1. Introduction

Economic growth has rightly attracted major attention from economists and policy makers. It is vital from the point of view of human welfare, and challenging intellectually, to attempt to answer basic questions related to the past, present, and future performance of nations in economic development: Why are some countries rich while others are poor? What factors have enabled some poor countries to achieve miraculous success in catching up with rich countries? Is the disparity in per capita income between rich and poor countries decreasing? Addressing these questions requires rigorous theories and robust empirical studies. In these efforts, one needs not only well-established concepts but also in-depth knowledge of prominent development stories, not only knowledge of development patterns in the past events but also the current dynamics that are shaping the trends in the world’s future economic growth.

Of these questions, none is more important than what has produced remarkable economic growth in Asia. In a single lifetime, countries have been lifted from rural underdevelopment to the living standards of developed economies. According to World Bank (2013), if China can complete this process in the next 20–30 years, the number of people living in high-income economies would more than double.1 If India could achieve the same, then for the first time in modern human history, the majority of the world’s population would enjoy high-income living standards, with all the immense benefits in human welfare that would follow from this. The Asian Development Bank’s Asia 2050 report, published in 2011, described a bold vision and a convincing prediction that if trends of the past three decades continue, in 2050 Asia will become a prosperous region with an average annual income of $45,800 in purchasing power parity (PPP) terms. This far exceeds the predicted annual income of $37,300 for the world average (ADB, 2011). This is remarkable because the current income levels of most countries in the region, especially the most populous countries, are still well below the world average.2

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1 The ‘China 2030’ report jointly prepared by the World Bank and the Development Research Center of the Government of China sets forth a vision of China becoming a modern, harmonious, and creative high-income society by 2030.

2 In 2010, the income level relative to the world average was 67 per cent for China and 30 per cent for India (see Table 1.1).
1.1 THE ASIAN ECONOMIC GROWTH SAGA

Asia is a remarkable story of economic growth and catching up. The story began with the astonishing transformation of Japan since the Meiji Restoration reforms in the late nineteenth century and the country’s revival from defeat and poverty to its position as the world’s second largest economic power only a few decades after the end of World War II. The Asian success has gone beyond a story to become a model of development as the four Asian Tiger economies—South Korea, Taiwan, Hong Kong, and Singapore—have made ‘miraculous’ achievements in economic catch-up since the 1960s. The remarkable growth recorded by China and India, the two Asian economic giants in recent decades, have even led to theorizations such as those of a coming ‘Asian century’. The prominent features of the Asian success on economic development can be described in three words that begin with the letter ‘s’: surprise, speed, and scale. These developments have reversed what was, until rather recently, a quite different conventional wisdom.

1.1.1 Surprise

Asia’s economic growth story has surprised the world in several ways. First, the region’s unprecedented economic success had been for a prolonged period an unthinkable accomplishment. The socio-political infrastructure of the Asian countries was considered an insurmountable obstacle in building prosperous modern societies. For example, the first Western visitors to Japan in the nineteenth century had the following impression of the country:

Wealthy we do not think it will ever become: the advantages conferred by Nature . . . and the love of indolence and pleasure of the people themselves forbid it . . . In this part of the world principles, established and recognized in the West, appear to lose whatever virtue and vitality they originally possessed and to tend fatally towards weediness and corruption.\(^3\)

Weber (1930) and Parsons (1937) offered hypotheses for why Chinese culture inhibited the rise of capitalism. The authors argued that this Confucianism-influenced society lacked the three critical factors for capitalism: rationality, individualism, and self-motivation to compete and win to attain goals.\(^4\)

At the same time, Hubertus van Mook, Acting Governor-General of the

\(^3\) Quoted in Easterly (1995, p. 279).
\(^4\) See Tai (1989) for in-depth discussions on this topic.
Dutch East Indies (which included South Asia and Southeast Asia) during 1942–1948, was concerned about the cultural resistance of Southeast Asia to modernization and development. He asserted:

The age-long influence of the West . . . failed, with only few exceptions, to instill its economic activity and enterprise into the minds and habits of these peoples. The Western apparatus of finance, commerce, and production remained an alien, undigested and indigestible element in Southeast Asia [. . .]. The solidarity, the public spirit, and the economic energy that were necessary for a vigorous resurgence were lacking.5

With regard to India, Lucas (1988, p. 5), puzzled by the country’s meager growth of 1.4 per cent during the period 1960–1980, posed the following questions:

Is there some action a government of India could take that would lead the Indian economy to grow like Indonesia’s or Egypt’s? If so, what exactly? If not, what is it about the ‘nature of India’ that makes it so?6

Given the aforementioned views about Asia’s readiness for modernization, many scholars and observers were shocked or skeptical as a few countries in the region embarked on their catching-up endeavors. Paul Romer, a leading theorist on economic growth, commented on the skeptical reactions to the early stage of the phenomenal performance of the East Asian economies:

When Japan grew at this pace, commentators said it was a special case propelled by postwar recovery. When the four East Asian tigers (Hong Kong (China), Taiwan (China), Singapore, and Korea) matched it, skeptics said it was only possible because they were so small. When China surpassed them, people said it was only because China was so big. (World Bank, 2008, p. 20)

In fact, the first World Bank mission to Korea in the early 1960s criticized the country’s development program because its growth objective for 1962–1966 far exceeded its potential and because its export growth target, the mission argued, was inconceivable.7 Similarly, Rosenstein-Rodan (1961) produced a forecast that represented the thinking of mainstream economists in the 1960s, projecting that Argentina’s per capita income would be

6 The economic reforms initiated in India in the early 1990s have changed the situation. The country’s GDP growth accelerated to 7.4 per cent during the period 2000–2010; this rate was more than 2 percentage points higher than the rates that were attained by Indonesia and Egypt during the same period.
7 See Easterly (1995, pp. 278–279). This criticism turned out to be incorrect.
twice as high as that of Singapore by 1976 and that Colombia’s per capita income would be significantly larger than that of Hong Kong.\(^8\)

Furthermore, economic growth in the rapidly growing Asian economies did not proceed according to orthodox principles generally held at that time. The growth in these countries was heavily driven by government intervention (except in Hong Kong), which fostered capital accumulation. Meanwhile, the countries’ total factor productivity (TFP) growth was relatively low. Kim and Lau (1994) and Young (1995) examined the growth of South Korea, Taiwan, Hong Kong, and Singapore and found that their unprecedented growth was not supported by robust TFP growth. This finding raised suspicion regarding the technical progress in these economies and the sustainability of the East Asia economic growth model. As Fogel (2011) noted, the success of the newly industrialized Asian economies was not convincing even in the early 1990s because there was a strong belief that the high growth rates of these economies were flukes that could not persist. For example, Krugman (1994) expressed his pessimistic view of the East Asian development model by comparing the growth in these economies with that of the Soviet Union, which achieved outstanding growth through rapid input accumulation over a long period of time before its economic stagnation and eventual collapse in 1991. He went on to predict:

From the perspective of the year 2010, current projections of Asian supremacy extrapolated from recent trends may well look almost as silly as 1960-vintage forecasts of Soviet industrial supremacy did from the perspective of the Brezhnev years. (Krugman, 1994, p. 78)

1.1.2 Speed

The speed of growth achieved by the Asian economies has been admirable. The World Bank’s *Growth Report* used a 7 per cent GDP growth rate for a period of 25 years or longer to identify economic growth success stories during the past six decades. As noted in the report, ‘growth at 7 per cent a year, sustained for 25 years, was unheard of before the latter half of the 20th century.’\(^9\) Among the thirteen economies that qualified for inclusion in this category, nine are in Asia: China, Hong Kong, Indonesia, Japan, Malaysia, South Korea, Singapore, Taiwan, and Thailand. In addition,\(^8\)

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\(^8\) See Hicks (1989, p. 21) for further examples. It is worth noting that Singapore and Hong Kong not only vastly outperformed Argentina and Colombia during the forecast period but also sustained their outstanding performance in the following decades. In 2010, Singapore’s per capita income was nearly 4 times higher than that of Argentina, and Hong Kong’s per capita income was 5 times higher than that of Colombia (Source: WDI).

the report indicated that it expected India and Vietnam to join this group in the near future.

Moreover, of the Asian economies identified in the World Bank’s *Growth Report*, many notably exceeded the thresholds for inclusion by achieving GDP growth rates that were higher than 7 per cent and sustained for 30 years or longer. According to this report, GDP growth during the period 1965–1995 was 8.7 per cent for Singapore, 8.4 per cent for Taiwan, 8.0 per cent for South Korea, 7.6 per cent for Thailand, and 7.1 per cent for Hong Kong. China achieved an even superior performance, recording a GDP growth rate exceeding 10 per cent in the recent 30-year period, 1990–2010.\(^\text{10}\)

### 1.1.3 Scale

The emergence of China and India as high-performing economies during the past few decades has remarkably boosted the rise of Asia. A 7 per cent growth rate is now enjoyed by billions of people rather than merely a few dozen millions. Developing Asia has now become the major engine driving the growth of the world economy, accounting for 46 per cent of the world’s economic growth during the 20-year period 1990–2010. Moreover, this contribution increased from approximately 35 per cent during the first decade of that period (1990–2000) to more than 54 per cent during the second decade (2000–2010).\(^\text{11}\) The projections for the next 10 years indicate that developing Asia is expected to increase its share of the world GDP (measured in purchasing power parity) from 28 per cent in 2010 to 36.8 per cent in 2020 and is expected to surpass the G7 in this regard in 2018 (Jorgenson and Vu, 2011).

The rapid growth of Asia and the scale of its rise have generated profound changes in the world economy. Bosworth and Collins (2008) concluded that the emergence of China and India as major forces in the global economy is one of the most significant economic developments of the past quarter-century.

### 1.2 THE NEED FOR BETTER UNDERSTANDING ECONOMIC GROWTH IN ASIA

As Asia’s success has become a convincing case, questions remain concerning whether its development model is replicable and how it should be

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\(^{10}\) Author’s calculation (data from the World Development Indicators online dataset).

\(^{11}\) Details are presented in Chapter 3 of this book.
replicated. The outstanding performance of China and India in the past two decades, which emulated many of the most important features of the East Asian miracle depicted by the World Bank and other scholars in the early 1990s, provides a clear answer that the East Asian growth model is replicable. The model is applicable not only to small and mid-sized economies but also to very large countries, not only in the past but also at present, not only in East Asia but also in South Asia.

Some scholars even believe that the remarkable performance of China since its launch of reforms can be replicated elsewhere. Justin Yifu Lin, a leading expert on economic growth in China and developing economies and a former Chief Economist of the World Bank, expressed his view:

Some may think that the performance of a country as unique as China, with more than 1.3 billion people, cannot be replicated. I disagree. Every developing country can have similar opportunities to sustain rapid growth for several decades and reduce poverty dramatically if it exploits the benefits of backwardness, imports technology from advanced countries, and upgrades its industries. (Lin, 2011)

As the success of Asia becomes more convincing and persuasive, especially to policy makers, the need for better understanding of Asia’s economic growth model is greater than ever before. The challenge in meeting this need today, however, lies not in coming up with a few generic lessons, which are all known to be fundamental to growth, but in getting policy makers to embrace them with true understanding, critical reflection, and deep commitment.

In learning from a successful country, focusing merely on studying its actual practices concerning organizational structures, policy initiatives, and projects is not enough. A learning country may fail in replicating these practices because its local context and development conditions may be greatly different. The learning efforts, therefore, should start with a true appreciation of the root causes of the country’s success and follow with a deep understanding of the country’s development strategies that have enabled it to achieve sustained rapid economic growth.

It is astonishing that the root causes of the major reforms that have led many Asian economies to success have been identical. They all rely on the two central factors that drive a profound transformational process: emotion and enlightenment of the nation, especially its leadership. In the context of this discussion, emotion is associated with aspiration, anxiety, and a deep sense of responsibility toward the future of a nation.

12 See Appendix 1.1 for a summary of the key features of the East Asian miracle and their lessons learned.
Enlightenment is characterized by an open mindset that is free of dogmatism, an outward orientation, and an eagerness to learn from successful nations. The experiences of Japan during the Meiji Restoration period, South Korea under Park Chung-Hee, Singapore under Lee Kuan Yew, and China under Deng Xiaoping, as elaborated in Appendix 1.1, provide illuminating examples.

Furthermore, the features of the development strategies adopted by the successful Asian economies in their early stages of development were rather similar. Their strategies all shared three strategic directions: exploiting the ‘backwardness’ advantage\(^\text{13}\) through embracing global opportunities for accessibility to markets, technologies, and learning; upgrading their absorptive capability through promoting human capital formation, building innovation capacity, and strengthening national learning capabilities; and creating favorable conditions for investment, structural change, and efficiency improvements.

1.3 ABOUT THIS BOOK

This book seeks to help policy makers and researchers experience a fresh perspective and deeper reflections on the Asia growth model, which a rich body of literature has studied extensively and discussed in the last two decades or so. For this purpose, this book conducts a comprehensive examination of the economic performance and growth patterns of developing Asian economies during the two-decade period of 1990–2010. With the insights drawn from this investigation, the book sketches out a strategic policy framework that seeks to help policy makers from developing countries to speed up their countries’ economic growth endeavors.

The book examines the economic performance and growth patterns of 16 Asian economies, which are divided into four subgroups. They are the two economic giants—China and India; the four Asian Tiger economies—Hong Kong, Singapore, South Korea, and Taiwan (hereinafter referred to as Tigers-4); six other Southeast Asian countries—Cambodia, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam (ASEAN-6); and four other South Asian countries—Bangladesh, Nepal, Pakistan, and Sri Lanka (SAC-4). These 16 economies were chosen based on two criteria: (1) they belong to three major geographic areas of interest: Northeast

\(^{13}\) Gerschenkron (1962) identified ‘backwardness’ as an advantage of lower-income countries that allows them to benefit from the technologies, methods of production, and management techniques that have been developed by advanced countries.
Asia, Southeast Asia, and South Asia; and (2) the data needed for the key analyses presented in this book are available for these countries. This group of 16 economies, referred to hereafter throughout this book as Developing Asia, accounted for more than 50 per cent of the world’s population and 28 per cent of the world’s GDP in 2010 (Table 1.1). The diversity of this group is prominent. The 16 economies differ vastly in population size and income level. Their populations range from five million (for Singapore) to more than 1 billion (for China and India), and their income levels relative to the world average range from 11 per cent (for Nepal) to 515 per cent (for Singapore).

### Table 1.1  A snapshot of Developing Asia in 2010: population, GDP, and income level

<table>
<thead>
<tr>
<th></th>
<th>Population (millions)</th>
<th>Share in World</th>
<th>GDP (PPPS) (billions)</th>
<th>Share in World</th>
<th>Income Level (World = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Developing Asia</strong></td>
<td><strong>3,551.7</strong></td>
<td><strong>53.5%</strong></td>
<td><strong>20,712.8</strong></td>
<td><strong>27.8%</strong></td>
<td><strong>52</strong></td>
</tr>
<tr>
<td><strong>China–India</strong></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>China</td>
<td>1,337.7</td>
<td>20.1%</td>
<td>10,105.0</td>
<td>13.6%</td>
<td>67</td>
</tr>
<tr>
<td>India</td>
<td>1,224.6</td>
<td>18.4%</td>
<td>4,169.0</td>
<td>5.6%</td>
<td>30</td>
</tr>
<tr>
<td><strong>Tigers-4</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hong Kong</td>
<td>7.1</td>
<td>0.1%</td>
<td>333.4</td>
<td>0.4%</td>
<td>421</td>
</tr>
<tr>
<td>Singapore</td>
<td>5.1</td>
<td>0.1%</td>
<td>293.4</td>
<td>0.4%</td>
<td>515</td>
</tr>
<tr>
<td>South Korea</td>
<td>49.4</td>
<td>0.7%</td>
<td>1,413.8</td>
<td>1.9%</td>
<td>255</td>
</tr>
<tr>
<td>Taiwan</td>
<td>23.2</td>
<td>0.3%</td>
<td>824.5</td>
<td>1.1%</td>
<td>317</td>
</tr>
<tr>
<td><strong>ASEAN-6</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>14.1</td>
<td>0.2%</td>
<td>30.8</td>
<td>0.04%</td>
<td>19</td>
</tr>
<tr>
<td>Indonesia</td>
<td>239.9</td>
<td>3.6%</td>
<td>1,032.3</td>
<td>1.4%</td>
<td>38</td>
</tr>
<tr>
<td>Malaysia</td>
<td>28.4</td>
<td>0.4%</td>
<td>431.2</td>
<td>0.6%</td>
<td>135</td>
</tr>
<tr>
<td>Philippines</td>
<td>93.3</td>
<td>1.4%</td>
<td>367.8</td>
<td>0.5%</td>
<td>35</td>
</tr>
<tr>
<td>Thailand</td>
<td>69.1</td>
<td>1.0%</td>
<td>587.5</td>
<td>0.8%</td>
<td>76</td>
</tr>
<tr>
<td>Vietnam</td>
<td>86.9</td>
<td>1.3%</td>
<td>276.8</td>
<td>0.4%</td>
<td>28</td>
</tr>
<tr>
<td><strong>SAC-4</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bangladesh</td>
<td>148.7</td>
<td>2.2%</td>
<td>245.1</td>
<td>0.3%</td>
<td>15</td>
</tr>
<tr>
<td>Nepal</td>
<td>30.0</td>
<td>0.5%</td>
<td>35.9</td>
<td>0.05%</td>
<td>11</td>
</tr>
<tr>
<td>Pakistan</td>
<td>173.6</td>
<td>2.6%</td>
<td>460.9</td>
<td>0.6%</td>
<td>24</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>20.7</td>
<td>0.3%</td>
<td>105.3</td>
<td>0.1%</td>
<td>45</td>
</tr>
<tr>
<td><strong>World</strong></td>
<td><strong>6,643.1</strong></td>
<td><strong>100%</strong></td>
<td><strong>74,516.8</strong></td>
<td><strong>100%</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Note:  * World includes 177 countries and territories with data available.

*Source:  * WDI; data for Taiwan is from IMF’s World Economic Outlook database.
Introduction

This book investigates the economic growth of Developing Asia during 1990–2010 in three respects. First, it examines the performance of the group and its individual economies in the global dynamics of catching up and falling behind. Second, it depicts the rise of Developing Asia, which examines the expanding share of the group in the world economy and its increasing contribution to the world’s growth as reflected by key economic indicators, including GDP, private consumption, government consumption, fixed investment, exports, and imports. Third, the book employs the growth accounting method to decompose the sources of growth of the 16 Developing Asia economies into the contributions of capital and labor inputs and total factor productivity growth. This thorough and rigorous investigation of economic growth in Developing Asia reveals robust insights into the growth model that has enabled many economies to achieve outstanding success in catching up with higher-income nations. The secret of successful Asian economies lies not in outstanding TFP growth but in sustaining reasonable TFP growth in spite of intensive capital accumulation over extended periods. The book proceeds to propose a strategic policy framework that can enable a low- or middle-income economy to follow the Asia growth model to succeed in its catching-up endeavors. This strategic policy framework consists of a set of policy priorities defined in three strategic directions: (1) exploiting the ‘backwardness’ advantage, (2) upgrading absorptive capability, and (3) creating favorable conditions for investment, structural change, and efficiency improvements. Examining the experience of China and India—the two giant economies with outstanding economic growth during 1990–2010—the book shows that the two countries have made notable progress in the direction of the proposed strategic policy framework during that same period. At the same time, the progress of China was more substantial than India’s, which largely explains the lead of China over India with respect to all the key indicators of economic growth.

This book seeks to help policy makers and students with interests in economic development in Asia truly understand and appreciate the economic growth model behind the success of many Asian economies. For this purpose, the book stands out in three respects: it is accessible to policy makers; it is comprehensive in the information and analysis that it provides; and it is relevant to policy deliberation. As Asia has become an economic hub with transformational impacts on the world economy, reading this book helps one not only better understand the pattern and nature of economic growth in Asia but also gain valuable insights into the dynamics, trends, and forces that are shaping the world economy in the decades to come.
1.4 CHAPTER OUTLINES

This book consists of five chapters. Chapter 2 examines the performance of the 16 economies in Developing Asia in the global dynamics of catching up and falling behind during the two-decade period of 1990–2010. The chapter examines the changes in global income rankings\textsuperscript{14} of individual economies over the period 1990–2010 and the two sub-periods 1990–2000 and 2000–2010, to capture the performance of these economies in the global dynamics of catching up and falling behind. The results show that Developing Asia was in a strong mode of catching up during 1990–2010 and far outperformed other groups in both the proportion of its economies that made progress in catching up and the average magnitude of their catching-up progress. Within the group, ten of the 16 economies improved their global income ranks by ten or more places: China (which moved up by 31 places), Taiwan (17), Vietnam (16), Cambodia (15), South Korea (14), Hong Kong (13), Malaysia (11), India (10), Singapore (10), and Sri Lanka (10). In contrast, the Philippines, with its income rank declining by one place, was the only country in the group that fell behind during this period. In addition, during this period, Singapore and Hong Kong ascended to the league of the world’s five wealthiest economies in terms of per capita income.

Chapter 3 depicts the rise of Developing Asia, examining the performance of the Developing Asia group and its 16 individual economies in GDP and its key elements, including private consumption, government consumption, fixed investment, exports and imports. The chapter also looks deeper into the performance of the group and its individual economies, especially the two giant countries, China and India, with respect to four detailed measures related to globalization: exports of information and telecommunication technology (ICT) hardware, exports of manufactures, exports of commercial services, and stock of inward foreign direct investment (FDI). The following are the most salient findings of the examination presented in Chapter 3:

- Developing Asia substantially expanded its shares in the world economy with respect to all the measures considered. The expansion in the world share of the group was lowest in private consumption (9.3 percentage points, from 13.2 per cent in 1990 to 22.6 per cent in 2010), which was lower than the expansion of its share in world GDP (14.9 percentage points, from 13.3 per cent to 28.2 per cent).

\textsuperscript{14} The income level of a country for a given year is captured by its per capita GDP measured in purchasing power parity.
The largest expansion of the group’s share in the world over the period was in fixed investment (29.1 percentage points, from 16.6 per cent to 45.7 per cent). This suggests that Developing Asia relied heavily on capital accumulation to achieve its outstanding growth during 1990–2010.

- Developing Asia played a major role in driving the world’s growth over 1990–2010 in GDP, government consumption, fixed investment, and exports of ICT hardware. In addition, the contribution of the group to the world’s growth increased notably between the two sub-periods, 1990–2000 and 2000–2010, in terms of all the measures considered. However, it should be noted that the group of industrialized economies was still a major driver of the world’s growth in 1990–2010 in private consumption, exports and imports of goods and services, and inward FDI stock.

- China and India were the leading performers of the Developing Asia group in terms of economic growth in 1990–2010 and in their contributions to the world’s growth during this period. China, however, far outpaced India and the other economies in the group in both its rate of growth and the magnitude of its share of the world economy with respect to all the measures considered.

- Both China and India grew faster than the rest of the countries in the group in terms of the key globalization indicators, which include exports of goods and services, exports of ICT hardware, exports of manufactures, exports of commercial services, and inward FDI capital stock. However, the expansion in China’s world share with respect to these measures during 1990–2010 was much larger than that of India because relative to India, China grew faster and started with higher bases. For example, both China and India recorded double-digit growth in exports of manufactures during 1990–2010, with an average growth rate of 19.2 per cent for China and 12.7 per cent for India. At the same time, China expanded its world share in this measure over this period by 14.2 percentage points (from 1.9 per cent in 1990 to 16.1 per cent in 2010), while India enlarged its world share by only 1 percentage point (from 0.5 per cent to 1.5 per cent) over the same period. This observation, however, suggests that as India’s share in the world economy in 2010 was comparable to that of China in 1990, if India continues its rapid growth, the expansion of its share in the world economy over the next 20 years will be considerable.

Chapter 4 analyses the sources of economic growth in Developing Asia and its individual economies during the period of 1990–2010 and
The dynamics of economic growth  

its two sub-periods, 1990–2000 and 2000–2010. This analysis employs the accounting framework for growth in the information age introduced by Jorgenson and his associates. This growth decomposition method, which has been widely accepted as the gold standard for productivity measurement, captures the magnitude of the contributions of various inputs, including investment in ICT assets, to GDP and labor productivity growth.

Among the results presented in Chapter 4, the following stand out:

- Capital accumulation was the largest source of GDP growth over the period of 1990–2010 for most of the 16 Developing Asia economies. Exceptions were observed for only three economies, South Korea, Taiwan, and Sri Lanka, for which TFP growth outweighed capital input in contributing to GDP growth.
- ICT capital was a significant source of GDP and average labor productivity (ALP) growth for all 16 Developing Asia economies. Its contribution to GDP growth over 1990–2010 was notably larger for China, Singapore, Vietnam, Malaysia, India, South Korea, Taiwan, and Pakistan than for the other economies.
- Developing Asia outperformed the group of industrialized economies by 3.2 percentage points and the group of other developing economies by 2.3 percentage points in GDP growth during 1990–2010. Capital accumulation was the key driver of the leads of Developing Asia, accounting for more than 50 per cent of the gaps.
- TFP growth was also an important factor, after capital accumulation, in the lead of Developing Asia in GDP growth over other groups of economies.
- Labor productivity growth, which was largely driven by capital deepening (capital accumulation per worker), played a major role in the lead of Developing Asia over the group of industrialized countries and the group of other developing economies in GDP growth over 1990–2010.
- The major role of capital accumulation in driving economic growth over 1990–2010 was observed not only for Developing Asia but also for the world as a whole and for the groups of industrialized countries and non-Asian developing economies.

Chapter 5 investigates the strategic policy framework that has enabled Developing Asia to achieve outstanding economic growth through rapid

15 For example, see Jorgenson and Stiroh (1999), Jorgenson (2001), and Jorgenson et al. (2003, 2005).
capital accumulation over extended periods. The chapter argues that the secret of successful Asian economies lies not in achieving high TFP growth but in sustaining reasonable TFP growth in spite of intensive capital accumulation over extended periods. This secret relies on concerted efforts to sustain high marginal product of capital through a strategic policy framework built in three strategic directions: (1) exploiting the backwardness advantage, (2) upgrading absorptive capability, and (3) creating favorable conditions for investment, structural change, and efficiency improvements. It is important to emphasize that the coordination of the government in carrying out these efforts in an effective development strategy plays a crucial role in the success of a nation’s catch-up endeavours.

Exploiting the ‘backwardness’ advantage is initiated with reform efforts that open up the economy, promote trade, attract FDI, and enhance the accessibility of the economy to the world technology frontiers. Among these efforts, promoting exports, importing technologies, and fostering learning play crucial roles.

Upgrading absorptive capability is focused on fostering human capital formation, building innovation capacity, and strengthening national learning capabilities. The fundamental task in fostering human capital formation is to establish a high-quality education system with links to scientific and technological development in the world economy. At the same time, attracting global talent, especially from the national diaspora, is an effective way to fast-track capital formation in the age of globalization. Strengthening national learning capabilities is carried out through the four typical channels of organizational learning: competencies acquisition, experimentation, benchmarking against the best practices, and continuous improvements.

Creating favorable conditions for investment, structural change, and efficiency improvements requires serious reforms that enhance good governance, improve the business environment, and foster structural change. Among the concerted efforts to foster structural change, formulating effective urbanization strategies, promoting industrial upgrading and linkages, and facilitating economic agglomeration are among the top priorities.

Chapter 5 then examines the experience of China and India—the two economies with outstanding economic performance during 1990–2010 in terms of the key dimensions of the strategic policy framework presented above. This examination shows that both China and India made significant progress with respect to almost all the dimensions considered. In addition, China outpaced India considerably in performance with respect to these measures, which to a large degree explains why China achieved a more robust economic performance in comparison to India during 1990–2010. The experiences of China and India during 1990–2010,
therefore, support the validity of the strategic policy framework. That is, a lower-income country can foster its catch-up performance by effectively employing the strategic directions and policy priorities adopted by successful Asian countries to formulate and implement its development strategy.

1.5 CONCLUDING REMARKS

Profound transformation, taken place in Asia in the past few decades after its first batch of successful economies, Japan and the four Asian Tiger economies—South Korea, Taiwan, Hong Kong, and Singapore—surprised the world with remarkable catch-up success and unprecedented rapid economic growth driven largely by factor accumulation. Developing Asia has continued this growth model with even more phenomenal success. In particular, China and India—the two giant economies in the group—recorded outstanding growth since their reforms were initiated (in 1978 in China and 1991 in India). The economic growth saga of Asia, which can be described by three words—surprise, speed, and scale—implies that Asia has achieved the impossible, as perceived by conventional wisdom, and forges ahead toward its future with an unprecedented speed and scale of success. In this spirit, one can expect remarkable growth and transformation in the coming decades, not only in China and India but also across Asia—from Indonesia to Pakistan, from the Philippines to Bangladesh, and from Vietnam to Myanmar.

Sustained high economic growth is not a mechanical procedure but a transformational process. The experience of successful Asian countries shows that a nation needs to summon up simultaneously and coherently two driving forces of development—emotion and enlightenment—for a country to wake up and fully exploit its potential in its catch-up endeavors. The stronger a nation is with respect to the two driving forces, emotion and enlightenment, the more successful it is in its catch-up endeavors.

To date, however, at least one of these two driving forces is still absent or weak in most nations. This is why few nations have been able to achieve development comparable to those of successful Asian economies. It should be noted that although emotion plays a crucial role in driving a transformational process, it alone is not sufficient to lead a nation to prosperity. The cases of pre-reform China, pre-reform Vietnam, pre-reform Myanmar, the former Soviet Union, and North Korea can even show that in the absence of enlightenment, a nation with strong emotion may hurt itself in darkness and conflicts.

It is fortunate that enlightenment has become a strong and irreversible
trend since the end of the Cold War in the 1990s. The world has entered into an era of great convergence in conceptual thinking for policy formulation and decision-making (Mahbubani, 2013). The changes in China, Vietnam, and other transition economies are among the salient pieces of evidence of this enlightenment trend.

The strategic policy framework proposed in this book, with its robust insights into Asia’s economic success and its growth model, seeks to help policy makers in developing countries, especially in Asia, to enhance their enlightenment attribute. The framework lays out three strategic directions for a lower-income country to foster its catch-up endeavors: (1) exploiting the ‘backwardness’ advantage, (2) upgrading absorptive capability, and (3) creating favorable conditions for investment, structural change, and efficiency improvements.

The prospects that Asia will transform itself into a prosperous region have become brighter and more feasible than ever before. However, the realization of these prospects requires three critical factors: peace, partnership, and productivity. Peace for Asia, in which territorial disputes and arms races have caused so much anxiety and distrust, should particularly emphasize the development of the culture of peace, which means not only no war but ‘zero prospect of war’ as the European countries have enjoyed since the end of World War II (Mahbubani, 2008). In efforts to enhance peace and partnership, the leaders of countries in the region, especially those involved in territorial disputes, should heed the advice of Confucius: ‘He who acts out of self-interest arouses much resentment.’ Only when peace and mutual trust are firmly in place can the region truly deepen the economic integration and business partnerships that are crucial to its prosperous future.

Productivity is associated with the quantity of resources required for a unit of output. Asia and the world will need to achieve substantial improvements in productivity to accommodate and sustain rapid increases in the levels of income and consumption of billions of people living in Asia in the coming decades. With peace, partnership, and productivity, Asia will undoubtedly become a prosperous region in the twenty-first century.

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16 Article 4.12, The Analects of Confucius, translated by Simon Leys, New York: W.W. Norton & Company, 1997. A popular version of this saying, which is quoted in many books, is ‘If one’s acts are motivated by only own profit, one will have many enemies.’
APPENDIX 1.1: EMOTION AND ENLIGHTENMENT AS DRIVING FORCES OF ASIA’S SUCCESS

Emotion and enlightenment play central roles in sparking profound reforms in successful Asian economies and driving them toward prosperity. For a nation, the emotion factor is influenced by its leaders’ aspirations, anxieties, and sense of responsibility for the country’s future. The enlightenment factor depends on the openness of the leadership’s mindset and eagerness to learn. Indeed, the Asian countries that have achieved remarkable catch-up successes embarked on their unprecedented reforms with deep emotion and robust enlightenment. This is evidenced by the experience of Japan during the Meiji reform, South Korea under Park Chung-Hee, Singapore under Lee Kuan Yew, and China under Deng Xiaoping.

Japan During the Meiji Reform

Emotion
Japan’s Meiji reform, initiated in the second half of the nineteenth century, was triggered by the looming threat of Western invasion: the country was shocked by the arrival of Commodore Perry’s ‘black ships’ in 1853 and his gunboat diplomacy. The Meiji leaders, who were deeply impressed by the superiority of Western military power and anxious about being dominated by foreign forces, aspired and determined to build a new Japan as a strong nation in the modern world. To strengthen the determination of the entire society to pursue a course of radical modernization, they employed inspiring slogans such as ‘Japanese Spirit, Western Knowledge,’ ‘Civilization, Enlightenment,’ and ‘Rich Nation, Strong Army.’

Enlightenment
For Japan, the ‘Charter Oath of 1868,’ which was written by the new Meiji leaders and presented to the people by the newly restored emperor in April 1868, is a clear indication of the Meiji leaders’ enlightenment in their efforts to establish the platform for Japan to transform itself profoundly into an advanced nation:

By this oath we set up as our aim the establishment of the national weal on a broad basis and the framing of a constitution and laws.

1. Deliberative assemblies shall be widely established and all matters decided by public discussion.
2. All classes, high and low, shall unite in vigorously carrying out the administration of affairs of state.
3. The common people, no less than the civil and military officials, shall each be allowed to pursue his own calling so that there may be no discontent.
4. Evil customs of the past shall be broken off and everything based upon the just laws of Nature.
5. Knowledge shall be sought throughout the world to strengthen the foundations of imperial rule. (Tsunoda et al., 1958, p. 644)

In addition, the change of the name of the period of reign of the new emperor to Meiji (enlightened rule) sent a powerful message to the entire society that the country had entered a new era with enlightened leadership.

In its efforts to seek knowledge throughout the world as directed by the Charter Oath, the Meiji government sent more than half of its high-ranking officials to the United States and Europe on a 21-month journey (from December 1871 to September 1873) to search for models and lessons that Japan could learn for its modernization. Kido Takayoshi, who had helped draft up the Charter Oath and was a key member of the mission, emphasized the importance of enlightenment through fostering human capital formation:

Nothing has more urgency for us than schools [. . .], unless we establish an unshakable national foundation we will not be able to elevate our country’s prestige in a thousand years . . . Our people are no different from the Americans or Europeans of today; it is a matter of education or lack of education. (Jansen, 2000, p. 356)

He also stressed the importance of building good governance. As he noted, those who held office need to ‘respect the wishes of the whole nation and serve their country under a deep sense of responsibility, so that even in extraordinary crises they take no arbitrary step contrary to the people’s will’ and ‘[for Japan] it is no different from those countries of Europe and America the conduct of whose governments embodies the will of the people’ (Jansen, 2000, p. 359). The members of the learning mission were convinced that representative institutions were needed for Japan to build consensus for government actions. Kido Takayoshi, after re-reading time after time the United States Constitution, expressed his belief: ‘it is a superb document; we can never allow that spirit change’ (Jansen, 2000, p. 339).

As Jansen (2000) asserted, the lessons drawn by the mission had a powerful impact on both institutional building and policy initiatives that enabled Japan to make remarkable accomplishments in its profound transformation and radical modernization.

It is also worth noting that the Meiji leaders made laborious efforts to

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17 It is remarkable that the people on these missions had their jobs waiting for them when they returned (Jansen, 2000, p. 355).
enhance the quality of their decisions concerning policy formulation and institutional building. In this process, they vigorously embraced debates and spoke their minds. The design of the Meiji state, as a result, was not rigidly established at the beginning but took shape as it grew (Jansen, 2000, p. 412).

South Korea under Park Chung-Hee

Emotion
When Park Chung-Hee assumed power in South Korea in 1961, the country was in a grave situation, as he remarked:

The economy was faced with collapse [. . .] The institutional and moral aspects of the society were no better. People fatalistically took poverty and reliance on foreign aid as unavoidable factors of life. Businessmen and industrialists failed to fulfill their important role in economic development. Many corrupt government officials and parvenus worked together to amass illegal fortunes. The market, suffering from its small scale and lack of vigorous competition, did not function normally. The underdeveloped agricultural system was unable to meet the demand for food. (Park, 1971, pp. 104–105)

The conditions were even worse from broader perspectives. The threat of North Korean attack was credible. The country was extremely poor, with per capita income far below 100 USD, and mass famine was a constant threat. Given these circumstances, Park was determined to make extraordinary efforts to turn the situation around:

I felt, honestly speaking, as if I had been given a pilfered household or a bankrupt firm to manage. Around me I could find little hope or encouragement. The outlook was bleak.
However, I had to rise above this pessimism to rehabilitate the household. I had to break, once and for all, the vicious circle of poverty and economic stagnation. Only by curing the abnormal economic structure could we lay the foundation for decent living standards. (Park, 1971, p. 105)

President Park Chung-Hee admired Japan’s Meiji Restoration and was inspired by the spirit of the Japanese Meiji revolutionaries. He aspired to transform South Korea into a second Japan: ‘I am pushing for the modernization of my country as the modernizing elite of the Meiji Restoration did’ (Moon and Jun, 2011, pp. 116–118). He was also inspired by the miraculous revival of West Germany after World War II:

I intend to witness firsthand the revival of West Germany, a country which has emerged from the ashes of World War II as a prosperous nation that has achieved outstanding economic development. (O, 2009, p. 80)
Park emphasized the moral power in the revival of the nation:

In human societies, progress and prosperity are achieved only at the cost of sweat, blood and work. If we of this generation do not put forward our most devoted efforts to throw off the yoke of backwardness in this era of tumultuous change, the black clouds of past generations will veil our country, our people and our history forever.¹⁸

He expressed a deep sense of responsibility and determination:

All my comrades and I took deep pride in knowing that it was our role to save our country. As most of us had been trained abroad, we felt strongly the need for early modernization of our country [. . .]. We were confident of our organizing ability and felt we could carry out any undertaking with close unity, however difficult it might be. With strong traditionalism and positive popular support, we saw ourselves as standard-bearers to guide the people toward the attainment of their long-cherished hope. (Park, 1971, pp. 99–100)

Enlightenment

Park’s government stressed the importance of mobilizing the wisdom and knowledge of scholars in formulating the country’s economic development plans. The government used this approach in the preparation of its first Five-Year Economic Development Plan (1961–1965) and considered it a strategic way to enlighten its economic development strategy and stimulate the engagement of the country’s scholars in national development endeavors. Park noted:

[w]e organized a planning committee of college professors and experts with specialized knowledge in many fields. By mobilizing the maximum available expertise for government administration and policy-making, we intended to hold in check the arbitrariness and rashness of the military officers. The establishment of this committee served as a turning point. Korean professors began to show positive interest in the realities of the country and to present policy recommendations on the basis of scientific analyses of the country’s situation. (Park, 1971, pp. 107–108)

Park himself was relentless in his learning efforts. He was ‘open to new ideas and capable of transforming them into a detailed workable action program,’ and ‘He studied hard to learn about economic issues and to discover ways to bring about economic development’ (Kim and Park, 2011, p. 278). Park was described as a man ‘busy studying Japan. He frequently took clippings from Japanese newspapers and read The History of the

Japanese Economy until midnight. A great portion of Park’s modernization policy emerged from the emulation of Japan. He compared South Korea’s economic situation to that of Japan all the time’ (Moon and Jun, 2011, p. 120).

Singapore under Lee Kuan Yew

Emotion

Emotion ran high in Singapore, with deep anxiety about the country’s economic survival, after it was cut off from Malaysia in 1965. The small country, with no natural resources, faced economic difficulties, with an unemployment rate of 14 per cent and on the rise, and an unfriendly environment in the region.

In this critical situation, Lee Kuan Yew realized that extraordinary efforts were the only way for Singapore to survive and succeed:

I concluded an island city-state in Southeast Asia could not be ordinary if it was to survive. We had to make extraordinary efforts to become a tightly knit, rugged and adaptable people who could do things better and cheaper than our neighbors [. . .]. We had to be different. (Lee, 2000, p. 24)

Emotion had a powerful effect on the government officers’ devotion and working attitudes. Lee Kuan Yew remarked, ‘I felt strongly that the people’s morale and confidence would be decisive in the coming battle for Singapore’s survival’ (Lee, 2000, p. 71). For example, the officers of the Economic Development Board, which is responsible for attracting foreign direct investment to Singapore, ‘worked with inexhaustible energy because they felt the survival of Singapore depended upon them’ (Lee, 2000, p. 78).

Enlightenment

Lee Kuan Yew and his government particularly emphasized the importance of learning and continuous improvement:

When we started in 1959 we knew little knowledge about how to govern, or how to solve economic and social problems. [. . .] We learnt on the job and learnt quickly. If there was one formula for our success, it was that we were constantly studying how to make things work, or how to make them work better.

[. . .] I discovered early in office that there were few problems confronting me in government which other governments had not met and solved. So I made a practice of finding out who else had met the problem we faced, how they had tackled it and how successful they had been. Whenever it was to build a new airport or to change our teaching methods, I would send a team of officers to visit and study those countries that had done it well. I preferred to climb on the shoulders of others who had gone before us. (Lee, 2000, pp. 758–759)
A majority of the governance ideas implemented in Singapore were learned and adapted from elsewhere (Neo and Chen, 2007, p. 43). Among the prominent examples of this learning included Changi Airport, the personnel appraisal system, and the concept of garden cities. The decision to shift the international airport from Paya Lebar to Changi and write off S$750 million of investment in the old airport was motivated by the perceived advantage of being located on the coast, like Boston’s Logan airport. This advantage allows the airport to minimize noise associated with airplane landings and take-offs. With the new airport at Changi by the sea, the perennial noise problem was effectively solved. In an effort to recruit and promote senior people, Singapore learned from the system developed by Shell, the Anglo-Dutch oil group. The strength of this system is its effective appraisal of a person’s ‘currently estimated potential’ through three qualities: power of analysis, imagination, and a sense of reality. The concept of building a ‘garden city’ has its origin in the greenery of Phnom Penh, which impressed Lee Kuan Yew when he visited Cambodia in 1962.

**China under Deng Xiaoping**

**Emotion**

China’s emotion that laid foundation for the launch of its reform in 1978 came from three sources. One was its feeling of centuries-long humiliation due to the domination of the West and the Japanese before the Communist Party of China (CPC) took control of the country in 1949. Another was its realization of the country’s severe backwardness and falling further behind advanced countries, after three decades of mismanagement and political turmoil under the leadership of Mao Zedong. The third was China’s ambition to become a great power.

In a speech in 1978, Deng Xiaoping stressed the following:

> Profound changes have taken place and new leaps have been made in almost all areas. A whole range of new sciences and technologies is continuously emerging . . . we have lost a lot of time as a result of the sabotage by Lin Biao and the Gang of Four . . . Backwardness must be recognized before it can be changed.19

The CPC sparked emotion with a determination to ‘advance courageously to make a fundamental change in the backward state of our country so that it becomes a great, modern, socialist power.’20

Great ambition is always a key driver behind China’s emotion toward

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reform and development. Deng Xiaoping prodded China to advance faster to catch up with successful Asian economies. In his trip to southern China in January 1992 to rally support for accelerating reforms, he called for the following:

Now that the peripheral countries and areas have the lead on us in economic development, if we fail to catch up with them or if we advance at a slow pace, the public may have grievances when they make a comparison. Therefore, if an idea can help speed up development, we must not stop it but should try to make development still faster. [...] We must seize every opportunity to make the country develop quickly. We have a good opportunity now; if we fail to seize it, it will be gone very soon. Slow development simply means to halt. We must strive really hard to upgrade the economy to a new level every few years.

[...] If Guangdong plans to catch up with the four little dragons of Asia within 20 years and wants to speed up its development, it will have to quicken its pace further. Shanghai definitely can go faster. By quickening the pace of development, the situation in the four special economic zones, in the Yangtze Delta, and in China as a whole, will be quite different from what it is at present. [...] when I review my work in retrospect, I think one of the great mistakes I committed is that I did not make Shanghai one of the special economic zones at the time when the four existing special economic zones were founded.21

**Enlightenment**

Under Deng Xiaoping, China made strenuous efforts to tap into new ideas and technologies from advanced countries. The CPC’s Politburo Decision in 1992 underscored the following:

The party and country should be bold in absorbing and learning from all the achievement of the civilization of mankind, and in absorbing and learning from the advanced management methods of other countries of the contemporary world, including the developed countries in the West.22

In particular, Deng encouraged his people to learn from the example of Singapore and do even better in China:

Singapore enjoys good social order and is well managed. We should tap their experience and learn how to manage things better than they do today.23

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Among China’s efforts to learn from Singapore was the appointment in 1985 by the Chinese government of Dr. Goh Keng Swee, Singapore’s economic architect, as its economic adviser on coastal development and tourism. On this occasion, the spokesperson of China’s Ministry of Foreign Affairs asserted the following:

In carrying out economic reform and opening to the outside world, we not only will bring the role of Chinese scholars and experts into full place but also hope to receive assistance from foreign scholars and experts and benefit from their views and suggestions.24

24 From ‘Dr. Goh China’s economic adviser,’ *Strait Times*, 11 July 1985