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AUTHOR Faux, Jeff
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ABSTRACT

Educational performance has become a crucial element in the United States' capacity to prosper in a new global economy of fierce competition. In addition to the traditional question of how the educational system contributes to students' intellectual growth, a new question is being asked: How does the educational system contribute to national economic competitiveness? Two national competitiveness strategies are open. One is to compete on the basis of low wages, a path the United States is presently pursuing. The other strategy is to compete on the basis of higher wages, that is, the capacity to produce efficiently innovative high quality goods and services that can be sold with high enough margins to support higher incomes and profits. A key to the success of this strategy lies in a nation's ability to create and maintain a high-quality work force, the source of adaptability in a marketplace changing at an accelerated pace. The nation's leadership has not committed itself to giving education and training the required investment priority. Reasons given for not investing in education include the following: enough is already spent; education is a labor-intensive service; education is traditionally a state and local problem; more research is needed on how to improve educational performance; and administrators, teachers, and school boards resist change. Three possible sources for investment in education and training are taxes, borrowing, and shifting funds from the military budget to human resource investment. (YLB)

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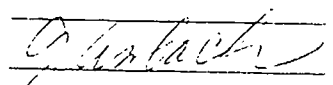
Economic Competitiveness and the Human-Capital Investment Gap

By

Jeff Faux, President
Economic Policy Institute

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INTRODUCTION TO INVESTMENT 21

In 1990, a group representing association leaders in elementary, secondary, and higher education began meeting in Washington, D.C. to examine investment in learning in the United States. We focused on "investment" to signify our interest in a serious analysis of the economic returns to the nation from a conscious strategy to develop its human talent. By "learning" we were principally, but not exclusively, concerned with support for education and training from pre-school through postdoctoral study. But our interest extends as well to corporate investment in employee training and to child development efforts such as pre-natal care, adequate nutrition, and health services.

What we learned concerns us deeply, and we believe it will concern you as well. Exploring the statistics on nationwide support for education and training, we came to understand that recent claims that the United States is devoting a larger and larger share of its resources to educating the next generation are wrong. The share of national income devoted to developing the skills and talents of our people has declined in the past twenty years. On this front, the United States is not moving forward, but in reverse at the time the international challenge to compete with a well prepared work force has increased.

We believe that a powerful campaign to analyze, document and advocate investment in learning as the foundation for the nation's success in a new century is essential. We call that campaign Investment 21 and organized ourselves as the steering group for the effort.

Our first task has been to request the Economic Policy Institute (EPI) to prepare two papers with support provided by our organizations. The first paper, presented here, is a powerful statement by Jeff Faux, President of EPI, on Economic Competitiveness and the Human Capital Investment Gap. This paper stakes out an overall case for understanding the trend and status of investment in learning for the United States.

The second paper, Investment in Learning: An Assessment of the Economic Returns, written by M. Edith Rasell and Eileen Appelbaum, is the most comprehensive summary now available on findings of significant studies on the returns to investment in early childhood education and services, formal education from elementary through collegiate, and employee training. We are publishing this in a companion volume.

Our nation is at a critical point of nationwide decision making on what form and extent of investments will best develop our nation's economic, social, cultural and civic strength. These Investment 21 papers inform that decision making. They are presented in this no-frills format to encourage a deeper, richer analysis of essential investment choices for our nation.

All rights to these papers are held by Investment 21 and EPI, and they may be reproduced in part or in whole with the permission of Investment 21 or EPI. Inquiries should be addressed to Investment 21.

We welcome reactions to the papers. These papers are the beginning of a long term project to analyze and advocate the learning needs and the investment needed for learning in our nation.

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ECONOMIC COMPETITIVENESS AND THE HUMAN-CAPITAL INVESTMENT GAP

by Jeff Faux

If there were no economic crises facing the United States, there would be much less public concern with a crisis in education. Indeed, one can make a good argument based on test scores and other measures of school performance, that American schools have improved over the last ten years, not gotten worse. But, today, improvement over the past is not enough. Educational performance has become a crucial element in America's capacity to prosper in a new global economy of fierce competition. In addition to the traditional question of how the educational system is contributing to the intellectual growth of its students, a new question is now being asked: how is the education system contributing to national economic competitiveness?

The national economic interest is not the only reason, nor even the most important reason, for being concerned about the health of our schools. But in the post-cold war era, the country's security will increasingly be defined in economic terms. Inevitably, America's educational system will either be seen as part of the solution to our lagging competitiveness, or part of the problem.

For almost two decades, U.S. productivity growth, innovation, and competitiveness have lagged behind other nations. The result has been a drop in real living standards -- what a worker can buy with what he or she earns. The average American worker now makes nine percent less in real terms than in 1973. The problem is most acute among noncollege-educated men whose real incomes dropped 18 percent.

During the 1980s, the decline in Americans' earnings was papered over by borrowing. Governments, business, and consumers took advantage of the easy access to credit to maintain their purchasing power. This only made things worse; by 1990 the debt burden on American business and consumers was enormous and the nation was the world's largest debtor. In addition, families that previously needed only one wage earner, increasingly had to rely on a second to keep family income from falling. And the number of people working two or more jobs rose dramatically. The result is that Americans are working longer hours in order to maintain their living standards.

Experts disagree on the causes of the slowdown in real incomes, but the broad outlines are clear. The U.S. dominated the world economy after the economic collapse of Europe and Japan following World War II. Inevitably, these commercial rivals recovered and by the 1970s, they began to challenge U.S. supremacy. At the same time, capital and production technology became more mobile, and international transportation and communications improved, permitting business to locate production in areas of the globe where labor was cheap. The amount and intensity of competition which faced U.S.-based labor and capital increased. The result was a slowdown in their earnings.

As the public became more aware of the deterioration of America's economic position in the world, fingers of blame have been pointed in many directions including management, labor, government policies, a general decline in discipline, television, the trade policies of other nations. . . and America's schools. Whatever the validity of any given charge, we can expect that all of America's institutions will be subject to new scrutiny in this age of global competition.

There are, in effect, two national competitiveness strategies open to America. One strategy is to compete on the basis of low wages. This is the path we are presently pursuing. International competition has put downward pressure on prices, cutting business margins. In the absence of any public policy to encourage them to do otherwise, American firms have responded by keeping wage gains below the rate of inflation -- thus, cutting living standards. Lower wages and profit margins in turn lead to demands for lower taxes, less regulation, and less public spending. The inevitable result is a deterioration in America's living standards. This downward pressure on living standards will continue indefinitely because competition in the global marketplace is constantly expanding. Every nation in this world of six billion people is now a potential producer of products that at one time were exclusive to the advanced industrial west. This does not mean that we will drop to the level of Bangladesh tomorrow. But it does mean that on our present path, average real wages and incomes in the year 2000 will be substantially lower than they are today.

The other strategy is to compete on the basis of higher wages, i.e., the capacity to produce efficiently, innovative high quality goods and services that can be sold with high enough margins to support higher incomes and profits in the U.S. This is the high-skill/high-wage path that is being pursued by other major advanced industrial nations. It is obviously the preferred path.

One key to the success of this strategy lies in a nation's ability to create and maintain a high-quality workforce, which is, ultimately, the source of adaptability in a marketplace that is changing at an accelerated pace.

In recent years, the time it takes for a new product to go from the original idea to a product on the market has been cut in half. And once that new product is at the market, it can now be duplicated, legally or illegally by a competitor. Therefore, the length of time that any single product line can support a given level of employment has shortened. The result is that workers will face more and more change in the products they work on and the skills needed to produce them.

The traditional assembly-line system for producing goods and services in a mass-consumption economy was based on breaking each job down into simple repetitive steps. The firm organized around such a system tends to be rigidly hierarchical, with many layers of supervision to avoid any deviation from the machine-like meshing of people and the flow of work. In such an environment, workers need only minimal

information and knowledge. The system worked best when workers did not think for themselves. The industrial engineer Frederick Taylor once noted -- approvingly -- that the assembly line was a method of production designed by geniuses to be operated by morons. The system is quite efficient at putting out long production runs of standardized products and services. And it can still be used successfully where the strategy is to compete on price, using cheap, dependable, relatively uneducated labor.

But it is not very useful to an advanced nation that wants to compete on the basis of quality in order to maintain its living standards. The new international environment requires smaller production runs targeted to special market "niches," more frequent changes in the style of the product or service, and tight schedules for supplying components and maintaining inventories. This in turn requires employees who understand the basic processes involved and who can easily adapt to changes.

In such flexible systems mistakes are more costly. For example, traditional assembly lines employ large numbers of inspectors whose job it is to reject low-quality goods, leaving a great deal of waste. The new systems strive for "zero defects" -- requiring more skilled workers, responsible for catching and rectifying mistakes before flaws get embedded in production. Workers on the shop or sales floor must work together as a team, which requires communication as well as technical capabilities.

These changes in global business production are not simply "one-time" adjustments. The new global economy is one that will be characterized by continuous changes in markets, technology, and competition. Therefore, it requires a continuous upgrading of our labor force to a degree unknown in our history.

Indeed, education and training itself can help drive change in the business world. The conventional wisdom is that schools should be educating children for the jobs that business needs. But it also works in reverse. The creation of an educated workforce will change business' options and therefore, its needs. For example, the GI Bill after World War II created a workforce of college-educated men, which provided the means for the expansion of white collar industries. Likewise, the training of solid state electronic engineers after "Sputnik" in 1957 provided a basis for the expansion of the electronics industry.

The good news is that there is a growing sense among Americans that investment in education and training is critical to our future. In polls, education now consistently ranks at the top of the list of areas voters think should be national priorities. Speeches by business leaders have become evangelical on the need for improved education (e.g., the President and CEO of Eastman-Kodak: "Our number one policy concern is education"). Political leaders have also responded rhetorically to the public's support for education (e.g., President George Bush the "education" president: "Today, education determines not just which students will succeed, but also which nations will thrive. . .").

The bad news is that the nation's leadership has not committed itself to giving education and training the investment priority required to do the job. In fact, as the world marketplace has become more competitive over the last two decades, the federal government has been reinvesting less of the Gross Domestic Product (GDP) in education and training. Federal investments in elementary, secondary, and vocational education as a share of GDP have trended downward since the early 1970s. The share going for higher education peaked in 1981 and has fallen ever since.

State and local government did not make up for the federal retreat from elementary and secondary education funding for most of the 1980s. In fiscal 1988-1989 -- the latest year for which we have complete data -- there was a significant increase in state and local funding, bringing the education revenue share of GDP to slightly above the level of 1979-1980. Since then, of course, the national economy has turned down, causing state and local governments severe financial distress. We can expect that in the last few years, total spending will once again have fallen short of what is needed to maintain the national effort.

State and local spending for higher education did rise during the 1980s to keep the share of GDP from declining. But the primary change in revenues came from the substantial increase in student tuitions and fees. Again, recent pressure on state and local budgets has caused massive cutbacks in spending -- of which higher education has taken its share.

Most state and local spending for worker training has traditionally depended on federal funding and the gap left by the drop in federal support has not been filled.

The decline in federal support has a distributional impact as well. Federal assistance to education tends to be concentrated on poorer and more disadvantaged students and school districts. Thus, even though state and local spending did make up for some of the federal spending decline, the effect was still negative on those who most needed the dollars.

Given the national consensus on the importance of education and training, how can such cutbacks be justified?

One excuse is that we already spend enough.

Reasonable people can differ of course on the question of how much is "enough." However, if we pay attention to what our competitors are doing, (which is what smart businesspeople do), we see that by any comparative measure, the U.S. has fallen behind its major competitors.

The U.S. ranks 14th out of 16 advanced industrial nations in the share of its income being reinvested in K-12 education when adjusted for enrollment rates. It ranks

18th out of 20 countries in the investment it makes in employment and training programs.

Yet, one could make a good case that the U.S. should spend more of its economy on education and training than other nations spend. First, America's educational system is much more decentralized than that of almost all of its commercial rivals. Inevitably, our system of more than 15,000 largely autonomous school districts, making their own independent decisions on staffing, curriculum purchasing, and contracting will tend to have higher relative costs than a more centralized system. We Americans are proud of our system of local control; we should be willing to pay for it.

Second, the U.S. business sector is characterized by high labor turnover and a large number of small-and medium-sized firms. The smaller the firm and the greater the employee turnover, the less likely it is that the management will invest in providing skills to its workers, when the beneficiary will be another, perhaps competitor firm.

Third, there is a larger number of poor and immigrant families in the U.S. Educating and training children from disadvantaged backgrounds takes more time and effort . . . and money.

There are two additional reasons why education and training costs will rise over time -- both here and in other nations. One is that education no longer is the beneficiary of a captive female labor force; now that opportunities for professional women are broadening, fewer are forced to settle with teaching for want of access to other options. Teachers' salaries today must be more competitive in order to attract bright, capable people.

The other is that because education is such a labor intensive service, there is less potential for productivity improvements than in other "industries." The basic factors of production in education are one teacher and a class full of children. Improving productivity means raising the pupil/teacher ratio, but that lowers the quality of teaching. Certainly, teachers aides, computers, and other devices are useful to improve the quality of education, but they are unlikely to generate cost savings. Because there are such limitations to productivity improvements, over time, the cost of education will naturally tend to rise compared with the cost of most other goods and services.

Another excuse for not investing more is that education is traditionally a state and local problem, not a federal one. But as we have indicated, public concern for education is being driven by the problem of national competitiveness. In the global economy the U.S. is competing against other nations. Yet the federal share of U.S. education spending has fallen from nine percent in 1979 to six percent in 1990. Not only has the federal government shifted more of the burden to the states, but it has added to the task with new "mandates" -- e.g., the establishment of standards for resources devoted to the education of the handicapped -- without providing any new

resources. These standards are enforced by the threat of reducing federal grants in other education programs.

The bulk of educational financing will continue to come from state and local governments. But federal leaders should not be allowed to have it both ways, i.e., to demand better educational performance on the grounds that the nation's competitiveness is at stake, and to refuse to devote more national resources to achieve better performance. To the degree that educational performance is a national problem, the federal government must do its share to contribute to the solution.

Finally, we are often told that we do not have enough information, that we must wait for more research on how to improve educational performance, that we must first experiment with new ideas -- such as school vouchers, more choice, and standard achievement testing.

Increasing the pool of information is always useful. Certainly we should continually explore new ways of teaching and organizing our educational systems. But this does not justify a delay in expanding human resource investments. We have, after all, been educating children in the public schools for more than two centuries. When we have schools in America where there are not enough books to go around the classroom, where there is no money to fix a leaking roof, where children and teachers fear for their safety -- it is irresponsible to hold more spending hostage to the notion that the federal government needs to conduct more research before it can act. It is particularly alarming to realize that the government's intended instrument of educational progress will lie in the results, delivered at some unspecified time in the future, of the work of 535 experimental schools backed by R&D teams to be paid for by the private sector, which has not yet put up the money.

We know that when students have access to a wide array of social and health services through the schools, school success is increased. So we can begin providing these services to more students, now.

We know that when school buildings are in good repair and are well maintained that learning is enhanced. So we can make the improvements to physical structures, now.

We know that smaller classrooms make for better education. So we can invest in raising the teacher/pupil ratio, now.

We know that preschool programs like Head Start enable disadvantaged children to do better in school. So we can invest in providing preschool program to all eligible children, now.

We know that when we pay higher salaries we attract better equipped people

into the teaching profession. So we can begin by raising salaries and raising standards, now.

We know that there are young people graduating from high school who are capable of college and other post-secondary education but cannot afford it. So we can begin by providing financing for them, now.

But in education, as in business, exhorting workers (educators) to greater effort, ingenuity, commitment, and accountability is not sufficient. Workers must have the training and work must be organized so that they can work smarter. And they must have the tools -- the resources -- to do the job. In education, providing the right tools and resources means that we must create a school environment that is hospitable to learning. Providing this environment requires adequate supplies; safe, well-maintained buildings; teachers well-trained in their fields; and student access to support services so that learning can take center stage. Creating this environment will take money.

Resistance of administrators, teachers, and school boards to change is another rationale for denying more resources to education. According to this argument, these entrenched interests will not use more money effectively, so why provide it?

This objection fails on two counts. First, it penalizes the victims, children, not those who are allegedly causing the problem. Second, it ignores the critical role of resources in institutional reform in a democratic market economy.

Standardized testing, for example, is routinely demanded by the critics of our schools. The issue is complex as well as controversial, but certainly there is a reasonable prima-facie case to be made for setting national standards which every student would have to achieve before he or she could get a high school diploma. Such exams are routine in Europe. But opposition in the U.S. is fierce. Lester Thurow, Dean of the Sloan School of Management at MIT reports that he was recently in a small town in Spain when 37 percent of the students flunked the high school exam -- and had to spend an extra four months in school before they could take the exam again.

"What do you think would happen in the United States if the teachers dared to flunk 37 percent of the kids in May and said, 'If you'll work for an extra four months, we'll re-examine you in September and then you may or may not pass?'" asks Thurow. ". . . If they did, the school board would be voted out of office, the superintendent would be castrated, and the teachers would be hung."

Despite Thurow's exaggeration, the point is well taken. Under current conditions simple demands that schools voluntarily institute tough, standardized testing is disingenuous. A serious strategy for establishing national testing standards would recognize the anxiety that it provokes and create a system for alleviating the pain -- i.e.,

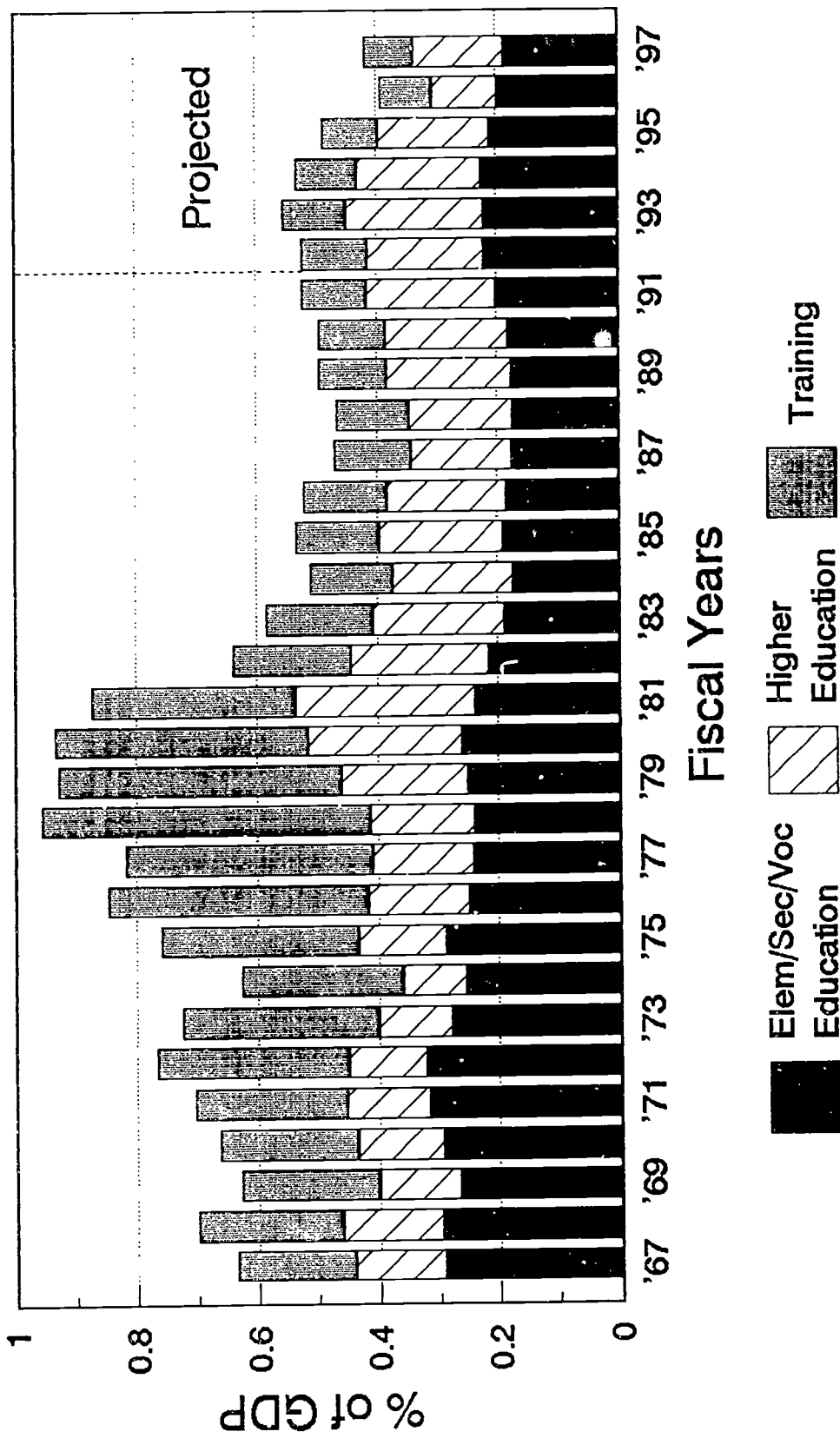
provide the resources to improve the quality of education, to design standards that are sensitive to ethnic and regional differences, to support remedial opportunities so that all students get a second chance or a third. The cost of change might even include paying for early retirement for teachers who cannot adapt. This is not unusual in the corporate world, where people are often eased out of the way to facilitate institutional progress.

Even the Bush Administration, despite its resistance to more spending on education, has had to acknowledge that institutional change has a cost. Each of the 535 New American Schools will get an additional one million dollars from the federal government, and a total of at least \$150 - 200 million from "business and other donors" will be spent on research and development.

National standards may or may not be an important element for improving the quality of education in America. The Bush Administration's experimental efforts may or may not pan out. But the lesson is clear: those who press for meaningful reform are not serious unless they are also willing to pay for the cost of change.

So, how much should we be investing in the development of our nation's human resources? A detailed budget, reflecting the specific areas of need is beyond the scope of this essay. But we already have some general approximation of the minimum additional resources the federal government ought to be investing in our people. For example, taking an historical perspective we see that if the federal government were to spend in this fiscal year the same share of GDP it spent on education in 1976 -- when the U.S. was engaged in the cold war with a hostile Soviet Union and when a Republican president was in the White House -- it would be spending a minimum of another \$19 billion in this area. If we raised the share of education and training to the share of GDP that existed in 1978, we would be spending another \$24 billion (see figure).

Federal Education and Training Investment as Percent of GDP, Fiscal Years 1967-1997



Source: OMB, 1992.

But, since the late 1970s, the need for strong education and training systems has grown and our investment in those areas have faltered. Today's needs, therefore, are even greater.

Recent estimates made by government, business, professional commissions, and researchers, of the additional funds required to support specific human resource investments from \$29 to \$58 billion. Even these estimates are somewhat restrained because those who made them were aware of the political hostility to proposals for more spending (see Table 1).

Table 1

**FEDERAL HUMAN RESOURCE INVESTMENT NEEDS,
EXPERT ESTIMATES**
(Outlays in Billions of Dollars)

			Needed \$ Increase for <u>"Full Funding"</u>
EDUCATION & TRAINING			
Elem/Sec/Voc Ed.	\$ 8.5	--	\$ 16.9
Higher Education	2.5	--	7.6
Training & Emp.	12.3	--	20.5
CHILDREN			
Child Nutrition	1.6	--	2.6
Child Care			2.8
Head Start	1.0	--	6.4
Preventive Health			0.7
TOTAL	29.4	--	57.5

Sources: Center for Community Change, Children's Defense Fund, Committee for Economic Development, Committee for Educational Funding, General Accounting Office, National Commission on Children, National Education Association, Organization for Economic Co-operation and Development.

Each year that we do not spend enough to do the job is not, of course, money "saved." The neglect of education and training shows up in the public costs for welfare, crime, drug addiction, and in the slow decline in national productivity and competitiveness that will reduce the living standards of all Americans. The fate of our

children, the adequacy of our pensions, the quality of everyday life is at stake. No one who expects to live out his or her life in the United States will be unaffected by the choices we make concerning investment in human capital.

But where will such monies come from? In the long run, these investments pay for themselves. But funds for the initial investments must be found. There are three possible sources. Taxes, borrowing, and shifting funds from the military budget to human resource investment.

Taxes. The anti-tax and anti-government politics of the past decade, coupled with stagnating middle class incomes and a shift of the tax burden on to families in the lower two-thirds of the income distribution has made it difficult to raise the revenues to support the level of spending that is needed. Still, it is important to understand that the U.S. is undertaxed. Tax revenues as a share of GDP are lower in the U.S. than in any other advanced industrial nation. If the U.S. tax share were equal to the average tax share in the economies of these nations, we would be raising more than \$400 billion in additional public revenues -- of which 60 percent would be federal.

Borrowing. It is proper for governments to borrow in order to invest in the future; by making its citizens more productive, the government, in effect creates an income stream of new tax revenues that it uses to pay its debts. Thus, for example, it has been proposed that we invest the Social Security Trust Fund in post-secondary education which would produce a more efficient economy to support tomorrow's retirees. Unfortunately, the Social Security taxes are now being used to defray current federal government operating costs. But the federal deficit as a share of GDP is expected to decline in the next few years, freeing up the capacity of the federal government to borrow for the future.

The Peace Dividend. The dramatic crumbling of the Soviet military threat provides us with the single best opportunity to reorder federal spending priorities and to free up resources for domestic investment. There are legitimate questions of how fast we can cut the budget and what kinds of arrangements have to be made for the transition to a more peacetime economy. But these should not obscure the reality that a peace dividend now exists. The issue is how to spend it.

Unfortunately, the current trajectory of the federal budget implies a decision to spend the peace dividend on the Pentagon. The President's military spending plans, ratified so far by Congress, will lead to higher spending in fiscal year 1994 and 1995 than was assumed in the Fall 1990 budget deal. According to the Congressional Budget Office, the President's current plan will require \$41 billion in cuts in domestic discretionary budget authority to meet the overall budget caps for those years. Table 2 shows the expected decline in budget authority for education and training that would result from the overall shrinking of the domestic discretionary budget.

Table 2

FEDERAL INVESTMENT IN EDUCATION & TRAINING
(Budget Authority in Billions of 1992 Dollars)

	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>
Elem/Sec/Voc Ed	\$13.7	\$13.2	\$12.8	\$12.4
Higher Ed	13.6	12.1	10.6	9.7
Training & Emp.	<u>5.5</u>	<u>5.3</u>	<u>5.1</u>	<u>5.0</u>
TOTAL	32.8	30.6	28.5	27.1

Again, inadequate investment in education and training is not the sole cause of America's disappointing performance in the international marketplace. The U.S. economy has been crippled by a number of blows -- economic policy mistakes, poor labor-management relations, short-term investment horizons, to name a few. Indeed, inadequate investment is not the only cause of America's disappointing performance in the classroom. Poverty and social decay, pressures on family life, the demands of the burgeoning service sector for low-wage teenage labor, television and other cultural diversions, and the indifference of employers to educational achievement reduces incentives for students to perform in school. None of this, however, obviates the need to increase investment in the nation's human capital.

The end of the cold war provides us with both the opportunity and the necessity to act. With the collapse of the Soviet threat, national security is now more defined in economic than in military terms. The future belongs to those nations that develop and maintain the capacity to compete in the world on the basis of innovation and productivity. Out of that capacity will flow higher living standards for their people and more influence in the world. Given this reality, we have no choice but to raise substantially the level of investment in education and training now.