

ECONOMICS 101: THE MACROECONOMIC SETTING FOR SKILLS DEVELOPMENT

Economic growth and development is all about raising productivity, wages, and profits in the right proportion to maximize savings and investment. When productivity is low, so too are wages, savings, and investment, which leads to still lower productivity. When productivity declines, wages fall along with new investment, leading to the proverbial “low skill-bad job” trap illustrated in Figure 1.

Figure 1: The Traditional Poverty Cycle

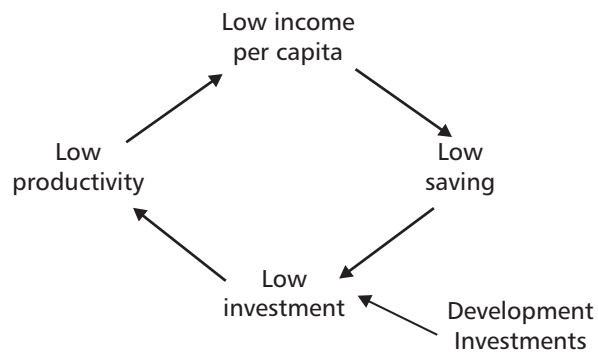


Figure 1 also illustrates the problem of kick-starting an economy and initiating the process of national development. The objective of governments should be to provide incentives for firms and individuals to invest physical and human resources in such a way as to escape this trap. To this end, macro-level policies enacted by governments should aim at sensible tariff structures and strategic alliances that capitalize on comparative advantages, at financial markets that encourage

investments, and at strengthening the rule of law, particularly property rights. When policies complement each other and operate in the same direction, there is scope for real change. To further support such change, governments also need to examine carefully the mix of education and skills of their citizens to ensure sufficient supply of high quality and equitably distributed human capital.

Starting from a position of unskilled and unpaid rural farm labor, policies must aim to increase the productivity of farmers and thereby increase agricultural productivity. If successful, household income and nutrition are raised, allowing greater investments in children's education and health, as well as off-farm migration. Growing urban populations require policies that support productive manufacturing, including that for export. Technology imports start at a modest level, such as assembly, and move up the value-added chain. Rising incomes lead to household spending on education and health, as well as savings that contribute to investment in physical capital. As savings and investment levels rise, so too does domestic production of goods and services.

The strategy to escape poverty is to invest in social sectors that require large gains in health and education before per capita incomes can be raised. This is followed by investments in agricultural productivity (often through improved technology), core infrastructure, manufacturing (via the private sector), and policies favoring equity and environmental concerns. Taken together, increases in savings, government revenues, organizational efficiency, and agricultural and manufacturing productivity all work to push investments above thresholds needed for self-sustaining growth. This is the story told in Figure 1 when the word "low" is replaced by "higher."

In some Asian countries, this process has been carried forward following a similar broad path. First, biases against agriculture and rural society combined with capital-intensive investments sparked widening inequality. Eventually, export promotion offset negative incentives from import protection, including labor-intensive policies. Finally, with wider globalization, increased capital investment has been complemented by greater access to technology. Hong Kong, China, Malaysia, Republic of Korea, Singapore, and Taipei, China stressed rapid growth in worker output that brought rapid growth in

the incomes of both the salaried and self-employed together with a swift influx of rural labor into higher productivity employment in industry and services. Over time, these so-called Asian Tigers invested in both physical and human capital. Strong export orientation reduced economic rents and labor policy did not favor privileged groups. Many of the Central Asian economies, on the other hand, opted for centrally-planned economies and supported wages—a policy dictated more by strategy than demand. This led to resource misallocations and a lack of technical dynamism that contributed to a backward service sector. Other countries on the Mekong and in South Asia tried inward-oriented development paths, such as protectionism, that led to slow growth in labor demand, especially in industries dependent on local markets. Learning from these experiences, it becomes clear that policy choices have implications for economic development. Governments, firms, and individuals all have a role to play in ensuring that nations choose wisely a national course of action that simultaneously raises labor productivity, wages, savings, and investment.

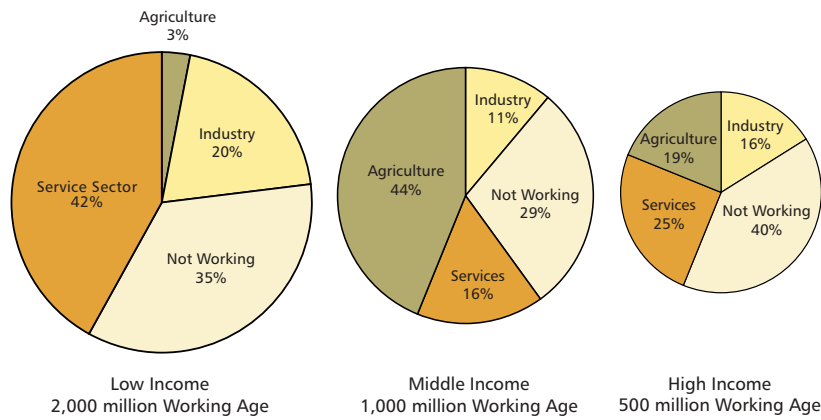
A. LABOR MARKET STRUCTURES

Worldwide, labor market trends have shifted in expected patterns as countries developed economically over the past 50 years. Analysis reveals that generally, workers aged 15 to 60 have options to work in agriculture, manufacturing and industry, or in service sectors as salaried, self-employed, or unpaid labor. Alternatively, they can remain unemployed by choice or otherwise.

Figure 2 displays the percentage of workforce participation by sector for the low, middle, and upper income countries of the world. The data is adapted from the World Bank 1995 *World Development Report*, but the pattern remains the same today. A significant point is that the poorest countries have four times the number of workers as high-income countries, while middle-income countries have twice the workforce of high-income countries. In the poorest countries, most work is in the agriculture sector, where wages often are low or in kind as unpaid labor. Jobs are largely outside the formal sector, and pay is low and work is physical. Most workers must take work at any cost as

unemployment is not an option for either the old or the young. In middle-income countries, there is a steady shift of workers from the agriculture sector to the higher value-added manufacturing and industry sector. Additionally, the service sector begins to expand once incomes start to rise. Again, unemployment is not an option even in middle-income countries given the lack of social protection mechanisms. Finally, as countries become highly developed economically, employment in the agriculture sector declines to less than 3% of the workforce, and the danger arises that manufacturing will be outsourced as low value-added industries are abandoned for smaller, high value-added manufacturing. Meanwhile, the service sector widens and deepens dramatically as the demand for varied goods and services multiples. Open unemployment can be considerable as social welfare systems expand to meet demand.

Figure 2: National Labor Market Profiles by Sector and Country Income



Source: World Bank. 1995. World Development Report: Workers in an Integrating World. Washington D.C., p. 10.

Low and middle-income countries account for about 80% of the world workforce, yet they account for only 50% of the world's skilled workers (high school and above). Likewise, their share of the total capital stock is only 13% of the world total. At present, capital and technology flow across borders far easier than labor. Middle-income countries thus need to raise workforce skill levels and accumulate more capital before specializing in manufacturing, since manufacturing depends heavily on skill acquisition and capital investment.

Sector and labor patterns in Asian countries follow those just discussed. Some countries, like many found in South Asia, are still making the shift out of agriculture. The middle-income countries, such as those in Central Asia and Southeast Asia, are striving to build a manufacturing base. Over the next 20 years, Asia is likely to see numerous countries come on line with low-cost manufacturing that can compete in the production of low-end export goods and services. Some of the advanced countries of Asia find themselves upscaling their manufacturing sector to pursue niche areas, while developing a high-end service sector (Hertel, T. and F. Zhai, 2004).

At the micro level, the shift of workers off farms to more urban and formal sector activities involves a complicated process of moving from an unorganized labor structure to a more organized one, where workers enter the wage economy and self employment. Depending on many factors, individuals often have to break out of highly segmented markets that discriminate against the uneducated, women, minorities, and other disadvantaged groups. Here it is important to note that in societies where many have no education, even some primary schooling has economic value, as noted in numerous rate-of-return studies showing that primary school completion pays big dividends in the poorest societies.

B. LABOR AND CAPITAL INPUTS

Labor and capital are two major factors in generating growth and productivity in every nation. Poor countries usually have a surplus of labor, but often of low quality.¹ Consequently, it is important to continuously upgrade education and training. The sooner countries begin this process, the better off their workers will be in the future. As countries develop, the supply of capital increases and can be substituted for labor-intensive strategies. As emphasized earlier, governments should try to avoid any imbalance between the supply and demand of capital and labor by reasonably proportioned investments in physical capital and human capital that maximize productivity. An over-emphasis on capital (profit-led) investments will curtail consumption, while an over-emphasis on labor (wage-led) investments will limit capital investment. Both profit-led and wage-led strategies will reduce growth because less than optimal increases in wages and profits will limit savings and future investment.

The general process of labor and capital investment trade-off is well documented. During economic booms, labor demand increases and unemployment falls. Wages then rise faster than the economy and leads to a fall in profits. Investment declines and economic growth stalls or declines, whereupon unemployment rises, wages fall, and profitability is restored, leading to reinvestment. The cycle is self-generating. But judicious investments in capital and labor allow greater productivity, which in turn leads to higher wages and savings that, along with higher profits, stimulate investment. The difficulty is finding the right combination of investment in labor and capital that allows the economy to grow fastest without generating too much unemployment or too much spare production capacity. Governments aim to choose, over time, the right policies that, taken together, pull the economy in the direction of an environment conducive to development. Fine-tuning investments in capital and labor is essential to this strategy.

¹ The experience of industrial countries suggests that the accumulation of physical capital is an important source of growth in the early stages of development. After relatively high capital intensity is reached, technological progress tends to become dominant (Agenor, 2000).

Investments in labor can be made in several ways. For example, countries can gradually but consistently upgrade their active labor force through general education, on-the-job training programs, and the whole set of forces contributing to a more experienced and productively employed workforce. In effect, a process of learning by doing transforms workers—they become more productive. Thus, by upgrading education and training, the productivity of the individual worker is increased. Countries can also invest heavily in physical capital, so workers can be more productive due to better equipment and machines. Finally, countries can improve institutional mechanisms through efficiency and capacity development to ensure that investments in labor and capital become more effective (C.F. Felipe, 2004).

Investments in education and training are investments in human capital. When these investments are combined with new technologies resulting from capital investments, powerful mechanisms come into play to accelerate growth and productivity, leading to higher wages, savings, and investment for future growth. Technological change spurs new practices with profound effects on industries, occupations, employment relations, skill requirements, wages, organization of work, and human resource practices. It is clear that to exploit comparative advantage in the use of new technologies, a strong local skill base, infrastructure, and an effective regulatory framework are needed. Basic skills are essential to exploit opportunities for technological change. Policies that encourage investment in human resources can play an important role in development, since technological change requires richer cognitive content in education and training. Such policies should be complemented by policies that help reduce skills bottlenecks and improve the functioning of labor markets (S. Lall, 1999).

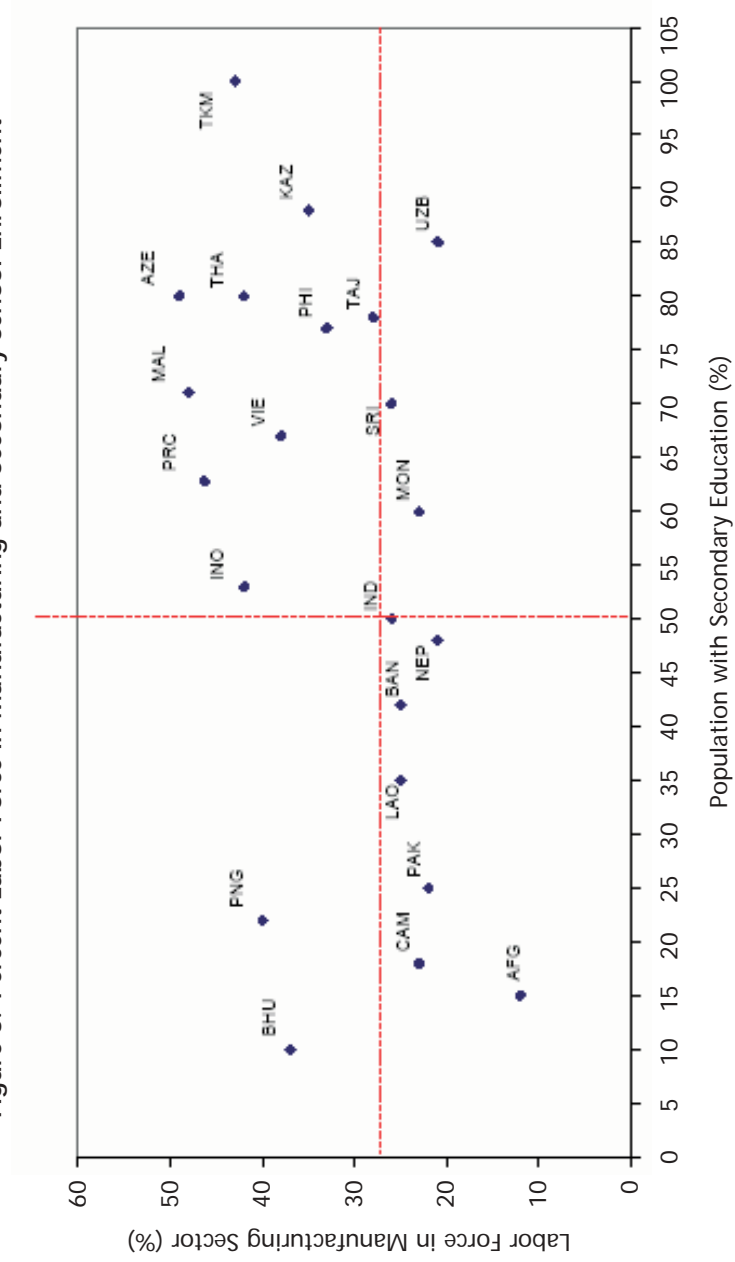
As Asia transforms itself over the coming decades, there likely will be steady progression of countries reaching that critical threshold of development, where the supply of low-cost labor is of sufficient supply and quality to manufacture low-cost products, with the potential for producing higher quality and more sophisticated goods and services. Currently, the leading wave of such countries in Asia are those where participation in the manufacturing sector exceeds 25% of

the labor force, and more than 50% of the population possess a secondary education (Figure 3, upper right quadrant). These countries have reached a level where investments in both physical and human capital are sufficient to solidify middle-income status. As the skill levels of agriculture, manufacturing, and service jobs in these countries broaden and deepen, however, they will be forced to expand relevant and useful education and training to the general population. If they do not keep pace with such requirements for change, they will not sustain momentum in the creation of high-value work. For these governments, it is critical to carefully analyze supply and demand for labor in the context of changing technologies and global competition. The numerous articles in journals and magazines that discuss the impact on national job markets of outsourcing and new technologies only scratch the surface in documenting the massive shift of labor taking place worldwide. Countries that do not take steps to properly position their stocks of human capital will fall behind in the race for sustainable national development.

There are Asian countries with labor force participation in the manufacturing sector below 25% and less than 50% of the population with a secondary education. Once these countries slowly work their way to threshold levels for entering middle-income status, they will be able to take advantage of their higher levels of national development and draw on advanced strategies for education and skills training. Even now, these countries can begin to develop the strong programs in technical education and vocational training needed for such labor market development.

As countries in the region continue to develop at varying rates of growth, it will become vital to carefully monitor growth impacts on human capital, labor force changes, and overall factor productivity. Failure to monitor trends will almost certainly place workforces at risk. Policies that speed liberalization and integration can improve efficiency in resource allocation, but must be properly planned and executed. For the newly emerging nations in the region, policies are needed to shift factors of production to more skill- and capital-intensive activities. For middle income countries in the region with relatively well-educated workforces, enhanced flexibility, combined with increased efforts to upgrade human capital through education

Figure 3. Percent Labor Force in Manufacturing and Secondary School Enrollment



Source: Asian Development Bank. 2004. Key Indicators 2004. Manila.

and training, will help them move up the value—added curve and capitalize on those opportunities afforded by a larger and more dynamic global economy. All countries will benefit from policies that encourage a faster growing world economy. All policies will in some way support investments in workers' training and skills upgrading. This paper looks into the micro-policy framework of changing education and training policies for low and middle-income countries.

The remainder of the paper looks closely at the relation between stages of economic development and education and training, and the necessity of investments in basic skills to exploit opportunities for technological change. The relationship between issues and policies that countries need to foster as they proceed through the development cycle is given particular attention. After examining theory and practice, recent ADB projects in technical education and vocational training (TEVT) are reviewed. Finally, some lessons learned and recommendations are offered to Asian Development Bank (ADB) and developing member countries (DMCs) with respect to strengthening strategies to boost the Asian human resource base.