CHAPTER 5

Skills for Development

Increasing the skills and capabilities of workers is key to economic success in an increasingly integrated and competitive global economy. Investing in people can boost the living standards of households by expanding opportunities, raising productivity, attracting capital investment, and increasing earning power. Better health, nutrition, and education also have value in their own right, enabling people to lead more fulfilling lives. The importance of investing in human capital, especially education, for economic growth and household welfare is recognized worldwide; this realization has contributed to unprecedented global increases in schooling in recent decades. Yet these investments alone do not always lead to more rapid growth; in the wrong environment investments in people may only yield misspent or idle resources.

This chapter examines why human capital is important, why many countries have not been able to reap its benefits, and what role governments can play in supporting household investments in human capital.

What is human capital?
The livelihoods of farmers, industrial laborers, and service workers depend increasingly on their acquiring such basic skills as literacy and numeracy, as well as more specialized skills and the ability to manage complex tasks and organize the work of others. The human resources investments required to learn these skills—investments in health and nutrition, and in education and training—begin at an early age and extend over a lifetime. Such investments create the human capital necessary for raising the productivity of labor and the economic well-being of workers and their families.

Lowering protein-energy malnutrition, and increasing consumption of micronutrients such as iron and iodine, can increase labor productivity by improving mental and physical capacity. Analyses of farm households in southern India and on the island of Mindanao in the Philippines found that increased weight-for-height (a measure of long-term nutritional status) and height alone (a proxy for childhood nutrition) are both closely associated with greater adult output per worker. The quantitative impact on future productivity of better nutrition early in life appears in these cases to be at least as large as that often reported for primary schooling.

Education is essential for raising individual productivity. General education gives children skills that they can later transfer from job to job and the basic intellectual tools necessary for further learning. It augments the ability to perform standard tasks, to process and use information, and to adapt to new technologies and production practices. Evidence on the adoption of high-yielding varieties of food grains in China and India illustrates the point. After accounting for farm size and other production factors, studies found that better educated farmers in China's Hunan Province were more likely to adopt the more productive hybrids. In India, areas where relatively few farmers had primary schooling at the onset of the green revolution experienced less growth than areas with the same technological opportunities but better educated farmers.

Training for work exhibits a similar relationship with productivity. Enterprise-based training in Taiwan, China, has been associated with a significant rise in output per worker, with the largest gains realized in firms that invested simultaneously in training and technology. As in the case of the green revolution, human capital bears an especially high return when the opportunity to take advantage of new ideas is present.

Investments in people are often highly complementary. Adequate nutrition and health increase the ability of children to learn. Analysis of four Guatemalan villages indicates that protein-enriched food supplements delivered in childhood significantly improved scores on educational achievement tests administered some ten years later. Improving a country's general education increases the probability that workers will receive training after their formal education. In Peru male workers were 25 percent more likely to receive training from their employers if they had some rather than no secondary schooling; if they had completed secondary school, they were 52 percent more likely to receive training.

Increasing the human capital of workers boosts their earning power, because market-oriented economics reward the skilled worker who is able to deliver more output, or an output that is more highly valued in the marketplace. Rewards for education and skills, relative to those for unskilled labor, are now rising in some former centrally planned economies, where administrative rules rather than the market long determined wages. In Slovenia workers with education and prior work experience have seen their wages increase, as newly released market forces have begun to expand the wage structure in line with differences in the value of worker productivity.

Human capital: necessary but not sufficient
More education usually means more-productive individuals. So it is not surprising that, since 1960, world enroll-
ments at all levels of education combined have increased fivefold. Today more than five of every ten secondary school graduates live in low- and middle-income countries; thirty years ago only three in ten did. In 1960 roughly one-third of all adults in developing countries were literate; in 1990 more than half were. This trend spans all regions, although the variance in outcomes remains large. Worldwide, women are increasingly better educated, although the distribution of schooling between men and women remains highly unequal in most regions.

So why has economic growth remained elusive in many parts of the world, despite rising levels of schooling and other forms of human capital? There are two reasons. First, human capital can be poorly used. Greater investment in human capital can neither compensate for nor overcome an environment inimical to economic growth. Second, human capital investments can be of the wrong type or of poor quality. Expenditures on human resources often fail to provide the quantity, quality, or type of human capital that it might have if the funds had been better spent. There are numerous examples—of food supplements having little effect on recipients' nutritional status; of increased school attendance yielding little change on standardized test scores; and of graduates of public training institutes finding no market for their new skills.

Underutilization of the education and skills of workers is mostly a problem of lack of labor demand due to inappropriate development strategies. This is evident in many regions, including Southeast Asia. The work forces of Viet Nam and the Philippines have historically had higher rates of adult literacy and educational attainment than other countries in the region. Yet both of these economies have grown relatively slowly, as Figure 5.1 shows, largely because both countries adopted development strategies—central planning in Viet Nam, import substitution in the Philippines—that proved incapable of taking full advantage of their stock of human capital. Some of the successful performers in Southeast Asia, in contrast, initially had relatively low levels of human capital but pursued strategies that expanded education and the demand for labor simultaneously.

The Philippines and Viet Nam did realize a return on their human resources investments. Many educated Filipinos took their skills abroad, and their remittances became the Philippine economy's largest source of foreign exchange earnings. In Viet Nam today, past investments in human capital are contributing to improved economic performance now that the country has adopted a more market-based approach to development. But what the Philippines and Viet Nam demonstrate is that the expansion of human capabilities delivers its full potential only when there is a corresponding increase in market-driven demand for labor skills.

Government human resources policy also is part of the reason why investments in people do not always pay dividends. There are many examples; here we focus on education. Excessive spending on education bureaucracies and school infrastructure, rather than on teaching staff and supplies, depresses the quantity and quality of schooling. So do poorly trained teachers and failure to set high standards for students. Finally, human capital tends to be relatively unproductive where the skills acquired in school do not match market opportunities, or where higher education is promoted at the expense of primary and secondary schooling.
In all of these cases, improvements in education policy are needed to ensure that expenditures on schooling yield productive investments in human capital.

**Supporting investment in people**

Households willingly invest in their members’ good health and education, because the benefits, which include the economic benefit of higher lifetime earnings, usually far exceed the costs (Box 5.1). Yet often households underinvest in human capital. When they do, governments have an essential role in supporting these investments in people.

Households are often poorly informed about the returns to human capital, especially in the areas of health and nutrition. Government-sponsored health and nutrition education can encourage them to undertake these high-return investments. Governments also intervene when families are willing to invest in human resources but cannot, because lenders are unwilling to extend credit against expected future earnings. Finally, the value to society of human capital investment can exceed its value to individual families: a more educated society is better able to adopt new technologies, and shared schooling experiences contribute to nation building. To capture these social benefits, governments can change the incentives households face, by targeting subsidies at the poor or, as in the case of primary education, providing the service for free.

Special efforts are often needed to offset the tendency for girls to receive less education than boys. Beyond the benefits it offers women in the labor market, education is linked to lower fertility, lower maternal mortality, and better health, nutrition, and education of children. These may not be fully realized without strong public intervention. The goals of combating discrimination, reducing poverty, and promoting equity therefore justify government action to promote the accumulation of human capital, especially among the poor.

**Training as an investment**

Productive learning does not end with school. Most individuals continue to build their skills throughout their working lives, through training on the job and in formal training centers. Training is an investment from the perspective of both workers and employers. Workers often willingly incur fees for training courses, or accept lower wages than they would receive if not engaged in on-the-job training, in return for expected higher wages in the future. Firms have an incentive to invest in their employees’ training because they frequently need workers with certain skills. Neither side is completely sure that it will be able to appropriate fully the returns to its investment: workers may quit and transfer the gains to another employer, or may lose their jobs and find the skills they have acquired are not transferable. Employers and employees have found ways to work around this problem so that both sides can still gain: employers provide job security to reduce turnover; workers may agree to training contracts whereby they repay the employer if they leave before the employer’s investment has been recouped; and workers and their employers can share the productivity gains associated with training.

Because training is often a good investment, most training takes place with little government involvement. The amount of training firms undertake varies, sometimes greatly, between countries and sectors, and even across firms within the same sector, depending on their size and type of ownership. In 1991, 24 percent of Mexican workers reported receiving some form of training to improve their skills on the job; the corresponding figure in Japan was 37 percent. Firms in high-technology industries in Indonesia are more likely to train their workers than those in low-technology sectors. Export-oriented enterprises in the chemical sector in Taiwan, China, are three times more likely to invest in training than those producing for the domestic sector, and six times more likely than the average Taiwanese textile firm. Export orientation, the pace of technological change, the education of the work force, and economic cycles and growth prospects all appear to determine a firm’s willingness to train its workers.

If training is in the interest of both workers and employers, and in market economies takes place in response to underlying economic circumstances, should governments get involved? Governments should intervene in the market for training if there are particular market failures or imperfections, or to pursue goals other than economic efficiency. As with general education, individuals many underinvest in training because of lack of information or credit market failures, or because spillover effects drive a wedge between private and social returns. However, at least in the case of within-firm training, many of these problems may be secondary to constraints that inhibit firms from investing in skills.

When the level of skills in the labor market is low, firms may invest too little in training despite prospective returns that would justify the investment, for fear that their workers, once trained, will find other employment. How great a problem this is remains unknown. Where returns to training have been high, as in the Republic of Korea, firms are more likely to train their workers than those producing for the domestic sector. Export-oriented enterprises in Taiwan, for example, spend six times more on training than firms producing for the domestic sector. In Japan, only 12 percent of firms in high-technology sectors are more likely to train their workers than those in low-technology sectors. Export orientation, the pace of technological change, the education of the work force, and economic cycles and growth prospects all appear to determine a firm’s willingness to train its workers.

Lack of training may also result from labor market regulations—including high minimum wages and rules governing job ladders within firms—that prevent firms from paying lower wages to trainees or restrict the placement of trained workers. In Mexico, federal labor legislation placing strict seniority-based rules on promotion reduces the incentive to train workers. The ideal solution would be to remove these policy constraints; failing that, alternatives in-
Box 5.1 By how much does education raise wages?

In every country, workers with more education tend to earn more than workers with less. Detailed statistical analyses of the countries shown in the figure confirm a positive association between wages and schooling for both men and women. The association was found both in economies that were growing quickly (Indonesia and Thailand) and in those with falling income per capita (Côte d’Ivoire, Peru, and Slovenia).

The wage premium associated with education varies considerably and appears related to the relative scarcity of educated workers—higher rewards where educated workers are in high demand (Thailand) or low supply (Côte d’Ivoire), lower rewards where educated workers are relatively abundant (Slovenia and the United States). The wage premium also depends on the level of education—among the low- and middle-income countries in the figure, the wage ratio between secondary and primary school graduates exceeds that between primary graduates and those with no schooling in all but one case. Wage premiums to education are sometimes higher for women than for men (in Indonesia, Peru, and Thailand, for example). This does not mean that women earn more than men, but only that the economic return to their schooling can be higher.

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<th>Highest level completed:</th>
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other countries confirm that skill deficiencies are rarely cited as a major problem confronting small-scale entrepreneurs.

Training in the informal sector may be sufficient for perpetuating current activities, but lack of knowledge about marketing, new technologies, and general business skills may constrain the expansion of informal sector firms. Training services targeted at small enterprises and aimed at remedying these deficiencies have shown some promise. One example is Mexico’s Multiple Support Service Program (known by its Spanish acronym CIMO), which provides technical assistance and training services to micro- and small enterprises. Numerous case studies document cost-effective improvements in productivity and increases in employment and profitability among CIMO participants. The scope for replicating and expanding such programs, however, is limited. For many public interventions aimed at microenterprises, costs are high because of program administrative expenses and the high failure rate of small enterprises.

In many countries, governments use training to address such problems as low skill levels among the employed workforce, high youth unemployment, displacement of workers during economy-wide transitions, and the structural unemployment and poverty associated with disadvantaged workers. But whether public expenditures on training are warranted depends on the underlying cause of the problem, and on the opportunity cost of public resources.

Low workforce skill levels appear to be less the result of failures in the market for training than of a generally low level of labor demand. The same may hold true for youth unemployment. But the rationale for government involvement in training displaced workers is more compelling. Displacement due to major economic transitions or aggregate shocks may call for government support of retraining, because of absent markets, excessive risk, and the need to ensure social stability and public support for the broader reform program; unfortunately, the direct economic benefits often are limited (see Chapter 17).

Enterprise-led training is usually the most cost-effective means of developing worker skills. By comparison, government delivery in most countries, in state-sponsored training centers and especially in vocational education, has proved expensive and often has provided trainees with few marketable skills. Ways must be found to reorient public training institutions to respond to consumer and market demands. The best way is often to shift public financing from providers of training to the demand side of the market, enabling targeted workers to purchase training within a competitive environment of alternative suppliers.

This shift has happened in some Latin American countries. Training institutions had been guaranteed financing from payroll levies to perform preemployment training, even though frequently they were unable to place their graduates. But with the right incentives many of these same institutions have evolved and now sell valued services directly to private enterprises and individuals. Chile’s use of training vouchers for workers and tax credits for employers is one example of successful reform in this area. Vouchers are distributed to targeted groups—young, unemployed workers, usually women. At the same time, rights to offer training courses are auctioned by a government agency to a competitive market of training organizations, both public and private; their cost recovery is conditional on a minimum rate of trainees finding jobs after completing training. In this way the burden of designing successful training programs is shifted to where it belongs—the training institutions themselves.

Private training providers are also emerging in the transitional economies of Eastern Europe and Asia, for example in foreign language, education, and computer skills. Prior to the transition all training institutions were public, and few were oriented to the new skills required by a modern market economy. Governments can support private sector initiatives by removing prohibitions on the private supply of training; price controls on tuition fees, excessive regulation of curricula, and competition with subsidized public institutions all limit the private sector’s response.

Households and firms need an environment that encourages good decisionmaking with respect to investing in skills. What should governments do? Where private returns to human capital are high but the investments are not being undertaken, government must first try to understand why before designing and implementing interventions, especially pricing strategies. In primary education, free public provision usually makes sense, to reap the gains to society as a whole and reach the poor. But for most other human resources programs, free provision more often is not justified. Especially in the area of training, governments should focus more on financing and less on production. Government intervention, whatever its form, should avoid benefiting the privileged few. The highest priority should be placed on investing in children, because their health, nutrition, and basic education are the foundation of a nation’s future.