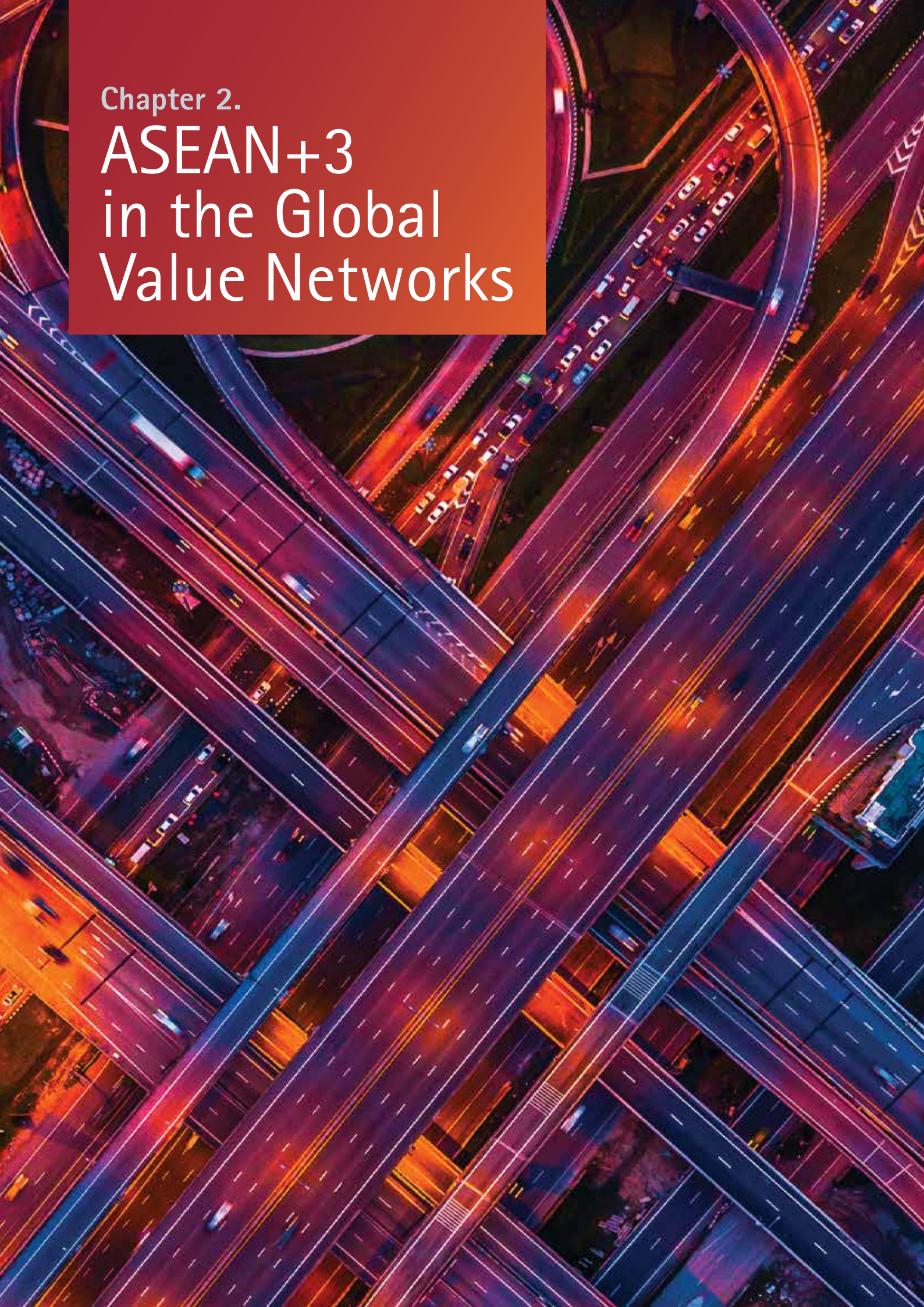
Chapter 2.

ASEAN+3 in the Global Value Networks



Highlights

- The ASEAN+3 region has become much more resilient and developed over the past few decades—emerging from crises strongly, coping well with global forces that challenge its growth, and riding on opportunities related to technological advancement and greater regional integration.

- The transition to the technology-driven "new economy" is pervasive. No sector will remain untouched for long. This means that developing and newly emerging economies—including those in the ASEAN+3 region—have limited time to develop capacity to apply new technologies and move up production value chains, many of which are cross-border.

- The tried-and-tested manufacturing-for-exports strategy remains relevant for the developing economies in the ASEAN+3 region. They should leverage their low labor cost to promote labor intensive industries as an entry point into the production networks and move up the technological value chain. A parallel track is needed to develop services as a second driver of growth and employment.

- The global economy is weaker and anti-globalization sentiments are on the rise. However, the region is facing these challenges from a position of strength as it is now both a production powerhouse and a huge source of final demand. Led by China, the region has achieved rapid progress up the income ladder and is now a much bigger part of the global economy. Rapid urbanization and the emergence of the middle class have transformed the region into the world's largest market for consumer products and services. Regional demand has become a major driver of growth for the region. At the same time, the region should remain open to trade and investment with the rest of the world.

- On the supply side, regional economies should leverage the new digital technology to meet the rising demand of the region. The new growth paradigm creates more options to generate growth by promoting industries that develop products and services to meet customized demand regionally and globally. There is also scope to boost domestic capacity, to reduce vulnerability to disruptions to global production networks that may occur from time to time.

- ASEAN+3 countries, particularly ASEAN economies, must remain open and embrace further integration to sustain growth catch-up. They need to develop hard and soft infrastructure and connectivity, review and revamp policies and regulatory frameworks to facilitate cross-border movement of goods and services and seamless payments.

- Policymakers need to develop human capital, facilitate freer cross-border flow of skilled labor and professionals, and put in place strong social security systems to protect workers, including those in the gig economy. The new economy puts a premium on innovation, creativity, and soft skills, and the gig economy is likely to be an integral part of it.

- The COVID-19 pandemic, while highly regrettable, presents an opportunity for the region to demonstrate its collective resilience and commitment to work on solutions that safeguard and strengthen ASEAN+3 countries' shared long-term interests. These interests are varied. Countries in the region have sufficient capacity to rise to the challenge, and shape its future together.

I. The New Growth Environment: Rising Interconnectedness amid Slowing Trade Growth

Countries in the ASEAN+3 region have successfully ridden the tide of globalization to grow their economies and improve standards of living for their people. In the five decades up to the mid-2000s, world trade grew at twice the rate of global GDP. With advanced economies in the west providing ready markets for their products, ASEAN+3 economies embarked on a "manufacturing for exports" strategy, leveraging on relatively abundant (and low-cost) labor as the cornerstone of comparative advantage in the early years. With trade openness came financial openness, and foreign investments—both from within the region and from the United States and Europe— which helped finance current account deficits and funding gaps. Over time, ASEAN+3 economies upskilled labor, embraced technology, and moved up the value chains.

The global environment today is more complex, and more challenging, than that which confronted ASEAN+3 economies in the initial period of their economic development. Deepening concerns in advanced economies about the gains from trade (and how they are distributed at the national level), and misgivings about "unfair" trade practices and "forced" technology transfers, have spilled over into nationalist sentiments and anti-globalization policies. At the same time, the world is more interconnected than ever. The Fourth Industrial Revolution (4IR) is redefining production and value creation across manufacturing and services and has spawned an explosion in data flow and information exchange even as expansion of conventional cross-border trade in goods slows.

This chapter examines the implications of this dichotomy—rising nationalist policies amid an acceleration in globalization and interconnectedness—for growth and economic integration in the ASEAN+3 region. It builds on AMRO (2019a) theme on the importance of building and enhancing capacity and connectivity within and across countries—to seize opportunities in the new economy, and as safeguard against protectionist policies globally. Specifically, this chapter delves into the impact of technology and rising regional affluence on the positioning of ASEAN+3 economies in global value chains (GVCs), and what this means for national comparative advantage and welfare-enhancing growth going forward.

This chapter is organized as follows. The remainder of Section 1 reflects on key global developments driving future growth in the region. Section 2 describes the emergence of Factory Asia. It traces the evolution of comparative advantage in ASEAN+3 economies, and emerging challenges to traditional growth models, highlighting how deepening intra-regional demand has played a key role in strengthening the region's growth and resilience. Section 3 shifts to the demand side and the emergence of Shopper Asia. It discusses the structural changes and growth rebalancing taking place in the region, including analyzing key developments at the sectoral level in several rapidly developing industries, as a new growth paradigm centered on "Factory Asia, Shopper Asia" emerges. Section 4 addresses some implications of the digital economy for sustaining equitable growth. Section 5 concludes with key takeaways and policy implications.

Key Drivers: Protectionism, GVC Transformation, Asia's Rise, New Growth Models

Four key developments will shape the region's growth prospects.

First, trade tensions and protectionist policies will continue to impinge on the expansion of cross-border movement of goods and services. The global financial crisis (GFC), the European Sovereign Debt Crisis, and the resultant disruption in world economic growth has put a pause to the rapid increase in world trade. The crises have brought home to advanced economies the painful message that they are not immune from the discipline of global financial markets. Alongside recriminations about financial excesses, national attention in the United States and Europe have turned to the implications of globalization—specifically, who reaps the benefits, and who pays the price when things go wrong.

The current US-China trade tensions will see ups and downs, but the backlash against globalization in advanced economies—hitherto the proponents of free and unrestricted trade[1]—is unlikely to go away entirely. The protagonists

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The authors of this chapter are Foo Suan Yong (lead), Marthe Hinojales, Vanne Khut, and Trung Thanh Vu, with advice from Sanling Lam (Consultant).

[1] Major advanced economies and key international institutions in which these countries played leadership roles drove the formulation of a set of policies for shaping international trade and global growth, based heavily on free-market principles. The Washington Consensus also involved recommending market-oriented structural reforms for emerging market economies (EMEs), which would in turn benefit from assistance by advanced economies to cope with stresses arising from global shocks and attendant financial market turbulence, including those that would lead to or be accompanied by adverse shifts in sentiment toward EMEs.

and the flashpoints will vary. However, there seems to be a "normalization" of trade tensions worldwide even as new trade ties are being formed, and old ones renegotiated. Already, the US-China trade conflict is estimated to have shaved about 0.5 percentage point off 2019 global growth.

Second, the technology-driven New Economy, encompassing the 4IR and greater role of services (World Economic Forum, 2018) will transform today's GVCs. New technology will redefine what it means to produce (create value) and consume, and even how and in what form this exchange takes place. Conventional GVCs describe distinct and location-specific economic activities that are linear and sequential (forming a "chain", with upstream and downstream processes). Looking ahead, value creation and delivery in the new economy is perhaps better characterised as taking place in global value networks (GVNs).

These new-look GVNs cover cross-border movements of goods and services captured in trade statistics, as well as the vast and often-instantaneous transfers of digital information and services across the globe. If services are under-measured in trade statistics (G24, 2019), data flows and digital services are even more so. Linkages within GVNs are complex, and they evolve quickly and sprout new connections in response to emerging ideas, changing demand, and technology or policy barriers. These explain why trade restrictions directed at new economy industries are hard to enforce and are, at best, only temporarily effective before they are circumvented. In other words, market forces will continue to spur the development of GVNs, and it is up to countries, especially emerging market economies (EMEs) to find ways to be competitive and to thrive within these GVNs.

Third, the global center of gravity for economic activities (both supply and demand) will continue to shift to Asia. Since China's accession to the World Trade Organization (WTO) in December 2001, its emergence as a global production force to be reckoned with, and pulling in other Asian countries into its supply chain, has been a familiar narrative (AMRO, 2018a). Rising regional income and demand have not been unexpected. However what probably caught the world by surprise was the speed and extent at which China and the region have grown, and how they have unleashed and reshaped final demand for goods and services in the last decade.[2] No longer is the region merely producing goods destined for final consumption and investment in the western advanced economies as in the decades before 2000. With high growth and the most rapidly rising middle class in the world, the region has become the final destination for many consumer products and services, including those from the west. Not only that, China's voracious appetite for commodities and natural resources has driven up prices and given commodity-producing economies a major boost.

With Asia as formidable in its appetite for consumer goods and services as it is in contributing to world production, globalization is increasingly anchored by Factory Asia and Shopper Asia. Against slowing and more unpredictable demand from the west, economic and financial integration within the ASEAN+3 region is both a strategic play and a reflection of market forces.

Fourth, new growth models will emerge as digital technologies and shifting global political economy disrupt, transform and shake up comparative advantage and growth prospects for advanced and developing economies across the world.

Globalization used to mean the advanced North exporting capital (and capital-intensive goods) and technology to the developing South, in return for imports of low-tech labor-intensive consumer goods—to the benefit of both. Employment and wages rise in developing countries with abundant low-skilled labor as they are soaked up in the factories, while advanced economies enjoy higher returns to capital invested abroad, more highly paid skilled workers, and cheap consumer goods. Heckscher-Ohlin (H-O) models of trade imply countries specialize in producing goods in which they enjoy a relative factor advantage, thereby cementing the North-South divide.

New technologies and innovations allow and compel countries (and economic networks within and across countries) to leapfrog and develop new comparative advantages. China is arguably the prime example of how certain industries or enterprises within a large country can be globally competitive while other segments remain very much "part of the developing world."

Growth and economic development in the ASEAN+3 region—across countries that are diverse in their geographies, populations, resource endowments, and technological developments—have adhered to an orderly and linearly progressive path. In a graphic depiction of the H-O model of comparative advantage, the flying geese model (popularized by the Japanese economist Akamatsu Kaname in the 1960s) describes how countries at different levels of economic development move up the value chain as they catch up with the technology and acquire the production structure (and comparative advantage) of the economies ahead of them. With Japan at the head of the pack, a second wave of economies (Korea, Taiwan Province of China, Singapore, Hong Kong) emerged in the 1960–70s. This was followed by the ASEAN-4 (Indonesia, Malaysia, the Philippines, and Thailand) in the 1970–80s, China in 1980–90s, and then CLMV (Cambodia, Lao PDR, Myanmar and Vietnam) in the 1990–2000s (AMRO, 2018b).

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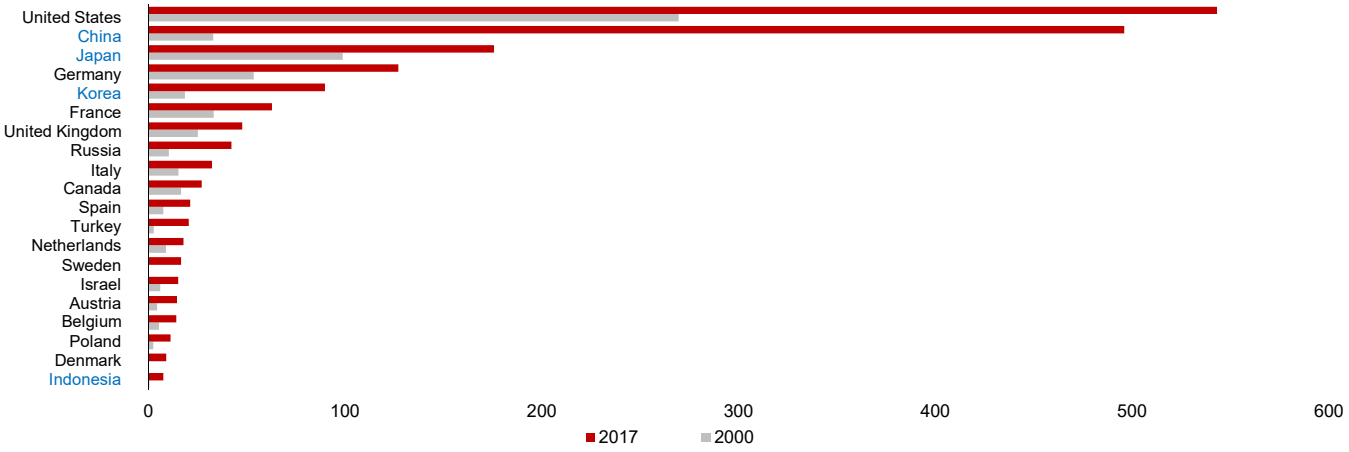
[2] See, for example, Michael Spence's reflections in "What my Younger Self Never Expected." *Project Syndicate*, January 3, 2020. Spence noted that the emergence of the developing world was the "most significant unanticipated occurrence" in his lifetime; in fact, the term "Third World" betrayed a belief that under-development was a semi-permanent condition.

China—a continental-size economy with a huge population comprising 30 plus provinces with very diverse endowments of human and natural resources—has grown rapidly. The country has been able to leapfrog and operate across a whole spectrum of value chains (from cutting-edge technology to low-cost mass production) for many products. In doing so, it has disrupted the traditional pattern of progression and status quo. In other words, the H-O model of comparative advantage operates within China (and its diverse regions) as it would across nations. China's per capita GDP is still well below that of advanced economies, and cost-based manufacture-for-exports remains a significant part of its growth and employment creation strategy.

Critically, without intending to do so, the sheer speed and modality of China's growth mean that China has in recent years played a major role in the region's economic integration. It has done so mainly through the production and supply chain networks it has spun across the region, which had started taking shape clearly even by the mid-2000s. And these developments have ultimately made it critical for China to pursue a more active strategy towards a broader and more balanced economic integration with the region, involving the emergence of multi-track production structures, increased importance of domestic consumption, and the rise of the services sector (Khor and Tan, 2006).

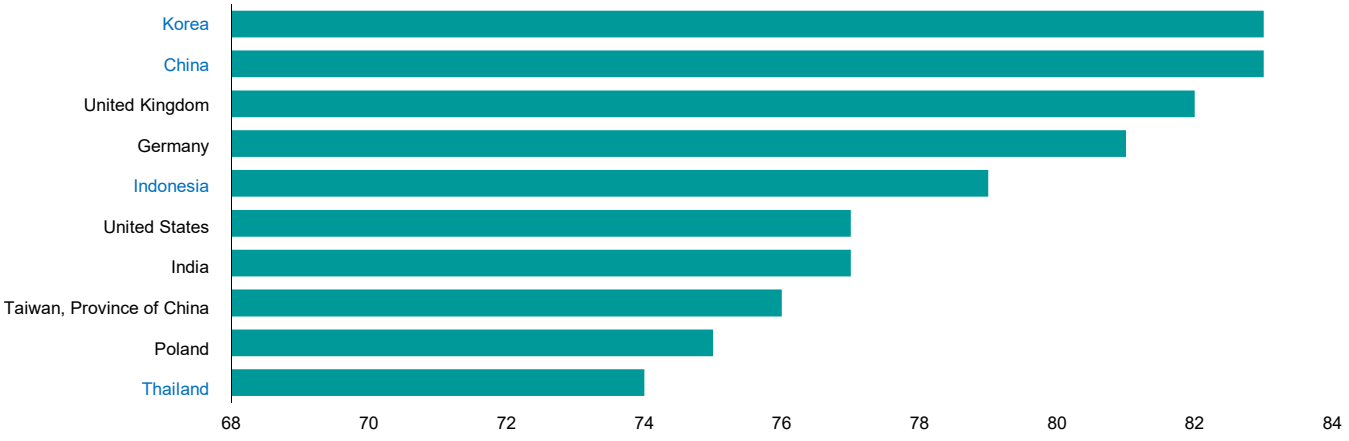
At the same time, China has moved much closer to the technological frontier in many products and services—ranging from smartphones and artificial intelligence (AI)-enabled home appliances to e-commerce platforms and digital payment systems. Determined to build on its progress, China now ranks among the top three in the world in research and development (R&D) expenditure (Figure 2.1) and online shopping penetration (Figure 2.2), the number of patents lodged annually, the number of top global enterprises, and the share of mobile payments and e-commerce volumes. AMRO's projections suggest that by the year 2035 (AMRO, 2018a), China could attain advanced economy status (Figure 2.3), with yet more technological innovations and productivity gains playing a key role even as its population ages.

Figure 2.1. Top 20 Economies: Gross Domestic Expenditure in Research and Development
(Billions of current PPP dollars)



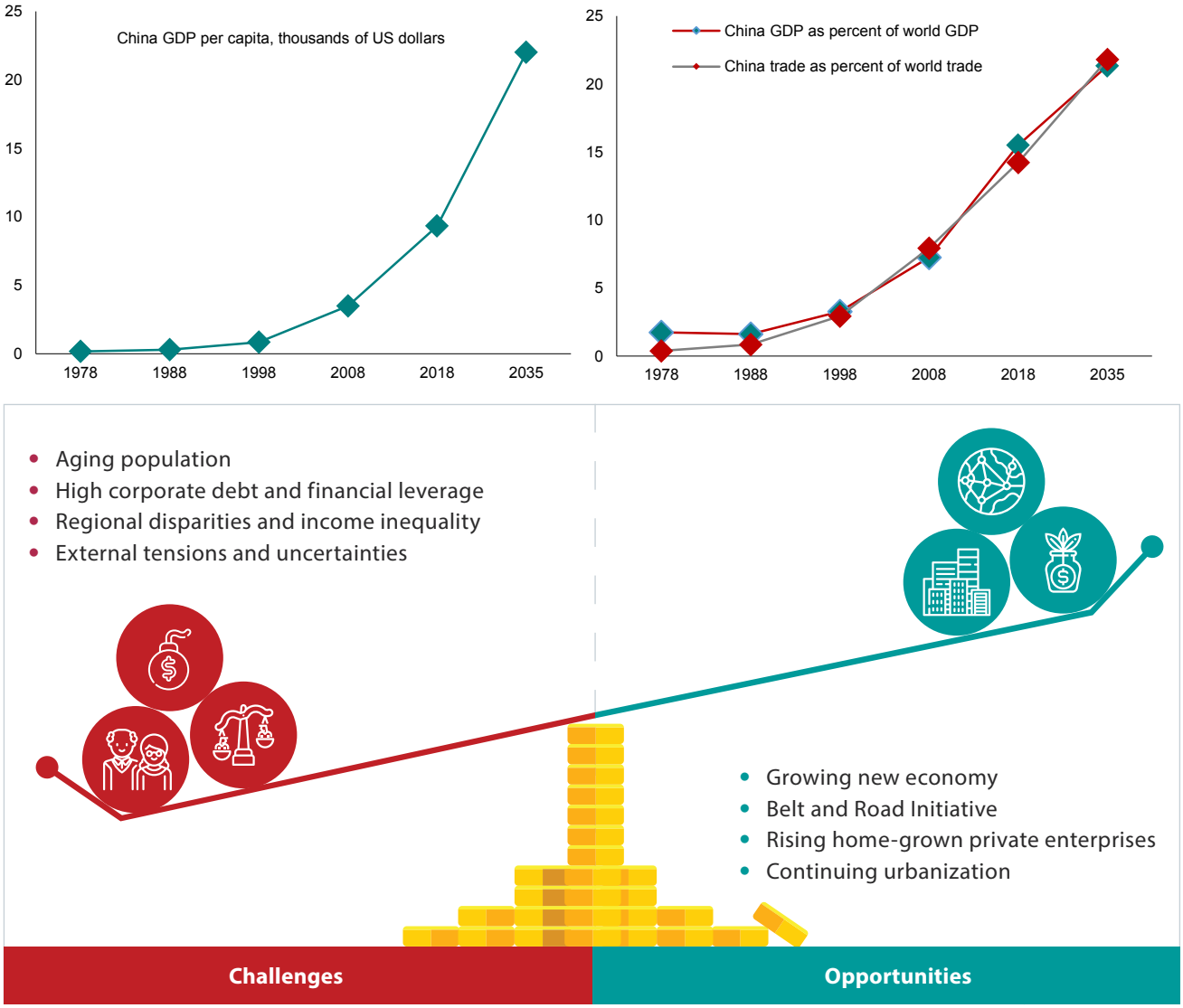
Source: United Nations Educational, Scientific and Cultural Organization.
Note: Countries in blue are ASEAN+3 member economies.

Figure 2.2. Markets with the Highest Online Shopping Penetration Rate
(Percent of online population)



Source: Statista.
Note: Data are as of Q2 2017. Countries in blue are ASEAN+3 member economies.

Figure 2.3. China's GDP and Trade Performance



Sources: National authorities; and AMRO staff calculations.

II. Rise of Factory Asia: Leveraging Comparative Advantage

ASEAN+3 economies have embraced globalization on their path to economic prosperity. By necessity as well as by design, they embarked on an export-oriented strategy—harnessing comparative advantage and continually moving up the economic value chain. There were bumps along the way. The Asian Financial Crisis (AFC) in the late-1990s was a stark reminder of the risks of unconstrained borrowing. It also drove home the need to strengthen their macroeconomic fundamentals, improve governance and regulatory frameworks, build policy and financial buffers, and develop and deepen financial markets for a more balanced growth, even as the region stayed open to global competition, trade and investment. The lessons from the AFC stood the countries in good stead during the GFC a decade later. ASEAN+3 economies did not waver from their globalization path even as they rebalanced their economies in the face of weaker external demand.

The next phase of growth in the region is taking place amid relentless globalization and the technological revolution. For developing and emerging economies, progression along manufacturing value chains remains a viable development strategy. For others, digital technologies and the new economy offer fresh options and opportunities to create new products and services, and plug into global networks (KPMG, 2018). By and large, the growth path for all will be less linear, and less predictable.

Development of the Regional Supply Chain: Heckscher–Ohlin, with Ricardian Elements

Through the 1960s to the 2000s, trade and investment across ASEAN+3 economies, and with the rest of the world, have followed the principles of the H-O model of comparative advantage. As countries moved up the skills and technology ladder, the structure of their production and exports—and where they placed on GVCs—shifted to higher value-added (VA) activities. At the same time, new developing economies with basic skills and technology ventured into industrial production and established a niche at the bottom of value chains.

In the early years, foreign capital and technology from multilateral development banks such as the World Bank and the Asian Development Bank (ADB), bilateral donors, and from multinational companies (MNCs) in Japan, United States, and Europe were key to financing infrastructure and investment needed for economic growth. Over time, as ASEAN+3 economies grew and moved up value chains, savings, and current account surpluses from within the region contributed more to closing the funding gaps.

In the 1970s to 1990s, trade and GVCs in the region were driven by foreign direct investment (FDI) from Japan, the United States, and Europe into ASEAN countries. Japan had recovered and industrialized rapidly from the 1950s onward, and by the early 1980s had emerged as a manufacturing powerhouse, and was running consistent current account surpluses. Korea, Taiwan Province of China, Hong Kong, and Singapore started with low-cost manufacturing in garments and footwear but soon upgraded to higher VA exports in consumer electronics, semiconductors, shipbuilding and car manufacturing and began running current account surpluses in the 1990s.

The ASEAN-4 economies, with a low-productivity agrarian and natural resource base, were keen on transitioning to manufacturing-for-export growth to provide employment for an expanding labor force in order to reap the benefits of the demographic dividends for growth; what they lacked was the capital, knowhow, and markets.

In the context of the H-O (factor endowment) model, Japan and western advanced economies were relatively abundant in capital and technology, while most of Asia had abundant and lower-cost (unskilled or semi-skilled) labor. Trade and investment were mutually beneficial. For Japan and other advanced economies, outward FDI earned higher returns for savings and higher premiums for its manufacturing technology. On the flip side, in the ASEAN countries, inward FDI from Japan and other advanced economies helped finance current account deficits, created manufacturing jobs, and raised incomes for their workers.

The sharp appreciation of the Japanese yen after the 1985 Plaza Accord provided additional impetus for Japan to maintain its competitiveness in manufacturing by relocating segments of the production value chain which are more labor-intensive abroad, especially to neighboring ASEAN countries, which are relatively more abundant in labor. This allows the Japanese manufacturers to lower the overall cost of production and remain competitive. This move by Japanese MNCs to outsource segments of the production value chain abroad to optimize the overall cost of production, led to the fragmentation of the production value chain and the development of regional supply chains in Asia.

China's accession to the WTO in December 2001 added a major player to global and regional GVCs. The early years of China's open door policy saw a natural progression of international trade and production based on the conventional H-O model, with gains from globalization following previous trends. China, with a labor force of more than 700 million then, had an obvious comparative advantage in labor-intensive industries such as textile, garments, and low-end consumer electronics, and was hungry for capital and new technology. A "manufacturing for exports" strategy suited China's circumstances in the early years of opening-up, when the country was poor and the domestic market was not able to absorb the output of the manufacturing sector.

For the United States and other advanced economies, China was another hugely abundant source of lower-cost labor for their FDI and global production network. The H-O model paired Chinese labor with Japanese and Western capital and knowhow to produce lower cost consumer goods, and international trade provided the markets and conferred gains to both workers and owners of capital.

For the ASEAN-4 economies, hitherto the choice location for labor-intensive products, China's formidable comparative advantage in labor underlined the urgency to move up the value chains if they were to stay on the manufacturing-for-export growth strategy. The ASEAN-4 countries had an early start and advantage over China, at least initially, in providing a familiar and well-understood business environment for foreign investors. As China went into labor-intensive processing industries, the ASEAN-4 economies had to move up the production value chains and attract investments in higher skills and technology-intensive products such as car assembly, semiconductors, disk drives, televisions, and higher-end consumer electronics.

The more advanced ASEAN+3 countries (today's high-income ASEAN+3 economies), having relinquished comparative advantage in low-cost labor much earlier, rightly pursued and nurtured comparative advantage in skills- and technology-intensive industries and services. These include products and sectors such as mobile phones, automobile, shipbuilding,

robotics, and business and financial services. In the context of the H-O model, their development model, and aspired position on the GVC, was not dissimilar to that of the United States and Europe. Like Japan in the 1980s, they also started to optimize their production cost structure by outsourcing the more labor-intensive part of the production value chain to the more labor-abundant economies of ASEAN and other parts of the world. In particular, Hong Kong fully outsourced its manufacturing production to Dongguan in the 1990s. Singapore lost its electronics and disk drives industries to Malaysia and Vietnam. Korea moved its assembly operations of mobile phones and TVs to Vietnam in the late 2000s. China has started to move its garments industries to the CLMV countries and other developing countries in recent years.

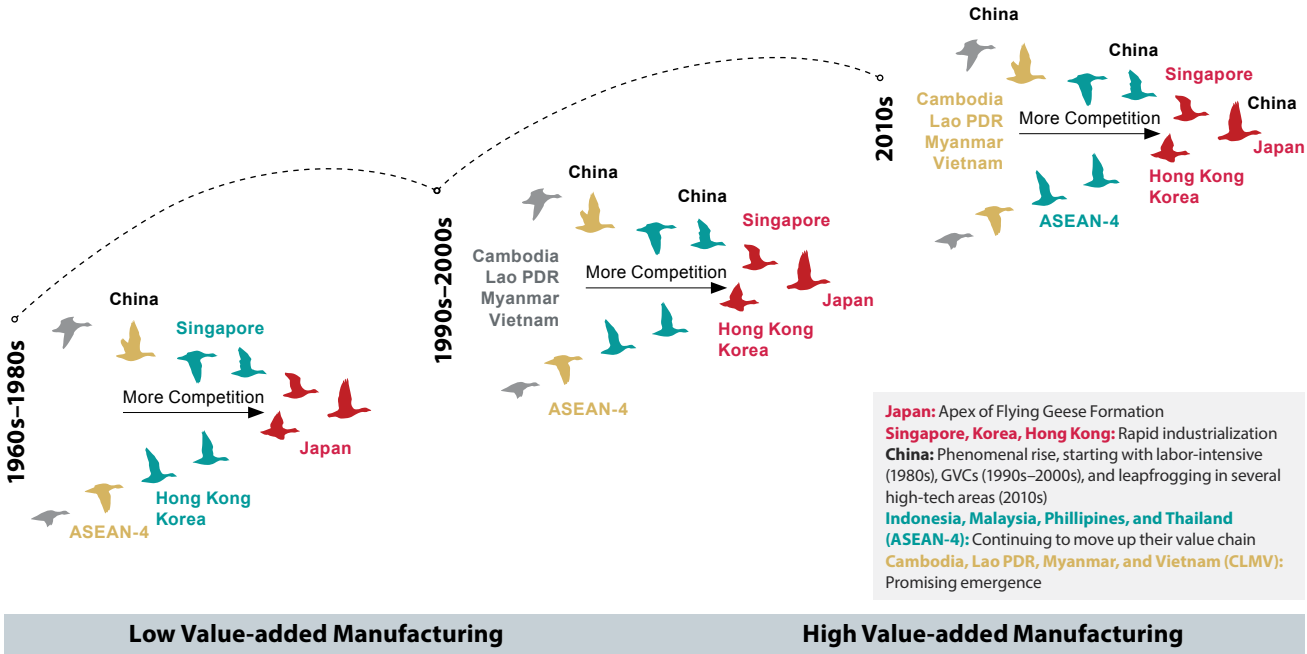
The CLMV countries, which became members of ASEAN in the 1990s, provided an alternative source of low-cost labor to China. The CLMV countries' participation in the regional production network now leveraged on their new-found comparative advantage in niche industries vacated by China, such as garments and footwear. This would sustain the flying geese formation for a while, but not for long.

The 4IR and China's progression from low-cost manufacturing to skills- and technology-intensive industries and services have disrupted the hitherto "linear" evolution of comparative advantage. According to the flying geese model, China's massive advantage in labor should push (or compress) other economies progressively up the value chains, and technology leaders would be driven to innovate further. Increasingly educated and skilled labor would move into professional and high value-add services, and manufacturing exporters would mechanise and automate production processes to remain competitive. China and other emerging market economies continued to bring up the rear.

However, that has turned out not to be the case. The sheer size of China's population and its absolute advantage in labor had driven the share of the labor cost component in manufacturing production down sharply. Indeed it fell to the low single digits in some cases, with most of the VA in the upstream (R&D and design) and downstream (marketing, sales, and services) segments.[3] A development strategy predicated solely on comparative advantage in labor would be untenable for China if it were to move up the technology ladder to advanced economy level and raise labor productivity and wages across the country.

A combination of entrepreneurship and innovation, hard work, discipline and learning has allowed China to come close to technological leadership in some high-tech industries. This has unfolded even as the country continues to retain comparative advantage in traditional manufacturing. As a result, some provinces and cities such as Shenzhen and Hangzhou, have moved up value chains to the production frontier of certain industries while other provinces, especially the inland ones, follow behind as in the flying geese formation (Figure 2.4).

Figure 2.4. Flying Geese Formation and China's Leapfrog Within



Sources: AMRO staff.
Note: GVCs = global value chains.

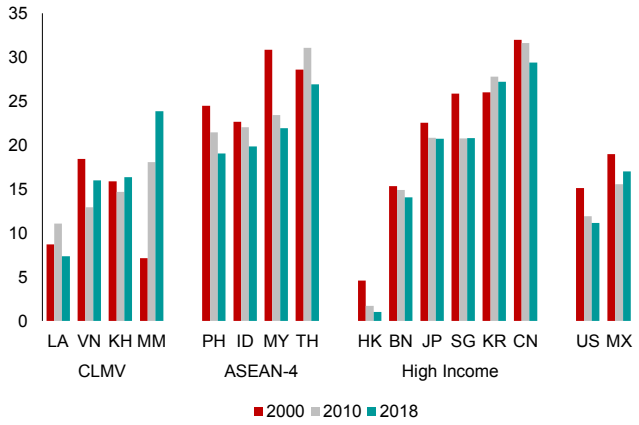
[3] See for example, United Nations Conference on Trade and Development (2015). GVC studies in the 1990s for branded, high-end consumer products such as the Barbie Doll and the Apple iPhone showed that China's share of the total value added was in the order of 3.5–4 percent, with the lion's share captured by skilled wages, managers' salaries, and profits as part of the foreign value-added share (well over 95 percent). More recent case studies suggest that the share of labor in total production cost remained low (e.g. 3.4 percent in 2011 for Chinese rubber tires).

Moving up GVCs—Technological and Skills Upgrading and Structural Change

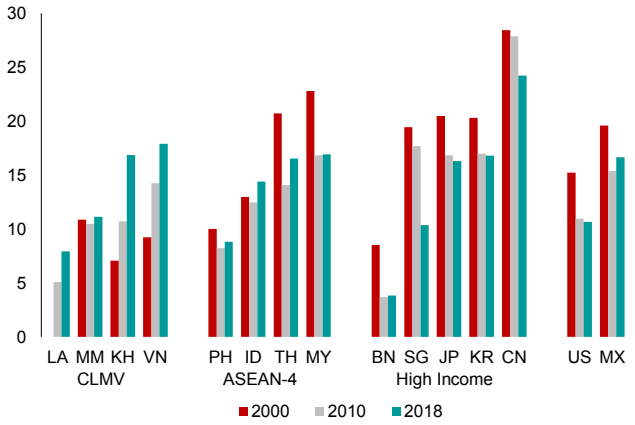
The manufacturing sector remains a key engine of growth and employment in the ASEAN+3 region even as the 4IR takes off and the new economy gains momentum (Figure 2.5). MNCs have played a key role. The role of MNCs in the geographic location of FDIs to leverage on shifting comparative advantage in the ASEAN+3 economies is captured extensively in the development literature. This includes models developed by Markusen (1983), whose framework complements the H-O model by highlighting the important role of MNCs in locating investments and production in different countries in order to reduce costs and optimize output by leveraging on their respective comparative advantages (Figures 2.6 and 2.7).

Figure 2.5. Selected Economies: Manufacturing Sector Indicators

Value Added
(Percent of GDP)

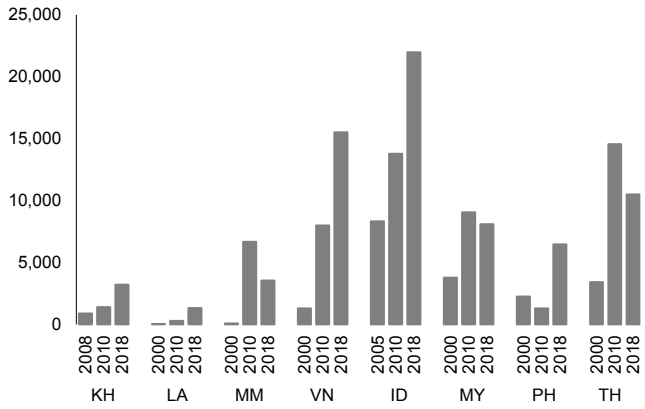


Employment
(Percent of total employment)



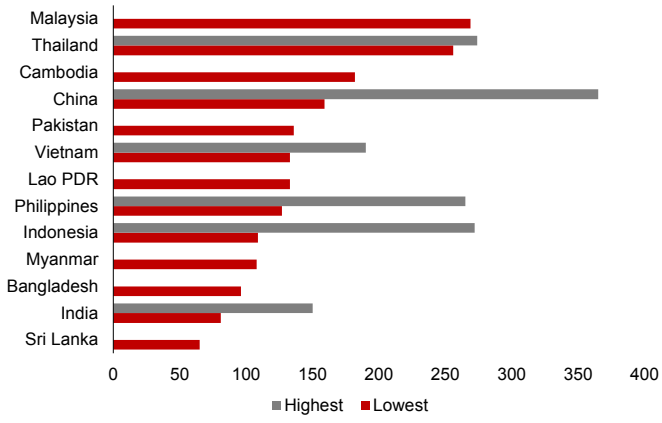
Sources: International Labor Organization; national authorities; The World Bank; and AMRO staff calculations.
Note: Value-added data for China and Myanmar are available from 2004 and 2001, respectively. The latest data point for Hong Kong and Japan is 2017. Employment data for Hong Kong is not available. The latest employment data point for Lao PDR is 2017. Employment data points for Myanmar refer to 2015, 2017, and 2018, while for Brunei, the data points refer to 2001, 2014, 2017. Singapore's employment data start from 2001. China's employment data refers to number of employees in manufacturing sector as percent of total employee. BN = Brunei Darussalam; CLMV = Cambodia, Lao PDR, Myanmar, and Vietnam; CN = People's Republic of China; HK = Hong Kong, China; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; MX = Mexico; PH = the Philippines; SG = Singapore; TH = Thailand; US = United States; VN = Vietnam.

Figure 2.6. Selected ASEAN+3 Economies: FDI Inflows
(Millions of US dollars)



Sources: United Nations Conference on Trade and Development; and AMRO staff calculations.
Note: KH = Cambodia; FDI = foreign direct investment; ID = Indonesia; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; TH = Thailand; and VN = Vietnam.

Figure 2.7. Selected Economies: Monthly Wage Comparison, 2019
(US dollars)



Source: Compiled by Cambodia's Ministry of Labor and Vocational Training using exchange rate from xe.com as of January 1, 2019.
Note: Vietnam's minimum wage is set differently by regions: region I (USD 190), region II (USD 168), region III (USD 148) and region IV (USD 133). Cambodia's minimum wage refers to wages in garment sector.

Thailand's experience illustrates how its manufacturing exports have remained resilient in the face of shifting comparative advantage, by upgrading and becoming more integrated into the regional production network (AMRO, 2019b). Thailand was an early beneficiary of outward FDI by Japanese MNCs. The economic and trade linkages between these two countries have continued to deepen as Japan grows its high-tech industries, and Japanese small and medium-sized enterprises (SMEs) invest abroad. Japanese factories operating in Thailand have gradually increased the share of procurement from local firms and Japanese affiliates in Thailand. At the same time, Thai companies have

developed and outgrown their role as domestic supplier of parts to the Japanese MNCs. They have actively sought out opportunities to plug into new production networks driven by China, for example by supplying electronics and auto parts to manufacturers in Chongqing and Chengdu. Similarly, in Malaysia, MNCs such as Intel, B. Braun Medical, and OSRAM have spawned a cluster of local suppliers while their operations have evolved from production to regional headquarters performing R&D function and marketing to support their regional production and distribution.

Indonesia and the Philippines offer an interesting variant on the manufacturing for exports strategy. Like Thailand and Malaysia, both economies started off on the industrialization strategy in the 1970s and 1980s with FDIs from the MNCs of Japan and other advanced economies. However, the move up the value chain in the Philippines was hampered by critical constraints in 1970–80s, when the economy experienced heightened political and economic instability. At the same time, many Filipino workers went overseas, attracted by higher-paying jobs abroad. As a result, the manufacturing sector in the Philippines remained at the lower end of the value chain. However, in the 2000s and 2010s, the Philippines with its relatively well-educated English-speaking labor force was able to attract FDIs in the business process outsourcing (BPO) industry, which has since spread across the archipelago creating jobs and earning foreign exchange. The BPO is a relatively high-skill service industry employing college graduates and hence represents a move up the GVC for the Philippines. For Indonesia, a resource-rich economy with a large population, the manufacturing sector continued to grow but shifted its focus from exports to cater to the large and growing domestic consumer market (ADB and Islamic Development Bank, 2019), especially after the AFC while exports shifted to the commodity sector, which grew rapidly and enjoyed a price boom in the 2000s.

The traditional manufacturing-for-exports strategy that has served ASEAN-4 economies well will continue to be relevant for the CLMV economies. The agriculture sector accounts for a diminishing share of GDP as CLMV economies diversify out of agriculture and natural resources, and leverage on inward FDI and technology transfer to create higher-paying manufacturing jobs for their people (Figure 2.8). However, for these relative latecomers, the manufacturing sector's contribution to both GDP and employment is likely to peak lower and earlier than it did for the ASEAN-4 countries.[4]

Vietnam has been highly successful in attracting FDIs, especially from Korea and Japan, and is the most advanced among the CLMV countries in developing its manufacturing sector, which has diversified from garments[5] into electronics and car assembly. In Cambodia, garment manufacturing is dominant, accounting for more than 10 percent of GDP and two-thirds of manufacturing employment.[6] In Lao PDR, the manufacturing sector consists of garments and other labor-intensive industries. Myanmar has embarked on an industrialization program to attract FDI in labor-intensive industries such as weaving and garments, food products, and basic electronic devices (EuroCham Myanmar, 2019). Progress had been solid—industry (mainly manufacturing) accounted for about one-third of Myanmar's GDP by 2018. Unit labor costs in Vietnam (Figure 2.9) and the rest of the CLMV countries are expected to remain lower than in China, Thailand, and Malaysia. This gives them an edge in labor-intensive manufacturing as they expand from garments to other consumer goods (Figure 2.10). In other words, CLMV economies have leveraged on their relatively low-cost but increasingly skilled labor (Figures 2.7 and 2.11).

The technological and skills upgrading as these economies move up the GVCs has led to a shift in their production structure, from agriculture into manufacturing and services, and an increase in productivity. The share of agriculture has diminished over time as these economies have become more industrialized and also as they become technologically more advanced and move up the income ladder. At the same time, the size of the services sector would increase as the economies continue to move up the value chains and make further progress toward becoming high-income economies.

The Philippines' experience provides an excellent case study of the impressive improvement in productivity as the economy restructures from agriculture toward manufacturing and services. In the post-crisis period, the Philippines' labor productivity gains have occurred at a quicker pace than their regional peers, most notably in the past 3 years—with more than half of the overall improvement driven by between-sector productivity gains than by within-sector productivity gains (Box 2.1). Strong government efforts have helped to close productivity gaps in the country's manufacturing and services sectors vis-à-vis their regional neighbors. Further progress can be made if both the government and private sector address persistent challenges such as many workers from the agriculture sector heading not for more productive industries, but instead other low-paying jobs in construction and services, and large numbers of skilled workers continuing to move to higher-income countries where wages are much higher.

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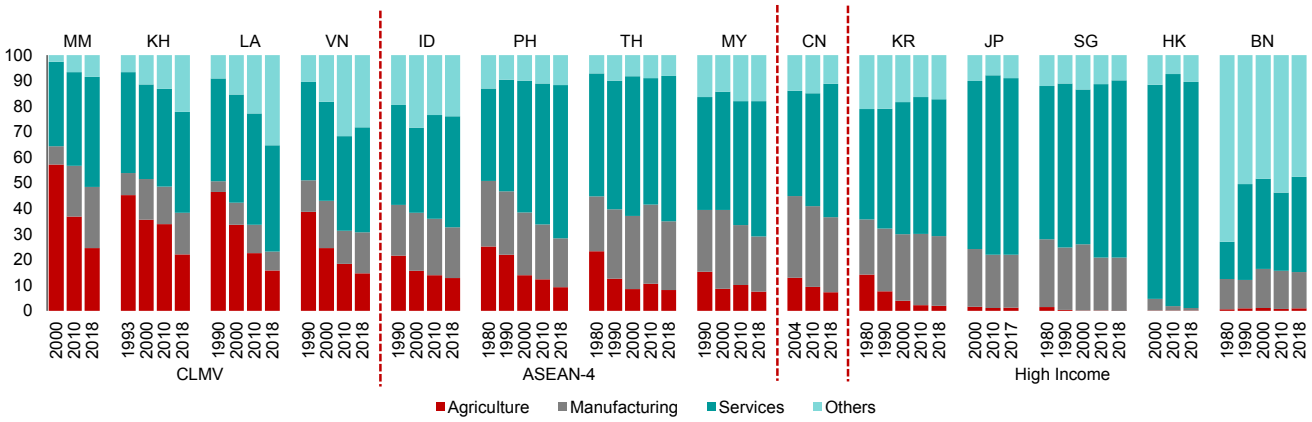
4 See AREO 2018.

5 Garment sector refers to textiles, clothing, footwear, and travel goods.

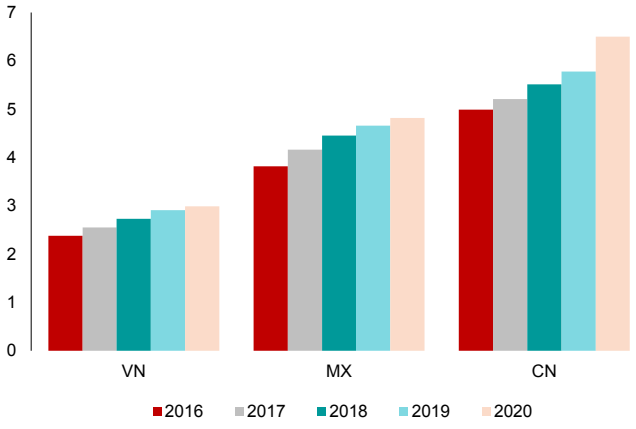
6 Sources: National authorities; and AMRO staff calculations.

Figure 2.8. ASEAN+3: Shares of GDP by Sectors
(Percent of GDP)



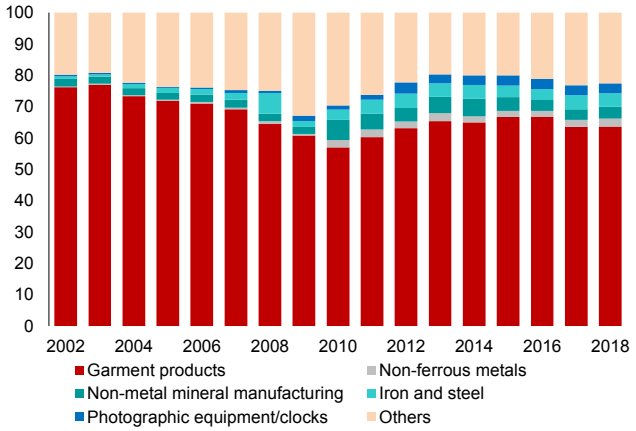
Source: The World Bank.
Note: The latest data point for Myanmar's manufacturing sector is 2017. ASEAN-4 = Indonesia, Malaysia, the Philippines, and Thailand; BN = Brunei Darussalam; CLMV = Cambodia, Lao PDR, Myanmar, and Vietnam; CN = People's Republic of China; HK = Hong Kong, China; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; VN = Vietnam.

Figure 2.9. China, Vietnam, and Mexico: Unit Labor Cost
(US Dollars)



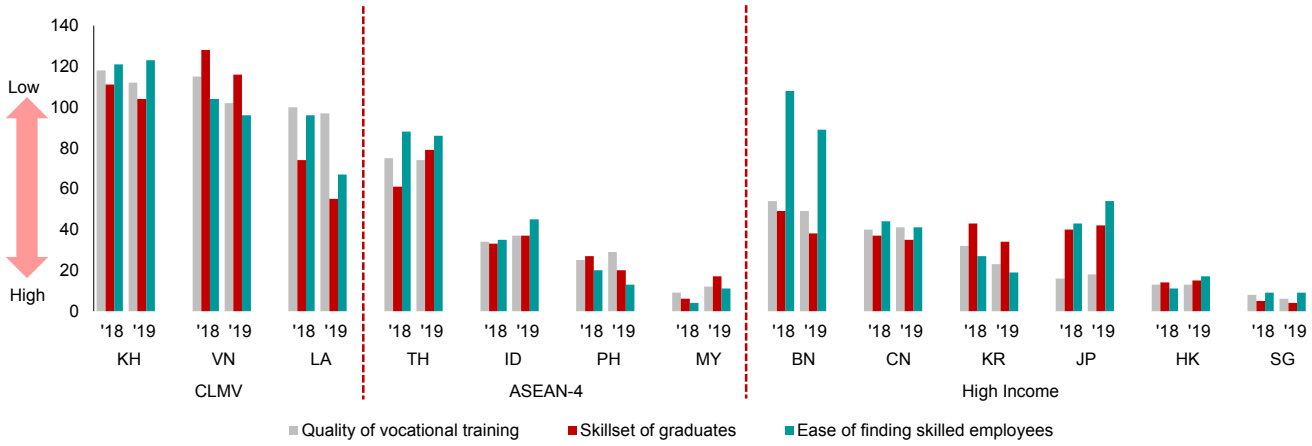
Source: Statista.
Note: The data refers to costs per hour in US dollars. CN = People's Republic of China; MX = Mexico; VN = Vietnam.

Figure 2.10. CLMV: Exports of Manufactured Goods by Component
(Percent of total manufactured goods exports)



Sources: World Integrated Trade Solution (WITS); and AMRO staff calculations.
Note: Garment products are the sum of product codes 61, 65, 83, 84, 85 (WITS).
CLMV = Cambodia, Lao PDR, Myanmar, and Vietnam.

Figure 2.11. ASEAN+3: Ranking of Quality of Vocational Training, Ease of Finding Skilled Employees, and Skillset of Graduates



Source: World Economic Forum.
Note: No data available for Myanmar. ASEAN-4 = Indonesia, Malaysia, the Philippines, and Thailand; BN = Brunei Darussalam; CLMV = Cambodia, Lao PDR, Myanmar, and Vietnam; CN = People's Republic of China; HK = Hong Kong, China; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; VN = Vietnam.

4IR—Implications for Manufacturing, Labor Market, and the Broader Economy

Manufacturing productivity, apart from being driven by further innovation, will benefit from the emergence and increasingly wide application of a number of key 4IR technologies. These include: (1) data, blockchain, computational power and connectivity; (2) analytics and intelligence; (3) human-machine interaction; and (4) advanced production methods (McKinsey & Company, 2019c). For example, the use of data analytics and AI will optimize the control and maintenance of machinery, and the identification and fixing of quality issues; 3D printing reduces the lead time for critical parts; and demand forecasting and inventory tracking are instrumental in adapting and customizing the speed of manufacturing. These trends toward automation and the use of robotics and AI technology in production suggest that even though value creation in manufacturing will continue to grow, the substitution of labor by machines and technology is likely to lead to a further trend decline of employment in the manufacturing sector (see Figure 2.5).

Provided that ASEAN+3 economies can learn how to harness—not necessarily originate—these cutting-edge technologies, the gains for growth and employment could be substantial. Indeed, a study by McKinsey & Company (2019d) suggests that the impact of new technologies for value creation in ASEAN economies could be in the range of USD 200 billion to USD 600 billion by the year 2025 (Figure 2.12).

At this juncture, the adoption of higher technology for manufacturing and other industries varies widely across countries and sectors in the ASEAN+3 region, although all countries recognize its importance for enhancing competitiveness and productivity of the economy. Indeed each of the ASEAN countries has come up with its own national strategic plan on how to leverage on digital technologies in the 4IR to improve the competitiveness of manufacturing and other industries in order to move up production value chains (Figure 2.13).

Malaysia's energy group Petronas and Indonesia's mining equipment maker PT Trakindo Utama, for instance, have started to digitize their operations. Both countries are also actively promoting digital services such as ride sharing and e-commerce, which leverage on the digital technology. More critically, Malaysia's growth strategy continues to reflect a forward-looking approach, supported by timely structural reforms, with strategies to prepare the country for embracing the "new economy" being pursued under its Industry4WRD Blueprint, National Internet of Things Strategic Roadmap, Digital Free Trade Zone initiative, and eCommerce Strategic Roadmap.

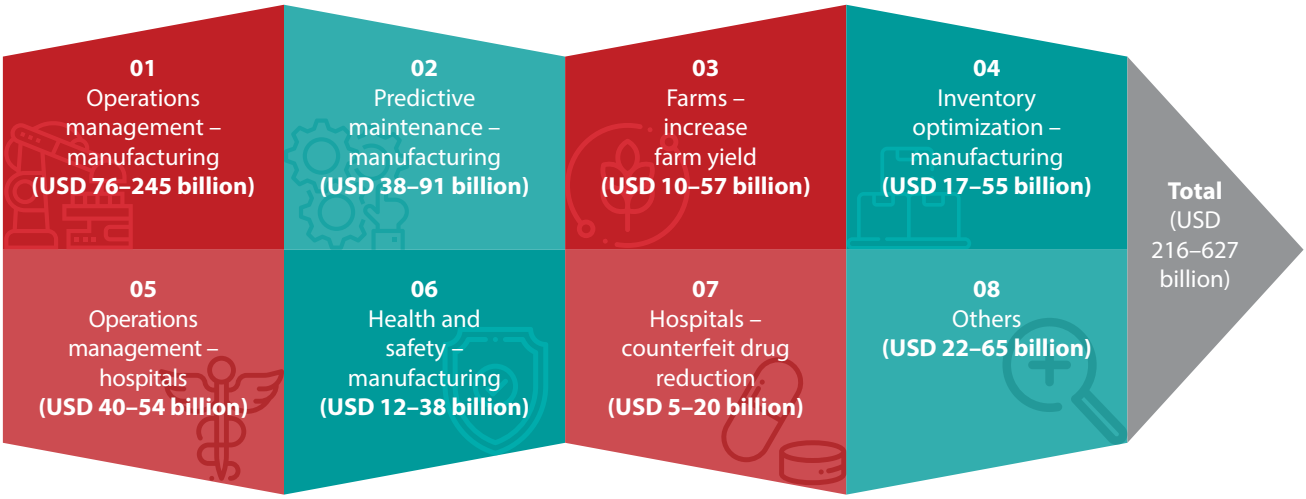
For Indonesia, the country's initiative to leverage on digital technologies in the 4IR, pursued under the ambit of its "Making Indonesia 4.0" project, involves focusing on five manufacturing sectors at the initial phase, and possibly further broadening of its scope. There is considerable diversity across the five industry sectors: food and beverage, textile and clothing, automotive, chemical, and electronics; and the development of all five entails concerted efforts to apply newer technologies to enhance productivity, capacity to meet domestic demand, and enhance export competitiveness.

In the Philippines, the authorities recognize that many of the jobs in the BPO industry, such as call centers, would be made redundant by robots over time. They are therefore preparing the industry to upgrade itself to knowledge process outsourcing. In Thailand, efforts to continue deepening the technological capacity of key industries such as automobiles have borne fruit. The country has also diversified into other areas such as niche tourism, which is now a key growth driver. In Vietnam, the strategy of attracting FDI from advanced economies such as Korea and Japan, to continue pushing the manufacturing sector forward as a key generator of growth and employment continues to be effective. It is also consistent with prevailing policy thinking based on the experiences of EMEs and developing countries (WEF, 2018).

New measures of revealed comparative advantage (RCA) suggest that the new economy ushered in by the digital transformation has provided a productivity premium to China and other ASEAN+3 economies (ADB, 2019). Technology adoption rates and digital gains are coming from a low base, and most ASEAN+3 economies are relatively unencumbered by legacy technology infrastructure. China's rise as an innovation and digital technology powerhouse, facilitated through strong indigenous entrepreneurship, massive investment in R&D, and continued attraction of inward FDI, has allowed it to compete head-to-head with advanced economies in a growing number of products and services. China accounted for about half of all patent applications worldwide in 2018, compared to about 20 percent for the United States in second place. RCA measures based on value-added exports, instead of gross exports, indicate China and ASEAN+3 economies are more competitive in both manufacturing and services than traditional RCA measures[7] might suggest (Figures 2.14 and 2.15).

[7] As in Balassa (1965).

Figure 2.12. Potential Economic Impact of New Technologies on ASEAN Economies



Source: McKinsey & Company (2019d).

Figure 2.13. Selected ASEAN+3 Economies: Diversifying Growth Drivers

Indonesia

- Indonesia is poised to realize its tourism potential, benefiting from initiatives such as the "10 New Balis", alongside enhanced connectivity and tourism-related infrastructure development.
- "Making Indonesia 4.0" project involves focusing on five manufacturing sectors at the initial phase, such as food and beverage, textile and clothing, automotive, chemical, and electronics. The development of all five entails concerted efforts to apply newer technologies to enhance productivity, capacity to meet domestic demand, and enhance export competitiveness.

Philippines

Three key areas are coming into focus:

- Institutional framework
- Human capital, and technology platforms
- For BPO/ KPO, the objective is to move from fairly basic and standardized products to much more advanced and high-VA areas.

Malaysia

Industry 4.0 strategy seeks to develop synergies between manufacturing, services, and digitalization. The aims are to be:

- A strategic partner for smart manufacturing,
- A key destination for high-technology industries, and
- A total solutions provider for ASEAN manufacturing.

Target sectors include mechanical engineering, aerospace and medical devices.

Thailand

- Besides striving to move up manufacturing value chains, Thailand is developing its travel and tourism sector.
- Its Industry 4.0 strategy adopts a two-pronged approach, the first limb based on opportunities emanating from changes in global conditions, and the second limb looking to maximize strengths which Thailand has already built up.

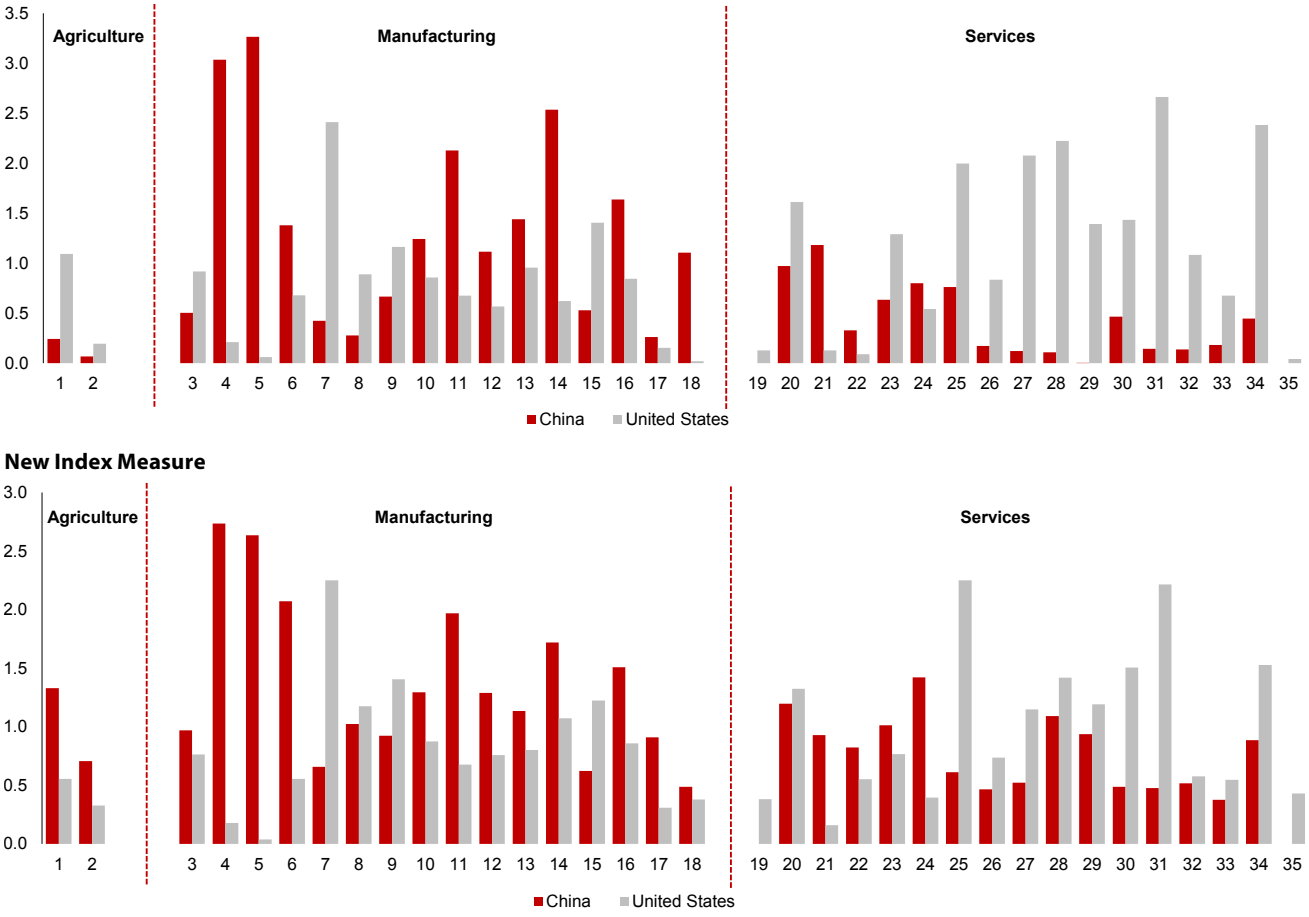
Vietnam

Its focus is on upgrading the manufacturing industry through domestic efforts and drawing more FDIs.

- Korea, for instance, is investing quite heavily in more advanced manufacturing in Vietnam, where the overall package of infrastructure/ labor force/ costs makes the country an attractive location for such manufacturing activities.

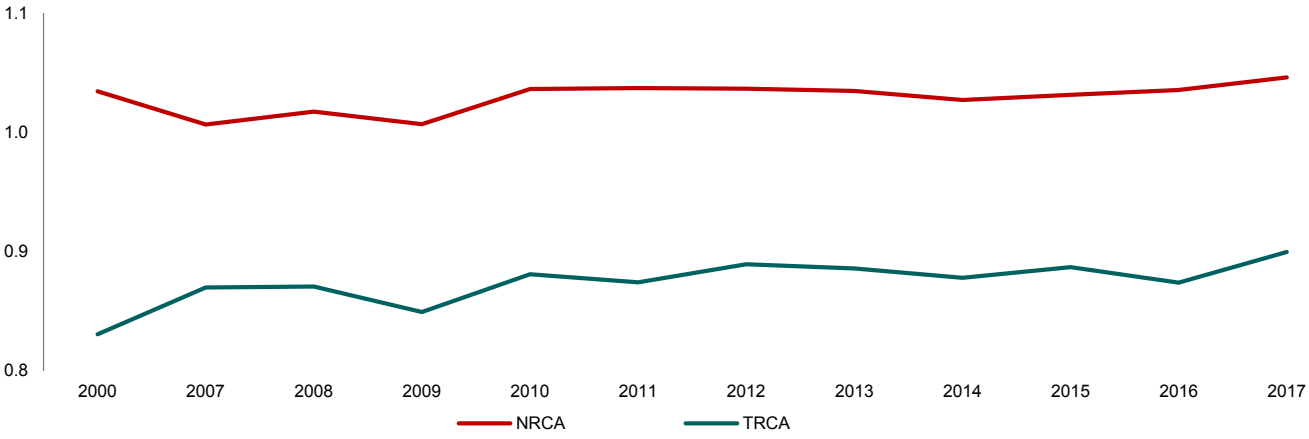
Source: AMRO staff.
Note: BPO = business process outsourcing; KPO = knowledge process outsourcing; VA = value-added.

Figure 2.14. Measures of Revealed Comparative Advantage, 2017



Sources: Asian Development Bank; Wang, Wei, and Zhu (2018); and AMRO staff calculations.
Note: The RCA (revealed comparative advantage) index calculates the relative advantage or disadvantage of a certain country in a certain class of goods or services as evidenced by trade flows. A country with a high RCA in a sector product is considered to have an export strength in that sector product. The higher the value of a country's RCA for a sector product, the higher its export strength therein. 1 = agriculture; 2= mining and quarrying; 3 = food, beverage, and tobacco; 4 = textiles; 5= leather products and footwear; 6 = wood; 7 = pulp and paper products; 8 = coke, refined petroleum; 9 = chemicals; 10 = rubber and plastics; 11 = other nonmetallic minerals; 12 = basic metals and fabricated metals; 13 = machinery; 14 = electrical and optical equipment; 15 = transport equipment; 16 = manufacturing; 17 = utilities; 18 = construction; 19 = motor vehicle sale and repair; 20 = wholesale trade; 21 = retail trade; 22 = hotels and restaurants; 23 = inland transport; 24 = water transport; 25 = air transport; 26 = other transportation; 27 = post and telecommunications; 28 = financial intermediation; 29 = real estate activities; 30 = other business activities; 31 = public administration; 32 = education; 33 = health and social work; 34 = other community work; 35 = private households with employed persons.

Figure 2.15. ASEAN+3: Comparative Advantage
(Index)



Sources: Asian Development Bank; Wang, Wei, and Zhu (2018); and AMRO staff calculations.
Note: NCRA = new revealed comparative advantage measure; TRCA = traditional revealed comparative advantage measure. The RCA (revealed comparative advantage) index calculates the relative advantage or disadvantage of a certain country in a certain class of goods or services as evidenced by trade flows. A country with a high RCA in a sector product is considered to have an export strength in that sector product. The higher the value of a country's RCA for a sector product, the higher its export strength therein.

III. A New Growth Paradigm: Factory Asia, Shopper Asia

Skills upgrading and the adoption of new technology (H-O 4.0 with Ricardian enhancements) have allowed ASEAN+3 economies at different stages of development to continuously enhance competitiveness and move up manufacturing value chains. This development model has served the region well and will continue to apply to some sectors and some countries in the region.

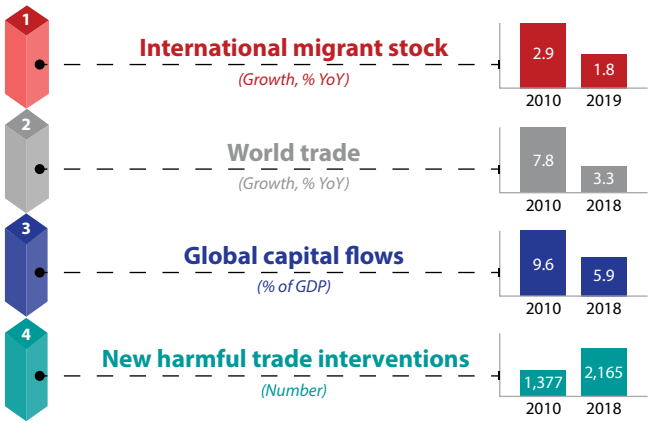
The next phase of growth in ASEAN+3 economies will feature new goods and services customized for Shopper Asia, as well as an upgraded Factory Asia to supply the old products more efficiently and cheaply. The combination of supply-side factors and demand drivers will propel the region to be an even more vibrant innovation and consumer hub. This will happen provided that the region can address several challenges, including those related to labor upgrading and mobility, unsupportive policies and regulations, and impediments to freer cross-border trade.

Deglobalization, Growth Rebalancing, and Regional Integration

Increasing traction for nationalist and the populist movements in the United States and Europe since the 2008 GFC and the 2010 European sovereign debt crisis, including the US-China trade tensions and policies taken by many governments to curb immigration, have prompted speculation about reversals in globalization, or "deglobalization" (Figure 2.16). The Bank for International Settlements (BIS) has acknowledged that globalization has slowed post-crisis, but insists that globalization is "not in retreat".[8] For emerging markets, openness to FDI has continued to increase even as trade globalization plateaued or declined slightly[9, 10] (Figure 2.17).

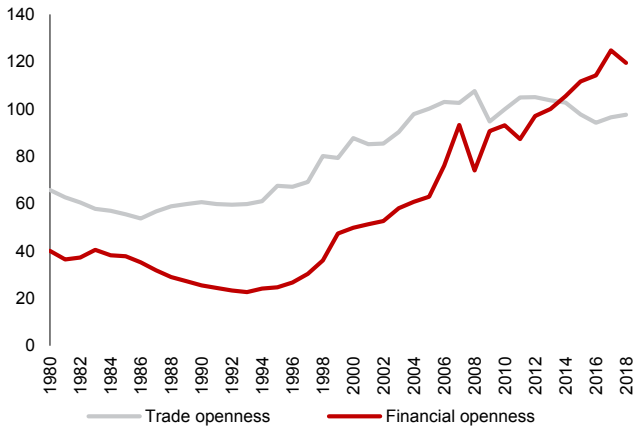
ASEAN+3 economies, while not immune to the backlash against globalization as reflected in some trading partners' pullback of trade with ASEAN+3 member economies (Figure 2.18), have continued to embrace a development strategy that is open to trade and foreign investments. First, *intra*-regional trade has increased over this period. The share of intra-regional trade in total ASEAN+3 trade rose from 32.7 percent in 1990, to 45.0 percent in 2000 and 46.6 percent in 2018 (Figure 2.19). Second, data on the VA contribution of exports to GDP tell a story of growth rebalancing within the region.

Figure 2.16. Selected Indicators of Globalization



Sources: World Trade Organization; United Nations Conference on Trade and Development; Global Trade Alert; and AMRO staff calculations.
Note: YoY = year-over-year.

Figure 2.17. Emerging Market Economies: Trade and Financial Openness
(Percent of GDP)



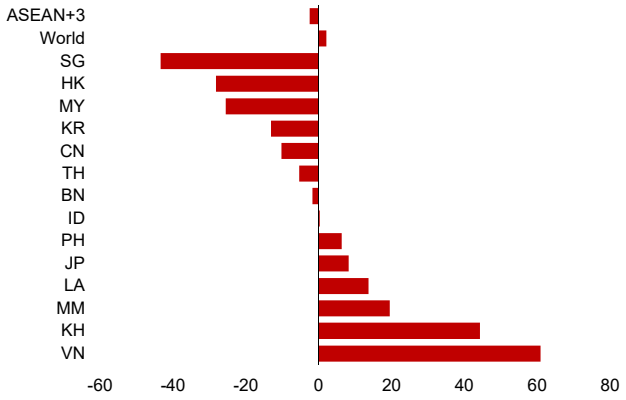
Sources: The World Bank; United Nations Conference on Trade and Development; and AMRO staff calculations.
Note: RoW = rest of the world

[8] Bank for International Settlements (2017).

[9] Bank for International Settlements (2018).

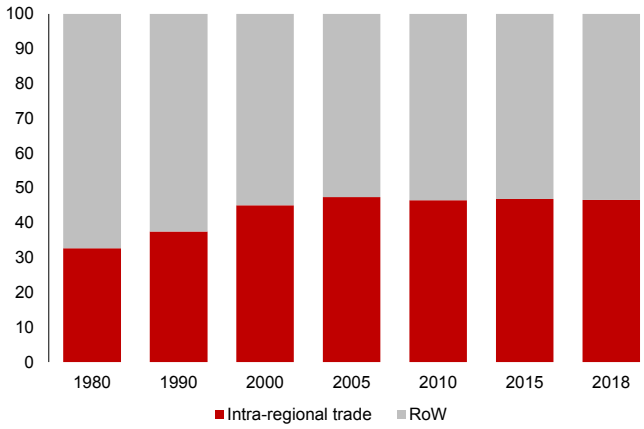
[10] The Bank for International Settlements' EMEs economies are Algeria, Argentina, Brazil, Chile, China, Colombia, Czech Republic, Hong Kong, Hungary, India, Indonesia, Israel, Korea, Malaysia, Mexico, Peru, the Philippines, Poland, Russia, Saudi Arabia, Singapore, South Africa, Thailand, Turkey, and United Arab Emirates. Trade openness is the sum of exports and imports of goods and services. Financial openness is the sum of FDI inward and outward stocks. The ratios are calculated using unweighted averages.

Figure 2.18. Change in Total Trade in Goods and Services as Share of GDP, 2010 versus 2018
(Percent of GDP)



Sources: The World Bank; and AMRO staff calculations.
Note: BN = Brunei Darussalam; CN = People's Republic of China; HK = Hong Kong, China; JP = Japan; ID = Indonesia; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; VN = Vietnam.

Figure 2.19. ASEAN+3: Structure of Trade in Goods
(Percent of total trade in goods)



Sources: The World Bank; and AMRO staff calculations.
Note: RoW = rest of the world.

Applying the import-adjusted method for analyzing GDP components and their respective contributions to ASEAN+3 economies' growth through the years, the net contribution of external demand to GDP in the region has stayed at an average 20 percent since 2005[11] (Figure 2.20). However, there is great variation within the region.

In China and the ASEAN developing economies, which had traditionally depended on the United States and Europe for export markets, the global financial crisis and European sovereign debt crisis led to a collapse in external demand and a major rebalancing of growth toward domestic demand. The governments in these economies undertook expansionary macroeconomic policies to boost domestic investments, especially in infrastructure and real estate, and spur domestic consumption (Figure 2.21). The contribution of external demand to GDP in China, the ASEAN-4, and Vietnam fell sharply from 27.4 percent in 2005 to 19.4 percent in 2015 (Figure 2.22).[12] The tilt toward domestic demand is also reflected in a reduction in the share of domestically manufactured goods that were bound for extra-regional exports from China, the ASEAN-4, and Vietnam over the period, while the share of intra-regional exports increased significantly (Figures 2.23 and 2.24). Particularly notable is the reduction in the share of ASEAN exports to the United States and Europe from 37 to 27 percent while the share of exports to the ASEAN+3 region rose from 35 to 40 percent.

In the more mature high-income ASEAN+3 economies with slower growth rates, aging populations, and relatively saturated consumer markets, the contribution of external demand to GDP was relatively stable in the 10 years from 2005 to 2015. In Korea, the contribution of exports to GDP increased from 2005 to 2011 but declined from 2011 to 2015 in the aftermath of the global financial crisis and European sovereign debt crisis. Similarly, in Hong Kong and Singapore, the two major financial and business hubs, external demand as a share of GDP declined slightly from 2005 to 2015 but remained relatively high, as a share of GDP, reflecting the openness of these two economies (Figure 2.20).

Three key factors will help ASEAN+3 economies develop their competitive advantage in the new economy: an increasingly connected and well-diversified region, trade and investment-friendly government policies, and a history of economic resilience and adaptability. The combination of supply-side factors and demand drivers will propel the region as a vibrant and dynamic innovation and consumer hub as the nature of globalization changes.

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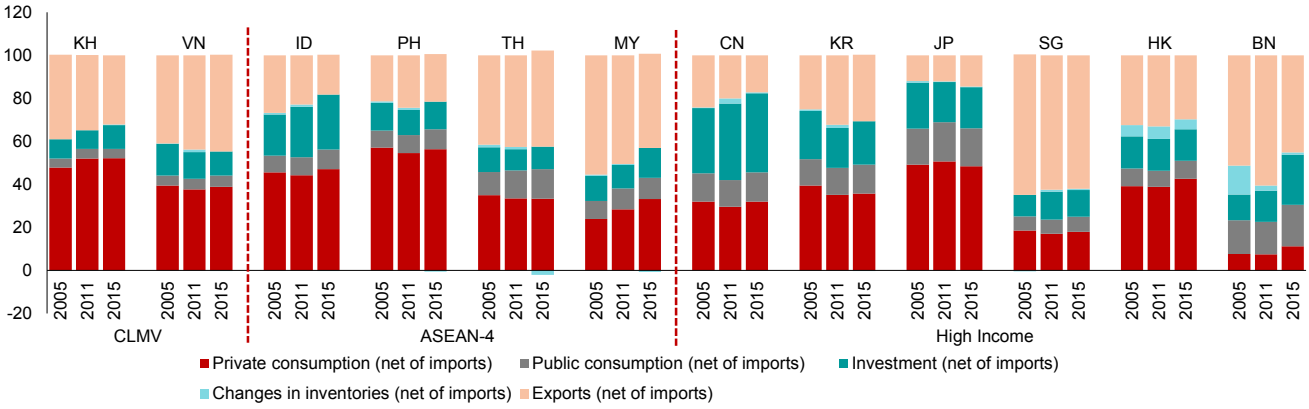
[11] See discussion on the conventional vs. the import-adjusted methods to national income accounting in AMRO (2019a), Chapter 1, p. 8.

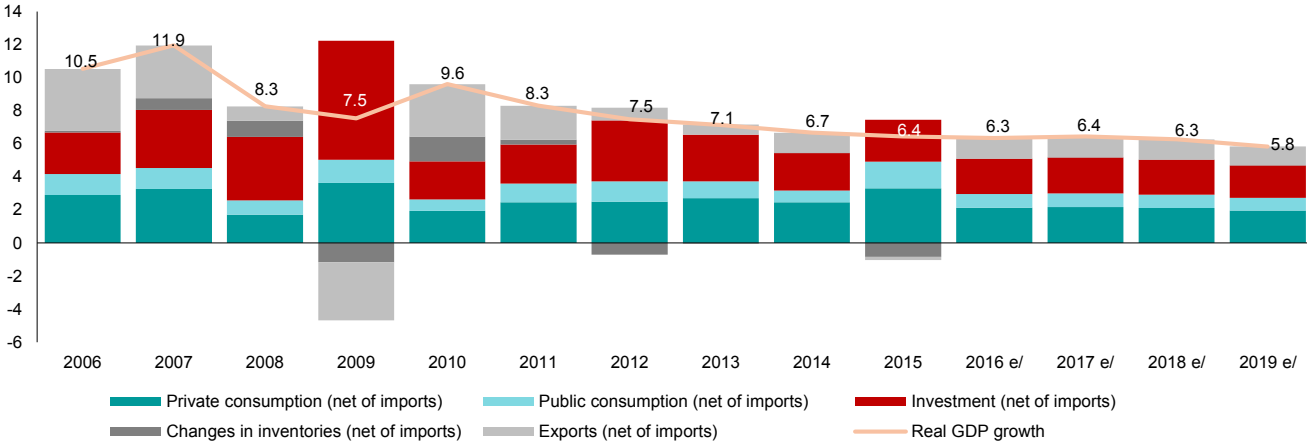
[12] The decline is especially stark in China (from 24.7 percent to 17.3 percent), while the contribution of external demand in the ASEAN-4 and Vietnam fell more modestly, from 35.9 percent in 2005 to 30.3 percent in 2015.

Figure 2.20. ASEAN+3: Composition of GDP, Import-Adjusted Method
(Percent of GDP)



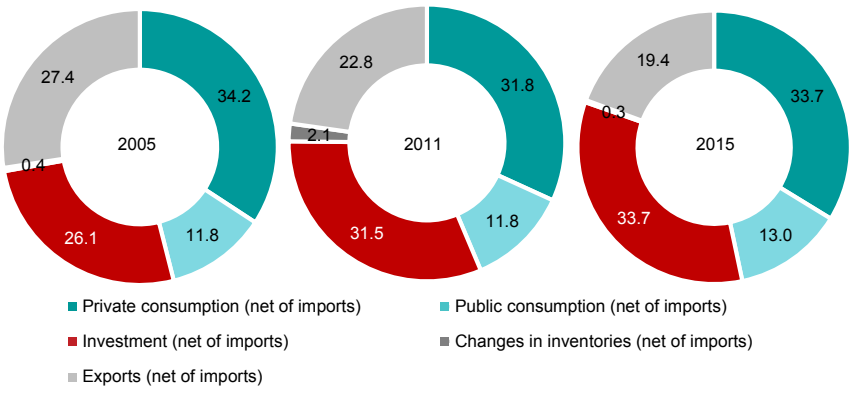
Sources: Organization for Economic Co-operation and Development (OECD); and AMRO staff calculations.
Notes: OECD Input-Output Tables are only available from 2005 to 2015. Data for Lao PDR and Myanmar are not available. ASEAN-4 = Indonesia, Malaysia, the Philippines, and Thailand; BN = Brunei Darussalam; CLMV = Cambodia, Lao PDR, Myanmar, and Vietnam; CN = People's Republic of China; HK = Hong Kong, China; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; VN = Vietnam.

Figure 2.21. ASEAN-4, China, and Vietnam: Contributions to GDP Growth, Import-Adjusted Method
(Percentage point)



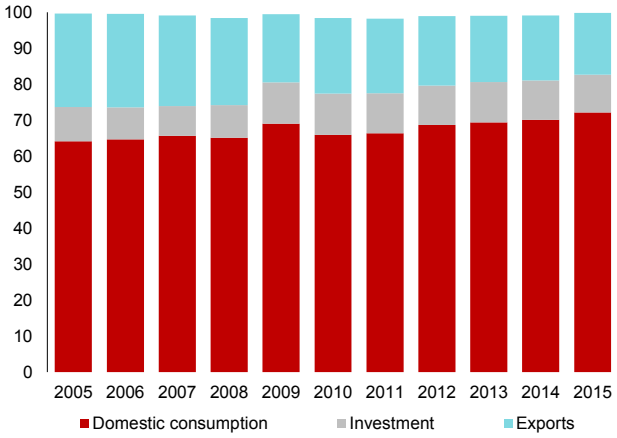
Sources: Organization for Economic Co-operation and Development; and AMRO staff calculations.
Note: OECD Input-Output Tables are only available from 2005 to 2015. Therefore, 2016–19 estimates of each component are based on 2015 shares. Real GPD growth is actual data.
ASEAN-4 = Indonesia, Malaysia, the Philippines, and Thailand.

Figure 2.22. ASEAN-4, China, and Vietnam: Shares of GDP Components, Import-Adjusted Method
(Percent of GDP)



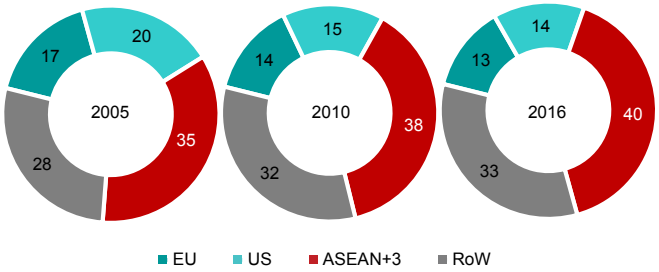
Sources: Organization for Economic Co-operation and Development; and AMRO staff calculations.
Note: ASEAN-4 = Indonesia, Malaysia, the Philippines, and Thailand.

Figure 2.23. ASEAN-4, China, and Vietnam: Shares of Domestically Manufactured Goods for Domestic Demand and for Exports
(Percent of total output)



Sources: Organization for Economic Co-operation and Development; and AMRO staff calculations.
Note: ASEAN-4 = Indonesia, Malaysia, the Philippines, and Thailand.

Figure 2.24. ASEAN: Shares of Value-Added Exports
(Percent)



Sources: Organization for Economic Co-operation and Development; and AMRO staff calculations.
Note: ASEAN's value-added exports exclude Lao PDR and Myanmar due to data constraints. EU = European Union. US = United States; RoW = rest of the world.

Factory Asia: Deepening Intra-Regional Production and Trade Network

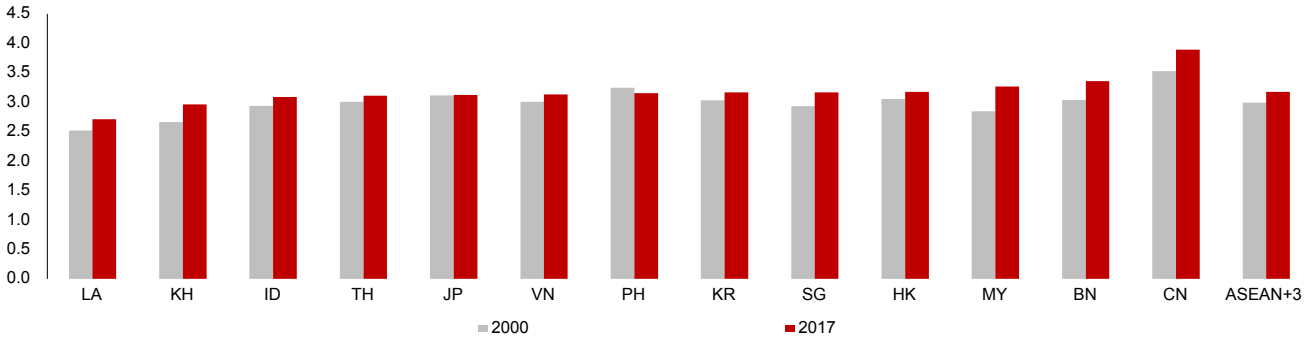
Factory Asia embodies the region's comparative advantage in production, underpinned by the rise of China and its role in global and regional value networks. Exported manufactures from ASEAN+3 countries now collectively account for 36.4 percent of world exports in 2018, from less than 15 percent in 1990. The production (and value) network in the region has become more complex and intertwined. Estimates by the ADB and AMRO suggest that the number of production stages (from primary inputs to final products) has, without exception, increased in ASEAN+3 economies from 2000 to 2017 (Figure 2.25).

In China, the number of in-between stages has increased by an average 10.3 percent between 2000 and 2017. China is known for its integrated supply chains and hard-to-match production ecosystems, with a high concentration of players across low-, mid-, and high-value products. Even so, more and more lower-end labor-intensive activities are being outsourced or relocated to lower labor cost CLMV economies, thus lengthening the supply chains for overall efficiency gains. The domestic VA content of the region's goods exports has slightly declined since the 2000s, from 82.4 percent to around 81.8 percent (Figure 2.26).

The lengthening of production stages within the region is also consistent with a shift in the composition of ASEAN+3 imports, from final goods to intermediate goods. The region's share of world imports in intermediate goods has outpaced its share in final goods (Figure 2.27).

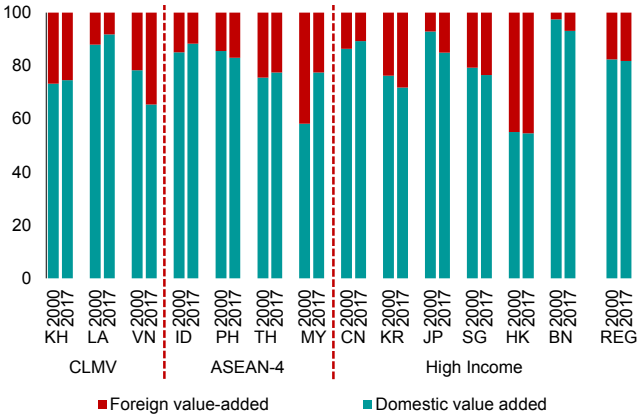
Factory Asia, which increasingly resembles a services hub, is much more involved in value creation through R&D, product designs, and customizing service experience. The digital economy offers fresh value propositions that play to the region's competitive advantage as technological capability and skill levels improve. China is an increasingly important node in the GVNs for services. AMRO's estimates of on the interconnectedness of services exports using ADB input-output tables indicate that China's weight, and the extent of its integration into the global services network, have

Figure 2.25. Average Production Lengths in Global Value Chains
(Number of stages)



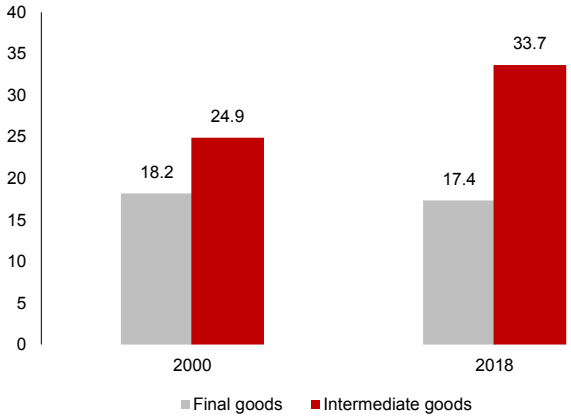
Sources: Asian Development Bank; and AMRO staff calculations.
Notes: Length of production is measured by the average number of production stages that take place between the primary inputs from one sector to the final products in another sector (which could be within the same country, or with another country). BN = Brunei Darussalam; CN = People's Republic of China; HK = Hong Kong, China; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; VN = Vietnam.

Figure 2.26. ASEAN+3: Value Added in Goods Exports
(Percent of total exports)



Sources: Asian Development Bank; and AMRO staff calculations.
Note: ASEAN-4 = Indonesia, Malaysia, the Philippines, and Thailand; BN = Brunei Darussalam; CLMV = Cambodia, Lao PDR, Myanmar, and Vietnam; CN = People's Republic of China; HK = Hong Kong, China; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MY = Malaysia; PH = the Philippines; REG = regional; SG = Singapore; TH = Thailand; VN = Vietnam.

Figure 2.27. ASEAN+3: Imports by Use
(Percent of world imports of product category)

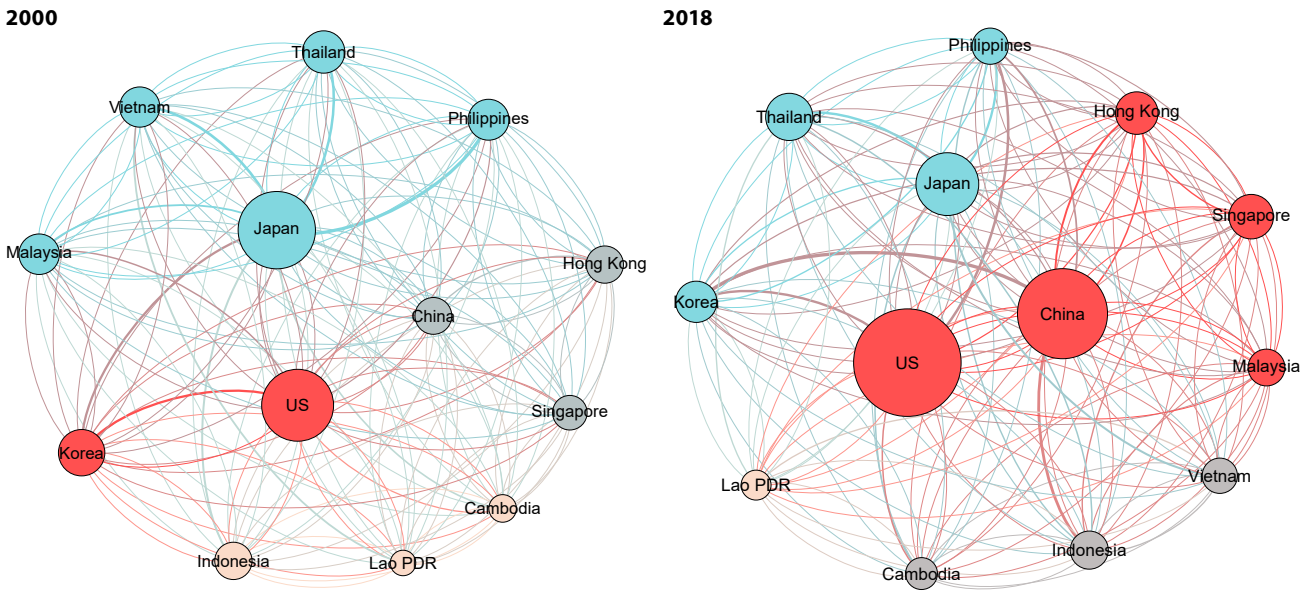


Sources: Asian Development Bank; Wang, Wei, and Zhu (2017); and AMRO staff calculations.

increased significantly since 2000. China's services exports have become more integrated not just within the ASEAN+3 region, especially with Hong Kong and Singapore, but also the United States (Figure 2.28).

Thailand's automotive industry is an excellent example of how technology and capacity upgrading has enabled an ASEAN country to be part of a more competitive Factory Asia. Developed and broadened over decades, Thailand first offered its initially low-cost worker as labor inputs for inward FDI by Japan's manufacturers. Subsequently, the more highly skilled and adaptable segments of its workforce absorbed technological knowhow from the Japanese; more and more home-grown Thai companies developed capacity to manufacture parts and components; and Thailand gradually developed much deeper capacity across a broad automotive ecosystem. At this juncture, Thailand's automotive industry is priming itself to transition more fully to "new economy" production—including having a wide range of services featuring in almost all automotive components and stages of production. This effort is timely as modern automotive value chains are seeing an increasingly wide range of services feature in almost all components and stages of production. AMRO staff estimates of automotive services exports for ASEAN economies suggest that Thailand has indeed become one of the most important hubs that provides automotive services within the ASEAN region, with the domestic value add of automotive services exports by Thailand being nearly twice the total of other ASEAN countries combined. Looking ahead, there is potential for a more substantive (sub) regional production network to develop, with Thailand's automotive industry currently most connected with that of Indonesia and Vietnam (Box 2.2).

Figure 2.28. China's Integration into Global Value Networks for Service Exports



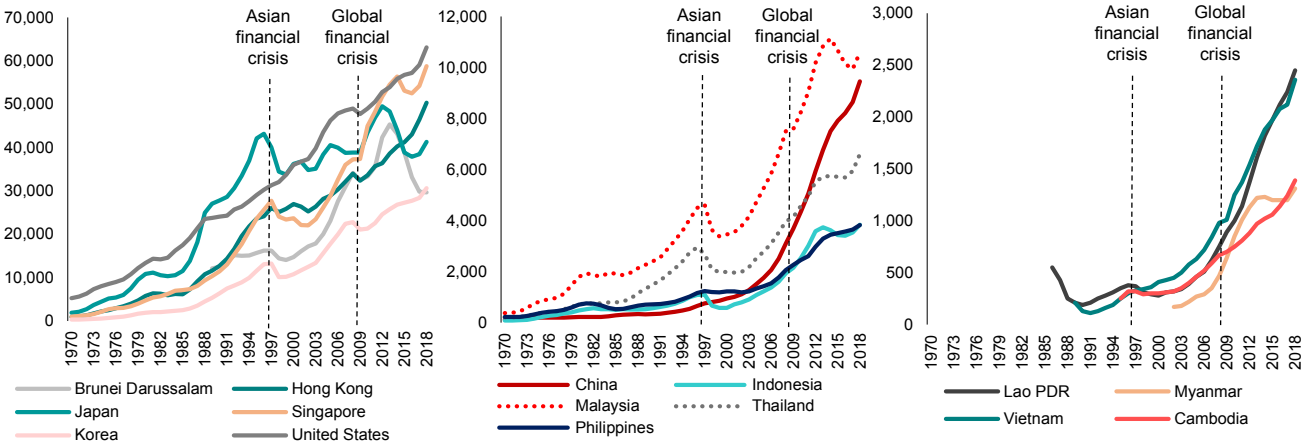
Sources: Asian Development Bank Multi-Regional Input-Output Tables; and AMRO staff calculations.
Note: The node size represents the weighted degree of the economy in the value chain. The node color represents the community to which the economy belongs. Community is detected using methodology outlined by Blondel and others 2008. The arrow thickness is scaled according to the volume of trade in value added of service export. Services include all business and personal services.

Shopper Asia: From Rags to Riches

As noted in the previous section, ASEAN+3 economies have been successful in using the manufacturing-for-exports strategy to industrialize and move up the production value chain and income ladder. Most of them started the industrialization process as poor agrarian economies with per capita income ranging from USD 200 to USD 500 per annum. They have since grown into middle- to high-income economies (Figure 2.29). The first wave of economies (Korea, Taiwan Province of China, Singapore, and Hong Kong), which started the industrialization in the 1960s–70s, have moved up the income ladder to become high-income economies. Their per capita incomes have risen from USD 400–USD 1,800 in 1960s–70s to USD 30,000–USD 60,000 in 2018. The second wave of economies from the ASEAN region (Indonesia, Malaysia, the Philippines, and Thailand) started their industrialization in the 1970–80s, and they have since become middle-income economies with per capita income ranging from USD 3,500 to USD 10,500. China followed shortly after in the 1980s–90s, and it has grown so rapidly that its per capita income is already at USD 10,000. The CLMV countries started later in the 1990s–2000s, and they have also been catching up. Their per capita incomes have risen rapidly and are now in the lower middle-income range of USD 1,300 to USD 2,500 (Figure 2.29). The combined GDP of the ASEAN+3 countries has risen from 11.7 percent of global GDP in 1970 to 27.4 percent in 2018.

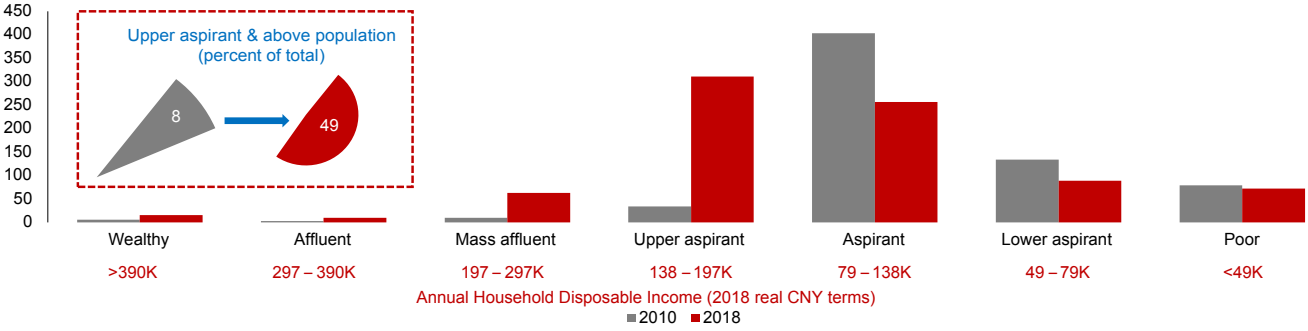
A direct result of such phenomenal growth catch-up is that the ASEAN+3 region is set to drive about half the increase of global middle-class expenditure up to 2030 (AMRO, 2018b), with the bulk of this accounted for by the Chinese population's increasingly affluent households (Figure 2.30). Indeed, Chinese consumer spending accounted for a hefty 31 percent of global household consumption growth between 2010 and 2017. Data and surveys (McKinsey & Company, 2019b, 2020) suggest that both new entrants to the middle-class ranks and those who are moving up within the middle class have been increasing their consumption expenditure buoyantly year after year. A case in point is total sales on all platforms for the 2019 Double 11 online sales hitting a record CNY 410 billion (USD 59.3 billion), up 31 percent from 2018, compared to the US *online* Thanksgiving Black Friday sales of USD 7.4 billion, itself a record. Another case in point is China's demand for luxury goods being anticipated to double over the next 5 years, from about CNY 770 billion to CNY 1.23 trillion—accounting for some 40 percent of the global market (Figure 2.31).

Figure 2.29. Gross National Income Per Capita, Atlas Method
(US dollars)



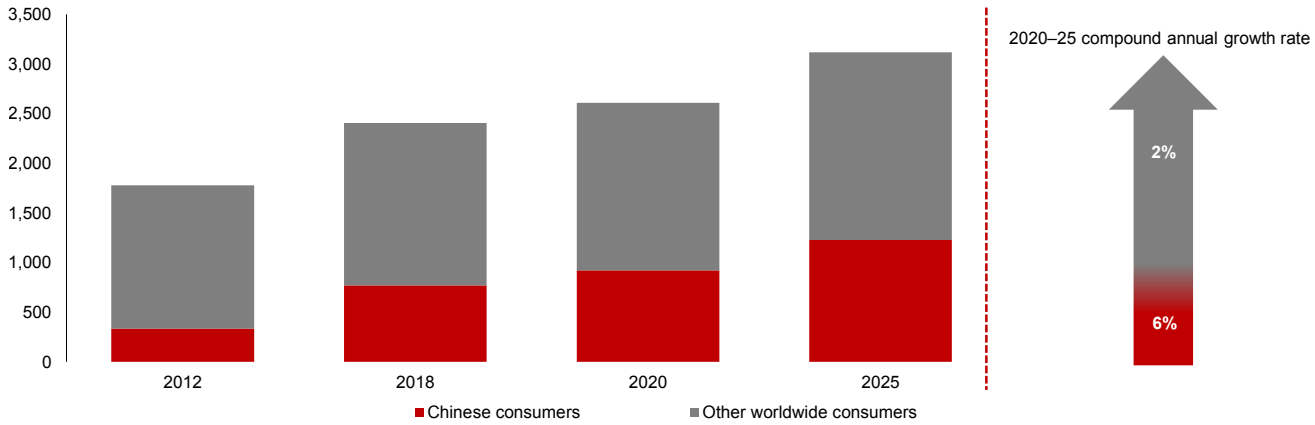
Source: The World Bank.

Figure 2.30. China: Urban Population and Annual Household Disposable Income
(Millions of persons)



Sources: McKinsey & Company (2019g); and AMRO staff.
Note: K = thousands of Chinese renminbi.

Figure 2.31. China and the Rest of the World: Spending on Luxury Goods
(Billions of Chinese renminbi)



Source: McKinsey & Company (2019b).

Toward a New Growth Paradigm—Factory Asia Serving Shopper Asia

While Factory Asia focuses on optimizing production across the region, the digital economy creates value for Shopper Asia by expanding and customizing goods and services to meet the demand of increasingly discerning consumers. In particular, the explosion of services offers a fresh growth strategy predicated on analyzing, shaping, and enticing Shopper Asia with new and different experiences. A prime example is the booming travel and tourism sector, where intra-regional demand has propelled the sector to become key drivers of growth for several ASEAN+3 countries including Japan, Korea, Thailand, and Vietnam. The tourism sector (Box 2.3) is also a good example of how in the new economy, product differentiation will increasingly be achieved by bundling customized services with physical products to suit "micro-fine" preferences. The region's rapid income growth, the underdevelopment of the tourism industry in many countries, and the sharp increase in infrastructure investment in several countries, are factors pointing to the high potential for intra-regional tourism to take off. The benefits for growth and employment can be large, as studies have highlighted the extensive linkages that tourism has with other sectors of the economy.

To spur the development of tourism, the comprehensive ASEAN Tourism Strategic Plan 2016–2026 seeks to build on the earlier Strategic Plan 2011–2015, by addressing several areas including: single destination marketing, quality standards, human resource development, connectivity, investment, community participation, safety and security, and natural and cultural heritage conservation. The targets set for 2025 are realistic and achievable: GDP contribution increasing from 12 percent to 15 percent, share of employment rising from 3.7 percent to 7 percent, and per capita spending by international tourists increasing from USD 877 to USD 1,500.

More broadly, ASEAN+3 economies account for a rising share of the global trade in services, from 13.0 percent in 2000, to 16.4 percent in 2018 (Figure 2.32). Estimates of the concentration index for ASEAN+3 economies' exports indicate that the degree of product differentiation within the region's traded goods remains lower than that of developed economies (Figure 2.33). This gap will diminish as business models that traditionally aim for mass production for export markets outside the region, evolve to meet the demand for more tailored product offerings from within the region.

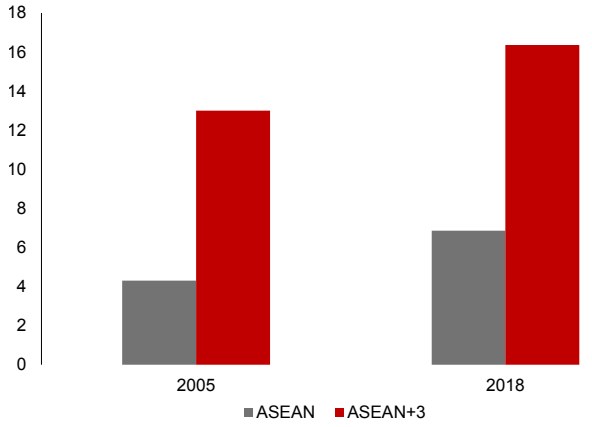
The customer-centric and user-oriented approach, and personalization of services that the new economy demands will increasingly be influenced and shaped by final demand from Asian consumers, and their cultural preferences. In the context of the global value network, as the economic center of gravity shifts to Asia, the geographical distance between first-stage production and end-use consumption will shorten even as the number of production stages increases.

Factory Asia's physical and cultural proximity to Shopper Asia in an increasingly well-connected region, trade and investment-friendly policies, and a history of economic resilience and adaptability, are three key factors that will help ASEAN+3 economies develop their competitive advantage in the new economy.

The new growth paradigm of Factory Asia serving Shopper Asia also involves the rapid development of certain sectors that enables the production capacity of the former to meet the pent-up demands of the latter. This is the story of how the upgrading of Factory Asia and the rise in incomes it has brought about, is now directly strengthening the region's ability to generate demand from within as Shopper Asia. A good example is the logistics sector, which: (1) has adapted rapidly to meet the needs of just-in-time production and delivery of goods; (2) is on the cusp of leveraging on new technologies and big data for logistics firms to provide customized services to manufacturers and retailers to reach end-consumers; and (3) has experienced the attendant productivity gains creating potential for feedback into healthy wage gains for workers in this sector

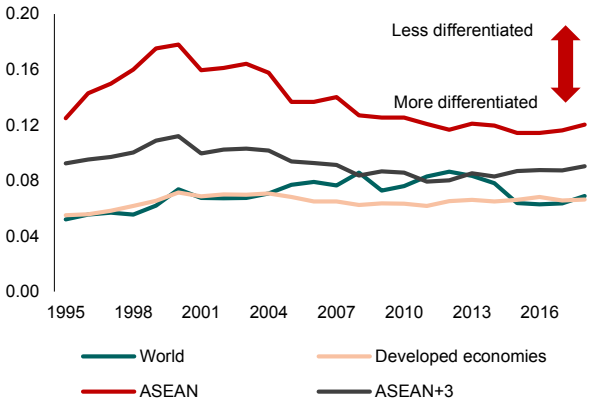
(Box 2.4). The logistics sector will play a key role in the "new economy": for just-in-time production and delivery of goods. The global manufacturing industry has expanded massively from about USD 6.1 trillion in 2000 to about USD 13.2 trillion in 2018, driven in large part by stronger demand from the expanding middle class in rapidly growing EMEs, not least China within the ASEAN+3 region. Alongside that, global e-commerce has grown markedly over the last decade, expanding from USD 495 billion in 2005 to USD 1,915 billion in 2016, according to estimates by McKinsey & Company (2017). The conventional logistics value chain is not highly automated, but new technologies are creating potential for automation and productivity gains. Recognizing this potential, ASEAN countries, including Malaysia, Thailand, the Philippines, and Vietnam, are putting considerable effort into developing their logistics sector.

Figure 2.32. ASEAN+3: Trade in Services
(Percent of world trade in services)



Sources: United Nations Conference on Trade and Development; and AMRO staff calculations.

Figure 2.33. Degree of Product Differentiation: Exports
(Index)



Sources: United Nations Conference on Trade and Development; and AMRO staff calculations.
Note: The concentration index measures the extent to which a large share of exports is accounted for by a small number of product groups. The index has a value of 1 when an economy exports only one group of products and a value of 0 if all product groups are equally represented.

The Gig Economy: Using Digital Technology to Create Value by Tapping on Latent Resources

The gig economy, a product of the digital economy, creates value and contributes to growth by tapping previously undiscovered, unutilized or underutilized skills, time, and physical assets (Box 2.5). The gig economy has spawned an ecosystem of freelancers and independent contractors—from software code writers and web developers, to ride-sharing and food delivery drivers—who would otherwise be unemployed or underemployed, and facilitated the sharing of residential and office space, cars, clothes and household items by matching (business or private) owners of these resources with demand for their (temporary) use.

China's sharing economy was valued at more than USD 400 billion in 2018, and is growing at double-digit rates. Ride-hailing companies Gojek and Grab added an estimated USD 6.6 billion to Indonesia's GDP (Ramizo, 2019). Airbnb, on-demand driving, and other gig-economy jobs provide an important source of income for households in the region, essentially monetizing the informal sector and often staving off unemployment. WeWork has helped redefine not only the co-working trend, but also the real estate landscape–by transforming its purchased (or rented) real estate into smaller and shareable areas, start-ups and smaller businesses are able to take advantage of the lower rental price that arises from the sharing of office space and equipment.

The gig economy poses challenges that ASEAN+3 policymakers need to address on two fronts: gaps in the policy or regulatory framework that prevent companies and workers from realizing the full benefits; and the negative impact of gig-economy jobs on workers' welfare and the social fabric. The low barriers to entry and flat hierarchy for employment in the gig economy discourage skills upgrading, and workers may not have access to the safeguards and pooled benefits that full-time employees take for granted—minimum wages, health benefits, and insurance coverage.

The gig economy has important implications for the future of employment. It allows businesses to meet erratic or unpredictable demand for additional labor without committing to the costs of a higher headcount and provides some level of flexibility and autonomy to individuals to vary their work-life balance. There are legitimate concerns that the gig economy tilts the balance of power in favor of big businesses and employers—who are replacing full-time employees with contract workers with little or no security or benefits. In other words, the gig economy is chipping away at middle-class job security.

The way forward for equitable and inclusive growth lies not in suppressing innovation or having policymakers micro-manage business models, but in identifying and addressing market failures or gaps in regulatory oversight specific to the gig economy. The gig economy offers good and bad jobs, as do traditional corporations, and unethical practices that exploit workers are not uncommon even in the formal sector. Labor laws and policy guidelines have evolved in past decades to provide safeguards to workers and promote fair employment terms. The current framework may not be relevant or suitable in the gig economy and should be reviewed and redesigned—in order to meet the needs of the workers in the gig economy.

Finally, to fully realize ASEAN+3 countries' gains from participating in "new economy", manufacturing activities and services, key features of the enablers of trade must be updated from time to time, so that all can work well within cross-border value chains. The challenge is to preserve the key features of a global trading system which has largely worked well but update some rules to reflect the realities of the "new economy" and thereby facilitate freer trade in goods and services (WEF and International Center for Trade and Sustainable Development, 2015).

A good example is the need to redesign the framework for rules of origin (ROOs) in international trade. In practice, "origin" is often determined by the location of manufacture and/or assembly (Escaith and Marti, 2016); yet, such an approach is fraught with difficulty in normal times, and can become highly unsatisfactory or even contentious in the current climate of heightened trade protectionist tendencies. This speaks to one of the key overarching themes of this thematic chapter, namely the disconnect between increasing global interconnectedness on one hand, and the heightening of inward-looking tendencies on the other. As the "new economy" involves rapid technological advancement and services will become more tradable end-products and a more critical driver of manufacturing, it may be useful to update some key rules governing cross-border trade, such as ROOs (Box 2.6). In particular, two elements of the new economy complicate the application (and applicability) of ROOs: the rising share of services in trade and production networks; and role of technology and intangible assets (e.g., patents, branding, franchises) in creating and delivering value to the end-consumer. The automobile industry illustrates the challenges of designing ROOs as its production network evolves to capture new technology, new services and newly tradable services. The business model increasingly involves a wide range of services such as R&D and design functions which are being carried out in advanced economies while the more labor-intensive production functions are undertaken in lower-cost economies. The travel and tourism sector is another example. Travel and tourism services in the new economy will involve many more specialized segments: air and land transport, food and beverage, consumer durables, experiential service, and payment systems. And the "residency" of value creation is dispersed in the new economy as technology allows the requisite expertise to be fed across borders, from anywhere in the world, into the travel and tourism sector of a given country.

IV. Challenges for Sustainable and Equitable Growth in the New Economy

Rapid growth and development in ASEAN+3 economies bear testimony to the benefits of globalization and increased economic and financial integration. The region boasts two of the three largest economies in the world, and households across the region have experienced remarkable improvements in standard of living within the span of one to two generations.

Factory Asia is built on the evolving comparative advantage of ASEAN+3 countries at different stages of development in a globalized world. Factory Asia enhances value for the region by leveraging on new digital technology to optimize production and establish a formidable value network for both Asia and the world. Shopper Asia is driven by the rapid emergence and sheer number of affluent and middle-class consumers in the region. The digital economy creates value for Shopper Asia by enabling and offering new services and fresh experiences and turning new-found wants and needs into expanded demand. The geographical and cultural proximity of Factory Asia to Shopper Asia gives the region added advantage in anticipating, shaping, and customizing supply to meet the demands of the world's fastest-growing consumer markets.

While overall net gains from globalization and enhanced competition were never in serious dispute, there is growing disquiet about the inclusiveness of the new economy. The debate around the world, including in ASEAN+3 economies has—for some time now—moved

to: who benefits from these gains?[13] What is good for the global economy—is that necessarily good for all nations? What is good for the people—will growth in the new economy trickle down to all or most households? Or will quantum jumps in technology (and discontinuity in relevant skills) and relentless globalization (and wage arbitrage) lead to immiserizing growth for some or even many?

In the context of the flying geese model, the development challenge facing ASEAN+3 economies is how to sustain growth and improve standards of living for countries already in the formation, alongside faster-growing economies raring to get ahead. Will the leaders of the pack continue to stay ahead by innovating and forging new value networks, or are mature economies vulnerable to stagnation, or worse, losing their pole positions? Are smaller economies in the region disadvantaged by their lack of scale on the production side and demand side (WEF and A.T. Kearney, 2018)? Can today's middle-income "sandwich" economies close the technology and skills gap with their more developed neighbors even as emerging economies catch up, or are they at risk of being stuck in the middle-income trap? How long can latecomers in the region pursue a single-minded export strategy before manufacturing comparative advantage gives way to services in the new economy?

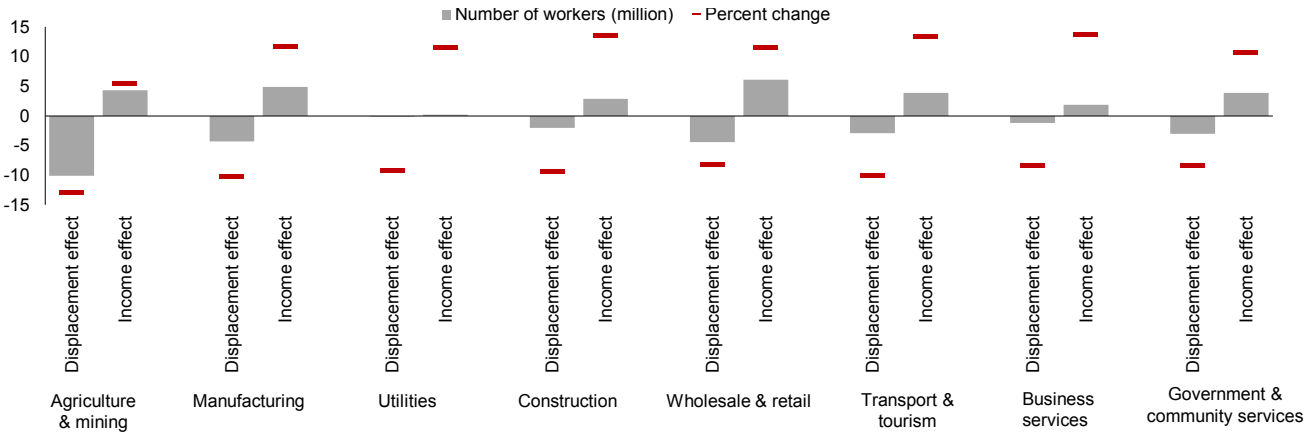
Added to the development concerns at the macro level are the distributional implications and socioeconomic consequences of the new economy on individuals and households. While technology has been credited with improving efficiency and productivity, spurring demand, and generating employment, its impact on the job market, especially middle management jobs—the cornerstone of middle-class families—has been more uneven, even disruptive in some cases. First, displaced workers may not be able to move so easily into new economy industries due to the skills mismatch. Second, jobs in the new economy are often associated with work flexibility and low overheads, a definite plus for growing industries—but not for job security, benefits, and career progression.[14] There is also a sense that economic rent in the new economy—value in excess of the minimum that factors of production are prepared to accept to remain employed—accrues to a few, and rarely to workers.

A recent Oxford Economics–Cisco study (2018) estimates that between 2018 and 2028, technological advancement and economic growth will create about 26 million higher-paying jobs across several sectors, led by wholesale and retail, manufacturing, construction, and transport, in the ASEAN-6 (Indonesia, Malaysia, Thailand, the Philippines, Vietnam, and Singapore). This will occur even as the jobs of some 28 million workers (including 9.9 million in agriculture) will be made redundant (Figure 2.34).

The way forward for ASEAN+3 economies is not to turn back the clock on globalization or put barriers in the way of technology adoption. Countries in the region have two distinct advantages over advanced economies. First, the labor force is more youthful and potentially more tech-savvy and adaptable. The region has the greatest concentration of millennials—China, followed by Indonesia, the Philippines, and Vietnam (Box 2.5). Second, social welfare—and public expectations of government-funded financial safety nets for the elderly and the unemployed—start from a lower base.

The region's resilience in the face of past adversity—during and after the Asian financial crisis—and transformation

Figure 2.34. ASEAN-6: Job Creation and Job Destruction, 2018–28



Source: Oxford Economics–Cisco (2018).

[13] Spence (2020) highlighted that during the 30–40 years after WWII, "labor income as a fraction of total income was growing, measured income inequality was declining, and a broad-based middle class was emerging." Many failed to foresee and anticipate the problems related to the widening disparities in income, wealth and opportunity across advanced and developing economies.

[14] Ride-hailing apps are reported to have depressed wages of incumbent taxi drivers by 10–30 percent. See Box 2.5 and discussion in a later section.

from agrarian economies to manufacturing and urban cities, bode well for the countries' resourcefulness in embracing technology and leveraging on the new economy for future growth. However, government programs and safety nets may be needed on top of traditional family support to address the impact of economic and social dislocation of the 4IR and new economy on individuals and households. Governments may also need to assist the private sector, especially SMEs, to manage challenges related to disruptions to traditional business models and leverage on new technologies to reinvent themselves in the new economy (Global Partnership for Financial Inclusion, 2017).

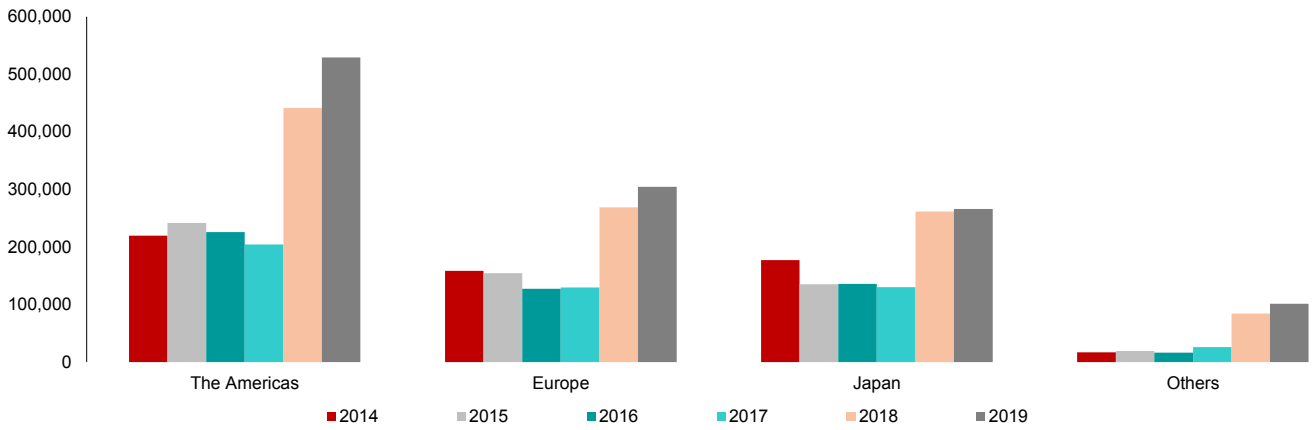
Avoiding Middle-Income Stagnation: A Differentiated Approach for ASEAN+3 Economies

ASEAN+3 economies have fared better than most in sustaining growth and staying relevant in the new economy. They have had some success in enhancing competitiveness in traditional industries and manufacturing exports while forging new pathways in new services and the digital economy. Car manufacturing, electronics, tourism, and property development are among the mainstays of the regional economy, and have been reinvented and given a new lease of life, while logistics, BPO, online gaming, ride-sharing, and e-commerce have taken off as new revenue generators.

In other words, the ASEAN+3 flying geese have regrouped and reshaped and, more importantly, are exploring lateral as well as upward progression to find new ways to create value and enhance welfare. As noted in the previous section, the 4IR and the new economy pose distinct challenges and opportunities for different groups of ASEAN+3 economies. The network effect driving both supply and demand in the digital economy confers a natural advantage to countries with large domestic markets and scope for economies of scale. At the same time, the appetite for product differentiation and services customization presents potential value-creation propositions for countries with the entrepreneurship, innovation, and technical capability to leverage on the new digital technology to create new products and services to cater to niche markets and individual preferences.

Japan, Korea, and China are competing globally to forge new value networks and establish (or cement) first-mover advantage in new economy products. Through innovative marketing and a good understanding of what works for their domestic customers, and by pioneering and testing cutting-edge technology in home markets, they have developed and customized products and services for global markets. China has leapfrogged other economies to become the world's leader in e-payments and e-commerce, accounting for 42.4 percent of global e-commerce in 2016, from just 0.6 percent in 2005. It is also the world leader in 5G network, artificial intelligence, and certain high-tech products such as drones and smart phones. Japan's Nintendo and Pokémon[15] are examples of online games in a new economy segment that have seized on technology and innovative user experience to generate new nodes and deepen its network, not just in Japan but globally. In fact, Nintendo's revenues from markets in the Americas and Europe are each larger than its revenue from Japan (Figure 2.35). Like China and Japan, Korea is a global leader in high-tech products such as 5G network, smart phone, semiconductors, and online gaming. It has also succeeded in building an entertainment industry with a global reach in K-pop music and Korean drama and film industries.

Figure 2.35. Nintendo's Revenues by Region
(Millions of Japanese yen)



Source: Statista.
Note: Year refers to fiscal year.

[15] Nintendo started as a playing card company more than 130 years ago (1889) and has since ventured into the toys, gaming, and entertainment sectors, among others. The Pokémon franchise (partly owned by Nintendo) was created in 1995, and has evolved concepts, "generations," and user interface to tap into an expanding network of old and new users.

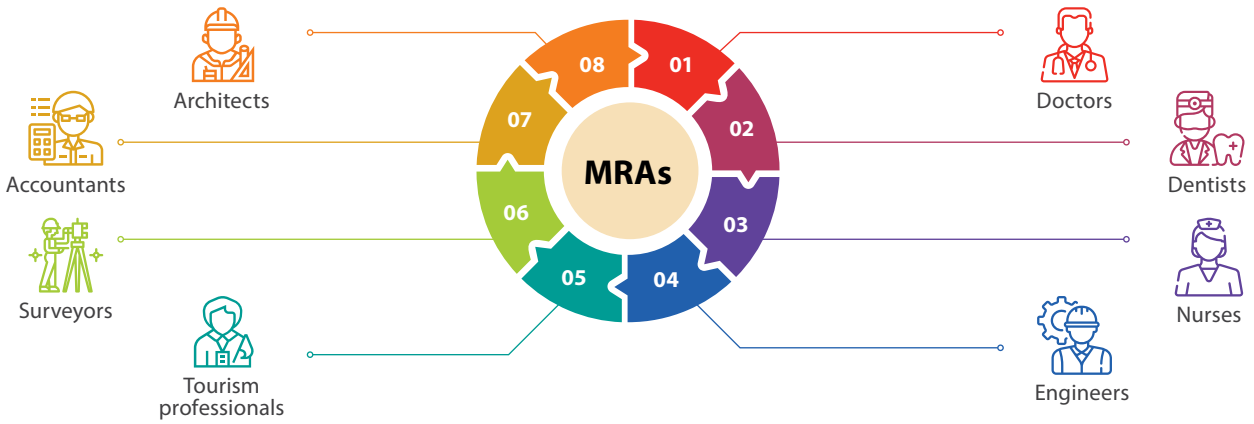
Limited Labor Mobility in ASEAN+3 Could Cap Gains from Developing Services

Throughout the ASEAN+3 region, there is a shortage of skilled workers and professionals that are needed for the development of both traditional and new economy types of services. To address this problem, ASEAN has come up with a mutual recognition arrangement scheme, which allows certain categories of skilled workers and professionals to work freely in any ASEAN country. However, the scheme is too restrictive as it covers only eight high-skilled professions: doctors, dentists, nurses, engineers, architects, accountants, surveyors, and tourism professionals (Figure 2.36) and it does not extend to the Plus 3 countries. Such limitations will likely limit the extent to which ASEAN+3 economies can gain from developing services further.

A World Travel and Tourism Council (2019) study suggests that Thailand, Korea, Vietnam, and the Philippines are among the top countries in inbound medical tourism spending (Figure 2.37), which is attributed to the countries' large pool of skilled medical practitioners/specialists alongside skilled tourism professionals. However, among these countries, some, like the Philippines, may have the largest pool of skilled nursing and tourism professionals, while Korea may have the biggest pool of doctors—both general practitioners and specialists. Allowing greater mobility of such professionals to practice in each other's country would enable the countries to close the skills gap in order to develop the medical tourism industry in their economies.

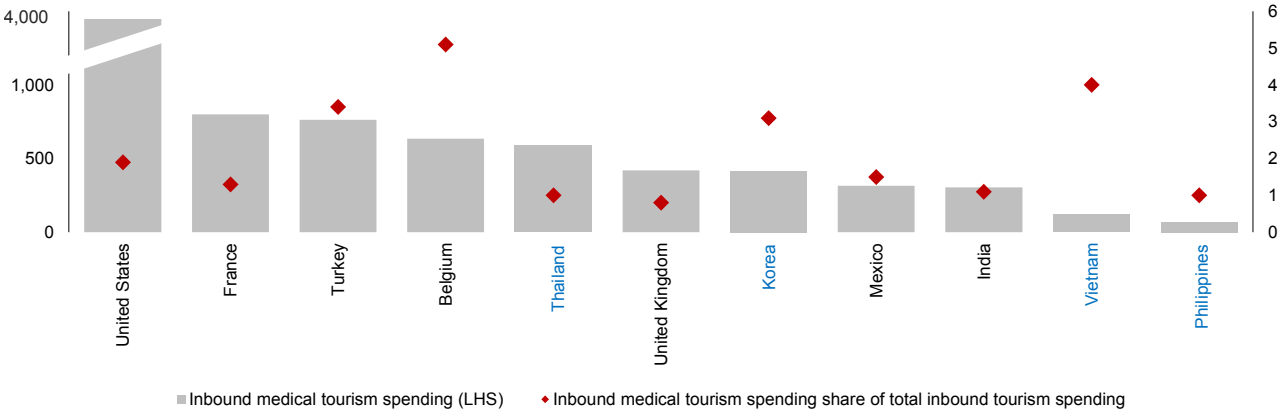
Because the production of "new economy" goods and services is so driven by advanced technology and knowhow, it is less likely than before that even the most advanced economies in the region can meet all the demands for such skills and expertise by relying on their indigenous workforce alone. This points to the need for freer flow of labor across the region, which has been very limited thus far at the regional level. Given that the region is likely to experience significant job destruction (and creation) over the next decade, greater mobility of labor is essential to mitigate the costs and smooth the transition to the new economy. If this challenge is not addressed sufficiently, the combination of lengthening value chains, labor immobility, and increased routinization (Das and Hilgenstock, 2018) is likely to put pressure on labor and limit gains from participation in value chains, or at the very least, stunt the development of different segments of the services sector domestically (Box 2.7).

Figure 2.36. Coverage of ASEAN Mutual Recognition Arrangements



Sources: ASEAN mutual recognition arrangements (MRAs); and AMRO staff.

Figure 2.37. Spending of Inbound Medical Tourism
(Millions of US dollars; percent of total inbound tourism spending)



Source: World Travel and Tourism Council (2019).
Note: Countries in blue are ASEAN+3 member economies.

Policies and Public Goods for Inclusive Growth: Capacity, Connectivity, Social Safety Nets

Public infrastructure, both hard and soft, is a public good. The 4IR and new technologies underscore the importance of building and enhancing physical, digital, and regulatory capacity and connectivity—within and across countries—in order to plug into or expand existing value networks and create new ones in the new economy. However, the challenge for policymakers is not growth per se, but inclusive growth that enhances the standard of living of their people.

Social infrastructure will be key to addressing the economic and social dislocation that comes with growth as ASEAN+3 economies embrace globalization and adopt new technologies to remain competitive. In particular, social safety nets must be put in place, or enhanced, to provide a financial backstop to workers (even as they are pushed and cajoled to upgrade) and ensure families have continued access to shelter, healthcare, and other social services. Adequate social infrastructure—as much as or more so than physical infrastructure—will need public funding and support, due to under-provision if left to the industry or the private sector (African Development Bank Group, et al., 2018).

Employment in the gig economy will be the norm as technology enables and the new economy thrives on just-in-time supply of goods and services, to meet customized and often real-time demand of consumers. Insurance, health and retirement benefits, as well as training and career development, long associated with responsible corporate employers, may not be consistent with an increasingly transactional job market, where employers can no longer internalize the benefits of staff development and loyalty, and the workers are basically self-employed. Even workers in traditional industries and companies risk loss of access to basic services if they are retrenched and unable to get back into equivalent jobs.

Policymakers need to recognize that the social and regulatory infrastructure governing labor needs to evolve just as business models and job markets have evolved in an increasingly globalized and technology-driven world. There are essentially two public goods that markets fail to provide, or under-provide, without government intervention. One, labor laws and worker safeguards should be updated to ensure they remain relevant in the new economy. For example, rules that apply only to full-time employees may incentivize companies to replace them with contract (gig economy) workers performing the same roles. Two, policymakers need to review how best to provide access to social services that are traditionally tied to employment but are not directly related to work. The solution may lie not in mandating employers across all industries and sectors to provide, say, medical and retirement benefits, but in putting in place a national framework to ensure that these services remain accessible and affordable to all workers, regardless of types of employment.[16] In addition, as employment and value networks become more regional or more global, these services (for example, insurance coverage) would have to be portable across national borders.

V. Key Takeaways and Policy Implications

This thematic chapter reflects on key global developments that will impact the region's future growth prospects, particularly the shift toward a more protectionist environment in the west, technological advances, regional integration, and the sharp rise in regional income. It considers the extent to which the region has strengthened its capacity on the production side, to remain competitive as the global economy transitions to more technologically advanced methods for producing goods and services. It also examines the extent to which the development of the regional supply chain and deepening intra-regional trade over the years has helped to strengthen the region's growth and resilience. The chapter identifies key structural shifts in the region's drivers of growth at the aggregate level and examines corresponding changes at the sectoral level for several different industries. Each of the four preceding sections highlights key developments, suggests which trends may have the most far-reaching implications, and outlines various issues which the region needs to address. This final section of the chapter will therefore pull together the key takeaways from the study and the policy implications.

First, the analyses of the factors behind the industrialization of Asia—Factory Asia—suggests that the

[16] Delinking the provision of basic services from employment is not without precedent. For example, China's work unit or danwei used to assign individuals living quarters and food in centralized canteens. Tied accommodation was a common practice in 19th and 20th century rural England; farmers' cottages were tied to their farming contributions, and parishes provided houses for the incumbent clergy.

transition to more technologically advanced methods of production is pervasive across sectors. Few sectors are likely to remain untouched for long. This implies limited time for developing and newly emerging economies—including those in the ASEAN+3 region—to embrace the new technology and enhance their capacity in order to move up the production value chain. In short, there is "no place to hide." ASEAN+3 countries must ramp up their readiness to compete in the new economy quickly, by upgrading their technological capability and skillsets to maintain and enhance their competitiveness at the sectoral level—for sustaining existing industries that have driven growth thus far, and to develop new industries that offer potential for spurring growth in the future. It is heartening to note that most ASEAN+3 economies are mindful of this challenge and have come up with their own national blueprints for guiding their economies to make this transition.

Second, the tried-and-tested manufacturing-for-exports strategy remains relevant for the region, especially for the ASEAN+3 developing countries. The analyses in this chapter corroborate the findings of AMRO (2018b) and AMRO (2019a). It confirms that while the contribution of manufacturing to growth and employment is likely to peak earlier for new entrants into the manufacturing sector than it did for the earlier batch of ASEAN+3 countries, the relatively low base of the CLMV countries implies that manufacturing-for-exports will remain key for this group of countries for some years to come. In particular, they can continue to exploit their comparative advantage in low-cost labor to attract labor-intensive manufacturing industries such as garments and footwear, as an entry point to move up the production value chain. Therefore, executing this growth strategy well is important for positioning these countries strongly in regional production networks and then in GVCs. This strategy should be complemented with a parallel track to develop services as a second driver of growth and employment.

Third, the sustained and rapid growth of the region, led by China, over the last several decades has led to a sharp rise in the region's income and its share of the global economy. The rapid urbanization and emergence of an affluent middle class has transformed the region into the world's largest market for consumer products and services—Shopper Asia. As a result, the region has become less reliant on external demand and more on intra-regional demand, which has rendered the region more resilient in the face of a more inward-looking environment in the United States and Europe. Shopper Asia offers the regional economies the prospect of growth by leveraging on the region's own technological capability and creativity to develop new products and services to cater to the growing demands of their own populations. This new growth paradigm provides policymakers with new options and opportunities to grow their economies by promoting industries that develop and customize products and services to regional demand such as cosmetics, clothing, food products, medical tourism, toys, games, theme parks, and hospitality services.

Fourth, for ASEAN+3 countries, particularly the ASEAN economies, to seize the opportunities of the new economy to continue their growth catch-up, they must remain open and become more integrated although this does not detract from the fact that there is also scope to boost domestic capacity to reduce vulnerability to disruptions to global production networks that may occur from time to time. ASEAN+3 countries need to develop the hard and soft infrastructure and connectivity to facilitate the development of the new products and services. In particular, they should review and revamp their policies and regulatory frameworks to facilitate cross-border movement of goods and services and seamless payments. Given the critical role of skills and expertise in the new digital economy, and its uneven distribution across the region, policymakers should develop a regional framework to allow and encourage skilled labor and professionals to move and work freely in the region. The new economy also puts a premium on innovation and creativity to develop new products and services and soft skills to provide the more demanding customized services. The gig economy is likely to be an integral part of the new economy with jobs that are informal, contractual and with little or no benefits of the formal sector. Hence, a critical enabling soft infrastructure is a comprehensive social security system to provide medical and unemployment insurance, and a retirement plan to those working in the gig economy.

The COVID-19 pandemic while highly regrettable, presents the region with an opportunity to demonstrate its collective resilience and commitment to work on solutions that safeguard and strengthen ASEAN+3 countries' shared long-term interests. These interests include: managing potential disruptions to cross-border production networks within the region, with considerable uncertainty over how long these disruptions may persist; finding ways to share gains in technological advancement to boost productivity and competitiveness across the region; coming together at this difficult time to address long-term challenges including those related to bringing about (even) freer flow of innovation, human capital, and investments; and finally, exploring possibilities to collaborate in strengthening social safety nets—similar to what has been done for financial safety nets (Figure 2.38).

Figure 2.38. Challenges and Policy Implications

Source: AMRO staff.
Note: CLMV = Cambodia, Lao PDR, Myanmar, and Vietnam.

Box 2.1:

Sectoral Shifts, Value Chains, and Productivity: The Philippine Experience[1]

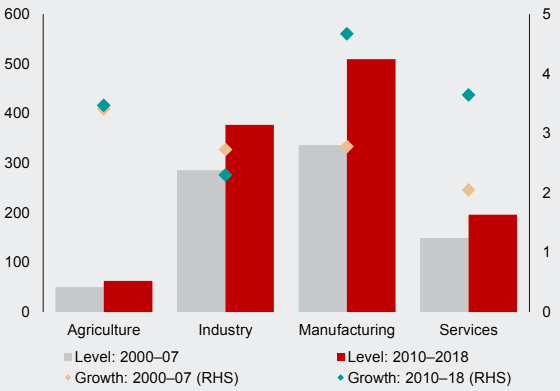
In the post-crisis period, the Philippines' labor productivity gains have occurred at a quicker pace than their regional peers, most notably in the past 3 years (Figure 2.1.1). Strong government infrastructure spending and business-friendly reforms have spurred productivity growth helping to close productivity gaps in the country's manufacturing and services sectors vis-à-vis their regional neighbors.

The improvement in labor productivity in the Philippines is driven more by between-sector productivity gains—accounting for about 60 percent of the total increase—than by within-sector productivity gains, which have picked up more slowly (Figure 2.1.2). This resource reallocation was reflected in reduced employment in the low productivity agriculture sector, and increased employment in the more productive sectors such as manufacturing and business process outsourcing services.

The Philippines' shortage of skilled labor poses a major challenge to productivity growth drive. Indeed, many workers who left the agriculture sector headed not for more productive industries, but instead took up other low-paying jobs in construction and services. This has been exacerbated by the movement of skilled workers to higher-income countries where wages are much higher such as the United States, Europe, the Gulf countries and also Singapore, Japan, Australia, and Korea (Figure 2.1.3). Efficiency in the construction sector has declined as a result of the influx of unskilled labor from agriculture over the past few years and the loss of skilled labor to other countries.

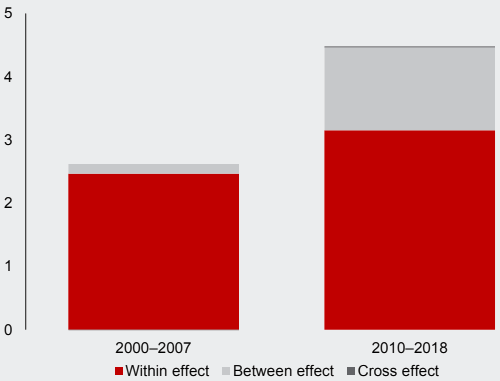
Sectoral reallocation of employment out of agriculture will continue to underpin improvements in labor productivity in the Philippines—a concept that dates back to one of Arthur Lewis' key propositions, namely that profits in the modern capitalist urban sector will create a growing supply of savings, which finances the formation of an increasing stock of capital, in turn used to employ increasingly more labor in the urban workforce. For the Philippines, as for other EMEs, longer-term growth and employment will depend on government support and policies to upskill the labor force and facilitate their entry into the expanding sectors.

Figure 2.1.1. The Philippines: Labor Productivity Across Sectors and its Growth Rate
(Thousands of PPP dollars, 2011 = 100; percent)



Sources: The World Bank; and AMRO staff calculations.
Note: Labor productivity here refers to value-added GDP per worker.
PPP = Purchasing Power Parity.

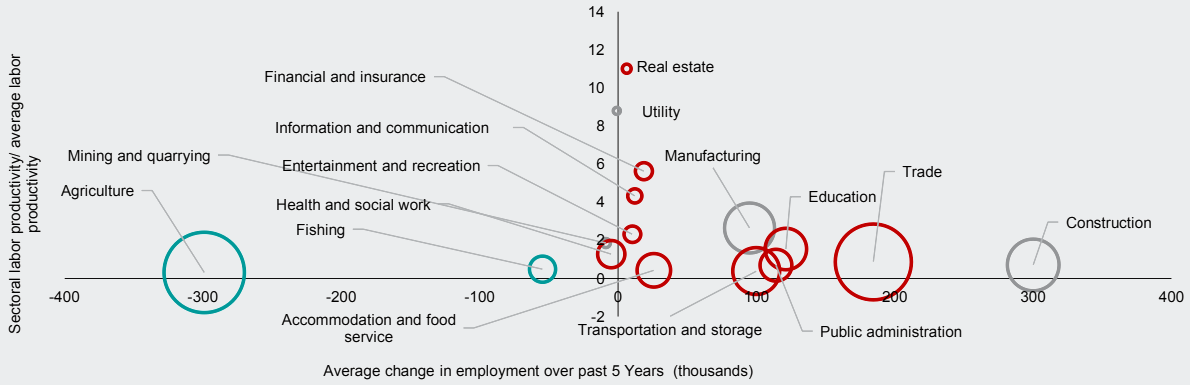
Figure 2.1.2. The Philippines: Composition of Labor Productivity Growth
(Percent)



Sources: Philippine Statistical Authority; and AMRO staff calculations.
Note: The between effect takes the labor share constant; within effect is due to labor share change; while cross effect is due to both changes in productivity and labor shares.

[1] Adapted from AMRO (2019c).

Figure 2.1.3. Employment Changes in Each Sector Relative to Its Productivity



Sources: Philippine Statistical Authority; and AMRO staff calculations.
Note: Real estate sector productivity is 23 times of the average, it is intentionally lowered to be shown in the figure; the primary sectors are in green, the secondary sectors are in grey, and the services are in red.

Box 2.2:

Reinventing the Automotive industry in the ASEAN Region

Thailand is the largest automotive producer in the ASEAN region. Its output of 2.2 million units in 2018, up from 1.4 million units in 2010, is more than the number of vehicles produced in Indonesia, Malaysia, the Philippines, and Vietnam combined (Figure 2.2.1). Leading automakers such as Toyota, Honda, and BMW have operations in Thailand, which functions as their regional headquarters, production sites, R&D centers, and/or sales offices.

The future of the automotive industry lies in (new) services. A snapshot of a typical automotive value chain shows that services already feature in almost all automotive components and stages of production and have become more diverse (Figure 2.2.2).

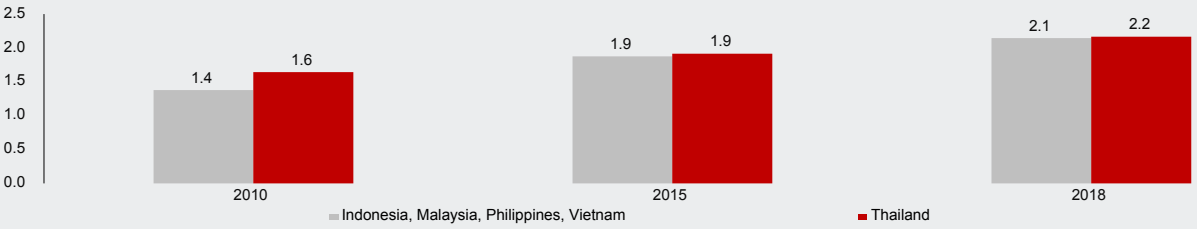
Services will play an even more important role as new economy drivers expand and reshape linkages and nodes in the automotive value network (Figure 2.2.3). For example, advancements in telecommunication such as 5G would create new digital business models and infotainment and mobility services, while autonomous driving would trigger various services for self-driving vehicles. Electric cars require new industrial designs, and quality assurance. While car-sharing would reduce vehicle sales, the business model would trigger demand for customer services, in terms of quickness of response, timeliness of arrivals, affordable peak and off-peak pricing, all of which require extensive backend support in advanced digital technology. If successfully commercialized, 3D printing would reduce the time to construct prototypes and devices, and revolutionize (simplify) the process and logistics of automotive manufacturing in favor of more services customization.

AMRO staff estimates of automotive services exports for ASEAN economies, using ADB input-output tables, confirm that Thailand is one of the most important hubs that provides automotive service within the ASEAN region in 2018 (Figure 2.2.4).[1] The domestic value-add of automotive services exports in Thailand, at USD 59.4 million in 2018 (an increase from USD 43.8 million in 2010), is nearly twice the total in other ASEAN countries. Thailand's automotive industry in the production network is mostly connected with that of Indonesia and Vietnam (as shown by the thickness of the arrows).

Thailand has the potential to absorb new technologies into its automotive industry. In 2016, Thailand had 29 universities and other institutes of learning that provided automotive and mechanical engineering programs. In addition, automakers such as Toyota and Honda provide their own employee training programs. According to projections by Thailand's Board of Investment (BOI, 2017), high-skilled labor with vocational diploma or above will account for 61 percent of all workforces in Thailand automotive industry by 2021.

Thailand has initiated or supported environment-friendly policies in connection with its automotive industry. Thailand reduced the excise tax for Eco Car from 17 percent to 12-14 percent in 2017 and is embarking on the production of pollutant-free cars. According to Thailand's Board of Investment (BOI, 2017), Thailand expects to have 1.2 million Electric Vehicle (EV) cars on the road in 2035, with more than

Figure 2.2.1. ASEAN-4 and Vietnam: Automotive Production
(Millions of units)



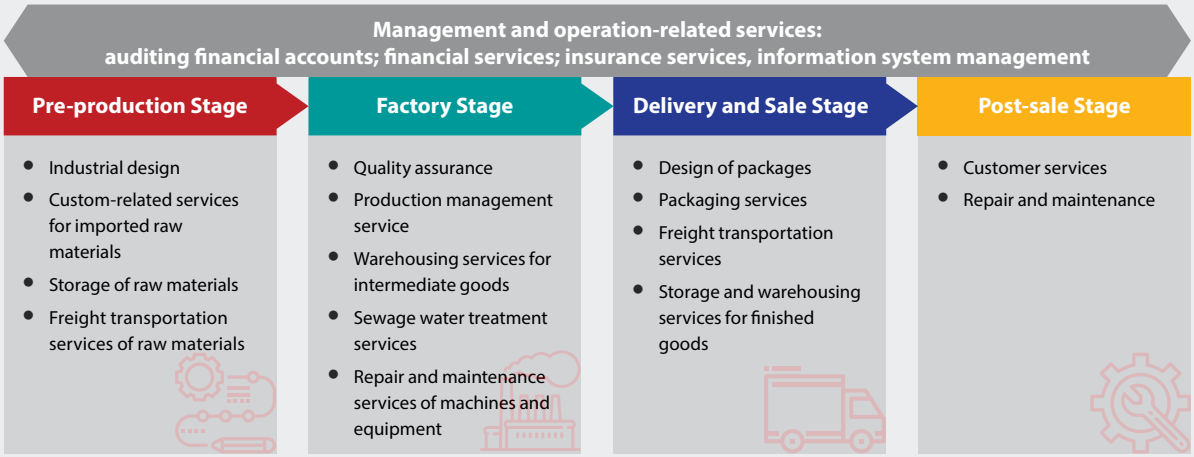
Sources: International Organization of Motor Vehicle Manufacturers; and AMRO staff calculations.
Note: The calculations in 2018 do not include the Philippines due to data constraint. ASEAN-4 = Indonesia, Malaysia, the Philippines, and Thailand.

This box was prepared by Trung Thanh Vu.

[1] Statistical identification of services in automotive industry is challenging. In the network analysis, we use the domestic value-added of Sale, Maintenance, and Repair of Motor Vehicles and Motorcycles (C19) from the ADB Multi-Regional Input-Output Table as a proxy for the services in automotive industry. The value refers to domestic value added ultimately absorbed abroad as defined in Wang, Wei, and Zhu (2018).

690 charging stations nationwide. Toyota and Panasonic are planning to establish an EV battery production plant in Thailand. Those changes could require new services, such as industrial design, quality assurance to ensure that automotive components are in line with environmental policies, thus lengthening the automotive value chains.

Figure 2.2.2. Services along the Automotive Value Chain



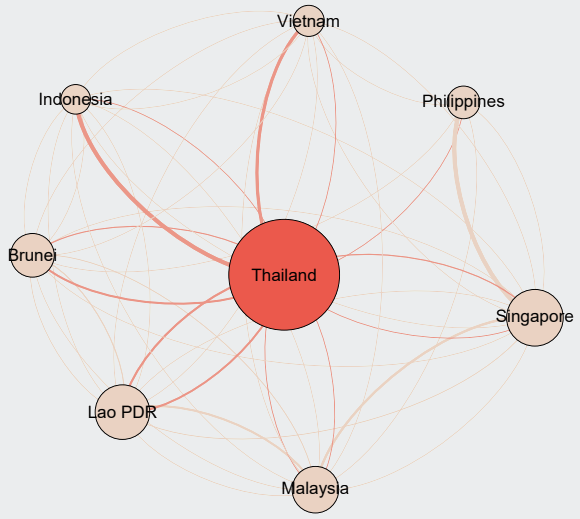
Sources: Asia-Pacific Economic Cooperation (2015); and AMRO staff.

Figure 2.2.3. Factors Affecting the Automotive Value Chain

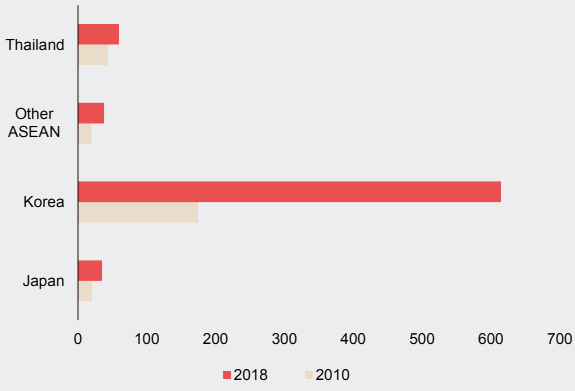
Source: AMRO staff.

Figure 2.2.4. Automotive Sector Indicators, 2018

Regional Value Chain



Service Exports
(Millions of US dollars)



Sources: Asian Development Bank Multi-Regional Input-Output Table 2018; and AMRO staff calculations.
Note: The node size represents the weighted degree of the economy in the network. The arrow thickness is scaled according to the volume of trade in value added. The trade in value added of "Sale, Maintenance, and Repair of Motor Vehicles and Motorcycles Services" (C19) from ADB Multi-Regional Input-Output Tables is used as a proxy for Service Automotive Exports. Our focus is on Thailand within ASEAN region, so Japan, Korea, and China are not included in the network graph, even though Japan and Korea are important automotive hubs in Asia.

Box 2.3:

Tourism in ASEAN+3's New Economy: Great Potential, Tough Challenges

The strong potential for the travel and tourism sector to generate more growth and employment than it has already done so far is structural in nature. This is true globally (World Travel and Tourism Council, 2019), but especially so in the ASEAN+3 region.

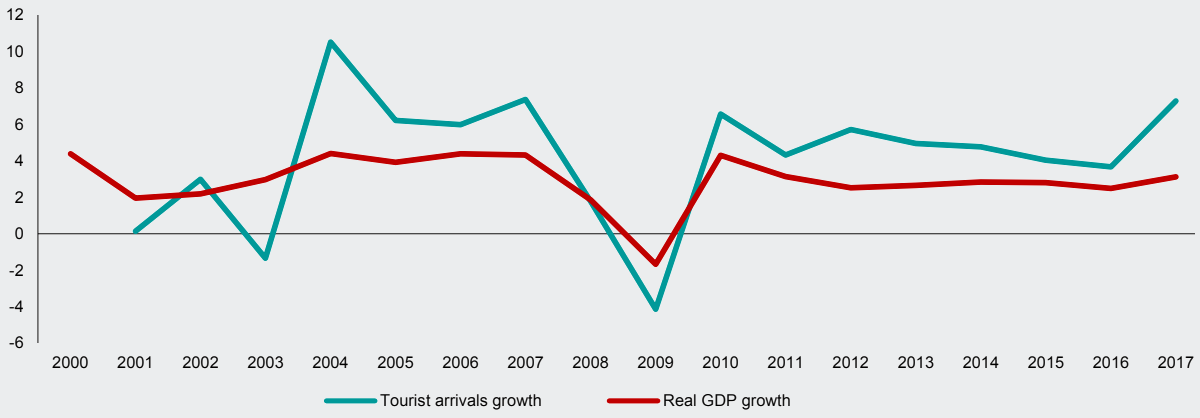
First, the rapid growth of ASEAN countries (in particular) through the post-crisis decade has benefited the region's tourism by improving its attractiveness to travellers across the world through: (1) channelling of public sector and private sector resources to improve infrastructure; (2) creating new tourist attractions and refreshing existing ones; and (3) expanding the region's own middle class with keen interest in travelling, and they often start by doing so within the region before venturing to further destinations (like the United States and Europe) when their incomes rise (Chua, Lee, and Liu, 2019).

Second, despite its steep growth, tourism volumes are actually still small relative to potential. Globally, travel demand is slowing but continues to outpace GDP growth (Figure 2.3.1), and further expansion is expected over the next decade. Regionally, China is the largest source market for the Asia-Pacific region (Figure 2.3.2). On the flip side, inbound tourist arrivals to China, while large in absolute number, remain tiny relative to most countries considering China's own population, its geographical size, and the sheer number of tourist attractions across the country.

Third, further development of the region's travel and tourism sector can leverage on existing infrastructures, ecosystems and "enablers" which have already reached a critical mass and are continuing to expand in scale and sophistication. For example: recognizing the liveability and playability of many ASEAN cities, global retailers have continued expanding in ASEAN countries, integrating their online presence with physical points of sale throughout the region.

Such developments are consistent with studies which highlight that global retailers such as Uniqlo, IKEA, and Apple continue to expand their footprints. E-commerce companies such as JD.com and Alibaba are collaborating with local groups to integrate online and physical points of sale to tap on young consumers who are both tech savvy and prefer shopping as a leisure activity (Jones Lang LaSalle, 2019). These developments are also consistent with studies which highlight that apart from its growing role in ASEAN countries' growth—the tourism sector exhibits greater linkages with other sectors than all-industry averages (ASEAN-Japan Center, 2018). Hence, it will not just help to further increase the tourism receipts of countries across the ASEAN+3 region, which have already been trending up (Figure 2.3.3), but also provide a broader boost to these economies.

Figure 2.3.1. Global Tourist Arrivals and Real GDP Growth
(Percent year-over-year)

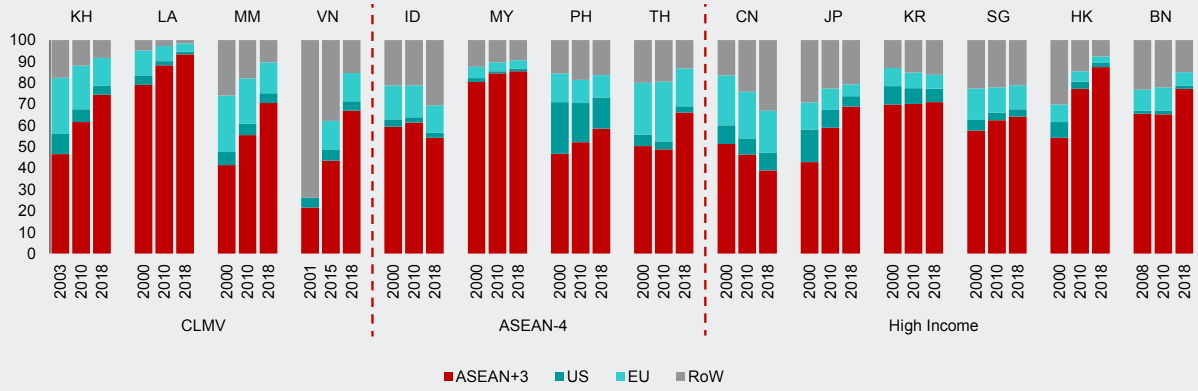


Source: The World Bank.
Note: The latest available data point for global tourism is 2017.

This box was prepared by Suan Yong Foo and Vanne Khut.

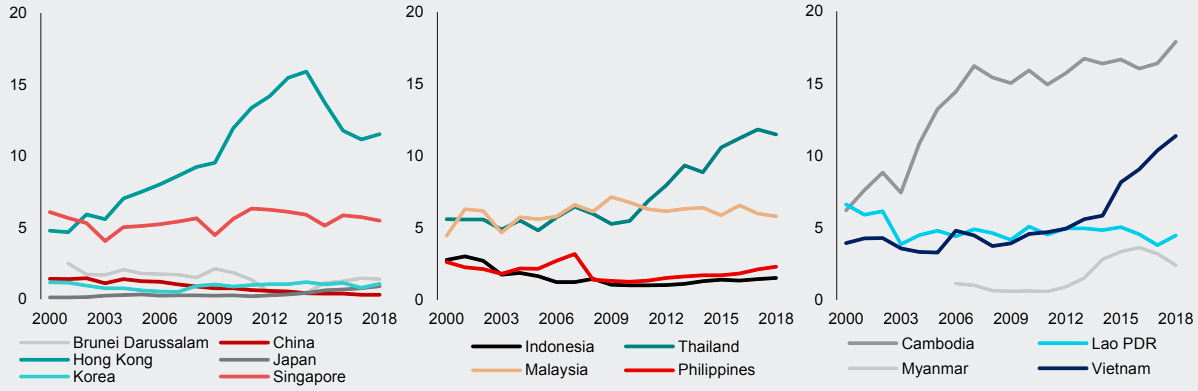
The ASEAN Tourism Strategic Plan 2016–2026 is comprehensive. It seeks to build on the earlier Strategic Plan 2011–2015, to contribute more toward ASEAN's growth becoming more inclusive, green, and knowledge-based. The two overarching strategic directions are to: (1) enhance ASEAN's competitiveness; and (2) ensure that ASEAN tourism is sustainable and inclusive. Accordingly, the Strategic Plan looks to address several areas, including: single-destination marketing, quality standards, human resource development, connectivity, investment, community participation, safety and security, and natural and cultural heritage conservation (Figure 2.3.4). The targets set for 2025 are realistic: GDP contribution increasing from 12 percent to 15 percent, share of employment rising from 3.7 percent to 7 percent, and per capita spending by international tourists increasing from USD 877 to USD 1,500.

Figure 2.3.2. ASEAN+3: Inbound Tourist Arrivals by Economy
(Percent of ASEAN+3's total inbound tourist arrivals)



Sources: National authorities; and AMRO staff calculations.
Note: Myanmar tourist arrivals data refer to visa entry only. Data for European visitor arrivals to Vietnam is not available in 2001. BN = Brunei Darussalam; CLMV = Cambodia, Lao PDR, Myanmar, and Vietnam; CN = People's Republic of China; EU = European Union; HK = Hong Kong, China; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; RoW = rest of world; SG = Singapore; TH = Thailand; US = United States; VN = Vietnam.

Figure 2.3.3. ASEAN+3: Tourism Receipts by Economy
(Percent of GDP)

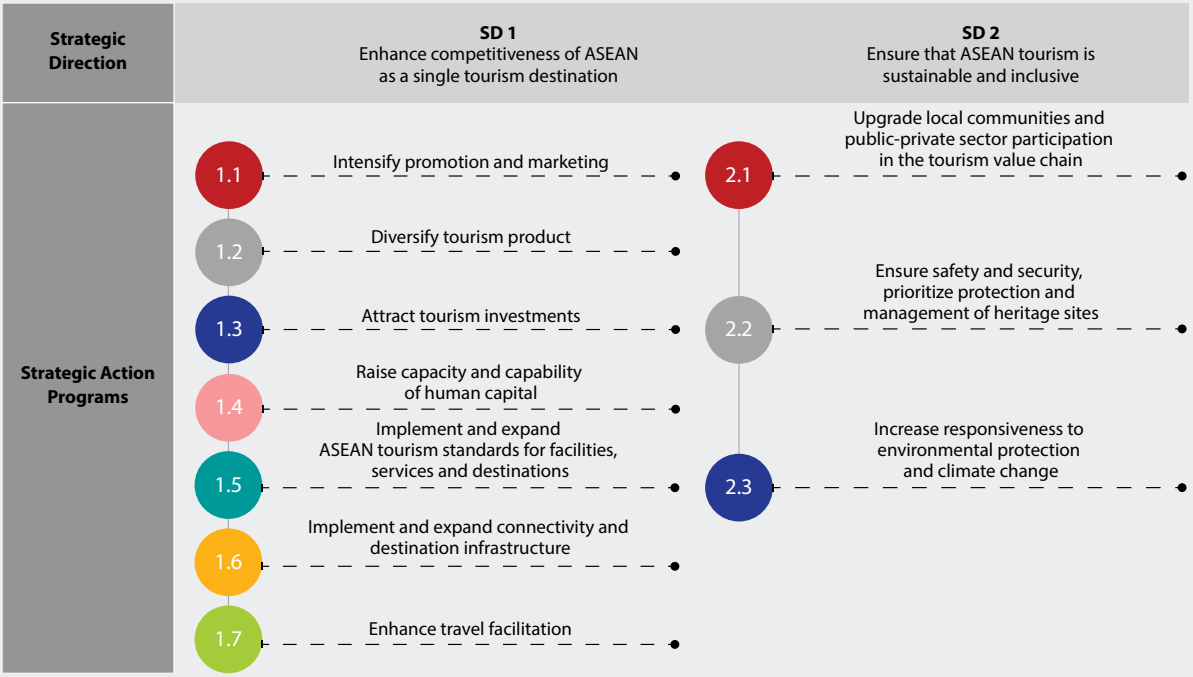


Sources: National authorities; The World Bank; and AMRO staff calculations.

The Plan could be more audacious. There is much scope for joint efforts among ASEAN and ASEAN+3 countries to tackle the "customization at large scale" challenge that is preventing the region's tourism sector from growing more rapidly. The challenge is to "deliver tailored recommendations, content, offers, and experiences, across all channels and devices, along the entire customer journey." At a global level, the potential gains are about USD 0.3–0.5 trillion (McKinsey & Company, 2019f). At the core of this is to provide tourism experiences which are unique. The Plan could also outline more detailed ideas and initiatives to woo long-haul travellers, including those from emerging market economies. In the next decade, Venezuela, Argentina, Mexico, Russia, Brazil, and India are projected to add a combined 22.6 million households whose incomes exceed USD 35,000 (Figure 2.3.5). These are a rich source of potential demand for the ASEAN+3 region's tourism services.

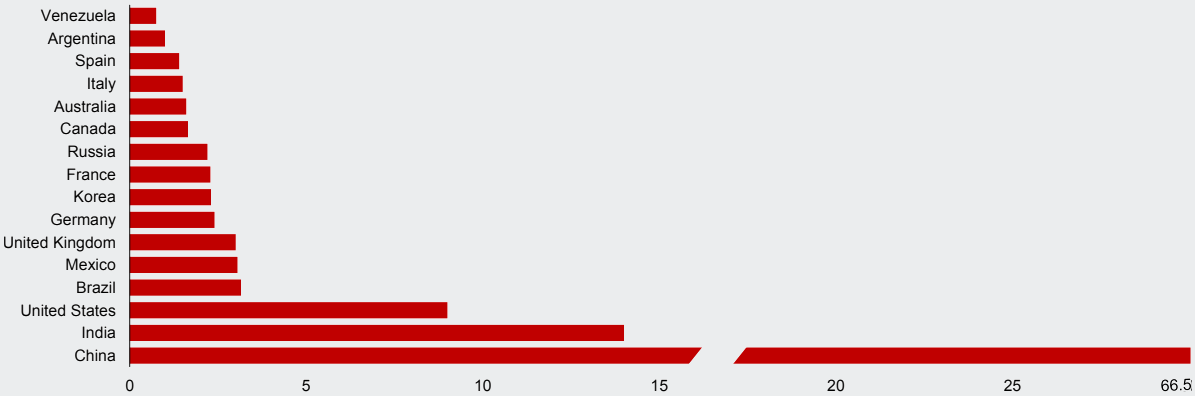
There are several stiff challenges, some of which are global in nature, while others are more specific to ASEAN+3. For this region, many countries individually are too small for their tourism offerings to be compelling—thus necessitating collaboration, and therefore very close coordination—among countries across the bloc. It also relates to the fact that integration at the individual-interface level is extremely difficult to achieve. For example, for a 1-week holiday crossing two or three ASEAN countries, a traveller might have to apply for multiple visas, purchase air tickets from a few different airlines, use several different modes of payment (credit cards, local currencies, and digital payment systems), and familiarize himself with an entirely domestic-oriented value added tax-refund system. In short, common platforms and interoperability of systems which travellers are compelled to use are still very much lacking. At the same time, "soft" issues also need to be addressed—this goes back to the "factors gap" explored AMRO (2019a). Considerations relevant for developing tourism to become a much stronger driver of growth and employment include: how to marshal public and private sector resources to supply more "domestic public goods" and "regional public goods" such as open spaces, conservation of nature, creation of free-of-charge attractions which appeal to both domestic residents and tourists, further developing cross-border transport (beyond budget airlines), and even stepping up legal protection of businesses against fake/ imitation merchandise.

Figure 2.3.4. ASEAN Tourism Strategic Plan, 2016–26



Source: ASEAN.

Figure 2.3.5. Increase in the Number of Households with Incomes Exceeding USD 35,000: 2019 versus 2029



Source: World Travel and Tourism Council.

Box 2.4:

The Logistics Sector: How Value Chains are Evolving to Meet Rising Demand

The logistics sector will play a key role in the "new economy": for just-in-time production and delivery of goods. The global manufacturing industry has expanded massively from about USD 6.1 trillion in 2000 to about USD 13.2 trillion in 2018 (Figure 2.4.1), driven largely by stronger demand from the expanding middle class in rapidly growing EMEs, not least China within the ASEAN+3 bloc.

Alongside that, global e-commerce has grown markedly over the last decade. It has expanded from USD 495 billion in 2005 to USD 1,915 billion in 2016, according to estimates by McKinsey & Company (2017). Within the ASEAN+3 region, e-commerce has expanded rapidly. China has leapfrogged other economies to become the world's leader in e-commerce, accounting for 42.4 percent of global e-commerce in 2016, from just 0.6 percent in 2005. Singapore earned USD 1.8 billion in revenue from e-commerce for the retail trade industry in 2018, and the total revenue from e-commerce is projected to increase to USD 8.5 billion by the year 2023.[1]

These trends are among the most important drivers of rising demand for logistics services in the "new economy": just-in-time production and delivery of goods; and the margins are (potentially) large. Estimates by McKinsey & Company (2019a) suggest that for every USD 100 of e-commerce sales, USD 12–20 could go toward paying for e-retailers' in-house logistics, up from USD 3–5 spent on logistics in a typical brick-and-mortar retail operation.

The conventional logistics value chain does not exhibit a high degree of automation (McKinsey & Company, 2019a, and PwC, 2016). So far, key stages of activities such as origination, first-mile transport, port/hub handling, customs clearance, long-distance transport, and inland transport are characterized by low or moderate automation; only the warehousing stage of the value chain is considered highly automated (Figure 2.4.2).

However, new technologies are creating strong potential for much more automation and productivity gains. Over the next two decades, autonomous trucking and modernization of port operations are expected to increase efficiency in the first few stages of the logistics value chain. The use of high-speed rail is expected to extend the transportation of human beings to transportation of goods. And several newer techniques such as the use of algorithms for analyzing trends and making predictions about the flow of goods, the use of optical recognition technology in sensors to scan and sort items; and the use of smart glasses for human workers to zoom in on specific locations when searching for items in storage spaces will modernize the value chain substantially.

The logistics sector value chain will likely lengthen with changing consumer preferences being a key driver, and the more advanced ASEAN economies are well-positioned, partly because of more sophisticated demand by more affluent consumers for quicker and more convenient final delivery. For example, in order to become more competitive, producers and distributors of consumer goods are moving toward the creation of networks of storage spaces and delivery/pick-up points across different countries and within countries. Data analytics and artificial intelligence will become more in demand, as these are needed to establish optimal set-ups for these networks (including whether it is more efficient to site some of these points nearer to production bases or to areas with large concentrations of end-consumers).

The more advanced ASEAN economies are well-positioned (Spire Research and Consulting, 2017). For Indonesia, key drivers include a large domestic demand base, rapid economic growth, the world's biggest archipelago with more than 17,000 islands, as well as continued improvement in infrastructure. For Malaysia, its logistics sector is among the most developed in ASEAN, and its transport infrastructure likewise—with five major ports, well-constructed highways, five international

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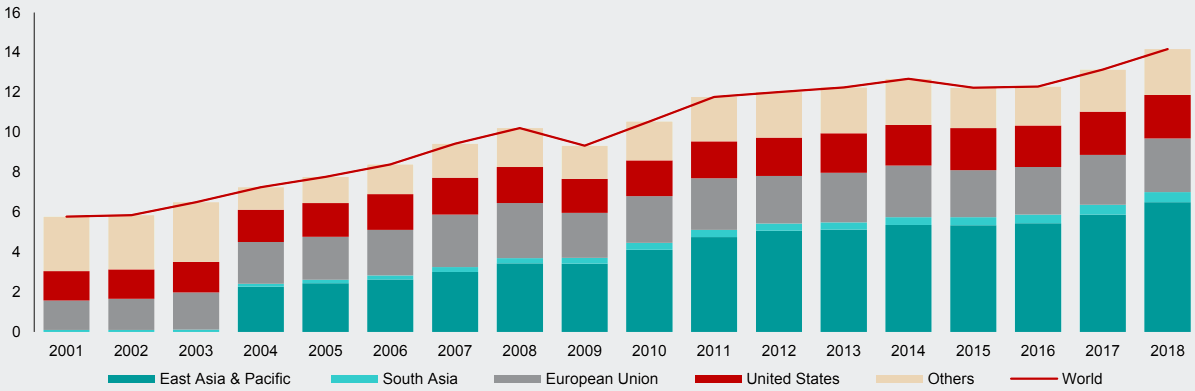
This box was prepared by Suan Yong Foo and Vanne Khut.

[1] The projection of total revenue from e-commerce is from Statista.

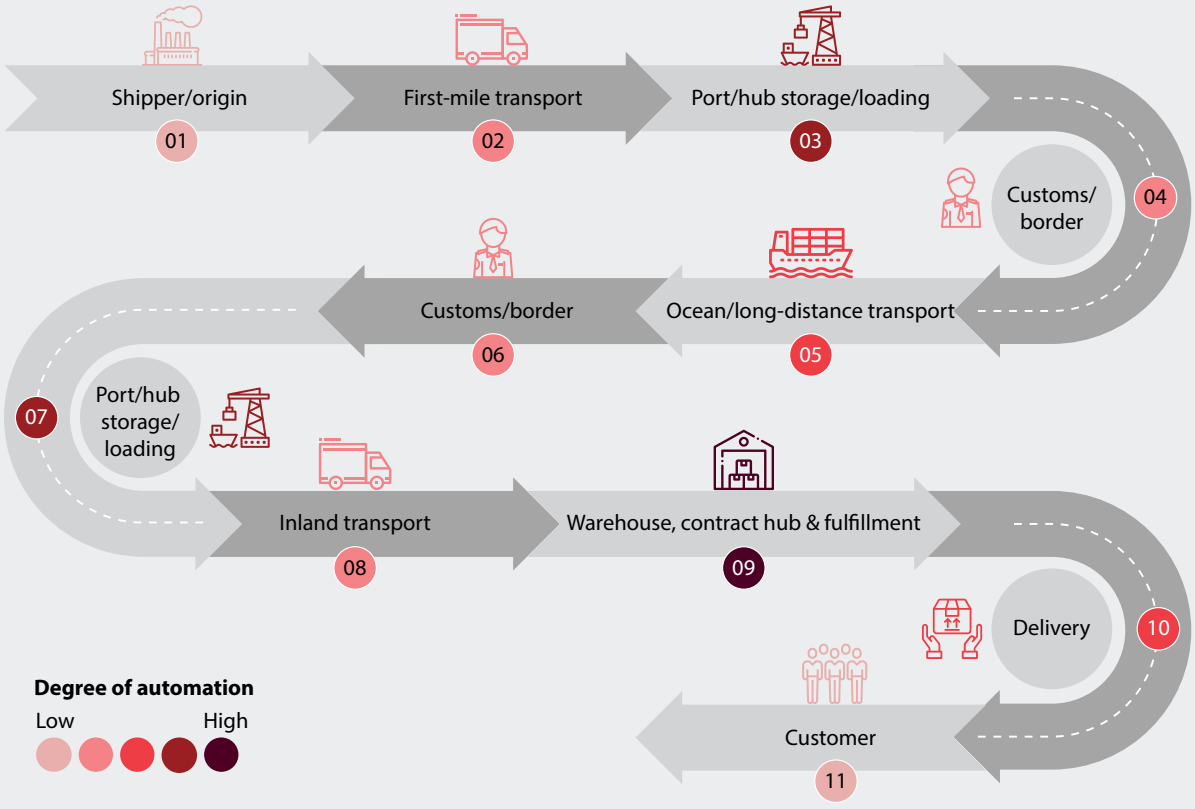
airports, and four inland ports. For Thailand, demand for its logistics services is being driven to large degree by multinational companies looking to leverage on the country's connections to ASEAN, China and India, and encouraged by the Thai government's efforts to integrate logistics services across the borders of the Greater Mekong Subregion. Vietnam and the Philippines are stepping up efforts to catch up, with the former focusing on improving infrastructure and the latter looking to service e-commerce.

Figure 2.4.1. Global Manufacturing Value Added
(Trillions of US dollars)



Source: The World Bank.
Note: East Asia & Pacific and South Asia data are available from 2004.

Figure 2.4.2. Typical Logistics Value Chain



Source: McKinsey & Company (2019a).

Box 2.5:

The Sharing Economy: Boon or Bane?

The rise of the sharing economy—also known as the gig economy, access economy, collaborative economy, or the peer-to-peer economy—is undoubtedly driven by the growth of the new economy. Technology, the advent of big data, and the ability to access this data via mobile and digital platforms, have facilitated access to and the sharing of otherwise "undiscovered", unutilized, or underutilized physical assets such as cars and apartments, as well as intangibles such as talent, time, and even unused priority privileges.

By matching demand and supply for underutilized resources, the sharing economy facilitates revenue generation for a service provider—without the typical costs associated with providing the service via traditional business models. The market for co-working spaces in the region is a primary example, with companies such as WeWork and Flyspaces offering flexible office spaces without the associated cost of renting an entire building or suite. Car-sharing services such as Grab, GoJek, and CarClub allow individual drivers to get paid on their free time, while allowing passengers more transport choices and the flexibility of hiring a vehicle on-demand without the hassle of car ownership. Similarly, proximity-based rental or marketplaces, such as Lendor, bank on the trend towards collaborative consumption by matching item owners willing to lend out household items and consumer products to those who need them, for a minimal cost. The mountain of data offered by such transactions facilitates the delivery services in a customer-tailored and timely manner.

Demographic and societal changes in ASEAN+3 countries—the challenges of urban lifestyles coupled with the re-emergence of the minimalist movement—are some of the drivers of the sharing economy. The greatest concentration of millennials in the world is in Asia (Matichard, 2018). Within the region, the largest numbers are in China, followed by Indonesia, the Philippines, and Vietnam (Figure 2.5.1). Millennials are accumulating and owning fewer things and focusing more on experiences and social relationships. Ownership of an asset, such as a home outside the city, is made increasingly less attractive by the burden of mortgage payments, compared to the freedom of flat-sharing/renting within the city and the social experiences such proximity brings, even with high rental costs.

The sharing economy is also influenced by millennials' skepticism of the motives of businesses (Deloitte, 2019). A model of "VIP (very important person) Account Sharing" in China's gaming industry—where others can "rent" VIP accounts to test in-game items prior to purchasing them—is an example of how the sharing economy offers experience and transparency to address a distrust that otherwise discourages buying behavior.

While accurate quantification of the sharing economy in the ASEAN+3 remains a challenge, the evidence for some established activities points to an encouraging potential. Ride-hailing companies Gojek and Grab have added an estimated USD 6.6 billion dollars to Indonesia's GDP in 2018. The transaction volume in China's sharing economy was about USD 439.8 billion in 2018, having grown more than 40 percent on an annual basis; the double-digit growth is expected to continue in the next few years as China's tech-savvy millennials enter the middle class (Ramizo, 2019).[1]

As the size of the sharing economy in the ASEAN+3 region expands, more and more consumers in the region could be prioritizing access to assets rather than *actual ownership*. Technology has redefined the traditional signals of wealth and success such as home and car ownership. The rise of social media reinforces the growing appetite for the sharing economy. Technology, via social media apps, allows for shareable experiences; this mindset is predominant among millennials. A global survey by Deloitte (2019) on millennial behavior points to "travel and seeing the world" as the top aspiration of respondents (57 percent), compared to home ownership (49 percent). A social media post of an Airbnb stay in a 100-year old palace[2] is likely to be more appealing and

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This box was prepared by Marthe Hinojales.

[1] State Information Center, China.

[2] An example of this is the Gudliya Suite in the Chandra Mahal Palace of Jaipur, India, (built in 1727) which went online in Airbnb in November 2019.

conducive to social interaction than a photo of an apartment or house.

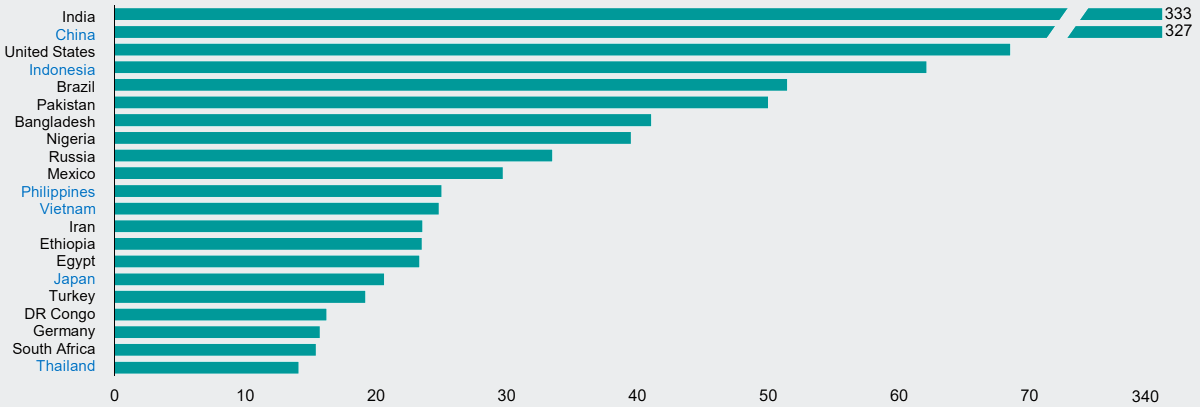
The prevalence and successes of the sharing economy also highlight its—albeit unintended—negative consequences and argue for regulation and greater oversight by the region's policymakers. Well-defined legislation governing the sharing economy appears to be lacking in most of the ASEAN+3 countries, with implemented rules and guidelines being more reactive than proactive. Companies that operate under collaborative consumption continue to be governed by a framework that had not been specifically designed for the sharing economy, allowing for grey areas prone to abuse and unethical practices.

Critics of the sharing economy in its current unregulated form point to the negative effects on wages, abuse of labor rights, waste disposal, even fraud and threat to life (DBS, 2019). Some evidence point to ride-hailing apps contributing to depressed wages of incumbent taxi drivers of at least 10 percent, to as much as 30 percent, as customers shift to these technologies, particularly in the key cities of Singapore, Jakarta, and Kuala Lumpur (Ramizo, 2019). The taxi population in Singapore, where Grab is dominant, has dropped to its lowest in a decade in 2018.

New cars bought primarily to be used for ride-hailing apps—instead of tapping on unutilized cars—are blamed for the traffic in the Philippine capital of Manila, considered among the worst in the world. China continues to grapple with its bike-sharing "graveyards," or huge piles of abandoned bikes, and the challenge of properly disposing these metal wastes. The low barriers to entry that are characteristic of the sharing economy could push younger workers to shun more challenging job opportunities and disregard the need for upskilling. The rising share of informal workers in the ASEAN+3 sharing economy means that many more are not covered by adequate social protection, minimum wage rules, and other benefits accorded to full-time workers.

ASEAN+3 policymakers need to address the actual or perceived negative social impact of collaborative consumption, while taking care not to suppress the culture of innovation—the cornerstone of the new economy—and fair competition. Legal and policy guidelines that protect informal workers engaged in the sharing economy, structured and effective feedback mechanisms for users of collaborative digital platforms, and policies that prioritize underutilized assets over new assets could help ASEAN+3 economies reap the benefits of collaborative consumption and innovation more evenly across their populations. Moving forward, the policy landscape governing the sharing economy will remain complex and tricky to navigate, as new technologies usher in new types of transactions and new demand. A flexible and regulatory framework that is robust and responsive to technological change and evolving employment models will be key to inclusive growth.

Figure 2.5.1. Top 20 Economies: Highest Millennial Population
(Millions of persons)



Source: United Nations Population Division.
Note: DR Congo = Democratic Republic of Congo. Countries in blue are ASEAN+3 member economies.

Box 2.6:

Rules of Origin in the New Economy

Rules of origin (ROOs) are a necessary artifact of the governance framework for global trade. ROOs are the criteria that determine the national source of products, to establish the legitimacy of duties and other restrictions for cross-border trade. For example, ROOs are used to determine whether imported products shall receive most-favored-nation treatment or preferential treatment, and to implement measures and instruments of commercial policy such as anti-dumping duties and safeguard measures (Dezan Shira & Associates, 2018).

For exporters and importers, and manufacturers and investors in cross-border supply chains, clarity in ROO is necessary to provide certainty and minimize disputes (or provide basis for dispute settlement). In bilateral free trade agreements (FTAs)—where two countries eliminate tariffs for trade with each other but continue to apply tariffs on trade vis-à-vis third countries—ROOs set out the conditions under which trade in a particular product is eligible for zero (or preferential) tariffs under the FTA (Figure 2.6.1).

The World Trade Organization (WTO) does not specify how ROOs should be determined but stipulates that members' ROOs must be transparent and applied in a non-discriminatory manner.

Figure 2.6.1. Functions of Rules of Origin

Source: AMRO staff.

Applying ROOs in New Production Networks

Establishing the origin of the product has become more difficult as GVCs lengthen and evolve into complex (and non-linear) production networks, and preferential trade agreements proliferate.

The international fragmentation of production (IFP) started in earnest in the late 1980s and early 1990s, and became more pronounced into the 2000s. Technological advances such as computerization, internet and wireless mobile telecommunications played a key role in IFP by allowing (and encouraging) manufacturers and countries to plug into GVCs to reduce production costs. The flip side is that interpreting ROOs have become more challenging (Estevadeordal and others, 2013).

A traditional principle of ROO is that the *country of origin* is the last country where a substantial transformation took place. "Origin" is frequently determined by the location of manufacture and/or assembly—not unreasonable for many manufacturing products. In today's production network, however, the extent of physical transformation may not correspond to value creation. The more technologically advanced a product is, and the more fragmented the (cross-border) production process is, the more difficult it is to pinpoint origin and attribute percentage value add by country of manufacture. For example, the iPhone is designed in the United States and manufactured in China, using components originating from other countries such as

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This box was prepared by Suan Yong Foo and Vanne Khut.

Japan and Korea. An ROO based on change in tariff classification (e.g., the one applicable to preferential trade between Australia and China) would stipulate the origin of the iPhone as China, even though the manufacturing processes in China reportedly account for about 2 percent of the final value of the end product (Coldicutt and Opeida, 2018).

Chapters on ROOs for bilateral and multilateral FTAs are often among the most contentious and difficult to seal. ROOs must not only reflect the policy intentions of parties to an FTA but also be worded in a sufficiently detailed manner to enable operationalization and enforcement. By some estimates, most of the more than 300 FTAs across the world have "customized" chapters on ROOs—and that is not factoring in other treatments such as "carve-outs."

ROOs are easiest to conceptualize and implement in the case of goods, although efforts have been made to apply them to services. A certificate of origin—a document issued by an exporter that confirms and certifies the country of origin—is often attached to the commercial invoice that accompanies a shipment of products, for submission to customs authorities. FTAs may require special forms as proof of origin before products can qualify for preferential tariff rates.

As each FTA may have its own distinct ROOs, interpreting and applying multiple ROOs could add to the challenge and costs of operating GVCs that span jurisdictions. ROOs are fraught with difficulty in normal times and can become even more challenging during heightened trade tensions.

ROOs, Services, and Value Creation in the New Economy

Two elements of the new economy complicate the application (and applicability) of ROOs: the rising share of services in trade and production networks; and role of technology and intangible assets (e.g., patents, branding, franchises) in creating and delivering value to the end-consumer.

The automobile industry (which predates the new economy) illustrates the challenges of designing ROOs (Figure 2.6.2) as its production network evolves to capture new technology, new services, and newly tradable services.

- The business model increasingly involves R&D and design functions (Deloitte, 2017) being carried out in advanced economies while the more labor-intensive production functions are undertaken in lower-cost economies (Organisation for Economic Co-operation and Development, 2016). ROOs based on value content would attribute country of origin to the place responsible for R&D and design and which contributes the lion's share of the value added—different from ROOs based on country of assembly.

- Technological advancement and specialization are enabling different parts of the R&D activities and automobile product design to be conducted in different locations. Hence, many different physical parts and components of automobiles are "manufactured" in different countries before assembly in one location. ROOs with multiple countries of origin are possible (see below) but would not be easy to implement.

- More importantly, a wide range of new services are now deemed necessary for supporting the manufacturing processes. For example, Siemens offers, specifically for automobile industry players: services across data analytics (including manufacturing plant analytics), cloud services, IT security, and digital transformation consulting. Conventional services such as human resource management, accounting, and corporate support services have become tradable and can be outsourced to a much greater extent than before.

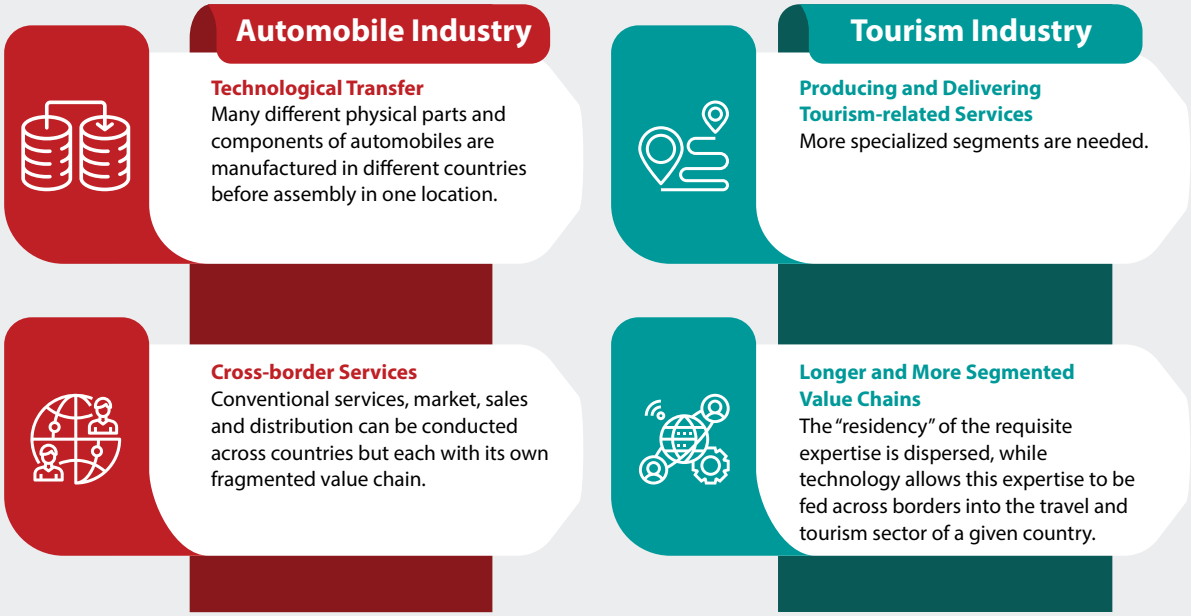
- Finally, marketing, sales, and distribution are being done across more countries than before, each in turn having a wide range of services (conventional and new) as inputs, and with its own fragmented value chain. Car financing, insurance, and after-sales care are some of the services that now form part of the automobile purchase experience.

The travel and tourism sector is another example.

- Travel and tourism services in the new economy will involve many more specialized segments: air and land transport, food and beverage, consumer durables, experiential services; and payment systems.

- The "residency" of the value creation is dispersed in the new economy as technology allows the requisite expertise to be fed across borders, from anywhere in the world, into the travel and tourism sector of a given country.

Figure 2.6.2. Rules of Origin: Challenges for the Automobile and Tourism Sectors



Source: AMRO staff.

Box 2.7:

Labor (Im)Mobility in the ASEAN+3 region

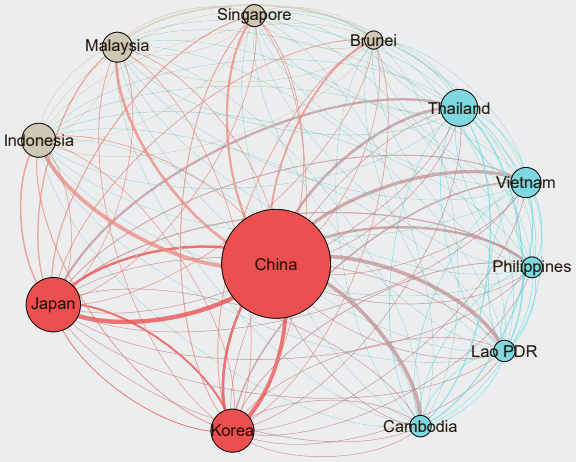
Over the past decade, intra-regional trade in goods, reflecting the development of production networks (Figure 2.7.1) grew robustly, by about 9.8 percent in 2018 with about 45.9 percent of this being trade in new economy goods (Figure 2.7.3). Yet, cross-country migrant flows (including the movement of workers) have been relatively modest over this period (Figure 2.7.2) and are much smaller than flows in Europe for instance.

Over the same period, the share of manufacturing labor in the Asia-Pacific region has decreased only slightly, by just 1.8 percentage points (Figure 2.7.4), even though the economies have become much more services driven. The standout shift has been from the agriculture sector to the services sectors, ranging from wholesale and retail trade, transport, and construction, to education and health services.

Analysis by the International Labor Organization (ILO) highlights that up to 87 percent of intra-ASEAN migrants are low-skilled workers, from five main corridors: Myanmar to Thailand, Indonesia to Malaysia, Malaysia to Singapore, Lao PDR to Thailand, and Cambodia to Thailand. The Myanmar–Thailand corridor is the largest, accounting for 2 million migrant workers or one-third of intra-migration in ASEAN. There are about 1 million migrants each from Indonesia, Malaysia, and Lao PDR moving to Malaysia, Singapore, and Thailand, respectively.

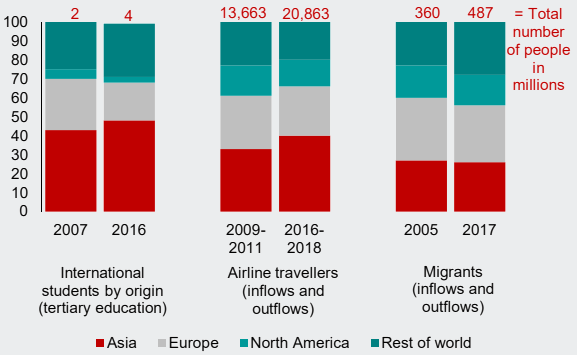
In comparison, the mobility of higher-skilled workers is more limited, due to domestic policy considerations and the inherent challenging nature of forging multilateral agreements. The ASEAN Mutual Recognition Arrangements cover eight high-skilled professions (doctors, dentists, nurses, engineers, architects, accountants, surveyors, and tourism professionals), or just 1.5 percent of ASEAN's labor force. Policy impediments could thus limit the extent to which ASEAN+3 economies can gain from participating in expanded new economy value networks.

Figure 2.7.1. Intra-Regional Trade Reflecting Production Networks



Sources: Asian Development Bank Multi-Regional Input-Output Table 2018; and AMRO staff calculations.
Note: The node size represents the weighted degree of the economy in the value chain. The node color represents the community in which the economy belongs to. Community is detected using methodology outlined by Blondel and others (2008). The arrow thickness is scaled according to the volume of trade in value added of manufacturing sectors.

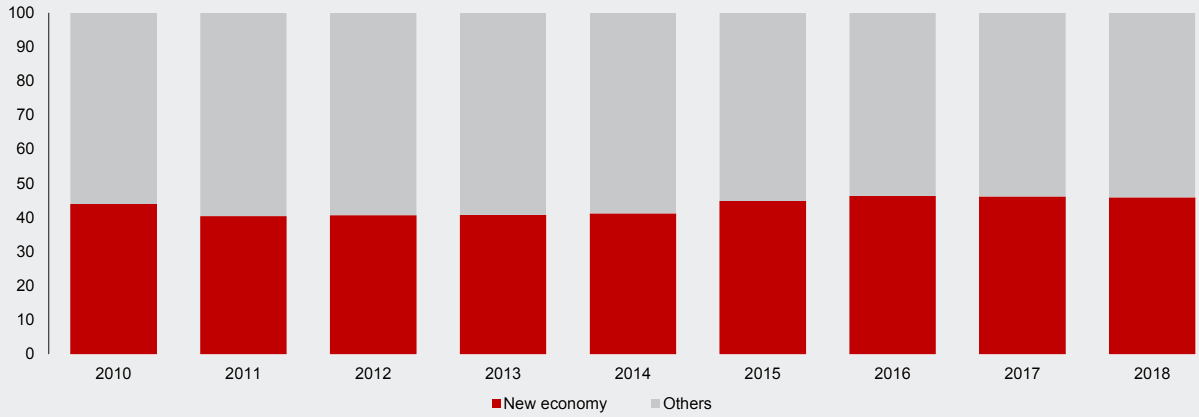
Figure 2.7.2. People Movement by Type and Geography
(Percent of total movement)



Sources: International Air Transport Association; United Nations Educational, Scientific and Cultural Organization; UN Migrant Stock; and McKinsey & Company.

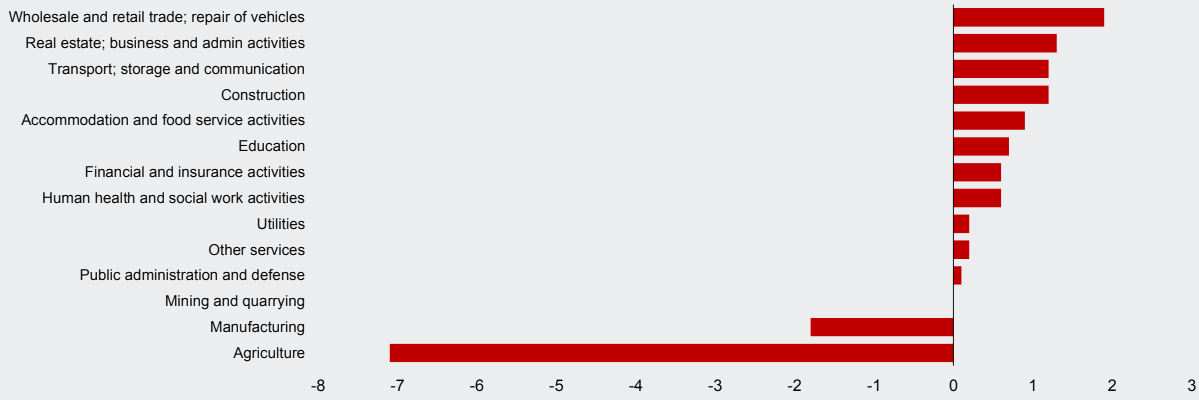
This box was prepared by Suan Yong Foo and Vanne Khut.

Figure 2.7.3. ASEAN+3: Share of New Economy Products in Total Trade
(Percent of total trade in goods)



Sources: World Integrated Trade Solution (WITS); and AMRO staff calculations.
Note: New economy products are electrical machinery, equipment, and parts thereof; nuclear reactors, boilers, machinery; vehicles/railway/tramway roll-stock; ships, boats and floating structure; aircraft, spacecraft, and parts; arms and ammunition; parts and accessories; explosives; pyrotechnic prod; match; pharmaceutical products; and photographic or cinematographic.

Figure 2.7.4. Asia-Pacific: Sectoral Distribution of Work, 2010–17
(Percentage point difference)



Source: International Labor Organization.