

**STRENGTHENING AMERICA'S MIDDLE CLASS:  
FINDING ECONOMIC SOLUTIONS  
TO HELP AMERICA'S FAMILIES**

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**HEARING**  
BEFORE THE  
COMMITTEE ON  
EDUCATION AND LABOR  
U.S. HOUSE OF REPRESENTATIVES  
ONE HUNDRED TENTH CONGRESS  
FIRST SESSION

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**STRENGTHENING AMERICA'S MIDDLE CLASS:  
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TO HELP AMERICA'S FAMILIES**

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**Wednesday, February 7, 2007  
U.S. House of Representatives  
Committee on Education and Labor  
Washington, DC**

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The committee met, pursuant to call, at 10:30 a.m., in room 2175, Rayburn House Office Building, Hon. George Miller [chairman of the committee] presiding.

Present: Representatives Miller, Kildee, Payne, Andrews, McCarthy, Tierney, Kucinich, Holt, Davis of California, Grijalva, Bishop, Sarbanes, Sestak, Hare, Clarke, Shea-Porter, McKeon, Petri, Ehlers, Platts, Kline, Fortuno, Davis of Tennessee and Walberg.

Staff Present: Tylease Alli, Hearing Clerk; Jody Calemine, Labor Policy Deputy Director; Carlos Fenwick, Policy Advisor for Subcommittee on Health, Employment, Labor and Pensions; Michael Gaffin, Staff Assistant, Labor; Gabriella Gomez, Senior Education Policy Advisor (Higher Education); Brian Kennedy, General Counsel; Thomas Kiley, Communications Director; Danielle Lee, Press/Outreach Assistant; Joe Novotny, Chief Clerk; Megan O'Reilly, Labor Policy Advisor; Rachel Racusen, Deputy Communications Director; Michele Varnhagen, Labor Policy Director; Daniel Weiss, Special Assistant to the Chairman; Andrew Weltman, Legal Intern, Labor; Mark Zuckerman, Staff Director; Robert Borden, Minority General Counsel; Kathryn Bruns, Minority Legislative Assistant; Steve Forde, Minority Communications Director; Ed Gilroy, Minority Director of Workforce Policy; Rob Gregg, Minority Legislative Assistant; Jessica Gross, Minority Deputy Press Secretary; Taylor Hansen, Minority Legislative Assistant; Victor Klatt, Minority Staff Director; Stephanie Milburn, Minority Professional Staff Member; Molly McLaughlin Salmi, Minority Deputy Director of Workforce Policy; Linda Stevens, Minority Chief Clerk/Assistant to the General Counsel; and Loren Sweatt, Minority Professional Staff Member.

Chairman MILLER. The Committee on Education and Labor will come to order this morning for the purpose of continuing our hearings on strengthening America's middle class, this morning focusing on economic solutions to help America's families.

I want to welcome our witnesses and all of the members of the committee and the audience to this hearing. This is the second in this series of hearings.

Last week, we listened to a distinguished panel talking about the challenges facing America's middle class. We learned that American workers are not sharing in that increased productivity that they have historically shared in and, in fact, the disparities have grown more and more unequal; and we noticed that when the President visited Wall Street last week he said income inequality is real and has been rising for more than 25 years. That is a trend that is deeply disturbing to America's families because, at the same time, as we all know, they are facing the rising cost in the necessities of life that they need to hold their families together.

We heard from Rosemary Miller, a flight attendant, who told us about working longer hours, spending more time away from her children because of the cutbacks in pay and benefits at work. She also talked about what she would want out of her work and that was livable wages and a home that she can own, affordable health care and retirement security and a reasonable means to provide for her children's college costs. That is not an exorbitant demand in a country like the United States of America, but for too many families it is moving further and further out of reach.

I believe that the House this year has taken two steps that will help that, when the House passed the increase in the minimum wage and when the House passed the reduction in interest rates on subsidized loans.

Today, we want to move beyond that discussion to talking about some of the possible solutions and some of the things that can change that would help America's families, would help to narrow the current disparities and the unequalness of the American economy for America's middle class. We believe that can be done. And the panelists will talk to us about creating a competitive economy that includes new and good-paying jobs, restoring workers' rights, including their rights to bargain for better wages and benefits, and making health care more affordable and accessible.

We think that these are key components of making sure that the economy remains strong, that people are in a position to have representation and to go negotiate for their benefits in their pay and working conditions.

We also know it is important that we create the investment in the future in terms of the new scientists, engineers and mathematicians that are going to be necessary to go to that workplace and to design the workplace and design the products and do the research in the future.

We want to make sure that the government continues in that partnership with government and business in creating the ability to do high-risk, high-reward research and make sure that we have those public-private partnerships in place.

Also, as we have had this discussion for a long time now, health care, of course, has been at the center of a sense of insecurity among American families. More of their income goes to health care even as employers continue to share the burden of health care to offload more of those decisions and, in many instances, also accompanied by not only increased deductibles, co-payments and premiums but for less health care than they might have had before. A major driver of the insecurity in the middle class is that many of them are only a major health care event away from real, real

problems in terms of being able to maintain their household, their income and their quality of life.

So we look forward to this panel; and, with that, I would like to yield to Mr. McKeon for any opening comments that he might have. [The prepared statement of Chairman Miller follows:]

**Prepared Statement of Hon. George Miller, Chairman, Committee on Education and Labor**

Good morning. Welcome to the Education and Labor Committee's second hearing on strengthening America's middle class, the key goal for our committee this year.

Last week, we heard from a distinguished panel of economists about challenges facing America's middle class.

They told us that American workers are not sharing in the benefits of their productivity. Instead, the economy has grown more and more unequal.

Even President Bush has acknowledged these trends. In a speech last week—on Wall Street—the President said that “income inequality is real” and he said that it has “been rising for more than 25 years.”

Making matters worse, over the last several years American families have had to contend with rapidly rising costs for life's basic necessities.

None of this is news to American workers or their families. Last week, the committee also heard testimony from Rosemary Miller, a flight attendant who has had to work longer hours, and spend more time away from her kids, because of cutbacks in pay and benefits at work.

Rosemary said that she and other workers in similar situations simply want “livable wages, a home that they can own, affordable health care, comfortable retirement security, and reasonable means to provide for their children's college costs.”

That's not too much to ask for in a country like the United States. But for many families, those things are moving further out of reach.

Now that we have a clear idea of what's happening in today's economy, it is time for us to do something about it. Already this year, the House has taken two steps in the right direction, by voting to increase the national minimum wage and cutting the interest rates on need-based college loans.

But those are just first steps. Much more must be done. And that's the purpose of this hearing—to begin to learn about other potential ways to strengthen the middle class.

Today, we will discuss possible solutions in three important areas:

- creating a competitive economy that includes new, good-paying jobs;
- restoring workers' rights—including their rights to bargain for better wages and benefits; and
- making healthcare more affordable and accessible.

Keeping America and our workforce competitive is an issue of critical importance to this committee and to the Speaker of the House. In November 2005, House Democrats—under the leadership of Speaker Pelosi—unveiled our Innovation Agenda: A Commitment to Competitiveness to Keep American Number One.

The Innovation Agenda was the final product of months of meetings with the leaders of high-tech and biotech companies, venture capitalists, and academic experts.

Among other things, the Innovation Agenda aims to graduate 100,000 new scientists, engineers and mathematicians over the next four years; double the funding for overall basic research and development in the federal government; and provide support to entrepreneurs to start small businesses.

With a bold agenda like this—one that encourages high-risk, high-reward research and development, and that truly makes partners out of government and business—I believe we can maintain America's economic leadership in the world and create good jobs that will stay here at home.

This morning we will also hear about the importance of giving workers the ability to join together to bargain for better wages and benefits. Current law makes it extremely difficult for workers who want to exercise their right to form a union to actually do so, and it we must change that by restoring workers' rights to form a union. And we must look at approaches to trade that help improve living standards for workers in the U.S. and around the world—not hurt them.

Finally, as we also heard last week, healthcare costs are a significant strain on middle class families. Today we will look at ways to improve health care coverage and delivery and address spiraling healthcare costs.

This issue affects both employers and workers. Many employers are being crushed by their rising health care obligations. Their overseas competitors have a competi-

tive advantage in the form of national health care systems, since healthcare is not a cost that must be borne by employers.

The sooner we address our long term health care challenges, the more productive and prosperous our workplaces will be.

On all of these topics, I look forward to the testimony of today's witnesses. Thank you.

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Mr. MCKEON. Thank you, Chairman Miller. Thank you for convening today's second in a series of hearings on our Nation's economy. I welcome each of our witnesses, and I am eager to hear your testimony.

Mr. Chairman, as I mentioned at the outset of last week's hearing, I have never been one to engage in class warfare; and I am hopeful that today we can move beyond the politics of division and focus on reforms that have served to strengthen our economy and on what we can do to strengthen it even further.

Last week, we heard some of the witnesses who testified before this panel speak with great optimism about the state of the U.S. economy as well as with great confidence in our workforce's capacity to meet the challenges of global competition. I was particularly struck by the testimony of a California-based manufacturing president who called for better alignment between education and training systems to meet the challenges faced by workers and employers seeking to adjust to the new realities of the 21st century marketplace. She noted that the primary challenges for manufacturers are how to attract, retain and motivate a high-performing workforce.

After developing a strong interest in workforce training and retraining issues during my time on this committee, I can say without a doubt that the manufacturing industry is not alone in facing these challenges. In fact, I believe that the single best way to find meaningful economic solutions for everyone, not just a single class, is by bolstering our education and training systems. Through streamlining programs under the Workforce Investment Act, evaluating and enhancing math and science education programs and expanding access to college and other types of postsecondary education, I believe we have taken some important steps toward identifying long-term economic solutions. But we have more steps to take and as we consider how to do so, I believe we should be just as aware of what isn't a solution as to what is a solution.

For example, some may embrace huge new Federal mandates upon State and local governments or employers with the hope that congressional micromanagement will be a silver bullet for practically any economic challenges we now face. Let's be clear this kind of heavy-handed action out of Washington is decidedly not an economic solution.

Some may move to create more Federal programs, adding layer upon layer of new bureaucracies to training and education systems that are already too bogged down by government red tape. Once again, let's be clear, creating scores of new programs and branding them with the title of innovation is decidedly not an economic solution.

And, as hard as it is to believe, some may even argue for dismantling the cornerstone of our democracy, the private ballot election, as a way to somehow strengthen worker rights and improve their economic standing. Let's be crystal clear about this one, killing a



worker's right to a private ballot is decidedly not an economic solution. In fact, it is more of an attack on democracy itself than anything else.

So what are some real economic solutions? I submit to my colleagues that there are reforms that have already worked and worked well.

We have cut taxes for literally every working American, and the economy has grown stronger ever since. We have made it easier to save for health care expenses, college and retirement, giving Americans greater ownership of their personal savings. We have insisted on results in our schools and insisted that colleges and universities be held accountable for their role in raising tuition and fees, and we have reshaped worker training programs to provide more individual choice and less hand-holding out of Washington.

Mr. Chairman, these solutions—proven solutions—provide us a more solid starting point from which we will take the next steps to continue strengthening this robust economy. I look forward to taking those next steps with you and my other committee colleagues in the weeks and months ahead.

Thank you.

[The prepared statement of Mr. McKeon follows:]

**Prepared Statement of Hon. Howard P. "Buck" McKeon, Senior Republican Member, Committee on Education and Labor**

Chairman Miller, thank you for convening today's second in a series of hearings on our nation's economy. I welcome each of our witnesses and am eager to hear their testimony.

Mr. Chairman, as I mentioned at the outset of last week's hearing, I've never been one to engage in class warfare, and I'm hopeful that today, we can move beyond the politics of division and focus on reforms that have served to strengthen our economy—and on what we can do to strengthen it even further.

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Some may embrace huge new federal mandates upon state and local governments or employers with the hope that congressional micromanagement will be a silver bullet for practically any economic challenges we may face. Let's be clear: This kind of heavy-handed action out of Washington is decidedly NOT an economic solution.

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en worker rights and improve their economic standing. Let's be crystal clear about this one: Killing a worker's right to a private ballot is decidedly NOT an economic solution—in fact, it's more of an attack on democracy itself than anything else.

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Chairman MILLER. Thank you.

Without objection, I ask that all members will have 5 legislative days to submit additional material for the record, should they desire to do so.

**Prepared Statement of Hon. John P. Sarbanes, a Representative in  
Congress From the State of Maryland**

Mr. Chairman, thank you for holding this series of hearings to examine the squeeze on America's Middle Class. Last week's hearing drove home a now sadly familiar message—basic opportunities are increasingly out of reach for those families and communities that have traditionally formed the bedrock of American society.

Our Nation's public education system for example has long been considered the great equalizer that allowed all Americans to achieve economic prosperity based on merit. But even for academically high-performing students, socio-economic status is becoming an increasingly insurmountable barrier to completing college. In fact, a 12-year study by the Department of Education found that the highest performing students from lower income families are actually less likely to graduate from college than the lowest performing students from wealthy families. This is truly the American Dream turned inside-out!

Protecting the Middle Class does not end, however, with providing educational opportunities. It also requires workforce protections that promote fair wages and benefits. One of the most telling statistics I came across in preparing for this hearing was that since 1980, worker productivity has increased by 80 percent while worker wages have only increased by 2 percent. During that same period, the income of the top .01 percent—those earning over \$6 million a year—increased by 497 percent. Tomorrow, the Subcommittee on Health, Education, Labor and Pensions will hold a hearing on the Employee Freedom of Choice Act. I've cosponsored this legislation because I believe it will be a first step to restoring workers' right to organize in the workplace. Many workers who try to form and join labor unions are harassed, pressured, threatened, and even fired for exercising their right to organize. Labor unions have long helped workers to share in the prosperity of economic growth and I believe we need to restore this bargain.

Mr. Chairman, I know today's hearing offers an opportunity for us to take a step toward identifying long overdue solutions beyond the rhetoric and I look forward to working with you to restore the bargain with America's workers.

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With that, I would like to introduce our panel.

We are joined by Mr. Richard Trumka, who is Secretary-Treasurer of the AFL-CIO, the umbrella labor organization representing 54 national and international labor unions. He was elected in 1995 and is the youngest secretary-treasurer in the AFL-CIO history as part of that campaign to reinvigorate the labor movement. He has been very involved in working on advanced employer-employee cooperation agreements to enhance productivity in the workplace by

working cooperatively with employers and covering all areas of those agreements, from job security to pensions and to benefits.

Next is Judy Feder, who is a professor and dean at the Georgetown Public Policy Institute and is a widely published scholar. She has three decades of public policy research at the Brookings Institute and continued at the Urban Institute and now at Georgetown University. This Congress on both sides of the aisle have called upon her time and again to come and discuss health care with us. Her expertise is in the uninsured and Medicare, Medicaid, and long-term care; and we look forward to her testimony.

Bill Archey is the President and Chief Executive Officer of the American Electronics Association, AeA, and is in the business of advancing the business of technology. This trade organization I think now represents—what—some 2,500 companies in the complete span of the field of technology, from semiconductors and computers, telecommunications and software. But more importantly to us in the Congress, he has been absolutely a leading light on this idea of maintaining America's competitive advantage, America's leadership in the world economy and in intellectual properties, in inventions and patents and all those ways that we measure our leadership over the last 50 years.

He has worked with the White House, he has worked with the Republicans, he has worked with the Democrats in trying to get us all to understand the kinds of changes that are necessary in public-private partnerships, in tax policy, in research and development, in education. A very outspoken group of CEOs that he represents have come time and again not only to this committee but to the Joint Economic Committee, to the Budget Committee, to the Finance Committee, to the Ways and Means Committee seeking funding for education, but they have also put their money, their corporate money, their private money, behind those efforts in terms of education both at the local and national level.

Lynn Karoly is a Senior Economist with the RAND Corporation, she previously served as a director of RAND's Labor and Populations Division. She has received and written on a broad—excuse me, she has researched and written on a broad range of human resources issues, including social welfare policy, wage and income distribution, population aging, family and child well-being. She holds a Ph.D. and an MA in economics from Yale University and a BA from Claremont McKenna College. We look forward to your testimony. Sounds like you span the family from beginning to end. Thank you.

Chairman MILLER. Secretary Trumka, we will begin with you. The lights will go on. It will be green for 5 minutes. Then there will be a yellow light that suggests you might want to start wrapping up your testimony. Then the red light so that we will be able to have questions from the members of the committee.

Welcome.

**STATEMENT OF RICHARD L. TRUMKA, SECRETARY-TREASURER, AFL-CIO**

Mr. TRUMKA. Thank you, Chairman Miller, members of the committee. My testimony focuses on one simple but central question: Why in the richest country in the world is it so difficult for so

many families to make a living by working? Despite strong economic statistics for the U.S. economy overall, the vast majority of Americans are struggling to maintain their living standards in the face of stagnating wages, rising economic insecurity, eroding health care and retirement benefits and mounting debt. At the richest moment in our Nation's history, the American dream is fading for the majority of American workers.

The key issue, in our view, is the growing gap between real wages and productivity growth. Since 1980, labor and productivity has increased over 80 percent, but the real median wage has hardly budged, increasing only 2 percent over a quarter century. The key factor contributing to this growing rift is the steadily growing imbalance of bargaining power between workers and their employers.

I want to focus my oral remarks today on the crucial policy reforms we need in this country to rebalance the bargaining power between employees and their employers. The goal of economic policy should be to support a strong and internationally competitive national economy whose benefits are shared broadly by all Americans. To achieve this objective, we must reconnect with four important economic values that resonate powerfully with all Americans.

Our country's economic policy should, one, provide for full employment; two, protect the right of workers to choose to unionize if they want to; three, reform our global economic policies to prioritize good jobs and a fair distribution of the benefits of globalization; and, four, ensure that people who work for a living earn a wage that keeps them out of poverty and have access to affordable and adequate health care and retirement.

First, anybody who wants to work in America should have a job. We need more balance for macroeconomic policies that balance the dual goals of full employment and price stability. The Fed's goal should be to maximize growth and employment consistent with reasonable price stability.

Second, American workers should enjoy the fundamental freedom to associate with their fellow workers and, if they wish, organize unions at their workplace and bargain with their employer for dignity at work and a fair share in the values that they help create. The current system for forming unions and bargaining is broken. Every day corporations intimidate, harass, coerce and even fire people who try to organize unions. This is an urgent crisis for workers blocking their free will and ability to get ahead economically.

Yesterday, 230 Members of Congress introduced the Employee Free Choice Act to allow workers the freedom to organize free of employer harassment and fear of job loss. I would like to thank the chairman for his leadership in gaining such strong support for that important legislation and urge Congress to take immediate action to enact the Employee Free Choice Act into law.

Third, we need new policies to assure a competitive American economy and decent jobs at home and abroad in a rapidly globalizing world. Internationally, this requires more balanced trade policies that protect the rights of workers as well as they protect intellectual property. We need to enforce our trade laws and our trade agreements much more effectively, and we need to make

sure that our negotiators don't agree to weaken even our trade laws in order to cut more deals.

Domestically, it requires a national economic strategy to rebuild our manufacturing capacity. This is important not just because of the need for good manufacturing jobs but crucial if we are to reduce our trade deficit and dependence on foreign borrowing.

Last week, President Bush called for an extension of trade promotion authority, or Fast Track. I think that is an indication that he is really not hearing the American people. International trade is important and should be pursued, but it is essential that we get the rules right. Any future trade agreement negotiating authority must require that negotiators actually achieve the key negotiating objectives, not just give it their best shot. We need to build in a much stronger role for Congress in the negotiating process; and if the agreement fails to meet the mandatory negotiating objectives, Congress should send the agreement back to the President so that he can negotiate one that does.

Finally, people who work every day should not live in poverty. They should have access to quality health care for themselves and their families and able to stop working at some point in their lives and enjoy a dignified and secure retirement.

Thank you, Mr. Chairman.

Chairman MILLER. Thank you very much.

[The statement of Mr. Trumka follows:]

**Prepared Statement of Richard L. Trumka, Secretary-Treasurer, AFL-CIO**

Thank you, Chairman Miller, members of the Committee. I welcome the opportunity to be here today to testify on behalf of the 10 million working men and women of the AFL-CIO and share our views on economic solutions to help America's middle class.

Any consideration of the American economy today must address one simple, but central, question: "Why, in the richest country in the world, is it so difficult for so many families to make a living by working?"

The U.S. economy is now producing over \$13 trillion a year and, despite a recent slowdown, has been growing at a respectable, if not spectacular, three percent a year. American workers are the most productive workers in the world, and they are more productive today than ever. Americans work hard and log more hours than workers in any other developed country.

Nevertheless, the vast majority of Americans are struggling to maintain their living standards in the face of stagnating wages, rising economic insecurity, eroding health care and retirement benefits and mounting debt. At the richest moment in our nation's history, the American Dream is fading for a majority of American workers.

We can, and must, do better. But doing so requires us to fundamentally rethink our country's economic policies.

We must restore the promise of America—that all of our citizens can expect that by working hard and playing by the rules, they can participate fully in the benefits of a rapidly growing and competitive national economy.

*The Fading American Dream*

American workers are suffering a now generation-long stagnation of family income and rising economic insecurity.

Since 1980, labor productivity has increased over 80 percent, but the real median wage has hardly budged, increasing only 2 percent over a quarter century. Real median family income has increased a modest 13 percent over this period, but only because each job requires more hours, each worker is working more jobs and each family is sending more family members to work.

When wages advanced with productivity from 1946-73, we grew together as a nation. Since then, increasingly, we are growing apart—economically, socially and politically. As a result of the rupture between wages and productivity, an enormous redistribution of income—perhaps the largest in our history—has occurred from poor

and working Americans to the top twenty percent of our families. Today, America has the most unequal distribution of income and wealth of any developed country in the world. And income and wealth are more unequally distributed in America today than at any time since the 1920s.

Moreover, the volatility of family income—and with it the economic anxiety so many feel—has increased sharply over the same period. Jacob Hacker, the Yale political scientist, estimates that the chances of a family suffering a 20 percent or greater decline in its income over a two-year period have doubled since 1980.

Rising health care costs and dwindling retirement assets are aggravating the economic anxiety of working families. Retirement security is fast becoming a goal beyond the reach of most Americans. Our private pension system is fraying, with fewer workers now covered by pension plans. Companies increasingly view bankruptcy as a business strategy to eliminate pension obligations. Even healthy companies with marquee names and well-funded plans are reneging on decades-old commitments to help provide their employees with a secure retirement.

Although workers' ability to achieve retirement security has long been premised on a system of mutual responsibility—government-provided Social Security, employer-provided pensions, and personal savings—only Social Security now guarantees a universal benefit.

Only half of American families have an employer-provided retirement plan of any sort, a proportion largely unchanged for decades. However, whereas 40 percent of workers participated in employer-guaranteed “defined benefit” pension plans in 1980, today only 20 percent have such plans. In substituting “defined-contribution” for defined-benefit plans, employers are shifting the risk of retirement onto workers. And American workers are ill prepared to carry this risk.

And, as health care costs continue to rise, employers shift more and more of the cost of health care onto the shoulders of American workers. Again, working families with stagnating earnings are in no position to shoulder these costs, so the ranks of the uninsured continue to rise. Today over 46 million Americans have no health insurance at all, despite the fact that as a nation we spend more on health care than any country in history.

The increased volatility of income and increasing burden of risk for family health care and retirement security are exacerbating the acute anxiety that so many working families are feeling.

#### *Failed Economic Policies*

There are many contributing causes to the stagnation of wages and the rupture of the productivity-wage relationship over the past thirty years. Central to them all is a steadily growing imbalance of bargaining power between workers and their employers. The implicit “social contract” that allowed Americans to grow together, and build the American middle class, in the early post-WWII decades rested on a rough balance of power between workers and their unions on one side and employers on the other.

Today, this balance of power has eroded and the social contract with American workers is unraveling. America's CEOs, who once viewed themselves as stewards of our country's productive assets, now present themselves as agents of shareholders in whose name they aggressively shift good American jobs off-shore, reduce workers' pay and walk away from their health care and retirement obligations.

American corporations are facing two enormous challenges that have changed the way they do business and are poisoning their relationship with their employees. The first is intense competition in product markets—exacerbated by globalization abroad and deregulation domestically. The second is pressure from institutional investors in capital markets to increase shareholder value by raising profit margins.

If corporations must increase margins, but cannot raise prices, they must reduce costs. And most of the costs of business are in employee compensation in one form or another. Therefore, “the market,” as business leaders say, is forcing American corporations to aggressively reduce compensation costs however they can: by outsourcing and off-shoring work, by reducing worker pay and by shifting the costs of health care and retirement onto workers. These same forces are behind corporate demands to lower the tax and regulatory burdens in the name of “competitiveness.”

The shift in economic policies in the late 1970s from a “Keynesian consensus” to what George Soros has called “free market fundamentalism” explains much, in my view, about changing corporate behavior, the imbalance of power between workers and their employers, stagnating wages and the growing divide between productivity and wages.

The policies that make up “free market fundamentalism” are like a box that is systematically weakening the bargaining power of American workers, constraining

their living standards and driving the growing inequality of income and wealth in our country.

On one side of the box is “globalization,” unbalanced trade agreements that force American workers into direct competition with the most impoverished and oppressed workers in the world, destroy millions of good manufacturing jobs and shift bargaining power toward employers who demand concessions under the threat of off-shoring jobs.

On the opposite side of the box are “small government” policies that privatize and de-regulate public services and provide tax cuts for corporations and the wealthy, all to “get government off our backs.”

The bottom of the box is “price stability.” This leads to unbalanced macro-economic policies that focus exclusively on controlling inflation and neglect the federal government’s responsibility to “maximize employment,” even out the business cycle and assure rapid economic growth.

The top of the box is “labor market flexibility,” policies that erode the minimum wage and other labor standards, fail to enforce workers’ right to organize and bargain collectively and strip workers of social protection, particularly in the areas of health care and retirement security.

Each of these economic policies—“globalization,” “small government,” “price stability” and “labor market flexibility”—may sound innocent enough. But they each undermine the employment security of American workers. And together they powerfully weaken the bargaining power of workers and provide corporations with both the incentive and the means to enrich themselves at the expense of their employees.

#### *Restoring America’s Promise*

To balance bargaining power between employees and their employers, rebuild the relationship between wages and productivity and restore America’s promise, we must begin by reflecting on the purpose of the economy and the goal of the economic policies that guide our country’s economic development.

Do Americans as workers exist to serve the needs of the economy? Or does the economy exist to serve the needs of Americans, the vast majority of whom earn their living by working? In our view, the economy exists to serve the needs of the American people, not the other way around.

The goal of economic policy should be to support a strong and internationally competitive national economy whose benefits are shared broadly by all Americans. To achieve this objective, we must reconnect with four important economic values that resonate powerfully with all Americans.

Our country’s economic policies should (1) provide for full employment; (2) protect the right of workers to choose to unionize if they want to; (3) reform our global economic policies to prioritize good jobs and a fair distribution of the benefits of globalization; and (4) ensure that people who work for a living earn a wage that keeps them out of poverty and have access to affordable and adequate health care and retirement security. :

First, anyone who wants to work in America should have a job. We need more balanced macroeconomic policies that balance the dual goals of “full employment” and “price stability.” That is, the Federal Reserve’s goal should be to maximize growth and employment consistent with reasonable price stability. The Humphrey-Hawkins Act mandates the Federal Reserve to serve these dual objectives, but only Congress can hold the Fed accountable for serving both.

We also need more coordination between the fiscal policy of the Treasury Department and the monetary policy of the Federal Reserve. In recent years, Treasury has been absent from its responsibility to help smooth the business cycle and support rapid growth and full employment. One school of thought at Treasury is to cut taxes and hope for the best. Another school of thought has been to balance the federal budget and hope for the best. Neither school well serves the country’s need for rapid growth and full employment. Moreover, both schools have supported “strong dollar” policies that have contributed to misaligned exchange rates, particularly with China and other Asian trading partners, and left American producers at a distinct competitive disadvantage in global markets.

Second, American workers should enjoy the fundamental freedom to associate with their fellow workers and, if they wish, organize unions at their workplace and bargain with their employer for dignity at work and a fair share in the value they help create.

The best opportunity for working men and women to get ahead economically is to unite with their co-workers to bargain with their employers for better wages and benefits. Workers who belong to unions earn 30 percent more than non-union workers. They are 62 percent more likely to have employer-provided health care coverage, and four times more likely to have pensions.

More than half of all American workers—nearly 60 million—say they would join a union right now if they could.

But the current system for forming unions and bargaining is broken. Every day, corporations deny employees the freedom to decide for themselves whether to form unions. They routinely intimidate, harass, coerce, and even fire people who try to organize unions. Workers are fired in a quarter of private-sector union organizing campaigns; 78 percent of private employers require supervisors to deliver anti-union messages to the workers whose jobs and pay they control; and even after workers successfully form a union, they cannot get a contract one-third of the time. This is an urgent crisis for workers, blocking their free will and their ability to get ahead economically.

The system has to be changed to give all working people the freedom to make their own choice about whether to have a union and bargain for better wages and benefits. If the law is changed to allow more workers to make their own decision—without management coercion—more of America’s workers will be able to ensure fair treatment on the job and improve their standard of living.

Yesterday, 230 members of Congress introduced the Employee Free Choice Act to allow workers the freedom to organize free of employer interference and the fear of job loss. The Employee Free Choice Act would strengthen penalties for companies that coerce or intimidate employees; establish mediation and binding arbitration when the employer and workers cannot agree on a first contract; and allow employees to form unions when a majority express their decision to join the union by signing forms designating the union as their representative in bargaining with management.

We urge Congress to take immediate action to enact the Employee Free Choice Act into law. This legislation would represent an enormous step toward restoring balance between workers and their employers and helping repair the ruptured productivity-wage relationship.

In 1935, Congress declared it to be the “policy of the United States” to “encourage the practice and procedure of collective bargaining.” In large measure, Congress’s adoption of this policy, which remains embodied in federal law, was based on a finding that the “inequality of bargaining power between employees who do not possess full freedom of association or actual liberty of contract, and employers who are organized in the corporate or other forms of ownership associations \* \* \* tends to \* \* \* depress wage rates and the purchasing power of wage earners in industry.” 29 U.S.C. § 151. It is thus not surprising that the defects in federal labor policy which have been exploited by employers in order to frustrate employees’ freedom to choose whether to bargain with their employers have led to precisely the depressed wages and growing inequality that Congress aimed to prevent.

The declining percentage of the workforce represented by unions has contributed to growing income inequality, declining medical insurance coverage, and declining pension coverage. There are large gaps between unionized and non-unionized workers in many other important areas, including education and training, disability benefits, and life insurance coverage. Moreover, all workers, union and nonunion, benefit from a higher percentage of the workforce being unionized, as evidenced by the fact that workers in the ten states with the highest union density earn almost \$2 an hour more than those in the ten states with the lowest percentage. The World Bank has confirmed these findings in an international comparison.

In many of the expanding occupations in our service economy, union representation is the difference between poverty and living wages. The average non-unionized cashier, child care worker, food preparation and serving worker, dishwasher, maid and housekeeper earns less than the federal poverty level for a family of four, while their unionized counterpart earns a living wage. And these are precisely the occupations in which workers are actively seeking to join unions. As a result, in the ten states with the highest percentage of union representation, the percentage of the population living in poverty is more than 2 percent lower than in the ten states with the lowest percentage.

Union representation is also the best antidote to the poison of discrimination. Because the premium earned by union workers is larger among minorities and women, union representation reduces wage inequality. For example, the Bureau of Labor Statistics found that in 2004, Latino workers who were union members earned 59 percent more than their nonunion counterparts, while unionized women workers earned 34 percent more than their nonunion counterparts.

Dr. Martin Luther King, Jr. recognized the important role of unions: “The labor movement was the principal force that transformed misery and despair into hope and progress.” This was true as the industrial age gave way to the prosperity of the 1950s and 1960s and can be so again provided Congress restores the promise of American labor law.



Third, we need new policies to assure a competitive American economy and decent jobs at home and abroad in a rapidly globalizing world.

We have lost 3.4 million good manufacturing jobs since 1998, partially as a result of misguided exchange rate policies, unbalanced trade policies, and corporate strategies to aggressively off-shore manufacturing operations. Moreover, Princeton economist Alan Blinder warns that as many as 42 million service sector jobs are also vulnerable to off-shoring, many of them held by highly-educated and highly-paid American workers.

We need a fundamental overhaul of our failed policies, which have led to skyrocketing trade deficits and a cumulative \$3 trillion in debt.

Internationally, this requires more balanced trade policies that protect the rights of workers as well as they protect intellectual property. Only with effective and enforceable protections of core worker rights integrated into national and international trade and financial rules will the benefits of globalization be equitably shared with workers. We need to enforce our trade laws and our trade agreements much more effectively, and we need to make sure our negotiators don't agree to weaken our trade laws in order to cut more deals.

Domestically, it requires a national economic strategy to rebuild our manufacturing capacity. This is important not just because of the need for more good manufacturing jobs, but crucial if we are to reduce our trade deficit and dependence on foreign borrowing.

#### *China's Illegal Currency Manipulation and Workers' Rights Violations*

The Bush administration has simply refused to hold the Chinese government to its international obligations on trade, currency manipulation and human rights, and has denied American businesses import relief they are entitled to under the law.

The AFL-CIO has filed two Section 301 petitions alleging that China's systematic and widespread repression of workers' human rights is an unfair trade practice under U.S. law, costing hundreds of thousands of U.S. jobs and millions of dollars in lost business. Representatives Benjamin Cardin (now Senator Cardin) and Christopher Smith joined us in filing the second petition last year.

In 2004, we also joined with a broad domestic business coalition in filing a Section 301 case outlining how China's currency manipulation constitutes a violation of China's obligations under World Trade Organization and International Monetary Fund rules, and how it harms American workers and producers. A bipartisan Congressional coalition then refiled the same petition.

All of these efforts were cursorily denied by the Administration, which has declined even to investigate the underlying economic arguments.

We call on the Bush Administration to move beyond "bilateral consultation" and continued dialogue to address the urgent problems in the U.S.-China trade and economic relationship. Certainly, the Administration needs to initiate WTO dispute resolution immediately in several areas to ensure that China meets its obligations in a timely and effective way—including illegal subsidies, currency manipulation and violation of workers' rights. The Administration should clarify without delay that countervailing duty remedies can be applied to non-market economies.

But Congress cannot wait for this Administration to act.

Last week, Representatives Tim Ryan and Duncan Hunter introduced H.R. 782, the Fair Currency Act of 2007. This bill is an updated version of H.R. 1498, the China Currency Act of 2005 that was introduced in the 109th Congress and had 178 bipartisan cosponsors.

This bill clarifies the definition of currency manipulation, identifies currency manipulation as an illegal subsidy, and ensures that countervailing duty laws can be applied to non-market economies. It does not apply exclusively to China, but is broadly applicable. It is a crucial first step in addressing the urgent economic problems we face today. We urge Congress to give immediate consideration to the Fair Currency Act.

#### *A New Direction on Trade*

Last week President Bush called for the extension of trade promotion authority, or "fast track." This was further evidence the president simply is not listening to the real and serious concerns of the American people regarding our nation's economic future. Extending "fast track" authority would hamstring Congress's ability to fix our broken trade policy at a time when working families are in dire need of a correction in course.

The 2006 mid-term election swept several dozen free-trade incumbents out of office, replacing the vast majority with candidates who campaigned pledging to oppose unfair trade agreements and tax policies that ship good American jobs offshore.

Across the country, from Ohio to Iowa, from Florida to California, voters resoundingly rejected the President's failed trade agenda and demanded a change in course.

Rather than admitting that current policies are not delivering the desired outcomes, the free-trade elite continues to insist that more free trade deals are needed to lift the Third World out of poverty and boost American competitiveness. It all sounds very appealing. The only problem is it does not work.

We call on our elected officials to pause, review, and reform current trade, tax, and currency policies—rather than barrel along on the current path.

We need to conduct a strategic review of the agreements we have already put in place. Such a review would re-examine the content and performance of current agreements to see where their strengths and weaknesses are and how we can do better in the future. Tracing the actual trade and investment patterns that result from new trade deals, as well as their impacts on living standards, social regulation and communities, would allow us to have a much more nuanced debate about the actual outcomes of trade deals—rather than their promised benefits.

Absent an honest assessment, we will undoubtedly find ourselves on the same failed path.

International trade is important and should be pursued, but it is essential that we get the rules right. Any future trade negotiating authority must require that the negotiators actually achieve the key negotiating objectives, not just “give it their best shot.”

Any agreement that is granted expedited consideration and an up-or-down vote must include enforceable core international worker rights and environmental standards, subject to the same dispute and enforcement provisions as the commercial concerns in the agreement. It must also include rules on investment, government procurement, intellectual property rights, and services that strike the right balance between democratic accountability, development concerns and international obligations.

Last November, working people voted for a new direction. They voted for a new process to ensure that Congress and the public have a greater say in our economic future. No longer should Congress be expected to take an up-or-down vote on a bad trade deal without proper consultation and participation at earlier stages of negotiation. Congress should be consulted throughout the process and should certify whether a proposed agreement fulfills the mandatory negotiating objectives. If not, Congress should send the President back to the bargaining table until the agreement is one that the American people can support—one that will ensure that the benefits of trade are more equally distributed rather than concentrated in too few hands.

Finally, people who work every day (a) should not live in poverty, (b) should have access to quality health care for themselves and their families and (c) should be able to stop working at some point in their lives and enjoy a dignified and secure retirement.

The increase in the minimum wage to \$7.25 an hour recently approved by both the House and the Senate is desperately needed and long overdue. But this increase will still leave a family of three in poverty and dependent on public assistance. To allow low-wage workers to participate equitably in our country's productivity growth, we need to restore the minimum wage to its traditional level of one-half the average wage for non-supervisory workers in the private sector. Today that would be over \$8.00 per hour.

We must also reform our failing health care system to provide affordable, quality care for every American. There are a variety of approaches to health care reform that would cover the uninsured, without increasing our national health care expenditures. Many of these approaches would also provide better means for improving quality and restraining health care cost increases. They would also help reduce the burden on employers and improve their competitive position in global markets.

Reforming our health care system and restraining cost increases would also contribute greatly to our ability to provide a secure retirement for American workers. There are an increasing number of voices in Washington calling for “entitlement spending” reform to address long-term costs of Medicare and Medicaid. Reforming our health care system should relax some of the pressure to cut retirement benefits and allow space for bolstering Social Security and our fragile pension system.

We face especially daunting challenges in securing adequate lifetime retirement income for all American workers. We believe retirement security should be based on mutual responsibility, with financing and risk allocated equitably among government, employers and workers. Social Security is the cornerstone of our nation's retirement security. It must be preserved and strengthened for current and future beneficiaries. In addition, we must assure that retired workers receive a guaranteed retirement income that supplements Social Security, one their employers are required to fund. Retirement savings vehicles, like 401(k) plans, cannot replace guar-

anteed pension income. However, they should be structured to be more effective and efficient and serve the interest of workers, not those of their employers or Wall Street. Finally, corporate abuse of the bankruptcy process, allowing employers to abandon pension and other retirement obligations, must be brought to a halt.

The American economy can work for all Americans, but achieving this will require a change of course for our country's economic policies. I do not pretend to have all the answers to the many economic challenges facing the American middle class. But I believe workable policies to these challenges can emerge from a national dialogue that involves business, labor, and the public at large. I commend the Committee for beginning this dialogue.

Thank you again for the opportunity to be with you today and share the views of the American labor movement on the economic challenges facing American workers.

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Chairman MILLER. Dr. Feder.

**STATEMENT OF JUDITH FEDER, DEAN, GEORGETOWN PUBLIC  
POLICY INSTITUTE, GEORGETOWN UNIVERSITY**

Dr. FEDER. Thank you, Chairman Miller, Congressman McKeon, members of the committee. I appreciate the opportunity to testify before you today.

Families, businesses and governments are struggling with ever-increasing health care costs. Forty-seven million people are without health insurance protection, and even people who have health insurance are seeing their benefits dwindle and health costs consume their wages. Increasingly, our health insurance system fails to protect us when we are sick.

Given these conditions, it is good news that health reform proposals abound. As we consider these proposals and move forward, as we must, it is important to remember that there are many ways to get a fairer, more affordable, more secure health care system, but it is just as important to remember that not any way will get us there. Success demands that we know the difference between proposals that will achieve our goals and proposals that will not.

There are three critical elements to effective reform that will actually guarantee all people coverage that gets them access to needed health care. A proposal that has three elements—adequacy, affordability and availability of benefits—get a triple A rating because of the concrete ways it expands coverage that works.

The first element of reform would define a set of benefits that protect people when they are sick. That means it has to cover a full range of medical services, limit cost sharing to levels that are reasonable in relation to people's incomes, and cap out-of-pocket spending to what people can realistically afford. In assessing adequacy I urge you to beware of proposals that leave it to insurers to define what is covered and proposals with such high deductibles that they impede access to care.

Element number two would create the subsidies that make adequate insurance affordable. Without subsidies, we can't expect low- and modest-income people to buy insurance voluntarily. Families with incomes below twice the poverty level, about \$40,000 for a family of four, just don't have what it takes to spend \$11,000, what it costs for comprehensive coverage. In assessing affordability I urge you to beware of proposals that require people to buy insurance without a subsidy. A mandate without a subsidy is either punitive or pretend. It either shouldn't happen or it won't happen.

The third element would assure what we might call a place to buy, somewhere that makes adequate affordable health insurance available to everyone without regard to health status. That could offer a choice of health plans like Members of Congress have; it could be or look like Medicare; or, if the rules were changed, it could be existing private insurance plans. In assessing availability, I urge you to beware of proposals that send people shopping for insurance in a market where insurers deny coverage to people when they need care or charge more based on age, health status or otherwise cherry-pick us when we are healthy and avoid us when we are sick. The proposal has got to work for us when we are sick.

An effective health reform proposal can only deliver this triple A protection if it has sufficient financing behind it, whether from individual employer or taxpayer contributions or some combination thereof. And it can only sustain that protection over time if it includes a way to slow health care cost growth, not only for people who are now uninsured but for everybody, including those of us who depend on Medicare and Medicaid.

We can all be better off and more willing to commit to universal coverage if we invest in research to determine which medical services work and which don't and in information and payment systems that help providers deliver the former and avoid the latter.

As you well know, debating the merits of alternative health reform proposals is a daunting task. Our history is filled with debates that generate far more heat than light. For decades, instilling fear among those of us who have health insurance, even if it costs too much or covers too little, fear that political action will make us worse off, not better off, has taken health reform off the political agenda, but it may be that the worst cost and coverage get the harder, it will be to scare us away.

Whether that happens will depend on whether we can trump fear with confidence that we can do better, and we can.

Thirteen years ago, Harry and Louise—fictional characters in the health insurance industry's ad campaign—misleadingly but effectively picked apart the Clinton health reform proposal, asserting over and over there has got to be a better way. We don't need fictional characters today to tell us this system is broken. Our moms and dads, brothers and sisters, friends and coworkers fill that role every day. The time for debate and discussion was a decade ago. The time for action is now.

Thank you, Mr. Chairman.

Chairman MILLER. Thank you.

[The statement of Dr. Feder follows:]

**Prepared Statement of Judith Feder, Ph.D., Professor and Dean,  
Georgetown Public Policy Institute, Georgetown University**

Chairman Miller, Congressman McKeon, members of the Committee, I appreciate the opportunity to testify before you today on the problems middle class Americans face in securing affordable health care. Families, businesses and governments are struggling with ever-increasing costs of care. Every year about a million people are added to the rolls of the uninsured, now numbering almost 47 million. People with insurance are seeing their benefits dwindle and health costs consume their wages. Even people with insurance find themselves unable to pay medical bills and going without needed care.

Increasingly, our health insurance system fails to protect us when we get sick. The following snapshot of the precarious state of our employer-sponsored health insurance system (based on the research literature) tells us why.

- Most people without health insurance are working. Four out of five people without health insurance are in families of workers, most of them working full time, primarily in jobs that do not offer health insurance.
- Fewer firms offer health benefits. Between 2000 and 2006, the proportion of firms offering health benefits fell from 69 percent to 61 percent.
- Growing health costs stymie growth in earnings. The cost of health insurance for those fortunate enough to have it grew 87 percent from 2000 to 2006. In the same period, workers' earnings increased only 20 percent, barely more than the rate of inflation (18 percent).
- Even insured families face substantial financial burdens. In 2003, almost one in five families with employer-sponsored coverage spent more than 10 percent of their incomes on health insurance premiums and health services. In other words, they were underinsured.

Underinsurance places the greatest burdens on people who get sick. In 2003, one in six adults with private health insurance (almost 18 million people) reported problems paying their medical bills. People with serious health conditions experienced payment problems at almost twice the rate of the other privately-insured. Overall, over a quarter of people with payment problems reported that costs led them to skip medical tests, leave prescriptions unfilled or postpone care.

Given these conditions, it is not surprising that calls for health reform—indeed, calls to secure meaningful health insurance for all Americans—can be heard in state houses from Massachusetts to California, in business board rooms as well as consumer caucuses, and, as evidenced here, in the halls of Congress. Even President Bush has joined the conversation. Health reform proposals abound.

As we consider these proposals and move forward—as we must—it is important to remember that there are many ways to get to a fairer, more affordable, more secure health care system. But it is just as important to remember that not any way will get us there. Success demands that we know the difference between proposals that will achieve our goals and proposals that will not.

There are three critical elements to effective reform that will actually guarantee all people coverage that gets them access to needed health care. A proposal that has these three elements—adequacy, affordability, and availability of benefits—gets a Triple A rating because of the concrete ways it expands coverage that works.

**Adequacy of coverage**—The first element would define a set of benefits that protect people when they're sick. That means it has to cover the full range of medical services; limit cost-sharing to levels that are reasonable in relation to people's incomes; and cap out-of-pocket spending to what people can realistically afford. An adequate benefit can't be a donut—with a hole like the Medicare drug benefit; and it can't be Swiss cheese—with all kinds of limits that expose people to unexpected costs. In assessing adequacy, we must beware of at least two other types of proposals: those that don't specify benefits, but leave it to insurers to define what's covered, and those that require deductibles so high they impede access to care. In short, a proposal with adequate benefits differs from proposals based on the premise that any insurance, being better than none, is good enough. That's simply not true if the goal is meaningful access to care.

**Affordability of coverage**—Element number two would create the subsidies that make adequate insurance affordable. We have abundant evidence that without subsidies, low and modest income people will not buy insurance voluntarily. This makes intuitive sense. Two-thirds of the uninsured have family incomes below twice the federal poverty level (\$40,000 for a family of four). Do we really think it reasonable for families with these incomes to spend upwards of \$11,000 (the average cost of reasonably comprehensive coverage in 2006)?

In assessing affordability, we must beware of proposals that require people with low or modest incomes to buy insurance without a subsidy. Personal responsibility is important; and everyone should pay a fair share. But a mandate without a subsidy is either punitive or pretend; it either shouldn't happen or it won't happen. In contrast to such misguided mandates, proposals that provide significant subsidies (assuring coverage at no cost for people with very low incomes and requiring partial contributions that increase with income) establish a reasonable mandate—at a price people can afford.

**Availability of coverage**—The third element would assure what might be called a "place to buy"—somewhere that makes adequate, affordable health insurance available to everyone without regard to health status. That "place" could offer a choice of health plans, like members of Congress get; it could be or look like Medicare; or, if the rules were changed, it could be existing private insurance plans. In assessing

availability, we must beware of proposals that send people shopping for insurance in a market where insurers deny coverage to people when they need care (like the current non-group health insurance market) or charge more based on age or health status, or otherwise cherry-pick us when we're healthy and avoid us when we're sick. The proposal has to work for us when we're sick.

An effective health reform proposal can only deliver this Triple A protection if it has sufficient financing behind it—whether from individual, employer, or taxpayer contributions or some combination thereof. And it can only sustain that protection over time if it includes a way to slow health care cost growth—not only for people who are now uninsured but for everybody, including those of us who depend on Medicare and Medicaid. We can all be better off—and more willing to commit to universal coverage—if we invest in research to determine which medical services work and which don't, and in information and payment systems that help providers deliver the former and avoid the latter.

As you well know, debating the merits of alternative health reform proposals is a daunting task. Our history is filled with debates that generate far more heat than light. For decades, instilling fear among those of us who have health insurance—even if it costs too much or covers too little—that political action will make us worse off, not better off, has taken health reform off the political agenda. But it may be that the worse cost and coverage get, the harder it will be to scare us away.

Whether that happens will depend on whether we can trump fear with confidence that we can do better. We can. Thirteen years ago, Harry and Louise—fictional characters in the health insurance industry's ad campaign—misleadingly, but effectively, picked apart the Clinton health reform proposal, asserting over and over “there's got to be a better way.” We don't need fictional characters today to tell us the system is broken. Our moms and dads, brothers and sisters, friends and co-workers fill that role every day. The time for debate and discussion was a decade ago. The time for action is now.

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Chairman MILLER. Mr. Archey.

**STATEMENT OF WILLIAM ARCHEY, PRESIDENT AND CEO,  
AMERICAN ELECTRONICS ASSOCIATION (AeA)**

Mr. ARCHEY. Thank you, Mr. Chairman. It is a pleasure for me to be appearing before this committee on behalf of AeA's 2,500 member companies that, as you suggested, spans the entire spectrum of the high-tech industry. I would like to just provide a little bit of context before I get into some of the details.

Each year for the last 10 years AEA publishes a book called *Cyberstates*—well, depends on the year—but *Cyberstates*, and we are going to be publishing the latest version in another couple of months.

I just would summarize we, by the way, have been accused of being too conservative, that the numbers are too low. I took the decision 10 years ago when we started this publication that I would rather be accused of being conservative than inflating the numbers, so we think the numbers are good because they are also entirely from the Bureau of Labor Statistics and it is a look at all 50 States in terms of high-tech employment, salaries, the trends in those, exports from each State, et cetera.

As of now, there are 5.6 million high-tech workers. We lost a million workers between 2000 and 2004 when the high-tech bubble bust. The good news is, in 2005, for the first time, we had a net gain of 61,000 jobs and for the first 6 months of 2006 we saw 141,000 net new jobs being added. We think that when we come out with our report in about a month and a half that we are going to be seeing over 200,000 net new jobs in high tech that occurred in 2006.

But one of the things that I would like to talk about is that we are here to talk about strengthening middle-class jobs and middle-class way of life, if you will; and I would argue the key to achieving that is developing a highly skilled and educated workforce. Education is the most reliable path to high-paying middle-class jobs. I believe no other industry better represents the middle-class dream than high tech, which requires highly skilled and educated people and pays them well for it.

The average high-tech worker earns 85 percent more than the average private sector worker, \$72,400 a year versus \$39,100 a year. In many sectors in the high-tech industry, the wages are even higher. The average worker in software services sector makes \$80,600, the average worker in semiconductor manufacturing makes \$89,400, and many of the people who work in the semiconductor manufacturing area are not college graduates but still very well trained in terms of math and in terms of problem analysis.

These are the types of middle-class jobs that this industry would like to continue to create, but we are facing a number of challenges, and I would like to just cite a few of them.

Not enough American kids pursue careers in science, math and engineering. America used to be the place where the best and the brightest came from all over the world, and particularly they came for a high-tech career. This is no longer true because our visa system is broken. It is difficult to obtain an H-1B visa for a foreign national, and once you have them it is even more difficult to get a green card to keep them.

Between 40 and 60 percent of all graduate degrees in science, technology, engineering and math go to foreign nationals. We educate them, and then we tell them to go home. That is absurd. What seems to be constantly missed is that for the last 60 years the best and the brightest came to the United States, founded new companies, created literally tens of thousands of high-paying jobs, high-value-added jobs, mostly in high tech.

Ironically, we live in a culture where our kids have many more options than science and engineering careers, but I would submit that it is the ones with those backgrounds of science and engineering that create the innovations that allow our kids to have all those other options.

I would also like to note one other thing. Because some of the problems I have enunciated, the argument is it is primarily a problem for the big companies. I would submit that these problems probably more affect the smaller companies in high tech than they do the big guys.

Two weeks ago I sent an e-mail out to all of our 17 local councils and said, I would like to know what you would like me to talk about, what bothers you. And I would like to make a quote of a company from Dallas, Texas, with 52 employees, \$4 million dollars in sales. The CEO said, quote, we need to be eliminating barriers to finding and developing talented employees. If you do this one thing, we can figure out how to work around all the other system failures that stifle growth and the improvement of the human condition across our Nation, end quote.

What I think he is really saying is, if we can find a way to develop, educate and have a talented workforce, we can deal with all the other crap. I think that is basically correct.

I would like to end my testimony by saying one final thing. It is not like we don't know what to do. In the 109th Congress, we had the President's American Competitiveness Initiative, the House Republican's National Summit on Competitiveness, numerous bills in the Senate, mostly under Republican sponsorship, and, by no means last, the House Democratic Innovation Agenda. I would note that all of these proposals address the problem, we believe at AeA, none more comprehensively than does the Democratic Innovation Agenda.

It is our judgment that time has come to act in the 110th Congress that didn't occur in the 109th Congress. It is an interesting issue. There is virtually no disagreement. It has just been a question of when the hell are we going to get it done.

Thank you, Mr. Chairman.

[The statement of Mr. Archey follows:]

**Prepared Statement of William T. Archey, President and CEO, American Electronics Association (AeA)**

Good morning. My name is William T. Archey, and I am the President and CEO of the AeA, the nation's largest high-tech trade association. On behalf of AeA's 2,500 members that span the spectrum of electronics and information technology companies, from semiconductors and software to mainframe computers and communications systems, I would like to thank you for this opportunity to testify before your Committee on the current and future educational needs of America's high-technology industry.

Mr. Chairman, I would like to begin my testimony with a quote from the CEO of an AeA member company located in Dallas, Texas:

"We need to be eliminating barriers to finding and developing talented employees—if you do this one thing we can figure out how to work around all the other system failures that stifle growth and the improvement of the human condition across our nation."

AeA is unique as a high-tech trade association because we have a grassroots organization of 19 offices spread across the country. In preparation for my testimony today, I asked the directors of these offices to speak with executives of small- to medium-sized companies about the challenges they face in recruiting a skilled workforce. Many of the responses I received echoed the one I just read.

I should also point out, Mr. Chairman, that the CEO who made this statement runs a company with just \$4 million dollars in annual revenue and 55 employees.

The debate on the need to improve the skills of the American workforce is often dominated by the big companies. But today I'm not here to talk about Intel or Microsoft. I'm here to talk about a small company struggling to become a large company. As you well know, small companies account for the majority of job creation in this country. If public policy does not work to help these businesses thrive, our economy suffers. If companies like these cannot access skilled workers, they cannot grow their operations or create high paying jobs.

As we are here today to discuss strengthening America's middle class, I would argue that the key to achieving that is developing a highly skilled and educated workforce. Education is the most reliable path to a high paying middle class job. I believe no other industry better represents that middle class dream than high tech, which requires highly skilled and educated people and pays them well for it. The average high-tech worker earns 85 percent more than the average private sector worker, \$72,400 annually compared to \$39,100. In many sectors, the wages are even higher. The average worker in the software services sector makes \$80,600. The average worker in the semiconductor manufacturing sector makes \$89,400. These are the types of middle class jobs we want to create. If public policy does not support their creation, we are basically inviting companies to send jobs overseas.

The high-tech industry is facing a number of challenges that will cast some doubt about our ability to create and sustain these high paying U.S. jobs. These challenges are:

- Not enough American kids pursue careers in science, math, and engineering.



- America used to be the place where the best and brightest came—and particularly they came for high tech.
- This is no longer true because our visa system is broken. It is difficult to obtain an H-1B visa for a foreign national, and once you have them, it is even more difficult to get a green card to keep them.
- Between 40 and 60 percent of all graduate degrees in STEM fields go to foreign nationals. We educate them and then we tell them to go home. That is absurd.
- What seems to be constantly missed is that for the last 60 years these best and brightest came to the United States, founded new companies, and created literally tens of thousands of high paying, high value-added jobs, mostly in high tech.
- Ironically, we live in a culture where our kids have many more options than science and engineering careers. But it is the ones with that background that create the innovations that allow our kids to have those other options.

With many of these issues, our companies are trying to deal with them and trying to solve them. But some of these issues—if not most of them—result from misguided public policy.

In fact, the challenge of recruiting highly skilled workers is the most critical for small companies. The larger companies are much more likely to have operations abroad. If they need workers with specialized skill sets and cannot find them in the United States—or if they cannot bring them to the United States—they can staff that job overseas. The small guys can't easily do that. If they cannot find the workers they need, they have few if any options. But I would note that even our larger companies are frustrated by the problems listed above and their inability to hire the talent they need here in the United States.

The fact is, difficulties in recruiting highly skilled and educated workers is a problem that is pervasive throughout the technology industry, across all sectors and in companies of all sizes. For example, the U.S. unemployment rate for electrical engineers is at an unprecedented low, 1.5 percent according to the most recent data from the Bureau of Labor Statistics. There are thousands of job openings in the tech industry in the United States.

Last April, our Cyberstates 2006 report showed that U.S. tech employment was up in 2005 by 61,000 net jobs, the first increase since 2000, for a total of 5.6 million. Even the high-tech manufacturing sector added jobs. This modest growth followed a four year period in which the tech industry lost just over 1,000,000 jobs.

In September, we released our midyear tech employment update, which showed that the U.S. tech industry added some 140,000 net jobs in the first half of 2006, according to preliminary data. Next month, AeA will publish Cyberstates 2007, at which time we will report finalized numbers for tech industry job growth in 2006.

Whatever this growth ends up being, we believe it could be much higher. The key to this growth is the skills of the workforce. These jobs are only available to those with the proper education and up-to-date training.

We as a nation need to address this critical shortage of homegrown high-skilled talent. We need to face up to the long-term challenge of our education pipeline, which is failing to prepare tomorrow's workforce for an economy that is knowledge based and driven by technology. We've got to renew the invitation to the best and brightest to come to the United States and develop the high paying jobs here rather than in some country overseas.

Mr. Chairman and Members of the Committee, it's not like we don't know what we need to do. In the 109th Congress we had the President's American Competitiveness Initiative, the House Republicans National Summit on Competitiveness, numerous bills in the Senate, and last but by no means least, the House Democrats' Innovation Agenda. I would note that all of these proposals address the problem, though none more comprehensively than the Democratic Innovation Agenda.

What each of these proposals offers is:

- A major new program to attract our young people to take more math and science;
- Programs to increase the number of teachers with the skills and background in these areas;
- Increases in the federal basic research budgets to once again put us in the forefront of innovation, which happened from 1958 until recently;
- Various recommendations for how to address the problems in the visa system for high-skilled workers. Here there was no consensus on exactly what to do, but there was on the need to do so.

There were also other proposals to deal with unnecessary regulations, in particular the problems that small businesses are having with Sarbanes-Oxley Section 404.

The problem is that all of these proposals surfaced during the very partisan election year of 2006. So nothing happened. Yet there is virtually no disagreement about what should be done.

Government intervention on these issues is not unprecedented. Eleven months after Sputnik went up, President Eisenhower and the Congress passed the National Defense Education Act. That act indeed spurred a whole generation of kids to take math and science and reinvigorated the emphasis on the importance of basic research to innovation. Mr. Chairman, for the next 40 years, the United States dominated the economic and technological spheres on the world stage.

Mr. Chairman, and Members of the Committee, we can do that again.

I thank you for your time.

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Chairman MILLER. Dr. Karoly.

**STATEMENT OF LYNN A. KAROLY, SENIOR ECONOMIST, RAND INSTITUTE**

Dr. KAROLY. Good morning, Chairman Miller, Congressman McKeon, and members of the committee. I am very pleased to have this opportunity to speak with you today about the forces that are shaping the future U.S. workforce and workplace as part of this committee's hearings on strengthening America's middle class.

Since the largest source of income for most middle-class families is earnings from work, the well-being of America's middle class is closely tied to the outcomes of the U.S. labor market. So I would like to focus my testimony on the forces that are shaping the world of work and the implications of those trends for the U.S. workforce and workplace. Understanding these forces is critical for shaping policies that can serve to foster a strong and secure middle class well into the 21st century.

My remarks today are based upon a recent study conducted at RAND at the request of the U.S. Department of Labor to provide policymakers with a look at the possible trends over the next several decades that might affect the Nation's workers, employers and other stakeholders such as education and training institutions. That study focused on three key factors that we identified as having the most potential to affect workers and employers in the next 10 to 15 years. Those factors are demographics, technology change and globalization.

In assessing the demographic trends, the most striking shift in the workforce is that it is projected to grow more slowly in the future. In the 1970s, the workforce grew at about an annual rate of 2.6 percent per year. It has been steadily declining. In the next decade, that rate of growth will be about .4 percent per year, and it falls further in the decade after that.

In terms of technological advances, we can expect continued growth and demand for a high-skilled workforce. That is the result of new technologies which favor non-routine skills such as flexibility, creativity, problem solving and complex communications. Complementary changes in workplace practice also increase the demand for workers with high levels of skills.

The third factor is globalization, which can be expected to have equally important effects. In looking ahead, we can anticipate that globalization will affect industries and segments of the workforce that in the past were relatively isolated from outside competition. Ultimately, globalization and technological change have both aggregate effects and distributional consequences. They both generate

gains in the economy as a whole from innovation and expanded markets, but they are also responsible for distributional effects as new technologies and overseas competition displace workers or alter the skill content of jobs.

In our larger study we highlight a number of implications of the demographic trends, technology shifts and growing global integration. In my remaining time, I would like to highlight four key messages that flow from our work.

While I am not going to offer specific policy recommendations, one conclusion that does follow is that policymakers at all level of government need to re-examine and, where needed, reform the institutional features of the U.S. labor market largely which develop to serve a 20th century economy, not the 21st century one we are in today.

First, we foresee a redefinition of employer-employee relationships and work arrangements toward greater specialization and more worker entrepreneurs. Forces that are driving the reorganization of production are expected to shift toward more nonstandard work arrangements, whether that is self-employment, contract work, temporary help work, part-time work, freelance work and so on.

One view of this trends foresees the evolution in some sectors towards numerous information-technology-enabled network entrepreneurs or, a term that is being used now, e-lancers. A great example of this model is eBay. Recent figures indicate that eBay has over 55 million active buyers and sellers, but even more pertinent is the fact that over 400,000 of those sellers consider eBay to be their primary source of income. In other words, if those individuals actually worked for eBay, it would make eBay the second largest employer in the country after Wal-Mart.

Current data indicates that about one in four workers is engaged in some form of nonstandard work arrangement, in other words, a job that is not expected to deliver traditional workplace benefits; and to the extent that these type of nonstandard work arrangements expand in the future, one key issue will be access to and delivery of traditional workplace benefits such as health insurance, pension coverage and other things that employers are involved in, such as supporting education and training of their workers and other aspects of professional development.

Second, the skills of the U.S. workforce will determine how competitive our economy remains in the global marketplace. You have heard already about issues related to training scientists and engineers; and, on this front, international comparable data indicates that the U.S. workforce does not stand up, whether we look at current students or workers today, to their international counterparts.

The technological advances that are going to require an increase in a workforce that is skilled in the sciences and engineering is one where we have tended to rely, as was mentioned, on foreign students from abroad; and there are a number of indications to suggest that reliance is not something we can count on in the future.

Third, while education and training prior to the start of a career will be important, the ability to retool and retain mid-career will be essential at all levels, whether we are talking about older workers or younger workers.

Finally, as the labor force grows more slowly in the future, employers are going to have to compete for new workers, particularly those that are underrepresented in the labor force; and two examples that we discuss in our analysis are older workers, where there is going to be a demand to increase their retention in the workforce, as well as underrepresented groups such as the disabled.

Again, it is important that policymakers consider these trends and the implications that they have for the future of our workforce and workplace and the roles that policies can make in helping to ensure a strong and stable workforce in the middle class as well.

I look forward to your questions. Thank you.

[The prepared statement of Dr. Karoly follows:]

**Prepared Statement of Lynn A. Karoly, Senior Economist, RAND Institute<sup>1</sup>**

INTRODUCTION<sup>2</sup>

Mr. Chairman: I appreciate the opportunity to be here today to discuss this important topic. The well-being of America's middle class is closely tied to the outcomes of the U.S. labor market. The largest source of income for middle class families is earnings from work, either from current employment or as deferred compensation from prior jobs in the form of pensions or Social Security income. While the consequences of the current state of the economy on the fortunes of middle class families are one area for potential concern, there are a number of longer-term issues that are equally relevant in terms of their potential effects on U.S. workers and employers. Thus, I would like to focus my testimony on the forces that are shaping the world of work and the implications of those trends for the U.S. workforce and workplace. Understanding these forces is critical for shaping policies that can serve to foster a strong and secure middle class well into the 21st century.

To set the context, in the next section, I briefly outline three key factors that are expected to have important effects on the workforce and workplace in the next 10 to 15 years: demographic shifts, technological advances, and global competition. I then discuss the most salient implications of these trends for U.S. workers, employers, and other stakeholders such as our education and training institutions. While I do not offer specific policy recommendations, one conclusion that follows is that policymakers at all levels of government need to reexamine—and, where needed, reform—the institutional features of the U.S. labor market, as well as our educational and training system, in light of the changes we anticipate.

FORCES SHAPING THE 21ST CENTURY WORKFORCE AND WORKPLACE

In a recent study we conducted at RAND at the request of the U.S. Department of Labor, we focused on three key factors that we identified as having the most potential to affect workers and employers in the next 10 to 15 years (Karoly and Panis, 2004). Those factors are demographics, technological change, and globalization. The demographic dimension is relevant as the size and composition of the population, combined with patterns of educational attainment and labor force participation, determine the number and makeup of the people who want to work. Demographic trends will also affect the mix of jobs in the economy as a result of differential consumption patterns across different demographic groups. For example, older households demand a different mix of goods and services than younger ones, and the growing participation of women in the labor force has raised the demand for purchased goods and services once produced at home. Immigration patterns play an important role as well, affecting the mix of skilled and unskilled labor.

<sup>1</sup>The opinions and conclusions expressed in this testimony are the author's alone and should not be interpreted as representing those of RAND or any of the sponsors of its research. This product is part of the RAND Corporation testimony series. RAND testimonies record testimony presented by RAND associates to federal, state, or local legislative committees; government-appointed commissions and panels; and private review and oversight bodies. The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.

<sup>2</sup>In this testimony, I draw on Lynn A. Karoly and Constantijn W.A. Panis, *The 21st Century at Work: Forces Shaping the Future Workforce and Workplace in the United States*, MG-164, Santa Monica, California: The RAND Corporation, 2004 available online at: <http://www.rand.org/pubs/monographs/MG164/index.html>.

Considering the recent pace of technological change, it is evident that our economy has been shifting from one based on production to one based on information. In the coming decades, technological advances promise to further shape what goods and services are produced by the economy; how capital, material and labor inputs are combined to produce those goods and services; how work is organized and where it is conducted; and even who is available to work. Finally, the extent of integration between the U.S. economy and the rest of the world in terms of trade, capital flows, labor mobility and knowledge transfers will also influence the U.S. labor market. In the decades ahead, the extent of globalization will affect the size of markets U.S. firms produce for, the mix of products the U.S. population consumes, and the nature of competition in the global marketplace.

In assessing the demographic trends, the most striking shift is that the workforce is projected to grow more slowly in the future. The annual growth rate of the nation's workforce is expected to slow to 0.6 percent in the 2010s and 0.4 percent in the 2020s (Toosi, 2002, 2006). That is a sharp decline from the 1.3 percent average annual increases seen in the 1990s and the 2.6 percent average annual increases experienced during the 1970s. The slowdown in labor force growth is the result of the retirement of the baby boom cohort and the end of the rise in women's employment rates. The influx of immigrants counteracts those trends to some extent but not enough to allow labor force growth rates to keep pace with recent decades. As a result of immigration patterns and differential fertility rates for minority groups, the trend toward a more ethnically and racially diverse workforce can also be expected to continue.

In terms of technological advances, it hardly seems controversial to say that technology will continue to shape the economy in even greater ways over time, while the pace of those impacts can be expected to accelerate. One expected consequence of the technological advances is a continued growth in the demand for a high-skilled workforce capable of undertaking the basic R&D to develop new technologies, developing the applications and production processes that exploit the technological advances, and bringing the resulting products to the commercial marketplace. Beyond the high-technology sectors themselves, changes in technology in recent decades have been identified as an important source of rising demand for skilled workers in a wide range of industries and occupations (Karoly and Panis, 2004). New technologies favor non-routine skills such as flexibility, creativity, problem-solving, and complex communications. Computers and other new technologies complement workers with these skills. In contrast, information technologies tend to substitute for routine skills that can be translated into programmable steps for computers to execute. Complementary changes in workplace practices—such as more decentralized forms of business organizations and other aspects of “high performance” work systems that give workers more authority, flexibility, and opportunities to work in teams—further increase the demand for workers with high-levels of skills (Bresnahan, Brynjolfsson, and Hitt, 2002). All indications are that such technological advances in the future will continue to place a premium on higher-skilled “knowledge” workers who are responsible for analyzing, problem-solving, and communicating information needed for decisionmaking.

The third factor, globalization, can be expected to have equally important effects. While the pace and extent of the integration of the U.S. economy and other world economies depends in part on the outcome of future trade policies adopted by the United States and other countries, we can anticipate that globalization will affect industries and segments of the workforce that in the past were relatively isolated from outside competition, boosting trade, affecting capital flows, encouraging mobile populations, and causing rapid transfer of knowledge and technologies. The evidence to date of the effects of globalization on the economy suggests a future course that will comprise both aggregate effects and distributional consequences. For the economy and the labor market as a whole, trade has generally produced favorable outcomes: continued employment growth because of expanded markets, high rates of innovation and productivity gains as a result of more competitive markets, and rising standards of living due to lower prices and greater consumer choice (Burtless et al., 1998). At the same time, the distributional consequences are equally salient. For U.S. workers, that means job declines in some sectors of the economy, counterbalanced by job creation in others. Ultimately, globalization and technological change have similar consequences: gains in the economy as a whole from innovation and expanded markets but distributional consequences as new technologies and overseas competition displace workers or alter the skill-content of jobs.

## IMPLICATIONS FOR WORKERS, EMPLOYERS, AND OTHER STAKEHOLDERS

By understanding the forces that are shaping the world of work and how those forces are likely to evolve over time, we can draw out the implications of those trends for the various stakeholders in the labor market—workers, employers, education and training institutions, and policymakers. In doing so, much of the exercise involves informed speculation. In the absence of a crystal ball, we are not in the business of making definitive predictions. However, we do believe that certain trends are more likely to occur than not. I'd like to highlight four key messages that come out of our work.

First, we foresee a redefinition of employer-employee relationships and work arrangements, toward greater specialization and more worker-entrepreneurs. The combination of technological change and globalization are propelling firms toward a model of greater specialization than in the past. The adoption of new technologies have shifted the ways firms are organized and conduct their businesses—both in “old economy” goods-producing sectors such as steel and machine tools industries, as well as services-producing sectors such as retailing, trucking and banking. This includes a trend toward the “vertical disintegration of the firm”: in other words, companies shedding non-core functions through outsourcing in order to focus on specialized products and services that define their core competencies.

Decentralized business forms also go hand-in-hand with decentralized decision-making within organizations, and attaching a premium on knowledge-generation as a way of achieving competitive advantage. Shifts toward more participatory “high performance” work systems that give workers more authority, flexibility, and opportunities to work in teams as well as performance-based pay are also attributable to the power of information technologies and their associated networks to coordinate and control across and within organizations in a more decentralized manner. Increasingly, we can expect corporations to serve less of a “command and control” function and instead provide the rules, standard and culture that define the environment within which more autonomous workers operate.

Technology also facilitates telecommuting and other forms of distance work such as long-distance teams. As of 2004, about 21 million workers or 15 percent of the workforce usually did some work at home (at least on day a week) as part of their primary job (Bureau of Labor Statistics (BLS), 2005b). As might be expected, about four out of five workers who worked regularly at home were managerial, professional, or sales positions, jobs with more authority and autonomy. Looking ahead, we can expect growth in homebased work and telecommuting, facilitated by technological change and demanded by workers looking for ease in balancing work and family commitments. As the location of the employer and employee become less geographically connected—particularly when state or national boundaries are crossed—it raises questions about which jurisdiction's work-related policies apply.

Beyond telecommuting, the forces driving the reorganization of production are also expected to shift toward nonstandard work arrangements such as self-employment, contract work, temporary help, parttime work, and so on. One view of these trends foresees the evolution in some sectors toward numerous, IT-enabled, networked entrepreneurs, or “e-lancers” (Malone and Laubacher, 1998; Malone, 2004). In this business model, individuals may compete in a global marketplace for project opportunities and work on multiple projects at a time. Teams continuously dissolve and reform as old projects are completed and new projects begin.

According to BLS data as of 2005, about 1 in 10 workers was in an alternative employment arrangement, consisting of independent contractors, on-call workers, temporary help agency workers, and workers provided by contract firms (BLS, 2005a). When self-employed individuals and those working part-time are included, about one in four workers is currently in a “non-standard work arrangement”—in other words, a job that would not be expected to provide traditional employer-provided benefits. Further shifts may be spurred by technology or by demand on the part of subgroups of workers such as older workers, the disabled, or those caring for dependent family members. A great example of the new business model is e-Bay. Recent figures indicate that eBay had over 55 million active buyers and sellers, but even more pertinent is that an estimated 430,000 of those sellers consider eBay to be their primary source of income. If eBay actually employed those individuals, it would make it the second largest private employer in the country after Wal-Mart (Malone, 2005).

To the extent that nonstandard work arrangements expand in the future, one key issue will be access to and delivery of traditional workplace benefits. The traditional employment benefits associated with jobs that confer at least a middle class standard of living include health insurance and pension coverage, and often include other benefits as well such as life and disability insurance, and employer-supported edu-

cation and training and other aspects of professional development. In the traditional employer-employee paradigm, workers might have expected such benefits as part of explicit or implicit employment contracts that confer long-term stable employer-employee relationships governed by the internal labor market of the firm. At the other extreme is an alternative paradigm where workers are independent of traditional employers, engaging in freelance or e-lance work that takes place over weeks or months—often as part of collaborative project teams that form and then dissolve—all governed by the marketplace and institutional rules.

In the first case, the employment relationship offers both employment continuity and economic security, insuring the worker to some extent against fluctuations in the economy. There are opportunities for career progression and constraints on the distribution of wages based on the internal wage structure of the firm. At the other extreme, the individual is responsible for generating the demand for their skills and for riding out periods of slack demand. There is no well-defined career ladder and the rewards may be more extreme, with those who don't succeed contrasted with the "winners who take all."

Second, the skills of the U.S. workforce will determine how competitive our economy remains in a global marketplace. The key will be whether the skills of the U.S. workforce can keep pace with the growing demand for skill and the extent of global competition. Overall educational attainment among the U.S. population increased rapidly throughout the twentieth century (Karoly and Panis, forthcoming). In 1940, only about 4 in 10 persons age 25 to 34 (cohorts born as early as 1905) completed high school. By 1980, more than 8 in 10 persons (cohorts born as early as 1945) reached this level of educational attainment or higher. During this 40-year period, the proportion completing a college degree or more rose from 6 percent to 24 percent. As a result of these large cohort differences in educational attainment, those workers retiring in the latter half of the twentieth century after a 40-year career were replaced by considerably more educated labor force entrants and larger absolute cohorts as a result of the baby boom. After 1980, there has been a slowdown in the trend toward higher educational attainment so that the difference in educational attainment between cohorts entering and retiring from the labor force is becoming smaller. While some scholars suggest education levels will continue to rise on average, others project stagnation in the educational attainment of the workforce (see Day and Bauman, 2000, and Elwood, 2001). To the extent that educational levels are projected to increase in the future at all, however, the rate of increase in the next several decades will be slower than what was experienced in the past several decades.

Even if the education level of the workforce continues to grow, what is even more relevant is whether U.S. workers will have the capabilities that will be valued in the future, as technological shifts place a premium on such skills as abstract reasoning, problem solving, communication, and collaboration. On this front, internationally comparable data indicate that the level of skills acquired by U.S. students and workers are outmatched by their counterparts in other developed countries. In terms of proficiency in mathematics and reading, U.S. 15-year-olds rank at or near the bottom in comparison with 21 OECD (Organisation for Economic Development) countries (OECD, 2004). When U.S. adults are compared with their counterparts in other developed countries on the workplace literacy skills relevant for functioning in white-collar jobs, they too rank in the bottom half of the distribution (OECD, 2000; Lemke et al., 2005).

Technological advances will also require a workforce with training in the sciences and engineering in order to undertake the basic research necessary for scientific and technological innovations, develop applications from the advancements, and bring new products to market. However, the share of U.S. bachelor's degrees awarded in the sciences and engineering has fallen from 36 percent in the late 1960s to 32 percent as of 2001 ((National Science Foundation (NSF), 2004).

At the graduate level, the United States has long relied on top students from universities and engineering schools abroad who receive their Ph.D.s in the sciences and engineering from U.S. universities and remain after they complete their degree. Recent estimates suggest as many as 70 percent of foreign-born U.S. Ph.D. recipients remain in the United States rather than returning to their country of origin (Bhagwati, 2003). Overall, estimates from the 2000 U.S. Census indicate that 51 percent of all engineers with doctorates were foreign born and the share was 45 percent for individuals with doctorates in the life, physical, mathematical, and computer sciences (NSF, 2004). Yet, more restrictive immigration policies in the wake of September 11th, coupled with increased competition from universities in other countries have led to a decrease, at least in the short-term, in the number of foreign students studying for advanced degrees in the United States (Dillon, 2004). If this recent experience continues, the United States may find it increasingly difficult to

attract highly skilled immigrants or to retain those who are educated at U.S. colleges and universities, thereby limiting the supply of scientists and engineers in the U.S. labor market (NSF, 2004).

Third, while education and training prior to starting a career will be important, the ability to retool and retain mid-career will be essential at all skill levels. The present education and training system largely evolved to meet the needs of the early 20th century workforce. That system was predicated on the model of first obtaining education and knowledge through young adulthood, followed by entry into the labor market. Increasingly, this system is less relevant for the 21st century workforce. Given the pace of technological change and the heightened competition from abroad, skills obtained early in an individual's career may soon become obsolete. Thus, individuals will be required to be re-educated and re-trained to respond to changes in skill demands and the requirements of jobs.

The growing importance of skill in the U.S. economy, both for new labor force entrants and current workers, highlights the need of an education and training system that can prepare workers to enter the labor market and offer opportunities for skill upgrading throughout an individual's working life. At the primary and secondary level, a focus on improving educational outcomes in mathematics and the sciences is critical given the expected pace of technological change and the extent of global competition (National Commission on Mathematics and Science Teaching for the 21st Century, 2000). The need to expand the number of undergraduate and graduate degrees in the sciences and engineering was noted above, as well. There is also a need to develop opportunities for lifelong learning through formal and informal training programs, whether offered by employers or public or private educational institutions.

While employers can be expected to support some opportunities for obtaining job-specific skills, they are less likely to invest in general skill acquisition as those skills are more readily transferable to another employer. Nevertheless, U.S. employers make substantial investments in training their workers, whether through on-the-job training, formal in-house education programs, or through partnerships with external training institutions such as community colleges. In some cases, opportunities for continued education and training may become an important fringe benefit used by employers to attract and retain a highly skilled workforce. One challenge is that opportunities for employer-provided training typically increase with education levels, so that less-educated workers do not have the same opportunity for upgrading their skills as their more-educated counterparts (Ahlstrand, Bassi, and McMurrer, 2003).

The need for lifelong learning is one area where technology may be part of the solution. The Internet and other communication technologies have great potential for improving worker skills through technology-mediated learning that is available any time, anywhere (Karoly and Panis, 2004). Such tools as computer-based instruction, Internet-based instruction, and other methods of customized learning are gaining ground in a number of settings, although their cost-effectiveness remains unproven. Nevertheless, if lower-skilled workers, in particular, can take advantage of such technology-driven learning opportunities, it may allow for skill upgrading of the current workforce in response to the anticipated growth in demand.

Fourth, as the labor force grows more slowly, employers will compete to attract new workers, particularly those currently underrepresented in the labor force. In light of the prospect of near-zero growth in the workforce, employers are likely step up recruitment among subpopulations that are currently underrepresented in the workforce. While the current projections forecast a sizeable slowdown in the growth rate of the future labor force, the growth rate can exceed those projections to the extent that labor force participation rates can rise for groups not fully employed. For employers, this may mean focusing on benefits or other accommodations to encourage greater workforce participation on the part of older workers, women with children, persons with disabilities, and so on.

Consider as an example, the labor force participation of those with work-limiting disabilities. Not surprisingly, labor force participation among persons with a disability is lower than among those without. In 2002, the employment rate for non-disabled persons age 21 to 64 was 88 compared with 56 percent for those with a disability and 43 percent for those with a severe disability (U.S. Bureau of the Census, 2006). Several technological and institutional developments are under way that may allow greater work participation among the disabled (Karoly and Panis, 2004). Medical technology is undergoing rapid change, so that some disabilities may be cured, prevented, or rendered more manageable in the future; progress in IT may help persons with disabilities perform tasks that they currently cannot, either by helping directly with the task or by enabling remote work from home; and the Ticket to Work program of the Social Security Administration aims to induce more Disability Insurance recipients to return to work. Countering these developments, how-



ever, is the prospect that the prevalence of disability may be on the rise due to general population aging and the increasing incidence and prevalence of such precursors to disability as diabetes, asthma, and obesity (Lakdawalla et al., 2003).

As another example, older workers often point to a desire for greater flexibility in job responsibilities, hours of work, and pay and benefits at the end of their career. For a variety of reasons, older workers are already shifting toward longer work careers (Karoly and Panis, 2004). Yet, employer behavior and government policies may serve to further increase labor force participation rates among older individuals. Research has demonstrated that workplace flexibility and employers' accommodations of older workers can increase their anticipated work-life. When employer accommodations are not possible, the transition to retirement can be postponed for some older workers by shifting to self-employment as a type of bridge job (Karoly and Zissimopoulos, 2004). Indeed, in many sectors, information technologies have reduced the costs of entry into self-employment and the Internet provides an avenue for wider marketing of products and services.

#### IMPLICATIONS FOR POLICY

These factors shaping the world of work in the next several decades are also relevant for policymakers at the federal, state, and local level who make decisions that shape the laws and regulations governing the workplace and other policies that affect the various actors in the labor market. Many of the institutional features of the U.S. labor market evolved in the context of the 20th century workplace, many dating to the first half of the last century. These features include:

- the regulations that govern employment, hours, wages, fringe benefits, and occupational health and safety;
- the tax treatment of workplace benefits;
- the structure of social insurance programs such as social security, disability insurance, and unemployment insurance;
- the organization and operation of unions and other worker associations.

In light of the changes we can see coming, policymakers need to reexamine various public and private sector policies and institutions to determine whether (1) present policies introduce distortions or unintended consequences; (2) the market failures of the past are less relevant but new ones have emerged; or (3) there are distributional consequences that make a case for a government role in the marketplace.

For example, as employers and employees are increasingly located across state boundaries, which state laws or state-based social insurance programs apply to the worker and employer? The rapid pace of technological change and shifts in demand due to global competition places workers at greater risk of displacement, with consequences for employment security, income and access to benefits. Which workers should be compensated for such losses and how? What is the role for government, if any, in supporting the need for workers to engage in lifelong learning and adjust to changes in skill demands?

These are just some of the questions that merit greater attention as we navigate the future of work in the 21st century.

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Chairman MILLER. Thank you very much.  
Thank you to the entire panel.

I would like to ask a question of Mr. Trumka and Mr. Archey, and I have a second question for Dr. Feder and Dr. Karoly.

The question of health care, when I meet with labor unions and others and you are in negotiations, one of the things that happens is there is less and less, if you will, after-health care dollars to put in a person's pocket today as you negotiate wages and benefits. What would have gone to wages and would have gone home, the table money you would have brought home is now in that benefit.

When I talk to small start-up companies in my district, the idea of how they struggle to provide health care is the other side of that picture. I just wonder what you are hearing from your companies, from your members, from the member organizations, more importantly, I guess on this one.

Mr. TRUMKA. Simply no question, Mr. Chairman, that in negotiation after negotiation health care becomes a bigger issue. Some

companies have become such a big issue that they declare bankruptcy as a preemptive way to get rid of legacy costs for retirees.

It simply also should be stated that that problem cannot be solved at the bargaining table, because the process that is going on in the United States between employers and employees is a process where the costs get shifted from one to the other. The process is shifting more and more costs onto workers right now who simply can't afford that cost because of the stagnation of wages.

There are employers, even good employers, that want to provide health care and are being disadvantaged because of the cost of that health care. We simply need a national solution to that, not a State-by-State solution but a national solution to the health care problem, one that reins in costs, one that brings health care to every American and provides a minimum level of benefits, a good level of benefits for every last American.

Chairman MILLER. Mr. Archey, obviously you are in a highly competitive industry where you are trying to attract the best of the best. I would assume health care is not optional. It has to be there for these workers and their families.

Mr. ARCHEY. I think that is true, but there has been a big change in the last 5 years. Five years ago, most of the high-tech companies provided what used to be called a Rolls Royce medical plan. There is less of that.

The other thing that is really starting to happen is the cost of health care for high-tech companies is becoming a very significant part of their cost structure, and the problem is they are also competing against companies in Europe and in Asia who don't have those costs.

So I will tell you about our membership and about how seriously they think about it. We had a board meeting last week and had a very lengthy discussion on the top five priorities this year in public policy, and health care was number three.

Chairman MILLER. Thank you.

Dr. Feder and Dr. Karoly, you described what we have to do to get a system that works, and you describe a very different workplace. Historically, a huge amount of this has been delivered through employer-provided health care. The employer may be the individual at this stage of this discussion. The system you described in terms of accessibility, I wonder if you might comment on these changes that are taking place demographically but also that are being driven by technology.

Dr. FEDER. Most of us rely on employer-sponsored insurance; and, as I listen to Dr. Karoly, we see growing numbers who are falling outside from that system. But we also know, from what we are hearing, even those inside are struggling. The employer-sponsored system falls short of serving everybody, and we need something beyond it. We need to make sure there is access through jobs and access to those that are in other jobs.

The key here, I would argue, is to be careful what we do with the employer-sponsored insurance system without making sure we have got something else that really works in its place. The President has put forward a proposal for taxes on high-benefit plans—on high-cost plans, not necessarily high benefit—and creates tax credits to go outside employment. A big problem with that ap-

proach is that it undermines employer-sponsored insurance and sends people out into what I describe as a market in which there is discrimination against people by health status. That is going to create more uninsured, not solve our problem. So I think we have to work with employers and more broadly to assure affordable access to coverage.

Chairman MILLER. Dr. Karoly.

Dr. KAROLY. I would add the kinds of trends that I was talking about, one of the implications for today's workforce for future workers is we won't expect to see the same stability in their job their parents might have had. So the notion you would have a stable access to a source of health insurance through an employer is no longer necessarily the case.

So the consequences of changing a job voluntarily or involuntarily are tied to these issues of potentially losing health insurance, what do you do about pension benefits and other things that you qualify for.

So the tie between these employer-provided benefits and jobs is something that in the future issues about portability I think are going to be more relevant or even divorcing some of these benefits from the employer—

Chairman MILLER. You see more writings taking place in terms of whether or not this lock—if you have health care, whether it is really sort of counter to the entrepreneurial spirit, that you find yourself locked in a place. Even though you think you can take your talents and go somewhere else, health care really is a major consideration, people making that decision in this flexible workplace.

Dr. KAROLY. There is certainly evidence of that kind of job lock, and some are able to adjust because they have a spouse who might be able to maintain insurance, and so one individual can go out on their own. It happens at older ages when workers are not quite ready to retire, but if they aren't Medicare-eligible they risk losing health coverage.

Chairman MILLER. Mr. Trumka, I want to thank you for mentioning the Employee Free Choice Act. It is interesting as you read economists, whether they are conservative or liberal, all will cite the lack of bargaining power as one of the reasons that you have seen a stagnation or decline in wages, no matter what economic school they come from. That is just a fact of life in the American job system and American economic system. We hope to be able to work to remedy that.

Thank you very much.

Mr. McKeon.

Mr. MCKEON. Thank you, Mr. Chairman.

Mr. Archey, what was one and two?

Mr. ARCHEY. One was getting the competitiveness package that I alluded to last year passed. The second one I don't remember—Sarbanes-Oxley for small companies.

Mr. MCKEON. Put it in or get rid of it?

Mr. ARCHEY. Make some changes, whether by regulatory action or even legislative action; and contrary to what the PCLB came out with last month, it is not going to solve the problem.

Mr. MCKEON. Very, very interesting.

Dr. Karoly, in your testimony—and those are your little girls there behind you?

Dr. KAROLY. They are. My family is here with me today seeing government at work.

Mr. MCKEON. That is great. They are learning how the government works right at where it is happening.

In your testimony, you state that U.S. employers make substantial investments in training their workers. Based on your research and experience, does private-sector investment and training outpace that of the public sector? And how can we encourage more private investment, such as public-private partnerships, to help assist with our increasing education and job training needs?

Dr. KAROLY. I don't—I haven't seen specific data that would tally up the private sector versus the public sector's investment in education. I expect it is going to vary by the ages at which you are talking about investing in skills. Certainly at younger ages the public sector investment is much larger than the private sector, and that gradually shifts over time.

Although one of the things we do see is that, to the extent that employers invest in their workers, they tend to invest in workers who are better educated because they are the workers they are working hardest to retain and attract into their companies. In fact, more and more employers, I think, particularly looking for high skilled, highly qualified workers, are going to use education and training benefits as one of the tools to attract workers, whether that be through their own company provided programs or by subsidizing the costs to go outside the company to obtain education and training.

But I think in the future definitely the notion of public and private involvement in education and training is key. The private sector knows where the demands are. The public sector often has the resources through things like community colleges and other programs that are available. So it is critical that those kinds of investments happen with the knowledge of both parties and the resources that are available.

Mr. MCKEON. Several years ago, I was asked by a manufacturing—small manufacturing company in my district, they were having trouble keeping their employees. As they got them trained to do certain things on the computer, Lockheed or Northrup Grumman would hire them away, within the same industrial center.

So what we did, I went to the community college and the city and got the three of them together. And the company provided the space, the community college provided the instructor, the city gave them some seed money that they were able to set up a classroom. Now they have two full-time classrooms with full-time professors. And they don't care now. They train all their employees. And they train Lockheed's and Northrup's and others. It has become a real boon for the area. That is just one little thing where they worked out something together.

Mr. Archey, you outline challenges that the high-tech industry is facing that cast doubts about our ability to create and sustain jobs in the industry, such as insufficient pursuit of math, science and engineering and an ineffective H-1B visa program. I talk to electronic groups over the years, and it seems to me that we have like

a three-prong problem: An immediate problem that could be fixed by the H-1B visas that can take care of our short-term problem. Then we have an intermediate problem that if we can get more math and science students trained right now in college; and then we have the long range where our younger people that are going through elementary and high school, to encourage them to get into math and science more so. It is a multi-pronged effort that I think we need to work on from all three areas.

No Child Left Behind I think was a good start in the one end, and we have talked a lot about illegal immigration, the thing we need to do there, but we need to also have reform of legal immigration and reach out to those that will help us.

I have told people that we lose jobs because of low wages. We are also going to be losing lots of jobs because of insufficient trained workforce. In your opinion, how can current public policy in these areas—how are they ineffective? How can they be more effective?

Mr. ARCHEY. Again, I think in terms of what the Congress, both parties, came up with last year, there is all kinds of solutions inherent in some of those. I think that for us now, for our companies—and this has been a change in the last year—the emphasis has been on H-1B visas. I will tell you that in the last 6 months it has been an emphasis on the green card, because the problem is they have got workers who came with an H-1B visa, it is now up. They want to get them the green card so they can stay with the company.

I think one of the misperceptions about all this is that a lot of these really highly skilled foreign workers who come to the United States, they are not a zero sum game in terms of American jobs. They have created thousands of jobs. And the point we are trying to say is that—you may have seen yesterday's New York Times. There was an article in there about America's visa program, and there was a survey of 2,000 international travelers, 39 percent of whom said by far the worse entry system in the world is the United States.

Now that is saying something, when you think about some of these other clunker countries.

The second thing is that—I will just give you an example—we have got a company that is based out in the far West. They opened up a plant in China about 2 years ago with about 100 engineers. The CEO wanted to bring the engineers back to the United States in groups of 20 each, primarily to Americanize them and to get them—and some of whom would like to stay because they had very specific talents.

They all applied. All 20 did not get a visa. He tried it a second time. Eighteen of 20 did not get a visa. So what did he do—and he said, Bill, it's not that big a deal, but, boy, there is a principle in this somehow. He now does his training for his Chinese workers in Toronto. And, as he said, that is only 12 to 15 jobs, but they ought to be in the United States. And he can't get answers on all this.

And here is my last point about all this. At least every other week the State Department issues a press release about how everything is improved. I don't buy it. My companies don't buy it. It is still a monumental problem.

Chairman MILLER. We have had those discussions with California employers who are making decisions whether or not to build facilities in Canada because they can't get people across the border. It is very unfortunate.

Mr. Andrews.

Mr. ANDREWS. Thank you, Mr. Chairman.

Mr. Chairman, I think our first hearing conclusively established that there is truly a middle-class squeeze that is affecting middle-class people in the country, and I think I am hearing from today's hearing the following points about what to do about it.

One is to make our companies more effective by helping them deal with health care costs so they are paying not only for their own employees and their dependents but for other people's employees and dependents by cross-subsidizing the 15 percent or so in the workforce who are not insured.

I am certainly hearing we need a thoroughly skilled workforce, not just coming out of the traditional school system but reskilled and retooled throughout one's career. I am hearing from Mr. Trumka and my constituents that we need to empower workers to decide freely whether or not to collectively bargain and bargain their fair share of productivity growth and growth in the economy.

I want to touch with my questions on the health care and education points. Starting with education, Dr. Karoly, if I could ask you, you make a very persuasive argument that two of the three keys you identify are the skills of our workforce and the ability to retool mid-career.

If I were to tell you that my proposal was to reduce Federal investment in education by 15 percent in the next 5 years, how would you evaluate the wisdom of that proposal?

Dr. KAROLY. I guess I would want to know what specifically you would take the resources away from.

Mr. ANDREWS. I would take them away from vocational education programs and the Perkins program and put them more toward K to 12.

Dr. KAROLY. I would argue you may even want to put more of the resources into pre-K. One of the things that we are seeing when we look at the K to 12 education systems in areas where it is not doing well is that many of the education gaps are actually present when children begin school.

Mr. ANDREWS. What do you think about the notion of reducing by 15 to 20 percent what we invest in education?

Dr. KAROLY. Overall, when you talk about education and training, I think the issue is going to be whether or not there is a substitution toward other investments. I think, ultimately—

Mr. ANDREWS. Let's assume there isn't.

Dr. KAROLY. Ultimately, I think that investments in education and training are key, and we have to think about those investments as coming from both the public and the private sector, and I think I would argue that now is not the time to be de-investing in that area.

Mr. ANDREWS. I agree with you, and that is exactly what President Bush has proposed. In fiscal 2008, he has proposed \$38.5 billion for Federal education programs. By fiscal 2012, that rises only

to 38.6 billion nominal dollars, which is a 15 to 20 percent real cut in education.

I am astonished by that policy judgment, given what we have heard from the witnesses this morning, and I assure you we are going to work to reverse it.

Dr. Feder, I want to ask you about the idea of subsidizing people who don't have health care. I think you have correctly identified the problem. One of the problems we have to identify is, if we have an employer-based health care system, which I favor, I think it works and I don't want to switch to an individual-based system. I think if people choose to do that, that is fine, but I think employer-based health care still makes the most sense.

Do you agree with the proposition that there are some employers who cannot afford health care, that if they were forced to pay for it, they would go under, but there are other employers who could afford to pay for health care but have made a judgment not to? Do you think that is a fair description of the situation?

Dr. FEDER. I think that is fair to say that there are employers who could pay. They are hiring workers at low wages and giving them lousy benefits, and they are able to get away with it.

Mr. ANDREWS. Would you suggest that we should consider a system where we mix a mandate for some employers who could afford to pay for health care together with a subsidy for those who can't afford to pay for it? And if we did such a thing, where we would draw the line between the two? What is your suggestion?

Dr. FEDER. I think that you are thinking along the lines of essentially sharing the responsibility for financing with employers and probably others as well.

Mr. ANDREWS. I am.

Dr. FEDER. I think that that makes considerable sense. I think the area to pay particular attention when you require coverage and then provide subsidies is to look at the employers of low-wage workers, particularly small employers of low-wage workers. Because you want to be very careful that you are not undermining the ability to pay wages or to offer jobs.

Mr. ANDREWS. What do you think of the use of measurement for net profit per employee as a way of drawing the lines between those who could afford to insure and those who could not? Do you think that is a reasonable measure?

Dr. FEDER. I would have to look forward, and I would be happy to. My biggest concern that I would have is that we not put burdens on low-wage workers or firms with low-wage workers and make them worse off, not better off. So that has been the way I have historically looked at it, but I am happy to work and explore other options.

Mr. ANDREWS. I thank the panel very much. Thank you.

Chairman MILLER. Mr. Kline.

Mr. KLINE. Thank you, Mr. Chairman. Thank you for holding the hearing, and I thank the witnesses for being with us today. It has been fascinating in the last couple of hearings to listen to the sort of back and forth about what is going on in our economy and how we are doing. And, of course, we have seen large macro numbers about record low unemployment and the tremendous number of new jobs created and record homeownership and record high in the



stock market, and yet we hear some compelling testimony, some anecdotal and some not, about some people in our great country that are feeling a squeeze.

Let me turn to you, Mr. Trumka. We have got this issue coming up on the so-called Employee Free Choice Act, and it astounds me that you can testify that, "The system has to be changed to give all working people the freedom to make their own choice about whether to have a union." and yet what you are proposing would take away from all of these union members the right to privacy and the right to vote with a secret ballot, which is pretty much engrained in the American system.

Is it the position of your union leadership that this should be a process that is open to all and subjecting those workers to possible intimidation from other union members or organizers or their employers? Is that your position that you want to do away with the privacy of the secret ballot?

Mr. TRUMKA. Implicit in your question is the notion that the current system actually works. The current system is failing miserably. It is not democratic for a worker to come to work and be put into a room with his supervisor and questioned inquisitively by himself without a representative about the union movement and about something he would like to do.

It is not very democratic for one out of four employers to fire somebody because they would like to have a representative on the job. And it is not democratic for people, for 78 percent of the employers to force their supervisors to go and question all of the workers about their intention.

Mr. KLINE. Excuse me, if I could interrupt for a minute. My time is very limited, Mr. Trumka. I am sure that the chairman is going to hit the button when we go to the red light.

I am looking at some statistics and trying to understand how you have reached this conclusion that it is in the interest of these workers to deny them the privacy of the secret ballot. I have some statistics here showing some polling, some from Zogby, going back as far as 2004 that 53 percent of union members nationwide state that the fairest way for workers to decide whether to unionize is for the government to, quote, "hold a secret ballot election and keep the workers' decision private." Seventy-one percent of union workers agreed that the current secret ballot process is fair. 78 percent said Congress should keep the existing secret ballot election process.

So how are you reaching the conclusion that all of these union members are wrong and that they would be subject to less intimidation if they had to say in public whether or not they were going to support a union?

Mr. TRUMKA. Many of those union members have never been subjected to an organizing drive. They had a union at the facility that was there when they came there.

Second, I can pull out and show you the statistics that 20,000 to 25,000 workers every single year are fired. Their crime, they wanted to have a union. They wanted to have more voice on the job.

There is also statistic after statistic to show the imbalance of power between an employer. When an employer sits an employee

down in the room and starts to ask them about their intentions about signing a union, that is not very democratic.

It would be like me being able to take the average American off their jobs and say: Who are you going to vote for for the President of the United States? And by the way, I vote for this or that candidate, and I think you ought to do the same. There is a total lack of democracy.

If the system worked as well on the job as the system works in the country, perhaps you could consider that, but it doesn't. Those workers when given the facts or when they face an organizing drive, those statistics shift dramatically.

I would ask you to poll the people who have gone through a drive and have been intimidated, been harassed, been followed, been photographed, or been fired by their employer, and see what the statistics show then.

They believe that the current system is broken; that it doesn't work and it needs to be changed dramatically. If you want to address the wage gap in this country and the growing share of inequality in this country, one of the fastest ways to do that is to sit down and let people have a free choice about having a union.

I will tell you a story. My wife comes to me and says she wants to do something. And if I simply say no, well, you can imagine what would happen. My wife would do what she wanted to do because we are of relatively equal bargaining power. My young son comes to me and says I want to go to Jamaica, and I say no. He has no recourse. That is because the bargaining power is so disparate. What we are trying to do is equalize the bargaining power so you have a system that works for everybody and shares the benefits of a solid economy to every working American.

Mr. KLINE. How do you get to that agreement to unionize, and you are proposing that this be done in a way that could subject those workers to intimidation, perhaps by union organizers?

Mr. TRUMKA. They are being intimidated now. Every single day.

Chairman MILLER. We will be able to continue this discussion in our hearing tomorrow.

Mr. KLINE. I am looking forward to it.

Chairman MILLER. I would just say, so the record is accurate, that the majority sign-up is allowed under existing law. It has been allowed since 1935, and it is the same way as if you petition for an election. You have to have 30 percent of the people sign for an election. The majority sign-up, same process. The only difference is that the employer today can veto it. It has been in the law since 1935. It has been used many times, but it is all out of whack.

Mrs. McCarthy.

Mrs. MCCARTHY. Thank you, Mr. Chairman.

Let me state that I know everyone is concerned about health care, but after 10 years of being here, at least we are talking about it seriously. I think that is an important step.

I have doubts whether the Federal Government personally can actually solve the health care crisis that is in this country, but I am excited that the States are actually looking at what fits for their individual State. I know the Massachusetts plan would never fit New York. I am hoping that the California plan might work out because we are more in tune to each other as far as population di-

versity. But it is a start. I think we have a long way to go. Let's hope maybe the best model will come out and then we can assist those States because looking at Medicare and Medicaid, I personally feel that New York and some other States are not getting their fair share. So we are being disadvantaged on that. So I am hoping we can solve that problem.

But going back to the squeeze on the middle income families. I live on Long Island. I make a very nice salary working here, more than I made certainly ever working as a nurse. I can tell you that my son and his wife, they work. They make a decent salary, probably earn \$120,000 between the two of them, and they are struggling. They don't go out. I baby-sit if they want to go to a movie once in a while. They go food shopping. And gas prices, heating oil prices, everything else has gone up tremendously. Their salaries have not kept up to what is going on.

We just had a report which we do every year called the Long Island Index. Long Island is considered a very wealthy area. Our salaries are higher nationwide than some other areas. But with annual wages on Long Island currently only 5 percent higher than the rest of the country, and yet everything else has gone up higher, I am hearing from all of my constituents that they have the squeeze.

But two questions. Mr. Trumka, with our unions, and full disclosure, my brothers are in unions. I came from a union family. Are you seeing even with your union families, even with the negotiations of your pays and health care, if their salaries are going up as far as inflation or cost of living for where those workers live?

Mr. TRUMKA. Union families are feeling the same squeeze as everybody else. Their salaries have been stagnant even though their productivity has gone up. As the chairman said at the beginning of session, more and more money goes towards health care, a problem that is broke.

More and more companies are using the bankruptcy laws in an offensive manner to get rid of health care costs that they have promised to people, and thus the dumping of a bigger load onto workers. More and more work companies are dumping their pensions or cutting the amount of pension that was negotiated in pension plans down and dumping that onto employers.

So as I said earlier, we can't solve that problem of health care at the bargaining table. All it does is shift money around from one side of the table to the other. And normally in this situation the worker ends up with a whole lot less. We have to solve that problem. We have to solve the problem with pensions and the bankruptcy laws. And we have to bring a voice to more workers so they can negotiate and actually grow a company and help that company grow.

Mrs. MCCARTHY. Ms. Karoly, I was interested, on page 6 of your testimony you had a couple of paragraphs that basically talked about college education going back from 1940 to 1980 where competing colleges, those going to college rose from 6 to 24 percent. And since 1980, there has been a slowdown in that trend, and that you expect the rate of increase in the next several decades to be slower than what was experienced in the past several decades.

That doesn't sound good for our country, to be very honest with you.

My question would be: Do you know why there was a slowdown that started in the 1980s? Why is there a slower rate of increase in the next several decades?

We are going to be reauthorizing the Higher Education Act and Leave No Child Behind this year, and our focus will be on college access. How do we address your projections of slower rate increases? That is worrisome.

We went to China last year, and we see these other nations investing in education. But I am going to stand up for my kids. I say yes, we are still behind in math and science, but our kids are still innovative and can think outside the box because they have a well-rounded education.

Can you answer quickly?

Dr. KAROLY. Let me try to answer first about why things have slowed down. Partly why they grew so quickly during the period after World War II was as the baby boom cohorts began entering the labor market, they were one of the most educated cohorts compared to the cohorts they were replacing. So the workers retiring were much less apt to have a college education. The baby boom cohort was much more educated.

So you had workers leaving with less education and workers coming in with more. That led to this boom toward a more highly educated workforce.

What we are seeing today is that while it may be the case that the upcoming workers are somewhat more likely to have a college education than those in the past, the cohorts are not as big anymore, and the cohorts that are retiring are seeing that educated baby boomer cohort starting to retire. So things have evened out. There is not as much of a gradient over time in the proportion getting a college education and the relative sizes of these groups.

So there are different projections. Some suggest a complete stagnation in the proportion of the workforce that would have a college education, others suggest a somewhat growing proportion but not nearly as fast as in the past.

A key issue is what do we need to do to encourage more individuals up and coming to obtain the skills they will need for the workforce, whether that is through a formal college degree, it may be vocational technical training. And we need to look all the way through our education system, the K-12 and even preschool system. We need to look at what we can do along the way to foster skill development and to encourage continued education and training throughout the life course.

Mrs. MCCARTHY. Thank you.

Chairman MILLER. Mr. Davis.

Mr. DAVIS OF TENNESSEE. Thank you, Mr. Chairman. I appreciate the opportunity to be here today.

Just to let you know where I come from, I have been a small business owner for about 20 years. I have been in health care for almost 30 years. I am a registered therapist by training, and I have been in health care. I think that is one of the key issues facing America.

Dr. Feder, I would like to ask about associated health plans. I know this committee is taking the lead. I don't think it is the total answer, but I think it is an answer to help small businesses band together.

Most small business owners want to do the right thing. They want to have an educated, healthy workforce. What is your opinion on associated health plans? Don't you agree that they do have a place in the economy today?

Dr. FEDER. Mr. Davis, I definitely understand the desire of small businesses to find what I referred to in my testimony as a place to buy or a way to buy that enables them to participate in getting their employees health care coverage.

The approach with association health plans is that it does so in a way that actually perpetuates and extends the ability of insurance companies to select the people to cherry pick, to select the healthy and avoid us when we are sick by eliminating the application of State insurance rules that in many States prohibit that kind of behavior.

So I definitely share the concern about enabling more effective purchasing, but I am afraid that the association health plan approach is taking us backwards, not forward.

Mr. DAVIS OF TENNESSEE. So if the private economy is not the answer, what is your answer? Help me understand where small business owners and the employees which really make up about 70 or 80 percent of the economy today are small businesses, where would you like for that health care to come from?

Dr. FEDER. I did not mean to say that I am not supportive of small employers' willingness and desire to participate in the system. But going back in the way in which we create it, I believe we need national policy action that creates that place to buy, along with appropriate subsidies for those employers, if we go that way, of low-wage workers, a place to buy that allows the employer to contribute, the individual to contribute, along with some public subsidies, but that does so whether through employment or any other kind of market for health insurance, does so in a way that makes insurance available to all of us regardless of our age or health status.

Mr. DAVIS OF TENNESSEE. You talk about significant subsidies for people to help them obtain health insurance, yet you also talk about establishing a reasonable mandate or requiring people to obtain health insurance at a price people can afford. That seems vague to me. You talk about broad issues. Can you elaborate what you mean by "reasonable mandate"?

Dr. FEDER. What I was particularly concerned about in my testimony was to challenge the proposals that simply rely on mandates requiring individuals to buy coverage without adequate subsidies because I think the truth, to put it simply, you can't get truth from stones. And to ask low wage workers, just to require them without considering affordability is a very real problem.

When I look at it, I was saying to expect people to pay 20 percent of their income toward the cost of health insurance or even 10 percent toward the cost of health insurance is viewed by the experts in the field as a catastrophic expense, and most people haven't even gotten sick yet.

So I think we have to look at obligations of capping out-of-pocket obligations and premium obligations relative to income and keeping those obligations in reasonable realms.

Mr. DAVIS OF TENNESSEE. So you feel like these mandates should be set within the Beltway here on Capitol Hill?

Dr. FEDER. I wouldn't characterize it quite that way. I think we elect Members of Congress to represent us, and I am pleased to see we are moving toward developing a national health policy that will work for all of us, and I believe we can do that.

Mr. DAVIS OF TENNESSEE. You also talk about determining what people can afford. How do we determine that? How and who makes that determination?

Dr. FEDER. I meant to indicate that earlier in terms of looking at people's obligations, in terms of ability to pay. I think having obligations, whether it is premiums or limits on cost sharing, that are set and have some relationship to people's income. We can do that through subsidies and in a variety of ways.

If we simply require what is generally referred to as an individual mandate to buy coverage and ignore people's incomes, we are expecting the impossible for many people.

Mr. DAVIS OF TENNESSEE. Thank you.

Chairman MILLER. Mr. Hare.

Mr. HARE. Thank you, Chairman Miller.

Mr. Trumka, I am a strong supporter of the Employee Free Choice Act. It is my opinion that this will allow ordinary people the right to be able to do what they should be able to do, which is vote, whether or not they want to join the union or not. And also, the most important thing is once they do, we will be seeing significant increases in their salaries, given what organized and different unions have been able to negotiate in health care and pensions. So it is my hope that this bill will come up soon and we will have an opportunity to let people have the basic right that they have.

Let me tell you, I have been involved in organizing drives. You are right, they are brutal. Unless you have been through one, it is awful hard to relate.

But my question is on trading. I was president of a clothing and textile workers local union, and a steward there for over 13 years. And as you know, we nationally lost thousands and thousands of jobs on trade. If you look at textile or steel or electronics, it is hard to have health care when you don't have a job.

I was wondering if you could tell us from your perspective what we can best do to level the playing field? You talked about trade negotiations. What can we do to give Americans a fighting chance so we are not always left with the take it or leave it trade that comes to us where we know we are going to lose manufacturing jobs. People say I am a free trader. Well, I also want to see fair trade. Can you comment on that regarding what you would like to see us do in the issue regarding trade?

Mr. TRUMKA. First of all, I would urge you to read my written testimony because there are several pages that deal with trade and what needs to be done with it. I think to summarize it very, very quickly, we need to have a strategic pause while we look at and review all of the trade agreements that we have gone through to

see where they are working and where they don't work and what doesn't work about them, and then reform those processes.

I think we also have to have Congress far, far, far more involved. The President asked for an extension of fast track, and his idea was to negotiate a trade agreement, bring it up here and put it in front of the Congress and say vote it up or down. However, many, many of the negotiating objectives urged and mandated actually upon him aren't fulfilled in those agreements.

So we think you need to be far more involved in that process. We need to look at the agreements themselves. If you look at it currently, there are four or five sections that I mention in my testimony that need to be reviewed carefully. If you look at our labor advisory reports for each one of those bills, which we will be glad to submit to you, they talk about the shortcomings in every one of those bills and ways to remedy them.

We think trade can be a good thing, but it is currently not working for American workers. We think those bills should include workers' rights provisions, environmental provisions, and they should have a mechanism that is equal to that of all of the other provisions in the trade agreement.

Mr. HARE. One other quick question. I understand from talking to a lot of people in the labor movement that the toughest thing they have to negotiate when they go through the collective bargaining, and I know I had it, was the whole issue of health care. Employers are just absolutely saying this is a deal breaker for us. We are simply having a very difficult time. So it would seem to me that we better be doing something, looking at some type of a national health care system or reforming what we have. We get to the 11th hour of negotiations and it never seems to hinge on pensions or salaries, it always seems to be health care as the single most important issue that we have to try to struggle to get through.

Mr. TRUMKA. There is no question that health care is the topic of bargaining between employers, and it is either for active or for retirees as well as legacy costs. You are right, it is part of the solution.

Too frequently when we have a discussion like this, we talk about trade or bargaining. There are actually several solutions that need to take place. You can't solve the problem of wage stagnation if you don't solve the problem of unionization or giving people the right to join a union. You also can't solve the problem of wage stagnation if you don't do anything about health care and pensions, which brings in the bankruptcy laws and a number of other things that are being abused.

It is a whole series of solutions. And if you look at the testimony that we have submitted in general, it tries to bring all of those together.

Mr. HARE. Thank you, Mr. Chairman.

Chairman MILLER. Thank you. Ms. Clarke.

Ms. CLARKE. Thank you very much, Chairman Miller, and to the panelists. This is great substantive presentations that you have given to us today. I am a new member here, and I believe we are embarking on a whole new vision of what our Nation needs to do in order to sustain and build the next generation. These conversations are very, very important.

My question is to Mr. Archey. I like your just-do-it philosophy. I think we spend a lot of time spinning out reports that really have the substance of what needs to be done, but the political will to do it is the challenge for us.

I would like to ask about the attention that is being given to math, science and engineering. This is a no-brainer. We know that if we can build a workforce that is prepared in those areas, we can make strides.

How do you do that in underserved communities, communities of color, in particular, where you have a reservoir of human resource, but you have a dearth of qualified teachers that don't spend enough time in the classroom for students to even get to know their names?

How would you begin to get companies to see this reservoir of human resource as a way in which to build a stronger workforce going into the future? Do you have any suggestions on that?

Mr. ARCHEY. Well, first of all, Congresswoman, I think some of the problems of teaching transcends minority and poor neighborhoods. It is also a problem in white neighborhoods. There was a study by the Department of Education that only 41 percent of teachers in high school who teach math and science ever majored in it. This is an issue.

I think one issue has little to do with public policy, it has to do with the fact that we do a pretty good job as a society of making math, science, and engineering pretty awful. I have contended for many years that one of the reasons more of our kids don't take math and science is because it is hard.

Secondly, not only is it hard, but we create this aura. Take a look at an engineering school's brochure or their catalog. You will see in probably about 40 percent of the engineering schools' catalogs bragging almost about how many people aren't going to make it through the program, and then we wonder why a lot of kids don't end up taking it.

We have to do something, and I have said this many, many times before. When we had a national television program, L.A. Law, about 10 years, I contended what we needed was another one that was L.A. Geek. What we have to do is, and I think the chairman knows about this because he has a number of high tech companies, but the fact of the matter is what high tech companies do is really interesting stuff and it is a sexy career. But we make it into this drudge that makes it very difficult. We make that for people across the socioeconomic status.

We have been doing some discussions with some people out in California about this whole notion of we need a national TV program, a situation program or a weekly program that really espouses the highs of working in high tech using math and science.

People say how can you dare to make that interesting, but I think you can make it interesting.

Ms. CLARKE. I agree. As a young student in a public school in New York City, the science fair is what we used to look forward to. It is not that kids don't get into it, it is all in the presentation. We used to look forward to science fairs in my public school, and certainly that is what opened up the whole world of education for



many of the students. I don't know if they still have science fairs any more.

I want to thank you for your response, and I recognize where we have a challenge with our teachers, but I tell you it is compounded when you get to communities of color. It is really compounded. We have to look at how we are going to address that in a very substantive way.

I would also like to address to you, Mr. Trumka, and I am running out of time, but we are really looking at the future of labor right now. We had an occasion this weekend just to come together as Democrats, and we had some wonderful presentations. Some of the challenges had to do with labor of yesterday and labor of today.

I happen to believe that a lot of the challenge has been that those who benefited from the labor movement did not pass their history on to the next generation so that they truly understand what that has meant for building the middle class, for catapulting many young people into professions today because their parents were part of a labor movement that looked out for the entire family and hence the entire community.

As we move forward to deal with the Employee Free Choice Act, how can we make it so that it becomes a public conversation, not just the worker and the employer, but the community as a whole? I believe if we are going to build and as we build the new dimensions of labor in this country, that it has to engage folks who are not even employed yet so they understand the value and the sacrifice in the building of labor in this Nation.

Thank you very much, Mr. Chairman.

Mr. TRUMKA. There is no question. The best kept secret is the war being waged on workers right now and their right to join a union and have a representation. We have failed to get that out.

We failed because, one, labor is no longer taught in the schools. It has been cut out of the curriculum. We as labor members perhaps spend less time with our loved ones passing on that heritage, so some of the blame is with us as well.

The public debate starts right here with this committee, with the television and the Internet. Here are the facts, let us discuss that, not pretending that a system that is broken is working perfectly when 25,000 people a year get fired.

Chairman MILLER. Mr. Holt.

Mr. HOLT. Thank you, Mr. Chairman.

Mr. Trumka, thank you for your testimony. I too support the Employee Free Choice Act. I think it is a critical step in moving our Nation into a 21st century understanding of relations between management and workers to get to the point where unions are not the exception but the normal. We have got to overcome this idea that it is a zero-sum game and that if one side wins the other side has to lose.

I have been involved in organizing. I have also sat in and seen the other side where the anti-union consultants come in and plan the strategy to demolish the very idea of unions. It is, I think, very damaging for our country.

Certainly when you recognize the advantages that come to union workers of better wages and better access to health care and better access to pensions and better access to disability benefits and bet-

ter workplace safety, although I am sure you will agree with me, in the case of mining we need to do better in workplace safety, I think we want to get to the point where collective bargaining units are the normal rather than the exception.

There are a lot of issues rolled into today's hearing, and I would like to quickly get to two of them that I think really are related. One is how U.S. companies are at a competitive disadvantage with respect to providing health care, competitive disadvantage to other countries, and there has been some discussion of that.

We clearly want to get away from and we soon will, I believe, restrictive employer based health care coverage. So many of the problems we face can be traced to that.

The other is what we were talking about with regard to science education. As one who continually espouses scientific thinking as a scientist myself, and who is a sometimes judge in science fairs, yes, they still go on. I would like to address the lack of broad-based science education. This is how these two are related in being broad based. This is what I wanted to ask Dr. Feder and Mr. Archey: Is the lack of broad-based science education, the lack of broad-based health care coverage hurting our productivity and hurting our competitiveness? The idea of science education for all?

Mr. ARCHEY. You are talking about not a particular element or segment of science, but rather a general knowledge of science; is that what you are suggesting?

Mr. HOLT. Yes. It seems to me that productivity growth depends on all of the workforce having skills. It is not just getting 10 percent well educated to be internationally competitive; and similarly for health care, not just having some of the industries competitive, but having an expectation across our society. That is why we are talking about the middle class these weeks.

Mr. ARCHEY. I not only concur with what you are suggesting, but I have a son that is a sophomore in college and one of the points I used to make to him in high school was, son, when I was in high school if I knew a little bit about science and things like that, it was okay, but it wasn't particularly important because there were lots of other things I could do.

I said the point for you is that you have to understand science to understand your life because of the way things are moving so rapidly in terms of changes in technology, innovations and understandings of science. So I think that is the case.

The one point I would make which I alluded to earlier, you would be amazed now at high tech jobs the number of people without a college degree of what other skills they have to have in terms of mathematical reasoning skills, certain basic scientific skills. These are very well-paying jobs, many of whom by the way have an associate's degree from a community college.

One last point on that, probably the most innovation going on right now in terms of education is at the community college level, and I have a feeling it is because of the fact that they are not hung up on all of that other stuff that 4-year schools are in terms of academic prestige and all that stuff. Mr. McKeon mentioned that about a community college in California.

Middlesex Community College up in Massachusetts has been the contractor for Raytheon for their workforce for years; and last I knew, they were pretty pleased with it.

So I agree, it has to be across the board. There are certain skills and areas in high tech that are going to require intense skills in physics and intense skills in terms of electrical engineering and things like that. But anybody now who is coming into the high-tech industry better have that broad-based science background.

Dr. FEDER. I will reinforce what you have said about everybody having to have it. We talk about the problem of health care costs creating competitive problems in a number of ways. But it seems to me what we want to highlight is that the problem of limiting health insurance to some jobs is what we referred to earlier as job lock, and the inability of people of all kinds to explore whatever job works best for them, or economic activity, including freelancing. My husband went from the CIA to the sausage business. He is a retired Fed so we have benefits, but what we want to do is encourage that kind of flexibility. That means everybody has to have coverage.

Mr. HOLT. I want to note that Mr. Archey could have equally well talked about Middlesex Community College in New Jersey.

Mr. PAYNE. Mr. Chairman, as a matter of fact, my grandson attends Middlesex Community College in New Jersey, so it is all connected.

I got nervous when I heard about Mr. Miller's Employee Free Choice Act. We have been getting so many free trade agreements, when this came across my desk initially, I wondered what was George doing. But then I looked at it again and saw it was an Employee Free Choice Act. That is a good change in my opinion.

Mr. Trumka, your union has pretty good family leave, people could take off and they got paid. Health insurance is covered. They say it is not the Cadillac like those of us who have it, but it is enough to keep people going. How is it that they are able to continue to have pretty good wages and benefits and so forth in Western Europe when we cry about the fact that we can't provide health care to our people, the medical leave bill is shoddy, needs repair. Some people don't even respect it. What is the difference? I am not talking about Colombia or Indonesia, I am talking about comparing us to Europe.

Secondly, I would like the educators, if somebody could answer the question about this business about vouchers. The only people that seem to be pushing vouchers in my community are people that don't live in my community. In urban areas we have poor schools. There is no question about it. My goal is to try to improve the schools. Like Ms. Clarke was saying, in her day they had science fairs and people were doing a better job. I am wondering, the voucher people all live in suburbia somewhere and are forcing this voucher business on people. People are so frustrated because the public schools are failing, we know that, and so they are willing to buy anything. However, this country was not built by private schools. We always had them, we always had parochial schools. However, the public school system is what made the United States of America different from any other country in the world. Once we

scrap that for some of these hybrids, we are going down the tubes even more quickly than the statistics say we are going already.

So Mr. Trumka first on the question about benefits.

Mr. TRUMKA. I will try to answer a seminar question in 30 seconds or less.

First of all, those countries, most of them, health care is not part of the cost of the product. It is a national cost. It is supplied to every one of their citizens. So they don't have to add onto their product.

Second, none of those countries had their legislative bodies pass a law that said that their government can't negotiate prices down from drug companies as our country did here, which allowed them to continue overcharging and we have the mess where you can go to Canada and get drugs for half price.

Second, they focus on wellness, not just fixing a problem after it occurred. They focus on preventing a problem from happening, so they get better success rates than we do in the United States. They live longer. Our system is really broken in a lot of different ways. I would like to be able to continue on, but I will pass the baton in your short time.

Mr. ARCHEY. Congressman, I have no magic bullet answer. On the issue of vouchers, some of our companies think it is great; and some think it is not great. I have views as a private citizen about it, but that is for another discussion.

Dr. FEDER. As a dean of a policy school, not a health policy expert, I would say about education vouchers, and relate them to the discussion of health insurance, there is a similarity in the two of a desire that say we fix the system by sending people shopping, and when you send people shopping what you do, whether it is education or health care, you end up taking apart that "all in it together," whether it is the public schools or employer-sponsored health insurance, or whatever it is that brings us, high income, low income, whatever color we are, whatever money we have, brings us together and you end up in a situation in which there is a risk of a lot of cherry-picking and discrimination and disadvantaging many while advantaging some. I think that goes across the board.

Chairman MILLER. Mr. Sarbanes.

Mr. SARBANES. Thank you, Mr. Chairman.

First of all, Mr. Trumka mentioned that it has been a secret, the attack on the American worker, and I think to some degree that is true. And it is hearings like this that focus on the middle class that I think are going to bring that secret out and tell the story. So I am excited about the series of hearings we are holding on the middle class. The middle class really is the story of America. That is the story of America, the story of the growth of the middle class in this country.

I spent 18 years in the health care arena working with nonprofit hospitals and senior-living providers and others, and navigated the maze of regulations that apply to health care; and I have lived to tell about it, barely.

I have a question about health care. I believe increasingly you are hearing a universal desire in this country for universal health care coverage. It is coming from all quarters. There is really a consensus there, and it is more about how do we get there, not wheth-

er we get there. There are two huge components to the puzzle, pieces to the puzzle. One is the sort of top heavy administrative structure that exists. It is different in the Medicare program, for example, Medicaid, but as you know, the high, high administrative costs in the commercial arena where there are whole divisions of companies dedicated to denying payment.

The second is our system being weighted on the back end, and there is not enough delivery of preventive care on the front end, and that would save a lot of money. My question to Dr. Feder, addressing this chicken and egg problem, can we move to a more preventive care oriented system with all of the savings it offers before we establish universal health care coverage, or do you think we have to get the universal health care coverage and access first before we can really explore the potential for a system that is focused more on preventive care? Is it some combination? Where do we start with this?

Dr. FEDER. I think we can do them both together. I don't see any reason that we have to do one before the other, and we need them both.

I talked about the adequacy of benefits when we talk about a universal coverage system or a proposal. Part of that is whether in the insurance package or in some other way we have got to have the benefits for preventive and primary care in order to keep people healthy and not have them get sicker and require more expensive services, and that there is no reason that that can't be part of a proposal for universal coverage.

By the same token, you can't wait for universal coverage because we are all hurting, as you have heard, and you have to do them both together.

Mr. SARBANES. Thank you, Mr. Chairman.

Chairman MILLER. Thank you. Ms. Shea-Porter.

Ms. SHEA-PORTER. Thank you, Mr. Chairman. I apologize for being late. I had to be somewhere else at the same time.

Mr. Archey, I have heard you talk about science and technology and the need for education. I absolutely agree with you, but I also know that we have problems with reading and writing and basic comprehension in this country. Everybody won't be able to go into science, but everybody has to be proficient in our language. Have you found that to be a problem? People who understand the science but are having difficulty with English and communicating inside businesses and if that is holding us back?

By the way, I completely support community education. I think you are right where our focus needs to be for education.

Mr. ARCHEY. This has been a problem for some of our companies. A lot of our companies, and it is not for the immigrant community but for American high school graduates, there are remedial reading programs and some remedial writing programs that are sponsored by the companies themselves. That is not uncommon at all.

I mean, I think when we talk about math and science education, I am certainly not suggesting that is to the exclusion of all of those others because you are not going to get very far if your reading skills are not very good, and you are not going to get very far in science if your reading skills are not good, either.

Ms. SHEA-PORTER. Is that contributing to our problem of staying competitive? When we talk about being competitive with other nations, is our lack of proficiency and inability to communicate with written skills and organizations hurting us?

Mr. ARCHEY. It is a part of the same, if you will, schtick about making this happen. You know, I think the proficiency on the reading stuff has actually gotten better over the last 2 or 3 years. I don't know if that is going to continue or not. You have to have it. It is fundamental to having a good job and to being successful.

Ms. SHEA-PORTER. It is encouraging to hear you say you have seen an improvement.

Community colleges are doing wonderful work. I worked in one myself. But I think a 4-year college, and I hope to see the emphasis, whether people go to a 2-year or 4-year, that it is necessary to round out somebody's education and somebody's understanding of the world by making sure that while we introduce the science and technology, and I am committed to this, truly committed so our kids can stay productive, but they also need to have an understanding of the world that they are in and analyze and extract the information they need. I encourage community colleges as well as 4-year colleges to put some of that extra stuff in.

Thank you, Mr. Chairman.

Chairman MILLER. Thank you. Mrs. Davis.

Mrs. DAVIS OF CALIFORNIA. Thank you, Mr. Chairman.

I am sorry I missed the panel. I was managing a bill for the committee.

I am going to take a totally different tact from what you have been talking about. I am very concerned about how we bring everybody to the table, an entire community and I am sure you have addressed this in some way.

Do you have some thoughts about how we are able to transmit and support parents in the community so we can essentially be teaching them the skills that you would like to see in your workers, that you would like to see as students kind of tackle the complexities of science and math as well?

We have seen repeated studies that the relationship early between parents and children is very important. I am tapping your expertise in a different area to see if there is something you would like to suggest that as we begin to work, whether it is No Child Left Behind, what is something you would say that is appropriate to really leverage the bounty that we have in people working with children at home and also with the community? We know about mentoring. What would you like to add to the discussion today?

Dr. KAROLY. Let me try to answer that. Since you are tapping some of our others areas of expertise, my research covers the age span.

One area that we have been investigating at RAND for a number of years is looking at early childhood as an important period, to think about investing in children both from the standpoint of formal programs that children might participate in, but also the way in which we can work with families to help parents understand that important phase of development and improve the opportunities they provide for their children.

We have looked at a number of different programs, including what you might call more formal parent training programs. Some of them are as simple as providing information to parents when they visit a pediatrician and providing them information about the importance of reading to their children or other ways in which to understand their behavior and development, and others that are more formal, bringing parents to specific classroom sessions to talk to them about aspects of development.

And ultimately, all of those kinds of ways of thinking about investing in families, children and parents, are an important component of preparing children to enter school, to be ready to be successful. Those investments also I suspect will pay off in terms of parents' interaction with children as they continue at older ages, understanding the importance of their education and making those investments towards being successful workers.

Mrs. DAVIS OF CALIFORNIA. I know it is a difficult and broad question.

Mr. Trumka, how do we assist parents and assist community members and clergy, for that matter, to try?

Mr. TRUMKA. First of all, whenever a family, a single mother, let's talk about a single mother or single father, they are working two or three jobs just to get by. I can promise you when they come home they are not going to be able to spend a lot of time helping their child do homework. They may, as my parents did, instill in them that an education is really a ticket out. But we have to look at the whole picture. We have to make it economically feasible for that parent.

When you have a child whose parent is working a minimum wage job that hasn't been raised in years, and they are competing with other children who have a computer at home and they don't have a computer, they are disadvantaged. I think we have to look at the whole system, not just the parent because I think without the parent involvement, every study shows that it is far more difficult for the education, for the student to get the fulfillment and complete education they deserve.

We have to look at the economic picture and figure out a way to help them, whether it is minimum wage, whether it is increasing their wages, whether giving them a secure retirement, health care, that ties into the overall problem.

Mrs. DAVIS OF CALIFORNIA. I appreciate that. I am sure we would say that bringing people out of minimum wages and poverty level, even the middle class for that matter, lower middle class, would go a long way to helping young people be exposed to a whole range of opportunities.

I am wondering is there a role in the workplace, even in teaching young people to be advocates of their own health care that could be pursued?

Mr. Chairman, I am sure I don't have any more time but I wanted to throw that out and let you know I think it is an issue that we want to get our hands around. If kids are ready to learn and are learning, then all we try and do in math and science and other areas is not going to be applied.

Thank you, Mr. Chairman.

Chairman MILLER. Mr. Platts.

Mr. PLATTS. One or two questions to Mr. Trumka. I appreciate your statement, and I want to tell you on your comments regarding China, I share your concerns, especially on undervaluing the currency, and also the unfair trade practice of subsidizing by the Chinese government. In the last session we were successful in moving legislation through the House to allow us to impose countervailing duties on China for their unfair trade practices. Unfortunately, we couldn't get the Senate to take it up. Perhaps we will have better success this term, and also the currency legislation that you referenced.

So I agree with you on China. I do want to raise a concern or question on the Employee Free Choice Act. I am a former Teamster member and worked my way through college and a little after college as a union member. I still have my withdrawal in good standing card, and I appreciated the opportunity that work and being a member of the union allowed me in college and after.

My biggest concern about the piece of legislation is the decision of not allowing the employee's position on unionizing to be by secret ballot, in private. So it is an open system.

I realize that the concern is about companies coercing employees and intimidating them not to vote in favor, but I think we have laws that if unfair practices are engaged in you can file a complaint to address that. Isn't the risk the same for the employee, the intimidation factor? If you know you are going to have to work side by side in this company, in this plant, and employees by your side know you were against unionizing, isn't that going to create a problem as well?

Mr. TRUMKA. I wish you had been here earlier. We had a very good discussion on this.

Mr. PLATTS. I do apologize. I have three hearings, and this is the third of three. I am trying to get to all of them.

Mr. TRUMKA. We are figuring out ways to clone you guys so you can be everywhere at one time.

Mr. PLATTS. My wife would tell you that would be a scary thought, to have more of me running around.

Mr. TRUMKA. Implicit in your question is the fact that it assumes that the current system works, and the current system doesn't work. In one out of every four organizing drives a worker gets fired. You can imagine the dampening effect that has on free choice whenever one of your fellow workers who has been advocating a union gets fired and the only remedy they are going to get is their job back with maybe back pay in 4 or 5 years. It is a great deterrent.

They also get intimidated and harassed on a daily basis. But the weakness in your argument is you are willing to assume that the National Labor Relations Board can protect against the employers' harassment today somehow, but it couldn't protect against unions down the road.

Mr. PLATTS. I am not addressing union misconduct, but the employee, the fellow worker on the plant floor and the warehouse floor where I worked.

Mr. TRUMKA. You and I have both been on the floor. I grew up in the coal mines, and there are lively debates. People normally ex-



change information and they disagree but they work together every day. That is a normal process.

That is just like whether they voted for George Bush or John Kerry. That same discussion happened every day. No adverse effects. They are probably better off for the discussion. Having a lively debate with your employees who can't fire you is a healthy thing, to say these are the good things about a union, and somebody says this is why I don't like a union. That is a healthy thing. People give information back and forth.

It is far more democratic than the system we have today where the employer could call that same individual into a room all by themselves, sit them down in front of a desk with three or four supervisors and say: "about this union stuff, what do you think? Now I'm not telling you what to do." they use all of the right code words.

And then you have a National Labor Relations Board right now that is essentially a cadaver when it comes to protecting workers' rights. It has overturned scores of precedents that were designed to help workers. The system is stacked against those workers, and I can only say if you want real democracy, give us the Employee Free Choice Act. It is already authorized under the act. In 1935 it was authorized. But you want to talk about something undemocratic, the employer unilaterally has the right to veto whether you can use it or not.

Make it so the employees can do something, have a voice as well.

Mr. PLATTS. Having been on that plant floor and the minus 10-degree ice cream freezer selecting ice cream and lively discussions, especially when you come out to warm up a minute or two, I agree that is a positive, including discussing whether to unionize or not, but do think it is different if you are discussing who you voted for or who you should vote for for President versus whether you should vote to unionize something that impacts you directly in that plant. I think that is a different type discussion. Those discussions should continue and are positive, but I think if there is problems in the system, we should be able to find a way to address the problems, and I would not disagree that there aren't problems, without taking away the fundamental process in a democracy, which is the right to vote in private, whether it be in an electoral of public officials or whether to unionize. My position isn't that we shouldn't look to improve and make sure the wrongdoing that is occurring in your opinion today and not being punished doesn't continue in the future, so we improve the labor laws but do so in a way that protects that fundamental right to privacy when you cast a vote, including the right to vote to unionize. I think we are kind of going to the extreme of taking away that in the name of improvement.

Mr. TRUMKA. I would just add right now that the only people that have privacy in today's system is the employer. Employees have no privacy. They get spied upon, they get intimidated, they get harassed and they get fired and their only crime is they want do have a bigger say on the job so that they can have a little more dignity and little more respect, and they can approach a bargaining table as equals with an employer and make decisions that are ultimately good for both sides.

Let me just say this because I think this is an important point, everybody espouses employee-employer cooperation. We need to

work more carefully and closely with our employers in a global economy. And I have been an advocate of that over years, and I have put my bargaining power where my mouth was at as well when I did it. But under the current system the first encounter that we have is a knock-down, drag-out affair where the employer can harass, intimidate and fire people and then after having done that, say to you well, now let's cooperate. I would suggest there is a better way to do it.

Mr. PLATTS. I would agree, and hopefully we can get to that better way without taking the right to vote in private. Thank you for your testimony. I apologize for my late arrival. Thank you, Mr. Chairman.

Chairman MILLER. Mr. Sestak.

Mr. SESTAK. I apologize. I also I had three, and I am sure these questions have been asked, but Doctor, can I ask you, when you talk about adequacy, affordability and availability, does the Massachusetts plan bode something for that? I have always been intrigued by it and I am watching it because of the various elements and theoretically, and I know it is unique State and what they are doing at all, it really might become a potential model. Do you think so? And if so, why and why not?

Dr. FEDER. I think you are right to be encouraged by it because it has got a model of shared responsibility of the employer participating, the individual, the taxpayer, everybody's doing it. It has got what I call in my testimony a place to buy, a way to get insurance without being discriminated against, and it has got the concept of adequate benefits and subsidies that make affordable coverage available.

The difficulty that Massachusetts, you say it is a unique State, unique in a variety of ways, one is that they had Federal money on the table that not every State has, two, a more modest number of uninsured than other States have, but even given all that they are struggling to come up with the financing to make the guarantees of benefits and affordability to deliver on it. And I think it reflects a concern that we have to have of whether this is achievable on a State level. I think it is encouraging to see this development but I believe profoundly that if we are going to have this throughout the Nation, it is going to take Federal policy action.

Mr. SESTAK. And it was bipartisan.

Dr. FEDER. That was good too. We see that in California. So you are absolutely right, I think that whatever side of the aisle, people know that we need to get everybody health care coverage.

Mr. SESTAK. Thank you. Sir, one question is I come from a background that saw a lot of youth come to where I was for 31 years, and I was always intrigued by the ingenuity and innovativeness of our youth. I saw them when they were 17, 18, 19 years old. Do you think as you look around that there is something unique, something intangible about our system of education, that despite all its challenges, and gosh, there is challenges, that truly sets it apart, at least as I went around the world from other countries from as much as Britain to China of being rote versus something that makes our people think of how, not what, or do you think I have got that wrong, and all this effort to do things, is there something

priceless we have here as you watch these engineers come back and forth from our countries and things like that?

Mr. ARCHEY. I think that I guess I would agree with you, except that I might disagree with what is the institution that is causing it because I would argue that no country in the world has yet replicated the kind of entrepreneurial and innovation of the United States. We are a very risk-taking country, and I think that is kind of—it is in the DNA of a lot of people.

I am not sure that sometimes the fact that we have got people who come out of our educational system who are questioning things and who have got that creativity, I am not sure that is a function of the educational system as much as it is a function of the larger societal values, and I think that—I go all over the world because we have got a couple of offices overseas, and I have got obviously companies who are very involved in that, and I do think that when we are in a situation of comparing the United States, particularly, by the way, Silicon Valley, we were in Brussels a couple of months ago, the chairman of the board, and we were meeting with four members of the German delegation. They were talking about how important because the German president is going to be the president of the European Union for the next 6 months, and they were talking about how one of her biggest priorities is going to be competitiveness.

They then proceeded to talk about a whole new set of regulations they wanted to impose. And we were wondering how does that connect. It is a very different system in Europe, it is different to some degree in Asia.

One of the reasons I remain optimistic is precisely because of the nature of your question, which is that this kind of entrepreneurialism, creativity, this kind of not going along with all the program and all that stuff, I don't think we are in any danger that is going to be by the wayside. Thank you very much.

Mr. PAYNE [presiding]. At this time we have Mr. Ehlers.

Mr. EHLERS. Thank you, Mr. Chairman. First I have to apologize to my colleagues but especially to the witnesses for being here a brief time and then dashing out, but I was called to defend a couple of bills from this committee on the floor, and having successfully defended that with only minor blood strains, I am happy to return to this. I unfortunately missed most of your testimony and discussion. First of all, Dr. Feder, I just have to tell you that I have a topnotch legislative aid in my office and we were talking about you. She was on the floor helping me defend it. She commented that you were one of the finest professors she had ever had so I just wanted to pass that on to you.

Mr. Archey, I am sorry I missed your testimony, but I did hear you testify once before, and afterwards I told my staff there is someone who gets it. As you all know, I have been fighting this battle in the Congress for 12 years now to improve math and science education, and we are making progress, but not nearly as much or as rapidly as we should. I think that is going to be a key factor in our competitiveness. But also just to comment on your statement of a few moments ago, Mr. Archey, I have often said the same thing, the reason we will win the competitiveness battle with other countries is not related to the differential in wage rates or

anything like that, it is because we have a creative spirit both individually and collectively within this country, and I don't know if it is in the DNA or not, but it is there and I think it is because the people who came to this country from other countries have that spirit. They were adventurers. They made some very, very difficult choices to come here, including my grandparents. I could tell some incredible stories about the hardships they encountered, but that is what this country is made of. I just hope we don't go soft and end up the way many of our European ancestor countries are at this time, but that we keep encouraging that creative spirit because that is the real advantage we have over almost every country. Many countries, as you well know, the boss is supposed to have the new ideas, the employees are not. We are a country that thrives on ideas from the bottom going up and we reward people at the lowest levels for good ideas they get. I have a lot of manufacturing in my district, and I visit many of those factories. They are mostly UAW factories. But they are just brimming with ideas all the time as I tour the factory floor and talk to the employees.

I think I can do this better if we can just do this. And that is what is going to help us within. So I apologize for my meandering comments, but I just wanted to verify what I heard in my brief time here. I think our country is on track, but we have got a real battle ahead of us because, for two reasons, first of all, the wage disparity you mentioned, but secondly, we play fair, most of the countries don't. And I have fought the administration on this, that we have to simply crack down on the manipulation, on the hidden tariffs which are not tariffs of money but tariffs of standards.

I held a hearing on that a few years ago. Very interesting. Countries are setting standards for their imports so tough as Thailand is doing. Our cars can't get in there, but their cars couldn't if they applied them domestically. I think we need to crack down hard on that. Thank you very much for being here and putting up with my ramblings. God bless you and your continued work. Thank you.

Mr. PAYNE. Thank you very much. We would like to recognize, the ranking member would like to have some concluding remarks.

Mr. MCKEON. Mr. Archey, the comments that you were making to Mr. Sestak, I took a CODEL to China last year because of—the world is flat and all the talk and people from your industry and others have been telling me you have got to go to China, India and see what is going on and it was one of the best trips I have ever been on. We visited government leaders, industry leaders, education leaders, students, schools. It was very educational. And they agreed that their students do better in math, science. They have very high expectation levels and everything is do well in school because that is their only hope to get out of tremendous poverty and the problems they have.

But they also said ours are better on entrepreneurial and the soft skills, our students. I said I think one of the reasons is that they have limited their families to one child. And I said a lot of those schools you learn come before—sometimes you're still crawling and you're learning to compete with older brother, sister, younger brother, sister, and you learn that give and take and creativity and all of that at a very, very young age. I agree with what Vern said,

a lot of it is the people that come here bring that spirit, but still I think a lot of that is learned there.

So I think we will do well, we will continue to do well in those skills, but we also need to do better in our education because they are not sitting idly by, they are working hard to come at us.

Mr. ARCHEY. As the 9th of 11 kids, I can entirely concur with your statement. In fact, I have contended many times that once I left home the rest of this has been a cakewalk.

Mr. PAYNE. Well, let me thank the panel. First of all, let me ask unanimous consent to enter the testimony of Governor Janet Napolitano of Arizona into the record. Without objection, so ordered. Let me—as a matter of fact, when I was in the fourth grade I was in a play, Columbus Day play and don't you know my lines were: The world is flat and that is that. I was the skeptic, I guess. I don't think the teacher liked me so I was the only one that said the world was flat.

However, let me thank each of the panelists, Mr. Trumka, Dr. Feder, Mr. Archey, Dr. Karoly for your testimony. I think that you certainly have engendered a lot of conversation. That is what we are attempting to do in this beginning of this Congress, is to try to see how we can strengthen America's middle class. The only way we are going to find these economic solutions to help American families is to have dialog and conversation, and I think all of you certainly contribute to that.

We are going to continue in this series because we do have to find a way to stop the squeeze on the middle class. That is what made this country great, people of lower classes attempt to move into middle class. And if we are shrinking the middle class and just having a two-tiered system as we have seen in countries abroad, we are moving in the wrong direction. And so I appreciate all of your contributions and we look forward to this continued debate. Thank you. With that, the hearing is adjourned. Thank you.

[Prepared statement of Governor Napolitano follows:]

**Prepared Statement of Hon. Janet Napolitano, Governor, State of Arizona**

Chairman Miller, Ranking Member McKeon and Committee Members, thank you for the opportunity to testify on an issue of great importance to all of us: the role of innovation in enhancing America's competitive standing.

I testify before you today wearing two hats, one as the Governor of Arizona and one as the chair of the National Governors Association, a bi-partisan organization representing the nation's governors. My testimony today is both informed by the experiences of my fellow governors and my own work in Arizona.

*The Issue*

Today's economy is increasingly global and highly competitive. While the United States remains the world leader in innovation, formidable competitors have emerged—and continue to emerge—as technology breaks down barriers and accelerates change. With demographic shifts, the rapid rate of technological advancements, and new methods of communication, Americans no longer solely compete against each other for jobs; they increasingly compete against well-educated and cheaper labor abroad. The only way the United States can compete in this global economy is to out-innovate the competition. Our growth, and ultimately our success, will be driven by our ability to develop new ideas and technologies and translate them into innovations, and to create a strong, agile workforce that evolves with a changing marketplace.

*The Challenge*

The challenge is upon us. In 2005, American companies received only four of the top ten patents worldwide. Finland, Israel, Japan, South Korea and Sweden each

spend more on research and development than the United States as a share of GDP. China has overtaken the United States as the world's leading exporter of information technology products. In 2006, the World Economic Forum's Global Competitiveness Report dropped the United States from first to sixth in rankings of national competitiveness.

The quality of our workforce, moreover, is an even greater challenge. Businesses need employees who think innovatively and are capable of keeping up with the global economy. Yet, our country's 15 year-olds ranked 24th out of 39 countries in a 2003 examination, which assessed students' ability to apply mathematical concepts to real-world problems. In 2005, in both mathematics and science, less than 2/5 of U.S. 4th and 8th grade students performed at or above a proficient level. These are startling statistics and we are feeling the impact now. In 2004, the United States produced 137,000 new engineers compared to China's 352,000. Simply put, our public education system is not delivering the workforce we need to compete. American students aren't measuring up to other students around the world, and our country is not producing enough skilled professionals to create tomorrow's innovations.

The diminished ability to compete is reflected in real wages. The earnings of workers who have finished college have risen over the past 20 years, while the wages of those with less education attainment have fallen. Too many Americans are falling behind in an economy that is more global and vastly different than ever before.

Some look at these statistics and think not much can be done. I look at this as our nation's wake up call. This is our opportunity to reinvent our system of education and recapture our competitive edge. The answer is innovation, and the solution lies in our states. As governors, we believe states are the engines for change.

#### *What is Innovation?*

"Innovation" is a term that deserves a new common definition. In the 1990's, innovation was about technology. Today, innovation is about reinventing strategies, products and processes, and creating new business models and new markets. It's about selecting the right ideas and executing at the right time. Innovation in the 21st century has moved beyond research laboratories, and today, reaches across disciplines. It requires talented people with the skills and resources necessary to compete and thrive in a global marketplace.

But this new form of innovation cannot develop in a vacuum. It requires an education system that is better than those of other nations. It requires first class research facilities, and vibrant communities designed to retain and attract talent. It requires a business climate that encourages and rewards discoveries and entrepreneurship. It requires improved economic development that focuses on our nation's competitiveness. Most important, it requires committed leadership at all levels of government—working with the private sector—to make it happen.

#### *Why States?*

States play a pivotal role in effecting change and creating innovative economies because they are major investors in the essential tools of that change.

Look at any state budget and you will find that more than half of it is dedicated to education—from pre-K through post-secondary. The reality is that in the United States, education is carried out and predominantly funded at the state level. Actualizing change in our system of education will happen in the states.

Likewise, states can be, and often are, the architects of the policies that cultivate innovation. Given the seriousness of the competitive challenge our country faces, it is critical for governors to develop strategies to accelerate innovative economies within their states.

This is the impetus behind my National Governors Association Chair's Initiative, Innovation America. This initiative brings Governors, business leaders and higher education officials together to develop educational systems and economies that strengthen states' innovative capacity.

The Innovation America initiative has three main strategies:

1. Improving science, technology, engineering, and mathematics (STEM) education
2. Enabling the post-secondary education system to better support innovation
3. Encouraging business innovation through supportive state policies

#### *K-12 Science, Technology, Engineering, and Mathematics (STEM) Education*

First, states must create the human talent that powers innovation. A workforce of problem solvers, innovators, and inventors who are self-reliant and able to think logically is one of the critical foundations that drive innovative capacity in a state. Yet, as mentioned earlier, there is a growing consensus that American students are not attaining the basic knowledge they need to succeed, especially as it relates to science, technology, engineering, and math. These subjects are the foundation for in-

novation, and provide students with the skills needed to solve problems, experiment, and increase their awareness about the world around them.

The Innovation America initiative seeks to improve the rigor and relevance of science, technology, engineering, and mathematics (STEM) education in grades K-12 to ensure all students graduate from high school with the core competencies needed for a 21st century workforce and to motivate more students to pursue careers in science and technology. At the end of this month, as part of the Initiative, we will release the “Governors Guide to Building a K-12 Science, Technology, Engineering, and Mathematics Education Agenda,” to support states’ efforts in building a world-class K-12 STEM education system. We will also announce a new program to support state-level STEM education centers to build statewide capacity for improved STEM teaching and learning. Governors are uniquely positioned to address these challenges by establishing rigorous standards, expanding teacher training, and aligning curriculum with real world demands.

In Arizona, we formed the P-20 Council in 2005 to align K-12 and higher education with the needs of the new economy. Our Council, comprised of educators, community college and university presidents, elected officials, and business leaders, is focused on developing a strong foundation in science, technology, engineering and mathematics, and strengthening curriculum and standards to prepare students for post-secondary education and a 21st century workforce. The result is an education continuum, with classes building on ideas that were taught in years prior, and students better equipped with industry-specific skills in high-growth, high-wage occupations that await them when they graduate.

This year, at the Council’s recommendation, I called on the Arizona State Board of Education to raise our standards to require four years of math instead of two, and three years of science instead of two. I also called on our schools to modernize our curricula, and bring 21st century skills into the classroom. We need technology embedded in our schools—to enhance learning and improve students’ understanding of it. We need to move away from rote memorization and start teaching understanding and analysis. We need specialized environments for students interested in a particular area of study like Arizona’s new Bioscience High School. Located just minutes from Arizona’s bioscience hub, this school will connect students with tools, resources and experts from across the country. And we need more out-of-school time, hands-on activities—such as science fairs and robotics clubs—so that students can apply their learning in experiential ways.

Take, for example, Arizona’s Carl Hayden Community High School’s Science and Technology Club, which brings STEM skills to life through an after school robotics team. The team entered their first competition in 2004, opting to compete against university vs. high school students. Their work paid off and they ended up winning the entire competition, beating top challengers like MIT.

#### *Postsecondary Education*

While the American higher education system has long been a centerpiece of the U.S. economy, and the launching pad for the jobs of the future, the skills needed today are far different than the expectations of yesterday. In the past, being well-versed in a single subject made the cut. Today, integrating diverse subject matters is as important as mastering individual ones. Students not only need to be well-rounded, they also need entrepreneurial skills, and the capacity to imagine and adapt to the unknown. Providing students with new skills taught in a new way is the first step toward developing tomorrow’s innovators.

The second piece is equally important. Public universities are uniquely positioned to provide the pipeline of innovators for the local economies they surround. For example, the city of Tucson, Arizona has become the ‘silicon valley’ of optics because of its relationship and partnership with the publicly-funded University of Arizona.

The Innovation America initiative provides strategies to bring our country to the next level of innovation and prosperity. It asks universities to align their work, both the programs they offer to students and their research and development efforts, with the needs of the state’s high growth industries. For example, in 2003 when I became Governor, the number of health care providers graduating from our universities was simply not keeping pace with our soaring population growth. We worked with these institutions to address this shortage, and today Arizona State University has the largest public nursing program in the country, and we’re opening Phoenix’s first medical school this fall.

In addition to more effectively matching graduates to high-demand careers, the Initiative seeks to showcase the great work of universities and bring their achievements to market. Some examples from my home state:

#### *Arizona Telemedicine Program*

Its Arizona Telemedicine Program (ATP) located at the University of Arizona College of Medicine was created in 1996 with pilot funding from the state, and today, is recognized as one of the premier telemedicine programs in the world, providing telemedicine services, distance learning, informatics training and telemedicine technology assessment to communities throughout Arizona and beyond. Employing high-resolution interactive video imaging, digital photography, computer workstations and other technology, telemedicine allows physicians at distant locations to make diagnoses, conduct consultations and recommend treatment plans. Among its many initiatives, ATP piloted a virtual center for diabetes care that reaches out to medically underserved areas that have high incidences of pre-diabetes and diabetes. Its success is gaining national recognition. In 2005, ATP received \$1.2 million in federal funds for the new Institute for Advanced Telemedicine and Telehealth (THealth), to be located at the new University of Arizona College of Medicine—Phoenix. The institute will conduct research and develop medical simulations, robotics and the design of “next-generation” medical devices.

#### *Biodesign Institute*

The Biodesign Institute at Arizona State University is focused on preventing and curing disease, overcoming the pain and limitations of injury, renewing and sustaining our environment, and securing a safer world. To accelerate the pace of discovery, the Institute merges formerly distinct fields of research, including biology, chemistry, physics, medicine, agriculture, environmental science, electronics, materials science, engineering and computing. In its short history, the Biodesign Institute has made measurable strides in delivering on its goals. This past year, Biodesign researchers received five patents, filed twenty new patent applications, and launched two spin-out companies. Among the research discoveries being translated to commercial endeavors are a drug with potential to save the lives of stroke victims; new tests to diagnose diseases more quickly and accurately; devices that rapidly detect explosives and biowarfare agents; the use of DNA forensics for law enforcement; and the design of next-generation flexible electronic displays with multiple applications in medicine, industrial processes and defense.

#### *Sarver Heart Center*

The Sarver Heart Center at The University of Arizona College of Medicine has pioneered a breakthrough method of cardiopulmonary resuscitation that emphasizes chest compressions and eliminates the need for mouth-to-mouth breathing. Called “continuous chest compression CPR,” the innovative new approach has been shown to dramatically increase survival rates following cardiac arrest, and is easier to learn, remember and perform than standard CPR.

#### *Growing Biotechnology Initiative*

The Growing Biotechnology Initiative (GBI) at Northern Arizona University focuses on technology platforms in cancer, neurosciences, bioengineering, infectious diseases and diabetes identified in the Arizona Bioscience Roadmap. The GBI integrates cutting-edge research in these platform areas with nationally competitive undergraduate and graduate degree programs aimed at developing a highly skilled workforce to meet the demands of the rapidly developing bioscience industry.

#### *Critical Path Institute (C-Path)*

The Critical Path Institute (C-Path), an independent, non-profit organization located at the University of Arizona, was created in 2005 to support the U.S. Food and Drug Administration (FDA) in its effort to implement the Critical Path Initiative (CPI). It serves as a “trusted third party,” working with the pharmaceutical industry to safely accelerate the development of and access to new medications. C-Path was recently awarded a national grant to evaluate genetic tests to improve treatment of cardiovascular disease.

#### *InnovationSpace*

InnovationSpace is an entrepreneurial joint venture between the colleges of design, business and engineering at Arizona State University that teaches students how to develop products that create market value while serving real societal needs and minimizing impacts on the environment. Interdisciplinary student teams work to define new product offerings, develop and refine product concepts, build engineering prototypes, and create business plans and visual materials to market their products.



*BIO5 Institute*

The BIO5 Institute at the University of Arizona brings together some of the world's best scientists across five disciplines to collaborate on complex problems such as how to diagnose, treat, or prevent disease; how to feed a hungry world; and how to sustain our environment. BIO5 provides researchers with state of the art equipment in a setting that allows interaction on important research issues and provides the infrastructure necessary to translate scientific discoveries into tangible human benefit, increased economic development and a better-educated society.

The next step, and the goal of the Innovation America initiative, is to bring these new discoveries, innovations and cures to the marketplace. This leads to the Initiative's next strategy.

*Business Innovation*

While we prepare our students for a global economy and build our universities as pipelines for innovation, we must also cultivate a culture of innovation in the private sector.

The Innovation America initiative seeks to give states tools to develop policies that support research and development, enhance their innovation capacity and foster entrepreneurship. Specifically, the Initiative is helping governors promote business innovation by 1) assessing each state's economic performance and making policy recommendations for improving performance; 2) providing governors analyses of their state's most promising innovation clusters and a guidebook to cluster-based growth strategies; and 3) compiling and distributing best practices for the management of technology investment funds.

By reducing regulatory barriers, eliminating policies that inhibit the transfer of new ideas from the lab to the market, and creating tax policies that support the growth of innovative industries, states can lead this charge. States can also help entrepreneurs establish linkages with researchers, target workforce training and research and development to the needs of fast growing industries, and enhance opportunities for entrepreneurs to obtain early-stage investments, on which innovative products depend. Enhancing a state's innovation capacity puts its businesses in a stronger position to exploit the opportunities presented by changes in technologies—opportunities to increase productivity, develop new products, and expand into new markets.

States like Arizona have already started this work, accelerating prosperity through incentives for angel investment, which help small businesses and early stage companies attract much needed capital to expand operations and bring new ideas, products and services to market. Arizona's "angel investors" tax credits will spur \$65 million in investment in life sciences and new technology development.

We are also focused on growing Arizona's entrepreneurial companies into globally competitive enterprises through programs leading to the commercialization of the latest discoveries, innovations and technology. Arizona's Innovation and Technology Commercialization Accelerator is a "virtual" pilot program through our state Department of Commerce. This program is designed to assist early-stage technology and bioscience companies, as well as coordinate and effectively deliver technology commercialization services statewide. It offers grants to companies for technology assessment, commercialization feasibility, and assistance with marketing and licensing.

*The Charge*

Together, the strategies proposed by the Innovation America initiative seek to recapture our nation's competitive edge. By maximizing the potential of our students, we will produce the necessary talent pool. Through targeted investments in research and development and better coordination with the private sector, our universities can develop the workforce and pipeline for innovation. Finally, by developing state policies that foster innovation and encourage entrepreneurship, we can bring new inventions and discoveries to market and ensure the fruits of our labor stay at home.

In Arizona, these strategies are more than ideas on paper; they are our roadmap for success. Together, working with academia and the private sector, we are taking action to ensure that Arizona not only remains globally competitive, but is a world class leader in innovation. Take, for example, Arizona's bioscience industry. A few years ago, we determined that we were lagging behind the nation in bioscience research and needed to step up the pace. We developed a Bioscience Roadmap to assess our existing infrastructure and strengths, with the goal of making Arizona a national leader in the field within 10 years. A small, but rapidly growing bioscience private sector already existed, and we built on these efforts through the creation of

the Translational Genomics Research Institute (TGen), a non-profit organization focused on developing earlier diagnostics, prognostics and therapies through genetics.

Since its founding in 2002, TGen has announced more than 15 new genetic discoveries including the identification of genes linked to Alzheimer's Disease, ALS, memory performance, prostate and brain cancer. TGen's success lies in both its biomedical research, and its impact on the Arizona economy. A report released in 2006, found TGen produces a nearly four to one return on state-invested funding and is expected to generate more than 3000 jobs and \$202.4 million in total economic impact by 2025.

Efforts like TGen are possible at the state level, because of our ability to bring diverse stakeholders together and leverage resources to make an impact. Modeled after Science Foundation Ireland, we recently forged an unprecedented partnership between government, universities and the private sector to create Science Foundation Arizona, a multi-million dollar non-profit organization designed to build and strengthen Arizona's scientific, engineering and medical competitiveness. Supported by seed funding from the state, Science Foundation Arizona is working to attract world-class researchers to Arizona to diversify and expand Arizona's high-tech economic sector. Its Small Business Catalytic Funding initiative will be a stimulus for technology development, company formation and high-tech job creation in Arizona. And its largest funding priority, Strategic Research Groups, will fund partnerships between the private sector and universities. Most importantly, organizations like Science Foundation Arizona give states the flexibility to adjust to new paradigms more quickly and efficiently, and stay competitive in a global economy.

Our mission is bold, but we are on the path to success. In Arizona, we are building a premier education system from pre-school through college, and are working hand-in-hand with businesses to make sure our students can meet the demands of the 21st century economy. We made a \$440 million investment in new research facilities at our universities to house world-class talent. We created technology commercialization programs to enhance Arizona's science and technology core competencies and promote entrepreneurship. We have maintained a low-tax, business friendly environment, signing a historic business tax relief package into law to spur investment and attract companies to Arizona from around the country and across the globe.

The Innovation America initiative focuses on the actions states can take because, as I have demonstrated here, Governors are in the driver's seat when it comes to promoting innovation. At the same time, the federal government has a major role to play in addressing the challenges we face in this increasingly competitive global environment.

As you know, several major reports in recent years have recommended specific changes in federal policy and funding levels. At the heart of the recommendations is the importance of innovation. I am eager to begin a dialogue about how we can engage in complementary activities—maximizing our respective strengths—to enhance our economic competitiveness by creating an innovative nation.

Thank you for giving me the opportunity to testify about an issue that is so critical to the future of our states and our nation. Ultimately, this is not just a local concern, not just a state priority, and not just a federal problem. It is a national challenge. Working together, the public and private sectors can make meaningful progress in identifying educational and economic actions that make life even better for the next generation of American families.

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[Whereupon, at 12:45 p.m., the committee was adjourned.]

