CHAPTER 3

DYNAMICS OF STRUCTURAL TRANSFORMATION

3.1 Introduction

For the last 5 decades, structural transformation in Asia has been the primary driver behind the region's rising income and geographic movement of capital and labor. It goes beyond shifting resources across broad industry sectors—from agriculture to manufacturing and services. Structural transformation involves diversifying and deepening production, linking processes to global value chains, and moving resources from rural areas to cities. The process increases labor productivity for the overall economy, as resources shift toward more productive sectors, and more investment and increased efficiency lift productivity within sectors. Historically, most successful high-income countries followed similar patterns of economic development, but Asia’s transition has been particularly rapid. Structural transformation also facilitates urbanization, which, in turn, supports the changing industrial composition.

This chapter examines developing Asia’s structural transformation process over the past half century, looking at both aggregate performance as well as cross-country differences. Section 3.2 looks at the region’s shifts in economic structure among agriculture, industry, and services, and the contribution these shifts made to productivity growth. Sections 3.3–3.5 examine progress in
diversifying and upgrading economic activities within each of these three broad sectors and their contributions to productivity growth. In particular, section 3.5 discusses the growing importance and diversity of services. Section 3.6 reviews the region’s urbanization process and its importance in raising living standards and the quality of life. Finally, section 3.7 explores the challenges that today’s policy makers in developing Asia need to confront, depending on the stage of development of their economy.

3.2 Overview of Asia’s structural transformation

Economic literature has long viewed development as a process of transforming the productive structure of an economy and accumulating the physical and human capacities needed to drive this change. Development and growth occur as new economic activities emerge, old ones are replaced, and resources are reallocated from less productive firms and activities to more productive ones. During structural transformation, resources are reallocated across and within the three broad sectors of economic activity: agriculture, industry, and services. The process involves upgrading technology, upskilling labor, and shifting resources from rural to urban areas.

The most striking feature of development when viewed over a long time span is the secular decline in the share of agriculture and corresponding increase in the combined share of industry and services, whether measured in terms of output or employment. Industry’s share increases to a certain point and then starts to decline, as the economy shifts from the industrialization stage to a “deindustrialization” stage, while services’ share continues to increase.

Over the past half century, developing Asia has followed a similar pattern of structural transformation as today’s high-income countries, though at a much faster pace (Figure 3.1, Table 3.1, and Appendixes 5 and 6). From 1970 to 2018, the share of agricultural output in total gross domestic product (GDP) and employment in developing Asia declined

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2 According to the United Nations (UN) International Standard Industrial Classification of All Economic Activities, revision 4, the industry sector comprises economic activities categorized as (i) mining and quarrying; (ii) manufacturing; (iii) electricity, gas, steam, and air-conditioning supply; (iv) water supply, sewerage, waste management, and remediation activities; and (v) construction.
as countries grew richer. A pattern of structural change in industry is clear, especially its employment share. Industry’s shares of GDP and employment expanded in most Asian countries, but in high-income economies including the newly industrialized economies (NIEs), these two shares began to decline (deindustrialization), suggesting an inverted-U shape relationship. Services was already the largest sector by output and employment for most countries in 1970, rising steadily with income, although its composition changed substantially over time.

The decline in agriculture’s share of GDP was especially prominent in the People’s Republic of China (PRC) and India: from 31.9% in the 1970s to 7.2% in 2018 in the PRC and from 39.6% to 16.0% in India. The region’s two city economies—Hong Kong, China and Singapore—always had low shares of agricultural output (including fishing) and employment. In developing Asia as a whole, the share of agriculture in GDP dropped from 31.9% in the 1970s to a low of 8.5% in 2018, while the share of employment decreased from 71.0% to only 33.5%, reflecting a slower pace of labor productivity growth in the agriculture sector.

While industry’s share of GDP remained about the same in the PRC and increased by a small margin in India between 1970 and 2018, it increased significantly in countries such as Bangladesh and Thailand. Economies reliant on mining—such as Azerbaijan, Mongolia, and Papua New Guinea—tend to have relatively high industry-to-GDP shares.

Industry’s share of employment in developing Asia increased from 14.1% in the 1970s to 25.5% in 2018, which was comparable to the Middle East and North Africa (26.7%), but higher than other regions such as Sub-Saharan Africa (11.4%) and Organisation for Economic Co-operation and Development (OECD) members (22.7%). In 2018, developing Asia’s industry share of GDP (37.5%) was lower than the Middle East and North Africa (42.4%). In natural resource-rich countries, industry’s employment share is small even though its GDP share is large (because mining is particularly capital-intensive).

Services has always been an important contributor to both production and employment. In the 1970s, it already accounted for the largest share of GDP in most countries, and its share has grown in parallel with the decline in agriculture’s. The growing role of services is evident in all subregions and country income groups both for GDP and employment. For example, in the Republic of Korea (ROK), which grew rapidly through export-oriented industrialization, industry’s dominance is giving way to services. A similar pattern is happening in
Figure 3.1: Output and Employment Shares by Sector against Per Capita GDP, 1970–2018

**Figure 3.1a: Agricultural Output Share**

![Agricultural Output Share](image)

**Figure 3.1b: Agricultural Employment Share**

![Agricultural Employment Share](image)

**Figure 3.1c: Industrial Output Share**

![Industrial Output Share](image)

**Figure 3.1d: Industrial Employment Share**

![Industrial Employment Share](image)

**Figure 3.1e: Services Output Share**

![Services Output Share](image)

**Figure 3.1f: Services Employment Share**

![Services Employment Share](image)


Notes: The years of data for each economy vary depending on availability, with 1970 as the earliest year and 2018 as the latest. Sector shares are rescaled to sum to 100.

Table 3.1: Output and Employment Shares by Sector, 1970–2018

Table 3.1a: Sector Shares in Output (gross value added as a % of GDP)

<table>
<thead>
<tr>
<th></th>
<th>Agriculture</th>
<th>Industry</th>
<th>Services</th>
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<tbody>
<tr>
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<td>14.9</td>
<td>8.5</td>
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<tr>
<td>Central Asia</td>
<td>...</td>
<td>23.3</td>
<td>10.3</td>
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<tr>
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<td>20.1</td>
<td>7.2</td>
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<td>27.8</td>
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<tr>
<td>India</td>
<td>39.6</td>
<td>28.1</td>
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<td>12.6</td>
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<tr>
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<td>16.6</td>
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<tr>
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<td>2.0</td>
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</tr>
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</tr>
<tr>
<td>Japan</td>
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<td>1.9</td>
<td>1.1</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
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<td>7.2</td>
<td>5.3</td>
</tr>
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<td>Middle East and North Africa</td>
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<td>Sub-Saharan Africa</td>
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<tr>
<td>World</td>
<td>8.1</td>
<td>4.2</td>
<td>4.1</td>
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</tbody>
</table>

... = data not available, GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development.

Notes: Sector shares are rescaled so that the sum of shares in value added is equal to 100. Latest data refer to 2015 for Turkmenistan, Tuvalu, and Vanuatu, and 2016 for the Federated States of Micronesia, New Zealand, Papua New Guinea, and Tonga. Data for Australia; Hong Kong, China; Indonesia; and Japan are from 2017.

### Table 3.1b: Sector Shares in Employment (% of total employment)

<table>
<thead>
<tr>
<th></th>
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<th>Services</th>
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<tr>
<td>India</td>
<td>68.6</td>
<td>61.8</td>
<td>43.9</td>
</tr>
<tr>
<td>Southeast Asia</td>
<td>61.1</td>
<td>52.0</td>
<td>32.1</td>
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<tr>
<td>The Pacific</td>
<td>...</td>
<td>66.4</td>
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<tr>
<td>Developed Asia</td>
<td>12.8</td>
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<td>Middle East and North Africa</td>
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<td>Sub-Saharan Africa</td>
<td>61.9</td>
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<tr>
<td>OECD</td>
<td>11.4</td>
<td>8.3</td>
<td>4.6</td>
</tr>
<tr>
<td>World</td>
<td>51.1</td>
<td>42.0</td>
<td>28.2</td>
</tr>
</tbody>
</table>

... = data not available, OECD = Organisation for Economic Co-operation and Development.

the PRC, which also leveraged manufacturing to propel rapid growth. The relative importance of services also grew in countries such as India and the Philippines. As a result, the pattern of structural change in services is clearer and more uniform than that in industry.

### 3.3 Critical contribution of agriculture

Structural transformation in developing Asia began with the growth in agricultural productivity (Chapter 4). The food problem was the foremost concern 50 years ago. At that point, agriculture in much of Asia was predominantly subsistence farming of food crops (such as rice and wheat), where farmers cultivated small plots of owned or leased land, using manual labor and applying age-old technologies, while being at the mercy of the vagaries of weather. In countries going through socialist transformation, such as the PRC, the Central Asian republics, and Viet Nam, agriculture was structured under state or collective systems. Consequently, farm productivity was low, unstable, and unable to meet growing food demand. Many countries had to rely on imports or food aid to fill the gap. Regionally, the priority was to transform traditional agriculture and improve food productivity.

Since the late 1960s, the “Green Revolution” has brought major changes to traditional agriculture. This technology-led transformation involved developing and disseminating a series of high-yielding modern varieties of crops, primarily rice and wheat, together with improved production practices.

More than a technological fix, the Green Revolution encompassed policy and institutional changes along with increased investment. In 1972, Asian countries, on average, directed 15% of public spending to agriculture. As investments in support of the Green Revolution picked up, the value of agriculture spending had doubled in real terms by 1985. Critical investments included rehabilitating irrigation systems, improving farm-to-market roads, and establishing networks of agricultural research and extension services.

Governments also directly intervened in markets—establishing rural credit systems; subsidizing key inputs such as fertilizers, power, and water; and providing price support—to ensure farmers could profit from adopting these new technologies, especially in small farms. Although many countries started land reform prior to the

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Green Revolution, implementing these reforms varied greatly, and consequently, performance was mixed. Where implemented well, tenure reforms corrected exploitative leasing terms, and redistribution schemes helped improve land ownership structures.

These changes led to remarkable growth in agricultural productivity. Expanded irrigation and cultivation of higher-yielding, faster-growing varieties generated strong growth in yields per hectare. Cereal production in Asia more than doubled between 1970 and 1995, from 313 million tons annually to 650 million tons. Despite a 60% jump in population during the period, calories available per capita increased by nearly 30%. Higher food production came with a decline in food prices—for example, the real price of rice in 2000 was roughly one-third of the 1970 cost.5

Changes in dietary demands in Asia due to rising incomes and more open foreign trade enabled production diversification into higher-value crops and livestock, which contributed to increased land and labor productivity (Figure 3.2). Increased land productivity came mostly from more intensive land use with modern varieties, modern inputs, and a shift from single to multiple cropping per year. Adopting high-value crops also helped raise land productivity. For instance, between 1970 and 2015, Viet Nam more than doubled land productivity (from $600 per hectare to $1,600 per hectare) and labor productivity (from less than $400 per worker to over $1,000 per worker). Similar patterns occurred in the Philippines, Indonesia, and other Southeast Asian countries. South Asian countries, such as India and Pakistan, also increased land productivity by adopting modern agricultural technology, though they remain at a comparatively lower level.

As the potential gains from Green Revolution technology were exhausted, rice and wheat land productivity nearly reached its technical limits. Meanwhile, rising wages of agricultural labor under this economic transformation induced farmers to substitute machines for labor. Japan’s agricultural land productivity, for example, remained at the same level over the past 3 decades, while its labor productivity increased by more than 20% (Figure 3.2). Malaysia’s experience appears similar.

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Agricultural growth contributed to the development of other sectors. In the early stages of development, surplus labor in subsistence agriculture can shift to the industry sector without reducing agricultural output until the excess labor is exhausted (the so-called “Lewis turning point”). This helps keep wages in industry stable during the early stage of industrialization. Further, the increased food surplus helped prevent the rise of living costs for urban workers. Low food prices enabled urban households to spend more on education and health, in the long run contributing to the increased supply of productive labor.

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Agricultural development also helped industry by increasing demand for agricultural inputs (fertilizers, pesticides, and tractors) while increasing supplies of agricultural raw materials to manufacturing (such as cotton for textile and wheat for instant noodles). The rural population’s improved living standards increased domestic demand for nonagricultural goods and services, providing a nascent and expanding market to nurture the growth of firms outside agriculture in the early stage of development. Finally, rural savings were channeled to finance urban and industrial development. Overall, the continued dynamism in agriculture and the rural economy is an integral part of the economy-wide structural transformation.

### 3.4 Industrialization as the path to high income

Industrialization has been indispensable on the road to high per capita income. East Asia’s rapid structural transformation toward industry, manufacturing in particular, is a key part of its success. Workers moved out of agriculture and into manufacturing, and the manufacturing sector itself transformed as it diversified and upgraded. In postwar Japan, for example, shifts in labor between sectors helped boost overall economic productivity—and therefore the growth rate—but most of the gains came from productivity growth in the nonagriculture sectors. Many manufactured goods have high income elasticities of demand, which generate strong demand as incomes rise, and they exhibit economies of scale in production. The shift in employment to industry also enhances incentives for workers to acquire skills adapted to new tasks, which, in turn, strengthens the foundation for future growth.

When accompanied with greater trade openness, manufacturing geared toward export markets can generate the foreign exchange needed to finance capital goods imports. Openness helped further boost manufacturing productivity by attracting foreign direct investment that introduced new technologies and forged links to global value chains. The rise of cross-border production networks in the 1990s further enhanced industry’s role, especially in East Asia and Southeast Asia (Chapter 9).

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**Why manufacturing is an engine of growth**

A significant part of the reason Asian economies grew so fast is that policy makers recognized the important role manufacturing plays in (i) diversifying and upgrading an economy, (ii) earning sufficient foreign exchange for imports, and (iii) ultimately raising living standards.

Manufacturing matters for growth for several reasons. A structural shift toward manufacturing spurs greater capital accumulation. More than agriculture, where constraints on arable land tend to create decreasing returns to scale, manufacturing exhibits economies of scale. Technological advances can spill over to other firms and generate cost-reducing innovations in production. This can lead to situations where a doubling of capital and labor can more than double output. A significant portion of technical progress occurs in manufacturing. In particular, the manufacture of capital goods (such as machinery and equipment) and consumer durables (such as automobiles) has been the “learning center” of capitalism in technological terms as well as process and organizational innovation.

Historically, the share of PRC manufacturing in total output has been very high. It still accounts for about 30% now (Figure 3.3). Even as the PRC lost millions of manufacturing jobs due to the intensified restructuring of state-owned enterprises that began in the mid-1990s, new private sector manufacturing jobs emerged, especially in labor-intensive light industries. As a result, the share of manufacturing employment increased from about 15% in the 1980s to around 22% in 2018. Manufacturing in several Asian economies (especially Malaysia; the ROK; Singapore; and Taipei, China) have undergone important transformations, shifting output and employment to more technology- and scale-intensive subsectors (Chapter 5). In contrast, the share of India’s manufacturing sector has changed little since the 1970s, with the share of output (16%) and employment (11%) relatively stable.

Manufacturing particularly links to other productive sectors and has positive spillover effects. Linkage effects refer to intersectoral purchases and sales, while spillover effects refer to knowledge flows between sectors. Both linkage and spillovers are strong within manufacturing as well as between manufacturing and services and agriculture. For example, the main customers of high-productivity service activities are manufacturing firms.
**Figure 3.3: Manufacturing Output (gross value added as a % of GDP) and Employment (% of total) Shares, 1970–2018**

**Figure 3.3a: Percentage of GDP**

**Figure 3.3b: Percentage of Total Employment**

ASEAN = Association of Southeast Asian Nations, GDP = gross domestic product, NIEs = newly industrialized economies, PRC = People’s Republic of China.

Notes: ASEAN4 includes Indonesia, Malaysia, the Philippines, and Thailand. NIEs include Hong Kong, China; the Republic of Korea; Singapore; and Taipei, China.

**Interaction between manufacturing and openness**

As the producer of physical and nonperishable products, manufacturing has higher tradability than agriculture or services. A development strategy based on manufacturing allows a country to become increasingly engaged in international trade and, in particular, exporting. This remains true, although improvements in transportation (such as containerization, refrigeration, port efficiency, and other aspects of the timely movement of goods) broadened the range of international trade in agricultural goods, and progress in information and communication technology (ICT) opened possibilities for international trade in some services.

A country’s growth becomes constrained by its balance of payments if it cannot generate sufficient foreign exchange to import the necessary capital goods to spur future development. The core of the problem lies in the differences between the income elasticities of goods a country exports and those that it imports. Agricultural products tend to have low income elasticity of demand, such that consumer spending on these goods rises more slowly than growth in income (known as Engel’s Law). In contrast, most industrial products, largely produced by advanced economies, have high income elasticity, with demand for these goods growing even faster than income. If a developing country does not have a strong manufacturing sector, it will end up running a deficit in merchandise trade. This is one assertion of the “center–periphery” model (Chapter 2).

Critically, Asia’s industrialization since the 1960s has gone hand in hand with increasing openness. Fast export and industrial output growth relaxed the balance of payments constraint, which allowed successful Asian economies to sustain higher rates of GDP expansion. Rapid expansion of exports and industrial output also boosted productivity, setting the stage for higher future growth. In contrast, countries that persisted in pursuing import substitution development strategies—such as many Latin American and South Asian economies in the past—were unable to kick-start this virtuous cycle and had more modest growth as a consequence (Chapter 9).

While market forces and openness are critical conditions for developing manufacturing, evidence shows that some type of proactive industrial policy helped industrialization and upgrading. Virtually no country in the world has industrialized and moved up the development ladder without an appropriate balance between government engagement and market forces (Chapter 2).
In general, exports raised firm efficiency as exposure to larger world markets enabled firms to benefit from economies of scale and forced them to enhance competitiveness and technological development. Exporting is associated with increased rates of technological learning, as firms adjust to the different demands of trade partners and as they develop producer–user relationships. Foreign buyers of electronics provided East Asian producers with information and advice on product designs, quality, production processes, and procurement of capital goods and inputs. When some countries adopted targeted industrial policies, competing on world markets provided a means for governments to test and benchmark manufacturing firms, allowing them to examine whether their efforts in developing a manufacturing base were successful.

The economic transformation of successful Asian economies included a shift toward goods whose demand increases when consumers grow richer (high income elasticity). These types of goods compete on non-price factors—such as branding, quality, reliability, speed of delivery, and extent and efficacy of the distribution network—which play a bigger role in consumer choices at higher income levels. Recent work on complexity, an idea that encompasses diversification at the country level and sophistication at the product level, shows that the export structure of many Asian countries shifted significantly during the last few decades, from products like simple footwear and basic textiles to precision machinery and high-end branded consumer durables (Chapter 5).

**Deindustrialization and scope for services-led development**

The share of agriculture in output and employment falls and the shares of manufacturing and services correspondingly rise during the early stage of industrialization. However, as industrialization proceeds, labor productivity growth in manufacturing reduces the need for more workers and thus, the employment share of manufacturing begins to decline. As a result, the share of employment in industry tends to peak and then begins to decline—the stage of structural transformation known as “deindustrialization.”

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The newly industrialized economies (NIEs) (other than Taipei, China) have clearly begun to deindustrialize. This is particularly evident in Hong Kong, China, where industry’s share of employment decreased by nearly 40 percentage points over 5 decades. Deindustrialization is the natural consequence of the NIEs' economic dynamism as they transition to service-led economies. This process was similar to that of the OECD countries.\(^{10}\)

Unlike the historical pattern of moving from agriculture to industry and then to services, some countries are making a direct transition from agriculture to services. In India and the Philippines, a vibrant services sector—epitomized by business process outsourcing enabled by advances in ICT—contributed much to their rapid growth. Whether countries can bypass industrialization and leapfrog directly from agriculture-led growth to services-led growth remains a contentious issue. In modern history, countries that moved up from middle income to high income typically developed strong manufacturing sectors. Traditionally, there are several characteristics of manufacturing that boost economic development as discussed earlier: tradability of products, more rapid creation of jobs for unskilled labor, the need for scientific and technological expertise (which have large spillover impacts), and division of labor and scale economies.\(^{11}\) On the other hand, it is possible that advances in ICT may dramatically change this pattern by fostering these characteristics within services.

While the “leapfrogging” debate continues, what is far more certain is that economic dynamism requires both a productive manufacturing sector and a productive services sector. In fact, there is a great deal of synergy between manufacturing and services. Better transportation services, for example, improve the ability of factories to deliver their products to markets at home and abroad. Spillover effects also flow from manufacturing to services. Better ICT hardware, for example, facilitates and enhances online education and remote medical care.


3.5 Large and growing imprint of services

Definition of services and their diversity

The services sector has been growing both in terms of GDP and employment, and this will most likely continue in most countries. But services is perhaps the most diverse of the three broad sectors of an economy. It covers activities as diverse as bespoke tailoring, haircuts, convenience store sales, legal advice, architectural design, computer engineering, and business process outsourcing.

According to the United Nations International Standard Industrial Classification of All Economic Activities, revision 4, the services sector comprises economic activities categorized as (i) wholesale and retail trade; repair of motor vehicles and motorcycles; (ii) transportation and storage; (iii) accommodation and food service activities; (iv) information and communication; (v) financial and insurance activities; (vi) real estate activities; (vii) professional, scientific, and technical activities; (viii) administrative and support service activities; (ix) public administration and defense; compulsory social security; (x) education; (xi) human health and social work activities; (xii) arts, entertainment, and recreation; (xiii) other service activities; (xiv) activities of households as employers; undifferentiated goods- and services-producing activities of households for own use; and (xv) activities of extraterritorial organizations and bodies.

To complicate things further, there is often a great deal of diversity within service subsectors. Because of the enormous range of quality within each subsector, broadly defined service subsectors cannot be strictly categorized as “high value added” or “low value added.” For example, the quality of education can vary greatly—which explains why parents all over the world compete to get their children into good schools. In traditional services such as haircising and restaurants, there is plenty of scope to add value. This explains why highly skilled celebrity hair designers or stylists command hundreds, if not thousands, of dollars for one haircut. The restaurant industry also ranges from street hawker food stalls to Michelin 3-star restaurants.

Besides being more diverse, the intrinsic value of services is also more difficult to measure than agriculture or manufacturing. The importance of productivity gains from services may be understated due to the difficulty of measuring their output, and hence productivity. Unlike rice, apples, and beef (agriculture), or cars, laptops, and mobile phones (manufacturing), services output is intangible—such as expert
advice from a lawyer or the auditory experience of a concert—and the quality (reflected in value added) is difficult to capture.

Accurate measurement of the value of services is further hindered by the “servicification” of manufacturing. This refers to manufacturing firms increasingly outsourcing services such as marketing, designing, and data processing, which increases the scale of the services sector. On the other hand, those services that are not outsourced tend to be an increasingly important part of the value of a manufacturing firm’s output, which leads to undercounting services.

The boundary between services and manufacturing is becoming more and more blurred. In a typical global value chain, activities at the beginning of the value chain (such as research and development, and industrial design) and those at the end (such as distribution and marketing) are services. Activities traditionally thought of as manufacturing (such as fabrication and assembly) generally occur in the middle of the chain.

Growing importance of services

Notwithstanding these measurement issues, the economic importance of services in Asian economies is clearly on the rise. Services already loom large in the region’s economic landscape, accounting for 54% of regional output in 2018. However, the share of services to GDP in developing Asia remains well below that of the OECD (Table 3.1). As noted, the deindustrialization process in economies approaching high income means that the process of structural transformation will tilt further toward services in the future. Services will become a growing share of household consumption. When incomes rise, people spend more for health, entertainment, and other recreation. As technologies advance, people tend to want more real experiences through tourism and concerts. Entertainment and game industries are growing across national borders, benefiting from digital and other technologies. K-pop is one good example of success in marketing internationally.

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Job creation is critical for inclusive growth, and services are labor-intensive by their very nature. Moreover, manufacturing is poised to become less labor-intensive, with some modern firms now using robots rather than people along the assembly line.

The services sector has already made a huge contribution to employment and thus inclusive growth in Asia (Table 3.1). Importantly, many traditional service jobs remain in the informal sector, shifting to the formal services sector as economies develop. Hence, services will continue to create more jobs in developing Asia, including the shift from the informal to formal sector. Vibrant, high-productivity services will create high-quality, high-wage jobs.

The development of services may also support inclusive growth by fostering greater gender equality. Since service jobs tend to be less physically demanding than manufacturing, they are often more conducive to providing employment for women. A World Bank analysis shows that across 77 countries, services accounts for a higher proportion of female employment than male employment, with the reverse true for manufacturing.\(^{15}\)

**Shift toward high value-added services**

Technological progress is fueling the growth of high value-added service industries and activities across Asia, with advances in ICT transforming and upgrading the entire services sector. The PRC has seen the rise of e-commerce giants Alibaba and JD.com. India has its own tech giants such as Infosys and Wipro. Besides technological progress, rapidly rising disposable incomes and the fast-growing middle class across the region are boosting demand for more personalized services tailored to individual preferences. For example, the number of gourmet restaurants and luxury hotels has risen sharply in Asian cities in recent years.

One type of high value-added service is skill- and technology-intensive services (STIS), serving both businesses and consumers. STIS tend to be more sophisticated, add more value, and offer better wages compared to other services. The increased importance of STIS can be proxied by the GDP share of information and communication, finance and insurance, and professional and business services. By this measure, developing Asia still has relatively small STIS sectors (Figure 3.4).

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The expansion of high value-added services raises growth directly and also indirectly through manufacturing synergies. Business services have particularly large spillovers for manufacturing. For example, more and better industrial design, ICT, and marketing services can improve productivity and the international competitiveness of manufacturing firms. Spillovers can also flow from manufacturing to services, as discussed in the previous section.

Similar to the blurring of the boundary between manufacturing and services, technological progress is making the distinction between STIS and traditional services less clear. One prominent example is the merging of ICT with services such as retail and transportation. For example, Alibaba is an e-commerce retail giant, offering a wide range of...

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services including its own innovative e-payment system and delivery. Other well-known examples are the ride-sharing start-ups Grab and Gojek in Southeast Asia, which use ICT to add value to traditional taxi services.

Asian countries can benefit from further deregulation to foster greater competition in service industries and develop STIS. Historically, regulatory reforms covering service industries have delivered significant economic benefits, such as higher labor productivity and lower prices. For example, telecommunication charges—such as those for international calls—fell drastically as a result of telecommunication market deregulation in many countries.

*Increasing tradability of services*

A key consequence of technological progress, especially ICT, is the growing tradability of many services. A generation ago, services were regarded as typical non-tradables in economics textbooks. The advent of ICT made it possible for India and the Philippines to become global leaders in business process outsourcing. This industry has become a major source of foreign exchange earnings (through service exports), growth, and employment in the two countries. Many multinational companies transferred their call centers and customer service units—as well as internal business functions such as human resources or finance and accounting—to these two countries. Advanced research activities are being relocated to developing countries as well, including India and the PRC.

Globally, cross-border services trade, as a share of world income, has grown steadily over the past quarter century. And this has occurred despite rigorous domestic regulations covering financial, medical, and legal services, among others, which hinder their cross-border trade.¹⁷ In almost all countries, services trade liberalization has lagged far behind goods trade. Services trade became an important part of the multilateral trading system only after the World Trade Organization was established in 1995. Now, bilateral and regional trade agreements increasingly incorporate services trade liberalization.¹⁸

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In Asia, services trade has grown rapidly in recent years. Exports of commercial services rose sharply from $515 billion in 2005 to $1,325 billion in 2017, growing faster than merchandise exports. The growing role of regional and global value chains in the production of manufactured goods—along with the synergy and blurring distinction between manufacturing and services in those value chains—is fueling trade in services. And there remains substantial scope for further growth.

Further reducing barriers to services trade will encourage Asian providers to level up their game in the face of greater competition. Empirical analysis reveals a trend toward higher productivity for some service industries in Asia, comparable to that of the region’s globally competitive manufacturing industries. The region’s manufacturing firms in global value chains can become more competitive from a more efficient regional services sector and vice versa. Services trade liberalization enables manufacturers to access service inputs at more competitive prices in global markets, thereby boosting productivity.

In the future, services trade will play an even more important role in global trade. For example, ICT enables millions of students to attend online courses from foreign universities and doctors to remotely treat patients in other countries.

**Rise of tourism**

Tourism is growing rapidly worldwide and, as a result, becoming a crucial industry for many economies. Fifty years ago, international travel was largely confined to a small rich elite. Today, tourism is open to many more people.

Since 2011, international tourist arrivals have grown at an average annual rate of 4.8% globally, adding about 55 million new travelers annually. By 2018, the figure had reached 1.4 billion, of which 348 million (25%) were destined to Asia (Figure 3.5). Over the same period, international tourist receipts grew by 4.9% per year, reaching $1.45 trillion in 2018, of which $436 billion went to Asia (30%). The importance of international tourism increased significantly.

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in Asia, with some variation among countries (Figure 3.6). Domestic tourism has also grown dramatically.

Asia is not just receiving more tourists. People from Asia’s emerging economies have been traveling far more in recent years domestically, regionally, and globally. Whereas emerging markets were once primarily destinations for tourists from advanced countries, they have become a major source of global travelers. In 2018, 359 million Asian tourists traveled abroad, accounting for 26% of all international tourists.

Tourism contributes to inclusive growth by generating many new jobs. It is inherently a labor-intensive industry, like other services, but with a focus on visitor satisfaction. Its economic contribution can be measured narrowly by considering only direct effects (such as spending on hotels and airline tickets) or more broadly by adding indirect effects (such as tourism-related investments in new airplanes or hotel construction).

In Asia (including Australia, Japan, and New Zealand), direct economic effects (contribution to GDP) of international and domestic tourism amounted to $0.9 trillion (3.2% of GDP) in 2017, with indirect effects adding $2.7 trillion (9.8% of GDP). Tourism is important
especially for small countries with unique cultural traits, historical artifacts, or natural beauty. For example, in Fiji, total international tourism receipts were 34% of GDP in 2018. But not all receipts are counted as a contribution to GDP (value added in a country), because the tourist industry also requires many inputs from abroad—including food and beverages, global hotel chain services, and foreign workers, among others. Tourism receipts, after accounting for imported inputs, were 17% of GDP, but the impact was estimated to reach about 40% of GDP when indirect effects were added.

**Figure 3.6: International Tourism Indicators for Selected Asian Economies**

**Figure 3.6a: Tourism Receipts (% of GDP)**

- **CAM**: 2.1, 17.7
- **FIJ**: 5.5, 12.5
- **THA**: 5.6, 8.7
- **SIN**: 5.4, 4.5
- **MAL**: 3.5, 2.2
- **VIE**: 2.3, 2.1
- **LAO**: 1.4, 1.5
- **MYA**: 1.2, 1.4
- **PHI**: 0.9, 1.2
- **BRU**: 0.8, 0.3
- **INO**: 0.7, 0.3
- **KOR**: 0.6, 0.1
- **JPN**: 0.3, 0.4
- **PRC**: 62.9, 1,427.6

**Figure 3.6b: Tourist Arrivals (2018, million)**

- **PRC**: 69.4
- **THA**: 95.5
- **JPN**: 127.2
- **MAL**: 31.5
- **VIE**: 51.2
- **KOR**: 14.7
- **SIN**: 5.8
- **INO**: 13.4
- **PHI**: 7.1
- **CAM**: 106.7
- **LAO**: 3.6
- **MYA**: 53.7
- **BRU**: 0.4

GDP = gross domestic product, BRU = Brunei Darussalam, CAM = Cambodia, FIJ = Fiji, INO = Indonesia, JPN = Japan, KOR = Republic of Korea, LAO = Lao People’s Democratic Republic, MAL = Malaysia, MYA = Myanmar, PHI = Philippines, PRC = People’s Republic of China, SIN = Singapore, THA = Thailand, VIE = Viet Nam.

Notes: The initial years for Brunei Darussalam, Myanmar, and Viet Nam in Figure 3.6a are 2001, 2000, and 2003, respectively. Data for 2018 for Myanmar refer to 2017.

In addition to the rapid expansion of disposable income and the dramatic increase of the middle class, especially in emerging economies, conducive policies (such as open sky agreements), the widespread use of social media that facilitates travel planning and reservations, and low-cost air travel (including regional budget airlines such as AirAsia) contributed significantly to the rise in tourism. Although the industry is not generally viewed as an STIS, it holds much potential to add value by including higher-end services, leveraging technology, and utilizing branding. There are also new tourism subsectors such as medical tourism, wellness tourism, and ecotourism.

Despite its many benefits, there is growing recognition of potential negative side effects to further increases in tourism. For example, a sudden surge of tourist traffic can seriously damage environmentally fragile attractions such as beaches or coral reefs. It also can create inconvenience and hardship for local residents, who must deal with increased traffic congestion or a sharp escalation of real estate prices and cost of living. If the environment is damaged and the community disrupted—a negative outcome in itself—it makes the tourism business unsustainable.

Thus, the concept of “sustainable tourism” is attracting more attention. There are several measures that can promote sustainable tourism: (i) ensure guidelines and regulations protect local communities and protect local heritage, (ii) invest in tourism infrastructure such as airports and broadband networks, (iii) build capacity of tourism professionals, and (iv) improve travel facilitation such as visa-free entry for short-term visitors. Bhutan, for example, has started restricting the number of tourists and aims at higher-end travel to enhance tourism’s economic impact and sustainability. Also, tourist services can have positive spillovers to manufacturing and inclusive growth. In Bali, Indonesia, for example, tourism has led to an expansion of garment and art exports, which draw on tradition and culture.

3.6 Urbanization as a geographic transformation

Urbanization is central to structural transformation. The shift of resources away from agriculture to industry and services is intertwined with the shift of people from rural to urban areas and the consequent growth of cities. Moreover, manufacturing and many services often benefit from “agglomeration economies,” whereby increased interactions among more and different types of firms and workers in
any given location boost productivity. The benefits accrue as there are greater opportunities for workers to find suitable jobs, stronger networks of interdependent experts interacting in larger and denser locations, and more scope for spillover of ideas and knowledge between firms and workers. These reinforce traditional advantages of cities, such as port access or proximity to navigable rivers.

The urbanization process is closely associated with stages of economic development. Middle-income countries tend to have at least 50% urbanization rates, with the proportion in high-income countries above 70%. Given Asia’s dramatic structural transformation over the past 50 years, it is not surprising that the share of population residing in urban areas in developing Asia rose from 20% to 46% from 1970 to 2018, an increase from about 375 million to almost 1.9 billion urban dwellers (Figure 3.7). If these trends continue, the UN projects some 3 billion people—or two-thirds of developing Asia’s population—will be living in cities by 2050.

**Figure 3.7: Urban Population, 1970–2020**

(million)

![Graph showing urban population growth from 1970 to 2020](image)

Note: 2017 to 2020 data are projections.

Thus, urbanization rates are positively correlated with income per capita (Figure 3.8). At the same time, the rate of urbanization is increasing with the share of industry and services to GDP. Not surprisingly, cities generate a large portion of GDP. While the growth of industry’s and services' share of GDP goes hand in hand with urban growth, cities cannot prosper without the support of the rural economy. This link between rural and urban economies underscores the need for balanced development—among cities, secondary cities, and rural areas—which includes modernizing agriculture.

Although other countries in the world achieved high rates of urbanization earlier, the process is unfolding faster in Asia. Because of its faster pace of economic development, Asia achieved a level of urbanization in 95 years that took 100–200 years in other regions. In many respects, Asia’s urbanization process has been compressed.

Urbanization is often a natural process associated with changing job opportunities as part of structural transformation, and the

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attraction of cities such as better access to education and health. Some countries have tried to control migration from rural areas to cities. In the PRC, the hukou registration system manages migration from rural to urban areas. More recently, the government has taken steps to relax the system to encourage migration from rural areas to secondary cities. Some governments, such as those of Indonesia, Japan, and the ROK, have tried to deconcentrate populations for more balanced regional development.

Asia is expected to continue high-speed urbanization, resulting in rising numbers of densely populated, increasingly large cities. Worldwide, the number of megacities (cities with more than 10 million inhabitants) is expected to grow from 29 in 2015 to 37 in 2025. Most of them are expected to be in Asia, and 6 out of the world’s 10 largest ones are already in Asia (including two from Japan). Asian megacities will increase from 15 to 20 (from 17 to 22 if Tokyo and Osaka are included).24

While Asia reaps many benefits from urbanization, its speed has meant that accumulation of physical and institutional infrastructure has often lagged behind growth of the urban population. This can have negative consequences for urban dwellers such as traffic congestion, environmental degradation, health problems, and even rising crime. A key challenge for governments is to harness the agglomeration economies of cities while minimizing urbanization’s negative effects.

### 3.7 Looking ahead

The shift from agriculture to manufacturing and services, and rapid urbanization propelled much of the region from low- to middle-income status. Sustained rapid growth brought the share of developing Asia’s population living in middle- or high-income countries from less than 10% in 1991 to more than 95% by 2015. Moving from middle to high income will require further structural changes.

Policies needed to do this—to continue sustainable and inclusive growth for developing Asia—have common elements, many of which are discussed in this book. These common elements include the promotion of efficient markets, strong governance, technological advancement, human capital development, infrastructure investment, open trade and investment regimes, prudent macroeconomic policies, measures to address inclusiveness and gender equality, and support

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for the environment. At the same time, overcoming the challenges of further structural transformation hinges on an economy’s development status and other specific conditions.

Low-income countries, or those that recently graduated to lower-middle-income status, must undertake policy reforms and investments to raise agricultural productivity, invest more in basic infrastructure (both rural and urban), improve secondary education and technical and vocational education and training, and further improve the business environment to attract more foreign direct investment. They would benefit from applying the lessons of their successful regional peers.

For economies at or near upper-middle-income status, such as the PRC and Malaysia, transitioning to high income and avoiding the “middle-income trap” will require new and different drivers of growth. They must focus more on investing in higher education and research, increasing ICT networks and other high-quality infrastructure, and deepening and broadening financial markets. They should address rising income inequalities between advanced and lagging regions, including the reform of residential registration systems. They should further strengthen economic institutions and policies, such as intellectual property protection and stronger competition laws, to create an environment conducive for attracting new players, new products, and new services.

For high-income economies like the NIEs, the innovation challenge is even more acute as they are at (or near) the global technology frontier. These economies will also need to strengthen policies that avoid widening the income gap between high- and low-skilled labor to maintain social cohesion. At the same time, they must address challenges coming from a declining working-age population and rapid aging.

Given rapid urbanization, appropriate investments in urban infrastructure are needed—especially network infrastructure such as transport, water supply, sanitation, and waste management—as well as education and health services. To mitigate the concentration of populations in big cities, connectivity between cities and between urban and rural areas must be strengthened. It is important to have strong governance and civil participation for planning and regulations regarding city development, land use, and environmental protection.