Can Korea Nurture Creative Minds?

No longer playing technological catch-up, innovation is key to the sustained growth of Korea

Through the accumulation of a well-educated labor force, high saving and investment rates and a well-directed, outward-oriented development strategy, Korea has achieved rapid industrialization and sustained growth over the last half century.

An abundant supply of well-educated labor enabled Korea to enhance its labor productivity and promote the competitiveness of its labor-intensive manufacturing industry in the 1960s and 1970s. A highly skilled workforce facilitated the adoption of advanced foreign technologies, allowing Korea to sophisticate its industrial technologies.

Behind the outstanding human capital development was Korea’s strong investment in education even before the early economic-takeoff stage. Public investment in education was high. And parents were willing to spend a significant share of the household income on their children’s education, considering higher education the path to a better job and higher social status.

As early as 1960, Korea had accumulated a substantial stock of human capital. About 57 percent of the population aged 15 and above had received some primary education, and 20 percent had had some secondary education, surpassing the educational attainment level of most developing countries at the time. Over the next five decades, Korea experienced unprecedented educational growth, adding almost eight years to its average years of schooling. As of 2010, about 87 percent of the adult population had received some secondary education, while 42 percent had had some tertiary education.

As Korea pursued outward-looking development strategies, there were incentives to continue upgrading education and skills. The strong performance of labor-intensive export industries in the early stages of development promised significant growth in wage and employment, thereby stimulating higher demand for education. As globalization intensified the need for greater international competitiveness, Korean industries demanded more technically trained human resources.

During Korea’s period of industrialization, the country’s technical and vocational education and training system contributed to the supply of skilled workers. It has undergone various reforms since the 1960s, to respond to demand for skilled human resources.

Korea has shown strong achievement not just in educational quantity, but also quality. One widely used measure for educational output quality is students’ performance in internationally comparable tests such as the Programme for International Student Assessment (PISA). For example, Korean secondary school students performed well, ranking 5th in mathematics and reading among students in 65 participating economies, including 34 OECD economies, in the 2012 PISA.

Once an imitation-driven economy, Korea is now becoming one that is innovation-driven. Imitating and adapting advanced technologies helped the country catch up to more advanced countries when it lagged behind on the technological ladder. Now that Korea has narrowed the technology gap, the creation of technology is more important, as innovation can bring about more sustained growth. Indeed, its number of patents, payments and receipts of royalties and research and development (R&D) expenditures – all appropriate measures of national technological capacity – are proof of Korea’s transition to an innovative economy.

But the country is still lacking in creative ideas and innovative technologies. According to a recent global competitiveness ranking by the World Economic Forum, Korea ranks 22nd, far behind Japan (2nd) in the innovation and business sophistication category.

Korea should promote not only R&D in new areas when it comes to the internet, robots, renewable energy and 3D printing, but also in creating systems and environments that encourage more ventures and small businesses to grow.

Korea has faced difficulty nurturing creativity in students. The education system at the secondary level, as well as in colleges and universities, should encourage students to participate in discussions and ask challenging questions. Students gifted in math and science tend to go the route of medical school instead of natural science and engineering. But as the Korean economy needs innovative minds for another take-off, we need more talented scientists, engineers and entrepreneurs as well.

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