The Growing Wage Gap: Is Training the Answer?

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The papers presented in this conference highlight three concerns with current labor market outcomes in the United States—stagnant or declining real wages, stagnant productivity growth, and a widening gap in the wages of skilled and unskilled workers. Several recent examinations (for example, Brauer and Hickok 1994, Freeman 1994, and Lynch 1994) have concluded that one of the solutions to rising wage inequality is to increase the level of training and education of the work force. This paper examines in more detail the potential role and limitations of workplace training in ameliorating the growing gap in earnings across skill groups in the United States, along with its impact on the level of wages and productivity.

In the current debate on the relative importance of trade versus technological change or changing product cycles as the primary explanation of the widening wage gap, it is important to observe that many of these factors were also experienced by other countries without a similar increase in the wage gap (for example, see Abraham and Houseman's [1993] analysis of Germany, which shows no increase in wage inequality). This suggests that there are other institutions or factors at play that ameliorate the effect of these factors on the distribution of wages. I would like to argue that training and education systems are one such source. In comparing the incidence of post-school training investments in the United States with the incidence in Germany and Japan, one finds large differences. As shown in the chart on page 55, both Germany (in particular for those aged 20 to 24) and Japan have a higher incidence of firm-provided training than does the United States. This is true even though the incidence measure for the United States is broader than that used for Germany and Japan.[1] As a result of more extensive post-school training for workers with the equivalent of a high school degree, German and Japanese firms treat college-educated

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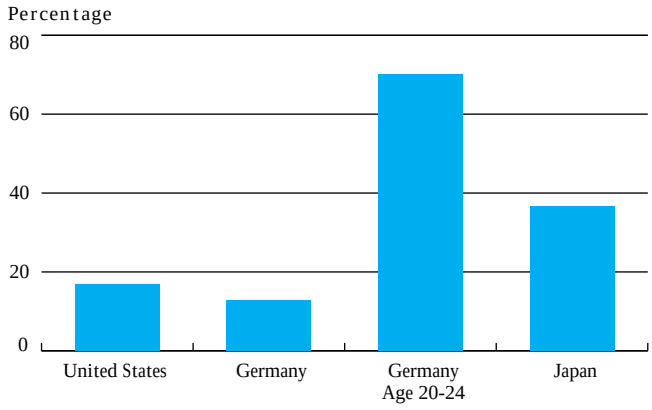
and non-college-educated workers as much closer substitutes in production than U.S. firms. Consequently, when a major technological change occurs that switches the relative demand for skilled workers, German and Japanese workers who are not college graduates are not affected as much as their U.S. counterparts.

Therefore, training could play an important role in narrowing the wage gap. Training in general increases productivity and, consequently, the wages of workers who experience an increase in their human capital. However, its impact on the relative wages of workers is more ambiguous. In order to narrow the current gap in earnings between skilled and unskilled workers, training would need to be directed disproportionately toward lower skilled workers. At the moment these workers are the least likely in the United States to receive post-school training (see Lynch 1994). The U.S. training system, in contrast to those in Europe and Japan, is highly decentralized and has little formal structure. The possible sources of post-school training include formal and informal employer-provided on-the-job training, off-the-job training obtained in proprietary institutions or in special programs developed in junior or community colleges, government training programs such as the Job Training Partnership Act (JTPA), and the military. One of the key features of the U.S. system is that no national system exists for accrediting vocational skills acquired on the job. Decisions to invest in training are made by individual workers or specific firms. There is increasing evidence that for the majority of workers in the United States, the training content of most firm-provided on-the-job training is generally task-specific (for example, Lynch 1992) and not geared to preparing workers for a lifetime of skills training as technology and workplace practices change.

Individuals Receiving Company Training



Sources: *Current Population Survey*, 1991, for the United States; *OECD Employment Outlook*, 1991, for Germany and Japan. Data for Germany and Japan refer to 1989 while data for the United States refer to 1991.

As shown in the chart, in 1991 only 16 percent of U.S. workers said they had received formal skills training in their current job, yet recent survey data suggest that nearly half of all establishments in the United States in 1993 provided some type of formal skills training. How can we square the finding that many firms provide training with the fact that few workers seem to get it? Furthermore, what is the impact of this apparent paradox as a possible explanation of the rising wage gap across skill groups in the United States during the 1980s? While it appears that rising skill requirements require firms to provide more workplace training, this training is being concentrated among a small percentage of the work force. As a result, technical and managerial workers are receiving intensive workplace training beyond their already extensive formal schooling, but those workers with the lowest educational levels are the least likely to receive additional firm-provided training. In the United States, highly educated workers are more likely to receive post-school training, placing them in a "virtuous circle" of human capital accumulation. At the same time, high school graduates and dropouts are unlikely to receive additional post-school training, resulting in a vicious circle of low human capital growth. Consequently, given the changes in the workplace that have put an increased premium on skills (changes that have been outlined in other papers in this conference), low-skilled workers find themselves at an increasing disadvantage in the workplace. Both their absolute and relative wages decline vis-à-vis the wages of skilled workers.

What are the returns to training for those who do receive it? Currently in the United States, company-provided training programs, apprenticeships, and off-the-job training seem to increase wages of workers on the order of 4.4 to 11 percent (see Lynch 1994). However, workers in the United States do not seem to gain from previous com-

pany-provided on-the-job training when they move to a new employer. This may suggest that a great deal of company-provided training is relatively firm-specific. In addition, these estimates of the impact of training on wages may be upwardly biased because of self-selection of more "trainable" or motivated workers in workplace training. Therefore, it is equally important to identify and quantify the returns to firms of training investments in the form of productivity gains. Unfortunately, relatively few studies are able to measure the impact of company-provided training on the productivity of workers in the United States. The few studies that do exist (see Lynch 1994 for a summary of these studies) suggest that training increased productivity on the order of 16 to 17 percent. This is a very high rate of return, but until we have a more representative sample of establishments in the United States in which we can control for capital and other characteristics of firms,[2] the returns to training for the typical firm remain somewhat speculative.

Given the apparently high rates of return to workers and firms of training, why isn't everyone receiving training? Firms may not provide training, especially training that workers could use throughout the economy, for a variety of reasons. Smaller firms often have higher training costs per employee than larger firms because they cannot spread the fixed costs of training over a large group of employees. In addition, the loss in total production from having one worker in off-the-job training is probably higher for a small firm than for large firms. This is confirmed in the recent Bureau of Labor Statistics survey of formal training practices of establishments in the United States (1994). More than 50 percent of establishments with 250 or more employees have apprenticeship programs, while only 17 percent of establishments with less than 50 employees have apprenticeship programs. Virtually all large establishments in the survey reported some type of formal job skills training, while only 45 percent of establishments with less than 50 employees had any formal jobs skill training for any employees. Formal skills training in turn appears to consist mainly of three types of skills—management skills, computer skills, and sales and customer relations skills (Bureau of Labor Statistics 1994). Production workers are not receiving as much skills upgrading as workers in other occupations.

Another reason why firms may not be willing to invest in worker training is high employee turnover. In fact, training itself may contribute to worker turnover: if new skills (such as computer skills, communication skills, or problem solving) are valuable to other employers, the firm risks having the worker hired away. Therefore, firm-specific training that is only useful to a single firm (orientation, specific equipment training) is a more sensible investment for firms than more general training. This would not be a problem if workers could readily borrow money to finance general training themselves, or if employers could pay workers lower wages during general training periods. But workers cannot easily borrow money for workplace training. In addition, since we do not have any system of national accreditation of general skills acquired in the workplace, workers are reluctant to invest (by accepting lower wages during general training periods) even in more general training if the marketplace has difficulty in identifying and paying higher wages for general training that has been provided by a firm.

Firm size and employee turnover can generate alternative strategies within the industrial sector with regard to firm-provided training. Larger firms with better developed internal labor markets can provide more in-house training, while smaller firms must hire workers with skills already in place. This differential corporate strategy could be a partial explanation for some of the rising variance in earnings within groups. However, in order to argue that there is underinvestment in training, we need to believe that there is a market failure in the investment in training in the United States. This failure may take the form of imperfect capital markets that discourage workers from investing in general skills training, or of regulations that raise the costs to firms of providing more general skills training. Alternatively, the failure could be due to scale effects that make training more expensive for smaller firms.

So, without getting bogged down in the percentage of the rising wage gap that is explained by trade, technological change, capital deepening, or shifts in product

demand and product life cycles, what impact could increased training targeted at workers who currently are receiving relatively little training have on wages?

While the impact of trade on the overall wage gap between skilled and unskilled workers may be quite modest, it is clear that trade and increasing international competition have had an impact on the wages of workers in specific sectors such as textiles, apparel, autos, and steel. Increased worker training in these industries should take two forms. First, enhanced skills training to increase labor productivity would allow workers and firms to continue competing in these sectors by using alternative high-value-added production systems and differentiating their production so that they are not competing with low-wage labor from other countries. In the automobile sector this has occurred through a shift to just-in-time production and greater employee involvement in quality control and decision making (à la Saturn). This change requires extensive cross-training of workers in combination with enhanced communication and problem-solving skills. As industries such as steel go for a market niche strategy (for example, mini-mills), workers need to be able to adjust to shorter product runs with much greater variation. Again, this involves increased cross-training. The second form of training would be targeted at displaced workers who have lost their jobs because of technological changes or trade and who need new skills to move to different sectors of the economy. Current government efforts to speed up the identification and development of appropriate training programs for this type of worker should improve the employment and wage prospects of this group.

Since many (but not all economists) seem to focus on technological change as the major source of the widening wage gap, training might play an important role in assisting workers to adjust to technological changes. Revamping the school-to-work transition process to better equip young workers who will not complete a college degree to acquire the skills they need would be useful. The experiences of other countries suggest that effective workplace training programs are characterized by three factors—coinvestment, certification, and codetermination. Coinvestment increases the commitment of both workers and firms to the training process. Certification enables workers to accept lower wages during training periods because they know that at the end they will be able to document their more general training. Finally, codetermination guarantees that workplace training is not too narrow in content, or too firm-specific.

But addressing the school-to-work transition in the United States does not develop institutional support for those workers already in the work force who find their skills increasingly obsolete. Firms have historically been the only source of human capital accumulation for incumbent workers. Therefore, there is a need to assist firms to develop and expand their training programs, especially for unskilled workers. At the same time, additional support should be provided for incumbent workers who need to return to school.

Let us be clear that training is not some magic elixir that will solve all the problems associated with rising wage inequality, falling real wages for unskilled workers, and stagnant productivity growth in the United States. Training for training's sake will not eliminate the wage gap. Any revision of our training system for new entrants into the labor market would affect relative wages only after a long lag, because new entrants represent a small proportion of the overall work force. At the same time, incumbent worker training, such as that found in Germany, requires substantial financial and institutional support, including a national system of certification and testing (with codetermination of the content of training between employers and workers), government funding of off-site classroom training, and assistance from financial institutions and local chambers of commerce. In conclusion, even if we were able to reform our training system tomorrow for both new entrants and incumbent workers and to reduce the wage gap to its pre-1980s level, the demand for increased training and education would not stop. Since the external forces of international trade and technological change are unlikely to diminish in the future, education and training will continue to be important to maintain and improve living standards and to raise productivity.

ENDNOTES

1. The U.S. number reflects the percentage of workers who have ever received any training at any time with their current employer, while the numbers for Germany and Japan are the percentage of workers trained in the previous year.

2. Additional evidence on the productivity gains associated with company-provided training programs will be furnished by a new study of more than 3,000 private sector establishments in the United States designed by the National Center on the Educational Quality of the Workforce.

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