes part-time workers; it is true from census data; it is true if one looks at data taken from employers. There is broad agreement across the ideological spectrum of researchers, with easily replicative results, that wage inequality has grown. There are three major components of these changes in the wage structure:

The first is that wage differentials, by education and across occupational groups, have expanded sharply over the last decade. In particular, the college wage premium has increased. For young workers, the earnings of college graduates have increased about 30 percent relative to the earnings of those with high school degrees.

Second, for those without college degrees, young workers have been particularly affected by the changes. The relative earnings of older workers have expanded relative to those of younger workers. And, third, a major component of the changes in the wage structure is rising inequality among those of the same age and same education. Even among those working in the same industries and occupations, wage dispersion has grown.

The gap between the wages of two secretaries has increased over time, often depending on whether they work with computers or have word processing skills or not. Similarly, if you go industry-by-industry, occupation by occupation, one finds wage dispersion growing in every sector of the economy, with one exception, which is the Federal Government, which we think may have a wage structure set somewhat differently than in the private sector.

So it is clear that wage inequality has grown, and that it is happening both between education groups and among those with similar characteristics. Who you work for and what you do matters much more than it has in the past for what you are earning. The level of wage inequality today is essentially back

to the level in 1940. The one exception to the growing wage inequality, over the last decade, is that the gap in earnings between women and men has narrowed substantially.

Within every education and age group, the earnings of women are growing relative to those of men. Although there exists much disagreement concerning exactly the causes of all these changes, there is no disagreement about these sets of facts: wage inequality has grown and each of these parts have played a role in it. In the same period, it is clear that the industrial and occupational distribution of U.S. employment has shifted sharply, and it has shifted systematically towards industries and occupations that have traditionally employed college-educated workers, more-educated workers.

Any way you break down the data, at whatever level of aggregation, you see the sectors that have employed college graduates are growing relative to other sectors. Since the price of college graduates has also been going up, a labor economist would conclude that the demand for college graduates must have been increasing over this period.

How do these trends in wage and employment patterns in the United States compare to those in other advanced industrial countries? We have heard a lot from the press, government officials, and others who claim that rising wage inequality is a universal trend and is happening the same way in all countries. It turns out that a careful look at the data, using as comparable data as possible across countries, suggests the pattern is a bit more complicated than that. There are some similarities, but it is not that the U.S. experience is the same as in other advanced industrial countries.

It is true that there was a strong similarity prior to the 1980s. In the 1960s and the 1970s, occupational and educational wage differentials narrowed in essentially all advanced industrial countries for which there is good data. In all countries, with the exception of the United States, overall wage dispersion was narrowing. This tendency towards reduced educational wage differentials and a more compressed wage structure essentially has stopped in all OECD countries. That is the grain of truth to there being a similarity.

By the late 1980s, that was no longer happening. But what has happened across different countries differs substantially. In some countries, such as Great Britain, the pattern is exactly like the United States, wage inequality is exploding with increasing wage differentials favoring the more educated and professional workers, older workers relative to younger workers, and with inequality rising within groups.

On the other hand, that is the exception rather than the rule. In Canada and Australia, there are moderate increases in wage inequality. In Sweden, narrowing continues through the early 1980s and then some widening. Similarly, in Italy and France, one doesn't see much happening until the late 1980s. And in Germany and the Netherlands, there is no evidence throughout the 1980s of any growth in education differentials or rising wage inequality.

Thus, wage structure changes are not the same across countries. It is true a long-term pattern of narrowing differentials has ended, but not every place has experienced the same type of increase in wage inequality as the United States. Similarly, the earnings of less-educated workers, which have declined in real terms dramatically in the United States, really is a U.S.-only factor. Even in Britain, where wage inequality increased tremendously, the real

earnings at the bottom end have gone up. So the United States is not following a pattern that is exactly the same in every place.

On the other hand, when one looks at the distribution of employment, there is a commonality to what is going on. Sectors and occupations that employ more educated workers have been expanding in all OECD countries. All countries, with the exception of Japan, have had large declines in the importance of their manufacturing sector for employment.

Everything I have talked about here, I think, should be viewed as without controversy, as just taking what is in the data sets that have been put together by myself and others. My interpretation of what is happening is the similarity in employment pattern changes, and the differences in wage structure pattern changes suggest that there is something common among countries in terms of the economics that is happening.

There are shifts in technology and trade, which I will talk about a little more specifically in a second, that are going on, that are shifting demand in favor of more educated problem solvers against those without college degrees who have worked in more routinized type of jobs. That is happening among all advanced industrial countries. But that does not necessarily translate into large increases in inequality and declining earnings for the majority of the labor force.

The experience of other OECD countries suggest that a country's policies, with respect to education and training and direct wage bargaining, collective bargaining, institution of minimum wage, matter in how these changes have affected the wage structure.

What are these universal factors that seem to be going on across countries in explaining shifts in demand in favor of the more educated? It is clear that two factors seem to be most important: The first involves increased globalization, reduced transportation costs, improved communications abilities, the ability to transfer technology abroad so that essentially tradeable goods can be produced in many more places than in the past for the U.S. and European markets. And it is clear in the 1980s that the direct effect of trade has been significant in moving relative demand against less educated workers. This can account in most direct estimates for about 25 percent of the change in the relative wages of the more educated versus the less educated.

Immigration has worked somewhat in the same direction in the United States, but it is a bit misconstrued. Immigration is very important at both the top and bottom end. There are a lot of Ph.D.s who immigrate, a lot of college graduates, and a lot of high school dropouts. For the big picture, overall change in wage equality, immigration was not tremendously important in the 1980s. At the very bottom end, among high school dropouts, it has become important, and there could be some role to explain maybe 10 or 15 percent of what is going on, but it certainly is not the major global factor.

The third part is technological change, and it is clear that firms in every sector of the economy are employing more and more highly educated workers relative to other groups of workers, despite the fact that the price of more educated workers has gone up substantially versus other workers. To an economist, the only way this is possible is that, in some sense, their production technology has to have changed, and this is why technological change is focused upon. And it is clear, if one looks across sectors, that the sectors'

implementation of new computer technologies—high R&D—are strongly, highly correlated with the growth in the relative usage of more educated workers. Furthermore, there is a large premium in the labor market attached to computer skills. That seems to account for a substantial fraction of the growth in education differentials.

So the bottom line is that trade and technology, that we can measure, explain a substantial part of the change in the wage structure in the United States through pure market-driven changes in demand. But it turns out that these same demand shifts do not necessarily have to translate into such big changes. To the extent that they do depends on how substitutable college educated workers are with less educated workers.

If college educated workers were not much better than those without college degrees at dealing with these new skills, these forces would not change the wage structure very much. All workers potentially could benefit from the new technology. The comparison across countries suggests that the major factor in determining how these changes affect the wage structure is essentially the training that goes into the large fractions of populations that are not college graduates.

Countries have essentially followed three types of strategies: The U.S. strategy has been essentially not to do much of anything explicitly on the training or education front for those that don't go on to universities. One mechanism of responding to these changes is that more and more people go to universities as the relative earnings of college graduates goes up, and that has slowed down the growth of inequality in recent years as well as in the recent recession, but, clearly, has not come close to reversing trends.

The other two strategies are directly regulating the wage structure. This is a strategy used in France and Italy, for example, with very high minimum wages. It can be successful at preventing the wage structure from expanding, but that is a very costly type of policy done on its own. It tends to be associated with stagnating employment growth, especially for young workers who find a difficult time getting hired when wages are not fitting with market forces.

The final approach is to invest heavily in the training and education of the entire labor force rather than just in the college educated labor force as in the United States. These have been the strategies, although using quite different systems, in Germany and Japan, and seem to be associated with superior export performance, much less of a growth in inequality, and strong real wage performance, even for those without college degrees.

I think the choices are clear. The experience of the 1980s in the United States and Britain suggest that doing nothing is likely to have some market response in more people getting college degrees, but to be a period of poor economic performance for the less educated. Just playing around with the wage structure by itself is not going to offset things. It will become politically unpopular, eventually.

The key issues are things to improve the skills and the investments in the 75 percent of our population that don't get college degrees.

Thank you.

[The prepared statement of Mr. Katz starts on p. 30 of the Submissions.]

REPRESENTATIVE HAMILTON. Okay, thank you, Mr. Katz.
Mr. Reich, please proceed..

**STATEMENT OF ROBERT B. REICH, KENNEDY SCHOOL OF
GOVERNMENT, HARVARD UNIVERSITY**

MR. REICH. Mr. Chairman, my name is Robert Reich. I am on the faculty of Harvard's John F. Kennedy School of Government. I am going to, with your permission, mercifully refrain from reading my testimony. If you have no objections, I will put it in the record, and I will just highlight a couple of things.

REPRESENTATIVE HAMILTON. Very good. Without objection it will be included in the record.

MR. REICH. Competitiveness—we all talk about it. It is one of those terms that has gone directly from obscurity to meaninglessness without any intervening periods of coherence. What we are talking about this morning, the subject of this hearing, really, is at the center, in my judgment, of the issue of the Nation's competitiveness. We do have high-wage jobs in this country. Part of our population is indeed competitive. But much of our population, a growing segment of our population, is not competitive; does not have high-wage jobs.

Competitiveness cannot be generalized. If you look at the United States, if present trends continue, 20 years from now there is going to be a small proportion of American workers who are highly competitive in international markets and doing very well. But Germany and Japan, and a few other countries, will have a larger proportion of their work force in the same category; highly competitive and high wage.

If present trends continue, we are going to have more of a two-tiered economy than we do now. We are going to have the people who work in the glass and steel office towers, who are linked by faxes and modems and satellites to other commercial and industrial centers around the world who are solving problems, whether they are called engineers, or they are called researchers, or they are called marketers, or, even if the world actually needed them, lawyers; and then you are going to have a stratum of people at the Main Street level in the personal service economy who are doing restaurants, retail, hospital orderlies, hotel, and taxi transportation work.

Not that these jobs are awful, but productivity gains are very slow and they are going to be fairly close to the minimum wage. The gap is going to grow, for all the reasons my colleague, Professor Katz, outlined.

In this country, we have an educational and training system that is very appropriate for an old economy, an old economy in which only a few people at the top had to make all the decisions and then a lot of people at the bottom did the same thing over and over and over again. A very pyramid-shaped economy, and we did it through economies of scale. We are moving to a new economy in which a lot of people have to have problem-solving abilities. We don't have that yet.

The two factors my colleague mentioned, globalization and technological change, in my view, are exactly the two factors that are critical. If you are a problem solver, if you come out of a four-year college or university, especially if you have a graduate degree, the market for your services is growing

around the world. As world markets integrate, as technology becomes more complicated, there is a greater and greater market. Supply and demand means your income will go higher and higher.

But if you don't have skills and are in an internationally traded area, millions and millions of people are now competing for your job, and most of them are willing to pay a small fraction for your work; a small fraction for your wages and benefits. And even if we protected the American market, which you recommend, even if we tried to do that, technology would still be taking those jobs away through computers and robots and all kinds of new manufacturing technologies, and even service technologies.

The college degree in the United States has become the parchment that divides the winners from the losers. It divides the people who are in the glass and steel economy, the office tower economy, from the people who are in the Main Street economy, and that gap is growing faster and faster. There is no reason the college degree has to be that signal.

Now, I can speak with some authority on this because I teach in one so-called prestigious university, and I am a trustee of another so-called prestigious university. And I can tell you that what is learned in college rarely, if ever, has any direct applicability to future jobs. Now, ideally, what you learn in college is going to make you a fuller person, make you appreciate life perhaps a little more, make you more intellectually aware of certain kinds of environmental possibilities, but it is not directly going to improve your performance on the job.

Rather, what employers see when they look at someone who has achieved a college degree, it is a signal that that person has a certain degree of intellectual and psychological discipline, making them capable of continuously learning on the job, doing the kind of work that is most important in a high-wage economy, and that is the continuous on-the-job learning. Learning how to solve problems on the job.

Employers in this country take that college degree as the proxy for the ability to do that. If you have a graduate degree, so much the better.

Other nations, particularly Japan and Germany, don't use that. There is a much smaller proportion of the population in Japan and Germany that actually goes to college or has a college degree. I don't have the figures in front of me, but I think 6 percent in Japan and 15 percent in Germany. But they have created other ways of certifying that people have skills; other ways of giving people skills.

There is a whole layer of potential technical skills in this country that lie between the glass and steel tower economy and the Main Street service economy. A whole layer of technical skills that people could get if we organized ourselves properly. They are getting these in other countries and they don't have to go to college to get them.

Now, what I am saying should not suggest we shouldn't help people go to college. If they want to, we should help them more than we are, but not everybody needs to go to college. We have created a monster out there, a kind of myth that people have to go to college. They don't have to go to college, but we do have to help people get the technical skills and training they need, and help employers know that they can count on the fact these people have the technical skills that they need.

Let me talk about four specific things that the public sector could do, and four specific things the private sector could do. First of all, public sector.

I am going to repeat what you have heard many times before, I am sure. In order to prepare oneself for a lifetime of learning, and that is what we need in a high-wage economy, you have to start right at the beginning. A kid who arrives at school at five years old, who is not prepared to learn, may never be prepared to learn programs that we know work, like Head Start, Women, Infants, and Children, and other programs of early education and child nutrition. We have to fully fund, and we may have to go even beyond fully funding, to help other people have access to those programs—lower middle-class people, working class people.

Number two, how we finance primary and secondary education in this country. We are using the local tax base. More and more Americans are being segregated by income. Zip code marketing is all the rage. Why is zip code marketing the rage? Because now you can get to a particular socioeconomic group through the zip code. What that means is that the local tax base is becoming more diverse; that is, disparate.

If you live in a poor city, poor town, poor local tax base per capita, people's per capita revenues per kid, you will have a much, much lower per-pupil expenditure than you do in a wealthy suburb. We are seeing that gap widen in per-pupil expenditures in primary and secondary schools. I am not suggesting that it is only money. Believe me, you have to have standards. You have to make sure schools are performing in a way that they should. But given the way we finance public education, the gap is growing.

Third, the school-to-work transition. Right now, as I said, it is basically college. If you don't go to college, there is no school-to-work transition. Other nations have a lot of different kinds of programs. You have heard, I am sure, in this Committee many times about apprenticeships, about ways the private and public sector can work together to ease the transition for the non-college bound. We have to focus our attention in this country on the non-college bound and the work-to-school transition.

Manufacturing extension is something that this Committee has talked about before. Extension of the small business. The key, there again, is giving people on-the-job training in technical areas that they would possibly not have otherwise. On-the-job training for people who don't have college educations.

We could spend at least several hearings on each of these four areas. You probably have already.

Number one, the private sector claims to be spending \$30 billion a year training workers, and I have investigated that figure. It is even better than what the private sector is saying; it is about \$31, almost \$32 billion a year. But the downside is that approximately two thirds, if not more, of that money is going to people with college educations. Again, it is not going to the non-college educated. So it is not going to the people who need it most.

Private sector—you need to be pushing more of that training money. It is not that you are not doing your job—\$32 billion is a pretty good figure—but more of it needs to be going to the noncollege educated.

Number two, private sector, you have to overcome what economists call the free-rider problem, and that is that there is a reluctance among many

private-sector employers to train their employees in basic skills—really the basics. Not reading, writing, arithmetic, but slightly above that. Why? Because if you train your employee and you train the employee well, what is to stop the employee from going down the street to the ex-employer and being even more valuable?

If I, as an employer, knew that every other employer was giving employees basic skills, I would be much more willing to do it. I would overcome that paradox. I would overcome that free-rider problem. So maybe the public sector can help the private sector by requiring a small amount of training to be going on. I think France is now up to 2 percent.

Number three, private sector, do not shop for tax abatements. Right now, many American companies, even though they pride themselves on working with schools, having computers in schools, and doing all of these school partnerships, they don't know that at the same time their chief financial officer is going around to communities where either they have factories or they have offices and laboratories, or where they might have them, and saying, give us tax abatements, because if you don't, we are leaving; or give us tax abatements in order for us to come.

Those tax abatements take money directly out of the school system and the infrastructure and all the things a local community needs. New York City is now spending over \$700 million a year on tax abatements in order to prevent companies from moving to New Jersey and Connecticut. New Jersey and Connecticut are spending nearly \$200 million a year to get them to come. That is all kinds of money to help real human capital.

Number four, the private sector should go to the high schools directly. Tell the high schools that you going to, among their noncollege bound, hire 5 or 10 or 15 or 20 of their best students; you will work with their principal, guidance counselors, teachers; you will consult them. Tell the noncollege bound that their performance in high school counts, that even though they are not going on to college, it really does have some relationship to future earnings and employment.

Right now, the private sector doesn't do that. As a result, the noncollege bound in high school has no conception at all that performance is related to future earnings, and it probably isn't.

These are four steps that the private and public sectors can work on. There are many more, obviously. We are talking about the tip of the iceberg. But, again, this large and amorphous term called "competitiveness," I think a lot of it does come down to this issue of the noncollege educated workers.

Thank you.

[The prepared statement of Mr. Reich starts on p. 38 of the Submissions:]

REPRESENTATIVE HAMILTON. Mr. Reich, thank you.

Mr. Bennett, please proceed.

**STATEMENT OF JAMES BENNETT, DEPARTMENT OF
ECONOMICS, GEORGE MASON UNIVERSITY**

MR. BENNETT. Mr. Chairman, I appreciate very much the opportunity to be here this morning.

I would like to address, briefly, a somewhat different question from the ones discussed by others here. In specific, I would like to talk about what the Federal Government can do and should do to encourage the creation of high-wage jobs.

When we start talking about job creation, we are not really talking about a new problem, because for a number of years we have had concerns expressed about the so-called vanishing middle class in America. Deindustrialization, according to some people, was causing the Nation's manufacturing sector to disappear along with its high-wage jobs.

This current recession, in which white-collar workers are bearing much of the brunt of unemployment for the first time in the Nation's history, is somewhat different in that most of this can be traced to the technological changes caused by the widespread introduction and use of very cheap computers.

Now, while this pruning of corporate structures is very healthy in the long run, it creates real short-term problems for the employees who have lost their jobs and are displaced, because these dislocations can be painful and difficult. I would like to emphasize, however well-intended as all public policy is, that public policy which seeks to ease the transition of the unemployed through the job creation programs may potentially have some very undesirable consequences. Simply, good intentions do not necessarily produce good public policy.

I might also add that there are a number of people who believe that the whole problem of the disappearance of high-wage jobs has been greatly exaggerated, but for the sake of argument, I think we should accept that and believe that a serious problem exists. That is to say, we need a great deal of high-wage jobs, and, in fact, if we have vacancies for people, they will get their training somehow.

Now, my answer is in two parts. First, what government can and should do and what it shouldn't do. Put simply, government can and should facilitate the creation of new high-wage jobs by encouraging both the expansion of existing firms and the formation of new ones. These are activities that involve risk. Therefore, in my view, public policy should focus on increasing the economic rewards for risk-taking by dramatically reducing or eliminating entirely the tax on capital gains.

To go further than that, one might also want to eliminate the double taxation on dividends and eliminate the taxation on interest income from savings, as is done in some other nations that are doing quite well, such as Japan. This simple expedient would encourage rapid economic growth and thereby job creation.

Now, from a political perspective, economic decisionmaking does not have the same incentives as political decisionmaking. It does not allow bureaucrats to channel taxpayer funds to special interest groups with political clout. There are three reasons why I firmly believe that it is not possible for a government agency to identify sources of new jobs and to try and create them through a spending program.

First, is the whole notion that a jobs creation program is just another form of an industrial policy initiative, with the twist that the emphasis is on employment rather than on technologies or firms. In the past decade, industrial policy has been widely discussed, and it has been repeatedly discredited as

unsound, fatally flawed, and unworkable. And it seems to have nine lives; like cats, it comes back in different forms. But, nevertheless, the arguments in such proposals are still very valid.

Second, and more basically, a high-wage job is a form of wealth. It produces a high income and individuals who would be willing to pay to obtain such a job. But no government, by definition, can create wealth. If public policy could create wealth, then we have found the holy grail. If it were possible, merely by enacting regulations or the right set of laws, if we could create wealth in that way, we wouldn't need to worry about the deficit or taxes, either.

The third thing, in my view, is that public policy must be future oriented. History cannot be changed. So, if we are to have effective public policy, we will have to have very accurate forecasts. History has shown government bureaucracies are very, very incapable of producing very accurate forecasts. In fact, I just, along with a colleague, Tom Di Lorenzo, have written a book about this called, *Official Lies: How Washington Misleads Us*.

To give you an example: Oil was first discovered here in the United States in 1859 in Pennsylvania. Some seven years later, the Federal Government noted that we may need synthetics because oil production may end. Throughout this period, from 1866 to the present day, we have had a whole stream of forecasts. For example, we were told there was little or no chance of oil in California, little or no chance of oil in Texas or Kansas, and even as recently as the Carter Administration, oil was supposed to cost \$115 a barrel by 1990.

So, when your forecasts make constant errors, it seems to me there is little, very little, public policy can effectively achieve, and if you have a Federal Government program targeting the creation of high-wage, high-skilled jobs, there is likely to be quite a costly failure.

Thank you.

[The prepared statement of Mr. Bennett starts on p. 43 of the Submissions:]

REPRESENTATIVE HAMILTON. Senator Bingaman, please proceed.

OPENING STATEMENT OF SENATOR BINGAMAN

SENATOR BINGAMAN. Thank you very much.

Thank you, Mr. Chairman. I appreciate the testimony of all the witnesses. I didn't get to hear all of Mr. Katz's testimony, but I heard most of it and I have looked at it.

Let me ask, maybe, just a slightly different perspective on it. In my State, when you say high-wage jobs, you are talking about one of two things. You are talking about government jobs or you are talking about manufacturing, which many of the manufacturing jobs are not really high wage, but they are high wage compared to what most folks are doing, which is servicing the tourist industry; doing service-related jobs. Some of the things that you were referring to, Mr. Reich.

I guess what I am concerned about is that we can do all the training in the world, but if we don't have other explicit policies to encourage the maintenance and growth of our manufacturing sector, we are not going to create high-wage jobs, as those jobs are defined in my State. We have 5.6 percent of

our workers in New Mexico engaged in manufacturing. Now, the figures I hear—you folks may know better figures—that that compares to about 16 percent nationally in manufacturing, about 28 percent in Japan, and about 32 percent in Germany.

So we do not have an industrialized economy in New Mexico, which we are talking about here. Unfortunately, I think that circumstance carries through to a lot of our country. We need to have explicit policies that allow and encourage industry to create manufacturing jobs and maintain manufacturing jobs. I think, from my limited perspective, that means tax incentives for investment—plant and equipment. In this country, not overseas.

It involves things like manufacturing extension, of course, for small- and medium-size firms, but it involves other things, I am sure, that you could allude to. But, as I say, we can do all we want to in the area of training, and we can get very highly trained, college educated people who have great skills, but if we don't have accompanying that a series of these other policies, we are just not going to have the opportunities for these folks. You are going to have a lot of engineers driving cabs, and that is my concern.

I would be interested in comments that any of you have. Mr. Katz, maybe you would want to start.

MR. KATZ. I agree with you. I think investing more in the noncollege bound or having more people go to college are necessary conditions for a high-wage economy, but they are certainly not sufficient conditions by themselves. And if we look across countries at what are the keys to having high growth in wages and productivity, there are two factors: One is human capital investment, particularly in those who are noncollege bound; the second is investment in physical equipment and new technologies.

It is clear that you cannot get a lot of that investment if there are not the people around to do the work, but it is also clear that just having the skills by themselves is not completely sufficient. And I think that policies for encouraging investment in new equipment and new technologies are quite an important complement to improvements in the training of the noncollege bound.

It is certainly true, on average, jobs in durable goods, manufacturing, pay higher wages for a given type of worker than other jobs, but the whole definition of high-wage jobs shouldn't be manufacturing. I think we live a little bit in the past, in the notion of manufacturing being the whole thing driving the economy.

I think it is important, and we need a policy for it. But, if we look, for example, at the recent export performance, we have done tremendously well in exporting business professional services and other things, which are very high paying jobs for college graduates, but in a world where noncollege graduates have problem-solving skills could be won in tremendously expanding markets.

One need not look at manufacturing jobs, as a single statistic, as the importance of high-wage jobs. There are a lot of other jobs in services that are tradeable, as well as things done nationally, that involve a lot of skills that we tend to ignore by focusing just on manufacturing. I think that there is no state of nature in which we are going to have an economy in which the majority of people are going to be working in manufacturing, so we have to pay attention to other sectors as well.

MR. REICH. Senator, this country now has no strategy for reviving American manufacturing in the high-wage job area of American manufacturing, which is to say, and I agree with you completely, not only tax incentives for plant and equipment, but everything including permanent R&D tax credits, which both presidential candidates interestingly are now calling for. This is widely recognized.

Other countries do a better job than we do trying to summon resources together to make investments in high-wage manufacturing jobs. I think that is the critical distinction. Because we are creating manufacturing jobs in this country now. Not many, but they are low-wage manufacturing jobs—\$7 an hour, \$8 an hour. Nothing about manufacturing, *per se*, any longer means high-wage jobs.

In fact, if you look at a product, if I were to give you any gadget, or we were to take an automobile and come into this room and take it apart, you would see more and more the price of the product. More and more, the price of that automobile goes into manufacturing engineering, design engineering, styling, complex fabrication, marketing, sales, legal services, all kinds of things that are services. I mean, these are all high-wage jobs. The actual proportion of that automobile; that is, what you and I would consider manufacturing, people soldering and big assembly lines, is shrinking as a proportion of that value.

So what we really have to do is to develop the ability in this country to add technical jobs, high-wage technical jobs, that supplement a lot of those professional jobs that are already doing very well. Which all goes to say, you are absolutely right, but I wouldn't get too hung up on the manufacturing versus service distinction. I think the high-wage job may be the lens in which we should look through.

SENATOR BINGAMAN. Let me add one other thing, and then maybe Congressman Bennett would like to comment.

I am also struck by how little effort we make, our industry makes and our government makes, to export products that result from high-wage jobs.

I had an occasion to vacation a couple of weeks ago in Germany with my family, Senator Bingaman. First of all, everything is so expensive that you can't afford it. Second, you notice when you get there that all the cabbies are driving BMWs and Mercedes Benzes—a very, very expensive car—to get you from the airport into town. There is no doubt in my mind that if we were permitted and able to compete in the sale of automobiles in that market, we could drastically undercut those companies in selling cars. I mean, with the dollar where it is relative to the Mark.

MR. REICH. Undoubtedly, the low dollar will help us in exports, but as you put your finger it, it makes everything else we want to buy from the rest of the world that much more expensive. You could get more competitive by having the dollar decline, but that is like being more competitive by getting poorer over time.

Let me also say, and this is an amendment to what you just said, if we get out of the manufacturer versus service distinction, and we start looking at high-wage jobs as the goal, we find that some of our major exports, in terms of high-wage jobs, are entertainment. In fact, the number two enterprise, just behind jet airplanes, the number two major export of the United States is

entertainment: Films and cassettes and television programs, and this entire industry. A lot of high-wage jobs.

We ought to be making sure right now that Europe does not prevent us from getting those kinds of high-wage exports into Europe. That should be one of our highest trade priorities right now.

REPRESENTATIVE HAMILTON. Let me go to Congressman Obey, and then we will return to you, Senator.

Congressman Obey, please proceed.

REPRESENTATIVE OBEY. I just have three questions.

Dr. Katz, I was interested in your statement in which you say that much empirical research on cross-country growth patterns concludes that investments in human capital labor force skills and physical capital are the key sources of rapid growth in improving living standards.

I had heard some people question that. I would simply like to ask you what you regard as the best evidence of that in the research that you have seen?

MR. KATZ. There is a very large recent literature that looks at—and, again, this is research on cross-country comparisons as well as time series comparisons within countries, which was put together by Robert Summers and Al Heston at the University of Pennsylvania—a series of comparable data across, over 100 countries for the last 30 years, on things like investment in physical capital, total GNP and growth. And there is a large literature, much of it published in the last couple of years, in academic journals.

The clear robust findings of these are that if you look at countries' growth rates over 10-, 20-, 30-year periods, the first factor that matters—and one I didn't mention—is that you grow faster if you started out behind. Hopefully, that isn't the mechanism we want to rely on, because it is much easier to adopt technology that has already been used in the rest of the world to grow.

The other two factors that matter a lot are how much you invest in education and how much you invest in physical capital. The education thing is very important because your existing stock of education is the key determinant of how much in the future you then invest in physical capital. You can view that as you need the education to make those investments in new technologies worthwhile in an increasingly open-world economy.

Where does the capital go? It goes to the place where the skills are around. So it is clear that starting out behind and having low wages can get you some more capital in investment, but the other key strategy, which seems to be more useful from our point of view, we could make ourselves incredibly poor and get a lot of jobs here, but I think the investments are clear.

What the debate in the literature is, it tends to be a technical debate about whether having more investment affects your growth rate permanently or just your level, and that is really a technical issue, that over the time periods which we look at they are pretty much similar.

Again, one could question all of this evidence, in that reverse causation could be the driving force. Countries that have their act together may invest more and grow more, and it might not be causal, but the evidence is fairly robust on the correlation.

REPRESENTATIVE OBEY. Do either of the other panelists disagree with anything that Mr. Katz has said?

MR. BENNETT. Well, perhaps, I could address some comments toward Senator Bingaman.

REPRESENTATIVE OBEY. I would appreciate it, in my time, if you would respond to my question of whether you disagreed with anything Mr. Katz said.

MR. BENNETT. Okay.

REPRESENTATIVE OBEY. Just two other questions.

Mr. Reich, in your statement, you address the view that primary and secondary education should no longer be funded largely from local property taxes. I want to ask you what the federal strategy should be with respect to that.

As I see the world, the Federal Government gets stuck with an awful lot by way of pressure to pay for programs to aid cities, because local regions essentially bug out on their responsibilities to deal with the problems of cities themselves—the most spectacular example of that being here in the Nation's capital. So I think the lack of responsibility on the part of people who use cities to earn their bread but don't provide much by way of support for the cities in return means that the Federal Government gets stuck with a big piece of the budget, and in an ideal world it wouldn't.

I don't think we will be able to do much about that, and so I guess my question is: Given the fact that we are limited there, and given the fact that the Federal Government expends such a small percentage of the total national budget for education, how do you think we can best impact the inequality problems that are raised by reliance on property tax?

In my state, for instance—which has a reputation for progressivity—I am struck by the fact that we have such a wide range of financial support from school district to school district, generated locally, that we, in many ways, exceed the divergence in taxes which the courts declared unconstitutional.

So I guess I would ask you this: What would be wrong—and there may be other things you would want to consider—but what would be wrong with simply saying that, with respect to federal aid to elementary and secondary education, one of the major factors that we would use to determine who gets that limited pot of money is the degree to which states themselves have equalized financial burdens and resources between elementary and secondary school districts?

MR. REICH. I would support that wholeheartedly, but I would also go beyond that perhaps, Congressman, and there are ways in which the Federal Government, through its leverage, might encourage consolidation between urban and suburban areas.

One of the great scandals in this country, as you suggested, was that you have some extraordinarily wealthy suburbs draining extraordinarily poor urban areas and where the urban schools experience disparate per-pupil expenditures that are far lower.

Now, again, let me hasten to add that you want a lot of school restructuring and school reform, and you need school standards and you have to get a lot of the school bureaucracy out of the way and put responsibilities down to teachers and students. But even when you do that, there are still great disparities in per-pupil funding.

Consolidation might help the Federal Government, who has a lot of leverage in the way you suggested in terms of consolidation, but a third point.

In 1980, the Federal Government supplied 9 cents of every dollar spent on primary and secondary education. We are now down to about 5.5 cents. There may be some justification in looking at the states where per-pupil expenditures are lowest or where poverty figures are worse and coming up with a formula—to the extent that it is possible to come up with a "neutral formula"—that uses that at the margin cents—6 cents, 8 cents, 9 cents, whatever the Federal Government could do—to help those states that are particularly in jeopardy.

REPRESENTATIVE OBEY. Let me ask a second question. You also indicate about disparity in growth in college costs from one type of institution to another. What I found especially disturbing is your statement that at the 25 most selective schools, the proportion of students with family incomes of at least \$100,000 a year has risen from 31 to 37 percent of the freshman class.

I think that that is a highly disturbing fact, and I think that our aid to education policies ought to be geared in some way to try and reverse that. But I guess I am more concerned about a more basic problem. I think that there is such a snob appeal to a college degree as opposed to anything else in this society.

My kid brother didn't go to college. He wound up going to a technical institute in Kenosha, Wisconsin. Today, he heads an engineering department for an air-conditioning company. He has 20 college-educated engineers working under him. You don't need a college education in order to know what the hell you are talking about in business, for instance. But I am so concerned about the attitudes in society, which I think make it difficult for us to get attention paid to noncollege-educated workers.

I remember when Wisconsin was putting together our system of technical institutes. We had a dispute about how that system would be structured and how it would be competing with the University of Wisconsin. And I will never forget when the lobbyist of Wisconsin was standing in the hall outside the assembly chamber and he was saying, well, you know, if they want to do it that way, that is all right. He said that way we can get the smart ones and they can get the dummies.

I think that comment typifies the arrogance that you often see among a lot of people who are college educated.

How would you go about creating public demand for the kind of certification of education performance at something other than the college level, which you talk about and you say that Germany has?

MR. REICH. Well, the first step would be to create a national system of certification in which employers gain confidence over time. Right now, we have no national certification, such that somebody who passes a series of exams or whatever is understood to have a particular competence.

The college degree in this society, as we have right now—particularly a college degree from a prestigious institution—becomes a very powerful proxy for future employers of having qualities that the person may or may not have. As you suggested, it is underinclusive, because there are a lot of people who don't go to college and may have those qualities, but it is also overinclusive. Considering a few of the Harvard students I have had over the years, there may even be an inverse relationship between a college degree and common sense.

So I think a national system of certification, promoted and encouraged by the Federal Government—the government doesn't have to do it itself. It can obviously contract out or use incentives, such as you suggested. But a national system of certification, such as Germany has—other countries are developing them as well—could generate higher degrees of confidence among employers who would much rather pay less—not a lot less, but somewhat less—for somebody they know has certain competencies than pay a lot more for somebody they assume does simply because they have a college degree.

REPRESENTATIVE OBEY. Thank you, Mr. Chairman.

REPRESENTATIVE HAMILTON. Mr. Bennett, did you want to respond to one of Senator Bingaman's comments?

MR. BENNETT. Yes.

REPRESENTATIVE HAMILTON. Go ahead, please.

MR. BENNETT. You put a great deal of emphasis on manufacturing, and I would like to take a historical perspective for a moment and mention that roughly a century ago about two thirds of the American work force was engaged either in agriculture, in transportation related to horse transport or railroads, or in domestic service. And today those three occupations account for a very, very small fraction of employment in the United States.

And, in fact, if we had a more realistic view of what a farmer is—the Department of Agriculture says if you sell \$1,000 worth of food or animal products, or whatever, in a year you are a farmer. Probably around 2 or 2.5 percent of the population would fall into those three categories. But the important thing is that our agricultural output has not fallen. It has increased dramatically, even though the labor input has fallen greatly. And this is what is very desirable.

And the same, to some extent, is true in manufacturing. Even though the manufacturing level of employment has dropped somewhat, there has not been an accompanying great drop in output. So we are simply going through a sectoral shift, and the important thing is creating high-wage jobs, regardless of what the sector is. Although, since we tend to think of many of these as arising in manufacturing, the idea seems to be to create or to think in terms of creating manufacturing jobs.

REPRESENTATIVE HAMILTON. If you want to go ahead——

SENATOR BINGAMAN. Thank you for those comments. Let me just ask one other question that I had, Mr. Chairman.

Mr. Reich, you suggested that we have a real problem with all these tax bases in every community competing with every other community, or every state competing with every other state, to attract industry, retain industry, whatever.

Is there any practical solution to that? Is it realistic for us to think that we can pass a federal law saying, from henceforth it is illegal for states and localities to do this? I agree with you that this bidding that goes on between states and localities is counterproductive—not only for U.S. companies to come in and establish plants but for foreign companies as well—but I just don't know how to get out of that box.

MR. REICH. I would suggest that there are possibly two or three ways to get out of the box. One, the Federal Government could encourage groups of

states, regions, to get together and create compacts. The Midwest governors almost achieved it a couple of years ago. There may be some ways in which the Federal Government can use incentives to create those regional compacts so that there will not be that much bidding.

Number two, the Federal government—again, through the kind of leverage that we have been discussing this morning—might simply condition some federal assistance on there not being certain kinds of bidding.

Number three—and most drastically—it seems to me that at least this possibility should be explored: federal preemption of state laws that authorize tax bases. Now, this is a pretty drastic step, but, legally, I believe it is permissible. In a former life, I did graduate from law school, and at least it ought to be explored.

Let me say one final thing on that point. The European Community has begun to police its member states against bidding. Five or six years ago, France would bid against Britain who would bid against Italy. Global companies that wanted to get the best deal they possibly could would actually orchestrate these bidding contests, not unlike the bidding contest between American states.

The European commission has successfully stopped these bidding contests; stopped what are essentially zero sum—in fact, in many respects, negative sum gains.

SENATOR BINGAMAN. Thank you very much, Mr. Chairman.

REPRESENTATIVE HAMILTON. Okay.

Let's see, Mr. Bennett, you seem to challenge the idea that, in fact, high-wage jobs are disappearing. You don't seem to accept that idea at all.

MR. BENNETT. I indicated that there are others who have said that that is not the case. And in specific——

REPRESENTATIVE HAMILTON. Do you also challenge the idea that there is a growing disparity in wages, the point that Mr. Katz made?

MR. BENNETT. That may well be true, I have not gotten into that. I did not look into those things.

REPRESENTATIVE HAMILTON. You accept the idea that wage inequality has grown?

MR. BENNETT. It may well have, yes.

REPRESENTATIVE HAMILTON. Now, Mr. Katz, you indicate that this wage inequality has grown substantially, and it is really a worldwide trend, right?

MR. KATZ. What I said is that there was a worldwide trend towards decreasing inequality. That has stopped. The United States and Britain have enormous increases in wage inequality that are very similar. Other countries have much more muted versions. Some countries have little.

What is common across countries is the shift of employment towards similar sectors that use college-educated workers and occupations. In some sense, the market forces are shifting demand towards the types of workers who have done very well in the United States, but how wages change is not the same everywhere.

REPRESENTATIVE HAMILTON. All right. Are American real wages less today than they were five years ago, or ten years ago?

MR. KATZ. They are certainly less today than they were in 1989 and again for most workers, except for the very top group, they are lower than they were in 1973.

REPRESENTATIVE HAMILTON. Are you looking just at the wages, or do you include fringe benefits?

MR. KATZ. This is looking just at the wages. If you include fringe benefits, the answers are very much the same for the noncollege educated, because the fraction of them with pension benefits and health insurance has actually declined over the last decade. The story would look a little brighter for more educated workers and for workers who work in the government where benefits have grown quite well.

REPRESENTATIVE HAMILTON. If you are a high school graduate today and you are coming out, getting your degree, are your job prospects worse or better than they were 10 years ago, 12 years ago?

MR. KATZ. Certainly today, 1992, they are worse, for two reasons: One, entry level wages are much lower than they were in 1979 for a 20-year-old high school graduate—about 20 percent lower in real terms. Two, we are in a very severe recession that doesn't seem to be ending, so job availability is much worse—I mean, 1989 to 1992 has been a disaster for everybody, even the top end of the distribution.

REPRESENTATIVE HAMILTON. So the person who ends their education with a high school degree is in real trouble?

MR. KATZ. Very deep trouble.

REPRESENTATIVE HAMILTON. Is that the conclusion you draw?

MR. KATZ. Deep trouble today, yes.

REPRESENTATIVE HAMILTON. And as you look ahead at the prospects, it will get worse for them; is that fair?

MR. KATZ. I would say that, but I would, again, reiterate that we have a very hard time forecasting the future. If the last 20 years are a good indication of the future, the answer is certainly yes.

REPRESENTATIVE HAMILTON. How about the college graduate? How does he or she stack up with ten years ago or five years ago? Are their job prospects better or worse?

MR. KATZ. If we had ended the data in 1989, the answer would have been they look better. The last recession has brought about dramatic reductions in the earnings and employment prospects for college graduates. The question—which I don't think anyone could seriously give an answer of knowing for sure—is whether the last three years are just a particular cyclical downturn, or whether there has actually been a shift in the trend that prospects look poor for college graduates as well in the future. My guess is most of it is a particular cycle and things will pick up again, but that is reading something that one couldn't say for sure.

Since 1989 even college graduates have had large losses, so they are about where they were in 1979. If one had stopped in 1989, they were doing significantly better than they had been a decade ago.

REPRESENTATIVE HAMILTON. All of us run into college students who are working in fast food places—a lot of college graduates.

MR. KATZ. There are two points to make. Two things are happening in the U.S. economy—

REPRESENTATIVE HAMILTON. Even with a Harvard degree.

MR. KATZ. I agree.

Two things are happening in the U.S. economy: One is the average wage of college graduates versus noncollege graduates went up, but the other thing that has happened is that within each group—that is the third point I make on wage structures—there is rising inequality. That is, the average college graduate has done reasonably well; the bottom 30 percent of college graduates have done absolutely awful. The growth between the 90th percentile and the 10th percentile college graduates has been about 20 percent.

So it is true there are more and more college graduates working in lower paying jobs than in the past, and if you are in the 20th percentile college graduate, you are significantly worse off than you were 20 years ago. Both things can be true because we have a market in which the distribution is spreading out. It is true the share of jobs that are college-required jobs has grown. It is also true there are more and more college graduates.

REPRESENTATIVE HAMILTON. Is it also true there are more and more people working full time but earning poverty level wages?

MR. KATZ. Certainly, that is true.

REPRESENTATIVE HAMILTON. Has there been a dramatic increase in that or a modest increase?

MR. KATZ. Dramatic versus modest. If you looked at male full-time employees from the early 1970s, we are talking about 7 percent; by the late 1980s, 13 percent. That is dramatic today. In 1982 that figure would be higher.

REPRESENTATIVE HAMILTON. One economist testified not long ago that among men age 18 to 24, for example, the percent went from 18 to 24 percent of people working full time but earning poverty wages. Do you accept that?

MR. KATZ. That would be consistent with what I found.

REPRESENTATIVE HAMILTON. Are we following a kind of low-wage growth strategy in the American economy today? Is that what we want?

MR. KATZ. I hope that is not what we want, but that certainly is what the data suggests we have been doing. For the median worker, real wages have not grown in 20 years.

REPRESENTATIVE HAMILTON. Did you want to add anything, Mr. Reich?

MR. REICH. No, I agree with all of those data.

REPRESENTATIVE HAMILTON. I expect you to jump in here if you hear things you don't agree with, or you have additional comments to make.

Now, this big gap here between the highly skilled and well-educated person, on the one hand, and lower skilled, less-educated person, on the other hand, does that come about because the employer is bidding up, or does it come about because you have a downward push on wages from the employer?

MR. KATZ. If you decomposed it and took literally zero as the margin, more of it is that the wages of the less educated have gone down than the wages of the more educated have gone up in an accounting sense.

As economists, we tend to focus on answering two questions: What is the relative prices of different groups of workers; and the other, what is happening to total productivity growth? What we have seen is that the relative price of the more educated—and among them the elite of them—has gone up versus others. But it has happened in a period of stagnant productivity growth, so more of what is happening is that the bottom end is doing worse than the top end is doing well.

For example, if you look at how women have gained on men in earnings, it is not that high school graduate women have incredible wage growth over the last decade. Their real wage basically stood still over the last decade. It is just that high school men's wages fell by 15 percent. So, in that sense, it is that the bottom end is going down, not that the groups that are doing well have done particularly well.

MR. REICH. If I could intervene for one moment, Mr. Chairman. One of the phenomena that confuses many of these discussions, particularly in the public discussions about these problems, is that you have two simultaneous economic trends: The business cycle and then the long-term earnings trend, and they are superimposed on one another.

People very much, in a political season, talk about jobs. But even when the jobs come back, we have the long-term wage and income problem. In my view, and the view of many others, that is the problem. That is the thorniest and the more serious.

REPRESENTATIVE HAMILTON. What do you say to the constituent who asks you, Congressman, what are you going to do to get us good paying jobs?

You have 30 seconds to answer. I mean, how do you respond to that? What do you say? And that is not an unusual question.

MR. REICH. I drop out of the race.

REPRESENTATIVE HAMILTON. I get the question all the time. You would what?

MR. REICH. I am being somewhat facetious. I am not sure I can enter the race to begin with.

REPRESENTATIVE HAMILTON. What do you say to a person like that? Congressman, what are you going to do to get me a good paying job?

MR. REICH. I would say in 30 seconds that I would support public policies to stimulate this economy. We have to invest in roads, bridges, sewers, highways and water, and all kinds of infrastructure. I am going to make sure we do more of that. We are falling behind our competitors. And that creates jobs immediately, and that may help stimulate the economy right away. It is something we have to do over the long term, and I will insist we do it starting tomorrow.

REPRESENTATIVE HAMILTON. The deficit be damned?

MR. REICH. I would take money out of the military budget. The multiplier in the military, with regard to every dollar we spend on jobs there, is much, much less than the multiplier with regard to the money we spend in the civilian sector on infrastructure jobs.

If I am running for office, I would not say we have to expand the deficit.

REPRESENTATIVE HAMILTON. And how about his answer? Mr. Bennett, Mr. Katz, I want you to give me an answer, too. How would you respond to that question? Congressman, how do we get good jobs?

MR. KATZ. I would agree with, certainly, the part about we need to get the economy going. Infrastructure investment is something we have to do for the long haul, and starting out today we will stimulate the economy and we will create jobs.

I also think that for the long term, we need to do more to improve investments in training and education of those that go on to college. Those will not create jobs today, but if we invest in infrastructure and invest in education we will be attracting capital and new technologies in the future.

REPRESENTATIVE HAMILTON. Mr. Reich, you are really ready to accept an increase in the deficit to achieve these things?

MR. REICH. Personally?

REPRESENTATIVE HAMILTON. Put on your other hat.

MR. REICH. My pointy-hatted, unrealistic, out-of-this-world academic hat?

REPRESENTATIVE HAMILTON. You said it, not I.

MR. REICH. With that hat on, it would seem to me that there is a very strong argument now for some fiscal stimulus of a Keynesian nature—and here is the trick—so long as you can convince people, and the markets in particular, that you are going to make it up when the economy grows. Because you are not really going to be able to get the deficit down unless you have growth.

In other words, the world is divided between the people who think that deficit reductions create growth and the people who think that, fundamentally, growth creates deficit reductions. It is a combination of the two, obviously, but the emphasis has to be on one of the two, and I am on the side of people who think that growth creates deficit reduction.

REPRESENTATIVE HAMILTON. How about you, Mr. Katz? Which side are you on?

MR. KATZ. I think, everything else held constant, growth does produce deficit reduction. In my totally apolitical view of the world, if I were making decisions I would also be doing stuff probably on the spending side of things that are untouchable.

REPRESENTATIVE HAMILTON. Mr. Bennett, how are you going to answer my question?

MR. BENNETT. Well, I would suggest, first off, in terms of Keynesian interest, I was always taught budget deficit was the norm of a Keynesian stimulus, so we should be stimulated from here to the moon.

But it seems to me that the notion of trying to encourage economic risk-taking in the formation of new firms by making the taking of risk more profitable—cutting the capital gains tax would be one thing. I also like the idea of the notion of rebuilding the Nation's infrastructure, and I would propose that what we would do is cancel the Davis-Bacon Act so that we would get as much bang as possible for our dollar.

The third thing that I think one might think about is looking at other Federal Government policies that tend to raise the cost of living for American workers. For example, the whole notion behind the marketing orders of the Department of Agriculture is to make food expensive for the American

people. I think all that could be done away with so that we don't have food rotting out in the fields. I think those kinds of policies would be very useful.

REPRESENTATIVE HAMILTON. You don't see any need to spend additionally for investment, which these gentlemen have been talking about?

MR. BENNETT. Investment how, sir?

REPRESENTATIVE HAMILTON. Investment in infrastructure and education.

MR. BENNETT. I said I thought——

REPRESENTATIVE HAMILTON. You would do that——

MR. BENNETT. ——that some of our infrastructure, but with the proviso that it be done under non-Davis-Bacon kind of legislation.

REPRESENTATIVE HAMILTON. Would you be prepared to accept an increase in the deficit?

MR. BENNETT. I am afraid the deficit will go on regardless of what we do.

REPRESENTATIVE HAMILTON. Would you be prepared to accept that if the investment were in infrastructure?

MR. BENNETT. Professor Reich would cut military spending; I would cut out many other forms of spending as well.

For example, Department of Agriculture spending welfare for farmers. I think a lot of government welfare programs could be done away with. So I think that I would take an ax to some of the programs that we currently have, and perhaps the deficit would come down substantially, even with putting money into infrastructure.

REPRESENTATIVE HAMILTON. Where is the demand for more skilled workers coming from? Why do we have that demand in the economy today? Is it because of changes in the workplace that workers are being required to have higher and higher skills? Is that the reason?

You had the old Henry Ford principle—you know, mass production approach—where the worker does repetitive acts and all. But is that changing now, today?

MR. KATZ. Well, essentially, the issue is that there still is a Henry Ford demand out there for workers doing routinized tasks. But the point is, one can have an economy with that if you want to pay the same wages. Those same things can be done at much, much lower wages overseas. The transportation costs are low, the coordination, the communication costs are low.

So those same sets of jobs, we could have them, but not at wages American workers are willing to work at. That is not the future for high-wage jobs. The future for high-wage jobs are the jobs that involve problem-solving skills. They are the types of things that Professor Reich talked about involving all these services that go into products as opposed the routine job. Both clerical and manual routine jobs can easily be done for just much, much lower wages in the rest of the world, and that is not the type of thing we should be focusing on.

It is clear that there are still jobs like that that involve in-person services. You are not going to travel overseas to get a haircut and a number of other things. But, for the most part, the value added in the world economy, and what we ought to be moving towards, is problem-solving sets of skills and not routine Henry Ford. If we don't have a work force that has those sets of skills,

we will continue to use Henry Ford production techniques and have stagnating real wages. If we make the training, we will move in the opposite direction.

MR. REICH. Another way of making the same——

REPRESENTATIVE HAMILTON. Hold on, before you go on here.

A lot of the things that bother me when you talk about education training and raising the skill level, and all the rest of it, is, what if you raise it and then you don't have the jobs? I mean, there is nothing worse—well, I guess there are a lot of things worse—but one of the bad things is, what if you train a person and educate them and then they don't have a good job out there.

MR. KATZ. I think it is much worse to have people where there is no chance whatsoever. If the only possibility you have is ending up in a routine job that is done a lot cheaper overseas or with a new technology, there is no guarantee.

REPRESENTATIVE HAMILTON. All the economists that come before us talk about this and say we have to have more education, we have to have more training, more apprenticeships, and all the rest of it, as if that in itself takes care of the problem.

MR. KATZ. I think that it is a necessary but not sufficient ingredient. I think there are a lot of things that the American private sector does not do that are necessary for having these types of high-wage jobs. I will certainly admit that I am someone who spends most of my time looking at the wage data and economic models. I do not spend a lot of time in plants. My reading of the evidence is that there are many different strategies that have been taken in other places.

In Japan, it is not an apprenticeship program. It is directly hiring people out of high schools. It is things, such that Robert talked about, involving private firms guaranteeing eight slots to people coming out of high school, and directly bringing them in and guaranteeing them long-term jobs.

In Germany, it is the apprenticeship. It is the link with private-sector policies with the education. It is not the education done blanket without anything involving reforms of the private sector.

REPRESENTATIVE HAMILTON. Mr. Reich, I cut you off a moment ago.

MR. REICH. No, Mr. Chairman, I was going to say, the emphasis on creating high-wage jobs on the supply side should not in any way be taken to understate the importance of the demand side—the demand side with regard to all sorts of problems that we have in the economy, with regard to management and Wall Street, failure to incorporate new technologies into production processes as rapidly as we should, and on and on and on. The list is very long. But here is where the supply-siders, in my view, are absolutely right, although they are focusing on the wrong element.

We should be focusing on the supply side of education and training. Or, another way of putting the same thing is, in the future, the way of getting jobs into wherever you are—Washington, D.C. or Indiana or Spokane, Washington, or wherever—you get jobs because you are saying, in a sense, to the world economy, come here and give us your savings.

But there are only two inducements you have. You can either say, come here, world economy with savings. Even people in my town say, keep your

savings here, because our wages and taxes are so low, and our regulations are so nonexistent that it is cheap to do business here; you make a lot of money.

The trouble with that strategy, obviously, is that you don't create a high standard of living. The only strategy you have is to negotiate with global capital. And when I say global capital, even the people in your own town—IBM and everybody else—has to say, come here, create jobs here, because we have a terrific wage force, high skills, a great infrastructure. And that is the only fundamental option you have.

REPRESENTATIVE HAMILTON. Now, the American worker today, if I understand your testimony, is not any better off than he or she was some years ago—10, 15 years ago—but the European worker, the Japanese worker, is better off. Is that right?

MR. KATZ. That is right, sir.

REPRESENTATIVE HAMILTON. Now, why?

MR. KATZ. There are a lot of differences between what the American and European economies do. For some European economies, part of that is just catch-up. They are implementing things that we are already doing. Their living standards are below us.

But, more importantly, if you look at Japan and Germany, a lot of that is not new changes in policies towards changing their education and training system. They have had training and education systems such that firms with workers without college degrees are able to implement new technologies in manufacturing processes. They have added integrated systems.

The German and Japanese systems are quite different from each other, but firms treat their less-educated workers like American firms treat more educated workers.

REPRESENTATIVE HAMILTON. But the interesting thing is that the concern or the fear that Americans have about the ten-foot tall Japanese competition, that the Japanese are beating us, and we are losing jobs. We have focused on the Japanese, but it applies to a lot of other countries as well.

All that has developed here in the last few years is that their strategies are to provide good wages, and their wages are going up. Ours seem to be going down, and we are not competitive. I mean, that is curious, isn't it?

MR. KATZ. Is it curious that fears arise when those two facts are happening? I think it is well-founded. One should be concerned.

MR. REICH. It is very easy to blame others for our problems. I am not suggesting others are blameless, but obviously the responsibility lies at home. Interestingly, the Japanese companies here in the United States have been performing quite responsibly when it comes to creating high-wage jobs. Japanese automakers are spending \$1,000 a year more per worker training their autoworkers than their American competitors right here in the United States.

REPRESENTATIVE HAMILTON. I was interested in your comments a little earlier about how much—I think it was your comment—about how much of our training dollar is focused on the management level people, in effect.

MR. REICH. That \$30 billion is, again, the figure that the private sector in the United States is spending. I have looked into it not only at the first level in which you see that of the \$30 billion about \$21.8 billion is given to the college educated, but if you look even within that \$21.8 billion you see that a

large portion on executive and management conferences. Some of this training happens on the golf course.

REPRESENTATIVE HAMILTON. I thought I saw in one statistic that for every dollar in federal funds spent on postsecondary education of noncollege bound students, we spend \$55 on going to college. That is federal budget.

Now, I wanted to raise the question of these causes. What explains the sharp increases in wage inequality, Mr. Katz?

You said, number one, internationalization of U.S. economy; and, number two, immigration was less important as the second primary factor of technology. As between technology and globalization, which is the more important?

MR. KATZ. It is very hard to reach a strong conclusion there, because what you can do is you can measure the direct effects of both. That is, we can see where imports are coming in, where jobs are being transferred overseas, and we will count that in the way we do the accounting boards in international trade effect.

REPRESENTATIVE HAMILTON. You cannot really distinguish between the impact of trade and the impact of technology; is that what you are telling me?

MR. KATZ. Well, we can look at some things that are directly trade related. We can look at some things that are associated directly with technology. But whether firms change their technologies toward using more robots and computers because there was an exogenous new change in the technology available, or because it is in response to international competition and the need to cut cost in that way, is a somewhat ethereal distinction that would be hard to make.

It is clear, at a minimum, one can get about 25 percent just looking at the shifts in jobs associated with trade. It is clear that the remainder is strongly related to the technological changes. But technology is a black box. Did computers come out of nowhere? Were they in response to competitive pressure?

It is clear that it is important, but I don't think anyone could honestly say it is an independent factor driven by itself. I think a lot of it is that, but the key is that the two things work together in the same way. The availability of technology and the business overseas means routine jobs can be replaced in either fashion, and which one independently does it is unclear. Things that just operate on the protection side, I don't think would be very useful because of the other factor that is in there, and they are highly related.

REPRESENTATIVE HAMILTON. Do all three of you support NAFTA?

MR. KATZ. As far as I know about it, yes.

REPRESENTATIVE HAMILTON. Do you, Mr. Reich?

MR. REICH. I have not been able to go through the 1,100 pages. In fact, I have been trying to get it, and somebody told me in the Administration that some lawyers are still making changes in the document. I definitely think we want a North American Free Trade Agreement.

REPRESENTATIVE HAMILTON. Mr. Bennett.

MR. BENNETT. Absolutely. But I agree with Professor Reich. I wonder a little bit about lawyers producing 1,100 pages. It seems to me free trade is free trade. Go with it.

MR. KATZ. I would agree. I certainly haven't read the entire thing. In spirit, yes, but, otherwise, who knows?

REPRESENTATIVE HAMILTON. Okay. Do you believe that the trends we have talked about in wages in the past few years represent the future trends as well? Do you have any feeling about that? I know it is your area more, Mr. Katz. Is this mishmash going to continue? Is the disparity going to grow?

MR. KATZ. I believe it is likely to continue, from what we have seen, in the future. The point that one should make—and, certainly, I don't think one should count on it a lot—is that this isn't the first time in history that inequality has risen. There have been other technological innovations in the past, and it wouldn't completely floor me if seven years from today new computer technology was out there, so that all the things we think of problem solvers can be done by people with much less skill and routine work and high-tech sorts of things, and that would reduce the trend towards going to more educated workers. But I wouldn't count on it, especially.

In fact, the last 30 years clearly indicates a shift towards more educated workers in demand. It was all offset in previous periods by the rapid growth of the supply of college graduates, the baby boom, the Vietnam war period, and in the big expansion of higher education in Europe in this period. The long-term trend seems to be at least a 30-year trend.

REPRESENTATIVE HAMILTON. We look at the American economy today. Should we encourage more and more young people to go to college? I am not talking about just for their own benefit, but from the standpoint of the American economy. Should we encourage young people to go to college?

MR. KATZ. I think the answer is yes. It may not be an ideal world, but it is very clear that the American economy does not effectively utilize noncollege workers. Whether that is because the skills—

REPRESENTATIVE HAMILTON. Shouldn't the emphasize be on trying to utilize the noncollege person rather than forcing everybody into the college mode?

MR. KATZ. That would be a more sensible policy, but without that I think it would be crazy not to encourage people to go to college.

REPRESENTATIVE HAMILTON. Mr. Reich, you were talking a lot about this training for the noncollege bound. In some of the European countries, I gather that is required. There is a government requirement. You spend so much money to train your workers, right? And that is one way to do it. Why doesn't American industry do that more?

MR. REICH. There are a number of reasons. Indeed, it seems to be a major factor, with regard to fairly generic skills, skills that are basic to almost all competitors in a particular industry—maybe even beyond that particular industry—employers are reluctant to sink much money into training for fear that the employee will simply run off. That is a classic free-rider problem.

REPRESENTATIVE HAMILTON. You don't want to stop that, do you?

MR. REICH. There is no way to stop it unless—just as a thought experiment—if all the employers were to go into a room and say, we need better trained employees, but I am afraid to train my own, because he will go to you. So let's all agree to spend 1, 2, 3 percent of our payroll doing the training.

REPRESENTATIVE HAMILTON. They do that in the construction industry.

MR. REICH. And in several other countries.

We would not want employers to get together for antitrust reasons. There is a lot of mischief that could come out of that, and therefore there is a strong

argument—in my view, a convincing argument—for requiring companies, maybe with the exception of small companies which have less to spend, to spend a small percentage of their payrolls on training their employees.

REPRESENTATIVE HAMILTON. Do you agree with that?

MR. KATZ. I agree with that. The Japanese do not need to mandate—

REPRESENTATIVE HAMILTON. Not the management people, but directed at the—

MR. REICH. Not the college educated. Most should be directed at the non-college.

MR. KATZ. There are two ways you can run a system that have big incentives for firms to invest in their workers. One is to set up an environment where no one leaves. That is essentially the Japanese system. There isn't poaching between firms. I don't think we want that in the United States. It is healthy to have people leaving firms.

The other solution is to have some way of coordinating decisions so that even though employees will move from firm to firm, training does get done. That seems to me to be much more sensible in the United States than trying to enforce a Japanese lifetime employment.

MR. REICH. So long as the Bill of Rights bars involuntary servitude, we don't have much choice in this country but to come up with some sort of requirement—a low, low requirement—that all firms train their workers to avoid this free-rider issue.

REPRESENTATIVE HAMILTON. You all support NAFTA, but isn't it a fact that NAFTA is going to hurt the lower skilled worker?

MR. REICH. In my view, Mr. Chairman—and I have heard the estimate from Secretary Martin last week of 150,000 jobs lost—unless we provide retraining and readjustment assistance—a package of educational and technological training possibilities—unless we create jobs that are high-skilled jobs and high-wage jobs for those 150,000 or 800,000 workers that may lose their jobs through free trade, we are not accomplishing a huge amount. In fact, I would say you want to move—.

REPRESENTATIVE HAMILTON. So the advantage of the implementing legislation that would accompany NAFTA becomes very important.

MR. REICH. Implementing legislation is critical, but it also may be that NAFTA does not go quite far enough with regard to worker adjustment training and several other matters. Again, not having read it, I don't know.

REPRESENTATIVE HAMILTON. Is NAFTA just going to aggravate the earnings inequality?

MR. KATZ. Certainly, in the short run, NAFTA, with nothing else, is likely to exacerbate things and would be problematic. It just seems that any sense of equity and fairness suggests with NAFTA that the American consumer is going to benefit greatly from expanding the benefits of free trade. The costs are going to be highly concentrated and workers displaced in industries that compete with Mexican industries, and we can easily afford, given those benefits, to provide some sort of readjustment benefits to these workers.

Given that, I think, in the long run, it will expand trade and we will have positive effects, since the types of export jobs that will be created will probably be higher paid jobs than the import jobs lost, but they will not go to the

same people. And I think we have a responsibility to make sure that a small group of individuals do not have to bear all the costs for the rest of us to gain.

REPRESENTATIVE HAMILTON. I think I am satisfied here. I think we have had a good hearing.

I want to give you an opportunity if you want to add anything. We have been talking about trade, technology and immigration effects on the loss of the middle-income jobs and what countries like Germany and Japan do and what we can do both in the private and the public sector to help.

Do any of you want to add anything to the Committee record at this point? If not, speak now or forever hold your peace.

We will adjourn. Thank you very, very much.

[Whereupon, at 11:45 a.m., the Committee adjourned, subject to the call of the Chair.]

SUBMISSIONS FOR THE RECORD

PREPARED STATEMENT OF LAWRENCE F. KATZ

I am grateful for the opportunity to testify about trends in the distribution of U.S. Jobs and earnings. I have recently completed several studies examining changes in the U.S. wage structure and income distribution since the early 1980s (Katz and Murphy, 1992; Cutler and Katz, 1991; and Borjas, Freeman, and Katz, 1991). With my Harvard colleague Richard Freeman, I am currently directing a collaborative project in which researchers from throughout the OECD are using comparable data and methodologies to compare and contrast changes in the structure of wages and employment among OECD countries over the last two decades. I will focus my remarks on the conclusions that can be drawn from this research concerning (1) the nature of recent dramatic wage structure changes in the United States; (2) the extent to which similar changes are occurring in other countries; and (3) the likely causes of these changes.

Wage dispersion among both men and women increased substantially in the United States during the 1980s. The hourly earnings of the 90th percentile full-time worker relative to the 10th percentile full-time worker increased by approximately 20 percent for men and 25 percent for women from 1979 to 1989. Changes in the wage structure along three primary dimensions contributed to rising wage inequality. First, educational and occupational wage differentials expanded with a particularly sharp rise in the relative earnings of college graduates. The college wage premium doubled for young workers with the weekly wages of young male college graduates increasing by approximately 30 percent relative to those of young males with twelve or fewer years of schooling. Second, the average wages of older workers increased relative to those of younger workers for those without college degrees. Third, wage dispersion increased greatly within narrowly defined demographic and skill groups. In other words, wage dispersion expanded among individuals of the same age, education, and sex, and it expanded among those working in the same industries and occupations. Since these wage structure changes occurred in a period of stagnation in overall real wage growth, the less-educated and the less-fortunate suffered substantial losses in real earnings relative to analogous individuals a decade earlier. Wage dispersion for males was greater at the end of the 1980s than at any point in time since 1940. The one aspect of the wage structure that narrowed during the 1980s was the gender gap with the earnings of women increasing by approximately 10 percent relative to men in all education groups from 1979 to 1989.

Although there exists some disagreement concerning the causes of these wage structure changes, there exists a broad consensus among researchers of all ideological stripes that wage inequality and "skill" differentials have increased sharply since the 1970s (Bound and Johnson, 1992; Davis and Haltiwanger, 1991; Kosters, 1991; Levy and Murnane, 1991; and Murphy and Welch, 1992). These basic facts have been documented by and replicated by many researchers using many alternative data sources including household survey data from the Current Population Survey, other household surveys, establishment surveys collected by the Federal government, and various establishment surveys collected by private-sector organizations. The conclusion of rising wage dispersion in the 1980s is a robust finding that is not particularly sensitive to the precise choice of data set, sample, or wage measure.

The industrial and occupational distribution of U.S. employment shifted substantially in favor of college graduates relative to less-educated workers and in favor of women relative to men during the 1980s. Employment declined in traditional goods-producing sectors that disproportionately employ blue-collar males and expanded in professional, medical, and business service sectors that disproportionately employ college graduates. These shifts reflect a long-term secular trend over at least the last thirty years in which the industrial and occupational distribution of employment has shifted in favor of college graduates relative to less-educated workers. The direct effect on the earnings of males without college degrees of the sharp decline in high-wage, blue-collar jobs in traditional goods-producing sectors may account for as much as one-quarter to one-third of the increase in the college/high school wage differential for males during the 1980s (Katz and Revenga, 1989; and Bound and Johnson, 1992).

How do U.S. trends in wage and employment patterns compare to those in other advanced industrial nations? Many academics, government officials, and reporters have recently argued, typically on the basis of little more than anecdotal evidence, that wage inequality and educational wage differentials have been increasing similarly to the U.S. in all or almost all OECD countries over the last decade or so. In fact, the actual pattern of wage structure changes among OECD countries is a bit more complicated. Researchers involved in the NBER project on Comparative Labor Markets have assembled as comparable as possible data for many countries (including the United States, Great Britain, Canada, Australia, Japan, Sweden, France, Italy, Germany, Italy, Spain, South Korea, and the Netherlands) to systematically compare wage structure changes among industrial economies (Freeman and Katz, forthcoming).

All of the countries studied including the United States shared a common pattern of narrowing educational and occupational wage differentials from the late 1960s to the late 1970s. All countries with the exception of the United States experienced a decline in overall wage dispersion for males during the 1970s. The tendency towards reduced educational wage differentials and a more compressed wage structure had ceased in all OECD countries by the mid-1980s. But the patterns of wage structure changes differ widely among OECD countries during the 1980s (Katz, Loveman, and Blanchflower, 1992; Edin and Holmlund, 1992; Freeman and Needles, 1991; Abraham and Houseman, 1992; Erickson and Ichino, 1992; Gregory and Vella, 1992; and Hartog, Oosterbeek, and Teulings, 1992). Most countries did experience increased wage inequality, and increased educational differentials, but the magnitudes of these increases have tended to be much more moderate than in the United States; see Figure 1 and Table 1. The one country with a pattern of widening wage differentials that is both quantitatively and qualitatively similar to the United States is Great Britain. Canada, Australia, Japan, and Sweden have had modest increases in wage inequality and skill differentials since the early 1980s. Wage differentials continued narrowing in Italy and France through the mid-1980s with some hint of expanding differentials in the late 1980s. There is no evidence of rising wage inequality or educational differentials during the 1980s in either Germany or the Netherlands. Additionally, increased wage inequality in other countries (such as Britain and Japan) has been associated with generally rising levels of real wages so that real earnings for the bottom half of the distribution have not declined precipitously as they have in the United States; see Figure 2.

While changes in the distribution of wages differed substantially among OECD countries in the 1980s, changes in the distribution of jobs were fairly similar. All the countries examined have experienced large, steady shifts in the industrial and occupational distribution of employment towards sectors and job categories that disproportionately use more-educated workers over the past two decades. In fact, the share of employment in manufacturing declined substantially in all the countries except Japan during the 1980s. My interpretation of this evidence is that broad economic forces arising from changes in technology and increased internationalization of economic competition have strongly shifted labor demand in all advanced OECD economies in favor of more-educated workers and those with problem-solving skills and against less-educated workers. Despite shifts in labor demand favoring more-educated workers skill differentials narrowed in the 1970s because of dramatic increases in the supply of highly educated workers associated with rapid expansions of higher education systems and explicit government and union policies to narrow earnings differentials. Similar demand shifts in favor of the more-educated translated into quite different wage structure changes in the 1980s depending on a nation's educational and training systems and wage-setting institutions.

What explains sharp increases in wage inequality and educational wage differentials in the United States since the late 1970s? The major cause is a strong secular shift in relative labor demand favoring more-educated workers and workers with problem-solving skills. This shift in labor demand is driven by two primary forces. The first is the increased internationalization of the U.S. economy. Both international trade and immigration operated to augment the nation's implicit supply of less-educated workers, particularly workers with less than a high school education, during the 1980s (Borjas, Freeman, and Katz, 1991). Many production and even routine clerical tasks can be much more easily transferred abroad than in the past. Trade-induced changes in relative demand only became quantitatively important with the emergence of substantial trade deficits after 1982. Overall, increased competition for less educated workers arising from trade deficit account for about 15 percent of the increase in the college/high school wage differential from the late 1970s to the mid-1980s. But balanced expansions of international trade in which

export growth matches import growth appear to have fairly neutral effects on relative labor demand, and they appear to lead to some upgrading in the jobs for workers without college degrees since export-sector jobs tend to pay higher wages for comparable workers than do import-competing jobs. In fact, Japan appears to have been somewhat successful in upgrading the jobs of those without college degrees through expanding trade with low-paid jobs in sectors like textiles and apparel being replaced by high-wage jobs in high-tech and durable goods manufacturing industries.

Immigration does not appear to have been a major factor in the changing U.S. wage structure except possibly for high school dropouts. The skill distribution at new immigrants into the United States in the 1980s was bimodal with many highly-skilled college graduates and many workers with extremely little formal schooling. Overall, the direct effects of trade and immigration account for at most a sizeable minority (15 to 25 percent) of the increase in educational wage differentials.

The second primary factor driving changes in labor demand are the technological changes associated with the "computer revolution." The fact that firms in most sectors of the economy are increasing their relative employment of college graduates despite the sharp increase in the relative price of college graduates strongly indicates common shifts in "technology" favoring more-educated workers. In the U.S. manufacturing sector increases in the relative employment of more-educated workers are strongly positively correlated with investment in computer technologies and R&D intensity (Berman, Bound, and Griliches, 1992). A substantial wage premium for those that use computers on their jobs helps explain a substantial part of increases in the college wage premium in the 1980s (Krueger, 1992).

In summary, the common pattern of shifts in labor demand among OECD countries indicates that broad economic forces involving changes in technology and increased globalization of economic competition are at work. Much direct and indirect evidence suggests an unbalanced expansion of trade involving large trade deficits in manufactured goods and technological changes favoring computer-literate workers with problem solving skills explain much of increased wage inequality and educational wage differentials in the United States. Less-educated American workers are becoming increasingly more substitutable with foreign workers and new computer technologies. Labor demand is shifting in favor of jobs for college graduates requiring problem-solving skills and towards jobs that require the "customer-oriented" skills necessary for success in service sector jobs that require direct human contact with customers (e.g. health services) and thereby can't be easily transferred abroad.

The experiences of other OECD nations indicate that increased International competition and the implementation of new technologies do not necessarily imply sharp increases in wage inequality and substantial declines in the real earnings of less-educated workers. Two types of national strategies have been associated with little increase in skill differentials and overall wage inequality. In the 1980s. The first is explicit government intervention in the wage setting process through increases in minimum wages and extensions of the terms of collective bargaining agreements to firms not directly involved in such agreements. Strategies of this type succeeded during the early 1980s in preventing the wage structures from widening in Italy and France. But these types of policies do not directly deal with the profound changes in the demand for skills and eventually appear to run into serious economic and political difficulties. Policies that directly operate to prohibit market wage adjustments without directly addressing changed labor market conditions can prevent wage inequality from increasing for a while, but they eventually appear to be associated with stagnant employment growth, persistent unemployment for young workers, and/or a shift of resources to an underground economy to avoid wage regulations.

The more promising approach focuses directly on the changing demand for skills and operates through a nation's educational and vocational training systems. Germany and Japan have educational and training systems that invest heavily in non-college workers. The United States does not invest heavily in the skills of non-college workers. Not surprisingly, German and Japanese firms act as if college-educated and non-college workers are much closer substitutes in production than do U.S. firms. The German and Japanese educational and training systems differ substantially from each other, but they both succeed at producing non-college workers who possess the problem-solving skills to adapt to new technologies.

Much empirical research on cross-country growth patterns concludes that investments in human capital (labor force skills) and physical capital are the key sources of rapid growth and

improvements in living standards (e.g. Barro, 1991). in an increasingly integrated world economy, investments in labor force skills and infrastructure are the keys to attracting physical capital investment and the adoption of new technologies. We heavily invest in the skills of college graduates. The increased returns to college education have led to substantial increases in college enrollment rates in recent years. Nonetheless, we must also invest more heavily and more wisely in the education and training of those that don't go to college. The experiences of other OECD countries indicate that changes of this type are possible and feasible. The experience of the United States over the last fifteen years suggests these changes are not inevitable and require a more explicit national strategy on upgrading primary and secondary education and providing a more "professionalized" education to non-college workers.

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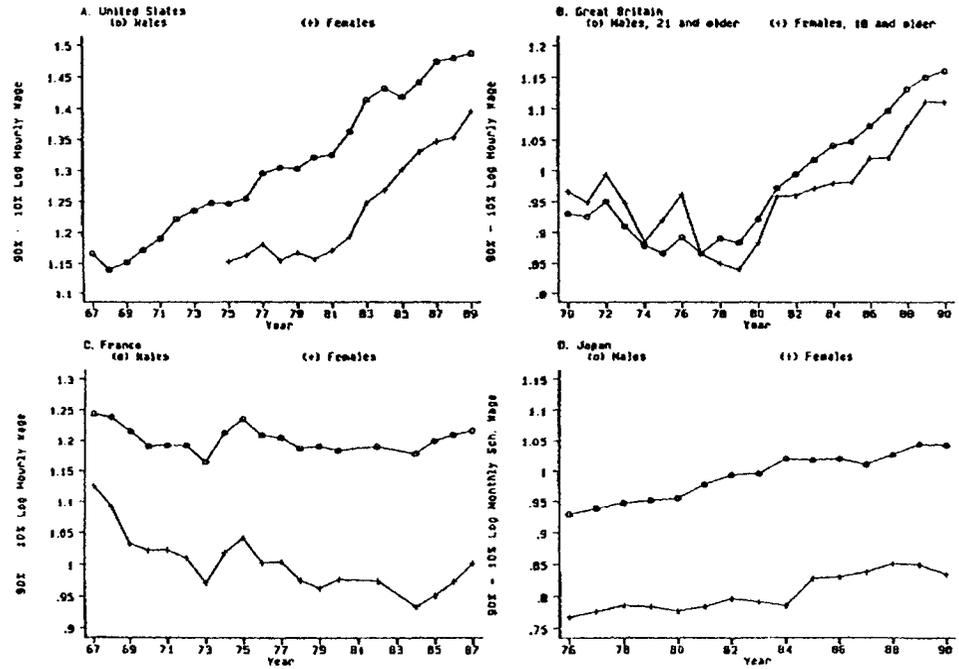


Figure 1: Changes in Overall Wage Inequality by Sex

Source: Katz, Loveman, and Blanchflower (1992)

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Table 1

Wage Inequality for Full-Time Workers
Selected OECD Countries, 1979-90^{a/}

Country	Ratio of Wage of 90th Percentile Earner to 10th Percentile Earner			
	1979	1984	1987	1990
a) MALES				
United States	3.42	3.90	3.97	4.05
United Kingdom	2.41	2.83	3.00	3.19
Canada ^{b/}	3.16	3.67	--	--
Japan	2.59	2.77	2.75	2.83
France	3.29	3.25	3.39	--
Germany I	2.20	2.10	--	--
Germany II	--	2.59	2.51	--
Netherlands ^{b/}	2.75	--	--	2.75
b) FEMALES				
United States	2.61	3.19	3.42	3.56
United Kingdom	2.32	2.66	2.77	3.03
Japan	2.18	2.20	2.32	2.29
France	2.61	2.53	2.72	--
c) MALES AND FEMALES, BLUE COLLAR WORKERS ONLY				
Sweden	1.35	1.35	1.36	1.40

Notes:

^{a/} The samples consist of full-time workers with the exception of Japan. The wage inequality measures for Japan refer to regular workers. Wages are measured by hourly earnings for the United States, United Kingdom, France, Sweden and the Netherlands; weekly earnings for full-time, full-year workers covered by the social security system for Germany I; and gross average monthly earnings plus holiday allowances based on data from the German socioeconomic Panel for Germany II.

^{b/} The Canadian data are for the years 1980 and 1985; the data for the Netherlands are for 1979 and 1989.

Sources: The data for the United States, United Kingdom, France, and Japan are from Katz, Loveman, and Blanchflower (1992); the data for Canada are from Davis (1992); the data for Germany are from Abraham and Houseman (1992); the data for Sweden are from Edin and Holmlund (1992); and the data for the Netherlands are from Hartog, Oosterbeek, and Teulings (1992).

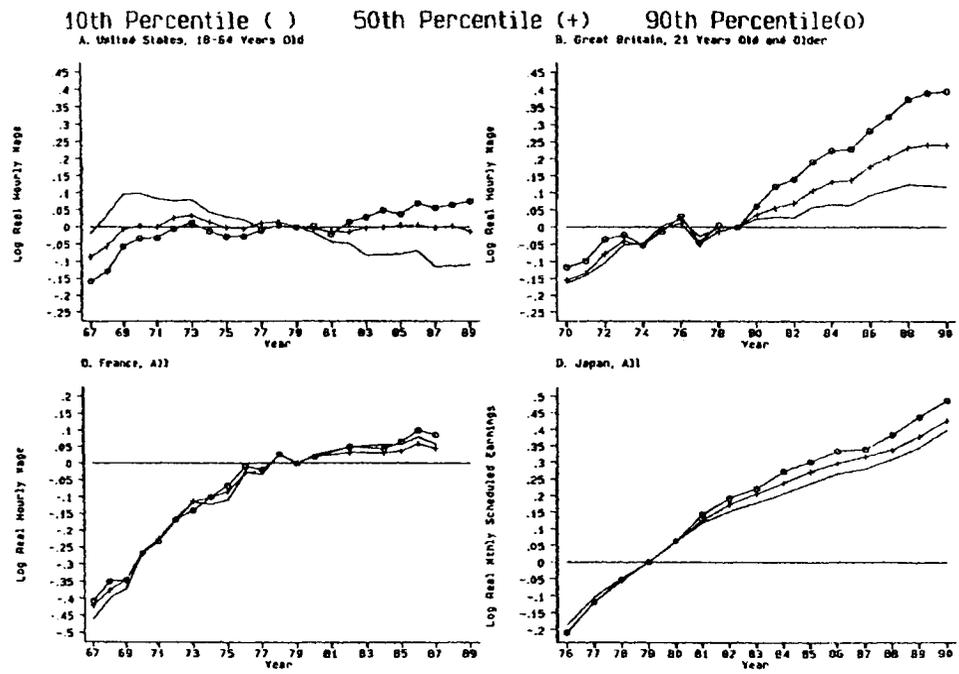


Figure 2: Cumulative Real Wage Growth By Decile, Males

Source: Katz, Loveman, and Blanchflower (1992).

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PREPARED STATEMENT OF ROBERT B. REICH

Mr. Chairman, and members of the Committee. My name is Robert B. Reich and I am a member of the faculty of the John F. Kennedy School of Government at Harvard University. I am pleased to be with you today to address the issue of creating high-wage jobs in the United States, a critically important subject about which there is a great deal of confusion.

One confusion concerns the relationship between creating high-wage jobs and curing the Nation's economic problems. America's current economic malaise is actually two separate sicknesses—a recessionary flu which we will survive, and a long-term infection which we may not. The flu has to do with jobs; the chronic infection, with incomes.

We will survive the flu, because Americans who want to work will be able to when the recession ends. This flu is nonetheless serious and painful. The discouragingly high unemployment figures don't reveal the depth of the pain, because they count as "employed" millions of Americans working Part-time who'd much rather be working full time, as well as people who are over-qualified for the jobs they now hold, and because the figures don't include large numbers of Americans too discouraged even to look for work. Employer surveys reveal fewer jobs in the private sector than in 1989, even though the Nation's population has grown.

Many reasons have been advanced for why the flu lingers longer than most economists had predicted. Beyond the most obvious—that the Predictions of economists rarely have any value to begin with—there is the current straightjacket around fiscal and monetary policies, a direct legacy of the 1980s. With the federal government now adding over \$330 billion of debt to the nearly \$4 trillion already amassed during the 1980s, it is feared that more fiscal stimulus could lead to a run on the dollar and a collapse of stock and bond markets. The Federal Reserve is similarly constrained; further cuts in interest rates might also deal a body-blow to the dollar, as rationally-motivated investors shifted their money elsewhere around the world where rates are higher.

Consumer confidence, meanwhile, continues to be haunted by a deadly triumvirate. First is indebtedness—yet another legacy of the 1980s—which remains high, at 16.7 Percent of disposable personal income. Second is the alacrity with which employers are now laying off workers in order to maintain profits. Employers face fewer constraints than in decades past: Only 12 percent of the private-sector work force is now unionized, down from 17 percent during the last recession, and an unusually large percentage of recent layoffs have occurred among the ranks of white-collar workers. Third is the dependence of most American families on two incomes, still another consequence of the longer-term ailment. The combination yields millions of debt-ridden Americans fearful of losing at least one of their breadwinners, and thus losing their cars or homes, or being without health insurance. These people will rationally forebear from visiting the malls.

What's the proper remedy? More fiscal and monetary stimuli regardless of their effects of the dollar? Steps to restore consumer confidence, such as the creation of a broad-based national health insurance system? Or a policy of doing nothing (others call it "restraint"), by which the nation continues to bear the pain until the dollar is so enfeebled by economic stagnation that exports to rise, American consumers so needy of basic necessities that they return to the stores, and inventories so depleted that employers, in order to meet these incipient demands, begin hiring once again? This is not the place to debate how it will come about, only to assure that the pain of unemployment or underemployment eventually will be over.

The chronic infection is a different matter. It receives less attention than the recessionary flu, but it is in many ways more dangerous. Americans will have jobs when the recession ends, yet if we continue on the present course most of those jobs will not pay as well as the jobs they now have, or once had.

This is not to suggest that the nation lacks high-wage jobs, or that it will be lacking in high-wage jobs if present trends continue. Here, too, has been confusion. Some Americans have the highest-wage jobs in the world; the American economy continues to generate many high-wage jobs. The issue is not whether we are creating high-wage jobs, but, rather, whether we are creating enough of them—and what is happening to Americans who do not have them.

The data are not free from controversy, but almost all economists who value their professional reputations agree that between the 1977 and 1989, even before the current recession began, the average after-tax incomes of American families in the bottom fifth of the income ladder fell some 9 percent, the next fifth grew 6.5 percent poorer, and the middle fifth about 4.5 percent

poorer. Only the top fifth was spared. The higher reaches of the top fifth were not only spared, but their incomes soared. The incomes of those in the top 1 percent actually doubled.¹

There are several reasons for the widening gap. To some extent, it is a function of how income-producing capital assets are allocated in the population, today, the typical American family in the richest 1 percent has a total income of \$600,000, of which only \$285,000 comes from wages and salaries, and the rest—\$315,000—from interest, dividends, and capital gains. The typical American family in the middle 60 percent gets 75 percent of its income from wages and salaries and less than 10 percent from interest, dividends, and capital gains. Thus, as the demand for capital assets rises relative to supply, and the rewards to capital ownership increase, wealthier families enjoy relatively greater income gains than poorer families. This was the case through much of the 1980s. Another reason involves the federal income tax, whose highest marginal rates dropped in 1981. Were the typical family in the richest 1 percent to have paid federal taxes last year at the same rate as in the late 1970s, they would have paid approximately \$65 billion more than they actually did.

But the gap is growing mainly because wages are diverging. Routine manufacturing and data processing jobs, which used to provide high school graduates (and dropouts) with good earnings, have been vanishing. Since 1989 alone, 1.3 million manufacturing jobs have been lost. To the extent that the people who lost them or the young people who would have obtained them have found other jobs, those jobs are likely to be in local services—retail stores, restaurants, hotels, local transportation, hospitals—paying only one-half to two-thirds of typical manufacturing wages. The Census Bureau recently reported that between 1979 and 1990, the proportion of full-time workers receiving poverty-level wages increased from 12.1 percent to 18 percent. Young workers have fared even worse: The proportion of 18-year-olds working full time and making low wages soared from 22.9 percent in 1979 to 43.4 percent in 1990.²

Note that manufacturing itself has not shrunk substantially as a proportion of Gross Domestic Product. In fact, for the most part American manufacturers continue to hold their own in global markets. But good-paying unskilled and semi-skilled manufacturing jobs have grown scarcer, even if there were not millions of workers in developing nations eager to do these jobs at a fraction of the wages of American workers, these jobs would still be disappearing. Domestic competition would drive companies to cut costs by installing robots, computer-integrated manufacturing systems, or other means of replicating the work of unskilled Americans with machinery which can be programmed to do much the same thing.

Meanwhile, the "knowledge content" of most goods and services is rising—putting a premium on people who are able to recognize and solve problems. The price of a new pharmaceutical drug mostly reflects research, development, legal, and marketing skills. The price of a new computer goes mostly to software development; hardware is fast becoming a low-price commodity. A new jet aircraft is largely a result of engineering and manufacturing design, fancy electronics, and sophisticated financing. Automobiles are largely styling, engineering, marketing, and other problem-solving services. Although robots and computers will do most of the routine, back-straining work within tomorrow's factory or service business, there will be an abundance of jobs for people who program the robots and computers, who maintain them in perfect running order, and who exercise judgment about how they can be utilized for better effect. In the new global economy, the people who have these sorts of problem-solving skills are in ever-greater demand.

These three related trends—automation, globalization, and knowledge-intensiveness—are widening the wage gap between the well-educated and the poorly-educated in our society. In 1970 the average college graduate earned about 50 percent more than the average worker without a college degree; by 1990 the college grad earned approximately 100 percent more.

It is important to emphasize, however, that the college degree itself does not provide all the necessary problem-solving skills—nor does the lack of a college degree mean that the worker is

¹ The top 1 percent includes all families whose income exceeds \$300,000, in 1993 dollars. The average income of the top one percent is \$800,000, in 1993 dollars. All figures are adjusted for inflation and declining family size. They are derived from data supplied by the Congressional Budget Office.

² United States Bureau of the Census, *Workers with low earnings: 1964 to 1990*. (U.S. Government Printing Office, May, 1992), The report examines earnings in 1964, 1969, 1974, 1979, 1984, 1989, and 1990. It defines low earnings as earnings insufficient to lift a family of four out of poverty in the year examined. The poverty line is adjusted each year.

unable to do the sort of problem-solving which the new economy requires. The degree functions, rather, as a signal to employers that the recipient is prepared—intellectually and psychologically—to engage in a process of continuous, on-the-job learning about how to solve abstract problems. The college degree offers evidence that its recipient has exercised intellectual and personal discipline sufficient to complete four years of high school and, subsequently, of college, and therefore is likely to have sufficient intellectual and personal discipline to continue to learn on the job. The more selective the college or university, the greater the apparent evidence of such intellectual and personal discipline.

I do not mean to suggest that what is learned in a university is completely irrelevant to success in a subsequent high-wage job, only that it is far less relevant than most people imagine. As a teacher in one university and a trustee of another, I can speak with some authority on this point. Advanced education has many benefits. At best, it stimulates the mind and nourishes the soul, it broadens perspectives and it lays the foundation for a lifetime of intellectual enjoyment. But university curricula are rarely, if ever, directly applicable to jobs, and that is true even with regard to professional schools. Technologies and markets are changing too fast for any set of intellectual models or tools obtained there to remain relevant for long. Besides, university faculty are often among the last to know of the newest of them, even within our leading universities and professional schools.

The signaling effect of a college degree is becoming ever more important. This is because the task of finding new problem-solving employees is far more difficult than is the task of finding unskilled workers for routine work, and prospective employers or problem-solvers currently have no better signal to help them in their quest than that degree. For routine work, employers want evidence of reliability and, on occasion, strength. These qualities can be detected with relative ease. But for problem-solving work, employers seek the abilities to learn quickly and efficiently, to continue to learn on the basis of new experiences, and to innovate where there are no examples to follow. These qualities escape easy detection.

Moreover, an erroneous decision is relatively easy to catch when it comes to unskilled employees, who either do their jobs or don't. Not so with problem-solving employees, for whom there is often no clear measure of success or standard of comparison (were a problem they tackled to have a single "correct" answer, it could be found in a data bank). The cost of error is also higher: Failure to find problem-solvers who, collectively, match or exceed the value offered by the competition, can doom a company. Finally, each problem-solving employee typically entails a larger investment by the employer in both time and resources than would be the case with an unskilled employee; not only are wages higher, but overhead per employee (office, laboratory, computer) is often greater.

Thus does a university degree in the United States separate economic winners from losers. Other nations are experiencing the same centrifugal forces—an ever-widening wage gap between unskilled workers and those able to solve complex problems—but are doing something about it. They are giving more of their citizens first-class basic education and technical training, along with a range of certifications—in addition to a college degree—which reduce the cost to employers of finding potential high-wage employees.

The United States, has been doing the opposite. The widening wage gap here is being compounded by how America finances the things that otherwise would put downward-trending Americans on an upward track, or at least halt their decline. Ours is the best system of higher education in the world, envied by all nations. Its success is due in no small measure to federal government policies which, at least until recently, have assured a steady flow of research funding. Federal support for primary and secondary education and for training and retraining, on the other hand, has been relatively less generous. It has dropped by approximately one-third since 1980, adjusted for inflation. The states, overwhelmed by the rising costs of Medicaid and prison construction, have been cutting back as well—thus placing ever more responsibility on towns and cities. But as Americans continue to segregate by income, entire towns and cities have become either poor or middle class or wealthy. The result has been a growing disparity in the quality of schools, pre-schools, libraries, and other public intellectual assets available to Americans of different incomes.

To make matters worse, the parchment that now most clearly divides future winners from future losers—the college degree is now slipping out of reach for most American children.

Average tuition, room, and board rocketed 26 percent in the 1980s, while the federal government cut low-interest college loans- and grants by 11 percent. Public colleges and universities cannot fill the gap, since the states are cutting back here as well: According to the college Board, tuition at public colleges rose 12 percent last year, the largest single-year jump since 1983. And forget the elite universities. The higher education research Institute at the University of California, Los Angeles, reports that since 1988 prestigious colleges have become more privileged than ever. At the twenty-five most selective schools, the proportion of students with family incomes of at least \$100,000 a year (the top 5 percent of American families) has risen from 31 to 37 percent of the freshman class; students with family incomes of at least \$130,000, from 17 to 22 percent. Even need-blind admissions are now endangered. Smith College and Brown University now weigh a prospective student's ability to pay before granting admission.

If present trends continue, only kids from families safely within the top 20 percent of income-earners can be expected to do better than their parents. These children will have excellent medical care throughout their young lives. Some of them will attend elite private schools; others will go to high-quality suburban schools, where they will be tracked through advanced courses in the company of other fortunate children. Their teachers and professors will be attentive to their intellectual needs. They will have state-of-the-art laboratories, interactive computers and video systems in the classroom, language laboratories, and high-tech school libraries. Their classes will be relatively small; their peers, intellectually stimulating. They will visit museums and attend cultural events. At home they will have educational books, videotapes, and personal computers replete with the latest educational software. Most of these children will go on to attend four-year colleges and universities. They will fill the ranks of the most prestigious. Many will then continue their education by attending law schools or business schools or other institutions of higher learning. Almost all will be selected by employers seeking promising problem-solvers for the global economy of the future. (They should not be overly discouraged by the current recession, prolonged as it may be; when good jobs return, they will get them.) They will form America's new high-wage elite.

There is no simple way to enlarge upon the number of Americans eligible for the high-wage jobs of the future. More money for education and training is necessary, but is hardly sufficient. The money must be well-spent, and focused on building two key capacities in the work force: first, the ability to engage in lifelong learning; second, the opportunity to engage in it on the job. The most important intellectual (and economic) asset which a new entrant into the work force can possess is the knowledge of how to learn. The most important intellectual (and economic) asset which a worker can possess thereafter is the accumulated wisdom and insight that comes from continuous learning on the job.

But the analysis I have provided does suggest several avenues of reform.

Preschool programs must be strengthened. By the age of five, children already possess—or may never possess—many of the critical capacities they will need in order to learn how to learn during the years of their formal schooling. Successful programs like WIC pre- and post-natal care and child immunization should be regarded not only as poverty programs but also as productivity programs; they should be fully funded for children living in families below the poverty line, and partly subsidized for poor working families living just above it.

Primary and secondary education should no longer be funded largely from local property taxes. Cities and suburbs should be consolidated, and state and federal governments should bear a greater share of the financial burdens. National tests should be established; schools whose students fail to reach a minimal level or to improve at a reasonable rate should be subject to special oversight. School choice may be a viable option, so long as disadvantaged children whose parents are least able to exercise effective choices are not left behind in the worst schools. Perhaps states should experiment with sliding-scale vouchers whose worth is inversely proportional to family income, thus creating incentives for schools to compete for disadvantaged children.

School to work transitions demand particular attention. The Federal Government should help families afford college educations for their children, either through loans repayable from the graduates' future earnings or as reimbursements for the young persons' public service. But the university degree should not be the only credential on which employers safely rely. Noncollege bound students should be able to enroll in vocational, technical, and apprenticeship programs

culminating in nationally-recognized competence tests, the successful completion of which certify that the student has gained certain skills.

On-the job training and retraining must be encouraged. Employers often refrain from training their employees for fear that an employee, once trained and hence more valuable, will leave the company and join another. One way to overcome this "free-rider" problem is to require that every business (over a certain size) dedicate a small percentage of its payroll to training its workers—particularly those without college degrees.

America's technological prowess must be understood to be a function of the capacity of our work force to rapidly utilize new ideas, from whatever source around the world, in creating better products and services. Basic research and development will continue to merit federal support. But greater emphasis must be placed on giving Americans on-the-job training in design-engineering and manufacturing-engineering with regard to products on the cutting edge of new markets, where companies fear to tread.

Foreign direct investment should be welcomed, particularly when it helps Americans gain on-the-job training in design-engineering, manufacturing-engineering, and complex production. Americans have as much—if not more—to gain from a foreign company which undertakes high value-added production in the United States than from an American company which undertakes it abroad.

This is a small sampling of the policy areas potentially relevant to the creation of more high value-added jobs in the United States. The challenge is immense, but critical to the future. At present, the United States is creating a third world nation within its borders, and that third-world nation is growing. At the same time, the rich are quietly seceding into well-appointed suburbs and "gated" communities. The middle-class is shrinking. We are fast becoming a nation of haves and have-nots. This is not the challenge of "competitiveness," as it is so often described. It is the challenge of maintaining a coherent society.

PREPARED STATEMENT OF JAMES T. BENNETT

I. Introduction

For a number of years, there has been a constant chorus of concern about the so-called vanishing middle class in America. According to the critics, "deindustrialization" was causing the nation's manufacturing sector and its high-wage jobs to disappear; indeed, the American workers was destined to toil at low wages as an employee of fast-food establishments. Now, as a result of the most recent blip in the nation's economic fortunes, it seems that white-collar employees are bearing much of the brunt of recession for the first time in history. A case can be made that this white-collar recession is caused by the first major shock waves from the widespread adoption of personal computers: Middle-level managers are no longer needed to pass information up and down the corporate structure because everyone from the chairman of the board to the employee on the shop floor can access the same databases.

In the long-run, this pruning of the corporate structure is a very healthy development, for it lowers the costs of production and makes firms more efficient global competitors. In the short-term, however, employees who have lost their jobs are displaced, and these dislocations can be painful and difficult. Congressional concern about those who have lost high-wage jobs is understandable. However, it is equally important to recognize that well-intended public policy which seeks to ease the transition of the unemployed through job creation programs may have highly undesirable consequences. Good intentions do not necessarily produce good public policy, and there are limits on what government can achieve.

At the outset, it is important to recognize that some researchers contend that the magnitude of the problem has been grossly exaggerated. For example, Dr. Marvin Kusters of the American Enterprise Institute analyzed trends in the overall distribution of earnings. The popular view that there has been a disproportionate growth in low-wage jobs represents a grossly distorted picture of labor market trends." (Marvin Kusters, "The Changing Quality of American Jobs?" *Journal of Labor Research* 10 (Winter 1989), p. 31.)

For the sake of argument, however, let us accept the notion that a serious problem exists: high-wage jobs are disappearing. Thus, it is important to answer the question, "What should the federal government do to encourage the creation of high-wage jobs?" My answer is in two parts: first, what government can and should do, and, second, what government cannot do.

II. What Government Can And Should Do To Create High-Wage Jobs

Government can and should facilitate the creation of new high-wage jobs by encouraging the expansion of existing firms and the formation of new ones and both of these activities involve risk. Therefore, public policy should focus on increasing the economic rewards for risk-taking behavior by dramatically reducing or eliminating entirely the tax on capital gains. This simple expedient would encourage rapid economic growth and, thereby, job creation. From a political perspective, such a policy is not viewed favorably because it allows private markets to work and, consequently, there is no role for political decisionmaking that permits politicians and bureaucrats to channel taxpayer funds to special interest groups with political clout. As discussed briefly in Section III, however, the best that public policy can accomplish is to improve the economic environment in which entrepreneurs operate, an indirect role rather than a direct one.

III. What Government Cannot And Should Not Do To Create High-Wage Jobs

There are three fundamental reasons why public policy cannot create jobs through a government program which involves the expenditure of tax dollars. First, a jobs program (high-wage or otherwise) is just another "industrial policy" initiative with the twist that the emphasis is on employment rather than on technologies or firms. Industrial policy has been widely and repeatedly discredited as unsound, unworkable, and fatally flawed for more than a decade by economists at both ends of the political spectrum. Like the phoenix which rises from the ashes, however, a small, but active group of adherents maintain the industrial policy drumbeat, primarily because they envision themselves as "czar" of this or that. Despite the fact that industrial policy seems to have more lives than a dozen cats, the arguments against such proposals are still valid and so well-known that they need not be rehashed here.

Second, and more basically, a high-wage job is a form of wealth (it results in a high income and individuals would be willing to pay to obtain a high-wage job), but by definition no

government can create wealth. If public policy could create wealth, the deficit could be reduced merely by enacting "appropriate" laws or by mandating the "right" regulations and, at the extreme, there would be no need for taxes to operate the public sector. Indeed, poverty could be eliminated throughout the world if such tactics worked. The costs of federal programs must always exceed the benefits, for otherwise the net gains could be used to reduce the deficit or taxes or both. Thus, government can only transfer wealth from one group to another, and these transfers inevitable have negative net economic consequences. Of course, the transfers will benefit the political powerful at the expense of the less fortunate in society.

Third, there is an inherent contradiction in public policy. Public policy must be concerned with the future; history cannot be changed. Therefore, sound public policy requires accurate forecasts about future events. The record clearly shows, however, that the federal government's ability to predict future trends is nothing less than miserable. Consider, for example, the rhetoric and the reality of government predictions about petroleum between 1866 and 1951 shown in Table 1. For almost a century, government bureaus produced wildly inaccurate predictions about petroleum supplies and sources. Even as recently as the Carter Administration, ridiculous forecasts were common: the Department of Energy predicted that oil would cost \$115 per barrel by 1990. In retrospect, these forecasts might seem humorous, but they were made by the same bureaucrats who would be managing a "National Energy Policy." By the way, there are many other examples of absurd government forecasts in other areas, such as timber and natural gas; the information portrayed in Table 1 is by no means an isolated instance. Any private firm that had such a poor track record on predicting the future would have gone bankrupt or have been laughed out of business long ago, but the federal agencies responsible for such absurdities blunder onward. Given past experience with governmental forecasts, it is inevitable that a federal program targeting the creation of high-wage, high-skill jobs would likely be a massive and costly failure.

Table 1

Rhetoric and Reality: Federal Government Petroleum Predictions, 1866-1951

<u>Year</u>	<u>U.S. Daily Oil Production Rate (Billion bbls)</u>	<u>Agency Making Prediction</u>	<u>Rhetoric</u>	<u>Reality</u>
1866	.005	U.S. Revenue Commission	Synthetics available if oil production ends	Synthetics not needed; 37 billion bbls. pumped in next 82 years
1885	.02	U.S. Geological Survey	Little or no chance of oil in California	8 billion bbls. pumped since that date; important new findings in 1948
1891	.05	U.S. Geological Survey	Little or no chance of oil in Texas or Kansas	14 billion bbls. pumped in these states since that prediction
1908	.18	U.S. Geological Survey	Maximum future domestic supply of 22.5 billion bbls.	35 billion bbls. pumped since 1908; 26.8 billion bbls. proven reserves on January 1, 1949
1914	.27	U.S. Bureau of Mines	Total future domestic production only 5.7 billion bbls.	34 billion bbls. pumped since 1914—6 times this prediction
1920	.45	U.S. Geological Survey	U.S. needs foreign oil and synthetics; peak domestic production almost reached	1948 U.S. production exceeds U.S. consumption and is 4 times greater than in 1920

Table 1 (Continued)

<u>Year</u>	<u>U.S. Daily Oil Production Rate (Billion bbls)</u>	<u>Agency Making Prediction</u>	<u>Rhetoric</u>	<u>Reality</u>
1931	.85	Secretary of the Interior	Must import as much oil as possible to conserve domestic oil supplies	During next 8 years, imports were discouraged and 14 billion bbls. were discovered in U.S.
1939	1.3	Department of the Interior	U.S. oil supplies will last only 13 more years	New oil found since 1939 exceeds the 13 years' supply known at that time
1947	1.9	Department of State (Petroleum Division)	Sufficient oil can not be found in the U.S.	4.3 billion bbls. found in 1948, the largest volume in history and twice U.S. consumption
1949	2.0	Secretary of the Interior	End of U.S. oil supplies in sight	U.S. production rose by more than one million bbls. daily in the next 5 years
1951	2.0	Department of the Interior (Oil and Gas Division)	Reserves will last only 13 years	Reserves not exhausted

Source: U.S. Congress, House Committee on Interstate and Foreign Commerce, Presidential Energy Program, Hearings before the Subcommittee on Energy and Power, House of Representatives, on the Implications of the President's Proposals in the Energy Independence Act of 1975, 94th Cong., 1st sess., 1975, p. 643. The 1951 prediction is from "Fear Is Expressed of U.S. Oil Scarcity," New York Times, June 11, 1950.