

Economic Viewpoint:

Training Priorities for the 21st Century: What Works?

By Lisa M. Lynch

William L. Clayton Professor of International Economic Affairs

The Fletcher School of Law and Diplomacy, Tufts University, IZA and NBER

Summer 2006

In June 2006, the Organisation for Economic Co-operation and Development (OECD) issued a reassessment of its 1994 Jobs Strategy called “Boosting Jobs and Income-- Policy Lessons from Reassessing the OECD Jobs Strategy.” This new employment strategy for advanced industrial economies proposes four pillars on which this strategy needs to rest in order to enhance economic performance and well-being. The first pillar is developing appropriate macroeconomic policies that maintain price stability and reduce the risk that transitory aggregate demand shocks become persistent. The second pillar is establishing policies that make work pay. The third pillar is pursuing policies that stimulate the demand for labor, including lowering employment taxes, encouraging more product market competition and reducing excessive labor market protections. The final pillar is increasing the development of labor force skills and competencies.

The United States is well positioned compared with other advanced industrialized economies with respect to the first three pillars of this employment strategy. However, it faces some significant challenges with respect to the development of labor force skills that will help the United States compete globally and address the aging of its population.

It is hard to open a newspaper these days without reading an article arguing that offshoring by U.S. companies has contributed to slow job creation in the economic recovery following the 2001 recession. Many manufacturing jobs have moved offshore, and this process has been going on for many years. What has changed is that service jobs, once thought immune to the offshoring threat, are now going as well. While offshoring may become an increasingly important issue with time, to date it is not sufficient to explain a major part of anemic job growth. A more likely explanation for slow job creation includes some combination of the good news of sustained productivity growth (although what lies behind this is still fertile ground for research) and the damping effect of geopolitical concerns, including rapidly increasing oil prices. Some of the furor over outsourcing may well die down, at least temporarily, as more jobs are added to the economy.

Both trade and technological change will continue to put pressure on our economy to raise the skills level of the workforce. However, these factors are not the only reasons for concern about the skills of our workforce. In 2006, the first of the baby boomers turned 60 and started to become the “retiree boom” generation. While projections of labor market participation are more of an art than a science, economists at the Board of Governors of the Federal Reserve Bank forecast a decline in the labor force participation rate in the United States over the next five years (Aaronson et. al. 2006). They predict that the fraction of the population aged 16 and over employed or actively looking for work will drop from its peak of over 67% in 2000 to 64.5% by 2011. This is due to the increasing fraction of the working-age population that is over the age of 60. This means that to raise the growth in potential output in the United States, the labor supply must be raised and/or labor productivity must be improved.

The challenge is a significant skills crisis, in which the supply of skilled workers is not keeping pace with the changes in demand due to technology and trade. Managers live with this reality every day. The *2005 Skills Gap Report* by the National Association of Manufacturers reported that 90 percent of American manufacturers surveyed experienced moderate to severe shortages of qualified skills production employees. Two-thirds of respondents reported a moderate to severe shortage of scientists and engineers. Employers have increasingly recruited non-native science and engineering workers to meet their skills needs in this area. As detailed in the National Science Foundation Science and Engineering Indicators 2006, in 1990 foreign-born scientists and engineers accounted for 14% of all science and engineering occupations. During the 1990s, this share increased to 22%. More than half (55%) of engineering doctorates and 44% of doctorates in mathematics, computer science and agricultural sciences were awarded to students on temporary visas. Two-thirds of foreign doctoral students in U.S. science and engineering programs are from Asia. As China and India develop their knowledge-based industries, we can only expect more intense competition for these U.S.-educated scientists and engineers.

The numbers are bleaker when considering the quality of young people entering the workforce in the United States. We are now producing a greater share of low-skilled youth than we did 30 years ago. In mid-1970s, 25% of 17-year-olds dropped out of high school or obtained only a GED. That percentage today has risen to 28%. Meanwhile, around the world, young people are staying in school longer and outperforming U.S. youths with respect to math and science. For example, the *1999 Trends in International Mathematics and Science* study of eighth graders showed that while the United States exceeded the international average performance in math and science for 38 nations, it was significantly behind 14 nations in mathematics, including Singapore, Taiwan, Hong Kong, Japan, Korea, Russia, Australia, Canada, Belgium and the Netherlands. From OECD surveys on adult literacy, we have seen that one out of four young people in the United States cannot perform arithmetic operations compared with fewer than one out of 20 in countries such as Germany and Sweden. Even though the United States may have advantages in terms of labor market flexibility and even a comparative advantage in the production of highly educated workers, these numbers are disturbing. Europe and Asia, on the other hand, have a skills base of new entrants and incumbent workers that bodes well for their ability to achieve excellence in life-long learning.

This skills crisis threatens to be a significant drag on the ability of the United States to remain competitive in the global economy through the production of innovative high-skill content goods. It also undermines its ability to move workers from contracting sectors of our economy to expanding ones. The demographic reality of the next decades means that we cannot rely on younger workers alone to supply all of the necessary skills because there will not be enough workers to offset the declines in labor force due to the retirement of the baby boomers. Though adopting immigration policies that hire skilled workers from around the world could help offset this decline, it could generate resentment among domestic workers and, consequently, potentially contribute to a retreat from more global economic engagement. We only have to look at the current debates on immigration policy in the United States to understand the reactions of native populations to changing immigration policies. In addition, what is potentially our human capital gain is another country's brain drain. Therefore, retraining displaced prime-age and mature adults is likely to be a key feature of our labor market policies going forward.

Several economists, including Nobel prize winner James Heckman, have argued that the only human capital investments that matter are those for the youngest of children because later investments are too late and ineffective. However, even though training is not a magic elixir and at times has been used as a temporary holding area for unemployed workers, training can and does matter. There are four C's associated with effective training systems--coinvestment (including apprenticeships, youth training wages, pay-back clauses); certification (clear credentials are critical to get workers willing to copay for skills); codetermination (the involvement of business, workers and the government in training curriculum improves quality and relevance and helps ensure that employer-provided tax credits for training don't just pay for training that firms would have done anyway); and cost-benefit evaluation. This last characteristic is one that both the government and businesses have often been reluctant to undertake. There is a fear that finding fault with one training program will result in the elimination of funding for all training programs. This fear is not entirely misplaced in an era of increasingly tight budget constraints for both the federal government and businesses.

What do we know about the return on investment of training programs? It is important to make a distinction between employer-funded training programs and government-funded training programs. Training is particularly effective when provided to those actively engaged in the labor market. Studies of employer-provided training programs show large wage gains for workers and increases to firm productivity. In addition, these same studies show that there is a virtuous and vicious circle in human capital accumulation over the work life. Those who enter the labor market with higher education are more likely to receive employer-provided training, while those who enter with little education struggle to acquire more training on the job. Workers in smaller firms are also less likely to receive employer-provided training, and workers with skill shortages often suffer from a shortage of discretionary time to undertake training off the job.

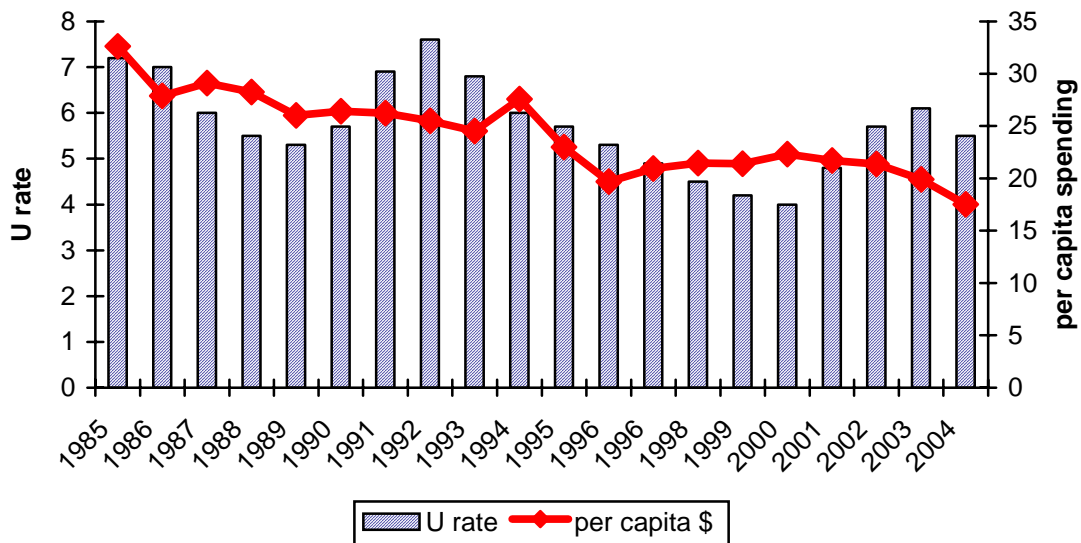
What happens then for the less educated workers, those working in small firms or those out of work? If employers are not investing in them, then the government becomes a critical source of skills training. Here the academic research has been very informative and influential for policy makers, especially the U.S. studies that used random assignment to evaluate the effectiveness of the Job Training Partnership Act (JTPA) programs for disadvantaged adults and out-of-school young workers. Apart from the merits of using random assignment to raise the quality of the evaluation of these training programs, another advantage of this methodology was that it was easy to produce simple tables with two columns of results for treatments and controls. No need to talk about propensity scores, standard errors, selection bias and so on to policy makers.

In the United States, research indicated that training for out-of-school youth was ineffective relative to adult training. For adult workers in the United States, there is more promising evidence that government training programs work, especially certain types of programs and those for specific demographic groups. For example, work by Jacobson, Lalonde and Sullivan (2005) shows that classroom training for displaced workers--especially math/science and health vocational--is quite effective and meets rigorous cost-benefit analysis. For mature workers, "old dogs *can* learn new tricks" and their training investment does not seem to depreciate over time. What is critical, however, in evaluating the return on investment of government-funded training programs is that it is necessary to track trainees over a longer period of time than previous evaluation studies did--at least 18 months. Government-funded on-the-job training programs for low-income women also pay for themselves. However, the downside of these programs is that while

the returns exceed the costs, the costs are relatively low, so many of these programs on their own do little to raise women's earnings high enough to lift them and their families out of poverty. There are several common features of some of the most successful government-funded programs. These include strict performance criteria, smaller-sized programs that better tailor program content to specific needs of participants, and involvement of training providers who are well connected with local employers. Collaborating with businesses ensures the relevance of training and effective matching of workers to employers.

The evidence on displaced worker programs relative to training for low-income adults has had a significant impact on policy-makers' funding priorities. Training funds in the United States have moved away from youth towards displaced workers over the 1990s rather sharply. However, the inflation-adjusted value of federally funded government training programs has fallen since the mid-1980s from approximately 3.7 billion dollars to a bit more than 2.5 billion in 2004. This decline has occurred in spite of rising training needs of workers, driven by both trade and technology. When training expenditures for the growth of the workforce are adjusted over the last two decades and compared to changes in the unemployment rate, it is clear that per-capita spending has been falling even faster than declines in the unemployment rate since the last recession in 2001. We currently set aside close to \$15 per worker for federally funded training programs. This hardly seems like a commitment to investing in the skills of incumbent workers or a training strategy for the 21st century.

Inflation Adjusted Federal Per Capita Training Expenditures and Unemployment Rate



Source: Lynch (2005)

We might not worry if we thought that the private sector might make up some of this gap, but what we do know about private employers is that training expenditures usually are among the first items to be cut during weak economic periods. The same is true for state governments, many of which had expanded state training programs during the boom

times of the 1990s. Unfortunately, depending on how these training programs were funded, many states have had to curtail their discretionary spending on workforce training as they struggled to balance their state budgets during the last recession. Even as the economy has recovered, training expenditures have not picked up at the state level. Finally, the federal budget is somewhat perversely structured to increase training expenditures when unemployment is high rather than when skills needs are high.

Where do we go from here? As the OECD concludes in Chapter 3 of the *2006 Employment Outlook*, there are four types of policies that are potentially useful for reinforcing workers' and employers' incentives to invest in skills development: 1) make training markets more efficient; 2) increase incentives for firms to provide training (especially smaller employers); 3) increase financial incentives for workers to invest in training (this includes training leave so that workers have the time to invest in their skills); and 4) encourage the cooperation of management, labor and government partnerships to design effective training strategies. With a global labor market, ongoing technological innovations and an ageing population, how we choose to invest in workforce development will have a decisive role in our global standing.

References

Aaronson, A., Fallick, B., Figura, A., Pringle, J., & Wascher, W. (2006). *The recent decline in labor force participation and its implications for potential labor supply* [Board of Governors Federal Reserve Bank working paper].

Jacobsen, L., Lalonde, R., & Sullivan, D. (2005). Is retraining displaced workers a good investment? *Economic Perspectives* [published by the Federal Reserve Bank of Chicago], 29(2).

Lynch, L. M. (2005). Job loss: Bridging the research and policy discussion. *Economic Perspectives* [published by the Federal Reserve Bank of Chicago], 29(2).

Lisa M. Lynch is Academic Dean and the William L. Clayton Professor of International Economic Affairs at the Fletcher School of Law and Diplomacy, Tufts University, and a research associate at the National Bureau of Economic Research and the Economic Policy Institute. A former chief economist at the U.S. Department of Labor, Professor Lynch has published more than 50 papers and books on issues such as the impact of technological change and workplace practices (especially training) on productivity and wages, determinants of youth unemployment and the school-to-work transition. She received her Ph.D. in economics at the London School of Economics in 1983, M.S. in economics at the London School of Economics in 1979 and B.A. in economics and political science at Wellesley College in 1978.

This article is published by the Society for Human Resource Management (SHRM). The interpretations, conclusions and recommendations in this report are those of the author and do not necessarily represent those of SHRM. All content is for informational purposes only and is not to be construed as a guaranteed outcome. The Society for Human Resource Management cannot accept responsibility for any errors or omissions or any liability resulting from the use or misuse of any such information.