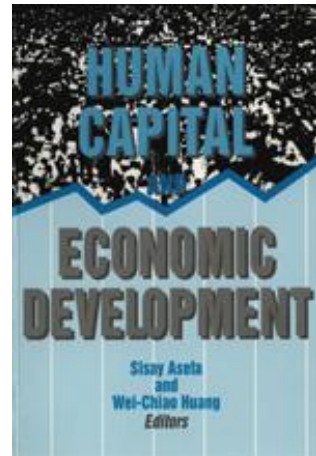


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Can the U.S. System of Workplace Training Survive Global Competition?

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One of the most well-documented facts of modern labor economics is that education and training, or what economists call human capital investments, have high payoff in terms of income and productivity (Denison 1985). In a country like the United States with a large public education system and high levels of college attendance, estimates are that investments in schooling yield a rate of return in excess of 10 percent and that over half of all national wealth is in the form of the education and skills of the labor force (U.S. Congress 1973).

Increases in human capital have traditionally translated into rising productivity and growth in earnings (Denison 1985; Jorgenson 1988). During the postwar period, the American economy could regularly count on productivity increases of around 3 percent a year. After the OPEC oil shock of 1973, however, this rate plummeted to nine-tenths of a percent.

Many explanations have been offered to explain this decline—falling R&D expenditures, low rates of savings and investment, increased governmental regulation, and even the bureaucratic and myopic behavior of managers (Griliches 1988; Jorgenson 1988; Olson 1988). However, a series of blue-ribbon competitiveness commissions advanced the thesis that the accumulating weaknesses of American schools were also a significant drag on productivity growth.

The Commission on Workforce Quality and Labor Market Efficiency (1989) reported that “vast numbers of American students cannot meet the educational requirements of today’s workplace, much less those of the next century...” A study by the American Society of Training Directors (1989) concluded that the problem of “deficiencies in basic workplace skills is a growing one... [which is] driving the

nation toward a human capital deficit...that threatens the competitiveness of economic institutions....” A *Business Week* (1988) cover story on human capital reported that “the U.S. has lost much ground to competitors, and investing in people looks like the way to retake it.” The general conclusion of this wave of reports was that educational reform and new partnerships between education and business were needed to restore productivity growth and to make American industry competitive.

The U.S. System of Workplace Training and Productivity

While not wishing to diminish the importance of education reform, I would argue that the crux of the nation’s human capital deficiencies does not lie exclusively in its schools, and that improvements in education are not as central to solving the nation’s productivity and human capital problems as many have argued. Even if schooling could be a critical part of the long-term solution to the nation’s competitiveness problems, it could do little to rebuild the productive capacity of today’s workers who are already out of school and who will account for two-thirds of the next decade’s labor force. Instead, the problem is rooted in the weakening of America’s *workplace* system for building labor productivity—where I define productivity to include effort, commitment, and problem-solving capacity, as well as job skills.

Schools in this country have never contributed much to this broad conception of productivity and are unlikely ever to play a major role, given the organization of work in American industry. The K–12 school system, and even vocational and technical schools and higher education, are largely intended to provide a once-in-a-lifetime foundation of basic skills for young workers who are entering the labor market. No matter how high the quality, common denominator training in foundation skills for entry-level jobs cannot prepare workers to operate specific technologies, to accommodate quickly to changing products and materials, to meet rising standards of quality, or to solve day-to-day production problems. Nor can it prepare workers for the inevitable changes in skills that will occur during their working lives.

Lifetime skills of this sort can only be learned through experience gained on-the-job by working on the shop floor or in other work settings. A sense of the importance of such workplace training can be obtained by comparing the earnings of recent school graduates who have little or no work experience with those of workers whose productivity has been increased through experiential learning. The earnings of full-time, male high school graduates, for example, will about double after thirty years of work experience and a similar amount of work experience will more than double the earnings of college graduates.

If I have persuaded you that the “workplace training system” is worthy of attention as a source of improved earnings and productivity, then it is important to understand how this system works and what has been happening to it in recent years. I will use the example of production workers in manufacturing as an illustration, but many of the same principles apply more generally to other occupations and other sectors.

Recent Trends in the Workplace Training System

The United States actually has two systems of workplace training. One is what my radical colleagues call the “Taylorist” or “Fordist” system that originated in mass production manufacturing in the early part of the twentieth century; the second is a newer “high-commitment” system that was initially introduced in nonunion, high-technology manufacturing after World War II.

The Fordist System

Under the Fordist system, workers are hired into entry-level jobs that require little or no skill. Those who pass a probationary period of employment are gradually promoted up the rungs of a job ladder to positions of increasing skill, responsibility, and pay. Promotion generally follows seniority, and each promotion requires additional on-the-job training to bring employees up to full productive capacity.

Many of the skills acquired in this way are unique to a particular company’s technology and work organization, and workers therefore acquire human capital that is valuable only in a specific employment

situation. The cost to the firm of providing such skills gives employers an incentive to retain trained workers.

At the same time, the lack of transferable skills and the importance of seniority in job ladder promotions mean that if workers quit their jobs to work for another employer, they are likely to lose income because they will have to start again at the bottom of the job ladder. Since changing jobs is costly to both employers and workers, one of the benefits of working under the Fordist system is that senior workers who have acquired the greatest training and experience tend to accumulate the most job security and are the least likely to quit.

The Fordist system, however, is about more than building workforce productivity through on-the-job training and experience. It also involves raising productivity through “effort bargains,” often reached collectively between labor and management. Collective bargaining agreements can be seen as “grand” effort bargains that commit workers to a certain work pace in exchange for agreed-upon rates of pay and other conditions of employment. These “grand bargains” are further elaborated through numerous informal “shop floor effort bargains” in which workers supply the extra effort and assistance needed to resolve unanticipated production problems in exchange for time off or other considerations that can be granted by foremen (Kaboolian 1990).

Such collective effort bargains provide a means of ensuring that productivity increases do not unduly threaten job security and that gains in output are shared between labor and management. At the same time, they secure worker consent to providing the regular increases in efficiency that are needed to sustain economic gains and job security over the longer term.

The High-Commitment System

The high-commitment system shares many of the underlying sources of productivity found in the Fordist model. Workers are hired into entry-level jobs and are then promoted to positions of increasing skill, responsibility, and pay.

Where these two systems part company, however, is in the nature of their effort bargains. The high-commitment systems emphasizes *individual*, rather than *collective*, effort bargains. In contrast to the Fordist model which relies on collective bargaining processes to set and

enforce the rate of productivity growth, the high-commitment model relies on a complex set of psychological and sociological management techniques to encourage individual workers to internalize the goals and objectives of the company and to act so as to achieve these goals.

Under these individual effort bargains, workers are asked to adopt performance goals and are trained to self-monitor and self-discipline their performance. As soon as a given performance goal is achieved, workers are encouraged to adopt a new effort bargain that incorporates higher production targets.

The *quid pro quo* for these high-commitment effort bargains is the pledge by the company to provide intensive career training and development within the company, fair levels of compensation, and often an implicit guarantee of lifetime employment. The result is continuous improvement in both productivity and career earnings.

Comparing the Models

Both the Fordist and high-commitment systems have in common the ability to enhance labor productivity through workplace training and through the setting of workplace norms that control effort. However, these systems gain productivity at the cost of both high wages and a certain amount of inflexibility that comes from routine adherence to job ladder assignments and from the provision of long-term employment security.

Fordist firms, for example, tend to pay high wages as part of their collective effort bargains, while high-commitment firms typically match or exceed Fordist wage rates as a way of underscoring the fairness of the terms of their effort bargains with individual workers. These high performance pay premiums are not trivial. In high-performance industries such as chemicals and petroleum, nonelectrical machinery (including computers), and primary metals, they range from 16 percent to 29 percent above economywide averages for comparable skills (Katz and Summers 1989).

In economics terms, these productivity-enhancing practices correspond to a concept known as “efficiency wage theory.” Efficiency wage theory is a metaphor about how employment relationships can suffer from what economists call “principal-agent” problems because employers (who are the principals) and workers (who are the agents of

the employer) have somewhat divergent and adversarial interests that can lead to low labor productivity unless workers' abilities can be precisely measured and workers' productivity closely supervised. Mainstream labor economics has focused on high wage premiums as the motivating force for ensuring that productivity will be maintained, but it has not fully appreciated that wages are only a part of more complex workplace systems that raise productivity through various types of effort bargaining.

Employment-At-Will and the Secondary Labor Market

High-performance, efficiency wage systems contrast sharply with a third, and very different, workplace system that I refer to as "employment-at-will." The employment-at-will system resembles a "spot" market for labor, in which wages and employment are determined by the invisible hand of competition. In the employment-at-will system, jobs are dead end; employers provide little or no training and advancement opportunity; there are no effort bargains or incentive wage premiums above market levels; and employment is impermanent.

Collectively, these jobs belong to the secondary labor market of marginal firms and marginal industries such as clothing and textiles. During much of the postwar period, economists assumed that these low-wage, low-performance industries would gradually be replaced by Fordist and high-commitment industries, thereby further aiding growth in productivity and earnings.

The Collapse of High-Performance Employment Systems

This assumption has been shattered by sharp declines in the fortunes of high-performance manufacturing plants since the mid-1970s. Profits fell during the 1970s and early 1980s by about one-third from the levels of the 1960s under the pressures of deregulation and loss of market share to international competitors. These pressures rippled through the labor market as over three-fourths of all large manufacturing companies closed or significantly downsized a facility (Berenbeim 1986),

causing as many as two million workers a year to be displaced from their jobs.

Employment losses were most severe in import-sensitive industries such as steel and apparel. Employment in basic steel has fallen by 58 percent since 1973, and other mature industries have experienced substantial job cuts—textile employment has fallen by 32 percent and apparel by 29 percent, while the auto industry has lost 16 percent of its jobs. As many as one in five of today's unemployed workers have now permanently lost their jobs (Doeringer et al. 1991, ch. 3).

While some workers have found replacement jobs quickly, displacement for most means being out of work for an average of nine months to a year. Not only are replacement jobs harder to find, but they are also likely to be less permanent and to pay less than the career jobs that they replace (Doeringer et al. 1991, ch. 3).

Reemployment has meant wage losses of 25 percent or more for a quarter to a third of all displaced workers. The biggest losers have been high-seniority workers who have held jobs in high-performance firms (Doeringer et al. 1991, ch. 3). These jobs are also less secure because newly hired workers have the least seniority and because the mix of available jobs is becoming less stable. For example, involuntary part-time employment rose by almost three-fourths between 1973 and 1991 (Mishel and Bernstein 1993, table 4.10), and employment in the temporary help industry exploded during this period (Mishel and Bernstein 1993, tables 4.21 and 4.22; Christensen 1989). These impermanent jobs do not offer the kinds of training opportunities or effort bargains that are available to permanent workers in high-performance firms.

The real earnings of those who remain employed in manufacturing have experienced a similar shock. Prior to the 1970s, real hourly earnings in manufacturing rose at an annual rate of about 1.5 percent. Between 1973 and 1979, however, real hourly earnings in manufacturing rose at about half that rate and actually fell between 1980 and 1988. Overall, real earnings in manufacturing have fallen by over 9 percent since 1979.

Young workers have been hardest hit by these changes. Prior to the 1970s, young males could expect strong gains in real earnings during their twenties as they moved from relatively short-term "youth" jobs to higher-paying and more stable "career" jobs. The restructuring of manufacturing has changed this pattern, leaving a generation of young

adults increasingly stranded in low-wage, dead-end, and often part-time service jobs. As a result, the real incomes of young male high school graduates fell by 24 percent between 1973 and 1986, and by 37 percent for high school dropouts (Doeringer et al. 1991, ch. 2).

For those at mid-career, job attachment is becoming less secure as the risk of displacement rises, and even older workers are finding that their once secure career jobs are ending prematurely. Rather than holding a career job until retirement, one in three male workers over fifty-five are moving from career jobs to lower-paid "bridge" jobs. One-fourth of these bridge jobs involve a change of both occupation and industry and half result in a drop in earnings of 25 percent or more (Doeringer et al. 1991, ch. 3; Ruhm 1992).

The degree and persistence of job and earnings losses is unprecedented since the Great Depression of the 1930s; all workers are now at risk of job loss at some point in their careers. While the effects of business restructuring have been most acute for minorities and those with educational disadvantages, even college graduates have been affected. Estimates are that one in five college graduates are now underutilized because they are working in jobs that do not require college degrees—a rate that has almost doubled since 1970 (Hecker 1992).

To some economists, these developments are not a major source of concern. They see such adjustments as evidence that labor in the U.S. economy had become overpriced, overeducated, and inefficiently utilized by world standards. Trimming employment and cutting real wages are the recommended prescriptions for such a situation, and these steps should help to restore the economy to its long-term growth path.

Such an assessment, however, ignores the way in which the nation's workplace training and productivity capacity is also being eroded by industrial restructuring. Much of the reduction in employment and earnings in manufacturing is, in fact, symptomatic of the reconfiguration that is occurring in workplace training systems, and these changes may adversely affect the long-term patterns of productivity and growth in the American economy.

Breaking Effort Bargains

Employment reductions in large enterprises have obviously diminished the number of workers receiving training and premium pay in high-performance workplaces. However, an even more significant consequence of restructuring is that companies are being forced to reconsider the collective and individual effort bargains that have been one of the lynchpins of productivity improvement in the postwar period.

Cutting Wages

In Fordist workplaces, the grand effort bargains are being changed through wage rollbacks and concessions in other wage entitlements such as cost-of-living allowances (Bell 1989). Shop floor effort bargains are also being broken as centralized bargaining in industries such as steel and autos is being replaced by decentralized and fragmented bargaining that allows for additional local wage reductions (Katz 1992). At the same time, effort bargains are also becoming more uncertain through the introduction of two-tier wage systems, lump-sum and bonus payments, and profit-sharing schemes (Bell 1989).

There has been a similar renegeing on effort bargains in high-commitment firms. Pay increases and career advancement have become much less certain, and the implicit guarantees of lifetime employment are being routinely broken by waves of layoffs, sometimes thinly disguised as early retirement programs. Even IBM—the leading proponent of high-commitment effort bargains—has been forced to abandon its long tradition of virtual job guarantees and has begun to rely on layoffs to trim its workforce.

Getting More Productivity

Both Fordist and high-commitment firms are also trying to increase the productivity side of effort bargains. Quality circles and other forms of employee involvement have been adopted to improve productivity, solve quality problems, and more generally to motivate employees to contribute more to business performance (Cole 1989; Kochan, Katz, and McKersie 1986). Concerns with lagging productivity in steel in the 1970s, for example, led to the establishment of plant-level labor-man-

agement committees to find ways to increase productivity. More recently, shop floor labor-management committees have been used to address similar problems in autos.

Inflexible work rules and job assignment practices are often identified by management as a major source of labor inefficiency (Kochan, Katz, and McKersie 1986). Such inflexibility is now being combated by consolidating job classifications and by deploying workers more widely within the enterprise. Flexibility in work assignments has also been used to increase the skill and responsibility of production jobs by blurring the dividing line between supervisory and production work.

Decentralization of personnel and labor relations decisions is also seen as a move that will increase labor efficiency by making it easier to change local effort bargains. For example, in a significant break with past practice, individual auto plants and union locals have been allowed to negotiate explicit labor cost reductions to forestall subcontracting and have sometimes bid for work that the auto companies had intended to subcontract (Katz 1992).

The Threat From Employment-At-Will

As high-performance firms try to rewrite their effort bargains in response to global competition, they also face unanticipated, head-to-head competition from a new breed of domestic employment-at-will firms. Part of this shift to employment-at-will production is occurring through increased subcontracting, but much of it is coming from large and well-established firms that are switching from high-performance to employment-at-will practices.

The new employment-at-will firms do not pay the wage premiums of Fordist or high-commitment firms, preferring instead to keep wages as low as market competition will allow. Jobs with these firms are of indefinite duration and employment is quickly adjusted in response to changing demand. Management retains unrestricted prerogatives over work rules and the assignment of workers; no expectation of job security is offered; and no commitment from employees is expected.

Employment-at-will firms do relatively little human resources development and do not depend on effort bargains to motivate labor productivity. Instead, they rely on market incentives to motivate training investments and effort. Ironically, relying on market forces for a

supply of skills has been made easier by the pool of surplus skilled and experienced labor released by downsizings and plant closings in the high-performance sector.

High-performance firms fear that their current attempts to develop more competitive effort bargains may fail, leaving them saddled with high wage and employment costs that are not being offset by productivity gains. In that event, they too are likely to switch to employment-at-will practices.

The Turnaround in Unit Labor Costs

Broad-based measures of productivity and labor costs suggest that the competitive position of the American economy has been improving during this period of restructuring of the workplace training system. For example, productivity increases in manufacturing rebounded after 1980 as more aggressive productivity-improvement strategies came into play, almost doubling the annual increases of 1.8 percent a year during the period 1975–1980 when employment cost-cutting strategies were first introduced.

Unit labor costs, a summary indicator that includes the effects of both cost-cutting and productivity-improvement strategies, show a similar pattern. Between 1973 and 1979, unit labor costs climbed at an average annual rate of 6.1 percent before subsiding to an average of 1.1 percent a year during the decade of the 1980s. The decline in unit labor costs is especially remarkable in a number of mature industries. In nonelectrical machinery, unit labor costs in the 1980s fell at an annual rate of 5.2 percent, and there were also declines in women's apparel of 4.3 percent per year and in autos of two-tenths of a percent a year.

What cannot be determined, however, is the extent to which these improvements in cost competitiveness are the result of structural changes in high-performance workplaces that have enhanced labor productivity. The results could equally reflect cost-cutting reductions in effort bargains, the effects of closures of inefficient plants as markets declined, and a shift in the composition of production from high-wage, high-performance firms to lower-wage, employment-at-will firms.

Can Public Policy Help?

While most of the changes affecting labor productivity have been the result of private actions taken by companies and unions, their consequences are a matter of deep public concern. For example, a recent study by the Commission on the Skills of the American Workforce (1990), a group that is reported to reflect the Clinton administration's thinking on workforce issues, concluded that raising productivity and restoring American living standards will depend on expanding high-performance employment. Three policy recommendations were identified as central to accomplishing this goal: (1) establishing a common threshold level of foundation skills for entry jobs; (2) creating a public system of skill training that would combine schooling with work experience; and (3) supporting increased workplace training and work reorganization through a 1 percent "play or pay" payroll tax.

In my view, however, such policies will not be sufficient to shift the balance in favor of high-performance firms. Raising foundation skills is a much overrated solution to the kinds of productivity problems facing high-performance firms. The foundations of productivity that are valued by such firms are not those of knowledge and skills, but involve workforce qualities such as flexibility, adaptability, teamwork, and problem-solving capacity. These are not the qualities that schools are used to training for, nor do they lend themselves to the setting of national standards for achievement.

Expanding public skill-training programs is also unlikely to foster an increase in the high-performance sector. Fordist and high-commitment firms have little difficulty recruiting the basic skills they need, and they often prefer to provide their own job training as part of effort bargains with their employees.

Where skill-training programs can make a difference, however, is in supplying trained labor to the employment-at-will sector. Employment-at-will firms want to hire workers who are job-ready, and they deliberately place the burden of human capital formation on workers and schools. As the employment-at-will sector expands, these training needs will grow.

Unfortunately, we lack the kinds of public sector skill-building institutions that can substitute for the lack of workplace training in the

employment-at-will sector. With the exception of long-term residential programs such as the Jobs Corps, most government skill-training programs have yielded relatively little upgrading of skills, and the improvement in earnings has been correspondingly low (Taggart 1981; Bloom 1984; JTPA Advisory Committee 1989). Even the relatively well-financed programs for displaced workers have only been minimally effective (Podgursky and Swaim 1989; Seitchik and Zornitsky 1989).

A much talked-about new approach to skill training is the German model of apprenticeship training. The German "dual system," as it is called, blends technical and vocational schooling with on-the-job experience at a designated workplace. This system has been an effective source of skill training for young high school graduates in Germany, and there is a similar program for upgrading adult skills (Osterman 1991).

This German model, however, is unlikely to succeed in the United States, even if coupled with strong partnerships between schools and employers. An effective apprenticeship training program for the employment-at-will sector needs to be able to link training to the *highest common denominator* needs of *specific groups* of employers so that workers can easily transfer from one firm to another as employment shifts.

In contrast, school-based apprenticeships and other types of work and education partnerships in the United States have more typically gravitated towards the *lowest common denominator* training for entry jobs. Programs that have had more ambitious goals have usually been tailored to serve the needs of a single large employer. Rarely have these programs had any mechanism for ensuring *high-productivity* training for a *pool* of potential employers, and none have sought to facilitate labor mobility among such employers.

A more suitable model is apprenticeship programs that are jointly operated by unions and employer associations, such as those for craft workers in the building trades. Because craft unions represent the human capital interests of their members and have hiring commitments from a pool of employers, they can operate apprenticeship programs that meet the highest common denominator skill needs in their industry. Furthermore, because such programs involve groups of employers, they are well-suited to operate in the unstable and shifting markets of

the employment-at-will sector. In principle, these programs could also meet the neglected training needs of small employers, who account for about one in five jobs in manufacturing.

The carrot and stick of a modest payroll tax, however, is unlikely to make much difference to the future of this type of apprenticeship programs. The track record of similar subsidies for workplace training suggests that such incentives are insufficient to leverage substantial changes in employment practices, let alone overcome employer resistance in the employment-at-will sector to participation in training programs that involve unions (Doeringer et al. 1991, ch. 1).

A more effective policy direction might be to encourage union organization in the employment-at-will sector. Training funds could then be used to subsidize both workplace training and school-based classroom training conducted under union-management apprenticeship programs. If desired, threshold competency standards for these programs could be set by the employers and workers who will be using the training. While such a proposal runs counter to much of the thrust of government policy towards unions over the past decade or so, it may be timely to rethink this entire policy area.

The idea that productivity growth can be achieved through partnerships among business, government, and labor is relevant to the high-performance sector as well, particularly in Fordist firms that rely on negotiations with unions to define productivity levels. Governments can contribute in important ways to the climate in which effort bargains are negotiated by encouraging the substitution of high-performance labor relations in place of adversarial collective bargaining.

An example of this approach is found in the experience of Jamestown, New York, where frequent strikes and outmoded union work rules were accelerating the decline of the city's industrial base. Through the mediation efforts of the city government, areawide labor-management committees were established to improve the labor-relations climate. These efforts in turn led to the creation of in-plant labor-management committees, which are reported to have successfully slowed the loss of manufacturing jobs during the 1970s by reducing strikes, improving productivity, and changing the image of the city as a "bad labor town" (Gittell 1992).

Future Directions for Workplace Training and Productivity

The American workplace is at a critical juncture in terms of its contribution to labor productivity. Cost-cutting, restructuring, and productivity improvements are restoring competitiveness *in production* to many industries, but it is not clear what types of jobs and workplace training systems will survive.

Companies and unions across the country are now debating which workplace training system should guide productivity and wage determination into the next century. Will it be some version of the Fordist model that is evolving in autos and steel; will it be a high-commitment model with high wages, intensive human resources development, and some form of employment guarantee; will it involve a greater use of craft and apprenticeship training arrangements; or will it be the low-wage, low-productivity employment-at-will model?

Each of these systems implies a different type of commitment to human resources development and a different approach to generating productivity growth. Each places a distinct imprint on the adjustment process in terms of who is affected, how the costs of adjustment are divided between employers and workers, and the rate at which plant-level productivity will grow. Ultimately, these are choices between high- and low-productivity strategies at the workplace, which, in the aggregate, will translate into long-term choices between a high-growth path and a low-growth path for productivity and income in the national economy.

At present, high-performance models of all kinds are imperiled by continued downsizing, broken effort bargains, and competition from employment-at-will production. Despite widespread management and union interest in improving labor productivity and successful instances where workplace restructuring has raised labor efficiency (Katz, Kochan, and Gobeille 1983; Katz 1985; Cooke 1989), a recent survey of medium- and large-size companies found that only two in five were using high-performance workplace practices, and in only a quarter of these firms did high-performance practices apply to more than half of the workforce (Osterman 1993).

It therefore remains to be seen whether the high-performance workplace can survive long enough to gain a majority share in the U.S. labor market, or if the low-performance, employment-at-will model will prevail.

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