Task Force On Workforce Development

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A Report of the Task Force on Workforce Development

Learning Partnerships: Strengthening American Jobs In the Global Economy

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The Task Force on Workforce Development is a joint project of the Albert Shanker Institute and the New Economy Information Service.

The Albert Shanker Institute is named in honor of the late president of the American Federation of Teachers. It is a nonprofit organization dedicated to generating ideas, fostering exchanges, and promoting constructive policy proposals in three areas—children's education, unions as advocates for quality, and freedom of association in the public life of democracies.

The New Economy Information Service provides information and encourages dialogue on the impact that globalization and technological change has on democracy here and abroad.

Executive Summary

"We believe a national consensus is building in support of a far-reaching transformation of our strategies and programs for workforce development…"

The surge of global competition into our labor markets, sweeping technological change, and impending shifts in the demographic mix of our labor force call for a national campaign to improve the skills and professionalism of the American workforce. We must create new learning partnerships throughout our communities and workplaces to sustain the jobs that provide for our middle class, pay the social costs of health, education and retirement, and preserve capabilities that are necessary for our nation's security.

There is much to debate about what is happening to jobs in America. But our Task Force, which brings together diverse figures from business, labor, academia, and community service, found deep-seated agreement on one proposition: the future strength of our economy rests in large measure on the skills and adaptability of the American workforce. We believe a national consensus is building in support of a far-reaching transformation of our strategies and programs for workforce development.

While the sweep and scope of this endeavor should go beyond earlier efforts at job training and retraining, it should not be one more centralized and bureaucratized government program. Instead, it should respond to the needs and build on the experiences of our workplaces and communities. The goal should be creating and developing **Learning Partnerships** that bring together the federal, state and local governments, large and small businesses, labor unions, educational institutions of all kinds, and employees themselves.

Many developments compel us to strengthen the skills and professional capabilities of our workforce.

- Global economic competition is confronting every sector of our economy and our workforce – in information technology as well as in manufacturing, among professional employees as well as blue-collar workers;

- Technological change is also sweeping away millions of relatively routine jobs, while creating new demands for well educated and highly skilled workers;

"Our history holds many examples of successful partnerships in which government and elements of our private sector have come together to address national challenges … Today such partnership is again required to bring together our resources to compete in the global labor market…"

The huge baby boom generation is preparing to retire, creating new needs for workers of all kinds and for skilled and educated workers in particular:

- While the United States already has the highest proportion of highly skilled workers of any advanced society, it also has a very high proportion of low-skilled workers, and relatively few in the middle range of the skills ladder;
- Many new entrants to the labor force and even experienced workers lack basic skills of literacy and numeracy;
- There already are shortages of qualified employees in many highly skilled occupations – from nurses and teachers to machinists and computer professionals.

The lack of basic skills throughout much of the workforce, and the growing shortages of workers with specific skills that are increasingly needed, create a danger that the American economy will drift into what economists call a "low skills equilibrium." Employers may anticipate that they will find only poorly skilled workers in the job market, and, therefore, shape their business strategies around the use of such labor. This can set in motion a cycle that will have destructive effects throughout our economy, and for a long time to come.

Our Key Recommendations

Create Learning Partnerships

Our history holds many examples of successful partnerships in which government and elements of our private sector have come together to address national challenges: the modernization of agriculture, the development of higher education and a national transportation grid, the creation of the Internet. Today such partnership is again required to bring together our resources to compete in the global labor market.

This mobilization will require individual citizens to take important responsibilities for improving their own skills. But we cannot expect to succeed if individuals are simply left to fend for themselves. The difficulties of assessing a churning job market, locating appropriate training, and finding the time and money to pursue skills development require cooperation and mutual support.

A number of useful ideas for improving workforce training and education have recently been set forward. Yet members of this Task Force share the concern that our political leadership on all sides has yet to give adequate attention to this challenge, or to what must be done to address it.

"Employers, employees, unions, educators, local government and community leaders must come together to create bottom-up learning partnerships…"

The effort we envision will require significant government resources. But it cannot succeed simply through the enactment of top-down government programs. Two ideas that offer great promise for engaging all who must participate are:

- Employers, employees, unions, educators, local government and community leaders must come together to create bottom-up **Learning Partnerships**. Such ground-level partnerships can best assess skills needs and capabilities, analyze employment trends and opportunities, and engage workers in effective programs to improve their competitiveness and employability.

- A key to the success of workforce learning partnerships will be the involvement of employees themselves in their design and implementation. This can be achieved when **"Learning Representatives"** are chosen who have the confidence of their fellow workers and are trained and empowered to support these partnerships.

Build on Existing Efforts

The nation's skills development programs are understandably criticized as a chaotic patchwork, but they nevertheless do offer elements we should build upon. We are likely to accomplish more by empowering people on the ground to take practical steps that can make existing programs work better than we will by reaching for grand designs for streamlining and systemic reform. In addition to the two proposals above, we should:

Align Government Programs

The leading federal skills development program, the **Workforce Investment Act**, needs updating. It should be expanded beyond its current emphasis on workers who have lost their jobs or who have difficulty finding jobs. The program should receive substantial new funds targeted to **incumbent workers** to help them keep their jobs and

"Federal resources should also be made available to support the development of learning partnerships and training of learning representatives…"

compete successfully. We urge a federal appropriation for incumbent worker training that will rise to at least $3 billion annually within the next three years.

State and local **Workforce Investment Boards** should coordinate skill development programs in their areas, facilitate the development of **Learning Partnerships** and the training of **Learning Representatives**. Federal resources should also be made available to support the development of learning partnerships and training of learning representatives.

Funding of other federal programs such as the **Manufacturing Extension Services, Economic Development programs,** education and technology programs at our **National Labs** should be maintained at this critical time. Resources and expertise from these programs should be drawn upon to support learning partnerships and to advance the development of workforce skills, particularly in dealing with changing technology.

We should create **tax incentives** for employers, unions and individuals to leverage additional private resources for training and professional development. Tax credits for companies that raise spending on training above an average level, encouragement of joint training programs negotiated by unions and employers, portable individual training accounts are among some of the proposals that should be considered.

Colleges and universities – especially **community colleges** – should receive additional funding to provide programs that send instructors out into workplaces to provide courses that lead to portable credentials, establish state-of-the-art vocational labs, and offer advice to workplace learning partnerships.

Federal student aid should be re-examined to help working adults gain post-secondary credentials. Most working adults have difficulty attending college at least half-time, but less than half-time students are ineligible for government guaranteed loans, and the Hope Credit. The Pell grant program that does provide funds for less than half-time students is restricted to those with "exceptional needs" making most working adults ineligible for this type of assistance as well.

"The effort we envision will require a significant change in the culture of many workplaces. Education and training must become an integral part of working life…"

Encourage Efforts by the Business Community

While the business community, to its great credit, invests $60 billion a year in workforce training, 70 percent of these skills development dollars are targeted to managers, professionals and technical employees. The companies that provide education and training for their employees reap substantial benefits in improved productivity, quality, and competitiveness, and this raises company profits. Companies should be encouraged to improve and expand these programs and make them available to all their employees, not only those who already have the highest skills and receive the highest salaries.

Encourage Efforts by Labor Organizations

From the building trades to the automobile and telecommunications industries, state and local governments, the public schools, and the health care sector, American unions conduct extensive training programs for new workers and veteran employees, often in cooperation with employers. Unions are also prime movers in regional training alliances involving business, labor, and educational institutions that can be models for the learning partnerships we propose. As with the business community, unions should be encouraged to improve and expand their efforts and to consider their traditional role in training and credentialing workers as one of the major missions of the modern labor movement.

Promote Cultural Change in the Workplace

The effort we envision will require a significant change in the culture of many workplaces. Education and training must become an integral part of working life. Communities, industries, unions and professional organizations will need to evaluate skills needs continuously and to cooperate in devising strategies to meet them. Employees themselves must be closely involved in the design and management of workforce development programs.

Although the scope and resources needed for the strategy we advocate go well beyond current practice, what we are proposing is hardly a venture into the unknown. Learning partnerships assisted by learning representatives have already had considerable – if little noted – success in a wide array of circumstances in this country, and are the basis for a national program now being implemented in Britain. While further assessment of such experiences will undoubtedly be helpful, we are already well beyond the stage when studies and demonstration projects meet the need. It is time for America to act.

"Our Task Force members encompass different views on some major issues in our economic debate... But no matter which policy approach they may favor, Task Force members agree that there is a compelling case for major reform in the ways we deal with workforce training and education…"

I. INTRODUCTION

How can America preserve good jobs, a strong middle class and our nation's economic strength in the face of low-cost foreign labor, new technologies and new ways of organizing economic activity worldwide that are transforming traditional employment here at home? This is a challenge to our country as a whole -- not just to the particular groups that face the cutting edge of change. It has far-reaching implications for our social structure, for our political life, for our government's capabilities for meeting citizens' needs and for our national security.

Our Task Force members encompass different views on some major issues in our economic debate. Some hold the view that to maintain an adequate supply of good jobs here at home demand side interventions will be needed, as well as significant changes in our tax, trade and government purchasing policies. Others respond that it is impossible to manage the labor market, and that to try will provoke retaliatory trade measures from other countries and engender an array of market inefficiencies—in the long run inflicting heavy costs on both our workers and consumers.

But no matter which of these policy approaches they may favor, Task Force members agree that there is a compelling case for major reform in the ways we deal with workforce training and education. A more protected labor market will have costs, and even those who are willing to pay such costs will want to minimize them. The higher our skills and productivity, the lower these costs will be.

Another strong argument in support of skills development is that investment and enterprise may not always "pull" the creation of high-wage, high-skilled jobs. It can also work the other way around: where there is a skilled and adaptable labor force, entrepreneurs will think of ways it can be put to work. This might be described as competency "push": build a high skills labor market, and they will come.

Workers today are being pressed to take leaps of faith: to gamble that learning something new will pay off, even when, what and where that payoff may be is not altogether clear. While such leaps may be increasingly necessary, there is much that must be done to make them less difficult and less risky. We may not be able to see clearly enough into the future of the economy to predict exactly what skills will be needed, but we can make more accurate forecasts, and do more to inform working people about what their prospects may be. Workers who take these risks should not bear the price alone.

"An effort of considerable civic will is bound to be necessary to bring together effective partnerships for incumbent workforce development at the ground level of our economy…"

Some of that price will be set in conventional economic terms: funding for training facilities, for competent staff, for the costs of coordinating a cooperative effort and for the time off employees need to hone their skills. But there will be another price for a mobilization to advance our country's skills, one that is not readily reduced to dollar terms. While the economic costs of the skills campaign we call for will be significant, they may well be less than the stresses of doing things differently, of breaking old patterns and habits, of trying things that at first may seem awkward, perhaps even intimidating.

John Monks, the former General Secretary of Britain's Trades Union Congress, once quipped that the term "life-long learning" must have a chilling ring to many ears. Someone who struggled through high school or a few years of college may not remember that experience fondly, or look forward to re-living it interminably. Some teachers and college administrators may see vocational and career training as a comedown from what they consider the more elevated calling of higher education. Some business managers may find it distracting to involve themselves or their firms in activities that may not show benefits on the next quarter's bottom line. An effort of considerable civic will is bound to be necessary to bring together effective partnerships for incumbent workforce development at the ground level of our economy.

It may be useful to recall the dialogue among business, labor and government that took shape in the mid-1980s. Its themes were American competitiveness, productivity, teamwork, the need to create "high performance" workplaces, and the importance of enhancing technical and professional skills. This dialogue came in response to the sometimes harsh effects that an earlier wave of global competition and technological change brought on certain of our industries and communities. The issues in that debate were cast into deeper relief by the recession of the early 1990s.

But as the decade of the Nineties unfolded, an economic boom took hold, and attention turned away from these troubling, long-term employment trends. Recession in Asia made "competitiveness" seem moot. The apparent absence of any major international threat made concern about our economic security seem unnecessary. And at the same time that our economy began to boom, our political and legislative environment turned harsh and confrontational. For both these reasons, a valuable dialogue about the future of our jobs and workplaces broke down.

"An array of new problems is emerging which summons us again even more urgently to strategic thinking about our economic future…"

We now urge a revival of this dialogue – this time on terms that can engage the grass roots leadership of our economy. Certain of the challenges that stirred discussion back then have reappeared, sometimes in altered form. And, as we hope the evidence and analysis marshaled here will demonstrate, an array of new problems is emerging which summons us again even more urgently to strategic thinking about our economic future.

II. THE CHALLENGES

"Our economy faces four related challenges that make a national effort to improve workers' skills essential…"

Our economy faces four related challenges that make a national effort to improve workers' skills essential. Our labor market is being transformed by new technologies and global competition, particularly the "offshoring" of high-skill jobs. The workforce itself is experiencing wrenching changes, including the impending retirement of the huge baby boom generation, a decline in the number of younger workers aged 25 to 54, and a changing mix of skills needs. These developments create the danger that the economy will sink into what analysts call a "low skills equilibrium."[1] Moreover, if America loses high-skill, high-wage jobs in cutting-edge industries, we will face other problems as well, including growing difficulties in paying for social insurance programs and protecting our national security.

A Changing Labor Market

Employment in America has changed, and the frantic pace of global competition and technological change is now being reflected in our churning labor market. As Federal Reserve Board Chairman Alan Greenspan explains: "A million workers leave their jobs every week, two-fifths involuntarily, often in association with facilities that have been displaced or abandoned."

In the past, most large-scale losses of jobs have been about 50 percent ***cyclical***.[2] Firms laid off workers and hired them back into the same jobs when the economy recovered. Over the past two recessions the structural component has been growing. Today, almost 80 percent of the job losses have been ***structural.*** These jobs have been permanently eliminated, and laid-off workers have to look for entirely new work.

Thus, the recent recession and the recession of the early 1990s have been marked by longer periods of job decline and longer periods of unemployment for jobseekers.[3] In the latest downturn, since January 2001, some 2.3 million jobs have disappeared, most in the manufacturing sector, but increasingly in the high-tech and service sectors as well. Some of these jobs have gone "offshore" to low-wage countries. Many other jobs in both the manufacturing and service sectors have simply disappeared through the introduction of new technologies and work processes.

What happens to the workers whose jobs have been permanently eliminated? They have to look for entirely new work because companies are creating entirely new jobs, not merely re-filling old jobs. This is one more reason why so many workers need to be retrained for new jobs.

Offshoring:

"There is a lively debate about whether the jobs lost to the U.S. economy as a result of offshoring will ever be replaced by jobs of comparable quality…"

"Offshoring" – sending work to countries where wages are lower – is thought by many to threaten the supply of high-paying jobs for many highly educated professional, technical, and service workers.

There is a lively debate about whether the jobs lost to the U.S. economy as a result of offshoring will ever be replaced by jobs of comparable quality. But there is general agreement about how offshoring has emerged.

The first wave of globalization broke upon the manufacturing sector in the form of foreign competition in automobiles, electronics, steel, machine tools, and similar goods. Experts proclaimed that the U.S.'s comparative advantage would lie in the growing services and high technology sector. But by the late 1990s a second wave of globalization began to break over the professional, technical, and service-worker sectors of the labor market, hitting technology and business services jobs such as computer programming, customer service call centers, payroll services, and even stock market research.

Most often, the term "offshoring" has been applied to the more recent trend of professional, technical, and service jobs moving overseas. While there is disagreement about how serious a problem offshoring is — and whether different levels of government should take action against it — the arguments offered by both sides in this debate converge at one point: If we want to keep good jobs here in the United States, we must help make incumbent workers and their workplaces more competitive.

Those who view offshoring with alarm often make the point that it promotes economic inequality by skewing job creation in two directions at once: at one extreme, towards the highest-skilled and best-paying managerial and professional jobs; and, on the other extreme, towards unskilled and semi-skilled work that offers low pay, few if any benefits, and little or no job security.[4] Some displaced workers are obliged to take lower-paying jobs outside their current fields, or accept lower pay, fewer benefits, and less security for the same work.[5]

"In just a few years, the large baby boom generation will be retiring in numbers…"

Meanwhile, those who are not alarmed about offshoring see it as part of an expansion of international trade that also creates increased demand for the expert of American products and services. According to this analysis, expanded trade ultimately generates more jobs here in the U.S.[6] But economists who study the export sector often point out that businesses that export generally require employees here in the U.S. with greater education and skills than those who produce for the domestic market.[7]

Whichever view one espouses – and many accept elements of both viewpoints – they both point to one common conclusion: In order to prepare as many Americans as possible for whatever new high-skill, high-wage jobs may result from expanded trade – and to prepare even more workers for expanded international competition for the jobs they hold now – we need to offer more education, training, and skill development for the entire workforce, including incumbent workers, new workers, and unemployed workers.

Demography:

The difficulties we face from globalization and the introduction of new technologies are compounded by the impending impact of demographic forces that will soon push in upon our workforce and economy. In just a few years the large baby-boom generation will be retiring in numbers. The U.S. workforce will continue to grow, but at a considerably slower rate. From 1950 to 2000 our labor force grew by 126 percent, but between 2000 and 2050 growth is projected to slow to only 36 percent. Some analysts predict that these increases in the size of the labor force will be too small to meet the future needs of the U.S. economy.

The Employment Policy Foundation projects that by 2030 available jobs could outnumber workers by as many as 35 million.[8] An important study published last year by the Aspen Institute[9] notes that over the next two decades our prime working age population will grow by only 3 percent. The Aspen study's authors calculate that the 50 percent increase in inflation-adjusted per capita income over the period 1980-2000 was made possible by growth in the U.S. labor force of almost 40 percent. Most of this growth occurred in the prime workforce, aged 25-54, and was accompanied by significant increases in this group's educational attainments. But, as the U.S. Chamber of Commerce notes: "Over the next fifteen years, 40 million workers are expected to retire, whereas the growth in the number of workers between the ages of 25 and 54 is expected to be flat over the same period."

"Compared with France, Germany and the UK, the United States has the highest proportion of skilled and educated workers. But it also has the second highest proportion of low-skilled workers, and a thinning band of workers in the middle range of the skills ladder…"

Some sectors will face greater hiring challenges because they are expected to grow faster than average, and also have a higher than average proportion of employees who are 55 and over. These occupations include bus drivers (45 percent are 55 and older), loan counselors (32 percent), environmental scientists and geoscientists (28 percent), network systems and data communications analysts (27 percent), and special education teachers (24 percent).[10]

Our demographic difficulties become even more formidable when the increasing need for education and skills in the workforce of the future is taken into consideration. The Aspen Institute study argues that the significant slow-down that is expected in the growth of our labor force will be accompanied by a parallel slow-down in the increase in its educational attainments. Immigrants, who traditionally have lower educational levels, will frequently replace native-born workers. Over 50 percent of the growth in the U.S. labor force between 2000 and 2003 was due to foreign immigration, and immigration will probably account for a third or more of our labor force growth in the next 20 years.[11]

The Low Skills Trap

Meanwhile, there is also the danger that the economy will adjust to the lack of skilled workers by reducing the number of skilled jobs available.

Study after study documents America's skills needs. According to the American Management Association (AMA), about 60 percent of employers give job applicants some type of entry test, and 36 percent are found deficient in basic reading and math. Skills deficiencies permeate management itself, where, the AMA reports, weaknesses in conceptual skills, communication and problem-solving are widespread.

Table 1 shows that, when compared with France, Germany and the United Kingdom, the United States has the highest proportion of skilled and educated workers. But it also has the second highest proportion of low-skilled workers, and a thinning band of workers in the middle range of the skills ladder. To maximize our competitive capabilities we will now have to reach down into sectors of the labor force where skills are relatively weak, and help those stranded there move up to higher levels.

"An economy that has large numbers of workers with low skills, and that faces demographic trends that are reinforcing this distribution, can too easily fall into what some economists call a "low skills equilibrium…"

Table 1 Labor force skills, total economy, 1999

Percentage of the Workforce with	Qualifications at levels:			Relative Skills:
	Higher	Intermediate	Low	UK=100
US	27.7	18.6	53.7	100.5
France	16.4	51.2	32.4	105.5
Germany	15.0	65.0	20.0	105.3
UK	15.4	27.7	56.9	100

Source: O'Mahony and De Boer (2002) Britain's relative productivity performance. Reprinted from The Government's Skills Strategy White Paper.

This table also points up serious deficiencies in foundational skills in our workforce: a large proportion of adult Americans, some 90 million people, has low levels of literacy. As might be expected, testing shows that this group is "apt to experience considerable difficulty in performing tasks that required them to integrate or synthesize information from complex or lengthy texts or to perform quantitative tasks that involved more than two or more sequential operations in which the individual had to set up the problem."[12]

Many blue-collar workers in our goods producing industries have very limited basic skills. A review of the National Adult Literacy Survey led Professor Andrew Sum to conclude, "Given that 60 percent performed in Level 1 or 2 on the prose and document scales, further investments in the literacy skills of our frontline workers may help to improve our productivity and future economic competitiveness."

In some cases, lack of English proficiency can be a major impediment. Language difficulties are not limited to low-income workers -- even at Boeing's advanced manufacturing plant in Washington State, English as a second language accounts for a major portion of the adult education classes the company offers.

An economy that has large numbers of workers with low skills, and that faces demographic trends that are reinforcing this distribution, can too easily fall into what some economists call a "low skills equilibrium."[13] This comes about when employers anticipate that they will only find poorly skilled workers in the job market, and therefore shape their business strategies around the use of such labor.

When many businesses adopt this approach a vicious cycle can begin: neither employers nor workers themselves have much incentive to invest in improving skills. The high turnover that is characteristic among low-skilled workers gives employers little incentive to invest in training, making workers themselves assume greater responsibility for their own development. But these workers see that the only available jobs are low-paying, and therefore have little incentive of their own to invest in training.

"If the economy drifts into a 'low skills equilibrium,' the nation's living standards, social insurance systems, manufacturing base, and national security will all suffer…"

More Cause for Concern

If the economy drifts into a "low skills equilibrium," the nation's living standards, social insurance systems, manufacturing base, and national security will all suffer.

Living Standards: The growth and quality of our labor force, together with the pace of innovation, determine our long-term rate of economic growth and our standard of living. In time – if no effective steps are taken – skills deficits will be a drag on our productivity levels, competitiveness and standard of living. Among other things, this will make it harder for us to afford decent retirements, medical care and education for our citizens, or to provide properly for our national security.

Social Insurance: The effects on our retirement system alone can be quite significant. When Social Security began there were more than 40 workers paying into the system for each retiree. In the 1950s the number dropped to 15 workers per retiree. Now there are only three workers to support each retiree, and within a just few years we will be down to two. Only if we have a strong economy with well-paying jobs and high productivity can we hope to deal with this predicament.

Manufacturing and Innovation: Another consequence of a lack of adequate skills is that we will find it more difficult to sustain a strong manufacturing base for our economy. This can in time have repercussions in many spheres – for example, on our national innovation system. Manufacturing companies perform and fund almost two thirds of research and development (R&D) activities in the United States. This R&D produces productivity gains that are higher than those of other economic sectors, and it also benefits other non-manufacturing firms. Over the past 50 years such innovation has been the most important source of U.S. economic growth[14], as technological advances are incorporated into the workplace in new products and production processes. The skills of a wide range of employees – those involved in product design, development, production and marketing – are honed in bringing these advanced products to market.

If manufacturing and consequently R&D decline or move overseas, our economic growth will therefore suffer, and the skill levels of workers once employed in many related fields will atrophy. Employers will then be forced to tailor their businesses to outmoded or rarely practiced skills, and our economy will decline further.

"Discussion of our national security needs too often focuses on products and hardware, and overlooks workforce skills. The latter can be more important…"

National Security: Finally, indifference to the skills crisis can create significant problems for our national security. House Armed Services Chairman Duncan Hunter (R-CA) argues that if we become too careless about maintaining important manufacturing and technological capabilities within our own borders, these may not be there when we need them. Discussion of our national security needs too often focuses on products and hardware, and overlooks workforce skills. The latter can be more important.

Software code development by some offshore providers has already stirred security concerns. The inclusion of malicious code, so-called logic bombs, sniffers or backdoors, coding mistakes and poor coding practices all make software users vulnerable to our adversaries. Bill Neugent, chief engineer for cyber security at MITRE, a non-profit research and engineering corporation, says "It's an issue that worries the big vendors, companies like Microsoft, IBM and Sun, because they all have some of their development done in places like China, and China has written the most about how to attack the U.S." [15]

Another sector with considerable importance to our national security is the tool making industry. According to the National Association of Manufacturers, over 30 percent of our tool and die-making industry has moved off-shore in recent years. If American tool making continues to wither away we not only lose the jobs involved in current production, we also will lose our tool-making capacity -- both the machinery and the skills this industry requires. Both equipment and skills in this sector are generally what is called "dual-use": they are applied both in civilian and military capacities. Custom-designed molds, jigs, gauges and other devices are not only used to manufacture consumer products, but also to make precision-guided ordinance, unmanned drones, components of stealth aircraft, body armor for soldiers, and other assets that have made

"Our living standards. Our manufacturing base. Our Social Security. Our National Security. All are at stake.

our military so effective. The implications of losing these productive capabilities -- or seeing them acquired by others -- have not adequately been faced.

Our living standards. Our manufacturing base. Our Social Security. Our National Security. All are at stake.

For these reasons and others as well, Americans -- not just those who need jobs, but ***all*** Americans -- should want to improve the skills and education of our workforce.

III. The Growing Need for Skilled Workers

"The trend in the labor market has been a demand for constantly rising skills…"

The case for improving and expanding skill development programs is based on hope as well as fear. Although the economy has been shedding jobs in some sectors, it is also generating demand for highly skilled employees in other sectors. And, in the years to come, the need for highly skilled workers will almost certainly increase.

Despite the recent economic slowdown, American employers reported difficulties in hiring certain categories of workers. In one of many such reports, the U.S. Chamber of Commerce found that over half of the companies it surveyed in May of 2003 had problems in filling many job openings because the skills of applicants were not adequate to the technological advances in the workplace. Only 40 percent of the employers interviewed reported that employees' skills were up to job requirements. Even if these claims are discounted somewhat for the possibility that some employers are unable to fill skilled positions because they are not offering sufficiently high wages, it is evident that the trend in the labor market has been a demand for constantly rising skills.[16]

Health Care

Even before the recession our health care industry was struggling to overcome a significant need for qualified nurses and paraprofessionals. According to a report by an Experts' Roundtable convened by the Joint Commission on the Accreditation of Healthcare Organizations, more than 128,000 nursing positions remain unfilled, with harmful effects on the quality of patient care. The U.S. nursing shortfall is expected to worsen over the next 20 years, as the general population ages while the current nursing population (average age of 45) retires, and fewer nurses come through the training pipeline. By 2012, the Bureau of Labor Statistics projects an additional 623,000 jobs for registered nurses.

In other health care fields, pharmacists, x-ray technicians and physical therapists are in short supply. Foreign doctors, nurses, and skilled specialists have been avidly recruited by the American health care

"Manufacturing is often considered a sector in decline, yet it offers some little-noticed opportunities…"

industry to fill some of these positions, but since 9/11 immigration has become more difficult, and many of these jobs go unfilled.

Information Technology

Even in the slimmed-down information technology industry, fields such as cyber-security, wireless, and project management are experiencing skills shortages. Shortages are often compounded at the intersection of two industries. For example, health care firms have special difficulties finding people who have both some medical knowledge and IT skills.

Manufacturing

Manufacturing is often considered a sector in decline, yet it offers some little-noticed opportunities. Workers in this sector are older than those in most others, and retirements are high. The National Association of Manufacturers contends that, although manufacturing now offers opportunities for many skilled employees, and working conditions in factories have improved greatly, images of grimy, noisy assembly lines still linger, and deter many young people from entering this sector. U.S. manufacturing output is actually strong, despite the decline in many low-skilled manufacturing jobs. Workers with math, science and technical skills can find good employment if they are not deterred by outdated perceptions.

Construction

The construction industry faces needs not unlike those in manufacturing: The building industry has undergone its own technological transformation, and there is a large unmet demand for skilled workers. Over the next decade alone, the National Electrical Contractors Association and International Brotherhood of Electrical Workers estimate they will need to train more than 100,000 additional electrical and IT system installers to meet the wiring and cabling needs of business and industry. The International Masonry Institute, a partnership between building contractors and the Bricklayers Union, estimates the need for over a hundred thousand skilled masons. These construction jobs often require a period of on-the-job training that can deter new entrants. Our construction unions and contractors are now campaigning to recruit military veterans to come into construction work.

"…the jobs that will pay well in the future will be ones that are hard to reduce to a recipe. These attractive jobs … require flexibility, creativity, and lifelong learning…"

Business Week
"The Future of Work"
March 22, 2004

Jobs with a Future

Other examples of areas that promise employment to moderately skilled workers can readily be found: the U.S. Office of Employment Projections in the Bureau of Labor Statistics reports that the Top 10 future labor shortages, by occupation, will include special education teachers, dental hygienists, carpenters, electricians, plumbers, pipe fitters, heating and air-conditioning workers.

All in all, at a time when certain jobs are being lost to "offshoring" and new technologies, the jobs with the best chance of remaining in the United States and offering opportunities for upward mobility are those that cannot be replaced by even the smartest machines or the most skilled workers thousands of miles away. As ***Business Week*** concludes in a special report on "The Future of Work" in its March 22, 2004, issue:

> "The key factor is whether a job can be 'routinized' or broken down into repeatable steps that vary little from day to day. Such a job is easier to replace with a clever piece of software or to hand over to a lower-paid worker outside the U.S. By comparison, the jobs that will pay well in the future will be ones that are hard to reduce to a recipe. These attractive jobs … require flexibility, creativity, and lifelong learning."

To help Americans get, keep, and advance in these jobs, we need to improve and expand our skills development programs.

IV. Existing Efforts: The Need for Improvement

"Even in good economic times access to training remains concentrated on the already trained, highly qualified or skilled employees…"

The business community and the federal government are both making important efforts in lifelong learning, job training and retraining. But many of these efforts are failing to serve, attract, and improve the skills of substantial numbers of workers who would benefit from skills development programs better tailored to their needs. And the efforts by business, labor, and educational institutions suffer from a lack of coordination that the federal government is best able to provide.

Efforts by the Business Community: Worthwhile But Falling Short

America's employers are by far the largest contributors to workforce training and professional development, spending as much as $60 billion annually. But given the changes in the character of our jobs and workforce, these efforts are likely to fall considerably short of the nation's needs—and business's own needs as well.

We are now emerging from a three-year economic slump, that has resulted in even fewer resources for skills development. Employee training and development are often the first costs to be cut in a downturn – a finding most recently re-confirmed in a study by Accenture, a New York consulting firm.[17]

Yet even in good economic times access to training remains concentrated on the already trained, highly qualified or skilled employees. According to the U.S. Department of Labor, 70 percent of training dollars spent by companies is targeted to managers, professionals, and technical employees. Nearly 90 percent of those with at least a bachelor's degree receive formal, employer-provided training, while only 60 percent of those who have a high-school education or less receive some training. [18]

Studies consistently show that small firms train less often and less intensively than large employers. Yet over half the U.S. workforce is employed in small companies with fewer than 500 employees.[19] What is more, 80 percent of new jobs are created by small businesses. One reason many firms – especially smaller firms -- are reluctant to provide training for employees is because they fear their workers will take their skills to competitors. Another disincentive involves the way training cost is dealt with in a company's financial accounting. Unlike investment in physical plant and equipment, or research and development, company expenditures on employee education and training are neither separately accounted for, nor publicly reported. Stockholders and potential investors have no way of factoring a company's development of "human capital" into expectations about the firm's productivity, profitability, and employee retention.

"Company expenditures on employee education and training are neither separately accounted for, nor publicly reported…"

During the boom of the 1990s some employers met their skills needs through temporary use of non-citizens. But this provoked considerable opposition, and the numbers of visas for such workers were somewhat curtailed. Given the sensitivities post 9/11, the public response to offshoring, and a weak job recovery, this practice will remain highly controversial. Many skills needs here at home may have to be met from the domestic workforce, even though that may require effort.

The Federal Effort: A Lack of Coordination

At the federal level, the Workforce Investment Act (WIA) is the primary vehicle for funding workforce programs. Funding is provided to states and the states pass on the funding through formulas to localities for job search, employment counseling and information about access to training for laid-off and unemployed workers through the approximately 1,900 "one-stop career centers" established across the country since 1998.

But, according to a 2003 U.S. Chamber of Commerce report, only 41 percent of employers know about the government-funded one-stop career centers. Of those companies, only 19 percent actually use the government centers, mostly to post jobs and to recruit workers. Among firms with less than 25 employees, only 24 percent have heard of government training programs, while a mere 4.5 percent have ever used them. The lack of participation by employers stems in large part from the perception that workers from many current training programs are not adequately trained.[20]

Business, unions, and other training institutions do not "apply" for WIA funding, instead they must qualify to join a list of "eligible training providers." Income eligible adults who have qualified for an "individual training account" (ITA) may select an appropriate training provider from this list, after receiving assessment and employment counseling from a one-stop center case manager. Training institutions, particularly community colleges, are often unwilling to participate in WIA programs because they are unable to meet the heavy accountability requirements.

"Most states also tend to assist only large firms, and are so preoccupied with attracting new firms that they neglect to help already established local businesses remain competitive…"

Additionally, the WIA language does not encourage the use of the funds for incumbent worker training. The roundabout ways to achieve it are complex and not well-known by training vendors, workforce boards, or one-stop centers.

These problems have been acknowledged by the U.S. Department of Labor, which oversees the workforce program. Remedies to some of these obstacles have been proposed in the current reauthorization of WIA, but the legislation is currently stalled in Congress.

However, the decentralized nature of the WIA program, i.e., 50 state block grants, flowing funds to about 600 local workforce investment areas presents special challenges. Each workforce area is guided by a plan developed by a business-led workforce investment board (WIB) that decides what training will be pursued in that area. Potential participants are required to progress through a series of core and intensive services before qualifying for training. So this complicated, layered, and time-consuming approach to training is of limited value in on-time, on-demand environments that employers need to respond to fast-changing market needs.

Moreover, since fiscal year 2002, Workforce Investment Act funds for adult education and training have been cut by 5 percent, and dislocated worker funds by approximately 10 percent. State workforce funds have also been slashed, despite job losses, and efforts by some states to pioneer incumbent worker training projects that can prevent such lay-offs. Most states also tend to assist only large firms,[21] and are so preoccupied with attracting new firms that they neglect to help already established local businesses remain competitive.

The federal government also provides student financial aid, but working adults are often ineligible to receive government guaranteed loans because students must be enrolled at least half-time in a certificate or degree program. The same is true for tax credits for post-secondary education such as the Hope Scholarship Credit and the Lifetime Learning Tax Credit. Pell Grants are designed for less than half-time students, but are limited to those with "exceptional financial need" making most working adults ineligible for this type of assistance as well. In 2000, only 1 percent of Pell Grants went to less than half-time students.[22]

Other government programs such as the U.S. Department of Commerce's Manufacturing Extension Partnership, federal and state economic development programs, and education and technology programs at our National Labs serve particular populations. There is no coordination between these programs, and during these difficult budget times funding has been seriously curtailed. Yet many of these programs provide expertise in technology and workforce training that companies, particularly small companies, cannot readily find elsewhere.

"Waiting to train workers until they are unemployed is particularly inefficient, because training is most effective in a workplace context…"

A wide array of training and education providers – businesses, labor unions, community and technical colleges, community and faith-based organizations – is engaged in an assortment of workforce development activities. But despite all this, little consideration is given to coordination that can meet the needs of employers, workers and the public in developing the skills of incumbent workers. Waiting to train workers until they are unemployed is particularly inefficient, because training is most effective in a workplace context.

Disappointing Worker Response

Largely because the efforts by government and business fall short of meeting their needs, many workers are reluctant to pursue educational opportunities. In one lifelong learning demonstration project funded by the U.S. Department of Labor only 10 percent of those who expressed an interest in education and training actually enrolled in a program. The reasons are not surprising: high costs, lack of time, lack of good information about courses, uncertainty about the likely payoff, and lack of funding. It is notable that over 70 percent of students who did pursue additional training worked for employers who offered tuition reimbursement.[23] The reluctance of both workers and employers to assume the costs, risks and burdens of workforce development despite its clear benefits shows the need for public leadership in this field.

Interest is undoubtedly dampened by the many deficiencies of existing government-sponsored job training programs. They are, in the main, aimed at the poor, or others who face considerable obstacles to entry into the labor market, and offer little to employed workers whose jobs are at risk from globalization or technological change.

Even under the best circumstances, there is an understandable reluctance by many mature workers to "go back to school." In order to overcome this reluctance, employees, unions, government agencies, and committed co-workers all need to explain that workers will benefit from education and training with stronger job security, improved prospects for pay

"Education and training opportunities need to be more available and affordable, they must provide portable credentials, and companies need to make clear that workers will be rewarded for learning new skills…"

increases, and opportunities for upward mobility in their companies and industries or in new firms and fields. Most of all, these education and training opportunities need to be more available and affordable, they must provide portable credentials, and companies need to make clear that workers will be rewarded for learning new skills.

When it comes to meeting the skill development needs of working Americans, especially those whose jobs are in jeopardy, the nation can and must do better.

V. Skill Development: Building on the Best Efforts

"Many studies provide evidence that education and training yield tangible benefits for employers…"

Our country has the capacity to mount a large-scale campaign to improve the capabilities of our workforce. We should not underestimate our own labor market's competitive advantages, nor overlook the difficulties rivals may encounter, especially over time. Our people are willing to learn new technologies and try new methods. We have the facilities and the experienced personnel to undertake far more intensive adult education and re-training programs. Successful efforts have been made, and significant resources are in place. Better use of those resources and closer cooperation among the various providers can go a long way toward improving our capabilities.

Employers Benefit from Skill Development

Many studies provide evidence that education and training yield tangible benefits for employers. A review of U.S. workplace education programs by the Conference Board found that 98 percent of surveyed employers reported increases in employee skills and economic output. Other benefits identified in the report are: higher employee morale, improved capacity to deal with workplace change and to use new technology, better team performance, reduced time per task, lower error rates and waste, better health and safety, and improved retention of employees and customers.[24]

Education and training improve worker productivity, which in turn raises company profits. According to one study, increases in educational attainment accounted for 11 to 20 percent of growth in productivity.[25] Training has been shown to produce significant benefit to a firm's total shareholder return. Firms in the top quartile of average per employee expenditure on training have significantly higher profit margins, return on equity and stock performance.[26]

Employee development also helps employers retain valued workers. The more productive an employee, the higher the costs involved in recruiting, training or replacing her. According to Saratoga Institute data, the average cost of turnover is 1.5 times the annual salary of a replaced employee, or $55,977 per employee.[27]

"Business needs to think carefully about costs of shifting to foreign labor that may not always appear in accounting department estimates…"

Training should be recognized as an important element in overall business strategy, and there should be a clearer accounting of the sometimes hidden costs that inadequate skills levels inflict on the bottom line: low productivity, poor quality control, high staff turnover, and the inability of employees to perform multiple tasks or adapt to new procedures. In addition, business needs to think carefully about costs of shifting to foreign labor that may not always appear in accounting department estimates: damage to reputation, loss of intellectual property protection, diminished quality, inadequate customer service, and the loss of expertise and contacts that are important to future business research and development.

When these considerations are given their due, many employers should recognize that there can be benefits to making training more widely available – and not just to their elite workers. They may see the hard value to be gained by providing incentives for employees to participate in such programs. These can include granting time off for skills development, encouraging education and training that reaches beyond narrow or immediate business needs, and providing facilities at the workplace for training activities.

But competitive pressures, rapid turnover and the complexities of managing training programs can make it difficult for many employers – especially smaller employers – to take the major burden of workforce development upon themselves. The kinds of partnerships we envision, however, should make it worthwhile for them to do more.

Unions in Workforce Development: Success Stories

One institution whose role in workforce development is often underestimated is the American labor movement. From its beginnings, American labor has contributed in important ways to improving the skills of workers and the quality of what they produce. There are many unions and joint labor/business projects working to develop the skills and professional capacities of employees.

In 1998 the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) created the Working for America Institute to promote "high road partnerships." With regional coordinators and sector field specialists the Institute provides technical assistance and support to labor leaders, community groups, public officials and workforce and economic development practitioners.

“Despite sometimes adversarial relations, many unions and employers have been able to cooperate around the issue of education and training…”

The programs that make up the diverse array of union learning activities[28] are often tightly focused on particular niches in the labor market, and do not attract much attention – even from labor leaders themselves. But unions could build on their experience to become an important factor in re-tooling for the workforce of the future.

Despite sometimes adversarial relations, many unions and employers have been able to cooperate around the issue of education and training. Partnerships for learning often have been established through collective bargaining alone, without any outside involvement, and this should be encouraged.

The Building Trades: Partnerships some construction and craft unions established with employers in the 19th century still function well today. In these arrangements, union members set the skills standards for their trades, and provide employers with staff as it is needed. In many cases, joint training programs are created, to which both workers and employers contribute.

As technologies in the construction industry have become more complex and employers have needed staff familiar with occupational safety, health and environmental rules, the value of these partnerships has proved itself again.

Apprenticeship programs are the oldest and most successful cooperative labor-management training model. One of the largest is the National Joint Apprenticeship Training Committee (NJTAC), a joint program between the National Electrical Contractors Association and the International Brotherhood of Electrical Workers. It is underwritten completely by private funds, and has trained over 300,000 apprentices to journeyman status. Because the craft has been dramatically altered by technology, NJATC works closely with scores of manufacturers, and others to track innovations and applications that affect individuals who do electrical work. As a result, electrical workers have a means of upgrading their skills in response to rapidly changing technical needs. NJATC has developed uniform standards that are adopted and used nationwide to select and train thousands of qualified men and women.[29]

Though the building trades are perhaps best known for their apprenticeship programs, many have branched out to provide other services to their industries. For example, the International Masonry Institute, a partnership between the masonry industry and its unions, *"Even at times of bitter conflict between the unions and management, participation by both sides in these partnerships for education and training has been steady..."*

not only trains workers at job sites in increasingly sophisticated construction techniques, it is also involved in a wide array of product development and market promotion activities.

Manufacturing: A more recent trend in business/labor partnerships has come about in sectors of the economy where both employers and employees have found their backs against the wall. Employers have sometimes found that unions can be helpful in introducing such techniques as statistical process control, teamwork, total quality management, just-in-time production, and other innovations. In exchange for union cooperation in restructuring work, some employers have agreed to joint training programs that provide unions a significant role in developing business strategies.[30]

Some of the earliest partnerships developed in an industry hard hit by foreign competition: automobiles. In 1982, for example, the United Auto Workers negotiated an extensive joint "Employee Development and Training Program" with Ford.

Telecommunications: Another set of effective labor/management partnerships arose out of changes that swept the U.S. telecommunications industry in the 1980s. Deregulation broke up the nationwide Bell Telephone system at the same time that new technologies were completely transforming the telephone medium. Two unions that had been strong in the Bell system realized that their members needed new skills and a new spirit to be able to compete in a new telecommunications era.

In 1986 the Communications Workers of America and the International Brotherhood of Electrical Workers joined with AT&T to form a jointly owned nonprofit corporation, the Alliance for Employee Growth and Development. Local labor-management committees assess the needs of employees, and help them develop educational strategies using educational resources either within the company, or outside.[31] Similar partnerships have been set up with other companies that provide telephone services or manufacture equipment.

Since these partnerships were created the telecommunications industry has continued to be roiled by technological change and corporate turmoil. Nevertheless, even at times of bitter conflict between the unions and management, participation by both sides in these partnerships for education and training has been steady.

"Harley-Davidson is perhaps the best-known corporate turn-around that unions and management working in partnership have produced…"

Regional Partnerships: Partnerships are not limited to a one union/one employer model. The Wisconsin Regional Training Partnership (WRTP) involves a number of unions and employers. It receives funding from a variety of public and private sources and involves community groups – making it a template for the kind of bottom-up partnership our Task Force proposes.

The WRTP has grown to include 125 firms in multiple industries and most major affiliates of the AFL-CIO. Membership began with established manufacturers like Harley Davidson and John Deere and their suppliers, but has expanded into construction, health care, technology, and other sectors of the regional economy. WRTP works with government, education, employers and unions in the recruitment, development, and advancement of a qualified workforce. These programs have also helped low-income, unemployed, and young workers. The WRTP model has been adopted in other communities struggling to retain and grow targeted industries.

Harley-Davidson is perhaps the best-known corporate turn-around that unions and management working in partnership have produced. By 1980, when the company was put up for sale, it was losing market share to Honda, and deep in the red. The only prospective buyers were a group of executives from within the company itself. After laying off 40 percent of its workforce, Harley embarked on a new participatory planning process to develop its production strategy. Harley and its unions, the International Association of Machinists and Aerospace Workers (IAM) and the Paper, Allied-Industrial, Chemical, and Energy Workers International Union (PACE) eventually worked out a new system for structuring the entire company.

Between 1986, when partnership discussions began, and 1999, Harley's share of the U.S. motorcycle market increased from 19.4 to 49.5 percent. The number of units the company shipped annually increased from 36,700 to 177,187; revenues increased from $295 million to $2,453 million; and operating profits increased from $7.3 million to $415.9 million.[32]

Public Sector Partnerships: Successful workforce development partnerships have also been established in the public sector. New York has one of the largest school systems in the U.S., and the great demand for teachers in New York City requires it to hire large numbers of uncertified teachers. The City Board of Education and the United

"Only when employers and employees are engaged in the design of a program and are confident that there will be genuine value to their participation will they join to move it forward…"

Federation of Teachers (UFT), an affiliate of the American Federation of Teachers (AFT), have partnered to work with these new teachers to help them acquire appropriate training and accreditation. A Mentor Teacher Internship Program helps every new teaching intern to develop a strategy for acquiring the college credits that can lead to full professional status. New York City also has a Teacher Centers Consortium, a 17-year partnership between the UFT, the New York City public schools and the State Education Department that seeks to rejuvenate low-performing public schools.

Why Bottom-Up Partnerships Succeed

The constant turnover and flux of the new economy have understandably increased workers' concerns about their employer's commitment to their job security. The result can be a greater divergence between what the company sees as its education and training needs and what the employee sees as the skills necessary to increase his or her overall employability. In order for workers to commit time and resources to ongoing education and training they must be able to acquire broadly applicable and transferable work skills. Employers, on the other hand, need specific skills that are relevant to immediate business opportunities, and are hesitant about supporting training that does not produce immediate and quantifiable value.

These two distinct and sometimes divergent interests often create difficulties for partnerships in workforce development. Only when both employers and employees are engaged in the design of a program and are confident that there will be genuine value to their participation will they join to move it forward.[33] Only when both sides have the capacity to influence the ongoing operation of the program can it be sustained as conditions change.

Employers know best what their skills needs will be, and what the competition is. Unions and other employee representatives are in the best position to persuade employees to acknowledge skills and educational shortcomings that many might otherwise hesitate to reveal to an employer. Employee representatives are often more capable of convincing workers who are fearful or cynical about education to open up to it. Employee representatives can also provide a moral authority, grounded on the expressed interests of workers themselves, that supports discipline, testing standards and the certification of qualifications. Many employees may resent or contest these if employers impose them unilaterally.

"One way to deal with the sometimes bewildering array of private, federal, state and local resources for education and training services is to empower the end users so they can choose and act for themselves…"

A number of studies provide evidence that partnerships such as those we describe bring improvements in employee morale and company performance. In a comparison of joint labor/management programs against company-managed training programs, ASTD (formerly the American Society for Training and Development) found that the joint programs resulted in greater improvements in work quality, labor-management relations, advancement opportunities and employee retention. ASTD's 2002 State of the Industry Report suggests that as many as 30 percent of U.S. employers use unions, trade associations, or professional associations to provide training to their employees. [34]

Educators bring partnerships valuable knowledge of pedagogical methods, and of training resources that may be available in the wider community. Many community colleges provide education and training to adult workers and have close ties to local employers. However, they face increasing competition from for-profit education and training service providers that connect learners to learning opportunities delivered in the mode, time, and place that are most convenient to the learner. If community colleges become more clearly engaged with employers and workers they can help develop modular courses and certification programs that have the greatest appeal to adult learners.

Another advantage of bottom-up partnerships is their ability to tap into diverse resources. Few unions now have the capability to finance or manage large training operations by themselves. The costs of serious training to any single employer can be high, the payoff may be a long time coming, and there is always the risk that trained employees will go elsewhere, even to competitors. Bottom-up partnerships can leverage the full array of federal, state and local workforce development as well as economic development funding. One way to deal with the sometimes bewildering array of private, federal, state and local resources for education and training services is to empower the end users so they can choose and act for themselves. This is likely to be more fruitful than grand attempts at re-organizing or streamlining these programs from above. Although the latter may have great rhetorical appeal, it has many practical drawbacks.

When participants from different groups work cooperatively, the costs to each can be held down, and the payoff each receives can make those

"…each individual player stands to lose unless all join in…"

costs worthwhile. In many ways, partnerships for workforce development provide examples of the situation in which each individual player stands to lose unless all join in, because only the multiplier of cooperative effort can produce a total return that is greater than the sum of the separate costs to individual participants.

The partnerships we envision, however, face two difficult hurdles: the need for outside funding, and the difficulties of building leadership capacity to assure effective employee involvement. In this, and other matters, the British experience with learning representatives may hold some useful lessons for us.

VI. THE BRITISH EXPERIENCE

"High levels of pay and security which we aspire to for as many people as possible depend on high productivity…"

John Monks, General Secretary, British Trades Union Congress

A vigorous and imaginative national campaign for workforce development has recently been launched in the United Kingdom. Members of our Task Force and staff visited England several times to study work underway there, and invited British authorities here for discussions.[35]

The British initiative began after bruising labor conflicts in the 1980s that pitted Margaret Thatcher's Conservative Government against a labor movement influenced by the militant miners' leader, Arthur Scargill. When the dust began to settle elements on both sides realized that preoccupation with conflict had allowed the British economy to fall behind the U.S. and much of Europe in productivity and technical proficiency. Britain's ill-prepared workforce was driving investors and employers to other countries of the European Union and beyond.

Partnerships for learning with government, employers, educators, and others became a priority for the British Trades Union Congress. In the words of John Monks, then Secretary General of the TUC, this new strategy was

"…*founded on the view that success in the future depends on adaptable organizations producing high-quality services and products, with a high-skill, well-motivated work force. It recognizes that high levels of pay and security which we aspire to for as many people as possible depend on high productivity.*"[36]

Labor unions in the U.K. undertook a growing number of projects to enable unions to better serve the learning needs of workers. A TUC Learning Services Task Group was formed, and one of the central recommendations of its 1988 report proposed the creation of a national network of union 'learning representatives' to help promote, deliver and monitor learning opportunities to union members. Pilot projects were so successful that union learning representatives were given statutory standing in the Employment Bill of 2002.

The U.K.'s learning reps have already had some success in drawing adults who have not taken part in any education or training since they left school back into the educational process. They have also attracted a range of people into involvement with workplace issues who previously proved difficult to engage. For example, one survey found that nearly two in three (59 percent) of the new learning reps are women, and more than six per cent are from ethnic minorities – a showing that has pleased and impressed both unions and managers.

"The central role that has been played by non-government actors appears to be an important source of the vitality this initiative has so far shown…"

The training assistance most frequently sought from these new programs by employees has been help with basic IT skills (84 percent), closely followed by basic literacy and numeracy (64 percent) and other work-related skills (58 percent). One in five reported a need for training in English as a second language.

Unions are encouraged to include learning in collective bargaining. The TUC's Bargaining for Skills initiative seeks to improve understanding of the necessity and benefits of skills improvement among union leaders and rank-and-file members, and to persuade employers to provide greater resources and access to training through the collective bargaining process.

Many unions, on their own or in cooperation with management, have developed courses, provided in-plant facilities, and set aside time for workers to pursue study and training.[37] In January of 2001 the TUC created a Partnership Institute to train both union leaders and managers to work together to strengthen the British economy. Its aim is

"… *to create a sea change in British workplaces by establishing partnership as the modern and successful approach to industrial relations.*"[38]

While much of the impetus for the British skills campaign arose directly out of labor/management relations, the government has come forward with a number of measures that provide public support. Yet the central role that has been played by non-government actors appears to be an important source of the vitality this initiative has so far shown.

The partnership and learning strategy has had a strong effect on British labor. As William Coupar, Chairman of the British Department for Trade and Industry's Partnership Fund Assessment Panel, explains it:

"Partnership has forced unions to get closer to the challenges which face their members at work. What is happening in the market place? Are the jobs vulnerable to being undercut in the global economy? What are the next big challenges we face and how

will the business restructure? Can we save existing plants? If not what do we protect? How do we ensure we have the skill base to compete in five or ten years' time? Have we got the analytical skills and workforce engagement to ensure that we stay at the leading edge in sectors like aeronautics and electronics…? A vocabulary of secondary picketing and coordinated actions sounds macho, but offers little to those grappling with the restructuring of the global economy, job transfers to China or India, or pension meltdown."

"All partners in the British experiment have come to appreciate that training and development is a shared responsibility…"

The new partnership and learning approach has won assent from many in British industry. Digby Jones, Director General of the Confederation of British Industry, serves on the Government's Learning and Skills Council and cooperates with the unions in many projects. All partners in the British experiment have come to appreciate that "training and development is a shared responsibility."[39]

VII. A Partnership and Learning Agenda for the U.S.

"The recruitment and training of effective participants in learning partnerships will be critical..."

Throughout this report we have noted a number of recommendations for reconstructing and expanding America's workforce development effort. These are summarized below. It would be foolish to attempt to draft a blueprint for any learning partnership: such specifics need to be worked out through dialogue among participants about particular needs and opportunities. But there are some core elements that clearly call for attention and action.

1) Bottom-up Partnerships:

Training and education for the new economy must be tailored to the special needs of employers, communities, and individual members of the workforce. For all the participants in a skills and learning program to perform well, each must have a role in the program's design and implementation. A successful initiative must be built from the bottom up.

Employers know the market, the competition, and something about the skills that are in demand. Employees will be motivated to learn when they can see that learning programs are designed for their benefit -- not just to meet others needs. Educators know what educational resources may be available, or how to design those that may be needed. State and local governments have some financial resources, know about experiences in other communities, and can facilitate cooperation among the other parties. The Federal government must provide resources, data and expertise.

The recruitment and training of effective participants in learning partnerships will be critical. This must be done in a pro-active way, without waiting for prospective participants to step forward. Workforce Investment Boards have been established under the federal Workforce Investment Act, and they should now be provided the resources they need to recruit prospective partners in business, labor and in communities, to train them and facilitate their work. These partnerships could also serve as labor market intermediaries, providing consultation and services to firms and employees in periods of adjustment.

"The Workforce Investment Act should be amended to provide significant resources and program support for education and training for incumbent workers…"

2) Learning Representatives:

Employee learning representatives -- people drawn from the shop or office floor -- should be chosen and trained to counsel peers on their learning needs, and on effective strategies for meeting them. These learning representatives should be certified and be allowed some paid time to carry out their work, either by the employer or through funding from government grants. Learning representatives can function as labor market facilitators directly at places of work, and can serve as an effective means of increasing incumbent worker skills.

3) Learning Incentives:

We should create tax incentives for employers, unions and individuals so as to leverage additional private resources for training and professional development. Tax credits for companies that spend on training in accredited programs above an average level, encouragement of joint training programs negotiated by unions and employers, and portable individual training accounts are among some of the proposals that should be considered. Another measure (that would have the added benefit of not adding to the deficit) would be to reform accounting rules for publicly-traded companies so that skills expenditures are reported like other types of 'real' investment.

4) Incumbent Workers:

The Workforce Investment Act should be amended to provide significant resources and program support for education and training for incumbent workers. (Our workforce system now makes incumbent workers an afterthought, and concentrates on those who have lost or who have difficulty getting jobs.)

5) Engage Educators in the Workplace:

Educators at four-year and at community colleges should join in partnerships with employers, employees and government officials to design training and education programs that working people can pursue at their workplaces or in their homes. These programs should go as far as possible to meet the needs of employers and employees as they see them, without abandoning standards that verify the accomplishments of graduates and make them more employable. Educators should also seek more ways of providing degree credits or other certification for workers who successfully complete training programs.

6) Enlist Technology Experts:

"Current funding of worker training and education is inadequate…"

Manufacturing Extension Centers, National Laboratories and other taxpayer- funded institutions that are storehouses of technological expertise should be provided resources to assist learning partnerships by helping disseminate knowledge of new technologies among front-line workers.

7) Appropriate Adequate Funds:

Current funding of worker training and education is inadequate. Additional resources are not only needed for training, but also for the recruitment of participants in learning partnerships, for facilitating the sometimes complex negotiations required to establish and sustain these partnerships, and for training those who must manage these partnerships. We recommend a federal appropriation for incumbent worker training under the Workforce Investment Act that will rise to $3 billion a year in three years.

VIII. The Imperatives of Culture Change

"Individuals must take a major responsibility for equipping themselves for the new economy. Learning must be seen as an organic part of working life…"

The effort we propose cannot be achieved simply by spending money, passing laws, establishing programs or inserting clauses into collective bargaining contracts. It will require some deep changes in the way we understand our economic future and the ways we relate to one another in our workplaces.

Participants in workplace learning both in the U.S. and in Britain often told us that their greatest difficulties came from the reluctance or inability of one or another necessary partner to work with others in unaccustomed ways. Fortunately, there is reason to believe that companies, individual workers, their unions, government at every level, and educational institutions of all kinds all can change the ways that they manage, work, teach, learn, and relate to each other.

Americans have been surprisingly accepting of the transformation that is sweeping through our economy. But the stresses of change are growing. Individuals must take a major responsibility for equipping themselves for the new economy. Learning must be seen as an organic part of working life. On current evidence, these attitudes are not yet well established, largely because the opportunities for lifelong learning are not yet sufficiently available, affordable, and visible.

Employers also must play a central role. Many employers apparently see training and education as someone else's responsibility. They are reluctant to commit staff to serve effectively on Workforce Investment Boards, and complain that most training activity conducted with government support is shaped by a "social work mentality."[40]

When they do commit their own resources to training it is usually targeted on narrow and immediate business needs. Employers also fret that money they put into training may too readily enable its beneficiaries to jump ship to another employer. Employers must be persuaded to take leadership in a national training effort, and more incentives must be provided to encourage them in this. Without their involvement, little can be accomplished.

Although many unions are involved in training and education, they need to regard this service as something central to their purpose. Many unions

"Government support will be needed to establish and maintain learning partnerships… Determined citizens are our best hope for meeting the rising challenges of the global economy…"

have yet to adequately connect education and training of their members to organizing and collective bargaining. There is considerable evidence that union members and prospective recruits look on opportunities for training and professional development as an important reason for joining unions[4142] Unions should continue the successful practice of establishing learning partnerships directly, through collective bargaining with employers – something that many employers have welcomed.

The upsurge in the number and size of professional and technical associations whose reason for being lies in training and credentialing points up the need for this sort of service. Unions can play a key role in persuading employees to take training seriously, and in bringing together different employers, educators and community groups in learning partnerships.

Government support will be needed to establish and maintain learning partnerships at regional, local and industry levels. State governments should continue their central role in facilitating training and education for incumbent workers, and the Federal Government should substantially increase its funding of partnership, training, the introduction of improved technologies and information sharing.

The national skills and learning effort we envision will require a spirit of cooperation that departs both from a simplistic laissez faire ideology and from the paternalistic spirit that has sometimes taken hold in the welfare state. Determined citizens, working together and on their own, both through government and outside of it, are our best hope for meeting the rising challenges of the global economy.

ENDNOTES

[1] Keep, E., Mayhew, K 1999. 'The Assessment: Knowledge, Skills and Competitiveness' *Oxford Review of Economic Policy* 15 (1) pp. 1-15

[2] Erica L. Groshen and Simon Potter. 2003. "Has Structural Change Contributed to a Jobless Recovery?" *Current Issues in Economics and Finance.* Federal Reserve Bank of New York . Vol 9, No 8. August. Available electronically at: http://www.ny.frb.org/research/current_issues/ci9-8.html

[3] September 2003 | EPI Briefing Paper #142 http://www.epinet.org/content.cfm/briefingpapers_bp142

[4] The Economic Policy Institute finds that over the past two years, "expanding industries paid $14.65 per hour, while contracting industries paid $16.92," suggesting that high-paying jobs are being replaced by lower-paying jobs. There has also been growth both in part-time work and in the contingent workforce -- workers who receive fewer benefits and less education and training than their full-time counterparts. A U.S. Conference of Mayors report states that new jobs created during the 2004-05 period are forecast to pay an average of $35,855, considerably lower than the $43,629 average pay of jobs lost between 2001-03.

[5] See Ashok Deo Bardhan and Cynthia Kroll. November 2003. "The New Wave of Outsourcing." *Fisher Center for Real Estate & Urban Economics.* University of California, Berkeley. *Fisher Center Research Reports:* Report #1103. Available electronically at: http://repositories.cdlib.org/iber/fcreue/reports/1103

[6]Today offshoring's proponents often cite research by the McKinsey Global Institute that contends that U.S.companies are saving some 58 cents on every dollar they spend for business services sent offshore. (The McKinsey Quarterly, Fall 2003). This money, it is argued, is then reinvested in our own economy, ultimately creating more jobs here. In addition, the new businesses that are being created by the process in places such as India, China and Russia themselves require computers and equipment, much of which comes from U.S. companies. The richer foreign consumers become, the argument goes, the more of their goods and services will be bought from the United States.

For example, according to one study by the Institute for International Economics, globalized production and international trade made information technology hardware some 10 to 30 percent less expensive for Americans than it otherwise would have been. This permitted us to adopt information technologies far more widely, which in turn fed a productivity boom that has added up to $230 billion to our country's GDP between 1995 to 2002. Catherine L. Mann. December 2003. "Globalization of IT Services and White Collar Jobs: The Next Wave of Productivity Growth." *International Economics Policy Briefs* No. PB03-11. Institute for International Economics.

[7] Edward Wolff, Skills and Changing Comparative Advantage, Feb. 2000.

[8]See EPF's Employment Forecast, October 2001 at http://www.epf.org/research/newsletters/2001/ef20011025.pdf

[9] The Aspen Institute, Domestic Strategy Group. 2002. "Grow Faster Together, Or Grow Slowly Apart: How Will America Work in the 21st Century?"

[10] Michael W. Horrigan. February 2004. "Employment Projections to 2012: Concepts and Context." *Monthly Labor Review.*

[11] Andrew Sum, Ishwar Khatiwada, Paul Harrington, Sheila Palma. 2003. "New Immigrants in the Labor Force and the Number of Employed New Immigrants in the U.S. from 2000 through 2003: Continued Growth Amidst Declining Employment Among the Native Born Population." Center for Labor Market Studies, Noertheastern University, Boston. Mass. Available electronically at: http://www.nupr.neu.edu/01-04/immigration_jan.pdf

[12] U.S. Department of Education, National Center for Educational Statistics. 1992. *Adult Literacy in America. The National Adult Literacy Survey.*

[13] Keep, E., Mayhew, K 1999. 'The Assessment: Knowledge, Skills and Competitiveness' *Oxford Review of Economic Policy* 15 (1) pp. 1-15

[14] Michael J. Boskin, Lawrence J. Lau. December 2000. "Generalized Solow-Neutral Technical Progress and Postwar Economic Growth." NBER Working Paper No. w8023.

[15] Erik Sherman "Going East" Internet Security Systems, November 2003, available electronically at: http://infosecuritymag.techtarget.com/ss/0,295796,sid6_iss205_art458,00.html

[16] See Michael W. Horrigan. February, 2004. "Employment Projections to 2012: Concepts and Context." *Monthly Labor Review*. Data show that "...since the late 1970s average premiums paid by the labor markets to those with higher levels of education have increased…(T)he growing distance, on average, between those with more education, compared with those with less…speak to a general preference on the part of employers to hire those with skills associated with higher levels of education." p.16.

[17] Accenture also found that a majority of companies do not even measure how this might hurt their bottom line. Forty percent of the companies surveyed do not regularly measure the impact of training against factors such as retention, employee satisfaction, innovation, productivity and quality. This is the case despite other evidence that workforce development does significantly add to shareholder returns. http://www.accenture.com/xdoc/en/services/finance/SHVeconomicdownturn.pdf http://www.accenture.com/xd/xd.asp?it=enweb&xd=ideas%5Coutlook%5C2.2003%5Chp.xml

[18] Harley Frazis, Maury Gittleman, Michael Horrigan, Mary Joyce. 1998. "Results from the 1995 Survey of Employer Provided Training." *Monthly Labor Review*, June, vol.121, no 6.

[19] See The International Foundation of Employees Benefit Plans. 2000. The Many Faces of Educational Benefits. Characteristics of and Opinions About Educational Benefit Programs. June. Available electronically at: http://www.ifebp.org/knowledge/resurvey.asp

[20] Mark C. Berger, John Barron, Dan A. Black. September 2001. "Value of Worker Training Programs to Small Business." Report prepared for the Small Business Administration. Available electronically at: http://www.sba.gov/advo/research/rs213tot.pdf

[21] National Governors Association Center for Best Practices. 1999. "A Comprehensive Look at State-Funded, Employer-Focused Training Programs." Available electronically at: http://www.nga.org/center/divisions/1,1188,C_ISSUE_BRIEF^D_681,00.html

[22] Brian Bosworth and Victoria Choitz. April 2002. "Held Back: How Student Aid Programs Fail Working Adults." FutureWorks. Belmont, Massachusetts. See also: Toward a National Workforce Education and Training Policy. June 2003. The Workforce Alliance.

[23] Abt Associates, June 1999 "The Lifelong Learning Demonstration," available electronically at: http://www.upjohninst.org/erdc/

[24] Michael R. Bloom, Brenda Lafleur. 1999. "Turning Skills into Profit: Economic Benefits of Workplace Education Programs." The Conference Board, Inc.

[25] Paul T. Decker, Jennifer King Rice, Mary T. Moore, and Mary R. Rollefson. 1997. Education and the Economy: an Indicators Report. NCES 97-269. U.S. Department of Education. National Center for Education Statistics. Washington, D.C.

[26] Bassi, L., Ludwig, J., McMurrer, D., and M Van Buren. 2000. *Profiting From Learning: Do Firms' Investments in Education and Training Pay Off?* (Research conducted jointly at ASTD and Saba Software.)

[27] Spherion, Emerging Workforce Study. 2003.

[28] For detailed information on union/management learning partnerships see www.workingforamerica.org and www.newecon.org

[29] See Beth Rogers 2002. "Partnerships to Train the Next Generation of Electrical Workers," in *Workforce Development and the New Unionism*, ed. Penn Kemble, New Economy Information Service and www.newecon.org for additional material on such training models.

[30] Howard Harris. 2000. "Defining the Future or Reliving the Past? Unions, Employers, and the Challenge of Workplace Learning." ERIC Clearninghouse on Adult, Career, and Vocational Education. Information Series No. 380. Available electronically at http://ericacve.org; Eileen Appelbaum and Rosemary Batt. 1994. The New American Workplace: Transforming Work Systems in the United States. Ithaca, NY: ILR Press.

[31] Treinen D., and Ross, K 1991. "The Alliance for Employee Growth and Development Inc." *Joint Training Programs: A Union Management Approach to Preparing Workers for the Future*, eds. L. Ferman, M. Hoyman, J. Cutcher-Gershenfeld, and E. Savoie. Ithaca, NY: ILR Press.

[32] David Kusnet. 2002. "IAM High Performance Work Organization Partnerships." *Workforce Development and the New Unionism*, ed. Penn Kemble. New Economy Information Service.

[33] Stephen Herzenberg, John Alic, and Harvey Wial . 1998. New Rules for a New Economy: Employment and Opportunity in Postindustrial America. Ithaca, NY: ILR Press.

[34] ASTD/Association of Joint Labor/Management Educational Programs. January 2003. "What Works in Workforce Development."

[35] John Healey MP, Natascha Engel. February 2003. *Learning to Organise*. London: TUC New Unionism Project.

[36] John Monks. January 3, 2003. *Labor Unions and Workforce Development.* Washington, D.C.: New Economy Information Service and Albert Shanker Institute.

[37] For a description of a good example see The Perkins Engine Experience at www.newecon.org

[38] See the TUC Partnership Institute website at http://www.tuc.org.uk/pi/

[39] HM Treasury. April 2002. "Developing Workforce Skills: Piloting a New Approach." Available electronically at: http://www.hm-treasury.gov.uk/media/E177C/ACF528.pdf and CBI-TUC Submission to the Productivity Initiative.

[40]Keeping America Competitive: How a Talent Shortage Threatens U.S.Manufacturing. 2003. National Association of Manufacturers and Deloitte & Touche. Washington, D.C.

[41]

[42] The Albert Shanker Institute. 2000. Finding Their Voices: Professionals and Workplace Representation. Washington, D.C.

Task Force Member Bios

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Paul Almeida is President of the Department for Professional Employees, AFL-CIO. As former President of the International Federation of Professional and Technical Engineers, he co-chaired the Boeing Leadership Council with then-CEO Phil Condit. An engineer by training, he has contributed to numerous studies, including the National Policy Association's report "Crossing the Digital Divide."

Morton Bahr

Morton Bahr is President of the Communication Workers of America (CWA). Under his leadership, CWA has become an education-driven union with a focus on worker education, training and advancement. CWA has negotiated worker education programs with its major employers, providing workers with the opportunity to upgrade and learn new skills or careers. Mr. Bahr has served on numerous commissions on workforce development and lifelong learning.

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Tom Buffenbarger is International President of the International Association of Machinists and Aerospace Workers (IAM), one of the largest industrial unions in the U.S. and Canada, and president of the Aerospace Department of the International Metalworkers Federation that represents 20 million workers in over 100 countries. Mr. Buffenbarger has been a machinist for more than thirty years, starting as a journeyman tool and die maker at GE's jet engine plant in Evendale, Ohio.

Anthony P. Carnevale

Anthony P. Carnevale is vice president for Public Leadership at Educational Testing Service. He began his career as a high school teacher in his home state of Maine. In 1993, Mr. Carnevale was appointed chair of the National Commission for Employment Policy. Mr. Carnevale has written numerous books and articles on competitiveness and human resources.

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William Daley is president of SBC Communications, one of the nation's largest telecommunications firms and the parent company of SBC/Ameritech Wisconsin. SBC/Ameritech and the SBC Foundation have supported pre-college initiatives for disadvantage youth. Mr. Daley is a former Secretary of the U.S. Department of Commerce.

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John D. Donahue is the Raymond Vernon Lecturer in Public Policy at Harvard University's John F. Kennedy School of Government. He has served as Assistant Secretary and Counselor at the U.S. Department of Labor. His teaching, research and writing deal with public sector reform and the distribution of public responsibilities across levels of government and sectors of the economy.

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John J. Flynn is President of the International Union of Bricklayers and Allied Craftworkers. He became an apprentice bricklayer in 1952 and worked for the next twenty years in the trade as a journeyman, foreman, and superintendent. Mr. Flynn is the Labor Co-Chair of the International Masonry Institute, a labor-management trust established to strengthen labor relations, apprenticeship, training, research and market development in the masonry industry.

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Sandra Feldman is president of the million-member American Federation of Teachers and member of the Executive Council of the AFL-CIO. From 1986 through 1997, Ms. Feldman was president of the United Federation of Teachers in New York City, the largest union local in the United States. A former teacher, Ms. Feldman has served on numerous commissions and task forces that deal with educational, economic, child-welfare, labor and other social issues.

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Ernest Green is Managing Director of Public Finance for Lehman Brothers in Washington, D.C. Mr. Green has served as Assistant Secretary of Labor for Employment and Training and as Chairman of the Historically Black Colleges and Universities Capital Financing Advisory Board. Mr. Green earned his high school diploma from Central High School in Little Rock and was one of the "Little Rock Nine" in Little Rock's school integration movement.

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Stephen A. Herzenberg, is Executive Director of the Keystone Research Center, a Pennsylvania public policy think tank. He has taught at Rutgers University and held positions at the U.S. Congressional Office of Technology Assessment and the U.S. Department of Labor, where he worked on the labor side agreement of the North American Free Trade Agreement. He has published extensively on the organization of work, the auto industry, international labor standards, and the new economy.

Edwin Hill

Edwin Hill is International President of the International Brotherhood of Electrical Workers (IBEW) and a member of the Executive Council of the AFL-CIO. The IBEW represents workers in the United States and Canada in the utility, telecommunications, construction, government, manufacturing and railroad industries. Mr. Hill has over forty-seven years of experience in serving the IBEW in many areas of the union's efforts.

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Gregory J. Junemann is president of the International Federation of Professional and Technical Engineers that represents more than 80,000 scientists, engineers and other technical workers in the United States and Canada. Mr. Junemann also chairs the Committee for Engineers, Scientists and Technicians in the AFL-CIO's Department of Professional and Technical Employees.

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Penn Kemble is a Senior Scholar at Freedom House, and Director of The Project on Democracy and the Global Economy. He served at the sub-Cabinet level under President Clinton at the United States Information Agency and the Department of State, and as a member of the Board of International Broadcasting under President George H. W. Bush.

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Nancy Mills is Executive Director of the AFL-CIO's Working for America Institute. The Institute's mandate is to help individuals and employers succeed by working with unions, employers and community organizations on workforce and economic development programs. Ms. Mills has held several positions with the Service Employees International Union (SEIU) in Massachusetts, serving as a trustee of its joint union/employer Education and Training Fund.

Eric Parker

Eric Parker is Executive Director of the Wisconsin Regional Training Partnership, an association of employers and unions that sponsors programs to expand employment and advancement opportunities, and upgrade workforce skills. Mr. Parker is also a research associate of the Center on Wisconsin Strategy at the University of Wisconsin-Madison.

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Stephanie Powers is the Chief Executive Officer for the National Association of Workforce Boards, the national membership organization for local and State workforce investment boards that provide the leadership and governance for the publicly-funded workforce development system under the Workforce Investment Act of 1998. Ms. Powers was Director of the National School-to-Work Program.

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Saul Rubinstein is an Assistant Professor in the School of Management and Labor Relations at Rutgers University and a member of the Industrial Relations Research Association. Mr. Rubinstein's research is focussed on industrial relations. He has followed the Saturn experiment and its concept of labor-management relations, management, and organizational governance, since its inception in 1983 and is widely published in the field.

Andrew Sum

Andrew M. Sum is Professor of Economics and Director of the Center for Labor Market Studies at Northeastern University in Boston. He has written extensively on regional, national, and state labor markets, on the labor market behavior and problems of young adults and the role of education, literacy, and training in influencing the labor market experiences of adults.

Susan Traiman

Susan Traiman is Director of Education and Workforce Policy at the Business Roundtable, where she oversees activities to improve education performance and workforce competitiveness in the United States. A former teacher, Ms. Traiman has an extensive background in educational issues from previous positions with the National Governors Association, and the U.S. Department of Education. She contributed to the development of the landmark 1983 report, *A Nation at Risk*.

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Marie-Louise Caravatti serves as Task Force Director with the New Economy Information Service. As an economist, she has specialized in technology and workforce issues. She served in the Technology Administration at the U.S. Department of Commerce, and has written on the development and diffusion of new technologies, education and training.