1 ECONOMIC REINVENTION
The “middle-income trap” is about rethinking a country’s economic development model rather than overcoming a particular level of income. The term was originally coined to describe the experience of Asian economies after the region’s financial crisis of 1997-98: countries that had seen strong rates of growth saw a slow-down once they achieved middle-income status. The concept has since become widespread, yet numerous studies have largely failed to identify a threshold at which growth rates drop sharply. What’s more, growth in total factor productivity – the efficiency with which various factors of production are combined – tends to be lower at middle-income levels as economies retool their development models and invest in old and new production capabilities. The new economic model underpinning the transition to high-income status emphasises innovation, entrepreneurship, competition and specialised skills.
The term middle-income trap was originally coined to describe the experience of Asian economies after the region’s financial crisis of 1997-98: countries that had experienced strong rates of growth saw a slow-down once they achieved middle-income status. Over time, a broader question arose: do middle-income countries find it particularly hard to sustain high rates of economic growth?

NO TRAP AT A PARTICULAR LEVEL OF INCOME

Numerous studies into the “middle-income trap” have looked for a sharp slow-down in growth at a specific level of income but have by and large failed to identify any such threshold. To see why, consider, for instance, average growth in gross domestic product (GDP) per capita in 1998-2017 plotted against the initial level of GDP per capita in 1998 (see Chart 1.1).

Long-term growth performance follows the law of diminishing returns. As income rises, economic growth tends to slow – a conjecture that is central to modern growth theories. This trend holds when we take into account a country’s initial capital stock, its initial human capital and a number of other variables that can be expected to affect economic performance. It remains broadly similar if we look at long-term growth over different periods of time. The only exception concerns the poorest economies, which have, on average, experienced slower growth than the law of diminishing returns would suggest.

MIDDLE-INCOME PRODUCTIVITY TRAP?

The picture becomes more nuanced if we look at the composition of growth. In a simple framework, changes in output can be attributed to increases in employment, rising capital stock, improvements in human capital or the residual component. This residual component refers to change in total factor productivity (TFP) – the efficiency with which other factors of production are combined to deliver final output. Sources of growth have varied across emerging markets since 1998 (see Chart 1.2).

On balance, middle-income economies have found boosting total factor productivity to be particularly challenging (see Chart 1.3), not least because a similar law of diminishing returns is at play. As economies grow richer and adopt more advanced technologies, total factor productivity growth tends to slow. However, this slow-down is particularly pronounced in countries where GDP per capita is around one- to two-thirds that of the USA. Advanced economies have enjoyed stronger productivity growth, on average, since 1998 than middle-income economies. In the EBRD regions, TFP growth was stronger than that of other economies with similar levels of income before the global financial crisis, but has slowed markedly since.\(^2\)

SHIFTING ECONOMIC MODEL: FROM IMITATION TO INNOVATION

This “productivity trap” may reflect the changing nature of the elements needed to boost total factor productivity as countries grow richer, in line with the neo-Schumpeterian framework.\(^2\) Low-income economies tend to use less advanced technologies,\(^3\) so remain far from the “technological frontier”. These economies are able to improve productivity rapidly by importing and imitating technology developed in more advanced economies. As countries benefit from the transfer of knowledge and move towards the “technological frontier”, they grow richer. Their labour costs rise, undermining their advantage as providers of cheap labour using imported technologies.

To counteract the resulting loss of competitiveness, middle-income economies need to increasingly develop new technologies. They may, in turn, become exporters of technology and knowledge to lower-income countries, in what is known as the “flying geese” paradigm of development.\(^4\)

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1 See EBRD (2017).
2 SeeAcemoğlu et al. (2006).
3 See Baldwin (2016).
4 See Akamatsu (1962).
As countries shift from imitation to innovation, their reform priorities and growth models need to change. This transition presents distinct challenges. It often requires changes to skills sets and industrial structures, with a greater role for entrepreneurship and competition. It also requires changes to the structure of finance, as specialised finance and equity start to play a greater role. Producing textiles more and more efficiently, for example, may require maximising economies of scale. This does not necessarily equip a country to design haute couture garments and outsource their production to lower-income economies. Likewise, manufacturing cheaper and cheaper computer chips does not automatically turn an economy into a leader in hardware design and software development. This switch is at the heart of the middle-income challenge and the “productivity trap”. It may occur as much within industries as between sectors.

**Chart 1.2.** Sources of growth have varied across economies and regions

**Chart 1.3.** Total factor productivity growth follows a U-shaped pattern as income per capita rises

Advanced economies have enjoyed stronger productivity growth, on average, since 1998 than middle-income economies.

As countries shift from imitation to innovation, the reform priorities and growth models need to change.
RETURNS ON INNOVATION HIGHEST IN MIDDLE-INCOME COUNTRIES

Recent studies show that returns on innovation are, indeed, highest in middle-income economies (see Chart 1.4). In higher-income countries, returns on spending on research and development (R&D) are lower, because production in these countries is already technologically more advanced and subject to the law of diminishing returns. In poorer countries, in contrast, returns are constrained by a scarcity of necessary skills and a lack of scientific infrastructure, as well as other institutional weaknesses affecting the ability of innovative firms to grow and access export markets.

Even though returns on innovation may be highest in middle-income economies, strong incumbent companies created by the previous imitation-based model of development may not have the right incentives to embrace change. Imitation-based development models often favour large companies, so-called “national champions”, which can be well positioned to take advantage of economies of scale and establish a presence in export markets. These incumbents often have a vested interest in maintaining barriers to market entry, though at the same time lack the dynamism and motivation needed to become successful innovators. Moreover, incumbents may tap their extensive political connections in a bid to preserve the economic status quo.

In poorer countries, returns on innovation are constrained by a scarcity of necessary skills and a lack of scientific infrastructure.

CHART 1.4. Returns on spending on R&D are highest in middle-income economies

Source: Goni and Maloney (2017).
Note: Based on panel regressions of economic growth on a number of factors, including a measure of innovative capital.

CHART 1.5. Post-1998 improvement in the performance of non-chaebol firms was greater in industries previously dominated by chaebols

Source: Aghion et al. (forthcoming).
Note: The differences are statistically significant at the 1 per cent level.

See Goni and Maloney (2017).
See Griffith et al. (2004) for more detail and evidence from OECD member countries.
See Bussolo et al. (2018) for evidence on extent and implications of such networks in Bulgaria, Hungary, Romania, Russia, Serbia, the Slovak Republic and Spain.
CHAPTER 1 ECONOMIC REINVENTION

INNOVATION REQUIRES LOWERING BARRIERS TO ENTRY: EVIDENCE FROM SOUTH KOREA

In contrast, innovation often requires a vibrant ecosystem of entrepreneurs and small firms that are prepared to try out new ideas and succeed or fail, something that middle-income economies often need to develop almost from scratch.

South Korea’s experience illustrates the challenges of fine-tuning an economic model in an economy with large incumbent firms. The country’s chaebol firms – large corporate conglomerates – have been instrumental in building South Korea’s export industries in electronics, automotive and other sectors. At the same time, closely knit networks of chaebols with intertwined ownership links have effectively restricted the entry of competitors into their product markets. The track record of the chaebols in terms of frontier innovation, meanwhile, has been relatively modest.

The Asian financial crisis exposed the cracks in the chaebol model and provided a window of opportunity for reform, including the restructuring of under-performing chaebols, the removal of certain barriers to entry and the phasing out of implicit state financial support for the industrial conglomerates. These reforms helped South Korea to transition to a more innovation-intensive business model.

A recent firm-level study of the performance of South Korea’s firms\(^8\) showed that industries dominated by the chaebols prior to the 1998 Asian financial crisis saw greater relative productivity gains after the crisis, when barriers to market entry by smaller firms were lowered (see Chart 1.5). The improvements in labour productivity and total factor productivity were particularly large for non-chaebol firms operating in sectors previously dominated by the chaebols.

In sum, the “middle-income trap” may not exist at a specific level of income. Still, it is a useful concept for focusing policymakers’ attention on required changes in the economic development model when economies reach middle-income status and workers are enjoying higher wages.

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\(^8\) See Aghion et al. (forthcoming).