Asia's developing economies face a choice that will define their future prospects. They can stick with the growth model that got them this far, but which is now running out of steam. Or they can embrace a new model that promises faster, more sustainable growth.

A simple choice, it would seem. But, as shown by a new Asian Development Bank (ADB) study, *Innovative Asia: Advancing the Knowledge-Based Economy*, this new model won't happen unless Asia's developing economies reinvent themselves. They must become knowledge economies driven not just by factories and farms, but by innovators and entrepreneurs backed by advanced technologies, world-leading education systems, and business-friendly policies. These economies are fuelled by new industries like online retail, medical diagnostics, and patented research.

This transition is already apparent in parts of Asia. Japan tops a new Creative Productivity Index from ADB and the Economist Intelligence Unit (EIU), on turning innovation inputs - which underwrite knowledge economies - into tangible results. South Korea is the second-ranked Asian country overall, courtesy of strong infrastructure, while Singapore's robust institutions and protections for investments and contracts make it number one on innovation inputs. (INNOVATIVE ECONOMIES)

But progress has been piecemeal in much of developing Asia, where no one country has cracked the code of a successful knowledge economy.

Poor underlying skills and infrastructure frustrate the knowledge ambitions of these emerging economies. This is alarming given that the competitive edge provided by cheap labour can no longer deliver the hyper-growth that has tripled Asia's share of global gross domestic product since 1980. Without a course correction, a middle-income trap looms for much of the region as rising wages and low productivity smother growth.

Knowledge economies offer a way of avoiding this trap and achieving high-income status. Leapfrogging old technology to move up the value chain can turn emerging economies into global leaders in innovative products and services.

India, for example, was transformed from a technology laggard into one of the world's biggest mobile phone markets after its telecommunications sector was liberalised in the 1990s. It quickly skipped up the global information and communications technology (ICT) value chain, and now IT-enabled services tally 40 per cent of its service exports. Similarly, Malaysia was a largely resource-based economy until it started promoting technology industries 20 years ago. Today, ICT accounts for nearly 30 per cent of its total exports.
The knowledge gap is narrowing on other fronts as well. India and the People's Republic of China (PRC) doubled research and development spending between 2007 and 2012. Kazakhstan has become an easier place in which to do business in recent years after making key regulatory and bureaucratic reforms. Malaysia, Sri Lanka, and the PRC have strengthened their intellectual property regimes - and now rank above the world average.

But these advances only hint at the untapped potential of knowledge industries across Asia. How can that potential be unleashed?

Governments must take coordinated policy action on four fronts. They should follow Singaporean rather than Soviet models on regulating an economy. The Soviet Union had strong research and higher education capacity, but its planned economy nullified many returns. Singapore, by contrast, has responded to changing global realities by nimbly transforming itself - initially into a financial centre and then into an East Asian hub for education and health.

A second task is to ensure colleges and universities produce graduates with the right skills. This doesn't happen in parts of Asia, where 45 per cent of employers surveyed by the Manpower Group in 2012 reported difficulties filling positions due to a lack of suitable talent - while student enrolment languishes. More private sector engagement can help, as shown by promising initiatives like the Infosys Global Education Centre in Delhi which works with chambers of commerce to bolster work-ready skills. Massive open online courses, which offer studies via open web access, can boost student numbers.

Next, Asia must expand its low Internet penetration. For knowledge economies to prosper, connectivity must cover everyone. Closing the digital divide demands strong government support. South Korea hasn't looked back since it launched a national IT strategy 20 years ago, created a fund to spur infrastructure investment and connected more than 10,000 schools to the Internet.

Finally, developing Asia's ability to innovate is hobbled by low spending on research and development. On this measure emerging Asia falls far short of the spend on research and development - around 1.5 per cent of gross domestic product - that Singapore, South Korea and other Asian countries spent to progress beyond the middle-income bracket. Hitting this benchmark would spur an entrepreneurial boom which could be channelled into life-changing innovations for the region's poor.

This pro-poor dividend adds a note of urgency to the call for knowledge economies in Asia. They can advance inclusive growth in hard-to-reach areas, like health, education, and banking where mobile and cloud technologies can empower under-served citizens. Rolling out these services is expedited by cheaper hardware, as in India where mobile phone tariffs plunged after deregulation, making them common even in remote rural areas.

Emerging Asia has the makings of a knowledge economy, but the job remains unfinished. Now is the time to make bold choices - or a huge opportunity will be missed.

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