

A look at Asian productivity in the last decade

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In terms of aggregate production, there exists a huge divergence in performance among Asian countries. At the two extremes, annual production per capita in the poorest economies corresponds only to the average weekly production for an individual in their rich counterparts. Almost all of this extensive gap in per capita GDP is explained by the variation in labor productivity performance. This article evaluates the current cross-country divergence in labor productivity levels and countries' productivity performance in the last decade against the historical performance of the Japanese economy in the past century as a benchmark.

Figure 1 shows estimates of the levels of average labor productivity per hour worked (ALP) in Asia in 2008, based on the latest APO Productivity Database. To facilitate cross-country comparisons, observations are plotted on a logarithmic scale and against the long-term trend of Japan's ALP for the period 1885–2009, with its 2009 level normalized to 1.0. While we should be mindful that level comparisons of productivity among countries and over periods are subject to a large degree of data uncertainty, they are adequate in providing rough sketches of the productivity divergence in Asia.

In general, ALP growth is achieved via three channels: technological progress in production; greater use of capital relative to labor input; and human capital development. They are captured in the standard framework of productivity measure-

ment as changes in total factor productivity (TFP), capital deepening (capital input per hour worked), and labor quality, respectively. At the whole-econ-

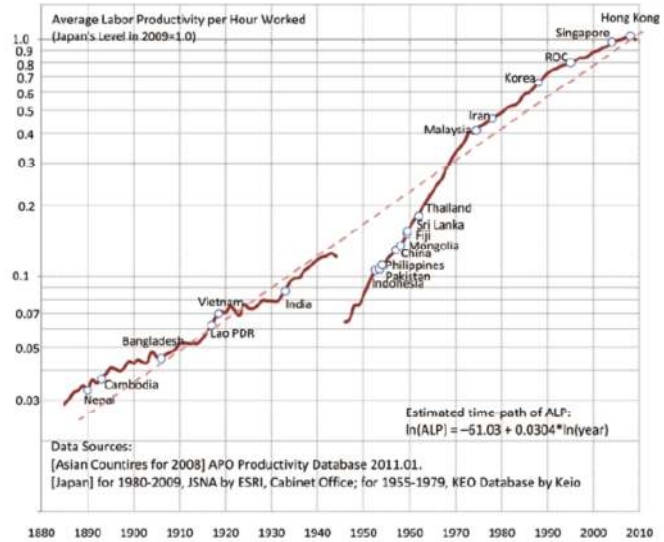


Figure 1. Cross-country divergence in labor productivity levels in Asia.

omy level, ALP reflects not only productivity within individual industries or firms, but also the composition of industries. The latter can be significant in explaining a country's gaps in ALP level and growth, since possible options of the capital-labor ratio and opportunities of technological changes, mainly occurring in capital, are different among industries.

The first observation to note from Figure 1 is that Japan's long-term ALP approximately follows a log-linear trend, although ALP-enhancing factors changed. The rapid growth during the 1950s and the early 1970s depended more heavily on TFP growth. After the 1973 oil embargo, this process slowed dramatically while capital deepening increased its role and offset the slowdown in TFP growth. In the long recession since the early 1990s, any improvement in ALP has been largely a result of capital deepening, which reflects decreasing labor input against the backdrop of a slowdown in investment. Excluding the period of an economic collapse caused by WWII and its subsequent resurgence, the average growth rate of Japan's ALP was 3.0% per year over the past century, based on the estimated time-path of ALP. For expositional purposes, this is used as the benchmark performance here.

Second, countries with the lowest labor productivity levels, such as Nepal, Cambodia, and Bangladesh, are comparable to Japan's level in 1890–1910. Figure 1 suggests that if these countries manage only the average speed of ALP improvement of the benchmark country, it will take one century to catch up with the current Asian leaders: Japan, Hong Kong, and Singapore. However, this is likely to be a conservative outlook as latecomers are typically expected to surpass the long-term productivity performance of the benchmark country.

Testing this hypothesis against our data for the past decade shows a diverse picture among countries. Figure 2 evaluates productivity performances for the recent decade of 1998–2008, based on the inverse function of the estimated benchmark time-path of ALP. Each block maps an individual country's

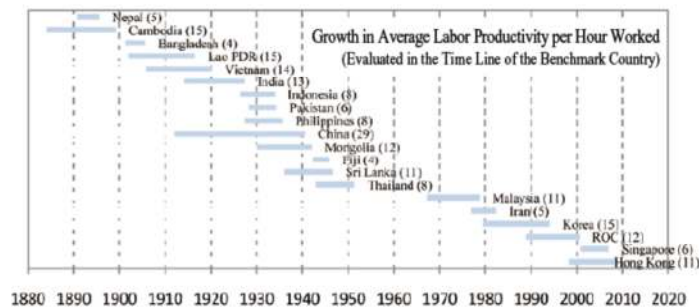
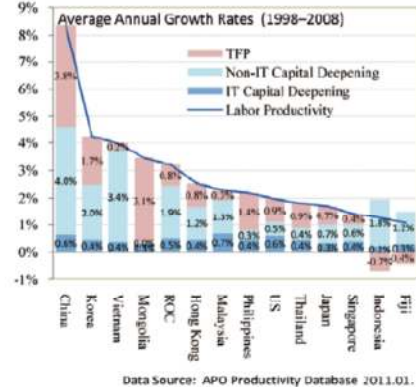


Figure 2. Productivity performances in the last decade.

productivity improvement in the last decade onto the equivalence in terms of years in the benchmark performance, with the end point marking a country's current productivity level by the year when Japan reached the same level. For example, in the low-productivity group, the progress Cambodia has achieved in the past 10 years is equivalent to 15 years according to the benchmark performance equation, reflecting Cambodia's higher ALP growth relative to the benchmark country. In contrast, Nepal and Bangladesh have not exceeded the benchmark performance, managing only to achieve in 10 years what Japan had achieved in four to five years.

Third, among the eight countries in the middle group, plotted between the 1950s and the early 1960s in Figure 1, only Sri Lanka, Mongolia, and PR China exceeded the benchmark performance of ALP growth in the last decade. The other five countries have not taken advantage of being latecomers and fallen below the countries belonging to the higher-productivity group such as Malaysia, the Republic of Korea, and the Republic of China. The origins of shortfall in such countries are different as shown in Figure 3, which presents the sources of ALP growth in the last decade. Thailand has fallen behind in capital deepening, having been burdened by nonperforming loans, which accounted for more than 40% of bank assets as of the end of 1998. The Philippines, on the other hand, has made comparable investment in IT capital since the 2000s and enjoyed high growth of TFP, but the non-IT capital deepening was too

modest to foster labor productivity growth. In Indonesia and Fiji, TFP has deteriorated in the last decade despite the relatively vigorous investment, which probably has taken place in industries with few opportunities for technological advancement.



Data Source: APO Productivity Database 2011.01.

Figure 3. Sources of labor productivity growth in the last decade.

The productivity experiences of Asian countries in the last decade do not conform to a straightforward version of latecomer's advantage. The varied performance among Asian countries points to other facilitating factors that are prerequisites for capitalizing on the latecomer's advantage. A conducive environment for nonhuman and human capital accumulation; sound policies on allocation of production, labor, and capital among industries; and demand-side conditions such as opportunities for entering the global market are all necessary to get countries onto the first rung of the productivity ladder. Besides, we should be reminded through our study of national experiences that transformation through productivity improvement requires considerable time to achieve, although the time frame can be lengthened or shortened to some extent depending on policies. ☺

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