AMRO
ASEAN +3 MACROECONOMIC RESEARCH OFFICE

ASEAN+3 REGIONAL ECONOMIC OUTLOOK 2022

ASEAN+3 Growth Strategy in the Pandemic's Wake

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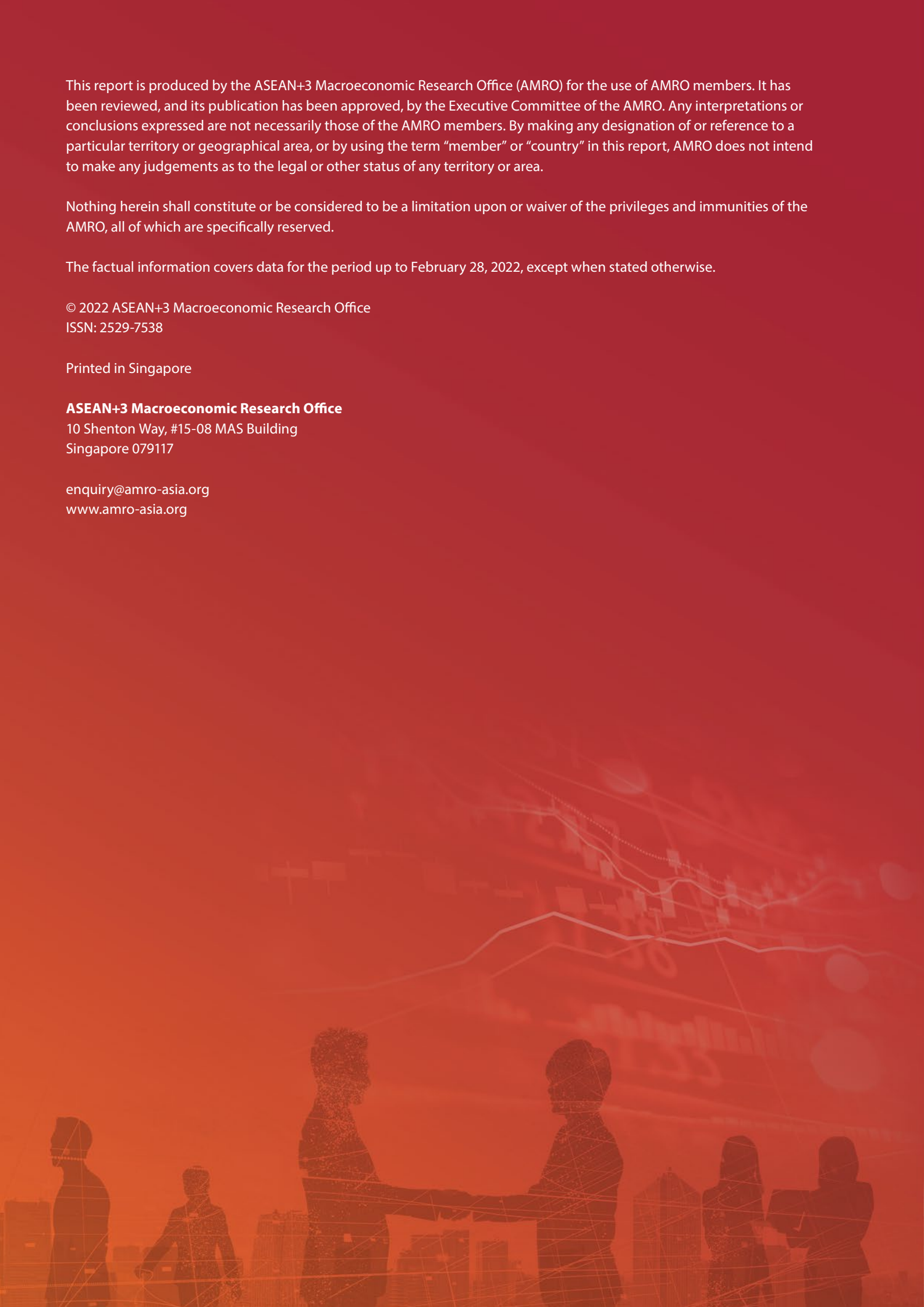

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Foreword

"You don't make the timeline, the virus makes the timeline." This was the statement that Dr. Anthony Fauci, Director of the US National Institute of Allergy and Infectious Diseases, gave in response to a question about when lockdowns could be lifted and the economy reopened. This statement also aptly sums up the ASEAN+3's struggle against the COVID-19 virus in the last two years. Ever since the COVID-19 outbreak in early 2020, the region's economies have been waging a war against the virus for control of their economies while saving lives. Initially, the strategy was to impose a national lockdown or strict social distancing measures to prevent the virus from spreading, which turned out to be quite effective but was also quite devastating to the economy and not sustainable over a long period of time. Moreover, the virus began mutating into more infectious variants and became even more tenacious and difficult to contain. Since early 2021, with the development of effective COVID-19 vaccines, the strategy has shifted to a combination of ramping up the vaccination rate to protect the population and adopting more targeted containment measures to minimize the impact on the economy. Unfortunately, the vaccination was initially slow to roll out, and the region had to retighten containment measures quite sharply in mid-year when the Delta wave swept through the region and disrupted the nascent economic recovery.

Now, as we move through 2022, it appears as though the region may finally have gained some ground in its long battle against the virus and we can now look forward to a fuller opening-up and a strong economic recovery. Even so, the cost in the last two years has been heavy both in terms of suffering and lives lost and the loss in jobs and income. Although a small risk remains that the virus may surprise us with a new variant that is more resistant to vaccines, we pray that going forward, we are now the ones who set the timeline.

Our AREO report this year is therefore devoted mainly to assessing the damage caused by the pandemic to the region's economies over the past two years, and growth prospects in the coming two years and over the medium to long term. Obviously, the prospects will vary from economy to economy depending on several factors, including their economic structure, the extent and depth of scarring, the size of financial and fiscal support, and the available policy space.

As we prepare to go to press, however, the Russia-Ukraine conflict has erupted and threatens to upend the regional outlook. It is a déjà vu moment, harking back to the same time two years ago when the COVID-19 outbreak became a pandemic and we had to scramble to review our forecasts before going to print. Like two years ago, our preliminary assessment is that the impact of the new shock on the region would be small. However, having been blindsided by the virus again and again in the last two years, we are more mindful of uncertainties and appreciate that a prolonged conflict could be potentially more disruptive and significant.

Chapter 1 of the AREO report will assess the short-term outlook of the region, taking into account the scarring inflicted by the pandemic on member economies while keeping a wary eye on the spillovers from the Russia-Ukraine crisis. The assessment is made more challenging by the lack of reliable data on the extent and depth of scarring in key sectors of the economy that are masked by the support measures taken to mitigate the impact of the containment. The chapter also reviews the risks and vulnerabilities facing the region and assesses the policy support needed to sustain the recovery. A key challenge facing many economies this year is to normalize their policy stance by unwinding or tapering the stimulus measures adopted in the past two years to support the economy, without jeopardizing the recovery.

Chapter 2 of the AREO report is normally devoted to studying the structural challenges facing the region. In the past few AREOs, we have been reviewing the growth strategy of the region—how it has evolved from final processing of consumer goods for export in the early days of industrialization to today's highly complex and integrated regional production networks supplying a wide range of products and services for both export and domestic consumption. The pandemic, however, has caused major disruptions in regional production and prompted many countries to question the wisdom of relying on global supply chains for critical products. It also exacerbated geopolitical tensions and led many experts to pronounce the end of globalization and the need for economies to be more self-sufficient.

We have therefore decided to take a step back and ask ourselves whether our previous assessment of the region's strong economic prospects is still valid. How bad are the scarring effects? Have the massive fiscal deficits during the pandemic used up all the fiscal space so that the region is no longer able to invest in the essential infrastructure needed to support growth? Will the "flight to digital" boost productivity and raise potential growth? Or will the region lose its dynamism and be destined to grow at a mediocre pace? Will the 21st century still be the Asian Century? These are some of the questions that we seek to address in the thematic chapter. Based on our analysis, the economic fundamentals of the region remain strong, and with the right policies and strategies the region should be able to bounce back and realize its ambition of making the 21st century the Asian Century.

Hoe Ee Khor
Chief Economist

Acknowledgments

This report provides AMRO staff's assessment of the conjunctural and structural issues facing the ASEAN+3 region. It covers the short-term risks, vulnerabilities, and challenges facing member economies, as well as the policy options taken by or available to their authorities. It also presents staff's study on longer-term issues pertinent to sustained economic growth in the region. The report was submitted to member authorities of the ASEAN+3 economies for review and incorporates their comments.

The analysis in this report was coordinated by the Regional Surveillance team led by Ling Hui Tan; it also draws on the surveillance work of the AMRO country teams. The report was reviewed and cleared by Chief Economist, Hoe Ee Khor. It has also benefited from the guidance of AMRO Director Toshinori Doi and other members of the Senior Management team.

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Chiang Yong (Edmond) Choo coordinated production of the publication, with editorial assistance from Linda Long (Consultant); Takeharu Tominaga, Karen Wilkinson, Andrea Abellon, and Hui Shan Seah coordinated communications and outreach; Faith Pang and Karen Chua provided liaison support with member authorities.

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Finally, the views expressed in this report are those of AMRO staff and do not, in any way, implicate ASEAN+3 members.

Abbreviations

ADB	Asian Development Bank
AI	artificial intelligence
AMRO	ASEAN+3 Macroeconomic Research Office
AREO	ASEAN+3 Regional Economic Outlook
ASEAN	Association of Southeast Asian Nations
ASEAN+3	ASEAN plus China (including Hong Kong), Japan, and Korea
ASEAN-3	Indonesia, Malaysia, and Thailand
ASEAN-4	Indonesia, Malaysia, the Philippines, and Thailand
ASEAN-5	Indonesia, Malaysia, the Philippines, Singapore, and Thailand
ASEAN-6	Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam
ASLN	ASEAN Smart Logistics Network
ASW	ASEAN Single Window
BIS	Bank for International Settlements
BPO	business process outsourcing
CAR	capital adequacy ratio
CBDC	central bank digital currency
CFaR	capital flows-at-risk
CPI	consumer price index
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
EU	European Union
FDI	foreign direct investment
Fed	US Federal Reserve
FTA	free trade agreement
FY	fiscal year
GDP	gross domestic product
GFCF	gross fixed capital formation
GVC	global value chain
ICT	information and communications technology
IEA	International Energy Agency
ILO	International Labour Organization
IMF	International Monetary Fund
IT	information technology
JBIC	Japan Bank for International Cooperation
LAYS	learning-adjusted years of schooling
LFPR	labor force participation rate
LPI	Logistics Performance Index
LSI	Local Stress Index
MNE	multinational enterprise
MSMEs	micro, small, and medium-sized enterprises
NDRC	National Development and Reform Commission (China)
NPL	nonperforming loan
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
Plus-3	China (including Hong Kong), Japan, Korea
PMI	Purchasing Managers' Index
PPI	producer price index
PPP	public-private partnership
QR	quick response
RCEP	Regional Comprehensive Economic Partnership
R&D	research and development
RVC	regional value content
SARS	severe acute respiratory syndrome
SEPA	Single Euro Payments Area
SMEs	small and medium-sized enterprises

TSMC	Taiwan Semiconductor Manufacturing Company
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNICEF	United Nations Children's Fund
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNWTO	World Tourism Organization
US	United States
USD	US dollar
VTL	Vaccinated Travel Lane
WEF	World Economic Forum
WHO	World Health Organization

For brevity, Brunei Darussalam is referred to as "Brunei," and Hong Kong, China is referred to as "Hong Kong" in the text.

Chapter 1.

Macroeconomic Prospects and Challenges

Highlights

- ASEAN+3 economies entered 2021 on an optimistic note, after relatively effective containment of the pandemic in 2020. Economic recovery was well underway, only to be disrupted by the Delta surge that took the region's COVID-19 cases and deaths to record highs. In response, containment measures were reimposed or retightened, border reopening plans were shelved, and vaccination programs were accelerated or brought forward. The emergence of the more infectious Omicron variant poses a threat to the continued recovery of the region in 2022. However, the acceleration in vaccination coverage should help mitigate the risk to the recovery, and regional economies are likely to continue opening up gradually. AMRO staff's baseline growth forecast for 2022 is expected to remain relatively robust at 4.7 percent, with inflation at 3.5 percent. However, risks to the outlook are mainly on the downside.

- More virulent strains of COVID-19 that are resistant to existing vaccines could emerge. A new wave of such infections could prompt a retightening of containment measures and further test the region's healthcare capacity, derailing the prospects of economic recovery.

- An emerging key risk is the fallout of the Russia-Ukraine conflict, the immediate effects of which have been felt most notably in commodity—particularly energy—prices. A prolonged conflict will keep energy and food prices elevated and risks stoking inflation and lowering growth in the region where most economies are net energy importers. The region's exports could also suffer as a result of lower global growth.

- As the pandemic drags on, the continuation (or recurrence) of supply chain bottlenecks that disrupted trade flows in 2021 cannot be ruled out. The likelihood of more COVID-19-related production shutdowns, raw material shortages, and port-handling delays can have cascading effects given tighter intra-regional trade linkages in recent years. Non-pandemic-related supply chain disruptions, such as shipping-lane and airspace closures during the Russia-Ukraine conflict, could disrupt freight and drive up cargo costs. Persistent supply chain disruptions could undermine the region's export performance and raise global cost pressures.

- While financial markets are expecting a more hawkish stance by the US Fed, a sharper-than-expected monetary policy normalization in the United States could lead to a premature tightening in global financial conditions, with potential implications for interest rates, capital outflows, and financial market volatility in the region. Global bond market volatility has increased in tandem with the shift in the US inflation outlook and the attendant uncertainties. As a result, borrowing costs have trended higher, spilling over to emerging markets, including those in the region. A premature tightening in global financial conditions resulting from US Federal Reserve policy surprises can lead to volatility spikes and fuel global risk aversion. Higher risk premia can cause higher debt service and refinancing risks, and disruptive corrections to stretched assets, depressing regional growth.

- In the financial sector, the prolonged impact of the pandemic on business and household incomes means that financial risks are still elevated. If the recovery is delayed, more businesses and individuals would face greater financial distress, and this could have implications for banking sector soundness. Debt-at-risk analysis of ASEAN+3 companies suggests that default risks appear to have moderated in 2021, after rising sharply in 2020 as debt surged to record levels. Improvement in earnings amid an economic turnaround and policy measures (interest rate reductions, credit expansion, and regulatory forbearance) have helped to keep nonperforming loan ratios low, so far. AMRO staff's top-down stress tests of individual bank balance sheets in ASEAN+3 economies suggest that the majority of banks continue to be well-buffered against large shocks to asset quality.

- Policymaking continues to be focused on alleviating the impact of the pandemic and supporting an economic recovery. The proactive and exceptionally large stimulus and support programs introduced to counter the economic fallout of the pandemic in 2020 were followed by a more targeted and calibrated approach in many of the region's economies. Looking ahead in 2022, given the less supportive global policy settings, regional policymakers will have to undertake a crucial balancing act—avoiding a premature withdrawal of policy support in view of the still nascent economic recovery, while at the same time, facilitating the reallocation of capital and labor to new and expanding sectors, and rebuilding policy space to prepare for future risks.

I. Recent Developments and Outlook

A Close Race between Vaccinations and the Virus

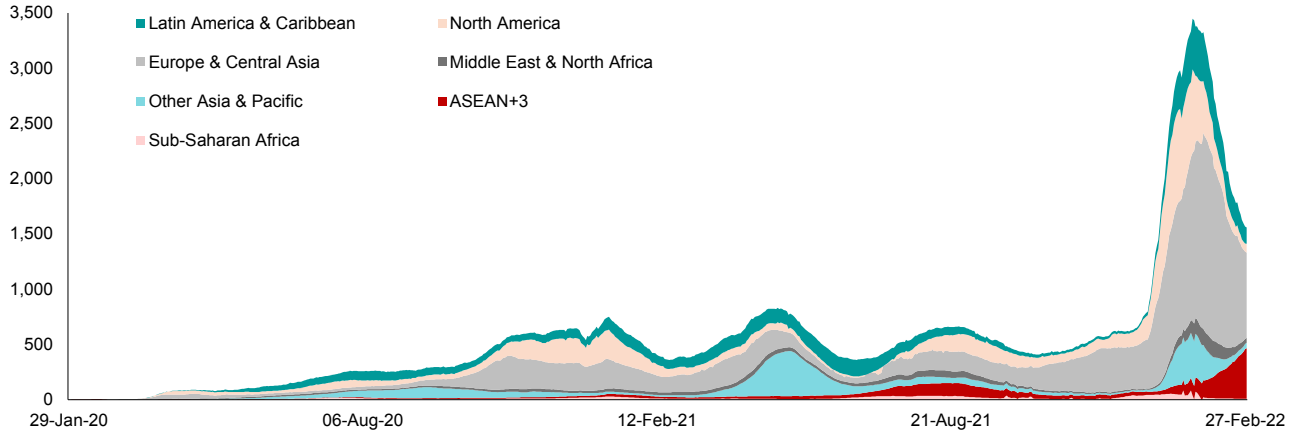
2021 began on an optimistic note with the rollout of COVID-19 vaccines, after relatively effective containment of the pandemic in 2020 in the ASEAN+3 region. Global cases declined in the first two months of the year and administered vaccine doses steadily increased to fully inoculate about 60 million people around the world over the same period, mostly in the United States and Europe where the pandemic was most severe. Falling infection rates and increasing vaccine coverage led to some relaxation in containment measures in several economies, and inadvertently, some complacency in social distancing (WHO 2021). In the ASEAN+3 region, progress in vaccine rollouts was initially slow, partly due to its early success in controlling the spread of the virus but also due to difficulty in securing access to the limited supply of vaccines which are produced mainly in the United States, Europe, China, and India (Figure 1.1).

The Delta variant, a more infectious strain of the virus, took the region's confirmed cases and deaths to record highs in the third quarter of 2021 (Figure 1.2). In response, containment measures were reimposed or retightened, border reopening plans such as travel bubbles were shelved, and vaccination programs were accelerated or brought forward (Figure 1.3). The surge of Delta-variant infections that swept across the ASEAN+3 region lasted about four months, peaking in August, before declining to pre-surge levels at the end of October. Even after the surge abated, mobility restrictions remained in several economies.

Vaccination rates in the region were ramped up in the second half of the year. After a slow start in most of the region (excluding China and Singapore)—due to various factors including supply constraints, medical staff shortages, vaccine hesitancy, and to a certain extent, a lower sense of urgency given initial success at containment—the pace of vaccination accelerated in the third quarter. Increasing infections from the Delta variant highlighted the critical role of vaccines in protecting against infections and severe illness and thus alleviating the pressure on healthcare systems that were overwhelmed in several countries. By the end of the third quarter, double-dose vaccination rates in the region ranged from under 20 percent in Indonesia, Myanmar, the Philippines, and Vietnam to more than 60 percent in Cambodia, China, Malaysia, and Singapore (Figure 1.4). The strong pick-up in vaccination rates helped the region ride the Delta wave with much fewer severe cases and casualties than would have been the case otherwise.

Shortly after the Delta wave subsided, the region was hit by the even more transmissible Omicron variant at the end of the year, bringing more than half of its economies back to the initial stages of AMRO's COVID cycle by the start of 2022 (Figure 1.5). Cases surged again in November 2021, and by the last week of February 2022 the total daily caseload in the ASEAN+3 region had reached above 450,000—15 times more than the level at the end of December 2021.

Figure 1.1. World: Confirmed COVID-19 Cases, by Region
(7-day average, thousand persons)

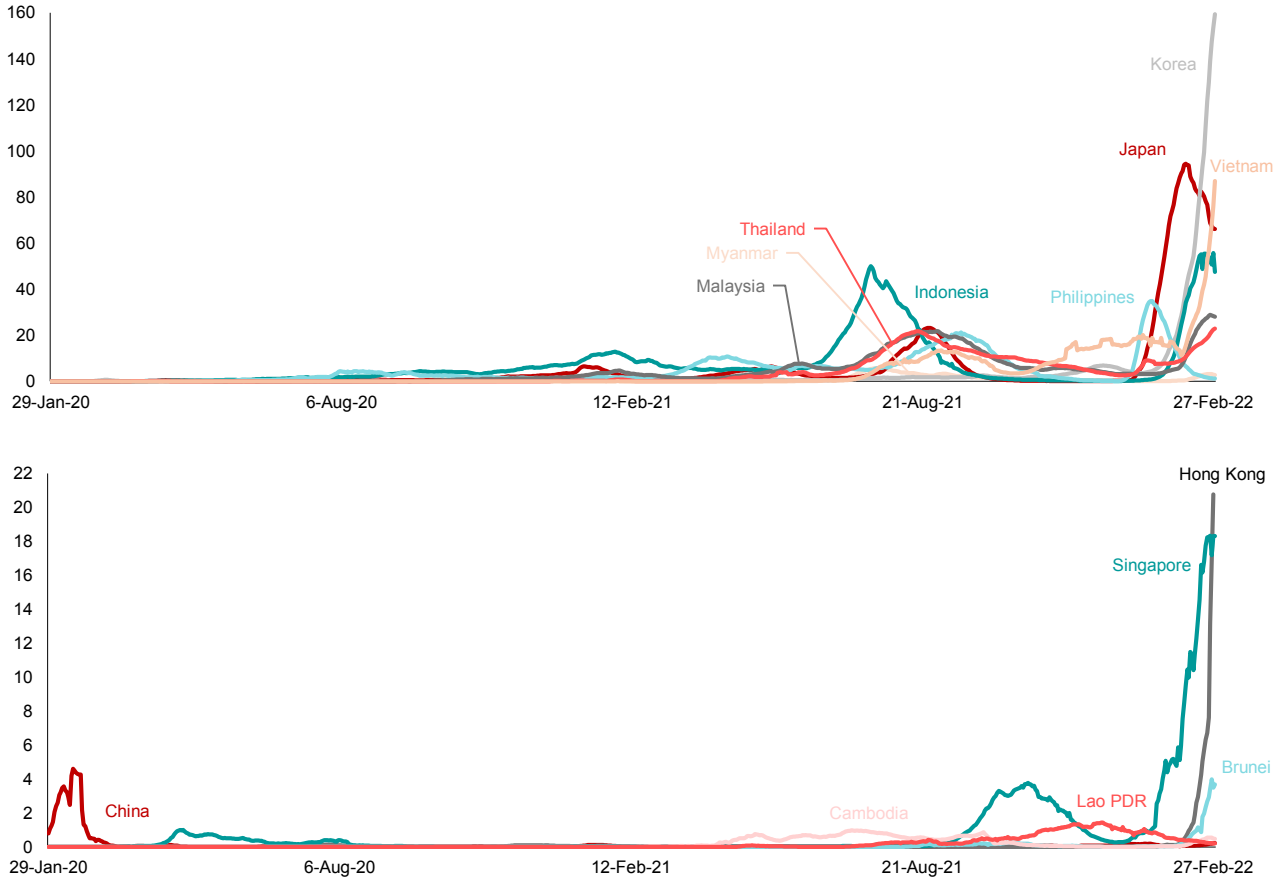


Sources: Johns Hopkins University via Haver Analytics; and AMRO staff calculations.

The authors of this chapter are Catharine Tjing Yiing Kho and Anthony Chia Kiat Tan (co-anchors), Chiang Yong (Edmond) Choo, Diana del Rosario, Aziz Durrani, Marthe Hinojales, Yin Fai Ho, Li Lian Ong, Prashant Pande, Toàn Long Quách, Trung Thanh Vu and Hongyan Zhao, with input from AMRO country desk economists.

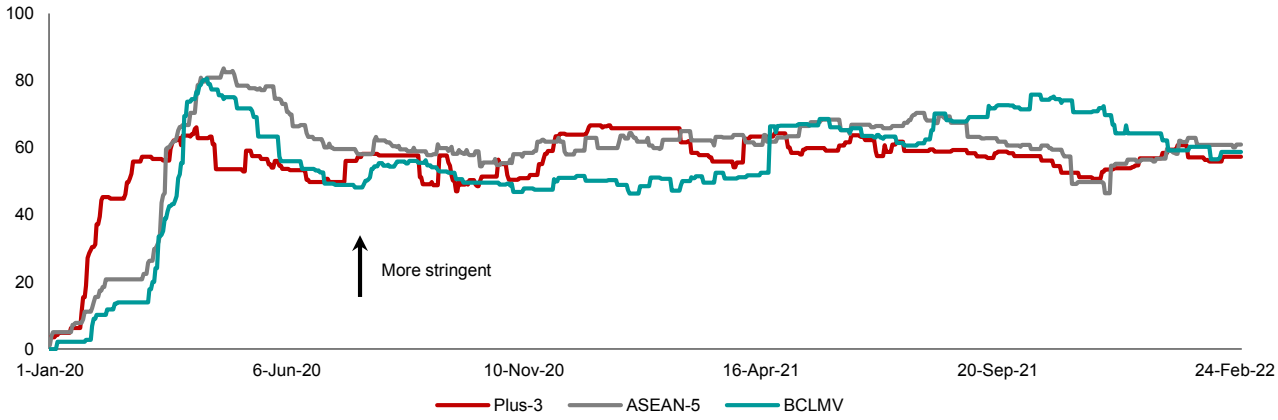
As of February 2022, vaccination rates in the ASEAN+3 economies are generally high, but access to booster doses and COVID-19 antiviral treatments remains uneven. About 72 percent of the region's population are now fully vaccinated, which is relatively high compared to many advanced economies and other emerging market peers (Figure 1.6). Nonetheless, booster programs remain in the early stages for most of the region. Economies with largely vaccinated populations—such as Brunei, Cambodia, China, Japan, Korea and Singapore—have made relatively good progress in securing supplies, but the race to acquire booster doses, especially by countries in North America and Europe heavily affected by the Omicron variant has reintroduced some supply constraints for the rest of the world, risking a widening global vaccination gap (Holder 2022). Similarly, access to antiviral medications to treat COVID-19, even at their early stage of manufacturing, is heavily dominated by economies in North America and Europe (Table 1.1).

Figure 1.2. ASEAN+3: Daily New COVID-19 Cases, by Economy
(7-day average, thousand persons)



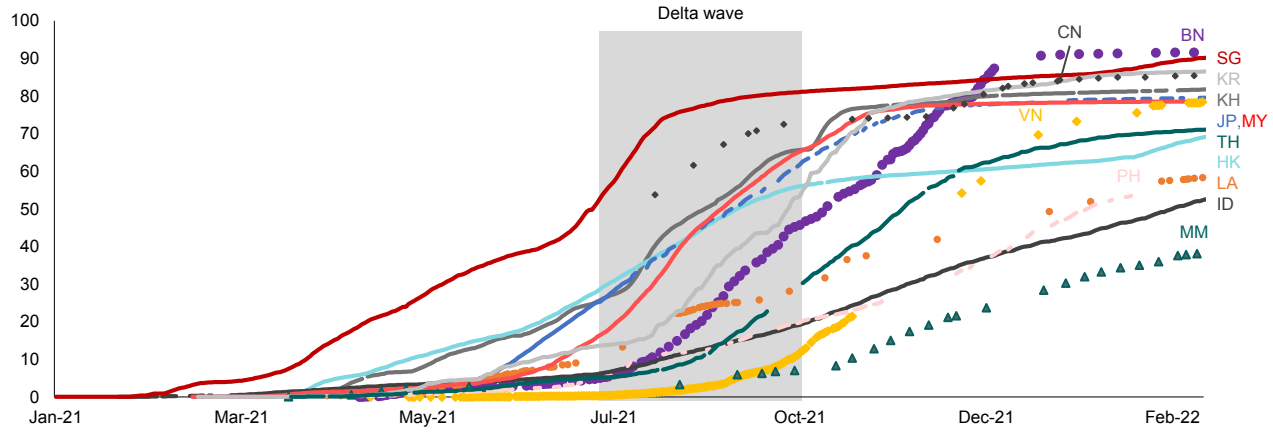
Sources: Johns Hopkins University via Haver Analytics; and AMRO staff calculations.

Figure 1.3. ASEAN+3: Government Response Stringency Index
(0 = no restrictions, 100 = tightest restrictions)



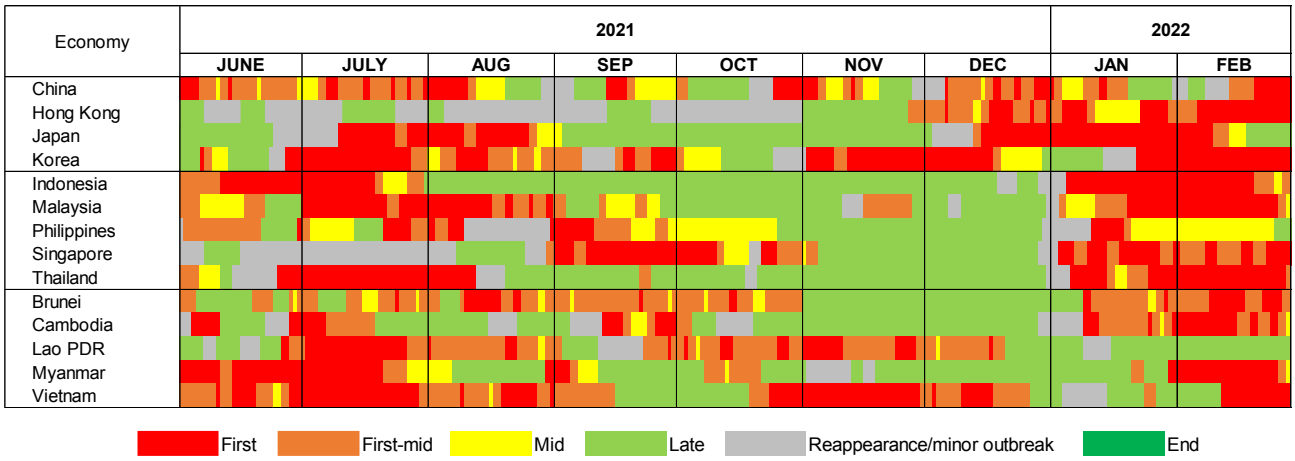
Sources: Our World in Data via Haver Analytics; and AMRO staff calculations.
Note: The stringency index records the strictness of "lockdown-style" policies that primarily restrict people's behavior. The index is a composite measure based on nine response indicators: (1) school closing; (2) workplace closing; (3) cancellation of public events; (4) restrictions on gatherings; (5) closure of public transport; (6) stay-at-home requirements; (7) restrictions on internal movement; (8) international travel controls; and (9) public information campaigns. The indicators are scaled to a value from 0 to 100 (100 = tightest). ASEAN-5 = Indonesia, Malaysia, the Philippines, Singapore, and Thailand; BCLMV = Brunei, Cambodia, Lao PDR, Myanmar, and Vietnam; Plus-3 = China, Hong Kong, Japan, and Korea.

Figure 1.4. ASEAN+3: Fully Vaccinated Population
(Percent of population)



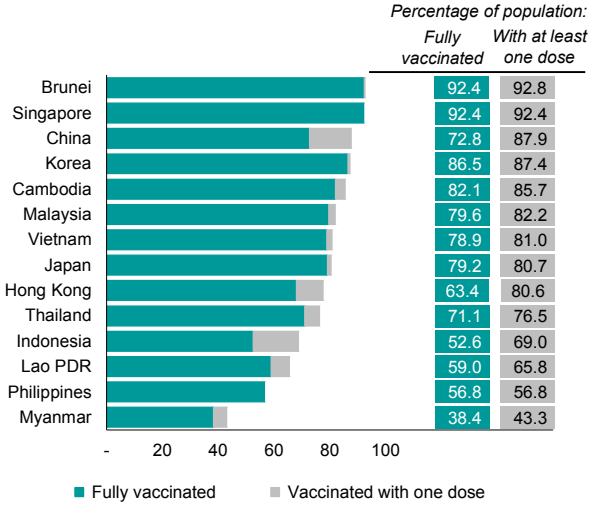
Sources: Our World in Data via Haver Analytics; and AMRO staff calculations.
Note: Fully vaccinated population refers to the proportion of the population that has received all doses prescribed by the vaccination protocol (e.g., one dose of a single-dose vaccine, or two doses of a two-dose vaccine). BN = Brunei; CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

Figure 1.5. ASEAN+3: COVID Cycle Heatmap
(7-day average)



Sources: Johns Hopkins University via Haver Analytics; AMRO staff calculations.
Note: First stage: new cases and active cases are rising daily at a positive rate. First-mid stage: new cases rise or fall at least once in any consecutive 3-day period. Mid stage: new cases are falling but active cases continue to rise daily. Late stage: new cases and active cases are falling daily and eventually tapering off to zero. Reappearance/minor outbreaks: reappearance of a small number of new cases (outbreaks in the bottom 75th percentile of a country's 7-day average daily new cases or outbreaks with fewer than 15 daily new cases in a country's 7-day average; minor outbreaks can retroactively be reclassified as first-stage if the 75th percentile or 15-daily-cases threshold is breached at a later date). End: there are zero new cases, and all active cases have either recovered or died from the virus.

Figure 1.6. ASEAN+3: Vaccination Coverage Status, February 28, 2022
(Percent of population)



Sources: Johns Hopkins University via Haver Analytics; and AMRO staff calculations.

Table 1.1. World: Expressions of Interest in COVID-19 Antiviral Treatments, February 2022
(Volume)

Merck (Mulnopiravir)		Pfizer (Paxlovid)	
Economy	Volume (Number of courses)	Economy	Volume (Number of courses)
Australia	75,000	Australia	500,000
Belgium	10,000	Canada	25,000
Canada	500,000	European Union	Undisclosed
European Union	Undisclosed	Germany	Undisclosed
Germany	Undisclosed	Israel	2,500
Indonesia	15,000 to 25,000	Italy	50,000
Italy	50,000	Korea	70,000
Japan	1,600,000	Thailand	Undisclosed
Korea	200,000	United Kingdom	Undisclosed
Malaysia	150,000	United States	10,000,000
Philippines	300,000		
Singapore	Undisclosed		
Switzerland	8,640		
Thailand	200,000		
United Kingdom	55,750		
United States	3,100,000		

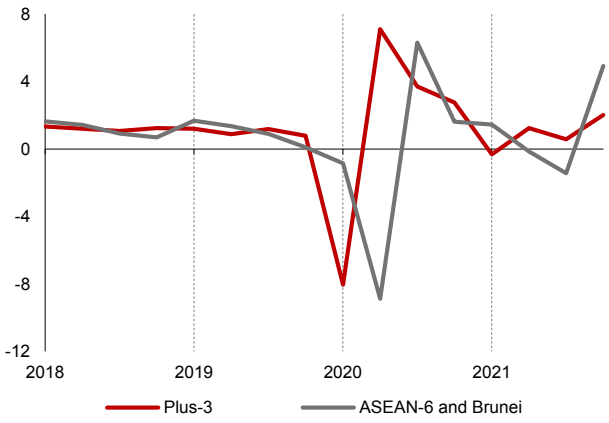
Source: Various media reports.
Note: A full course of mulnopiravir is equal to 40 doses taken in 5 days. A full course of Paxlovid is equal to 30 doses taken in 5 days, along with a booster called ritonavir.

Recovery Momentum Interrupted

The recovery momentum that began in the region at the end of 2020 was interrupted by the Delta wave in mid-year and again by the emergence of the Omicron variant. Growth momentum, in seasonally adjusted quarter-on-quarter terms, weakened in the second and third quarter of 2021 as most regional economies retightened containment measures to stem the spread of infections (Figure 1.7). Momentum began to strengthen in the fourth quarter of the year amid a broader resumption of economic activity and the easing of some border restrictions. When the Omicron variant broke out in South Africa at the end of November 2021, ASEAN+3 governments clamped down sharply on border controls. However, studies have shown that the health impact of the Omicron variant is relatively mild, and vaccines still offer relatively effective protection, especially with booster doses. Consequently, governments in most economies have lifted or eased the restrictions and have kept their economies relatively open despite the continuing spread of Omicron infections. As a result, growth is expected to weaken only slightly in the first quarter of 2022 and to pick up and regain momentum in the subsequent quarters.

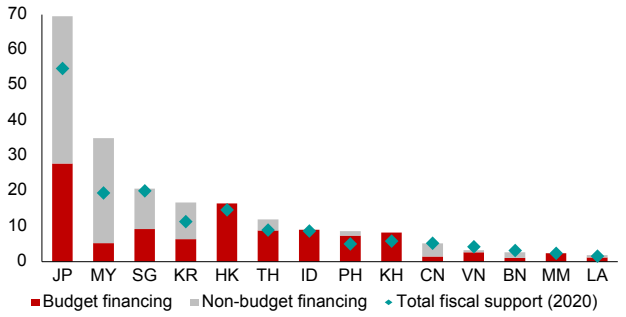
Continued policy support played a crucial role in sustaining economic activity in 2021. The resurgence of the virus, particularly of the Delta variant, led authorities in the region to extend fiscal and financial support to firms and workers affected by renewed lockdowns and containment measures (Figure 1.8). While less extensive than in 2020, income support and credit policies continued to be extended to households and firms to ease liquidity constraints during the uncertain recovery period. The support helped private sector spending to respond quickly to the relaxation of containment measures—both household spending and investment activity expanded from the second quarter of 2021 onward (Figure 1.9).

Figure 1.7. Selected ASEAN+3: Real GDP Growth
(Percent, quarter-on-quarter, seasonally adjusted)



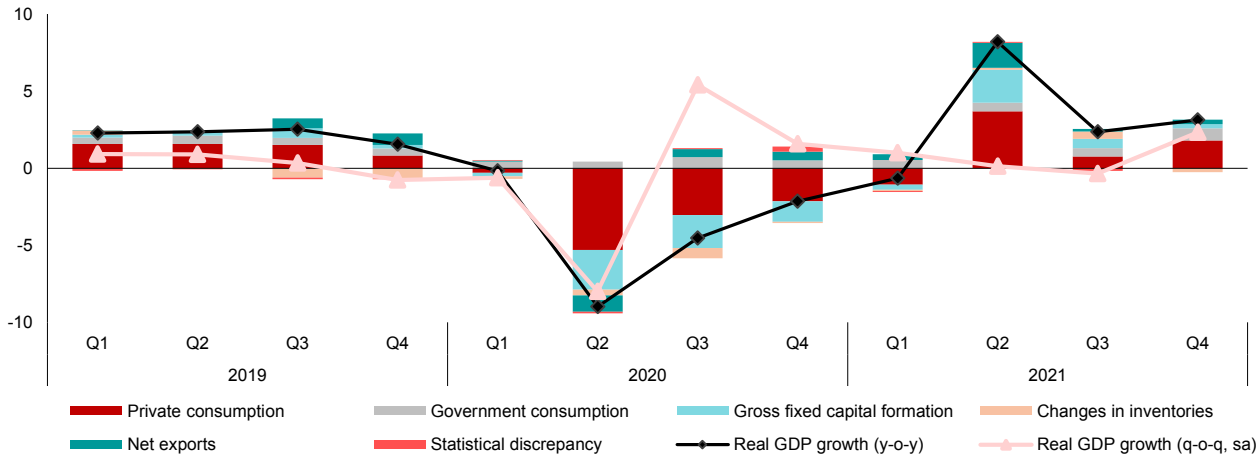
Sources: National authorities via Haver Analytics; AMRO staff estimates and calculations.
Note: Data are as of Q4 2021. Q4 2021 data for Brunei are estimated by AMRO staff.
ASEAN-6 = Indonesia, Malaysia, the Philippines, Thailand, Singapore, and Vietnam.

Figure 1.8. ASEAN+3: Total Fiscal Support, 2020–22
(Percent of GDP)



Sources: National authorities via Haver Analytics; and AMRO staff estimates.
Note: Data refer to fiscal support extended from February 1, 2020 to February 28, 2022. Based on governments' announced economic relief/stimulus packages. Budget financing refers to the fraction of the announced package financed from the budget. Non-budget financing refers to the fraction of the announced package financed from non-budget resources, e.g., public funds, public financial institutions or entities, or fiscal reserves. Total fiscal support (2020) refers to fiscal support extended from February 1, 2020, to February 28, 2021. BN = Brunei; CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MY = Malaysia; MM = Myanmar; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

Figure 1.9. Selected ASEAN+3: Aggregate Real GDP Growth, by Expenditure Category
(Percentage points, year-on-year; quarter-on-quarter, seasonally adjusted)



Sources: National authorities via Haver Analytics; AMRO staff estimates and calculations.
Note: y-o-y = year-on-year. q-o-q, s.a. = quarter-on-quarter, seasonally adjusted. Selected ASEAN+3 includes Brunei, Hong Kong, Indonesia, Japan, Korea, Malaysia, the Philippines, Singapore, and Thailand. Data are unavailable for Cambodia, China, Lao PDR, Myanmar, and Vietnam. Q4 2021 data for Brunei are estimated by AMRO staff.

Table 1.2. ASEAN+3: Overview of Key Pandemic Policies in 2022

Policy	BN	KH	CN	HK	ID	JP	KR	LA	MY	MM	PH	SG	TH	VN
Virus containment policies														
Domestic mobility restrictions *e.g., social distancing, work closures, school closures*	●	◉	●	●	●	●	◉	●	●	●	●	●	●	●
Border closure *e.g., entry restrictions for foreign travelers*	●	◉	●	●	●	●	●	●	●	●	●	●	●	●
Fiscal policy support														
Support for households *e.g., cash handouts, personal income tax exemptions*	◉	●		●	●	●	○	◉	●	◉	●	○	●	●
Support for businesses *e.g., wage subsidies, tax cuts, fee waivers*	◉	●	●	●	●	●	●	◉	●	●	●	●	●	●
Targeted to specific domestic sectors (food and beverage, retail, and entertainment outlets, transport operators, etc.)	◉		●	●	●	●	●		●	●		●	●	
Targeted to specific export sectors (travel and tourism, export-manufacturing)		●		●	●	●	●	●	●	●		●	●	
Monetary policy support *e.g., policy rate reduction, reduction in required reserve ratio*		●	●		●		◉	●	●	●	●			●
Financial/macroprudential policy support *e.g., looser regulations on banks' capital or liquidity buffers, loan classification, etc.*		●		●	●	●	●	●	●	●	●	●	●	●
Targeted to households *e.g., loan guarantees, loan restructuring for low-income individuals*	●	●		●	●	●			●	●	●	◉	●	
Targeted to businesses *e.g., special lending facilities, loan restructuring for small businesses*	●	●	●	●	●	●	●	●	●		●	●	●	
Pandemic support from international donors (e.g., ADB, World Bank)		●			○			●		◉	●			●

Source: AMRO, "ASEAN+3 and COVID-19: Panoply of Pandemic Policies" database.
Note: ● indicates support still in place at the end of 2021; ◉ indicates support expired on or before December 31, 2021; ○ indicates support expired on or before December 31, 2020. ADB = Asian Development Bank; BN = Brunei; CN = China; HK = Hong Kong; ID = Indonesia; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

Private consumption rebounded in the first half of 2021 but weakened in the second half of the year as the region was hit by recurrent waves of Delta-variant infections (Figure 1.10). The rebound was aided by: improved consumer confidence following rising vaccination rates and the easing of mobility restrictions (Figure 1.11 and Figure 1.12); the pick-up in labor income—workers' earnings in major ASEAN economies and Korea rose as economic activity gradually resumed (Figure 1.13); as well as continued direct financial support in the form of cash handouts, wage subsidies, and debt relief programs. Pent-up consumer demand boosted retail sales in the first six months of 2021 (Figure 1.14). Sales of automotive fuels, clothing, and recreational sports and cultural goods rebounded as mobility improved, while purchases of electronics, and information and communications technology (ICT) products remained robust due to continued remote working arrangements and sustained growth in e-commerce. However, retail sales moderated in the second half of last year, weighed down by the emergence of the Delta and Omicron variants.

Private consumption is likely to improve gradually in the near term. The continued economic recovery and shift toward e-commerce would support domestic demand going forward, and the region's high vaccination rates are expected to sustain consumer confidence in the face of Omicron. However, household spending could be dampened by higher inflation due to elevated food and fuel prices. Discretionary spending, particularly among vulnerable households, could be constrained by income loss, debt overhang and eventual withdrawal of support policies.

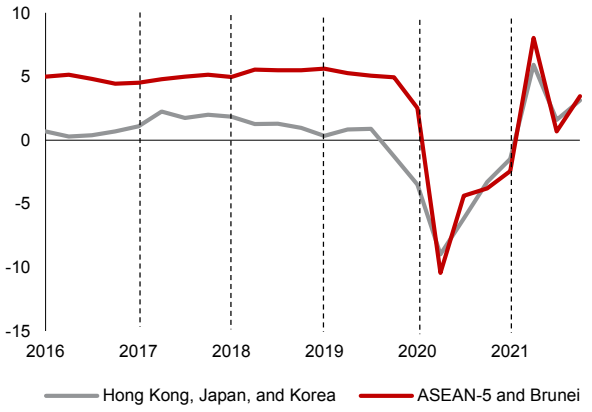
Private investment similarly rebounded in the first half of 2021 and moderated in the second half of the year. Gross fixed capital formation (GFCF) in the ASEAN+3 region, excluding China, rebounded strongly, following the relaxation of mobility restrictions that allowed more investment projects to resume, and strong external demand for electronics and other manufactured products, and spurred by easy access to credit (Figure 1.15 and 1.16). Investment activity moderated in the third quarter of the

year as the surge of infections in the region heightened business uncertainties. In China, idiosyncratic factors such as the tightening of regulatory measures on the property sector and tech companies led to slower growth in GFCF throughout 2021.

Investment activity is expected to improve further in 2022 as the region continues to reopen and recover. Approvals of new investment projects in key ASEAN economies remain on a positive trend and are poised to pick up further (Figure 1.17). Investment will also be spurred by national infrastructure-building programs highlighted in development strategies such as China's 14th Five-Year Plan, Indonesia's Fourth National Medium-Term Development Plan, the 12th Malaysia Plan, the Philippines' Build, Build, Build infrastructure program, and Thailand's Eastern Economic Corridor. The region's diversified trade linkages through multilateral trade agreements such as the Regional Comprehensive Economic Partnership (RCEP) and its collective focus on sustainable and digitalization-led growth, would continue to encourage long-term investments. However, rising interest rates, the build-up in private debt, and global uncertainty surrounding the pandemic and ongoing geopolitical tensions, cast a dark cloud over the investment outlook.

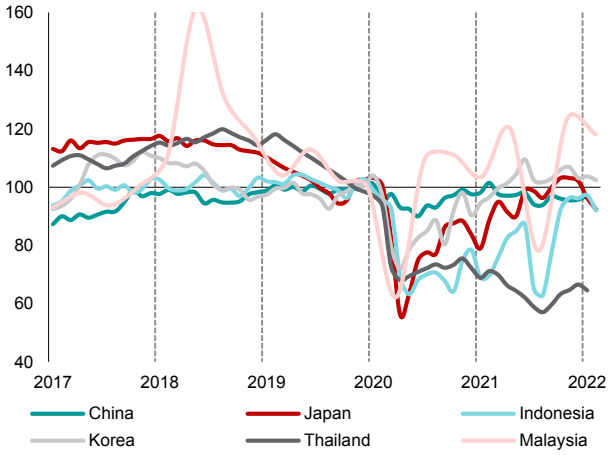
At the time of writing, most ASEAN+3 economies are assessed to be in the early phase of their business cycles. Only China, which rebounded strongly in late 2020 through 2021 following successful pandemic containment, and Korea and Singapore, which benefited from strong demand for exports of manufactured products and modern services[1] throughout 2021, are assessed to be in mid-cycle (Figure 1.18).

Figure 1.10. Selected ASEAN+3: Real Private Consumption Growth
(Percent, year-on-year)



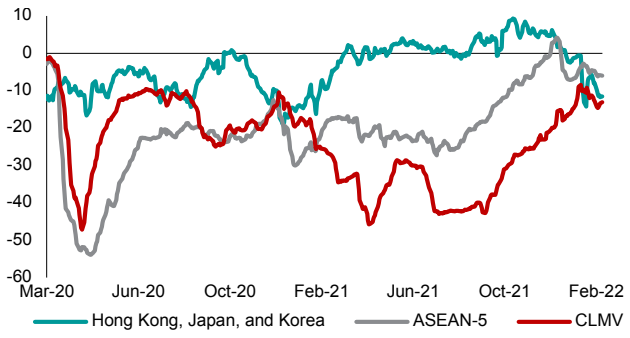
Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Private consumption data on China are not available. Q4 2021 data for Brunei are estimated by AMRO staff. ASEAN-5 = Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

Figure 1.11. Selected ASEAN+3: Consumer Confidence
(Index, October–December 2019 = 100)



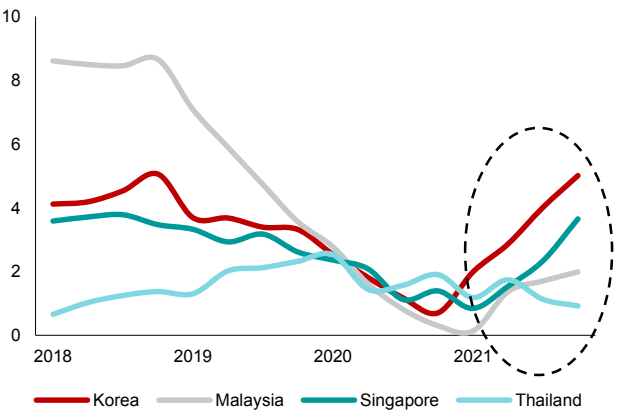
Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Data are monthly for all economies excluding Malaysia (quarterly). Data for Malaysia are indexed to Q4 2019 = 100.

Figure 1.12. Selected ASEAN+3: Aggregate Non-Residential Mobility
(Percentage change from baseline; 5-day moving average)



Sources: Google COVID-19 Community Mobility reports via Haver Analytics; and AMRO staff calculations.
Note: Baseline refers to the median value of the corresponding day in the period January 3–February 6, 2020. Non-residential mobility refers to aggregated mobility data for places such as groceries and pharmacies, retail and recreation facilities, transit stations, and workplaces. ASEAN-5 = Indonesia, Malaysia, the Philippines, Thailand, and Singapore. CLMV = Cambodia, Lao PDR, Myanmar, and Vietnam.

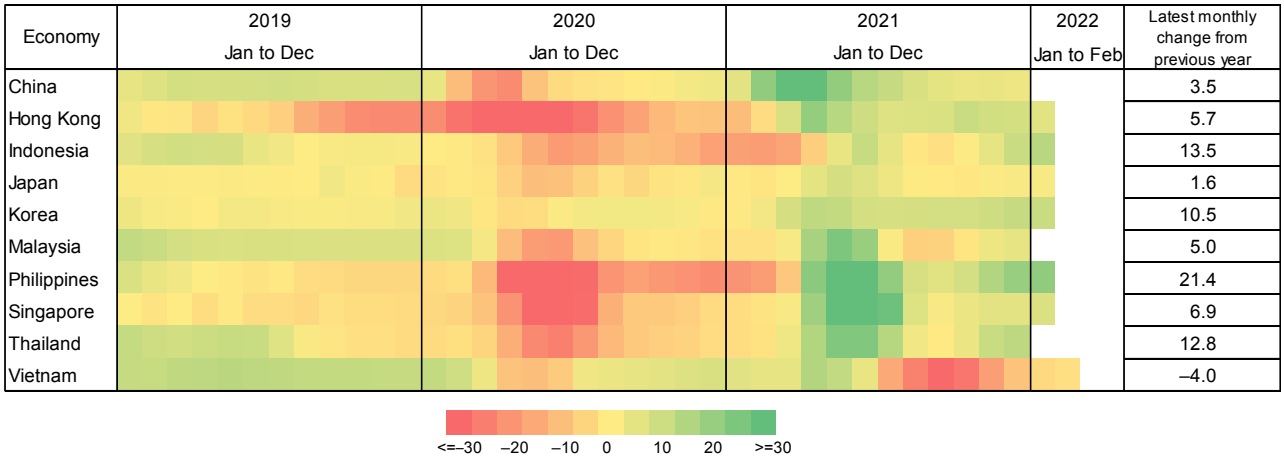
Figure 1.13. Selected ASEAN+3: Average Nominal Workers' Earnings
(Percent, year-on-year, 4-quarter moving average)



Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Nominal earnings are in local currency terms. Earnings for Malaysia refer to those in the manufacturing sector only.

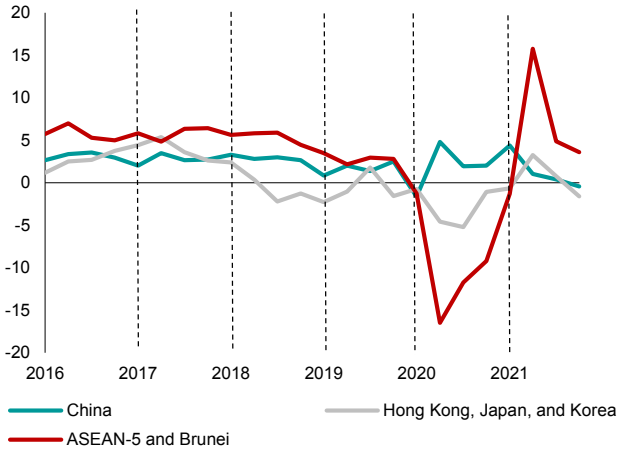
1/ Modern services can be defined as internationally tradable services that can be provided without the need for proximity between purchaser and supplier (Loungani and others 2017). Examples of modern services include ICT, finance and insurance, and professional services.

Figure 1.14. Selected ASEAN+3: Retail Sales Growth
(Percent, year-on-year, 3-month moving average)



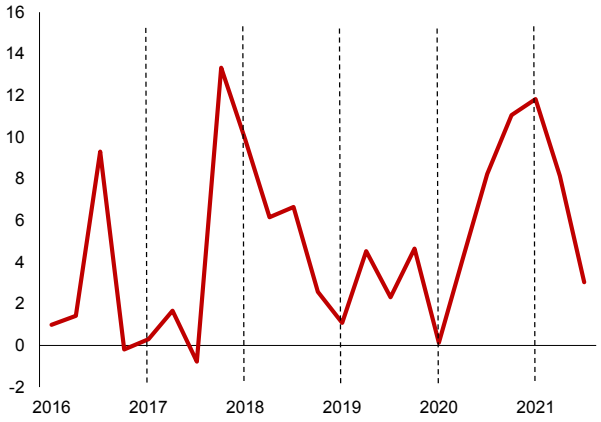
Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Calculated based on local currency values for all economies excluding Indonesia and Thailand (volume). Colors indicate the size and direction of change: the deeper the shade of red, the larger the negative change (with the darkest shade indicating a decrease of more than 30 percent year-on-year); the deeper the shade of green, the larger the positive change (with the darkest shade indicating an increase of more than 30 percent year-on-year).

Figure 1.15. Selected ASEAN+3: Real Gross Fixed Capital Formation
(Percent, year-on-year)



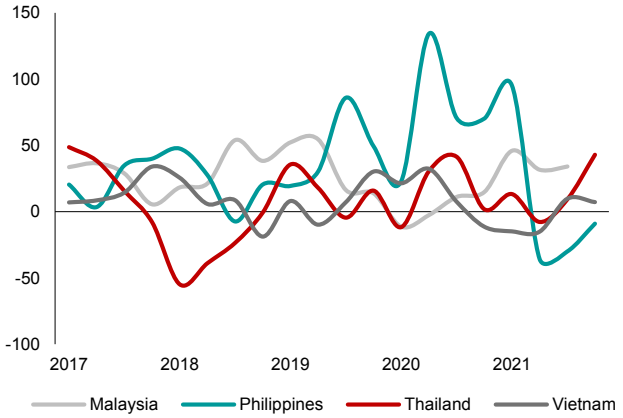
Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Data are unavailable for Cambodia, Lao PDR, Myanmar, and Vietnam. Q4 2021 data for Brunei are estimated by AMRO staff. ASEAN-5 = Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

Figure 1.16. Selected ASEAN and Korea: Growth of Real Credit to Private Nonfinancial Corporations
(Percent, year-on-year)



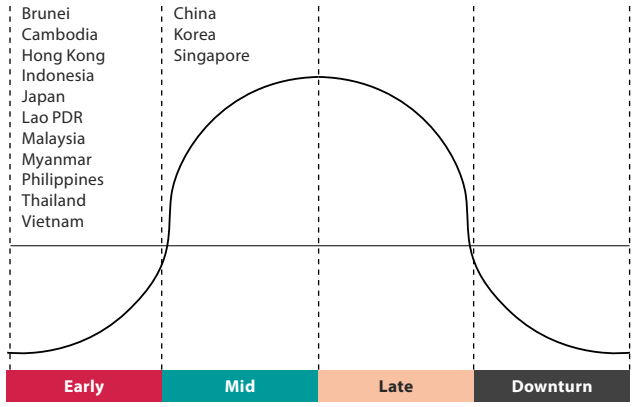
Sources: Bank for International Settlements via Haver Analytics; and AMRO staff calculations.
Note: Selected ASEAN = Indonesia, Malaysia, and Thailand. Data are up to Q3 2021.

Figure 1.17. Selected ASEAN: Investment Approvals
(Percent, year-on-year, 4-quarter moving average)



Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Data for Malaysia refer to capital investment in approved projects in the manufacturing sector. Data for Thailand refer to all sectors. Data for Vietnam refer to newly registered capital for foreign direct investment. Data refer to local currency values of approved projects, excluding Vietnam (in US dollars). Indonesia and Singapore are excluded due to unavailability of comparable data.

Figure 1.18. ASEAN+3: Business Cycle Position, February 28, 2022



Source: AMRO staff estimates.
Note: "Early cycle" indicates that growth is below trend and the output gap is negative and narrowing. "Mid-cycle" indicates that growth is around trend and the output gap is positive and widening. "Late cycle" indicates that growth is above trend and the output gap is positive and narrowing. "Downturn" indicates that growth is below trend and the output gap is negative and widening.

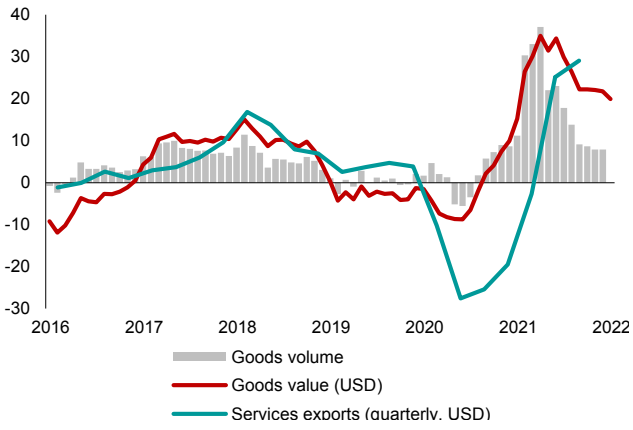
Robust External Demand—Boon and Bane

ASEAN+3 exports rebounded significantly in 2021 on the back of strong external demand. In 2021, ASEAN+3 exports grew by 28 percent year-on-year, from a modest expansion of 0.3 percent in 2020 (Figure 1.19). The pick-up in merchandise exports was broad-based, as the region's exporters benefited from strong demand in major markets, especially the United States, where the initial pandemic-induced demand for ICT goods such as computers and consumer electronics equipment broadened into a flood of retail spending buoyed by government stimulus checks and an easing of pandemic restrictions (AMRO 2021) (Figure 1.20).

Key ASEAN+3 semiconductor producers, in particular, benefited from strong global demand in 2021. Semiconductor chips are critical components in many consumer products, from smartphones to cars, and even washing machines. As economies started to reopen, demand for chips started to surge worldwide. Since late 2020, robust global demand has contributed to rising prices across various semiconductor segments (Figure 1.21 andFigure 1.22). At the same time, a global semiconductor chip shortage emerged, affecting more than 150 manufacturing sectors, including the automotive, technology, and consumer electronics sectors (Howley 2021). While the circumstances leading to the shortage of semiconductor chips have been developing over the past few years, they were exacerbated by production shutdowns in key ASEAN+3 factories implemented to contain COVID-19 infections. The supply constraint is particularly severe in mature-process chips (built from 200-millimeter wafers), which include display circuits and power management chips. AMRO staff's estimate of the semiconductor cycle suggests that existing supply and demand imbalances in the global industry will persist in 2022, or even beyond, but would not be as severe as in 2021 (Figure 1.23) (IHS Markit 2021, Yun 2021). Looking ahead, global chipmakers like Taiwan Semiconductor Manufacturing Company (TSMC), Samsung, and Intel have announced plans to ramp up production capacity and roll out more fabrication units, including in the region.[2]

Merchandise export growth in 2022 remains vulnerable to slowing economic recovery in key trading partners, global inflation risks, and global logistics bottlenecks. Dissipating base effects and slowing economic recovery in major markets such as the United States, Europe, and China could weigh on demand for the region's exports (Figure 1.24). In China, economic growth has slowed since the third quarter of 2021, crimped by new domestic virus clusters, power shortages, the impact of regulatory reforms in the high-tech sector and property markets, and sluggish consumer spending. In the United States and Europe, persistent supply chain chokepoints could continue to put a lid on goods spending. Rising inflationary pressures and tightening monetary conditions could also further dampen demand from major trading partners (Figure 1.25). Continued disruptions in global logistics and transport networks and lingering supply chain backlogs leading to persistent upward pressure on shipping costs would add headwinds to the outlook for ASEAN+3 merchandise exports in 2022 (IHS Markit 2021) (Box 1.1).

Figure 1.19. Selected ASEAN+3: Goods and Services Exports
(Percent, year-on-year, 3-month moving average)



Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Notes: For goods exports, selected ASEAN+3 include all Plus-3 and ASEAN-6 economies (Indonesia, Malaysia, the Philippines, Singapore, and Vietnam). For services exports, selected ASEAN+3 include all Plus-3, ASEAN-6 economies, Cambodia and Lao PDR.

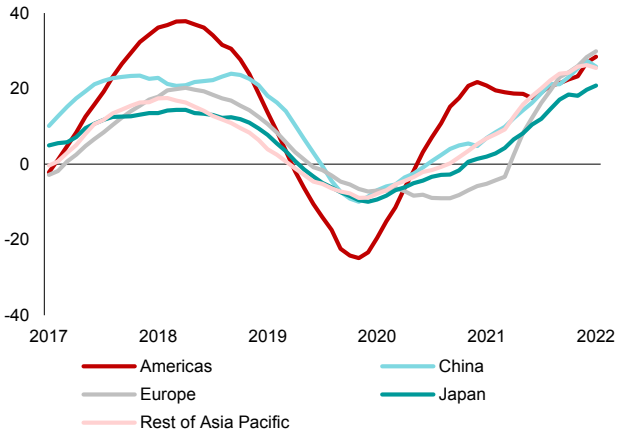
Figure 1.20. ASEAN+3: Goods Exports
(Percent, year-on-year, 3-month moving average)

Economy	2019 Jan – Dec	2020 Jan – Dec	2021 Jan – Dec	2022 Jan – Feb	Latest monthly change from previous year
PLUS-3					16.3
China					11.8
Hong Kong					17.9
Japan					–1.1
Korea					20.6
ASEAN					24.5
Brunei					142.7
Cambodia					25.6
Indonesia					34.1
Lao PDR					–11.5
Malaysia					19.0
Myanmar					–0.3
Philippines					8.9
Singapore					19.9
Thailand					9.0
Vietnam					15.5

Sources: National authorities via Haver Analytics; and AMRO staff calculations.

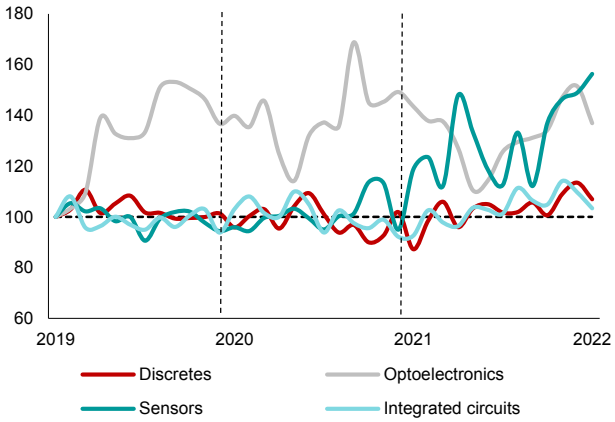
2/ For example, Reuters reported on November 10, 2021, that TSMC, the world's largest contract chip manufacturer, will team up with Sony to build a USD 7 billion chip plant in Japan that will likely start production by late 2024; Bloomberg reported on December 13, 2021, that Intel will build a new advanced chip packaging facility in Malaysia that is expected to begin production in 2024. The increase in capacity will mostly be driven by the advanced process nodes: by 2024, capacity for 200-millimeter wafers and the 300-millimeter category (which are utilized for the most advanced chips), are expected to grow by 18 and 50 percent, respectively. Additional capacity for the former will come from expansion in existing fab capacity, while for the latter, from the building of new plants (Takahashi 2021).

Figure 1.21. Global Semiconductor Billings, by Market
(Percent, year-on-year, 12-month moving average)



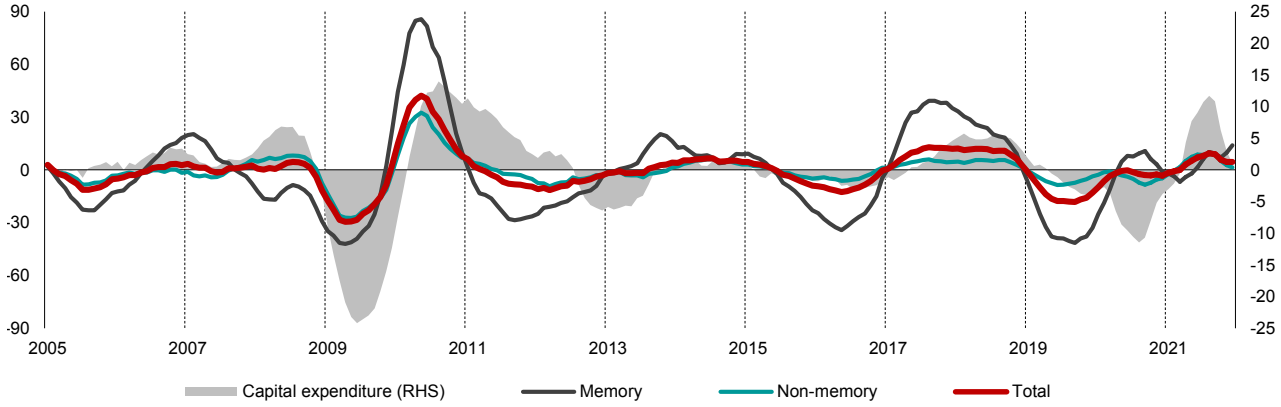
Source: World Semiconductor Trade Statistics, Inc.

Figure 1.22. Unit Price of Semiconductors, by Product Type
(Index, January 2019 = 100)



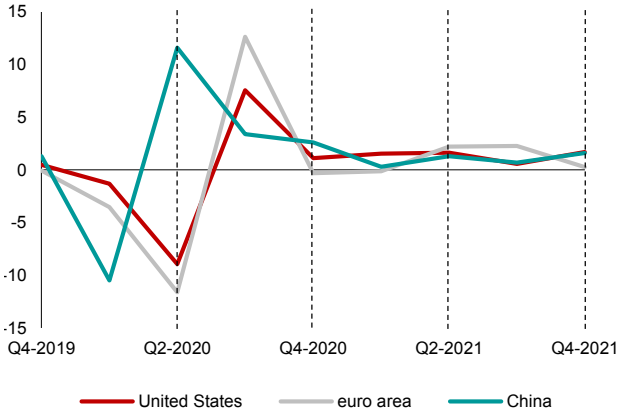
Source: World Semiconductor Trade Statistics, Inc.

Figure 1.23. Global Semiconductor and Capital Expenditure Cycles
(Percent, year-on-year, 6-month moving average)



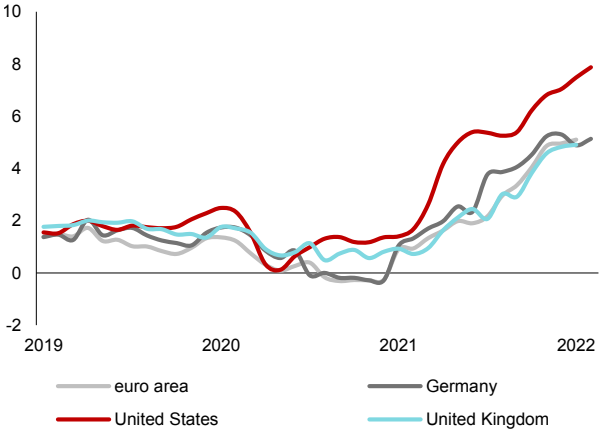
Sources: World Semiconductor Trade Statistics, Inc.; and AMRO staff calculations.

Figure 1.24. Selected Economies: Real GDP Growth
(Percent, quarter-on-quarter, seasonally adjusted)



Source: OECD.Stat.

Figure 1.25. Selected Advanced Economies: Consumer Prices
(Percent, year-on-year)



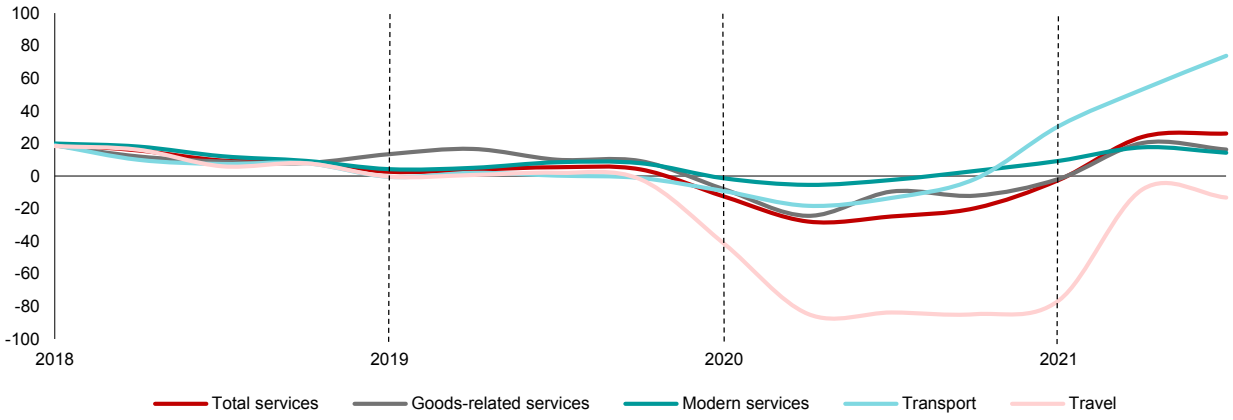
Sources: National authorities via Haver Analytics; and AMRO staff calculations.

The rebound in ASEAN+3 services exports continues to lag that of goods exports. The region's services exports grew by 8.7 percent (year-on-year) in the first half of 2021, a modest recovery after contracting by more than 21 percent during the same period in 2020. The recovery across ASEAN+3 services export sectors is expected to be uneven across sectors (Figure 1.26). The turnaround in travel and tourism exports—a significant growth driver for several regional economies—remains weak and uncertain, given changing travel and mobility restrictions in response to virus outbreaks around the world. Continued stringent travel restrictions in China, a key tourism source market, would also dampen tourism recovery in the region. At the same time, transport and modern services exports—such

as ICT, financial, and professional services—appear to be faring relatively well with recovery clearly underway. The differing speeds of recovery between these two categories of services exports will have significant growth implications on economies in the ASEAN+3 region in the longer run, depending on where their comparative advantage lies (see Chapter 2).

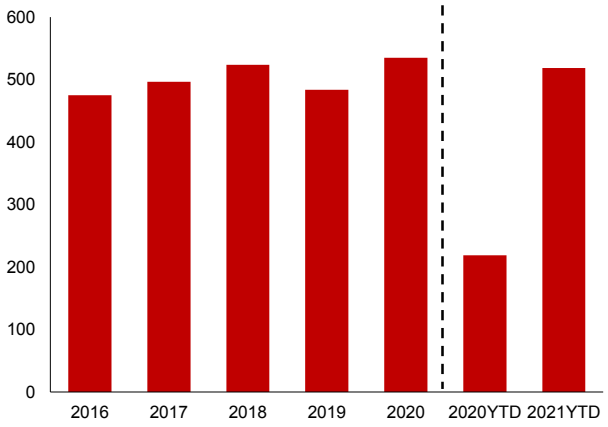
Actual, or realized, foreign direct investment (FDI) flows into the region continued to rise in 2021. Inward FDI flows maintained their upward trend from the second half of 2020, returning to their pre-pandemic levels by the first half of 2021 (Figure 1.27). The broad-based improvement in FDI inflows across subregions was supported by a cyclical pickup in global demand, structural reforms across the region, and the implementation of regional trade agreements. China continued to be the main destination for FDI, accounting for nearly 50 percent of the region's inward FDI inflows in the first half of 2021. FDI to China in the past year has mostly flowed into the services and high-tech sectors, while FDI inflows into the manufacturing sector have been muted by ongoing uncertainties in the global trade environment (Figure 1.28).

Figure 1.26. ASEAN+3: Quarterly Exports of Services by, Category
(Percent, year-on-year)



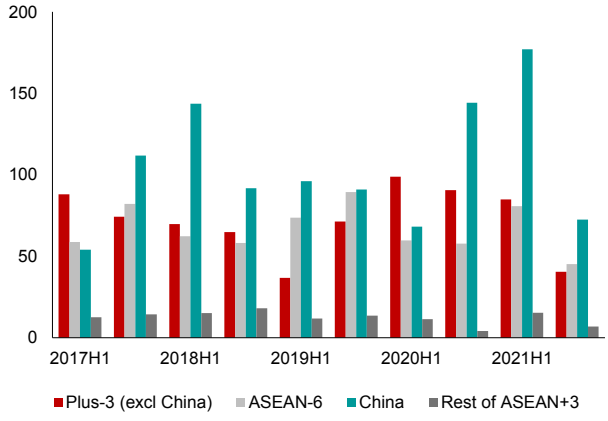
Source: UNCTADstat.

Figure 1.27. ASEAN+3: Foreign Direct Investment
(Millions of US dollars)



Sources: IMF Balance of Payments Statistics data; and AMRO staff calculations.
Notes: YTD = year-to-date. Data refer to the direct investment liabilities item in the balance of payments until Q3 2021, except for Lao PDR (only up to Q2 2021). Excludes Brunei and Myanmar due to unavailability of data.

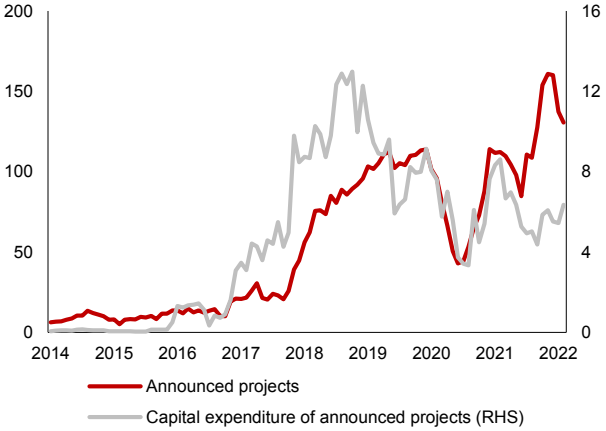
Figure 1.28. ASEAN+3: Foreign Direct Investment, by Regional Grouping
(Millions of US dollars)



Sources: IMF International Financial Statistics; and AMRO staff calculations.
Notes: H1 = first half of the year. Data refer to the direct investment liabilities item in the balance of payments. Plus-3 (excl China) = Hong Kong, Japan, and Korea; ASEAN-6 = Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam; Rest of ASEAN+3 = Cambodia and Lao PDR. Excludes Brunei and Myanmar due to unavailability of comparable data for the first half of 2021 (only up to Q4 2020 and Q3 2020, respectively). Latest bars represent data for Q3 2021, except for Lao PDR (only up to Q2 2021).

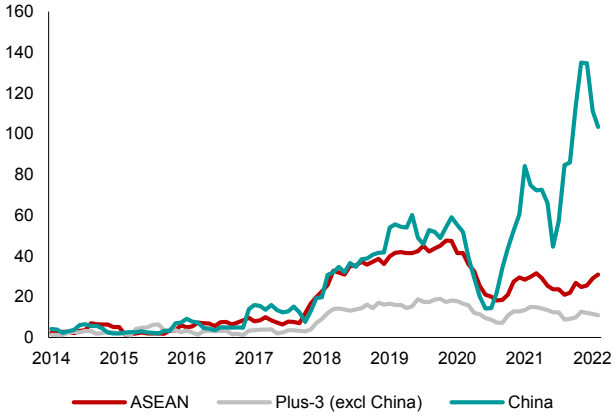
Looking ahead, business confidence in the region as an FDI destination remains positive, considering the uncertainties in the evolving pandemic situation. The number of FDI projects announced in 2021 recovered from the lows seen in the previous year, although the new announced projects appeared to be more modest in value terms (Figure 1.29).[3] Nearly 70 percent of the number of new projects announced in 2021 were destined for the China market, surpassing pre-pandemic levels; these were predominantly retail projects such as consumer electronics and luxury goods stores planned by major international brands in multiple cities (Figure 1.29). FDI project announcements for the rest of the region also picked up in 2021, although for ASEAN economies, in particular, they were not as high as in 2018–19, when trade tensions with the United States under the Trump administration diverted FDI interest from China toward these other locations (AMRO 2020). The manufacturing sector remained a key target of announced FDI projects for the rest of the region excluding China, while service industries such as retail, hotels, sales offices, and research and data centres are also increasingly attracting foreign investor interest—possibly in anticipation of the region's recovery from the pandemic (Figure 1.31).

Figure 1.29. ASEAN+3: Aggregate Inward FDI Announcements
(Number of projects; Billions of US dollars)



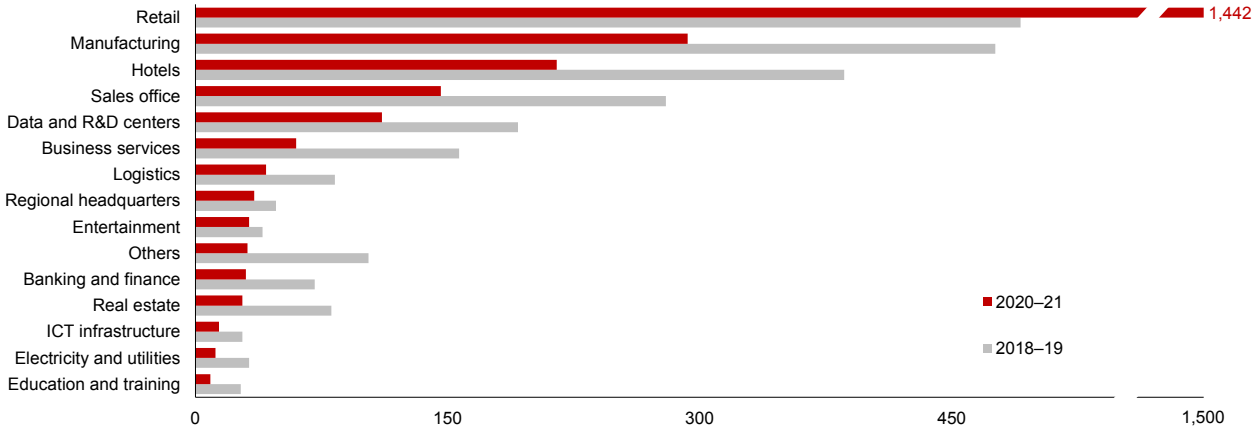
Sources: Orbis Crossborder; and AMRO staff calculations.
Note: FDI = foreign direct investment.

Figure 1.30. ASEAN+3: Aggregate Inward FDI Announcements, by Regional Grouping
(Number of projects)



Sources: Orbis Crossborder; and AMRO staff calculations.
Note: FDI = foreign direct investment. Plus-3 (excl China) = Hong Kong, Japan, and Korea; ASEAN = Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

Figure 1.31. ASEAN+3: Aggregate Inward FDI Announcements, by Sector
(Number of projects)



Sources: Orbis Crossborder; and AMRO staff calculations.
Note: FDI = foreign direct investment; ICT = information and communications technology; R&D = research and development.

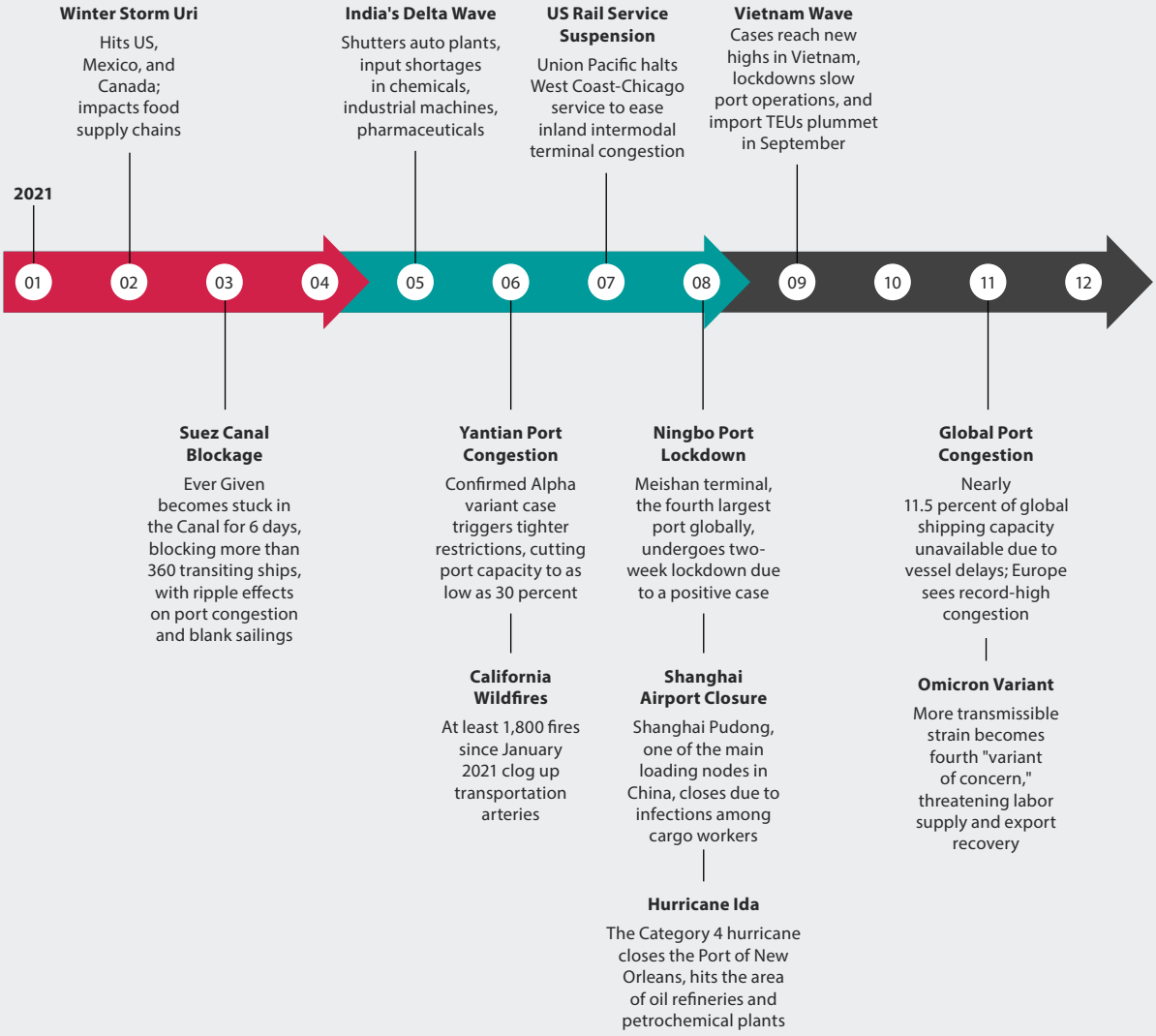
3/ There are four types of FDI project announcements: new projects, expansion projects, relocated projects, and co-located projects (i.e., those that are moved to a location where the investor already has existing business). An FDI project announced in a given year can start in that same year or in a future year; in some instances, an announced project could be subsequently canceled. Orbis data indicate that none of the FDI projects announced for the region in 2020 were canceled.

Box 1.1:

Supply Chain Disruptions: Causes and Implications for the Region

Undoubtedly, the pandemic has highlighted the vulnerability and fragility of global supply chains. While initially impacting trade in medical and other "essential" goods (AREO 2021), the pandemic has since introduced bottlenecks and constraints across supply chains of at least 150 other global industries due to lockdowns, mobility restrictions on workers, and general stoppages in economic activity to control the spread of the virus around the world (Figure 1.1.1). Prolonged supply chain disruptions have key implications for the ASEAN+3 region, depending on the nature of the disruptions and its channels of transmission. The impact has been felt keenly in ASEAN+3 economies which are deeply integrated in regional and global trade activities, are key semiconductor producers, or rely significantly on the shipping and logistics sectors as growth drivers.

Figure 1.1.1. Major Supply Chain Disruption Events in 2021



Sources: SupplyChainDive; and various media reports.
Note: TEU = 20-foot equivalent unit.

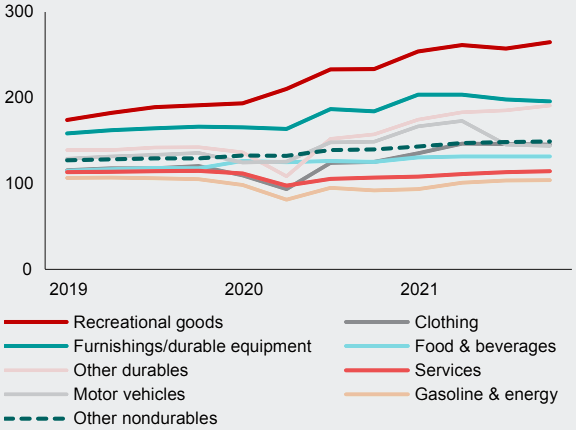
The authors of this box are Diana del Rosario, Marthe Hinojales, and Toàn Long Quách.

The supply chain disruptions that confronted ASEAN+3 economies arose partly from pandemic-driven demand factors. As the pandemic coursed through three different peaks in 2021, consumers around the world stocked up on a variety of goods, demand for which was driven primarily by efforts to resume normal daily activity. Demand for consumer electronic goods (e.g., liquid-crystal display screens, gaming consoles, and audio devices) soared, as did that for home workout equipment, as gaming arcades, gyms, and other fitness centers were closed down or access were restricted. The shift to remote working likewise drove demand for web cameras and work-from-home furniture, as well as headphones and mobile stereo headsets, which led the global consumer electronics market to grow by at least 18 percent year-on-year in the first half of 2021 (GfK 2021). Additionally, unprecedented fiscal stimulus in advanced economies, particularly in the United States, boosted the demand for consumer goods as spending on consumer services remained weak (Fitch Ratings 2021) (Figure 1.1.2). A recent survey by McKinsey and Company (2021) indicated that overall optimism and spending remained strong in nearly half of US consumers, with all income groups recording positive consumer spending between July 2020 and October 2021.

With ASEAN+3 economies highly integrated into the value chains of these commodities, regional exports benefited from the strong demand-side dynamics. Exports quickly rebounded, growing by nearly 45 percent year-on-year by the end of the first half of 2021 (see Figure 1.19). These gains were also reflected in relatively robust Purchasing Managers' indices (PMIs) in the region for new export orders, including for technology equipment (Figure 1.1.3).

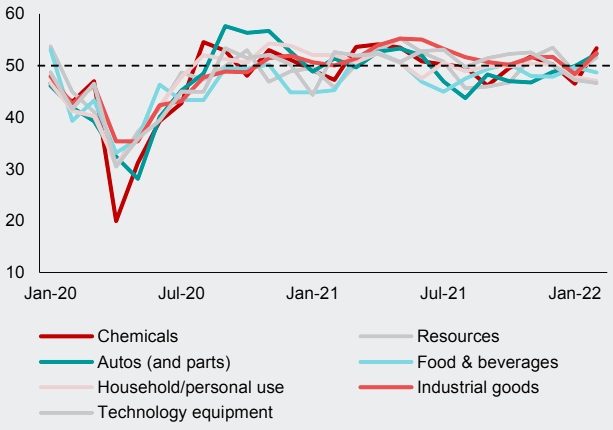
However, the region's manufacturing capacity has not been able to catch up with the growth in consumer demand for a variety of reasons. Port closures, raw material and input shortages, rising freight costs, and infrastructure issues have impeded regional manufacturers' ability to respond to the sudden flood in pandemic-driven demand. The resurgence in new infections due to the Delta variant prompted the re-imposition of automobile factory lockdowns in China's Guangdong and Wuhan areas in the third quarter of 2021, while in Vietnam, suppliers for key multinational enterprises including Samsung, Nike, and Adidas were forced to suspend operations due to community transmission of the virus in their facilities. Labor shortages arose because of required isolation or quarantine times, migrant workers kept out by border closures, or workers unable or unwilling to return to work due to infection or fear of infection.[1] The ensuing global shortages in critical production inputs—notably, semiconductors—further aggravated the situation for some key ASEAN+3 manufacturers. Virus outbreaks in Malaysia,

Figure 1.1.2. United States: Personal Consumption Expenditures, by Major Category
(Index, 2012 = 100)



Source: US Bureau of Economic Analysis.
Note: Data refer to seasonally adjusted quantity indexes. Other durables include jewelry and therapeutic equipment; other nondurables include pharmaceuticals, toys, tobacco, and magazines and newspapers, among others.

Figure 1.1.3. Asia: New Manufacturing Export Orders
(seasonally adjusted, >50 = expansion)



Source: IHS Markit.

1/ Thailand's food processing export sector, for example, is short of the nearly half a million workers that it typically sources from Myanmar (Phoonphongphiphat 2021). In Vietnam, key industrial sites appear to have only half the labor supply they need (Hoang 2021). Foreign-worker restrictions are also increasingly becoming a concern for companies in Singapore and Malaysia.

a key node in semiconductor supply chains, and Vietnam, a major producer of auto parts, forced automakers such as Toyota and Hyundai to cut production, with the former slashing output by as much as 40 percent in 2021 (Zimmerman 2021). A power supply crunch in China in the third quarter of 2021 forced factories to cut production, placing even more strain on global supply chains.

Bottlenecks at major shipping ports where the bulk of internationally traded goods are destined or pass through, also exacerbated the problem. Major ports around the world have been beset by reduced manpower and logistical holdups, leading to recurring port closures and suspension of feeder services, congestion and delays, a shortage of shipping containers, and surging shipping costs (Almendral 2021). With local movement restrictions, labor shortages in port and ancillary logistics services (e.g., truck drivers) hindered the timely loading and unloading of cargo shipments. Outdated port infrastructure in some destinations (e.g., the United States) also hampered productivity. Containers piled up at US and European ports waiting to be unloaded and loaded, with the result that there was a big shortage of containers in Asia for sending goods for export. These bottlenecks were compounded by events unrelated to the pandemic such as the accidental blockage of the Suez Canal in March 2021 and various weather-related natural disasters. The resulting tight shipping capacity caused container freight rates to spike more than five-fold compared to the pre-pandemic period and led to container-vessel delays at major ports in the United States and Europe, as well as the ASEAN+3 region (Figures 1.1.4 and 1.1.6). Globally, container vessel delays and freight rates eased somewhat in the first two and a half months of 2022, although bulker and tanker rates have picked up since the conflict between Russia and Ukraine—two major commodity exporters—broke out in late February 2022 (Figure 1.1.5).

The overall impact of these disruptions on ASEAN+3 has been negative. For economies that are key players in the global shipping industry—like the Plus-3—higher shipping costs have translated to booming profits for cargo shipping companies, despite reduced transport volumes; however, this is unlikely to have spilled over to the rest of the economy. Elsewhere in the region, persistently high freight costs could eventually lead to higher domestic prices. The longer shipping costs remain elevated, the greater the risk of pass-through to consumer prices.

AMRO staff's assessment is that global supply chain disruptions likely peaked at the end of 2021. Demand for imported consumer goods from advanced economies is likely to moderate in 2022 after the pent-up pandemic spending last year, and as consumption shifts toward consumer services with the removal of pandemic restrictions. While shipping rates are likely to remain elevated until next year, an increase in inventories in some sectors, in particular in the United States, could help ease the demand for shipping and logistics (Boata and others 2021). The shortage on the semiconductor front will likewise be helped—if not entirely addressed—by record-high investment spending to boost production this year, as in the case of TSMC. Labor shortages in the ASEAN+3 are being addressed through fast-tracked vaccinations, shorter isolation requirements, and relaxation in foreign worker entry restrictions.

Figure 1.1.4. Container Freight Rate and Global Container Vessel Turnaround Time
(Index, 2019 = 100)

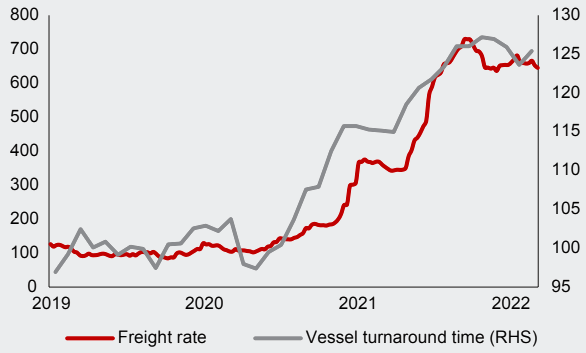
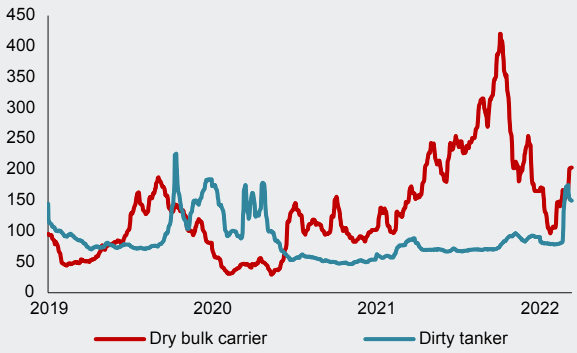
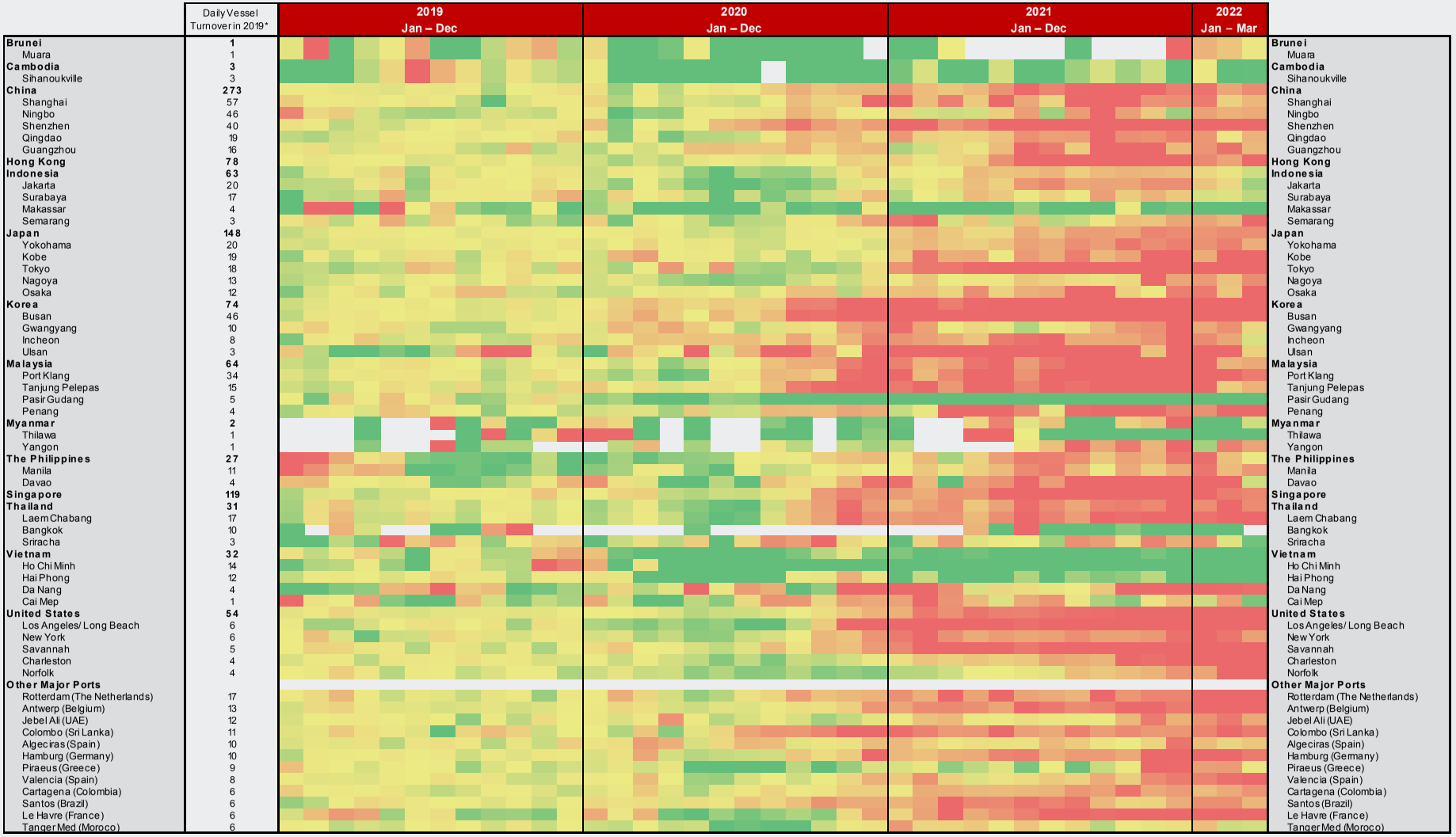


Figure 1.1.5. Dry Bulk and Tanker Freight Rates
(Index, 2019 = 100)



Sources: Bloomberg Finance L.P. (accessed on March 15, 2022); and AMRO staff calculations.
Note: Container freight rate refers to the World Container Index, a weighted average by volume of the spot container freight rates of a 40-foot container box for eight major East–West trade routes. Dry bulk carrier rate refers to the Baltic Dry Index, which tracks freight rates for bulk commodities such as coal, iron ore, and grade. Dirty tanker rate refers to the Baltic Dirty Tanker Index, which tracks freight rates for crude oil.

Figure 1.1.6. ASEAN+3 and Selected Economies: Vessel Turnaround Time at Major Container Ports
(Index, 2019 = 100)



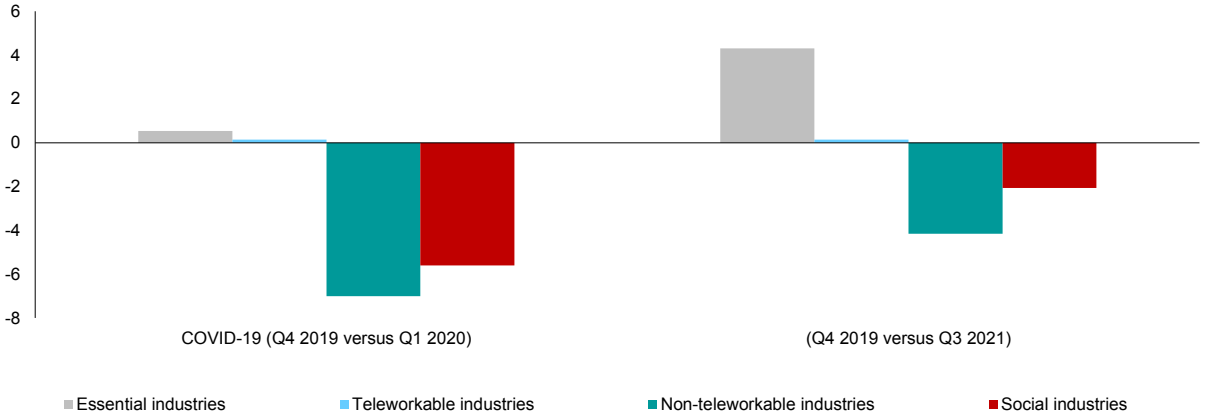
Sources: MarineTraffic; and AMRO staff calculations.
Note: Asterisk (*) refers to the average number of container vessels that arrived and departed said port within a day in 2019, before the pandemic. Empty cells denote that no container ship was recorded for the month. The heatmap includes only container ships with a carrying capacity of more than 2,000 twenty-foot equivalent units (TEUs), which tend to be involved in international trade. Red, yellow, and green refer to the 90th, 50th, and 10th percentiles, respectively, of the vessel turnaround time (2019 = 100) at the ports featured in the heatmap.
UAE = United Arab Emirates

Pockets of Unemployment Remain

The region's labor market recovery remains very uneven and far from complete, despite extraordinary policy support and a remarkable degree of adaptation to the pandemic "new normal." Even though headline unemployment rates across the region have fallen from their peaks during the lockdown recession of 2020, they are still higher than in the pre-pandemic period. The pandemic has had a differential impact on unemployment, with some industries more severely affected than others. High-contact social industries, in particular, have borne the brunt of the job losses, together with industries such as mining, manufacturing, and construction, where the majority of jobs are not amenable to telework. Encouragingly, relative to the pre-pandemic period (i.e., the fourth quarter of 2019), these job losses appeared to have eased in the third quarter of 2021, compared to the first quarter of 2020 (Figure 1.32). Empirical estimates using labor market surveys suggest that employment in high-contact social industries will continue to lag for some time whereas employment in essential industries (including utilities, ICT, and health) will see continued gains (Box 1.2).

The outlook for the region's labor markets remains challenging. While vaccine rollouts have raised hopes of economic recovery, renewed infection waves have caused containment measures to be reinstated in several economies. The unpredictable easing and tightening of restrictions has been disruptive to firms and workers and could have longer-term ramifications for worker dislocation and/or detachment (see Chapter 2). In addition, many migrant workers returned to their home countries after being laid off. While some have remigrated, others were displaced or decided to stop working abroad. As a result, inward remittances in the region continue to remain sluggish. This development stands in sharp contrast to the remittance flows during the global financial crisis when inbound earning transfers by overseas employees were resilient despite migrant destination economies going into recession (Choo and Oeking 2020). Over the longer term, the pandemic could worsen income distribution in the region and amplify social inequality (Jurzyk and others 2020).

Figure 1.32. Selected ASEAN+3: Change in Employment, by Industry, 2020–21
(Percentage points)



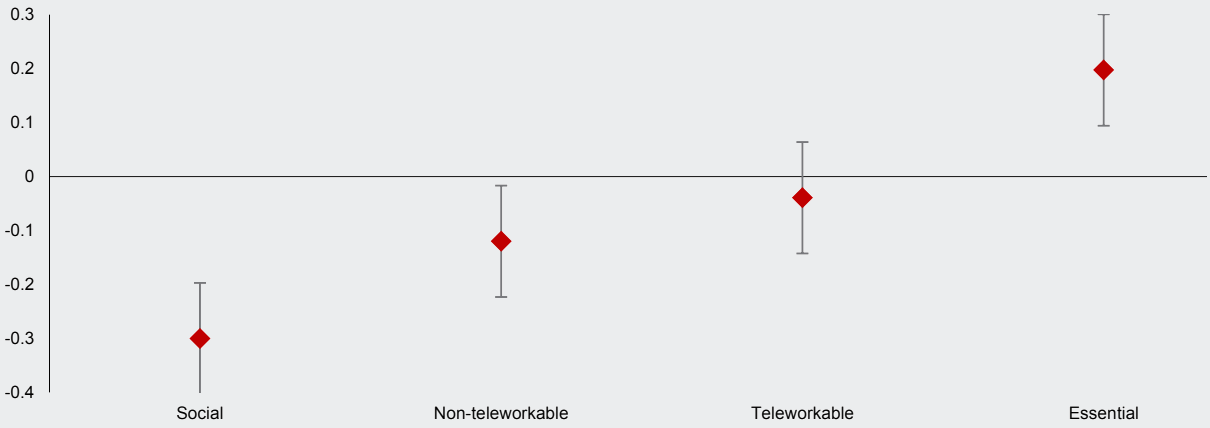
Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Selected ASEAN+3 refers to Hong Kong, Indonesia, Japan, Korea, Malaysia, the Philippines, Singapore, Thailand, and Vietnam. Calculations are based on seasonally adjusted employment data by industry, with series starting from Q1 2005 to Q3 2021. Essential industries refer to utilities, transport, information and communication, and health and public administration. Social industries refer to wholesale and retail, hotels and restaurants, and arts and entertainment. Non-teleworkable industries refer to mining, manufacturing, and construction. Teleworkable industries refer to finance, professional services and education. Given the volatile nature of agricultural employment data, the agriculture industry is excluded from the analysis.

Box 1.2:

The Pandemic's Impact on Employment in Different Industries

Empirical estimations using labor market surveys corroborate the differential impact of the pandemic on industry employment rates. Impulse response functions estimated using Jordà's (2005) local projection method on a sample of 15 industries across selected ASEAN+3 economies over the period from January 2006 to June 2021 suggest a significant and differentiated impact on industry employment rates in the 24 months following the pandemic shock. The cumulative differential response of changes in the employment rate following the pandemic shock is clearly negative for social and non-telework industries and positive for essential industries (Figure 1.2.1). The dynamic impulse response functions suggest that high-contact social industries would see a cumulative differential 0.3 percentage point decline in their employment rate over 24 months.[1] In contrast, the corresponding response for essential industries is +0.2 percentage points, which is consistent with the robust job creation observed to date in the utilities, ICT, and health industries.

Figure 1.2.1. Selected ASEAN+3: Cumulative Differential Response of Changes in Employment Rate to COVID-19 Shock, by Industry
(Percentage points)



Sources: National authorities via Haver Analytics; and AMRO staff estimates.
Notes: The figure shows coefficient estimates in cumulative terms over a 24-month horizon, with the corresponding one standard error bands around the point estimates. The regression specification is: $g_{jit} = a_{ij} + \gamma_{it} + \rho_{ji} + \sum_{k=0}^{l} \delta_k S_j C_{i,t-k} + Controls + \varepsilon_{jit}$ where the dependent variable g_{jit} is the change in employment rate for sector j in country i at time t; C_i is the stringency of containment measures in country i; S_j is sector j's exposure to COVID-19 (proxied by dummies for social, essential, and teleworkable industries); a_{ij} are country-industry fixed effects, to control for industry-specific factors, including cross-country differences in the growth of certain sectors that could arise from differences in comparative advantage; γ_{it} are country-month fixed effects, to control for any variation that is common to all sectors of a country's economy, including economy-wide reforms and macroeconomic shocks; and ρ_{ji} are industry-time fixed effects, to control for factors affecting specific industries that are common across countries. Standard errors are clustered at the country-industry pair level. Data are seasonally adjusted. Essential industries refer to utilities, transport, information and communication, and health and public administration. Social industries refer to wholesale and retail, hotels and restaurants, and arts and entertainment. Non-teleworkable industries refer to mining, manufacturing, and construction. Teleworkable industries refer to finance, professional services and education. Given the volatile nature of agricultural employment data, the agriculture industry is excluded from the analysis.

The author of this box is Anthony Chia Kiat Tan.

1/ Differential change refers to the change relative to the sample average.

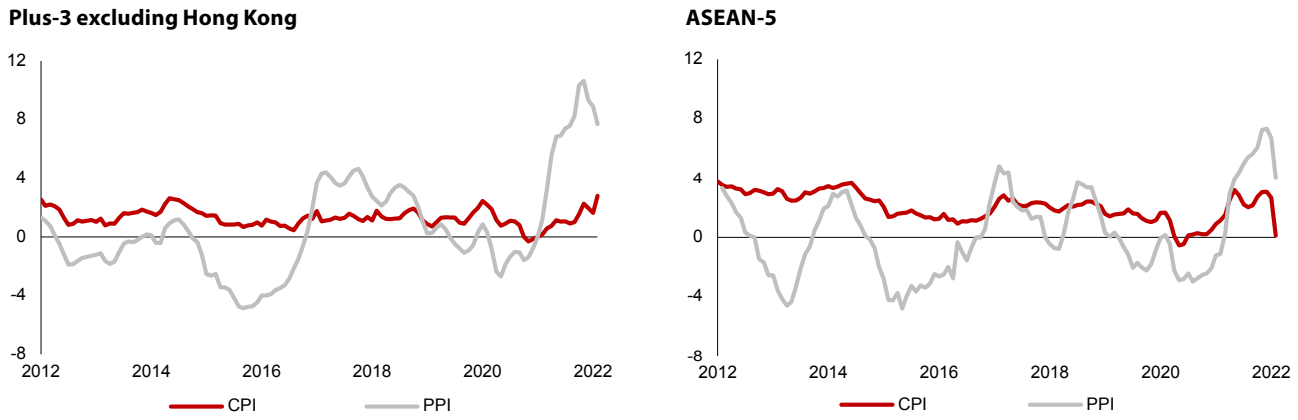
Inflation Stays Low, So Far

Global commodity prices surged in 2021 due to supply chain bottlenecks and strong demand recovery in major advanced economies and China (Kho and others 2021). Oil prices have been kept high by production cuts in OPEC+ countries but could come down as OPEC+ gradually moves toward full production and US shale production recovers (IEA 2022).[4]

In the ASEAN+3 region, supply constraints, coupled with strong export demand, led to a sharp increase in producer prices in 2021. Producer price indices (PPIs) rose across the region—to decade-high levels in the Plus-3 economies. Transportation, especially shipping, prices increased due to global supply chain bottlenecks, while input costs for resource-based manufactured goods, such as chemicals and chemical products, plastics, and rubber gloves increased due to higher commodity prices (Box 1.1; Box 1.3).

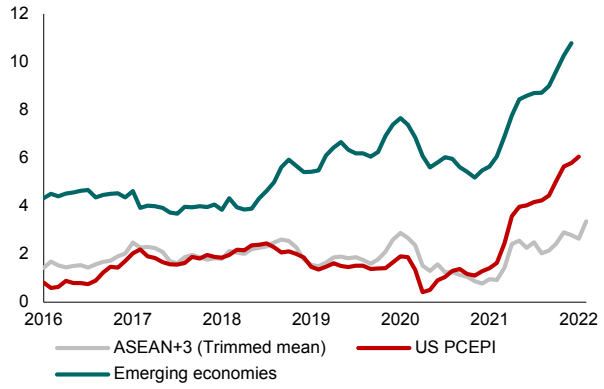
The increase in PPI inflation has not translated into higher consumer price inflation, which remains low relative to other advanced and emerging market economies (Figures 1.33 and 1.34). The deviation of producer and consumer price inflation in the region is due mainly to the different baskets of goods covered by the PPI and the consumer price index (CPI) and still-weak consumption demand. The relatively restrained increase in CPI inflation in the region relative to the rest of the world is attributable in part to the decoupling of the region's food prices from global food prices in recent years, as well as policy interventions such as food price ceilings and subsidies for food, energy, and consumer products, by governments in the region (Figure 1.35) (Jongwanich, Wongharoen, and Park 2016).

Figure 1.33. Selected ASEAN+3: Producer and Consumer Price Inflation
(Percent, year-on-year)



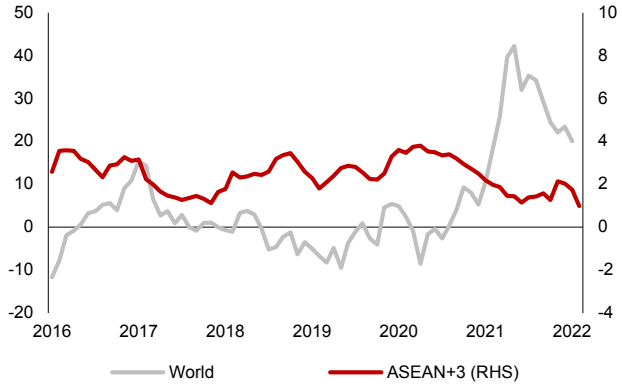
Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Hong Kong is excluded as monthly PPI data are unavailable. Plus-3 excluding Hong Kong = China, Japan, and Korea; ASEAN-5 = Indonesia, Malaysia, the Philippines, Singapore, and Thailand. Aggregate CPI and PPI are calculated as a simple average of individual economy's data series. CPI = Consumer Price Index; PPI = Producer Price Index.

Figure 1.34. ASEAN+3 and Selected Economies: Consumer Price Index
(Percent, year-on-year)



Sources: National authorities via Haver Analytics; Haver Analytics; and AMRO staff calculations.
Note: US = United States; PCEPI = Personal Consumption Expenditure: Chain-type Price Index. Trimmed mean refers to the simple average of the consumer price index for ASEAN+3 economies after excluding the highest and lowest 15th percentiles of data.

Figure 1.35. ASEAN+3 and World: Food Prices
(Percent, year-on-year)



Sources: IMF International Financial Statistics; national authorities via Haver Analytics; and AMRO staff calculations.
Note: Food prices refer to the Food and Beverage sub-index of the IMF World Commodity Price Index.

4/ OPEC+ refers to OPEC member countries and 10 other oil-exporting nations, including Russia and Kazakhstan. The coordinated production cut throughout 2021 was announced in December 2020. In January 2022, OPEC+ agreed to raise its output target by 400,000 barrels per day from February 2022 to meet rising global oil demand.

Box 1.3:

Potential Spillovers from China's Domestic Policies to Other ASEAN+3 Economies

As the largest economy in the ASEAN+3 region, China's domestic policies can have a potentially significant, if unintended, impact on the rest of the region. This box highlights two examples that came into focus during 2021: China's "three red lines" for property developers and China's carbon-neutrality goal. Our analysis concludes that while spillover effects on the region attributable to these policies were limited in 2021, they bear watching in 2022 and beyond as developments unfold in China.

Will China's property sector policies affect the region's financial stability and growth?

China rolled out the "three red lines" policy in January 2021 to foster the healthy development of the real estate sector and safeguard financial stability. The property market has been a main pillar of China's economic growth since homeownership was privatized in 1998. But in recent years, soaring land and house prices and credit to property developers began to raise concerns that the real estate sector could pose a danger to financial stability. The "three red lines" were designed to cap developers' debt growth by specifying tighter new criteria they would have to meet for access to financing: a liability to asset ratio (excluding advance receipts) of less than 70 percent; a net gearing ratio of less than 100 percent; and a cash to short-term debt ratio of more than one. At the same time, to guard against over-lending to the property sector, China's financial regulators also imposed caps on banks' outstanding property loans and mortgages as a proportion of total loans.

In the latter part of 2021, international financial markets were roiled by concerns over a possible default by the highly leveraged Evergrande Group, China's second-largest property developer (by sales). On September 23, 2021, Evergrande missed an interest payment on a 2 billion US dollar-denominated bond, triggering rumors of default and possible contagion in international financial markets. However, the company managed to make an eleventh-hour interest payment to stay afloat until early December when it announced in a filing that it could not guarantee being able to meet its financial obligations. On December 9, 2021, Fitch Ratings downgraded Evergrande and its subsidiaries to "restricted default"; eight days later, S&P Global Ratings officially declared Evergrande in default.

In the region's financial markets, spillovers from the Evergrande case have been limited, although contagion risks may bear watching. According to Ong and others (2021), the risk of spillovers to the region from real and perceived relationships with Evergrande is low because: bank loans for Evergrande's projects are predominantly from local banks, typically secured by land or other collateral; major international banks with significant emerging-market businesses and a dominant presence in Hong Kong reportedly have limited direct exposure to Evergrande; and there are no Evergrande projects of note in the ASEAN region. However, financial markets may remain jittery due to concerns about contagion from Evergrande's problems to other listed real estate firms whose debt is at risk, including some which, unlike Evergrande, have expanded into Southeast Asia in recent years (Ong and others 2021; Aw 2021).[1] It would be important for the Chinese authorities to mitigate any contagion risk that may arise from the failure of nonviable developers and ensure their orderly exit.

Of greater concern is the prospect that "overcooling" in the property sector could weigh significantly on China's overall growth, which would have negative spillovers in the region. As the property market began to lose momentum due to the tightening policies and lower demand, growth in land transactions turned negative and land premiums declined through most of 2021 (Figure 1.3.1). Property sales and new floor space also started to decrease: the two-year average growth rate of property investment dropped to 6.4 percent in

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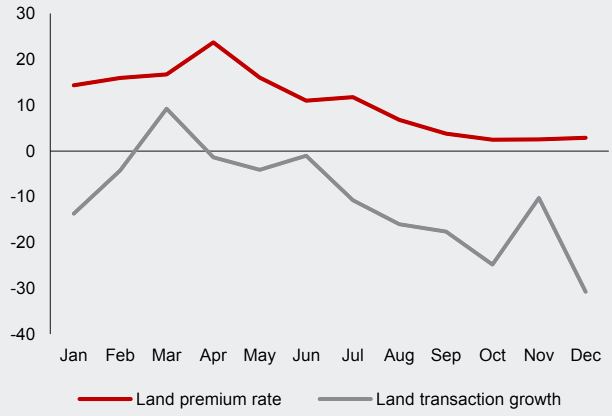
The author of this box is Hongyan Zhao.

1/ In addition to Evergrande, Kaisa Group, Fantasia Holdings, and Modern Land (China) all made headlines in 2021 over their failure to repay onshore and foreign creditors.

November 2021 from 9.9 percent in 2019 (Figure 1.3.2). On average, property fixed investment accounts for about 20 percent of total fixed-asset investment in China; considering the upstream and downstream links, the total contribution of the property sector to total GDP is estimated to be about 29 percent (Rogoff and Yang 2021). With property investment growth expected to continue to moderate in 2022, this would contribute to lower GDP growth in China and, potentially, the rest of the region—according to Del Rosario and Vu (2020), a 1 percent decline in China's GDP over a year is associated with a 0.8 percent decline in the output of ASEAN-5 and Plus-2 economies on average, with the estimated effect ranging from –1.9 percent for Singapore to –0.2 percent for Indonesia.[2]

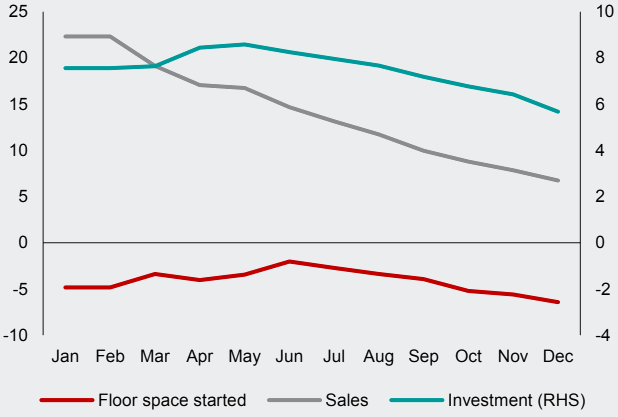
Recent tweaks by China to its property sector financing policies could help to reduce this risk. While the Chinese authorities are (rightly) expected to stand firm on policies to curb excess borrowing by property developers, they have introduced some flexibility in the rules to avoid over-tightening the sector and penalizing normal or legitimate developers, home buyers, and business activities. Ultimately, a steady and sustainable development of the property sector in China would have positive spillovers for the region.

Figure 1.3.1. China: Growth in Land Transactions and Land Premium Rates in 100 Major Cities, 2021
(Percent; percent, year-on-year)



Sources: Wind; and AMRO staff calculations.
Note: The growth rates of land transactions are calculated as two-year averages for 2020 and 2021.

Figure 1.3.2. China: Growth in Property Sales, Investment, and Floor Space Started, 2021
(Percent, year-on-year)



Sources: Wind; and AMRO staff calculations.
Note: The growth rates are calculated as two-year averages for 2020 and 2021.

Could China's carbon-neutrality goal cause sustained inflationary pressures in the region?

China's ambitious carbon pledges at the United Nations (UN) in September 2020 have made energy consumption control a high priority nationwide.[3] Efforts to control energy consumption had started as early as 2015 when China adopted the dual control system to reduce energy intensity (energy consumption per unit of GDP) and limit total energy consumption for ecological and environmental protection.[4] The dual control system sets annual targets for the reduction of national total energy consumption and energy consumption intensity, breaks down the targets to various regions, and conducts strict assessments at the end of every year.[5] Thanks in part to this system, China has been able to steadily bring down its energy intensity level. The dual control system has taken on added significance since the fall of 2020 when President Xi Jinping pledged that the country would peak carbon dioxide emissions by 2030 and be carbon neutral by 2060.

2/ Li and Liu (2018) find weaker spillover effects, namely that a 1 percentage point drop in China's GDP growth will lead to a 0.1–0.6 percent decline in ASEAN's GDP.

3/ Other major economies and the European Union had also made climate commitments, but China's announcement was noteworthy for giving fresh impetus to the UN's efforts to galvanize action on the climate crisis amid the COVID-19 crisis and then-President Trump's decision to withdraw the United States from the Paris Climate Accords.

4/ The energy-intensity target has a longer history that dates back to the 11th Five-Year Plan (2006–10).

5/ The 13th Five-Year Plan (2016–20) required that by 2020, energy intensity would be reduced by 15 percent compared with 2015, and total energy consumption would be under 5 billion tons of standard coal.

Late last year, limitations on energy use contributed to power crunches in several regions in China that curbed production and drove up prices of major raw materials. In August 2021, China's National Development and Reform Commission (NDRC) issued a status report for the first half of the year warning that several regions were not on track to meet their energy intensity-reduction targets.[6] Soon after that, some provinces that received progress alerts started to employ power rationing and production curbs on high energy-consuming industries. The power rationing came on top of challenges to the electricity supply caused by severe weather conditions and high coal prices, and the rising demand for electricity due to economic recovery. The resulting power shortage aggravated the shortages caused by reductions in the production of major raw materials such as steel, copper, coke, and aluminum, pushing up their prices and, correspondingly, China's producer price index (PPI) (Jiao 2022) (Figures 1.3.3 and 1.3.4).

The price hikes impacted PPIs in the region, but the impact is expected to moderate after China implemented short-run measures to alleviate the power shortage. China accounts for a large share of global production of major metal products such as raw steel, aluminum, copper, lead, and zinc (Figure 1.3.5), whose prices soared due to the reduction in supply. PPIs in other ASEAN+3 economies—notably, Indonesia, Malaysia, and Thailand—rose commensurately, reflecting the raw materials' shares in their industrial production (Figure 1.3.6). However, the PPI increase in China moderated soon after the authorities took various measures to guarantee the coal supply and boost power generation, and the impact on PPIs in the region is expected to abate as well.

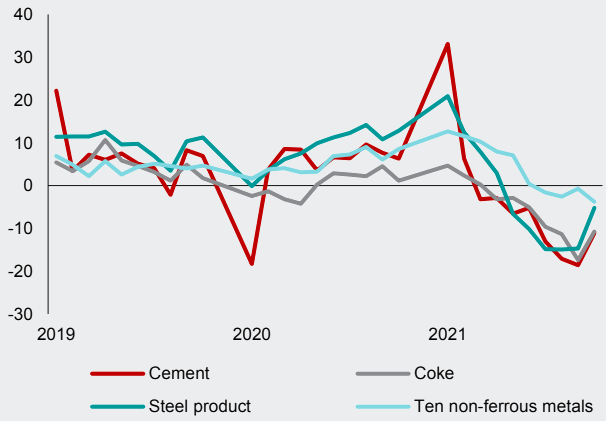
Nevertheless, going forward, the region's economies would do well to prepare for possible spillover effects on metal and other raw material prices from China's transition to meet its climate and energy goals. The energy-intensive raw materials sector has long served as a foundation for China's economy, but it is coming under increasingly strong regulation to curb carbon dioxide emissions in support of the country's carbon neutrality goal. In November 2021, the NDRC introduced a new set of energy consumption benchmarks to improve energy efficiency and reduce emissions in five high energy-consuming industries including steel, cement, and chemicals in the raw materials sector. The 14th Five-Year Plan (2021–25) envisions a 13.5 percent reduction in energy intensity by 2025. These are challenging targets (Zhai and Foo 2022) and while the sort of power rationing that occurred in the fall of 2021 should be less likely as provincial authorities adopt a more forward-looking approach in managing their energy use profile, the region should be prepared for potential spillover effects on PPI inflation as China slows down the production of bulk raw materials to meet its carbon neutrality goal.

The potential nature and extent of spillovers could be varied. As China slows down the production of bulk raw materials to meet its carbon neutrality goal, the price of energy inputs for raw materials production can be expected to drop while raw materials prices can be expected to rise. Regional economies that import raw materials from China can expect to face a deterioration in their terms of trade and inflationary risks,[7] while the inflationary risk would be lower for economies that produce or export the same raw materials as China (such as Indonesia, which is a net exporter of coal). More broadly, from a financial standpoint, the transition process in a large economy such as China could be accompanied by fluctuations in global commodity and raw material futures and options markets, financial risks from stranded assets especially in the power generation sector, and "green bubbles" from excessive investment in renewable energies—which could potentially contribute to financial market uncertainties in the region.

6/ Nine regions received "first-level" alerts after their energy intensity increased; 10 regions received "second-level" alerts after their energy intensity decreased less than the proposed targets (Kong and Li 2021).

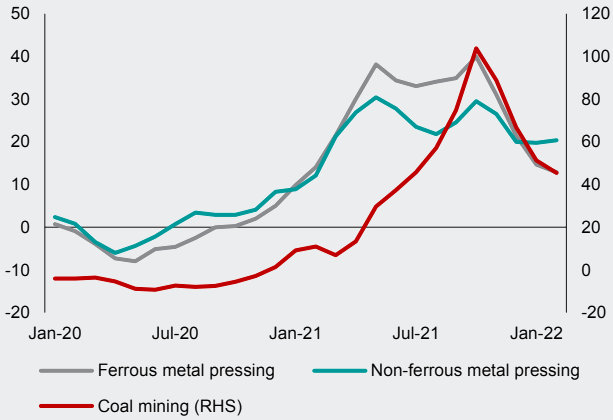
7/ Imports may be partially compensated by domestic production, the extent to which depends on different economies' capacities of producing those raw materials.

Figure 1.3.3. China: Production of Major Raw Materials
(Percent, year-on-year)



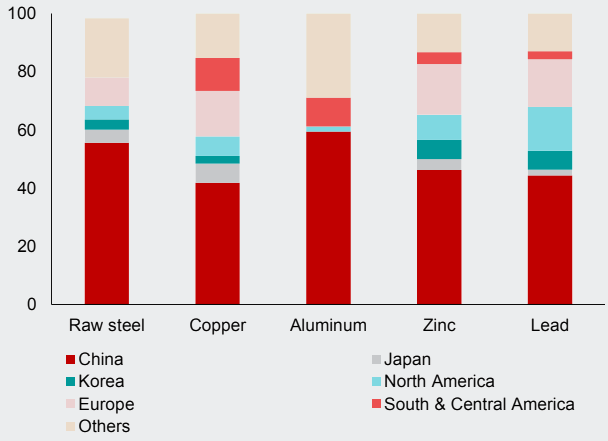
Source: Wind.
Note: Ten non-ferrous metals include copper, aluminum, lead, zinc, nickel, tin, antimony, magnesium, titanium, and mercury.

Figure 1.3.4. China: Producer Price Index in Selected Industries
(Percent, year-on-year)



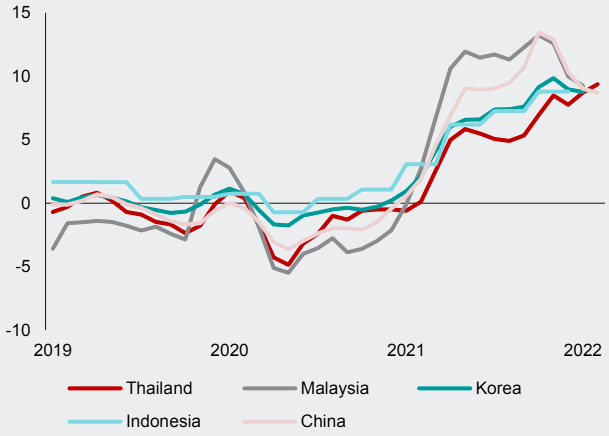
Source: CEIC; and AMRO staff calculations.

Figure 1.3.5. China: Share of World Production of Selected Metals, 2020
(Percent)



Sources: Bloomberg Finance L.P., US Geological Survey; and AMRO staff calculations.
Note: Copper, zinc, and lead are refined. Aluminum is smelter-grade.

Figure 1.3.6. Selected ASEAN+3: Producer Price Index
(Percent, year-on-year)



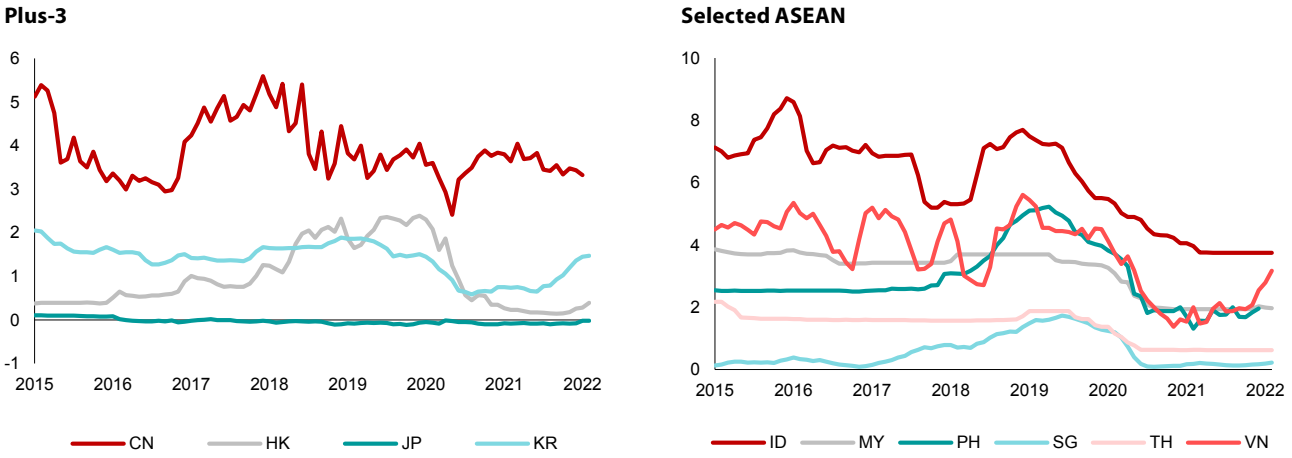
Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Data are up to January 2022 for China and Thailand; December 2021 for Korea, Malaysia, and Indonesia.

Credit Conditions Vary across the Region

Credit growth in the region has been generally firm. Both household and nonfinancial corporate borrowing have increased during the pandemic. The deployment of monetary easing measures to ensure liquidity in financial markets and regulatory forbearance to support banks' balance sheets has allowed banks to restructure or roll over their existing loans to businesses and households and avoid a decline in loan growth and a sharp rise in nonperforming loans (NPLs). Interbank and deposit rates are at historically low levels in most economies (Figures 1.36 and 1.37), helping to keep borrowing costs affordable for households and businesses (Figure 1.38). Outstanding household and corporate debt has continued to rise at different rates across the region (Figures 1.39 and 1.40). Debt levels have continued to increase markedly in the Plus-3 economies, but the increases have been more moderate and disparate in the ASEAN economies, reflecting dissimilar degrees of financial and policy support provided to the household and corporate sectors. In Korea, concerns about rising inflation and household debt prompted the central bank to raise interest rates in November 2021, and in China, concerns about developments in the property sector prompted the authorities to impose stricter regulations on leverage for property developers.

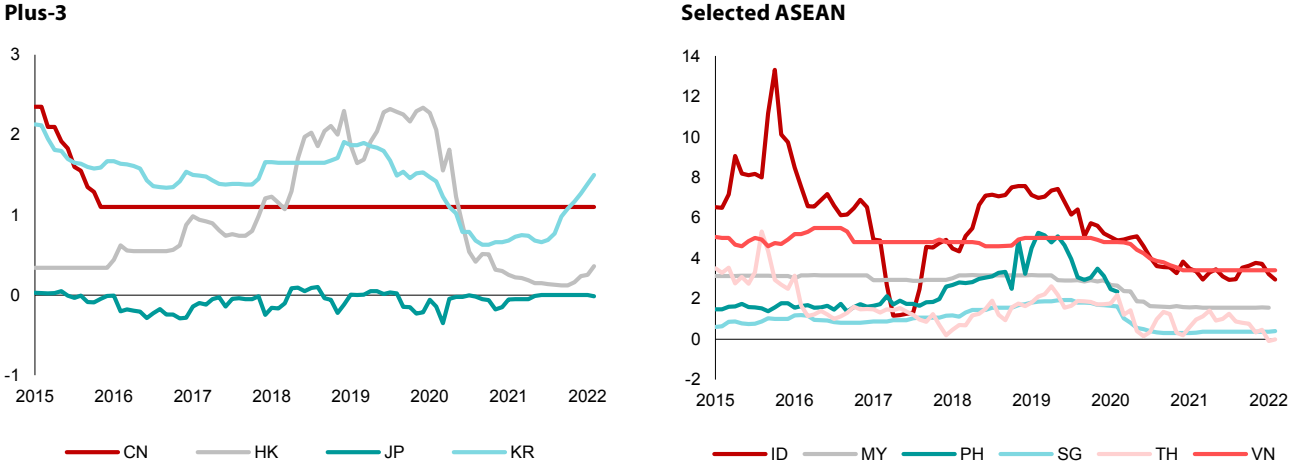
At the time of writing, ASEAN+3 economies are in different phases of their respective credit cycles. Credit growth is recovering in the ASEAN-4 and Vietnam, in tandem with the recovery in economic activity (Figure 1.41). Hong Kong, Korea, and Singapore are in the expansionary phase of their credit cycle, driven mainly by strong demand for mortgage loans amid robust growth in the property sector (Figure 1.42). Japan continues to implement the large lending schemes introduced at the onset of the pandemic, although the amount of new lending under the schemes has slowed reflecting lower precautionary

Figure 1.36. Selected ASEAN+3: 3-Month Interbank Rates
(Percent)



Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; VN = Vietnam.

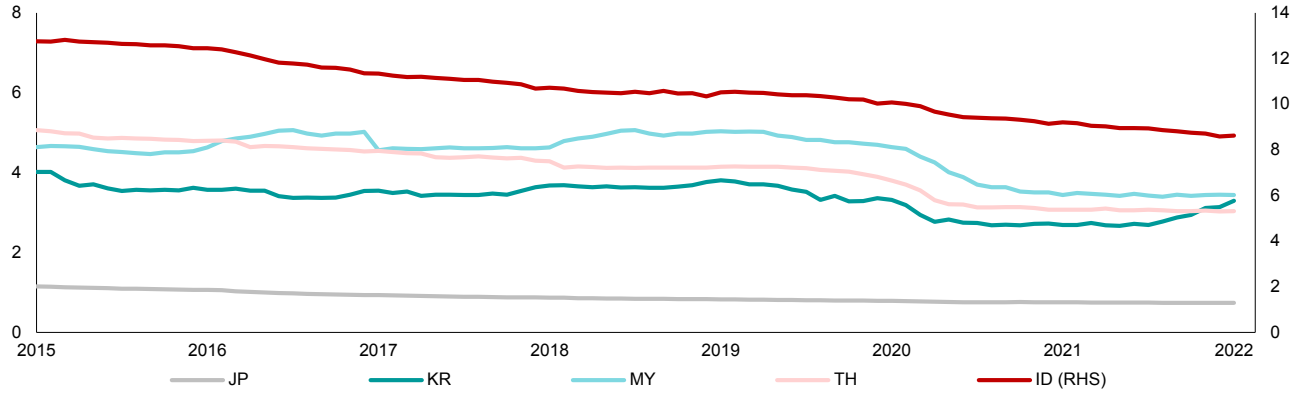
Figure 1.37. Selected ASEAN+3: 3-Month Deposit Rates
(Percent)



Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; VN = Vietnam. Deposit rates data for PH have been unavailable since 2020 due to the suspension of bank report submissions under the New Economy Arrangement.

liquidity demand. The slower extension of credit in China is due to the tightening of regulatory measures, as well as the overall deleveraging policy that has been in place since 2020. Brunei and Lao PDR are also experiencing slower credit growth, reflecting more subdued credit demand amid a prolonged COVID-19 outbreak in the second half of 2021. Credit growth in Myanmar, as measured by quarter-on-quarter growth, turned negative in the second quarter of 2021 following the declaration of the state of emergency in February 2021.

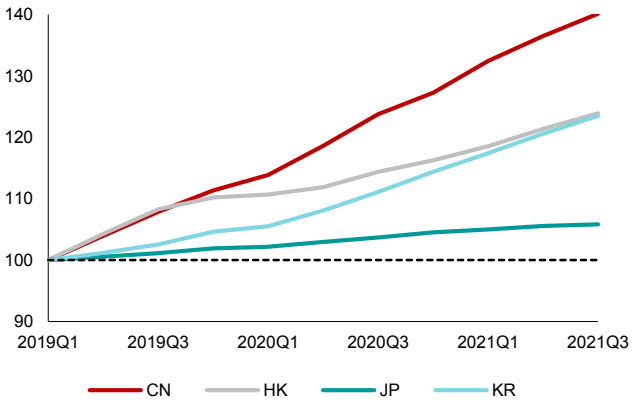
Figure 1.38. Selected ASEAN+3: Lending Rates
(Percent)



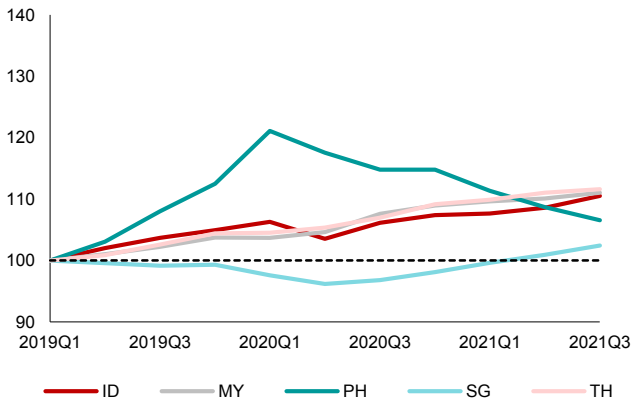
Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: The definition of lending rates varies across economies and refers to the average lending rate, working capital credit rate, and interest rate on new loans to firms, among others.
ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; TH = Thailand.

Figure 1.39. Selected ASEAN+3: Household Debt
(Index, 2019Q1 = 100)

Plus-3



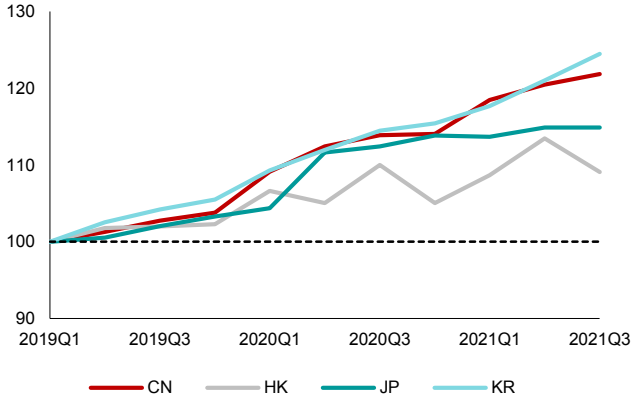
ASEAN-5



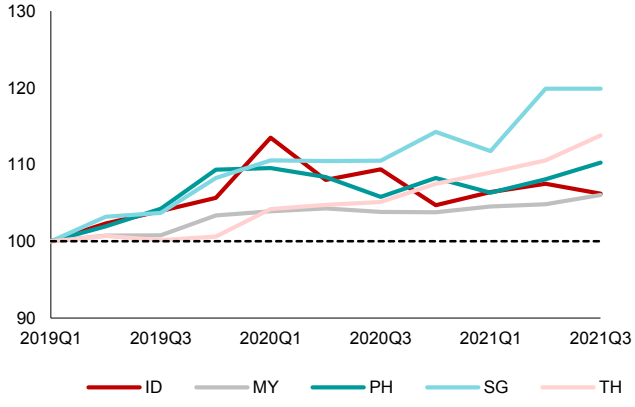
Sources: Bank for International Settlements and national authorities, both via Haver Analytics; and AMRO staff calculations.
Note: CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand.

Figure 1.40. Selected ASEAN+3: Nonfinancial Corporate Debt
(Index, 2019Q1 = 100)

Plus-3

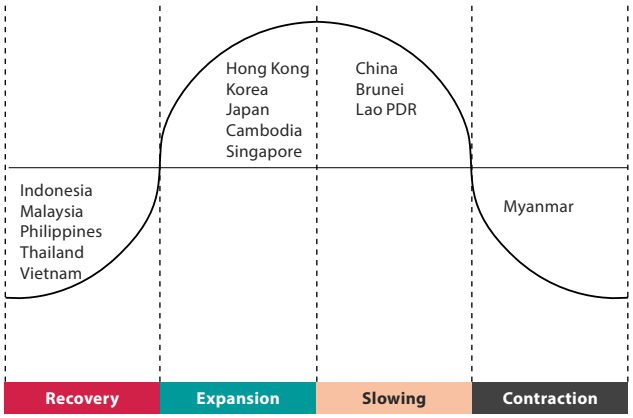


ASEAN-5



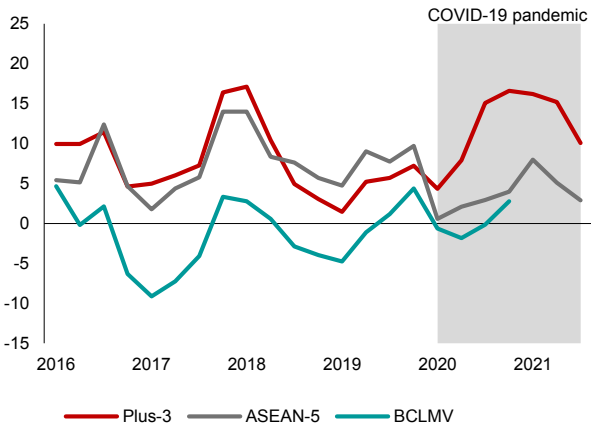
Sources: Bank for International Settlements and national authorities, both via Haver Analytics; and AMRO staff calculations.
Note: CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand.

Figure 1.41. ASEAN+3: Credit Cycle Position, February 28, 2022



Sources: AMRO staff estimates.
Note: The credit cycle can be measured by the credit gap, which is the deviation of an indicator constructed by aggregating real credit growth, real property prices (where available), and the credit-to-GDP ratio from its trend value. "Expansion" indicates that the credit gap is positive and widening—credit growth is positive and property prices are rising. "Slowing" indicates that the credit gap is positive and narrowing. "Contraction" indicates that the credit gap is negative and widening—credit growth is negative and property prices are falling. "Recovery" indicates that the credit gap is negative and narrowing.

Figure 1.42. ASEAN+3: Growth in Credit to the Private Sector
(Percent, year-on-year)



Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Plus-3 = China, Hong Kong, Japan, and Korea; ASEAN-5 = Indonesia, Malaysia, the Philippines, Singapore, and Thailand; BCLMV = Brunei, Cambodia, Lao PDR, Myanmar, and Vietnam.

Steady Capital Inflows amid Financial Market Scares

Capital flows into the region were strong in 2021, driven almost entirely by flows into debt markets, especially China and Korea (Figure 1.43, Table 1.3). Most regional equity markets saw outflows, with the exception of China, which benefited from inflows from Shanghai and Shenzhen Stock Connect programs as offshore stocks underperformed as a result of regulatory changes, and Indonesia, where a large number of initial public offerings by tech companies attracted foreign interest. Regional bond markets mostly experienced inflows. If US bond yields were to rise at a faster pace because of a more hawkish than anticipated stance by the US Federal Reserve (the Fed), regional bonds could become relatively less attractive for foreign investors. However, this would not necessarily translate into substantial capital outflows if country-specific factors remain favorable. Continued domestic economic recovery will also create room for monetary tightening in some economies, thus limiting any worsening of relative bond valuations.

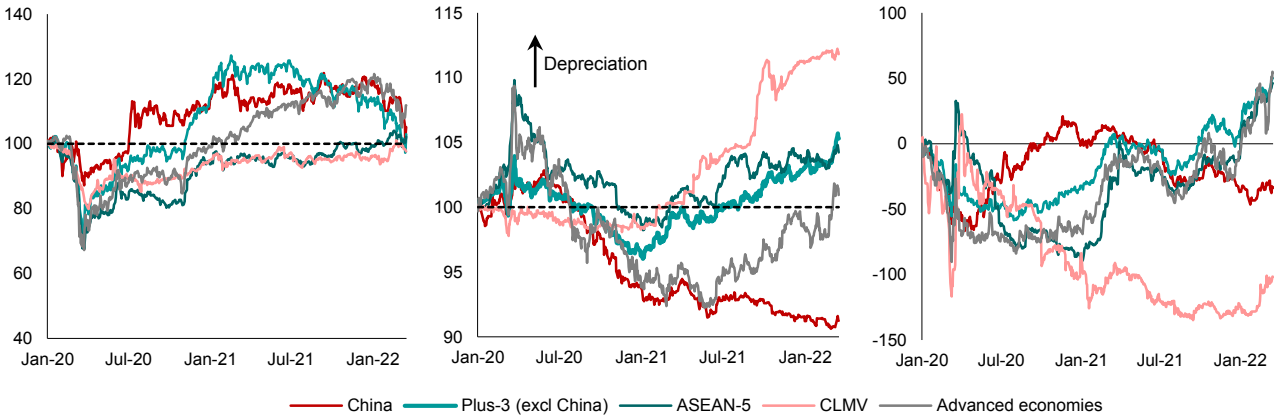
Looking ahead, some of the key themes that preoccupied global and regional financial markets in 2021 are likely to carry over to 2022. Prime among them are growth, inflation, and the monetary policy outlook in the United States (Box 1.4). In addition, developments in China's real estate sector could be taken by financial markets to signal potential vulnerabilities ahead, notwithstanding recent measures implemented by the authorities to strengthen the sector's resilience (Box 1.3).

Figure 1.43. ASEAN+3 and Selected Advanced Economies: Performance of Equity, Exchange Rate, and Government Bond Markets

Equity Returns
(Index, Dec 31, 2019 = 100)

Exchange Rate against USD
(Index, Dec 31, 2019 = 100)

10-year Government Bond Yield Returns
(Basis points, Dec 31, 2019 = 0)



Sources: Atlantic Council; Bank for International Settlements; national authorities via Haver Analytics; and AMRO staff calculations.
Notes: Data are up to March 17, 2022. Selected advanced economies = United States, euro area, and United Kingdom; Plus-3 (excl China) = Hong Kong, Japan, and Korea; ASEAN-5 = Indonesia, Malaysia, the Philippines, Singapore, and Thailand; CLMV = Cambodia, Lao PDR, Myanmar, and Vietnam. Data for Brunei and bond yield returns for Cambodia, Lao PDR and Myanmar are unavailable. Exchange rates are quoted against the US dollar; for advanced economies, these include only the euro and British pound.

Table 1.3. Selected ASEAN+3: Monthly Portfolio Flows into Equity and Debt Markets
(Billions of US dollars)

Period / Market	2020	2021	2021												2022	
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Equity Flows																
Total	**179.6**	**71.6**	**20.4**	**-2.8**	**-32.9**	**25.7**	**33.6**	**-0.8**	**-49.5**	**-5.1**	**12.2**	**23.1**	**12.4**	**35.3**		
China	221.1	98.0	25.8	0.1	-30.5	26.7	42.7	-0.1	-44.5	-0.4	10.9	25.0	10.2	32.2		
Total (excl China)	**-41.5**	**-26.4**	**-5.3**	**-2.8**	**-2.4**	**-1.0**	**-9.1**	**-0.7**	**-5.0**	**-4.7**	**1.3**	**-1.9**	**2.2**	**3.1**	**-2.5**	
Indonesia	-3.2	2.7	0.8	0.3	-0.2	-0.2	0.2	0.3	0.1	0.3	0.3	0.9	-0.2	0.1	0.4	1.2
Korea	-20.1	-23.0	-5.3	-1.8	-1.3	0.1	-8.0	-0.8	-4.2	-5.1	0.9	-3.2	3.0	2.6	-3.3	0.4
Malaysia	-5.8	-0.8	-0.2	-0.2	0.0	-0.3	0.0	-0.3	-0.3	0.3	0.2	0.4	0.0	-0.3	0.1	0.7
Philippines	-3.3	-1.0	-0.1	-0.4	-0.4	-0.4	0.2	0.5	-0.2	-0.1	-0.1	-0.2	0.1	0.1	0.0	
Thailand	-8.3	-1.6	-0.4	-0.6	0.0	-0.1	-1.1	-0.3	-0.5	0.2	0.3	0.5	-0.3	0.7	0.4	1.9
Vietnam	-0.9	-2.7	-0.1	-0.1	-0.5	0.0	-0.5	-0.2	0.2	-0.3	-0.3	-0.3	-0.4	-0.1	-0.1	0.0
Debt Flows																
Total	**204.5**	**200.0**	**45.0**	**24.4**	**3.8**	**13.7**	**24.0**	**21.3**	**5.4**	**6.3**	**15.7**	**7.3**	**14.7**	**18.3**		
China	187.2	132.3	39.8	15.5	-4.4	7.3	18.1	10.9	-1.2	0.9	13.3	5.1	13.7	13.3		
Total (excl China)	**17.3**	**67.8**	**5.2**	**8.9**	**8.3**	**6.4**	**5.9**	**10.5**	**6.6**	**5.4**	**2.4**	**2.2**	**1.0**	**5.1**	**5.9**	
Indonesia	-4.7	-4.9	0.8	-1.1	-1.3	1.0	0.2	1.3	-0.6	1.0	-1.3	-0.9	-2.2	-1.9	-0.3	0.5
Korea	20.5	58.9	3.3	8.0	8.1	3.0	5.0	8.3	8.1	1.5	4.4	2.1	2.4	4.7	3.0	3.3
Malaysia	4.5	8.2	0.9	1.8	1.4	1.6	0.5	-0.1	-0.9	1.6	0.2	0.7	-0.8	1.5	0.8	0.7
Philippines	-0.9	0.4	0.2	0.3	-0.1	0.0	0.2	-0.2	-0.1	0.1	0.0	0.0	0.0	-0.1	0.1	
Thailand	-2.0	5.2	0.0	-0.1	0.2	0.9	0.0	1.2	0.1	1.2	-0.9	0.3	1.6	0.8	2.3	

Sources: Bloomberg Finance LP; national authorities via Haver Analytics; and AMRO staff calculations.
Note: The flows are shaded based on the country's historical flow numbers (since 2014). Green indicates inflows, while red indicates outflows in the period 2014–21. The darker the shade of green and red, the larger the inflows and outflows, respectively.

Box 1.4:

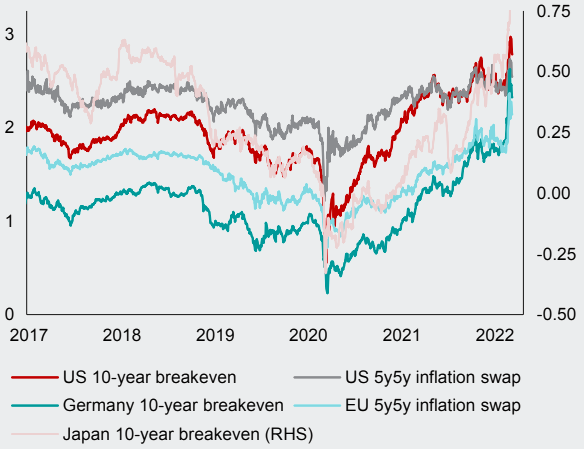
Inflation Scares, Policy Pivot, and Market Uncertainties in 2021

Regional financial markets spent most of 2021 dissecting the elevated inflation and inflation expectations in the advanced economies and their impact on the respective economies' monetary policy amid fresh waves of the pandemic (Figure 1.4.1). The rise in inflation in early 2021 was initially seen as temporary and technical but as months passed, the view began to change. Major central banks, which had premised their policies on transitory inflation, acknowledged that inflation had stayed higher for much longer than earlier expectations.

Higher inflation expectations led to some turbulence in global markets as policy tightening expectations were brought forward significantly (Pande 2021). The shift in the Fed's policy stance had the greatest impact on emerging markets. Market volatility rose in the first quarter of 2021 as markets positioned themselves for a potential Fed tightening and was calmed only after dovish forward guidance by the Fed.

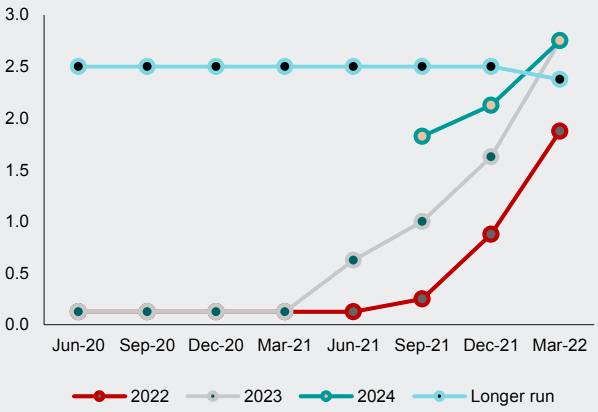
The Fed did gradually shift its stance in response to the persistent inflation by acknowledging the need for tapering in June, announcing tapering in November, and increasing the pace of tapering in December. Markets priced in the Fed's hawkishness in late December 2021 and January 2022. The first rate increase by the Fed came in March 2022, together with the announcement that it would consider shrinking the balance sheet by late 2022 (Figure 1.4.2). Fed tightening could still be a source of market volatility in 2022. While some may argue that it would be difficult for the Fed to be more hawkish than what the market pricing indicates, risks exist on either side. Although uncertainty over the Russia-Ukraine situation has temporarily dampened interest rate-tightening expectations, Fed forecasts and market pricing both indicate that the Fed will likely deliver a cumulative hike of at least 175 basis points in 2022.

Figure 1.4.1. Selected Advanced Economies: Market-Implied Inflation Expectations
(Percent)



Sources: Bloomberg Finance L.P.; and AMRO staff calculations.
Note: The 10-year breakeven yield is the US Treasury market-implied pricing of inflation expectations over the next 10 years. 5y5y inflation swap is the swap market-implied pricing of inflation over 5 years, 5 years from now.
EU = European Union.

Figure 1.4.2. Federal Open Market Committee Median Projections of Policy Rates
(Percent)



Sources: US Federal Reserve; and AMRO staff calculations.

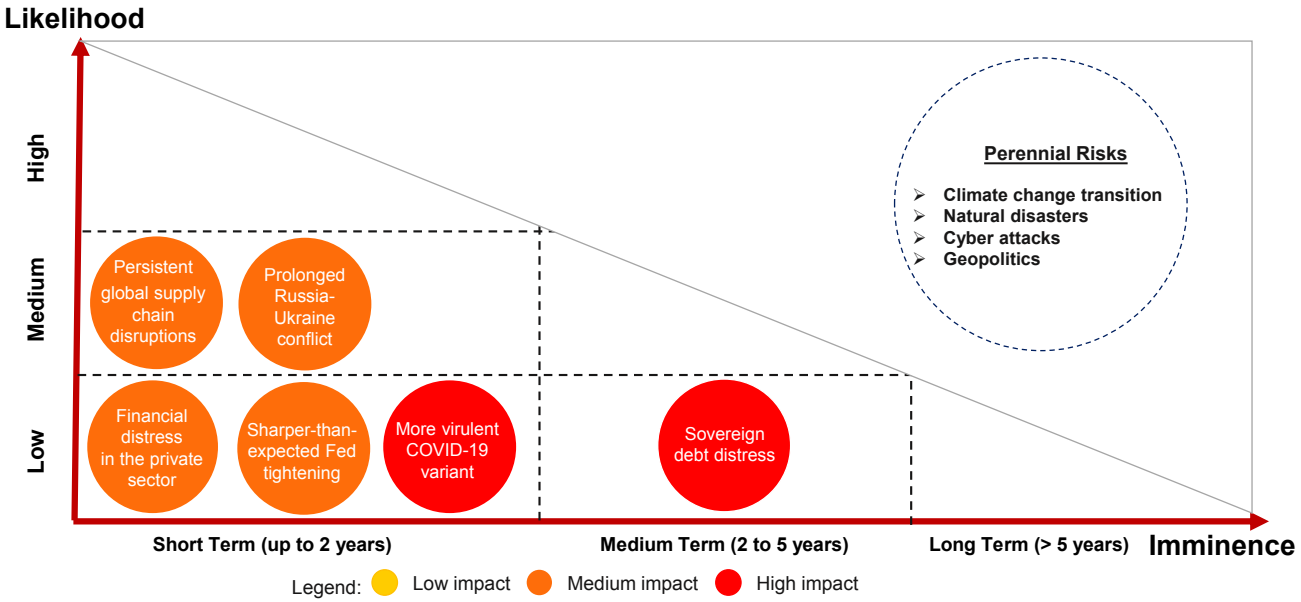
The author of this box is Prashant Pande.

II. Risks to the Outlook

The possible emergence of new and more virulent COVID-19 variants cannot be ignored. Available COVID-19 vaccines have remained effective so far at preventing severe illness, hospitalizations, and death, but vaccine-resistant variants of the virus would add to the risks from delays in the availability of approved vaccines and antiviral treatments, further setting back the progress of economic re-opening. A new wave of such infections could prompt a retightening of containment measures and further test the region's healthcare capacity, derailing the prospects of economic recovery (Figure 1.44).

An emerging key risk is the Russia-Ukraine conflict, the immediate effects of which were felt most notably in commodity prices, particularly energy prices. Sweeping sanctions imposed on Russia have driven crude oil prices to multiyear highs, and wholesale gas prices have more than doubled since the end of February 2022. Escalating energy prices would have negative repercussions for the region, given that most regional economies are net energy importers. A prolonged conflict will keep energy and food prices elevated and cause disruptions to the supply chains, stoking inflation and lowering private consumption and growth. There will also be an impact on the region via lower global growth and its knock-on effects on global trade (Box 1.5).

Figure 1.44. Regional Risk Map, March 2022



Another key risk is a continuation or recurrence of the global supply-chain bottlenecks that disrupted trade flows in 2021 (Figure 1.45). The likelihood of more COVID-19 related production shutdowns, port-handling stoppages and shipping delays in the region depends on the future path of the pandemic and how the region's authorities respond to new outbreaks. Structural problems in the logistics sector in major export markets like the United States, which have contributed to supply chain bottlenecks and delays, will take a longer time to resolve (Box 1.1). In addition, airspace and shipping-lane closures during the Russia-Ukraine conflict could disrupt freight and drive up cargo costs. Such persistent supply chain disruptions could undermine the region's export performance and raise global cost pressures.

A sharper-than-expected monetary policy normalization in the United States could lead to a premature tightening in global financial conditions, with potential implications for interest rates, capital outflows, and financial market volatility in the region. Global bond market volatility has increased in tandem with the shift in the US inflation outlook and the attendant uncertainties. As a result, borrowing costs have trended higher, spilling over to emerging markets, including those in the region. History shows that Fed policy normalization after a crisis is not without spillover effects, especially if financial markets overreact in anticipation of the Fed's actions. A tightening in global financial conditions resulting from Fed policy surprises can lead to volatility spikes and fuel global risk aversion (Box 1.6). Higher risk premia can cause higher debt service and refinancing risks and disruptive corrections to stretched assets, depressing regional growth.

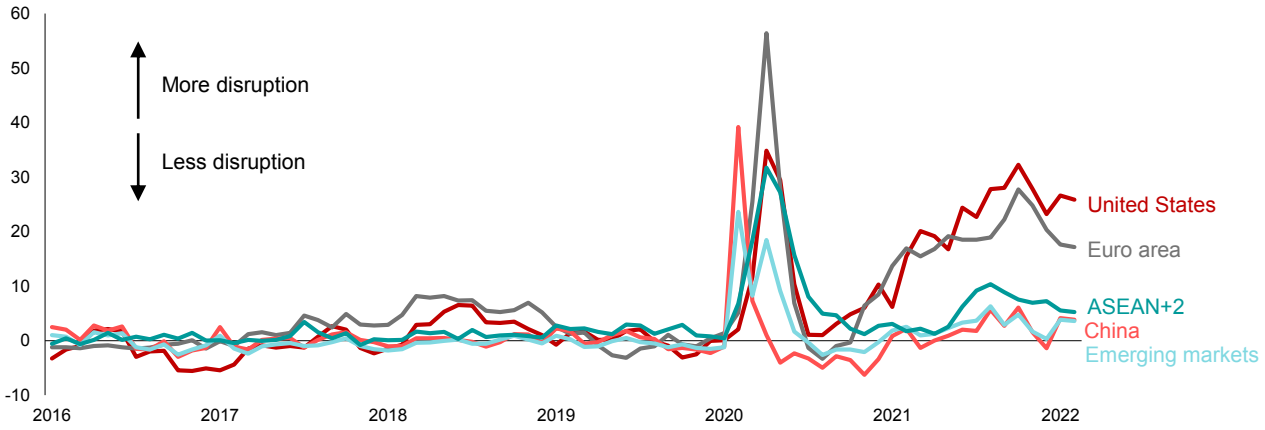
The prolonged impact of the pandemic on business and household incomes means that financial risks are still elevated. Many businesses throughout the region experienced large income losses, some of which are permanent. Similarly, in the labor market, some jobs would be permanently lost. If the recovery is delayed, more businesses and individuals would be unable to service their loans, and this could have implications for banking sector soundness. That said, ASEAN+3 corporate default risks appear to have moderated in 2021, after rising sharply across the region in 2020 as debt surged to record levels. Corporate debt-at-risk (DAR)—measured by the interest coverage ratio and the debt service ratio, both as a percentage of GDP—is projected to have fallen in 2021 in almost all economies with the improvement in earnings amid an economic turnaround and low interest rates, although it remains higher than before the pandemic (Figures 1.46 and 1.47) (Ho and Ong 2022).[5]

A major financial crisis is unlikely at this juncture. Policy measures such as policy rate reductions, credit expansion, and regulatory forbearance have helped to keep reported NPL ratios low so far. Policy measures such as credit guarantees for small- and medium-sized enterprises (SMEs) have helped to keep bank capital adequacy ratios (CARs) high by lowering risk weights in the computation of capital adequacy. Bank capital buffers were generally comfortable going into 2021. Reverse solvency stress tests undertaken for a sample of banks (using the latest available 2020 annual financial statements) indicate that NPL ratios would have to rise by an average of around 10 percentage points or more among banks in the majority of ASEAN+3 economies (except Lao PDR, Vietnam, Korea, and China) to reduce their CARs to the regulatory minima (Figure 1.48). Anecdotal evidence from some economies in the region suggests that most borrowers who were kept afloat thanks to loan repayment moratoria in 2020, have resumed servicing their bank loans with the turnaround in economic activity.

The pandemic could threaten fiscal sustainability in the region. Public debt-to-GDP ratios have risen sharply—by 10–20 percentage points in many economies—with the deployment of massive fiscal resources to support economic activity through the crisis (Figure 1.49). As a result, the debt service burden has risen, squeezing available fiscal space. In the event of a prolonged pandemic, continued fiscal support may be needed and this could pose a threat to fiscal health, especially for economies with limited fiscal space. Similar to the banking sector, the realization of a sovereign debt crisis is deemed a tail risk at this juncture due to some mitigating factors. First, the bulk of the fiscal deficits were financed from higher domestic savings that spiked up because of the collapse in consumption and investment in the region. These financial savings were in turn reinvested by banks and asset management firms in government bonds. Second, in some countries, the central banks bought government bonds to inject liquidity into the markets. Third, interest rates on these bonds are significantly lower because of the easy monetary conditions. Because of these mitigating factors, the rollover risk and debt service burden are much lower than if the debt were financed from foreign capital inflows. This is also in line with the market's assessment of sovereign debt, as reflected in sovereign credit ratings for ASEAN+3 economies (Figure 1.50).

Climate change—and policy responses to climate change—will have huge economic impacts and long-lasting, multigenerational consequences. Regional economies that are dependent on agriculture, fisheries, and other natural resources are especially vulnerable to natural disasters resulting from extreme weather conditions. Any manifestation of climate change risk would not only have a direct fiscal burden, but also spill over to the wider financial system, magnifying the impact on the real economy. Apart from the physical risks, regional economies also face challenges from policies to reduce their reliance on carbon-based fuels and other carbon-intensive industries (Box 1.7).

Figure 1.45. ASEAN+3 and Selected Economies: Supply Chain Disruption
(Index)

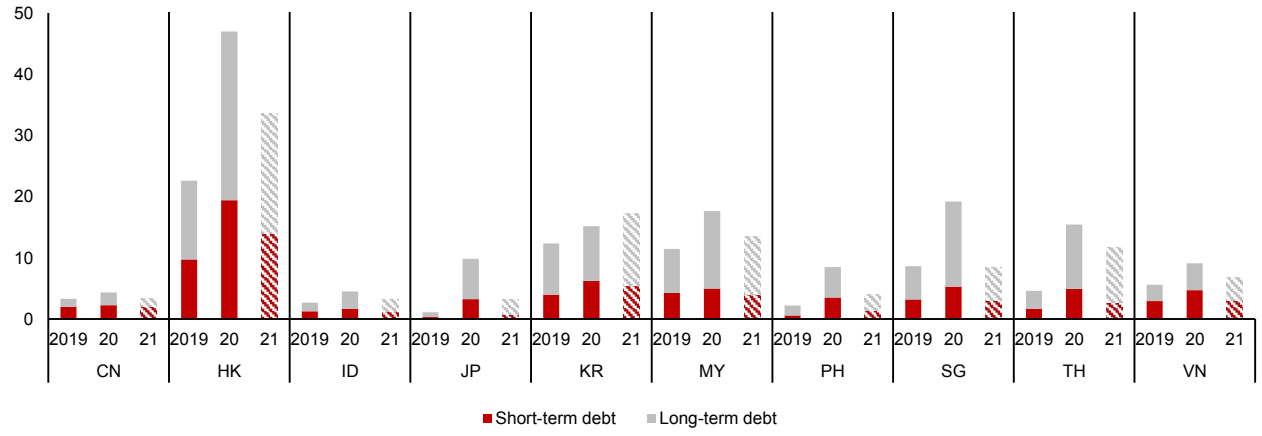


Sources: Haver Analytics; and AMRO staff calculations.
Note: Supply chain disruptions are calculated as the difference between the supply delivery times sub-index in the Purchasing Managers' Index (PMI) and a counterfactual, cyclical measure of supply delivery times based on the manufacturing output sub-index in the PMI. The extent of supply chain disruptions is measured by deviations from zero. ASEAN+2 = ASEAN economies, Japan, and Korea.

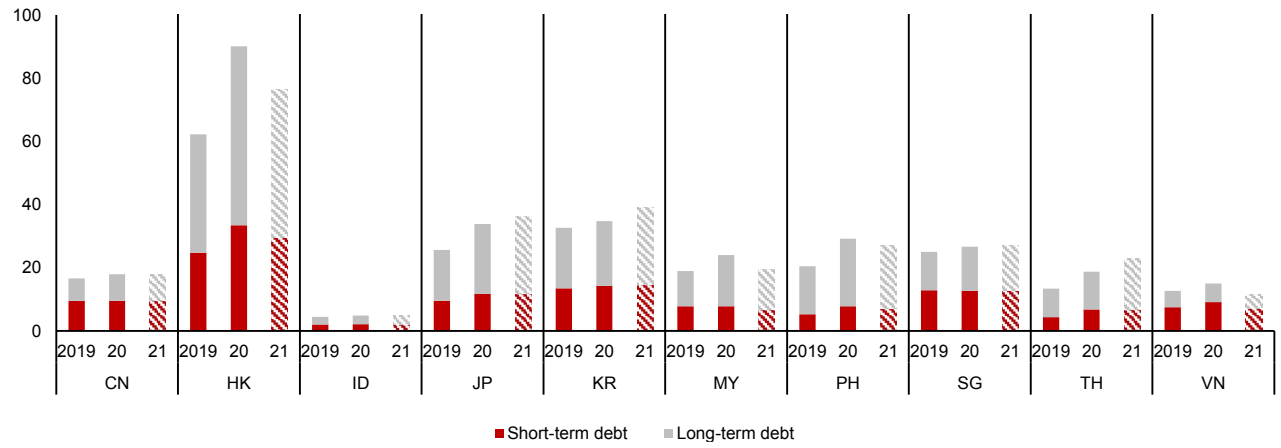
5/ The eventual lifting of regulatory forbearance could have some bearing on the corporate default risk, which bears close watching.

Figure 1.46. Selected ASEAN+3: Actual and Projected Debt-at-Risk
(Percent of GDP, end of period)

By Interest Coverage Ratio

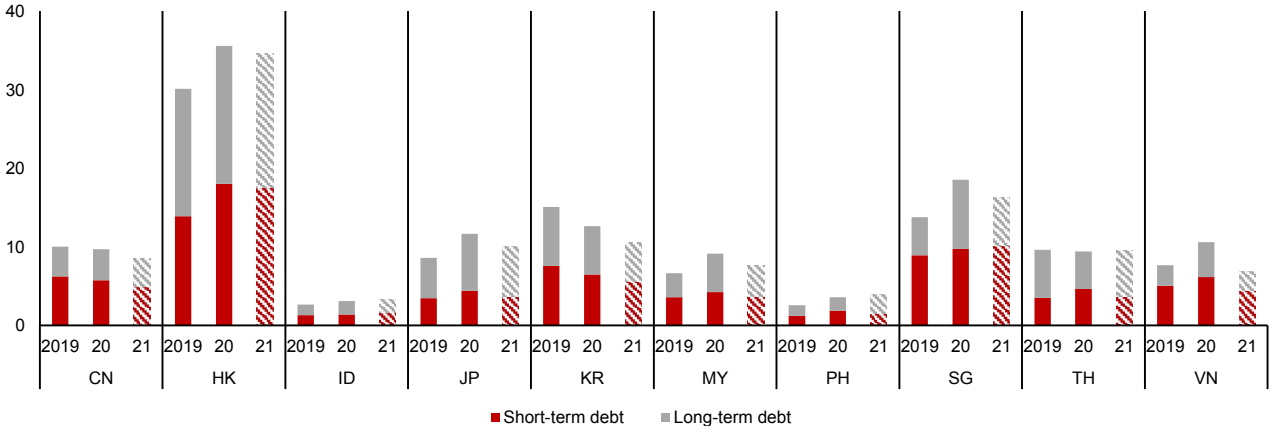


By Debt Service Ratio



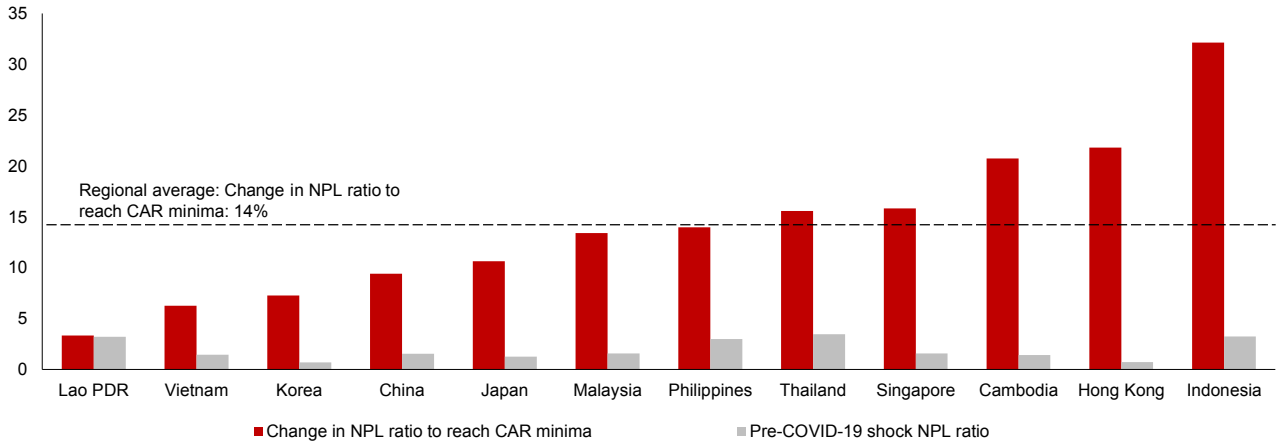
Source: Ho and Ong (2022).
Notes: CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; VN = Vietnam. Firms with interest coverage ratio <1.25 or debt service ratio <1 are classified as having debt-at-risk (DAR). DAR for 2021 is projected using actual data in the first half of 2021.

Figure 1.47. Selected ASEAN+3: Actual and Projected Debt-at-Risk, Taking into Account Availability of Quick Assets
(Percent of GDP)



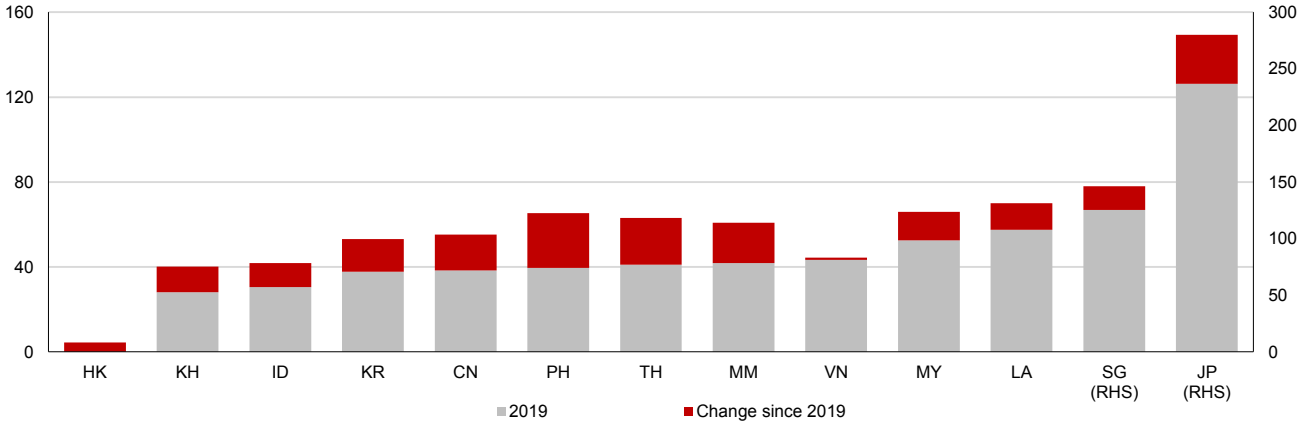
Source: Ho and Ong (2022).
Notes: CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; VN = Vietnam. Firms with debt service ratio <1 and without sufficient quick assets to cover short-term obligations are classified as having debt-at-risk (DAR). DAR for 2021 is projected using actual data in the first half of 2021.

Figure 1.48. ASEAN+3: Change in NPL Ratio to Reach Regulatory Minima, All Banks
(Percentage points, 2020 position)



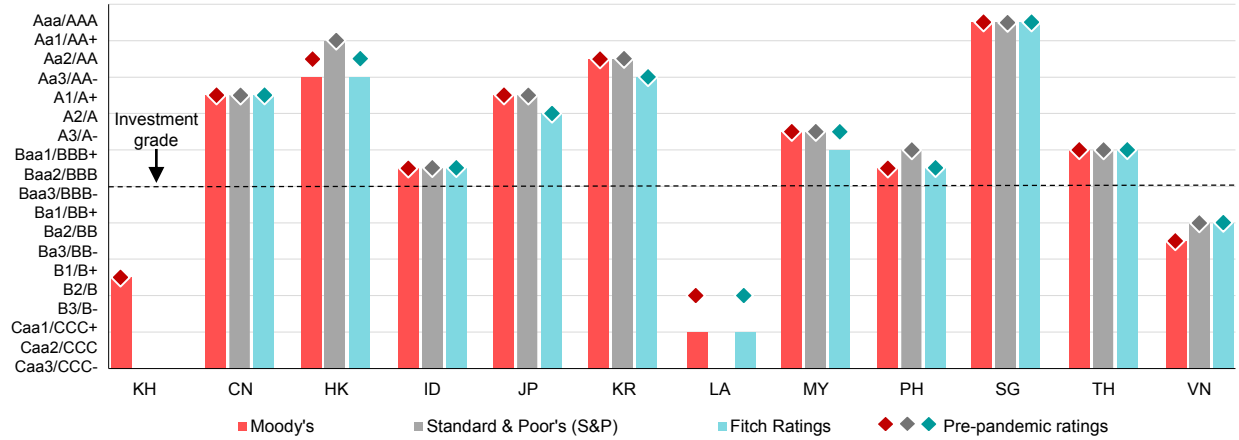
Sources: BankFocus; and AMRO staff estimates.
Note: Data are from individual banks' financial statements for 2020. "All banks" comprise those available in BankFocus. Where banks do not report classified loans, their non-performing loan (NPL) ratios are used to calculate their NPL levels. Minimum capital adequacy is defined as 10.5 percent for banking systems that have adopted Basel III (ASEAN-5, China, Hong Kong, Korea, and Japan, with 4 percent for Japanese banks that do not have an overseas business base) and 8 percent for those that have adopted or are transitioning to Basel II (Cambodia, Lao PDR, and Vietnam). The capital asset ratio (CAR) is used for some of Cambodia's banks in the test. Given the unavailability of NPL ratios for Singapore during the Asian financial crisis (AFC), the highest ratio in the immediate post-AFC period (Q2 2004) is used as a proxy, due to the lagging nature of this indicator. In some economies, the odd small- or medium-sized bank has reported a CAR that appears to be below the regulatory minimum; this very small number of banks is excluded from AMRO staff's estimates of aggregate breakeven NPL ratios.

Figure 1.49. ASEAN+3: Government Debt Projections, 2022–23
(Percent of GDP)



Sources: National authorities via Haver Analytics; and AMRO staff projections.
Note: The 2022–23 projections are based on information available up to December 31, 2021. CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam. Brunei is omitted as data are unavailable.

Figure 1.50. ASEAN+3. Sovereign Debt Ratings, 2022
(Rating)



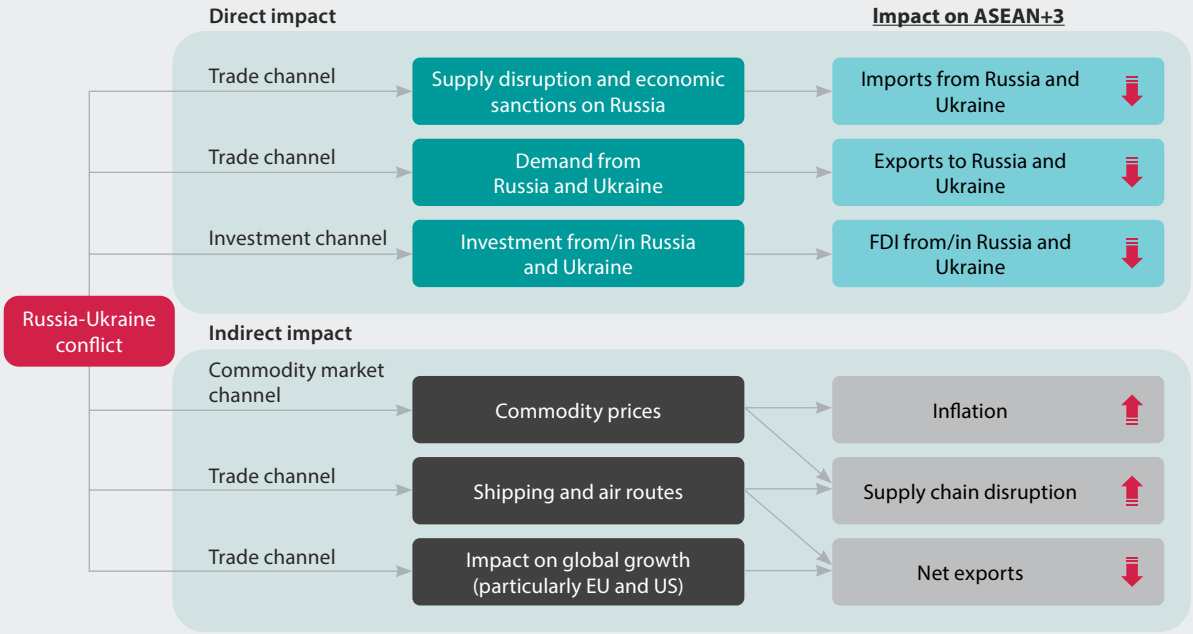
Source: Credit rating agencies.
Note: The columns denote ratings as of February 6, 2022, and the markers denote pre-pandemic ratings as of December 31, 2019. Pre-pandemic ratings for Lao PDR are as of January 8, 2020, for Moody's; and February 12, 2020, for Fitch Ratings. CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam. Brunei and Myanmar are omitted as data are unavailable.

Box 1.5:

Impact of the Russia–Ukraine Conflict on the ASEAN+3 Region

The escalation of the Russia-Ukraine conflict on February 24, 2022, has introduced additional downside risks to the global growth outlook. The ASEAN+3's direct trade and investment links with Russia and Ukraine are relatively limited. However, the impact of the conflict on global commodity prices, transport routes, and ultimately, growth, could affect the region's macroeconomic outlook (Figure 1.5.1).

Figure 1.5.1. Potential Impact of the Russia-Ukraine Conflict on the ASEAN+3 Region



Source: AMRO staff.

Direct impact through trade and investment links with Russia and Ukraine

The supply of major goods produced by Russia and Ukraine has been affected by the disruption of economic activities in the two economies and the international sanctions imposed on Russia.[1] The ASEAN+3 region's primary imports from Russia and Ukraine are mineral fuels and agricultural products. While imports from Russia and Ukraine account for a small share of the region's overall imports, the potential disruption to the supply of key intermediate inputs such as noble gases and nickel could significantly impact the region's manufacturing production and exports, particularly in the semiconductor and automobile industries (Figure 1.5.2).

Exports from the ASEAN+3 to Russia and Ukraine could be affected by lower demand due to the conflict as well as the closure of airspace and export bans and financial sanctions imposed on Russia.[2,3]

The author of this box is Catharine Tjing Yiing Kho, with inputs from Chiang Yong (Edmond) Choo, Marthe Hinojales, Anthony Chia Kiat Tan, and Hongyan Zhao.

1/ On February 26, 2022, Western governments banned several Russian banks from the Society for Worldwide Interbank Financial Telecommunication (SWIFT) international payment system and blocked the Central Bank of Russia from accessing its foreign exchange reserves.

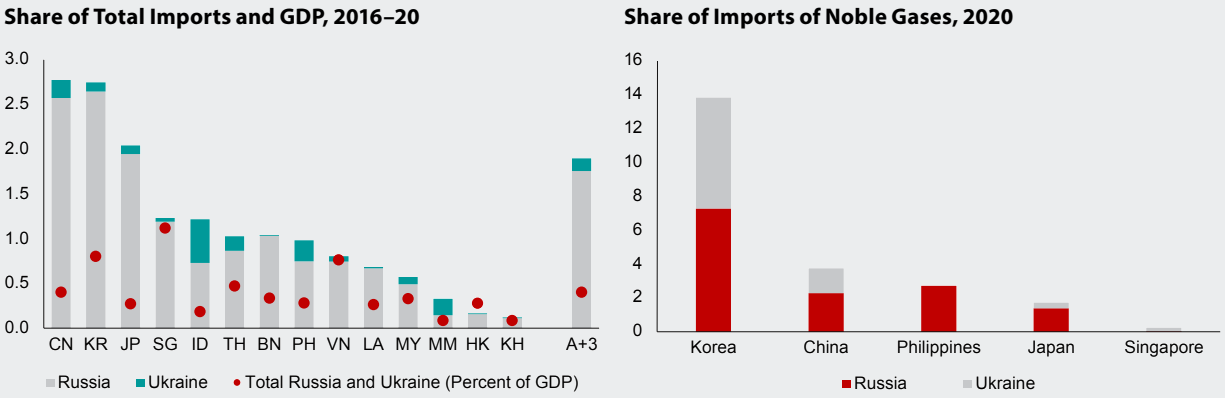
2/ The United States and the European Union have announced a host of export controls on Russia, blocking access to key technologies and markets. In addition, the US Foreign Direct Product Rule requires US government endorsement for exports to Russia of items produced outside the United States made with technology or materials of US origin, including semiconductors, computers, communications, and information security. Among ASEAN+3 economies, Japan, Korea, and Singapore have announced sanctions on exports to Russia of products that can be employed for strategic/military purposes, potentially including semiconductors.

3/ The European Union and other countries have closed their airspace to Russian airlines, and Russia has retaliated with the same.

The region's main exports to Russia and Ukraine are electrical and electronic goods, vehicles, and industrial machinery. While exports to Russia and Ukraine account for only a small share of the region's total goods exports, the conflict could weigh on services exports by reducing the number of tourists from Russia to the region. For example, Russian tourists were the third-highest contributor to Thailand's tourism revenue in pre-pandemic 2019; they were also the largest group of travelers to Thailand in January 2022 and the top visa applicants under the quarantine-free entry program that was relaunched in February 2022 (Chuwiruch and Yuvejwattana 2022).

The ASEAN+3's inward direct investments from and outward direct investments to Russia and Ukraine are also very small. FDI inflows to the region from Ukraine are negligible. Half of the ASEAN+3 economies reported FDI inflows from Russia in 2020 but the inflows accounted for less than 2 percent of their total FDI inflows. Some regional economies, e.g., China, Hong Kong, Japan, Korea, and Singapore, have outward direct investments in Russia, but these investments accounted for less than 1 percent of their total outward direct investments. ASEAN+3 manufacturing projects in Russia are mostly concentrated in the automobile and auto-parts sector and they are primarily to serve the domestic market. Some Japanese companies have suspended or ceased some of their operations in Russia since the start of the conflict. The decline in inward investments could marginally dent the region's investment growth, while the decline in outward investment by the region could result in financial losses for regional firms.

Figure 1.5.2. ASEAN+3: Merchandise Imports from Russia and Ukraine
(Percent)



Sources: IMF Direction of Trade and International Financial Statistics databases via Haver Analytics; UN Comtrade; and AMRO staff calculations.
Note: A+3 = ASEAN+3; BN = Brunei; CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MY = Malaysia; MM = Myanmar; PH = Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam. Noble gases include argon, neon, krypton, and xenon, represented by HS codes 28042100, and 28042900.

Indirect impact through commodity prices and global growth

The conflict is affecting global commodity prices and the global growth outlook—and this will impact the ASEAN+3 region, given its deep integration in global markets. Since the start of the conflict, the prices of mineral and agricultural products have surged to historic highs (Figure 1.5.3). Russia is a major producer and exporter of energy supplies—in 2021, it was the largest producer of natural gas, the second-largest exporter of crude oil and condensates, and the third-largest coal exporter in the world (U.S. EIA 2022). Ukraine and Russia account for a large share of the world's exports of sunflower oil and wheat.

The increase in global commodity prices will raise imported inflation in the ASEAN+3 region. Even though the ASEAN+3's reliance on Russia for energy imports is relatively low, the region's economies will feel the impact of higher global energy prices as most of them are net oil and gas importers and the share of energy-related items in their consumer baskets ranges from under 10 percent to almost 30 percent. Food prices are also likely to see sharp increases as agricultural commodity exports from Russia and Ukraine are curtailed, with spillovers into prices of domestically produced commodities. For example, the price of crude palm oil, a substitute for sunflower

oil, rose to an all-time high on March 2, 2022. Higher indirect production costs, such as the cost of fertilizer and feedstock, could disrupt agriculture production and contribute to higher food prices throughout this year and into next year. The pass-through of energy and selected food price increases to inflation will depend on the persistence of these shocks, the CPI weights of affected commodities, and the extent to which these prices are fully passed on to households and firms (or alternatively, the extent to which they are blunted through subsidies or domestic/alternative substitutes).

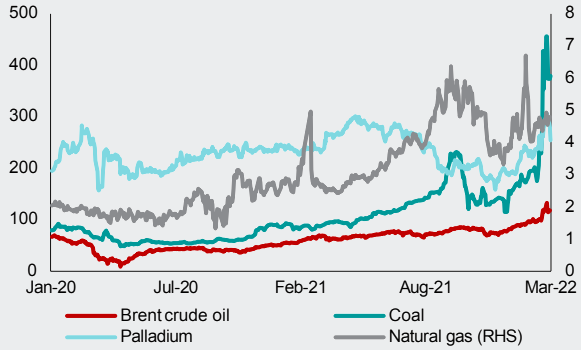
A sharp hike in the prices of base metals and the closure of international shipping routes and air spaces could lead to renewed disruptions in global supply chains. Prices of base metals produced by Russia (e.g., palladium and nickel) have risen in global commodity markets. Together with rare gases, these are critical inputs in supply chains related to semiconductors and electric vehicle battery production in the ASEAN+3. In the immediate term, these inputs could be sourced elsewhere but a protracted conflict could drastically reduce the global supply of these inputs and cause their prices to soar. In addition, port and air space closures mean ocean carriers may skip ports and planes may need to be rerouted, increasing transportation time and cost.[4] The delay in shipment and increase in production cost of critical inputs related to semiconductor or automobile production could potentially disrupt regional exports and reduce firm profitability (Box 1.1).

Lastly, a prolonged conflict and higher energy prices would trigger a global stagflationary recession. The European Union is expected to be the most affected, given its high reliance on energy imports from Russia and lack of immediate substitutes. The European Central Bank (ECB) has forecasted that the euro area's economic output could be lowered by 1.2 percent in 2022 under an adverse scenario characterized by weaker foreign demand, higher commodity prices, heightened uncertainty, repricing in financial markets, and production cuts (ECB 2022). Growth in the United States is also expected to be affected as higher energy prices will exacerbate pre-existing inflationary pressures and dampen private sector spending, retarding the economic recovery.

Lower global growth, particularly among the key trading partners for the region, will lower demand for the region's exports. The reduction in export proceeds would also weigh on private investment in regional economies, particularly in the export-oriented sectors. At the same time, the fall in export income coupled with higher inflation as a result of high energy and food prices would reduce households' real income and dampen private consumption.

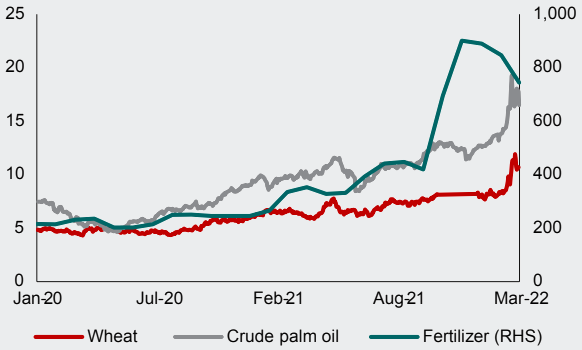
Figure 1.5.3. World: Prices of Selected Raw Commodities

Mineral products
(USD per barrel; USD per metric ton; USD10 per troy ounce; USD per mmbtu)



Sources: Energy Information Agency, Financial Times, Johnson Matthey via Haver Analytics; and AMRO staff calculations.
Note: Data are up to March 15, 2022. Palladium price refers to the Johnson Matthey Base Price. USD = US dollar; mmbtu = metric million British thermal unit.

Agricultural products
(USD per bushel; USD per tonne; USD per metric ton)



Sources: Wall Street Journal, Bank Negara Malaysia, and World Bank via Haver Analytics; and AMRO staff calculations.
Note: Data are up to March 15, 2022. Wheat price refers to Kansas City wheat and fertilizer price refers to urea-based fertilizer from Ukraine.

[4] Almost all of the 10 largest container shipping companies—responsible for moving some 80 percent of global trade—have stopped accepting bookings for Russian cargo, and ports in Europe and the United States are turning away Russian vessels.

Box 1.6:

Shifts in US Monetary Policy: Potential Spillovers to ASEAN+3 Economies

Global financial conditions have tightened relative to January 2021, with a firming economic outlook in major advanced economies. Among advanced economies, the recovery in the United States is the most advanced, with output closest to its pre-pandemic trend and inflation at its highest level in almost 40 years (IMF 2021). Ten-year US Treasury yields have trended higher, reflecting higher expected inflation and a widening inflation risk premium (Figure 1.6.1). This has spilled over to regional emerging markets' sovereign bond markets, resulting in higher borrowing costs.

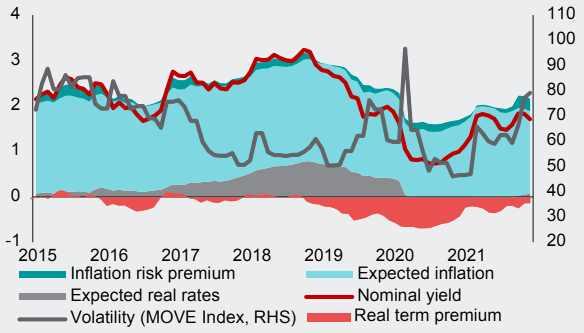
Global bond market volatility has increased since early 2021, in tandem with the shift in the US inflation outlook and the attendant uncertainties. The announcement by the Fed of a faster tapering of its asset purchase program beginning in January 2022, the rate hike in March 2022, and the upward shift in Fed officials' median interest rate projections to seven rate hikes over the course of this year (from less than one hike in September 2021), along with the Russia-Ukraine situation, have kept market volatility elevated.

What do changes in US real yields imply for emerging-market risk assets?

Historically, episodes of rising US real yields and/or falling inflation expectations have led to increased emerging-market stress and capital outflows (AMRO 2021). A key indicator to monitor the spillover effects of US monetary policy on regional markets is the real component of US yields. Typically, higher real rates are caused by expectations of tighter financial and monetary conditions. Higher breakeven yields (i.e., inflation expectations) are the outcome of an improvement in economic activity (which leads to higher growth and inflation). Regional markets have seen periods of stress when US real rates rose (e.g., during the 2013 "taper tantrum" and the 2016 US presidential elections) or when inflation expectations fell sharply (e.g., during the renminbi depreciation in 2015 and the COVID-19 pandemic in 2020).

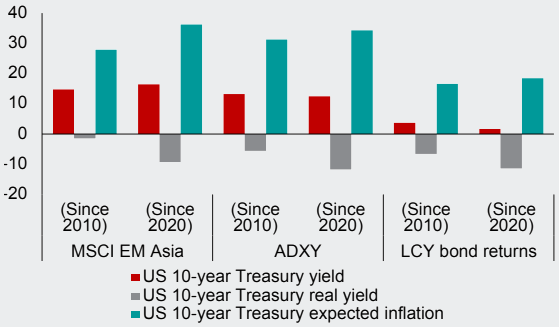
This correlation was observed in early 2022 when the market started positioning itself for a potential tightening of US monetary policy. As of February 10, 2022, 10-year real yields rose by 60 basis points in the year to date, and inflation expectations fell by 15 basis points. This was accompanied by broadly weaker regional equity, foreign exchange, and bond markets. Figure 1.6.2 shows the broad correlations between US yield components and regional risk assets.

Figure 1.6.1. United States: 10-Year US Treasury Yield Decomposition
(Percent)



Sources: Bloomberg Finance L.P.; and Haver Analytics.

Figure 1.6.2. Asia: Correlations between US Treasury Yield Components and Emerging-Market Risk Assets
(Percent)



Sources: Bloomberg Finance L.P.; and AMRO staff calculations.
Note: Correlation calculated on daily changes in yields and indices since January 1, 2010, and January 1, 2020. ADXY = Bloomberg-JPMorgan Asia Dollar Index; LCY = local currency; MSCI EM = Morgan Stanley Capital International Emerging Markets.

The authors of this box are Prashant Pande and Anthony Chia Kiat Tan.

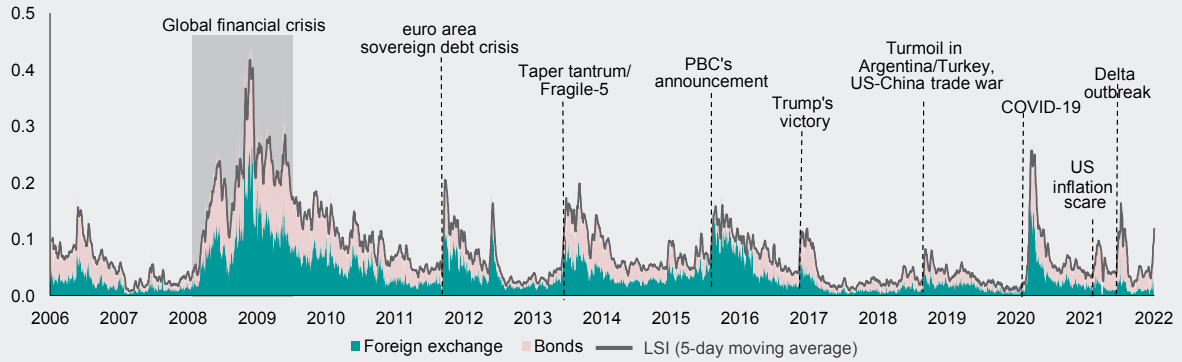
How do (actual and expected) shifts in US monetary policy affect regional emerging-market sovereign debt and currency markets, and capital flows?

Shifts in the US inflation and monetary policy outlook are contributing to local market stress. The regional emerging-market Local Stress Index (LSI) captures market stress in local bond and currency markets following changes in global financial conditions (Figure 1.6.3).[1] During the COVID-19 selloff in early 2020, the level of local market stress was significantly higher compared to earlier stress episodes (such as the 2011 European sovereign debt crisis, the 2013 taper tantrum, the 2015 announcement of the renminbi central parity, and the 2016 Trump presidential victory) but much lower compared to the 2008 global financial crisis. While the COVID-19 selloff-related stress normalized relatively quickly, the LSI suggests that the fundamental shift in the US inflation outlook and the direction of Fed monetary policy is contributing to a fresh bout of market stress in regional emerging markets, particularly local bond markets (Figure 1.6.4). Markets tend to price policy changes ahead of time, and a sharp change in market expectations tends to lead to increased volatility as the market realigns to the new pricing. Increased market volatility, coupled with a sharp rise in borrowing costs could hurt regional emerging markets, particularly those with weaker fundamentals and that are more dependent on external financing.

A sharp spike in US Treasury term premiums, triggered by upside surprises in US inflation, could lead to capital flow reversals in regional emerging markets. The capital flows-at-risk (CFaR) framework can be used to quantify the probability of capital reversals in regional emerging markets in the months following a change in financial condition and/or macro-financial vulnerabilities.[2] A counterfactual analysis suggests that a positive one standard deviation (approximately 100 basis point) shock to the 10-year US Treasury term premium could lead to a sharp rise in the probability of debt outflows over the next six months (Figure 1.6.5):[3]

- Prior to the shock, the regional emerging-market CFaR (5th percentile) is estimated at 4.9 percent of GDP, on average, over the next six months.

Figure 1.6.3. Regional Emerging Markets: Local Stress Index
(Index, 0 to 1; 0 = no stress, 1 = maximum stress)



Sources: Bloomberg Finance L.P.; J.P. Morgan; Reuters; and AMRO staff estimates.
Note: The Local Stress Index (LSI) focuses on several key indicators, chosen on an ex ante basis, given their information content in portending major stress events. The indicators reflect local market liquidity and stress conditions, unlike those indicators used to derive broader financial condition indices, which are a reflection of funding costs. The index is unit-free by construction and is measured on an ordinal scale with range [0, 1], with 1 being the upper limit. Regional emerging markets refer to Indonesia, Korea, Malaysia, the Philippines, and Thailand.. PBC = People's Bank of China. Fragile-5 = Brazil, India, Indonesia, South Africa, and Turkey.

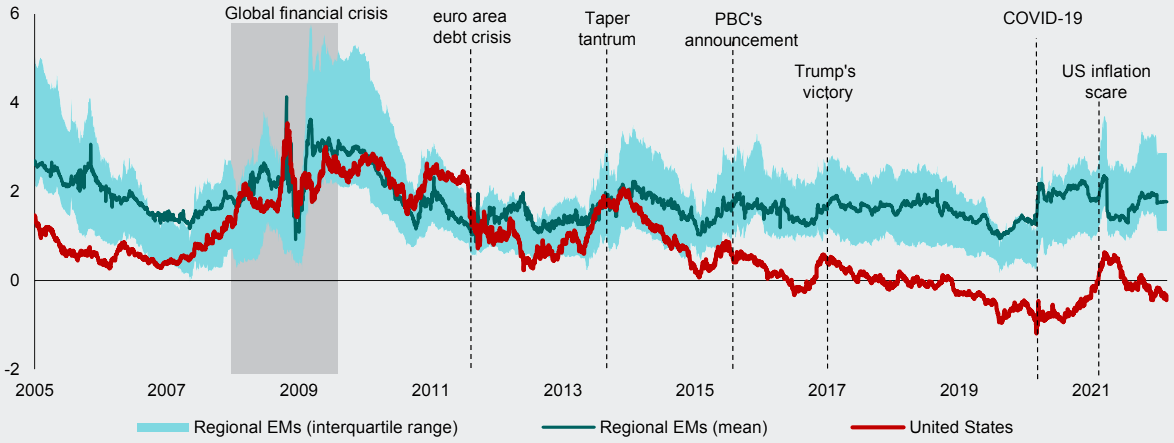
1/ The LSI focuses on several key indicators chosen on an ex ante basis, based on their information content in portending major stress events. The indicators reflect local market liquidity and stress conditions, unlike indicators used to derive broader financial condition indices, which reflect funding costs.

2/ The CFaR framework links macro-financial conditions to the probability distribution of future capital flows. From a policymaking point of view, the analysis provides information about the entire distribution of future capital flows, which is useful for the assessment of tail risks and the likelihood of various risk scenarios. Understanding the driving forces at the left tail of the distribution would also help policymakers to deal with severe downside risks. The CFaR is not structural and therefore cannot ascertain causal links. However, it can quantify the macroeconomic impact stemming from systemic risk events, making it possible to evaluate the severity of such risks. The CFaR, as a reduced form, is most appropriate for comparative statics analysis. It is part of the IMF surveillance toolkit (see Prasad and others 2019).

3/ Refers to sovereign debt gross portfolio capital inflows.

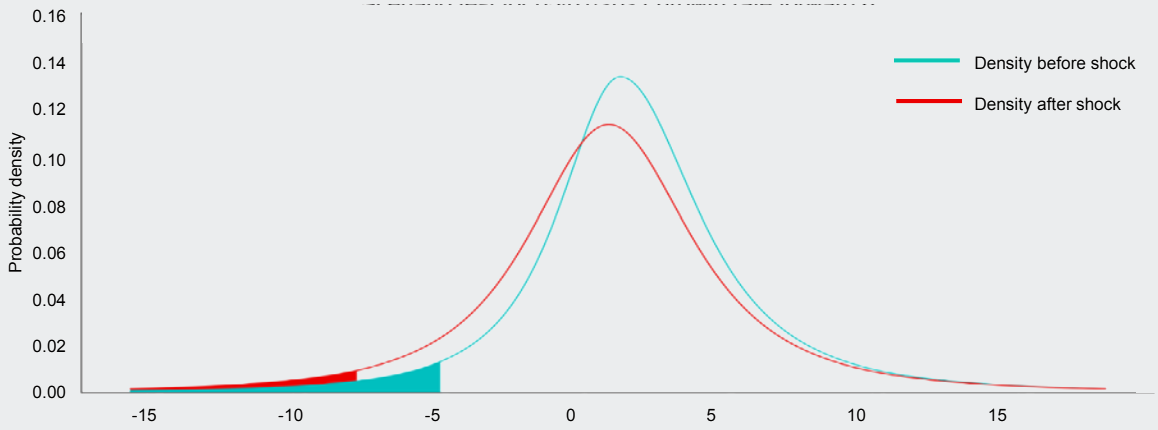
- After the shock, the mode of the distribution shifts leftward, with an increase in the probability that regional emerging-market debt inflows will see a reversal in the next six months (from 25 percent to 40 percent). In the absence of policy measures, the estimated tail-risk CFaR is an outflow of at least 7.7 percent of GDP, on average, over the next six months—which is non-trivial compared to 4.9 percent of GDP pre-shock CFaR.

Figure 1.6.4. Regional Emerging Markets: Estimated Term Premia (10-Year Sovereign Yields)
(Percent)



Source: AMRO staff estimates.
Note: EM = emerging market. Regional EMs refer to Indonesia, Korea, Malaysia, the Philippines, and Thailand.

Figure 1.6.5. Conditional Forecast Densities of Regional Emerging-Market Portfolio Debt Flows Before and After Shocks to US Treasury Term Premia



Source: AMRO staff estimates.
Note: The figure shows the conditional forecast probability densities of regional emerging-market portfolio debt flows before and after a positive one standard deviation (approximately 100 basis point) shock to 10-Year US Treasury (10Y UST) term premia. Assuming Fed policy remains unchanged, the 10Y UST yield (1.8 percent as of February 28, 2022), will rise to above 2 percent and stay there. During the taper tantrum episode (May–August 2013), the 10Y UST term premium rose by 101 basis points, bringing the 10Y UST yield to 2.9 percent by the end of August 2013. The analysis assumes no policy countermeasures.

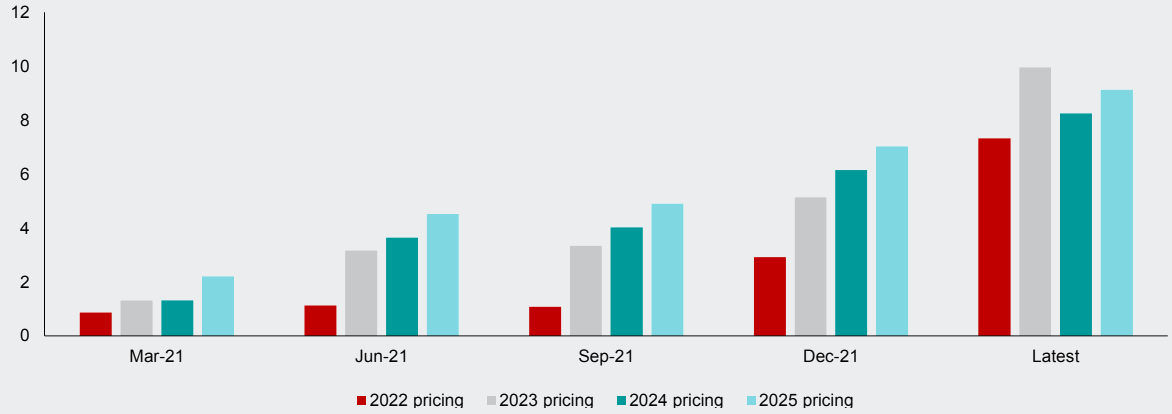
Managing the transition to higher global interest rates

History shows that Fed policy normalization after a crisis can cause bumpiness in the financial markets, especially when the market prices in a hawkish turn. While the Fed has learned to use forward guidance as a tool for gradually shifting market expectations, markets still remain sensitive to potential changes in Fed policy and could potentially get ahead of themselves. The Fed's forward guidance since the fourth quarter of 2021 has gradually shifted market expectations and thus helped dampen (but not eliminate) the increase in market volatility. At the time of writing, the market is expecting a cumulative hike of 175–200 basis points in the Fed's policy rate in 2022 (including

the 25 basis point hike delivered in March) and another 50–75 basis points in 2023 (Figure 1.6.6). This implies that the market is probably also prepared for a Fed balance sheet reduction in the coming months. It can be argued that the current market pricing and Fed forward guidance are already very hawkish, and it would be difficult to imagine the Fed surprising the market with an even more hawkish stance unless inflation surprises on the upside again. That said, the potential risks to regional emerging markets from an actual tightening of the Fed's monetary stance cannot be ignored and regional policymakers would need to remain attentive to the evolving risks in the transition to higher global interest rates.

Sound economic fundamentals, together with favorable structural factors (such as capital market openness and deep local markets), can help mitigate spillover risks. Past reform efforts to foster financial sector development, including deepening the domestic capital markets, have contributed to more resilient market functioning during periods of stress. Moreover, learning from past crises, the region's economies have kept their house in order—enhancing their resilience while reducing vulnerabilities to external shocks. With strong fundamentals such as a credible and more flexible macroeconomic framework supported by an expanded policy toolkit (including capital-flow management and macroprudential policy measures) and ample foreign reserves, regional authorities have become more skillful in navigating uncertainties and managing the shocks. Investors have also become more discerning, able to differentiate economies based on fundamentals. However, there is no room for complacency, and regional policymakers will need to step up their surveillance and be attentive to emerging signs of stress.

Figure 1.6.6. Market Pricing of Fed Rate Hikes
(Number of 25 basis point hikes priced in)



Sources: Bloomberg Finance L.P.; and AMRO staff estimates.
Note: Fed = US Federal Reserve. Latest data as at March 16, 2022.

Box 1.7:

Climate Change Risks and Policies in the ASEAN+3

ASEAN+3 economies face physical and economic risks from climate change, which will have significant implications on future development prospects. Four ASEAN economies—Myanmar, the Philippines, Thailand, and Vietnam—were among the 10 economies in the world with the highest fatalities and economic losses due to weather-related disasters between 1999 and 2018; Cambodia came in close at twelfth place (Beirne, Renzhi, and Volz 2021; Eckstein and others 2019). The physical risks from climate change have been widely discussed in the literature, including AMRO (2018). These include raging forest fires, massive flooding, higher frequency of cyclones and droughts, as well as rising sea levels and frequent landslides, many of which were witnessed in the ASEAN+3 region in 2021, affecting economies' agricultural production, water availability, power supply, transport and infrastructure, tourism, and coastal resources.

In addition to the physical risks of climate change, ASEAN+3 economies also face transition risks from changing strategies, policies, and investments to reduce their reliance on carbon-based fuels and other carbon-intensive industries. Industries that are heavily reliant on fossil fuels are increasingly facing a greater regulatory burden amid calls to transition to a low-carbon economy. Over time, a large portion of reserves of oil, gas, and coal will most likely be left in the ground and discounted or written off from balance sheets. For example, if Indonesia, the Philippines, and Vietnam are to meet their commitments under the Paris Agreement, it is estimated that up to USD 60 billion of coal-fired plants could be stranded at retirement after 15 (rather than 40) years (ASEAN 2021). Transition risks are also likely to increase banks' credit risks (AMRO 2020).

Transition risks can arise from policy changes not just within but also outside the economy or region. If the Plus-3 economies were to transition in a way that is likewise compatible with the Paris Agreement, it will impact the profitability of coal mines elsewhere in the region, like in Indonesia. The European Union's shift away from palm oil biofuel toward deforestation-free products could lead to stranded landbanks for Malaysian and Indonesian conglomerates in oil palm plantations (ASEAN 2021). Additionally, the European Union's July 2021 proposal to implement a carbon border adjustment mechanism (CBAM) on extraregional energy-intensive imports—to initially cover electricity, iron and steel, fertilizers, aluminum, and cement projects—could make some ASEAN+3 exports to the bloc more expensive and thus uncompetitive in the medium term. For example, Malaysia CBAM exports to the European Union account for about seven percent of its total CBAM exports in 2019 (Vickers, Ali, and Powell 2021). However, a no-action scenario will be even costlier for the region in the long run, especially for ASEAN, making it critical for economies to achieve substantial progress in terms of their commitments (Anwar and others 2020).

Fortunately, progress has been made to a certain extent to date, with a number of medium- to long-term regional- and country-specific actions and policies in the ASEAN region—such as in the areas of coastal protection structures (Brunei); promotion of mangroves and developing tolerant crop varieties (Indonesia); developing appropriate crop management techniques (Lao PDR); and sustainable coastal development, climate-adapted technology, and organic farming (Malaysia) (Table 1.7.1).

Even so, many initiatives remain in the conceptual phase and need to be translated into actual policies and action plans before they can have an impact on mitigating the risks from climate change. This can be done by disincentivizing industries from maintaining (or increasing) their reliance on high carbon and polluting sectors—such as through emission or disposal fees, pollution taxes, or charges—and incentivizing them towards lower carbon and renewable energy alternatives and sustainable practices—e.g., through loans and grants for erosion control, land conservation, and large-scale recycling projects, as well as encouraging information disclosure on firm activities that meet environmentally-sustainable goals. At the regional level, examples of specific initiatives include the ASEAN Plan of Action for Energy Co-operation, which

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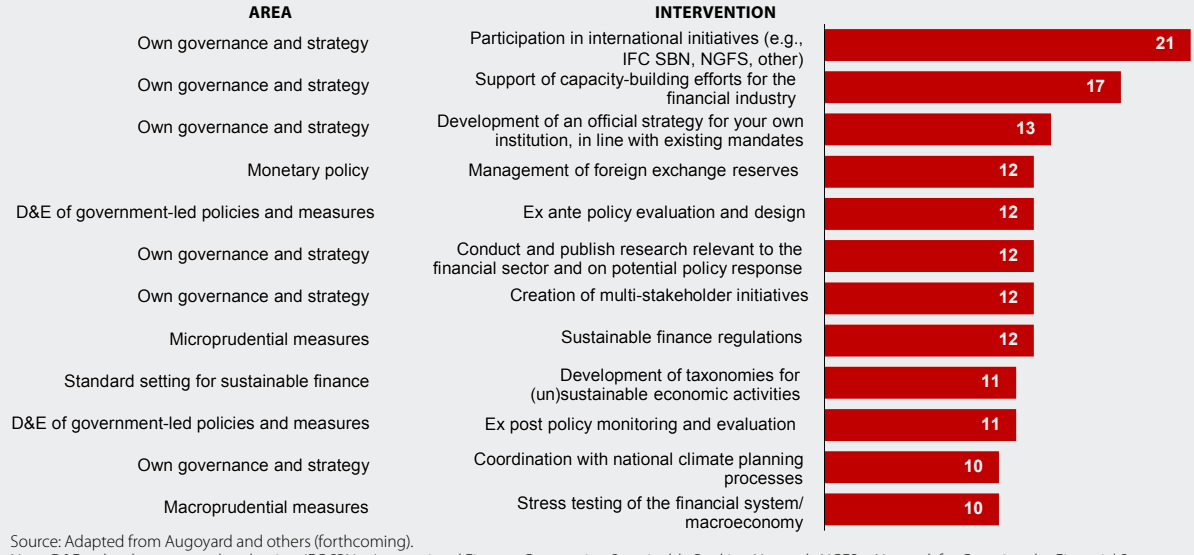
The authors of this box are Marthe Hinojales and Aziz Durrani.

contains a renewable energy target of 23 percent in total primary energy supply by 2025 and the 2021 Forum on Carbon-Neutrality Goals of China, Japan, and Korea, focusing on how trilateral cooperation can accelerate the transition to net zero emissions through innovation, technology, and the sharing of best practices (UNESCAP 2021).[1]

Another policy area gaining popularity is carbon pricing—a key element that will help push the shift to a low-carbon economy. ASEAN+3 economies have increased regional discussions on this issue while balancing the need to reduce carbon use against the need to ensure economic growth, especially in the aftermath of the pandemic. In July 2021, China's national emissions trading scheme began operating—three years after its launch—aiming to be an important market-based instrument to help the economy achieve its climate goals. However, while there have been calls for a regionwide, common carbon tax in ASEAN, this is unlikely to be implemented in the short-term given the varying levels of reliance on carbon production and use across ASEAN members, particularly as they focus on post-pandemic recovery. Thus, even if an ASEAN-wide tax is implemented in the short term, it is unlikely to be high enough to discourage carbon use. Regional consensus regarding a sufficiently high carbon tax rate that can encourage the shift to other forms of energy is expected to become a key focus for ASEAN+3 regional priorities in the next few years.

One critical driver of climate change mitigation policies will be the financial sector, which can help push the rest of the economy in the desired direction by channeling credit toward low- or non-carbon based industries and renewable energy. Many central banks and financial supervisors in Asia have implemented or are starting to implement policies and regulatory measures which promote sustainable green finance, within their mandates (Figure 1.7.1). However, there is still room for stronger regulatory measures from central banks, financial supervisors, and government agencies in the ASEAN+3 to direct firms toward less intensive carbon usage and to increase their dependence on renewable energy and technologies. For example, a stronger focus on regulatory measures based on climate change risk criteria for the financial sector would directly flow through to the firms across the economy to price climate change risks into their products and incentivize the shift toward more renewable forms of energy use. Regulatory measures for the financial sector could include climate change risk-based stress testing, green supervisory reviews from central banks and financial supervisors, and higher capital risk weights for lending to sectors that have a higher-than-average carbon usage. Such measures should be undertaken by ASEAN+3 members if they are to properly deal with, and mitigate, the damaging effects of climate change in their economies and minimize spillovers to the rest of the region.

Figure 1.7.1. Asia: Measures Implemented by Central Banks and Financial Supervisors to Achieve Climate and Environmental Objectives
(Number of implementing central banks and financial supervisors)



Source: Adapted from Augoyard and others (forthcoming).
Note: D&E = development and evaluation; IFC SBN = International Finance Corporation Sustainable Banking Network; NGFS = Network for Greening the Financial System.

[1/] However, significant work will need to be undertaken in the next 3 years to meet this target, since renewable energy formed only about 14 percent of the total share of energy in ASEAN in 2017.

Table 1.7.1. Selected ASEAN+3: Medium- to Long-Term Adaptation Vision, Strategies, and/or Plans

Economy	Indicative Adaptation Strategies/Vision	Target Year	Adaptation Areas
Brunei	Brunei Darussalam National Climate Change Policy	2035	Generating awareness on adaptation; promotion of integrated adaptation solutions with mitigation co-benefits; integrated impact assessment tools; national climate risk framework, monitoring and evaluation; research on sea level rise; multi-stakeholder engagement; and consideration of nature-based solutions, coastal protection structures, and community based disaster-prevention. Research and mapping of sea level rise, flood risk mitigation, provision of nature-based solutions to prevent soil erosion and flooding, and community- and school-based disaster risk reduction.
Cambodia	National Strategic Plan on Green Growth 2013–30	2030	Green jobs; sustainable agriculture (green agriculture); resilient infrastructure; resilient financial systems; public-private partnerships; capacity building for resilience and environmentally sustainable solutions; strengthening the capacity of financial institutions; payment of ecosystem services; enhancing food security.
Indonesia	Roadmap Nationally Determined Contribution Adaptation	2030	Increasing economic resilience, social security, and livelihoods as well as ecosystem and landscape resilience.
	Climate Resilience Development Policy	2045	Prioritize marine and coastal, agriculture, water, and health sectors.
	Long Term Strategy	2050	Agriculture, forestry, and other land uses; energy; wastes; and industrial processes.
	Low Carbon Development Initiative	2060	Climate resilient agriculture; resilience to sea level rise; resilient lifestyles for farmers; economic resilience against climatic shocks; resilient infrastructure; promotion of mangroves; flood risk mitigation; developing tolerant crop varieties. Key sectors include agriculture, fisheries and marine resources, forests, water resources, infrastructure.
Lao PDR	National Green Growth Strategy	2030	Resilient natural resources; payment of ecosystem services; resilient agriculture; resilient rural economy; development of appropriate crop management techniques; climate resilient forestry; water resource information systems; resilient water infrastructure; strengthening of public health infrastructure.
	Agriculture and Forestry Research Strategy 2025 and the 'Vision up to 2030'	2030	Developing climate-smart agricultural practices through testing and scaling up technologies; improving practices to build farmers' capacity to adapt to climate change, policies, and institutions for climate-resilience through modeling; and scenario assessment and policy analysis for agriculture and food security under climate change.
Malaysia	National Renewable Energy Policy and Action Plan 2011	2030	Modern and resilient infrastructure; resilience-based and green jobs.
	Shared Prosperity Vision 2030	2030	Food sovereignty and security, sustainable coastal development, climate adapted technology and organic farming.
	Roadmap for the Water Sector Transformation 2040	2040	Climate change impact and adaptation.
The Philippines	National Climate Change Action Plan	2028	Enhancing adaptive capacity and resilience of communities and natural ecosystems to climate change; and adopting the total economic valuation of natural resources while ensuring biodiversity conservation, among others.
	Sustainable Finance Roadmap 2021	2030	Integrating sustainability considerations into macroeconomic policies and risk management in asset markets, mainstreaming sustainable finance, and developing a pipeline of sustainable investment projects.

Source: Various reports from national authorities.

III. AMRO Staff Macroeconomic Forecasts for 2022–23

The global economy is expected to continue to improve in 2022, albeit at a slower pace due to the spread of the Omicron variant and higher energy prices generated by the Russia-Ukraine conflict. Major advanced economies rebounded strongly in 2021, and while global growth is expected to slow down in 2022, it will still be above potential. Global inflation has turned out to be higher and more persistent than expected. The Russia-Ukraine conflict will also exert additional upward price pressures, particularly on energy and food. Given gradual policy normalization by major advanced economies and the continuing rebound in economic activities, most ASEAN+3 economies are expected to begin unwinding their fiscal and monetary policy support during the year. Global supply chain bottlenecks are assumed to have peaked in the fourth quarter of 2021 and to ease in 2022, barring prolonged shipping-lane and airspace restrictions arising from the Russia-Ukraine conflict. While global economies continue to reopen, high costs and burdensome protocols will limit the scale of resumption in travel activities, particularly in the first half of 2022, and international tourism is not expected to return to pre-pandemic levels until mid-2023.

Against this backdrop, the ASEAN+3 region is expected to grow at a more moderate pace of 4.7 percent in 2022 (Table 1.4). The ongoing Russia-Ukraine conflict is expected to have a limited impact on the region's GDP growth in 2022 given regional economies' small exposure to the two economies engaged in the conflict. An escalation and prolongation of the conflict would, however, pose a downside risk to growth (Box 1.8).

- GDP growth in China, Hong Kong, and Korea, which rebounded strongly in 2021 after these economies' early success in containing the COVID-19 spread, is expected to moderate to a more sustainable pace in 2022. Japan, whose recovery momentum was weakened by the Delta outbreak, is expected to grow more strongly by 2.9 percent in 2022.

- After a weaker rebound in 2021, the ASEAN economies as a group are poised to register a stronger expansion of 5.1 percent in 2022. Economies that were weighed down by the Delta outbreak (Indonesia, Malaysia, the Philippines, Thailand, and Vietnam) are projected to see firmer growth this year. The forecast rests mainly on the expected gradual reopening of the region following the successful vaccination of more than 80 percent of the population in 7 out of the 10 economies. Economic activity will also benefit from a partial resumption of travel and tourism activity, particularly in the second half of the year— for example, Thailand has resumed quarantine-free travel since February 1, 2022, while the Philippines has reopened tourism to fully vaccinated travelers from February 10, 2022. The exception in the ASEAN group is Singapore, where GDP growth—which rebounded strongly in 2021 thanks to rapid vaccination progress and strong exports—is expected to moderate in 2022, similar to China, Hong Kong, and Korea.

The region is expected to sustain a growth rate of 4.6 percent in 2023 as the economic recovery continues. While some ASEAN economies, such as Cambodia, Lao PDR, and Thailand, would register stronger growth as their economies reopen and tourism recovers more fully in 2023, others, such as Malaysia, Singapore, and Vietnam, are projected to moderate to a more sustainable trend growth rate. The Plus-3 economies are forecast to register more moderate, near-trend growth in 2023 after narrowing the output gap in 2022.

AMRO staff's adverse scenario puts the region's GDP growth at 3.9 percent in 2022 and 3.5 percent in 2023 (Figure 1.51). In the adverse scenario, the Russia-Ukraine conflict would be protracted, lasting beyond 2023. Commodity prices would remain volatile and high throughout the duration of the geopolitical tension. At the same time, more virulent COVID-19 strains could emerge by the end of 2022, necessitating targeted containment measures in major advanced economies and the ASEAN+3 region to slow the spread of infections. The shortage of raw materials and intermediate inputs would accelerate price pressures and weigh on private sector activities. The renewed suspension of economic activities would exacerbate scarring in the region's economies, further dampening growth.

AMRO staff's upside scenario puts the region's GDP growth at 5.4 percent in 2022 and 5.7 percent in 2023. In the upside scenario, the Russia-Ukraine conflict is resolved within the first half of 2022 and the ongoing economic reopening is faster than expected, culminating in all containment measures being removed by end of 2022. The resolution of the conflict in Europe and the earlier resumption of economic activities would reduce price pressures and support a stronger economic recovery. Economic scarring would be limited to sectors that have been affected thus far, with workers and firms able to shift to new growth areas seamlessly (Box 1.8).

Headline inflation for the ASEAN+3 region is forecast to increase to 3.5 percent in 2022 and moderate to 2.3 percent in 2023. The increase in inflation this year reflects base year effects, the removal of subsidies on energy and some essential products, and supply-side constraints that are pushing up the costs of raw materials, energy, transportation, and food. The inflation outlook is dependent on global commodity price developments and the strength of the economic recovery. Persistent disruptions to global supply chains, including from the Russia-Ukraine conflict, could see higher imported inflation and greater pass-through from PPI inflation to CPI inflation. With domestic demand expected to recover in tandem with the gradual economic reopening throughout the region this year, further rounds of containment measures could dampen demand and temper inflationary pressures.

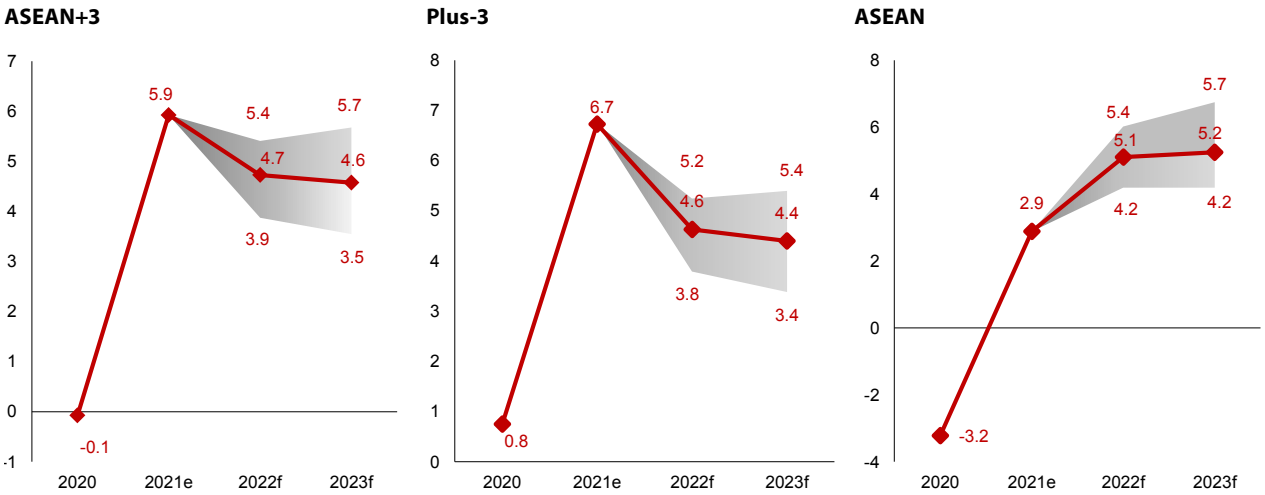
In 2023, inflation is expected to moderate to a longer-term trend for most economies, except Brunei and Indonesia. Inflation is expected to remain unchanged in Brunei as the decline in food prices following the easing of supply chain disruptions is offset by rising demand pressures stemming from the delayed recovery in economic activity. Meanwhile, the slight increase in Indonesia's inflation is supported by a pick-up in economic activities and mainly reflects its return to long term trends, as well as Bank Indonesia's headline inflation target range of 3.0 ± 1.0 percent.

Table 1.4. ASEAN+3: AMRO Staff Growth and Inflation Estimates and Forecasts, 2022–23
(Percent, year-on-year)

Economies	GDP Growth			Inflation		
	2021e	2022f	2023f	2021e	2022f	2023f
ASEAN+3	**5.9**	**4.7**	**4.6**	**2.1**	**3.5**	**2.3**
Plus-3	**6.7**	**4.6**	**4.4**	**1.2**	**2.1**	**1.7**
China	8.1	5.2	5.3	0.9	2.2	2.0
Hong Kong	6.4	2.8	3.2	1.6	2.0	2.3
Japan	1.6	2.9	1.2	-0.3	1.1	0.5
Korea	4.0	3.0	2.6	2.5	2.9	1.9
ASEAN	**2.9**	**5.1**	**5.2**	**2.5**	**4.1**	**2.6**
Brunei	0.2	4.1	2.3	1.7	1.3	1.3
Cambodia	2.9	5.2	6.1	2.9	5.0	3.7
Indonesia	3.7	5.2	5.3	1.6	2.8	3.0
Lao PDR	2.6	3.9	5.9	3.8	5.0	3.5
Malaysia	3.1	6.0	5.0	2.5	2.7	2.0
Myanmar	-18.7	1.5	–	3.6	9.5	–
Philippines	5.6	6.5	6.5	3.9	4.1	3.5
Singapore	7.6	4.0	2.6	2.3	3.3	2.0
Thailand	1.6	3.4	5.2	1.2	4.2	1.8
Vietnam	2.6	6.5	7.0	1.8	3.4	3.0

Sources: National authorities via CEIC and Haver Analytics; and AMRO staff estimates and forecasts.
Note: e refers to AMRO staff estimates, and f refers to AMRO staff forecast. Myanmar's growth numbers are based on its fiscal year, from October 1 to September 30.

Figure 1.51. ASEAN+3: GDP Growth Forecasts under AMRO Staff Scenarios
(Percent, year-on-year)



Sources: National authorities via Haver Analytics; Oxford Economics Global Model; and AMRO staff estimates.
Note: e refers to AMRO staff estimates, and f refers to AMRO staff forecast.

Box 1.8:

AMRO Staff Macroeconomic Forecasts: Baseline, Adverse, and Upside Scenarios

To complement the baseline forecast, AMRO staff simulated upside and downside scenarios to assess the potential impact of the risk factors presented in the Global Risk Map for AMRO's baseline projections for 2022 and 2023. The simulations were run using Oxford Economics' Global Economic Model, which covers all ASEAN+3 economies with an underlying data set that is updated every month.[1] The assumptions used in the baseline, adverse, and upside scenarios are as follows (Figures 1.8.1 and 1.8.2).

Baseline scenario: COVID-19 becomes endemic and the Russia-Ukraine conflict is resolved in the second half of 2022. High vaccination coverage, including booster doses, enables all ASEAN+3 economies to continue relaxing pandemic containment measures. Current vaccination regiments are broadly successful in protecting against future COVID-19 variants. Broad-based movement restrictions are therefore no longer necessary to contain the spread of the COVID-19 virus. Social distancing requirements and border restrictions would be gradually scaled back, with full relaxation of measures by the middle of 2023. The Russia-Ukraine conflict is expected to die down after the second quarter of 2022. Energy price increases and their knock-on effects on transportation costs would similarly peak in the second quarter of 2022 and moderate thereafter. After the first hike in March 2022, the Fed would raise interest rates six more times in 2022, in line with the forward guidance issued. Some households and firms, particularly in sectors hard-hit by the pandemic, would face financial distress until they can transition to new jobs and businesses; there would be some business closures, but continued targeted fiscal support would prevent widespread bankruptcies and layoffs. Unemployment rates would recover to pre-pandemic levels by mid-2023.

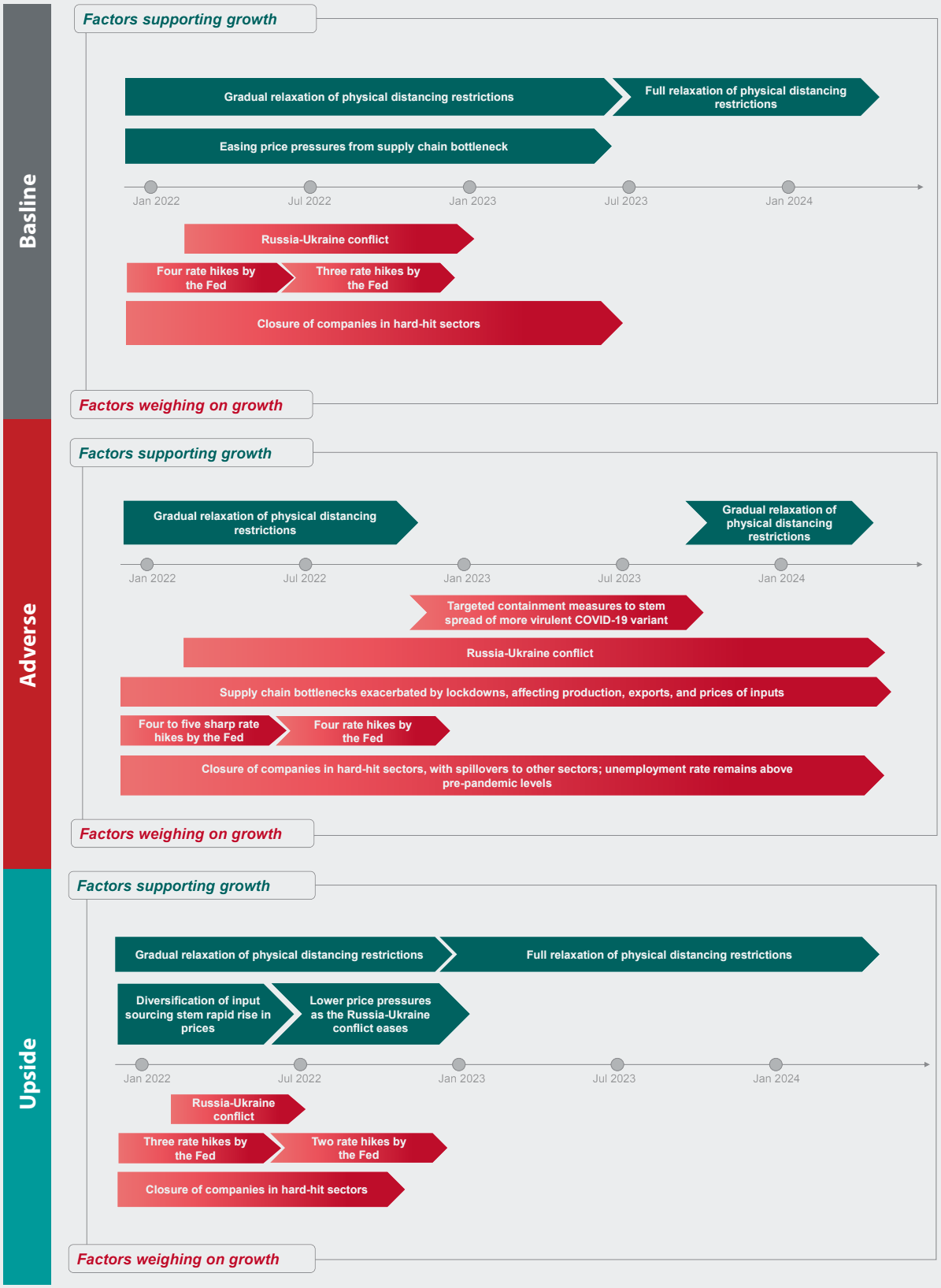
Adverse scenario: The Russia-Ukraine conflict is prolonged and compounded by the emergence of a more virulent COVID-19 variant. The Russia-Ukraine conflict extends beyond 2023. International sanctions against Russia remain in place for a protracted period, restricting the supply of energy products globally. Energy prices rise and remain elevated throughout the duration of the conflict. A more virulent strain of COVID-19 emerges that is resistant to existing vaccines. While blanket lockdowns are not expected, containment measures are likely to be tightened significantly to stem the spread of infections. Physical distancing measures and border restrictions are therefore retightened in the fourth quarter of 2022. Targeted lockdowns in major production nodes within the global supply chain disrupt production activity and exports across the region. The shortage of raw materials and intermediate goods would compound price pressures from already-rising global inflation and high commodity prices. The Fed would raise interest rates more than seven times, and/or by more than a cumulative 250 basis points, in 2022 to address rising inflationary pressures. The reimposition of containment measures and the shrinking fiscal space for continued expansive policy support would intensify financial distress among households and businesses in the ASEAN+3 region, creating deeper economic scars. Unemployment rates would stay above pre-pandemic levels beyond 2023.

Upside scenario: Faster-than-expected economic reopening and swift resolution of the Russia-Ukraine conflict. Regional economies ease physical distancing measures and border restrictions given the milder effects of the Omicron variant. The pace of economic reopening is accelerated so that all COVID-19-related measures are removed by the end of 2022. The Russia-Ukraine conflict is resolved in the second quarter of 2022. With the resolution of the geopolitical tension, the supply of crucial raw materials is restored and inflationary pressures ease earlier compared to the baseline scenario. The Fed would therefore normalize interest rates at a pace that is in tandem with the recovery in the global economy. Economic scarring would be limited to sectors that have been affected to date, with no sharp increase in bankruptcies or NPLs when policy support is removed. The labor market would continue recovering, with unemployment rates declining to pre-pandemic levels by the end of 2022, as firms move to new growth areas.

The author of this box is Catharine Tjing Yiing Kho.

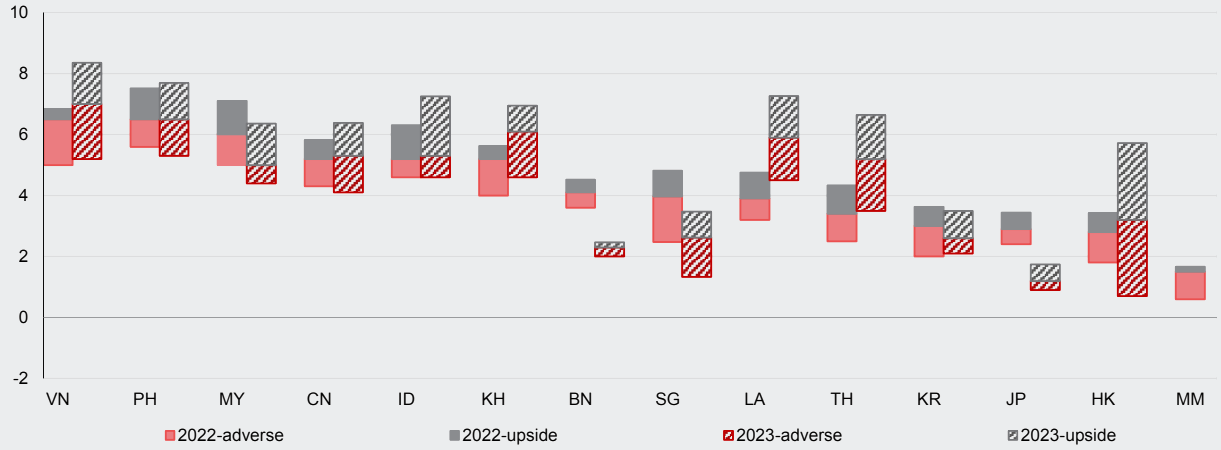
1/ The model consists of a system of equations with macroeconomic variables that include GDP and its components, prices, exchange rates, and interest rates. The Global Economic Model is essentially an error-correction model that estimates how quickly a variable returns to its equilibrium state after a shock; hence, it estimates both the short-term and long-term effects of the shock on the variable. In the short term, the model assumes sticky factor prices and aggregate demand-determined output. In the long term, the model assumes that prices adjust fully, and the equilibrium is determined by supply factors such as productivity, labor, and capital. For this exercise, only the short-term estimates are presented.

Figure 1.8.1. Summary of Key Assumptions



Source: AMRO staff.
Note: The Fed = US Federal Reserve.

Figure 1.8.2. ASEAN+3: Projected GDP Growth Ranges, 2022–23
(Percent, year-on-year)



Sources: Oxford Economics; and AMRO staff estimates.
Note: BN = Brunei; CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MY = Malaysia; MM = Myanmar; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

IV. Policy Considerations

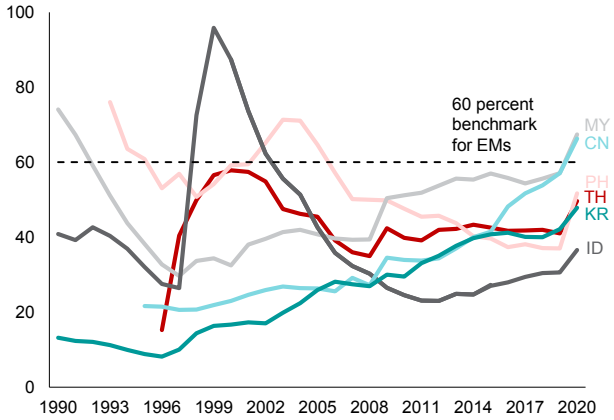
Macroeconomic and macroprudential policies in the ASEAN+3 by and large continue to be focused on alleviating the impact of the pandemic and supporting an economic recovery. The proactive and exceptionally large support and stimulus programs introduced to counter the economic fallout of the pandemic in 2020 were followed by a more targeted and calibrated approach in many of the region's economies in 2021. Looking ahead in 2022, given the less supportive global policy settings, regional policymakers will have to undertake a crucial balancing act—avoiding a premature withdrawal of policy support in view of the still nascent economic recovery especially in the close-contact services sectors, while at the same time, facilitating the reallocation of capital and labor to new and expanding sectors, and rebuilding policy space to prepare for future shocks.

Policy Space

Fiscal space remains moderate to ample in most ASEAN+3 economies. The ASEAN+3 economies entered the pandemic with substantial policy space and reserves, but over the last two years, most authorities across the region have rolled out large fiscal packages and have continued to extend financial support to firms and households badly affected by the pandemic and containment measures. As a result, public debt ratios have increased markedly since the outbreak of the pandemic (Figure 1.52 and Figure 1.53). Thailand raised its public debt ceiling from 60 percent to 70 percent of GDP in September 2021 to support further fiscal outlays, and Malaysia raised its debt ceiling from 60 percent to 65 percent of GDP from October 2021 until at least the end of 2022. Vietnam is also planning to follow suit. In Indonesia, the temporary suspension of the budget deficit ceiling through 2022 has provided the fiscal authorities room and flexibility to undertake pandemic policy response. At the same time, fiscal support measures in some economies are shifting from broad-based support to being increasingly targeted to sectors that are hard-hit by the pandemic. Notwithstanding the increase in public debt levels, AMRO staff's assessment is that all economies, except Japan, Lao PDR, and Myanmar, have moderate-to-ample fiscal headroom, with manageable debt-to-GDP ratios (Table 1.5).

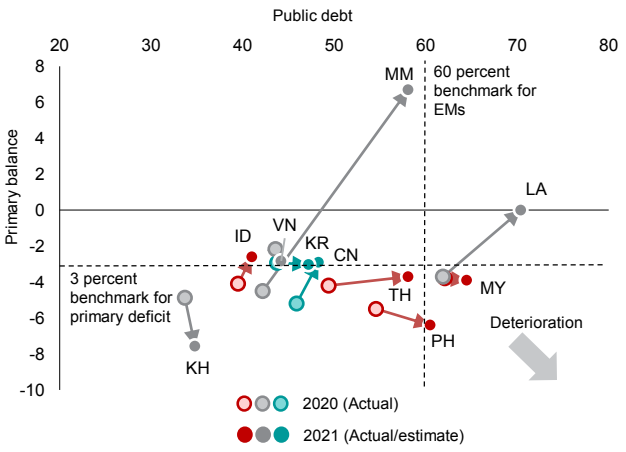
Monetary policy space across the region has narrowed following significant easing measures to support the economy in the wake of the pandemic. After cutting reserve requirement ratios and policy interest rates to ease liquidity and monetary conditions in 2020, most central banks in the region have continued to maintain a largely accommodative monetary policy stance—refraining from further loosening, but also from reversing course. The three exceptions are China, which normalized its monetary policy stance ahead of most countries in line with its business cycle, and Korea and Singapore, where policy normalization began in the second half of 2021, reflecting the strong economic rebound amid firmer inflation, as well as the desire to guard against a buildup of financial stability risks. Similarly, macroprudential policies, especially credit and forbearance policies, remain

Figure 1.52. Selected ASEAN+3: General Government Debt
(Percent of GDP)



Source: IMF International Financial Statistics (IFS) database via Haver Analytics.
Note: CN = China; ID = Indonesia; KR = Korea; MY = Malaysia; PH = the Philippines; and TH = Thailand. EM = emerging market.

Figure 1.53. Selected ASEAN+3: Public Debt and Primary Balance, 2020–21
(Percent of GDP)



Sources: National authorities via Haver Analytics; and AMRO staff estimates.
Note: CN = China; ID = Indonesia; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; TH = Thailand; and VN = Vietnam. EM = emerging market.

relatively loose across the region to mitigate the risks of financial distress of households and corporates which are still affected by the economic downturn and struggling to service their debt (Table 1.6). Monetary policy space is assessed by AMRO staff to be moderate in most regional economies, except for Japan, Cambodia, Lao PDR, and Myanmar where policy space is limited due to the zero lower bound or high degree of dollarization (Table 1.5).

Table 1.5. ASEAN+3: Assessment of Policy Space
(Position as of end-2021 compared to end-2020)

Policy space		Fiscal		
		Ample	Moderate	Limited
Monetary	Ample			
	Moderate	Korea Singapore	China Indonesia Korea Malaysia Myanmar Philippines Thailand Vietnam	
	Limited	Brunei Cambodia Hong Kong	Brunei Cambodia	Japan Lao PDR Myanmar

Source: AMRO staff estimates, based on Poonpatpibul and others (2020).
Note: Red font denotes an economy's policy space assessment in the pre-pandemic period; arrow indicates the shift in an economy's policy space assessment from the pre-pandemic period to the current period (in black font). This framework does not necessarily take into account the ability and capacity of monetary authorities to undertake unconventional monetary policy.

Policy Positions

Most ASEAN+3 economies are consolidating fiscal policies and adopting a more contractionary fiscal stance in 2022. In view of the gradual normalization in economic activities as containment measures are progressively rolled back, the authorities are gradually unwinding fiscal stimulus policies (Figure 1.55). However, the fiscal stance is expansionary in China and Thailand and neutral in Malaysia, the Philippines, and Vietnam. China has adopted a more expansionary fiscal position to boost the economy following a slowdown in the second half of 2021; Thailand has continued its fiscal support for the tourism-oriented economy which is still badly affected by international border closures and domestic containment measures. Malaysia, the Philippines, and Vietnam are maintaining their fiscal impulse to sustain the growth momentum in their economies. AMRO staff broadly concurs with the fiscal stance adopted by the region's economies. However, staff is of the view that an easing bias would be more appropriate for Vietnam in case downside risks materialize.

The monetary policy stance remains broadly accommodative across the region (Figures 1.54 and 1.55). Following the recent cuts in policy rates and the reserve requirement ratio, China's monetary policy stance is assessed to be appropriately supportive of economic growth. Monetary policy conditions in Myanmar remain tight given the ongoing state of emergency. While Korea has begun interest rate normalization and Singapore has raised the slope of its Singapore dollar nominal effective exchange rate policy band from zero percent, the monetary policy stance is assessed to be still accommodative and supportive of the further recovery in these economies. With the recovery in growth momentum expected to be sustained, AMRO staff recommends that the central banks in these two economies continue their monetary policy normalization path to minimize financial stability risks as the economic recovery continues. Similarly, Malaysia should be prepared to normalize its monetary policy later in the year in tandem with an improvement in its growth trajectory. The monetary policy stance in the rest of the region's economies should be maintained to support their economic recovery.

Most of the region's economies are maintaining the accommodative macroprudential stance they introduced at the start of the pandemic—reserve requirement ratios, countercyclical capital buffers, and liquidity coverage ratios that were lowered in 2020 have not been raised, ensuring continued liquidity support to households, businesses, and financial institutions. Malaysia, Myanmar, and Vietnam have tapered macroprudential accommodation to some degree, but not to the extent of tightening macroprudential policies. For example, Malaysia abolished the property gains tax for properties sold after being owned for five years but retained the tax for properties divested after less than five years. Economies that rebounded well in the past year, namely China, Korea, and Singapore, have continued to tighten their macroprudential policies to reduce upward price pressures in their property markets. AMRO staff assesses the current

policy stance for all economies to be appropriate, with the exception of Cambodia, where some reduction in the degree of macroprudential policy accommodativeness is recommended given its firm economic recovery.

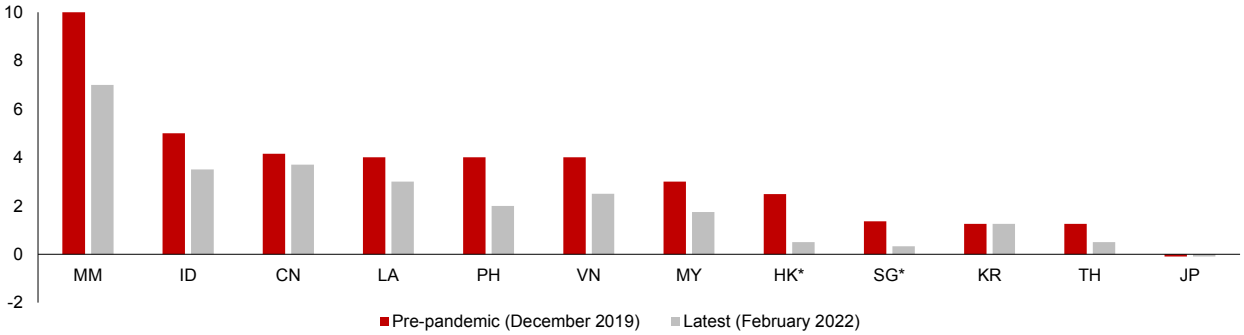
Credit policy remains accommodative in all economies, except China and Myanmar. Across the region, measures such as credit guarantees, repayment deferment programs, soft loans, and concessionary loans have been maintained (or extended). However, the continuation of these supportive measures would be state-dependent (such as economies' position in the COVID cycle) and would not be expected to continue indefinitely. In China, while liquidity remains ample, the extension of credit has been shifted toward priority sectors, such as SMEs, technology, and green sectors. AMRO staff concurs with the credit policy in all economies except Lao PDR, where more credit could be extended to SMEs to boost the economic recovery.

Table 1.6. ASEAN+3: Regulatory Forbearance, February 28, 2022

Measures	Economies
Loosen capital or liquidity requirements	• Cambodia (no specified end date) • Hong Kong (CCB, no specified end date; Basel III, Jan-23) • Indonesia (CCB, LCR, and NSFR, extended through Mar-22; Basel III reforms on RWA and CVA to Jan-23) • Japan (no specified end date) • Korea (LCR for foreign currencies, Mar-21, first extended to Sep-21, and again to Mar-22) • Malaysia (80 percent NSFR until Sep-21) • Myanmar (Apr-23) • Singapore (CAR and LCR, Sep-21; Basel III, Jan-23) • Vietnam (timeframe for tightening liquidity requirements was extended)
Loosen loan classification	• Hong Kong (no specified end date) • Indonesia (initially until Mar-21, first extended to Mar-22, and again to Mar-23) • Lao PDR (Jul-21) • Malaysia (extended through Dec-21) • Singapore (Sep-21) • Thailand (end-2023) • Vietnam (Jan-24)
Debt relief or restructuring	• Brunei (deferment of loan repayment, loan restructuring, conversion of credit card outstanding balance extended until Jun-22) • Cambodia (extended through Jun-22) • Hong Kong (pre-approved principal payment holiday scheme extended to Apr-21; SME guarantee scheme to Jun-21; 100 percent personal loan guarantee scheme to Jun-21; repayment of trade facilities deferred for another 90 days to Oct-21) • Indonesia (loan restructuring initially until Mar-21, first extended to Mar-22, and again to Mar-23) • Korea (loan moratorium for SMEs, Mar-21, first extended to Sep-21, and again to Mar-22) • Lao PDR (Jul-21) • Malaysia (extended through Dec-21) • Myanmar (no official guidance, subject to banks' own discretion) • Philippines (loan moratorium, Dec-20; NPL non-recognition, Dec-2021; no restructuring policy) • Singapore (lifted on Sep-21) • Thailand (broad-based/blanket loan payment holiday replaced by targeted, case-to-case-basis debt relief measures, and a long-term restructuring program) • Vietnam (3 months after Prime Minister announces official end of COVID-19)

Source: AMRO staff compilation.
Note: CAR = capital adequacy ratio; CCB = capital conservation buffer; CVA = credit valuation adjustment; LCR = liquidity coverage ratio; NPL = nonperforming loan; NSFR = net stable funding ratio; RWA = risk-weighted assets; and SMEs = small and medium-sized enterprises.

Figure 1.54. Selected ASEAN+3: Key Interest Rates
(Percent, end-of-period)



Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Asterisk (*) indicates that data used are monthly average market-based rates instead of end-of-period rates. Key interest rates vary across economies and could refer to the policy rate, the refinancing rate, the discount rate, the overnight repo rate, among others. Brunei and Cambodia are excluded from the sample given the current design of their monetary policy framework.
CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

Figure 1.55. ASEAN+3: AMRO Staff Assessment of Current Policy Stance and Policy Recommendations

Source: AMRO staff estimates.
Note: Asterisk (*) denotes fiscal year of April 1 to March 31. For Brunei and Hong Kong, which have a currency board arrangement, the current monetary stance refers to current monetary conditions. Credit policy refers to policies relating to credit extended to the real and property sectors, as well as to regulatory forbearance for banks.

Appendix 1.1: Selected Key Macroeconomic and Financial Indicators

Appendix Table 1.1.1. ASEAN+3: Selected Key Macroeconomic and Financial Indicators

	2020	2021 e	2022 f	2023 f
Brunei				
Real GDP growth (percent, year-on-year)	1.1	0.2	4.1	2.3
Headline inflation (period average, percent, year-on-year)	1.9	1.7	1.3	1.3
Current account balance (percent of GDP)	4.5	8.2	10.9	11.4
General government fiscal balance (percent of GDP)	–20.1	–9.1	–6.0	–3.2
Cambodia				
Real GDP growth (percent, year-on-year)	–3.1	2.9	5.2	6.1
Headline inflation (period average, percent, year-on-year)	2.9	2.9	5.0	3.7
Current account balance (percent of GDP)	–11.9	–41.6	–14.5	–8.5
General government fiscal balance (percent of GDP)	–5.3	–9.2	–5.3	–6.1
China				
Real GDP growth (percent, year-on-year)	2.2	8.1	5.2	5.3
Headline inflation (period average, percent, year-on-year)	2.5	0.9	2.2	2.0
Current account balance (percent of GDP)	1.9	1.8	1.1	1.2
General government fiscal balance (percent of GDP)	–6.2	–3.8	–4.9	–5.0
Hong Kong				
Real GDP growth (percent, year-on-year)	–6.5	6.4	2.8	3.2
Headline inflation (period average, percent, year-on-year)	0.3	1.6	2.0	2.3
Current account balance (percent of GDP)	6.5	5.5	4.7	4.0
General government fiscal balance (percent of GDP)	–8.7	0.7	–1.8	1.3
Indonesia				
Real GDP growth (percent, year-on-year)	–2.1	3.7	5.2	5.3
Headline inflation (period average, percent, year-on-year)	2.0	1.6	2.8	3.0
Current account balance (percent of GDP)	–0.4	0.3	–1.2	–2.0
General government fiscal balance (percent of GDP)	–6.1	–4.6	–3.2	–3.0
Japan				
Real GDP growth (percent, year-on-year)	–4.5	1.6	2.9	1.2
Headline inflation (period average, percent, year-on-year)	0.0	–0.3	1.1	0.5
Current account balance (percent of GDP)	3.0	2.8	2.4	2.7
General government fiscal balance (percent of GDP)	–10.0	–9.4	–5.7	–4.7
Korea				
Real GDP growth (percent, year-on-year)	–0.9	4.0	3.0	2.6
Headline inflation (period average, percent, year-on-year)	0.5	2.5	2.9	1.9
Current account balance (percent of GDP)	4.6	5.1	2.9	2.4
General government fiscal balance (percent of GDP)	–3.7	–4.4	–3.2	–3.6

Appendix 1.1: Selected Key Macroeconomic and Financial Indicators

Appendix Table 1.1.1. ASEAN+3: Selected Key Macroeconomic and Financial Indicators (Continued)

	2020	2021 e	2022 f	2023 f
Lao PDR				
Real GDP growth (percent, year-on-year)	3.3	2.6	3.9	5.9
Headline inflation (period average, percent, year-on-year)	5.1	3.8	5.0	3.5
Current account balance (percent of GDP)	–0.6	1.1	–0.8	–0.4
General government fiscal balance (percent of GDP)	–5.2	–2.0	–2.5	–2.5
Malaysia				
Real GDP growth (percent, year-on-year)	–5.6	3.1	6.0	5.0
Headline inflation (period average, percent, year-on-year)	–1.2	2.5	2.7	2.0
Current account balance (percent of GDP)	4.2	3.5	3.7	3.6
General government fiscal balance (percent of GDP)	–6.2	–6.4	–5.9	–5.0
Myanmar				
Real GDP growth (percent, year-on-year)	3.2	–18.7	1.5	—
Headline inflation (period average, percent, year-on-year)	5.8	3.6	9.5	—
Current account balance (percent of GDP)	–2.5	–1.8	–0.6	–0.3
General government fiscal balance (percent of GDP)	–6.2	–8.6	–6.0	–5.6
The Philippines				
Real GDP growth (percent, year-on-year)	–9.6	5.6	6.5	6.5
Headline inflation (period average, percent, year-on-year)	2.4	3.9	4.1	3.5
Current account balance (percent of GDP)	3.1	–1.0	–1.9	–1.5
General government fiscal balance (percent of GDP)	–7.6	–8.6	–7.8	–6.3
Singapore				
Real GDP growth (percent, year-on-year)	–4.1	7.6	4.0	2.6
Headline inflation (period average, percent, year-on-year)	–0.2	2.3	3.3	2.0
Current account balance (percent of GDP)	16.8	18.1	17.7	17.0
General government fiscal balance (percent of GDP)	–10.8	–0.9	–0.5	0.8
Thailand				
Real GDP growth (percent, year-on-year)	–6.1	1.6	3.4	5.2
Headline inflation (period average, percent, year-on-year)	–0.8	1.2	4.2	1.8
Current account balance (percent of GDP)	4.2	–2.2	–2.3	1.4
General government fiscal balance (percent of GDP)	–5.2	–4.7	–4.3	–3.6
Vietnam				
Real GDP growth (percent, year-on-year)	2.9	2.6	6.5	7.0
Headline inflation (period average, percent, year-on-year)	3.2	1.8	3.4	3.0
Current account balance (percent of GDP)	4.5	–1.6	3.0	3.3
General government fiscal balance (percent of GDP)	–3.5	–4.1	–4.6	–4.8

Sources: National authorities via CEIC and Haver Analytics; and AMRO staff estimates.
Note: "e" denotes AMRO staff estimates, "f" denotes AMRO staff forecasts. Numbers in red denote AMRO staff estimates and forecasts. Data are for the calendar year, except for general government fiscal balances and Myanmar (fiscal year). Data for 2021 are AMRO staff estimates, where actual data are not yet available.

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Chapter 2.

ASEAN+3 Growth Strategy in the Pandemic's Wake

Highlights

- COVID-19 has been a major disruptor—as well as a catalyst for change. The evolving virus and the policies implemented to contain it have exacted a heavy toll on economic activity and populations in the ASEAN+3 region. At the same time, the pandemic has precipitated changes in business operations, technology adoption, social norms, and consumer behavior that are likely to endure long after the crisis ends.

- What does this mean for the ASEAN+3's established growth strategy of moving up the technological value chain, developing services as a second driver of growth, and leveraging digital technology to meet the region's burgeoning consumer demand? Will the pandemic jeopardize the hitherto remarkable upward trajectory of regional incomes by leaving scars on member economies' output potential?

- Some extent of scarring is unavoidable—although it will take various forms in different economies, and some economies will be more affected than others. Scarring of the labor supply will be felt most strongly in the region's aging economies: birth rates have fallen (further); labor force participation rates have declined; and prolonged border closures could discourage future immigration. Scarring of the capital stock will affect the region's emerging and developing economies, as rebuilding of fiscal buffers and high debt-service burdens could constrain investments in infrastructure, especially those needed for digitalization. And scarring of productivity will have an impact across the region, as extended school closures and unemployment durations have eroded human capital, and prolonged policy support could delay the reallocation of resources needed for economies to adjust to the post-pandemic new normal.

- The pandemic has dealt a blow to some services but has provided a boost to others. Travel and tourism, in particular, have borne the brunt of lockdowns and containment measures, and their (likely slow) recovery will hinge on success in adapting to the significant changes to travel preferences and behavior introduced by COVID-19, such as a greater emphasis on hygiene and contactless interactions. On the bright side, digitally supplied services, including e-commerce, digital financial services, telehealth, and modern services, have thrived during the pandemic and have strong potential as future growth drivers.

- Crippling supply chain disruptions over the past year have thrown into question existing global value chain (GVC) paradigms and the relevance of the region's manufacturing-for-export strategy. But notwithstanding increasing interest in near- and reshoring production to protect critical supply chains, COVID-19 has not diminished ASEAN+3 economies' fundamental advantages as GVC locations. The newly implemented Regional Comprehensive Economic Partnership provides an additional boost for supply chains to be located in the region.

- Looking ahead, ASEAN+3 economies must prioritize building resilient systems, characterized by scalable healthcare systems, continuous training and upgrading, constant innovation, competitive business environments, and sustainable fiscal positions. Closer intraregional cooperation—in areas of supply chain security, interconnectivity, cross-border flows, and digital integration—will further expand the region's opportunities to secure post-pandemic growth, minimize scarring, and prepare for future shocks.

I. Introduction

This thematic chapter reflects on the impact of the COVID-19 pandemic on medium- to long-term growth in the ASEAN+3 region. Although the crisis is by no means over as yet, as we pass its two-year anniversary, it is time to take stock of the lasting changes in the region's economies caused by the pandemic and policy responses to the pandemic. The crisis will eventually end; it is time to look ahead at the new normal and the region's growth strategy in the pandemic's wake. This chapter builds on the narrative of past AREO thematic chapters, which laid out how the region's economies must look beyond the traditional manufacturing-for-export strategy and ride the "new economy" growth paradigm to help create more options to generate growth.

The key elements of the region's growth strategy were formulated against the backdrop of rapid technological advances and the sharp rise in regional income. As elucidated in AMRO (2018, 2020a), they involve moving up the technological value chain, developing services as a second driver of growth and employment, and leveraging the new digital technology to develop products and services to meet the burgeoning consumer demand in the region.

Has COVID-19 upended this strategy? After more than two years, the COVID-19 health and economic crisis could have left permanent scars on ASEAN+3 economies, causing lasting damage to their output potential and to the region's medium- and long-term growth. The crisis could also redefine the landscape of regional demand and growth drivers by precipitating changes in business operations, technology adoption, social norms, and consumer behavior that will endure after the pandemic ends.

The objective of this chapter is to assess the potential nature and extent of economic scarring caused by the COVID-19 crisis and to consider the implications of the pandemic for the region's growth strategy going forward. It takes a systematic look at the following questions:

- What are the possible channels of scarring in the current setting, and how badly could they damage the region's output potential in the medium to long term?
- How will the COVID-19 pandemic affect the region's established strategy for growth? Will the pandemic put paid to the manufacturing-for-export growth strategy? How will the pandemic affect the region's prospects of developing services as a second engine of growth?
- What are the challenges and policy priorities for the region as it embarks on its post-pandemic growth phase?

II. Has the Pandemic Damaged ASEAN+3 Output Potential?

The ASEAN+3 economies have grown at a remarkable pace in recent decades. The region has transformed itself from a collection of poor economies with a combined GDP of slightly more than 10 percent of global GDP in the 1960s–70s into a group of middle- to high-income economies accounting for more than a quarter of global GDP in 2018 (AMRO 2020a). But the speed and extent at which the ASEAN+3 economies have grown in the last 20 years have been especially noteworthy, and AMRO (2020a) anticipated that "the global center of gravity for economic activities (both supply and demand) will continue to shift to Asia."

Can ASEAN+3 maintain its growth trajectory after the pandemic, or will it be indelibly scarred by COVID-19? The concept of scarring stems from the view that GDP fluctuations (shocks) are persistent—their effects linger years after the shock takes place—and recoveries from recessions (negative shocks) might not always be strong enough to bring GDP back to its trend prior to the shock. This persistence can be seen as the scars left by recessions. Scarring occurs because the recession undermines the economy's supply potential, altering its longer-term trend of GDP through persistently lower output or even lower GDP growth. The traditional growth-accounting framework points to three areas through which recessions can undermine an economy's supply potential: the labor supply; capital accumulation; and productivity.

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The historical evidence shows that economic recessions can have persistent effects on output paths. Recessions—"typical" recessions as well as recessions associated with a financial crisis, pandemic, natural disaster, or armed conflict—tend to be associated with permanent output losses, on average.[1] For typical recessions, the depressed output path results primarily from persistently weaker productivity (IMF 2021). For financial crisis-recessions, weaker productivity, lower capital-labor ratios, and employment losses all play a role (IMF 2009). Hence, recessions associated with financial crises lead to more negative outcomes than typical recessions. Recessions associated with epidemics and pandemics in the modern era have been followed by output losses of magnitudes larger than those following typical recessions, but smaller than those following financial crises (IMF 2021).[2]

But the medium-term output loss is not inevitable. Some economies have succeeded in avoiding it, ultimately exceeding their precrisis output trajectory. Although postcrisis output dynamics are hard to predict, the historical evidence on financial crises suggests that economies that apply countercyclical fiscal and monetary stimulus in the short run to cushion the downturn after a crisis tend to have smaller output losses over the medium term. A favorable external environment generally would help to reduce medium-term output losses. Evidence exists that structural reform efforts are associated with better medium-term outcomes (IMF 2009).

In the region, the 1997–98 Asian financial crisis left deep and lasting economic scars. ASEAN was the epicenter of the crisis, and its economies experienced recessions of varying magnitude: Indonesia, Malaysia, and Thailand each posted at least one quarter of double-digit contraction; and Korea and Singapore recorded four quarters of decline. While growth recovered fairly quickly after the crisis, there is evidence of permanent losses in the levels of output in the affected economies (Cerra and Saxena 2005; Ong and Choo 2020) (Box 2.1)

The economic impact of the 2002–03 severe acute respiratory syndrome (SARS) epidemic, on the other hand, was short-lived. SARS emerged in China in November 2002 and spread to Canada, Hong Kong, Singapore, Taiwan Province of China, and Vietnam in early 2003. In total, more than 8,000 people around the world contracted the disease, and about 780 of them died.[3] SARS hit economic activity in the ASEAN+3 region, with the travel, tourism, and hospitality sectors bearing the brunt of the impact; industrial production was not significantly impacted. GDP growth contracted in China, Hong Kong, and Singapore in the second quarter of 2003 while economic activity also slowed in the Philippines and Thailand. But the epidemic ended relatively quickly—SARS was declared contained in July 2003—and GDP levels in the affected economies recovered within the same year.

Since then, the region's economies have experienced their share of large negative shocks. Most economies were impacted to some degree by the 2008–09 global financial crisis and the 2009–10 H1N1 influenza pandemic that struck thereafter, although neither shock originated in the region.[4] Natural disasters—the 2008 earthquake in China's Sichuan province, the 2011 earthquake and tsunami in northeastern Japan, severe flooding in Thailand in the same year, and Super Typhoon Yolanda in the Philippines in 2013, to name a few—also took a significant human and economic toll on individual economies.

The COVID-19 crisis, however, is a crisis like no other experienced in the region (or, indeed, the world). The pandemic has inflicted a huge cost on the region's health, affecting more economies more severely than SARS. To contain the spread of the virus, authorities in the region have been implementing social distancing practices including lockdowns on all nonessential businesses and border closures. As a result, economic activity has slowed drastically, affecting more economies more severely than the Asian financial crisis. The pandemic is not over, even after two years, although some economies in the region are beginning to rebound. The longer the pandemic stretches out, the greater the likelihood that it could cause permanent economic damage through scarring effects on the labor supply, capital accumulation, and productivity growth (Figure 2.1). A full reckoning of the extent and areas of scarring caused by the pandemic can only be achieved years after it is over. For the present, this section analyzes the possible channels through which scarring could occur, with the purpose of highlighting areas for policy interventions in the short term that could minimize output losses over the long term.

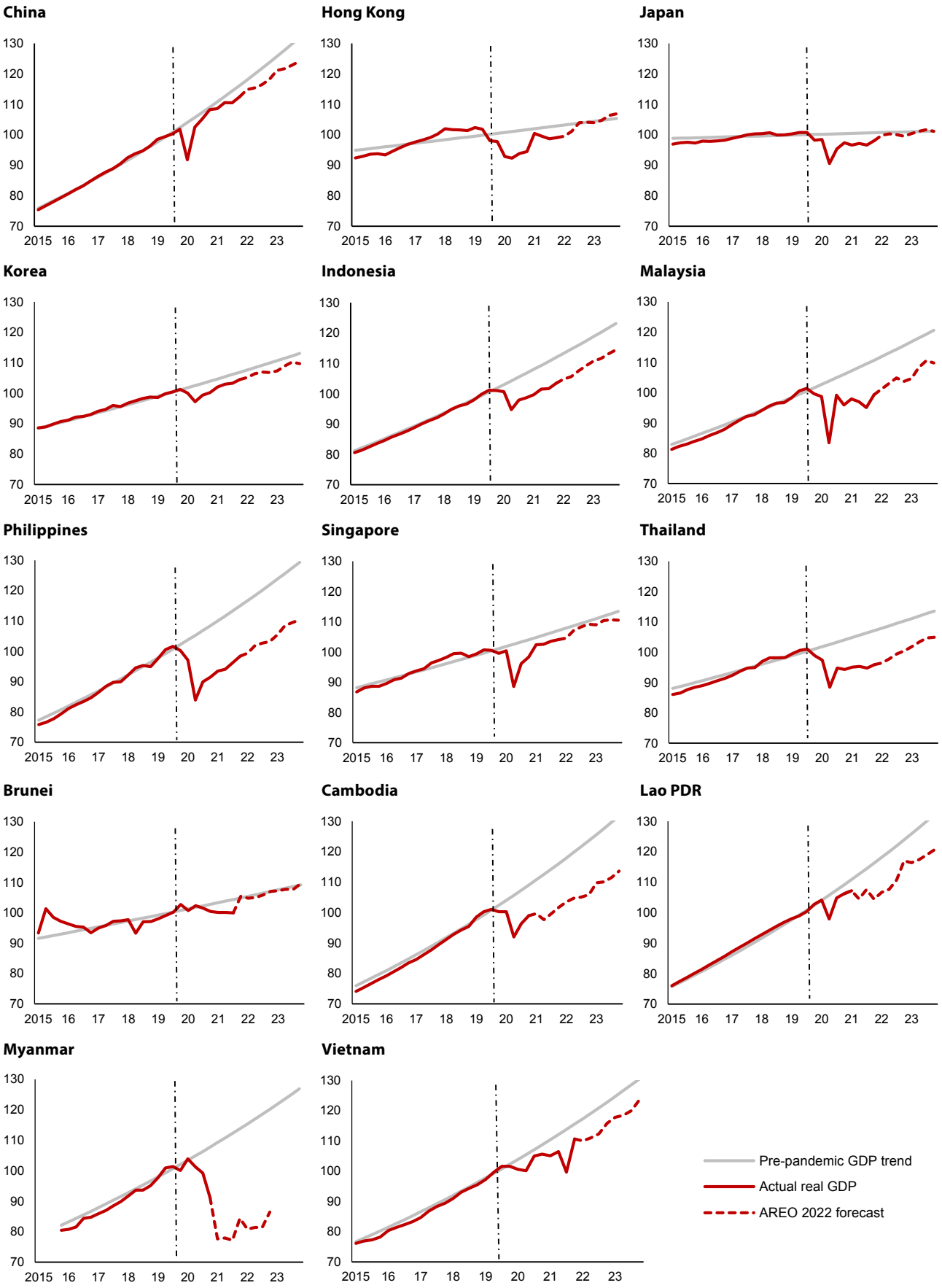
1/ See Cerra, Fatás, and Saxena (2020) for a review of the related literature and IMF (2021) for an analysis of scarring from recessions in 115 countries during 1957–2019.

2/ Ma, Rogers, and Zhou (2020) find that the adverse impact of past health crises on unemployment and output persisted for two and five years, respectively, on average; consumption, investment, and international trade also plummeted initially and rebounded rapidly but not by enough to restore pre-shock trends.

3/ The SARS virus traveled in humans to almost 30 economies, but it became deeply embedded in only six. China and Hong Kong accounted for 87 percent of all cases and 83 percent of all deaths (WHO 2015).

4/ AMRO (2017) and Ong and Choo (2020) compare the region's recovery path after the global financial crisis with that after the Asian financial crisis.

Figure 2.1. ASEAN+3: Actual and Projected Real GDP Levels against Pre-Pandemic Trends
(Index, 2019 = 100, seasonally adjusted)



Sources: National authorities via Haver Analytics; and AMRO staff estimates and projections.
Note: The vertical dotted line at Q4 2019 demarcates the onset of the pandemic. The pre-pandemic trend growth rate of real GDP for each economy is calculated by averaging the quarterly logarithmic difference of real GDP from Q1 2015 to Q4 2019; this trend growth rate is extended through Q4 2023 to obtain the gray "pre-pandemic GDP trend" line. Quarterly real GDP data for Myanmar are only available starting from Q4 2015 and projections stop at 2022. Actual and trend real GDPs are normalized to 2019 = 100 for ease of cross-economy comparison.

Box 2.1:

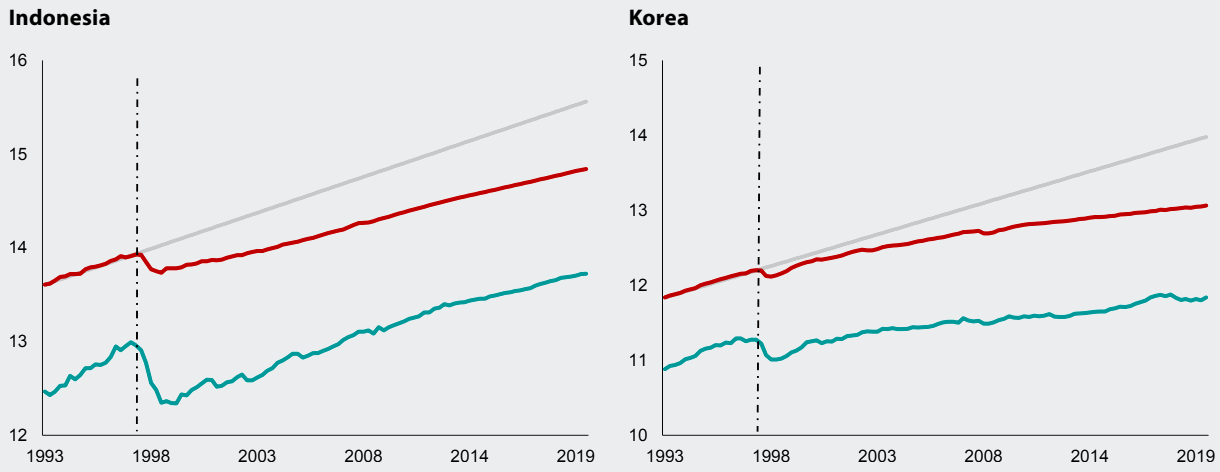
Economic Scars of the Asian Financial Crisis

The Asian financial crisis was caused by a combination of external imbalances and vulnerabilities in the financial and corporate sectors. The prolonged maintenance of de facto pegged exchange rates, in combination with inadequate financial sector supervision and prudential regulation, facilitated excessive unhedged foreign currency borrowing by the banking and/or corporate sectors in the ASEAN-3 (Indonesia, Malaysia, and Thailand) and Korea. Rapid credit expansion contributed to an investment boom (mainly in real estate) and asset price inflation in several economies. The vulnerabilities caused speculators to attack the currencies, leading to the collapse of the Thai baht in July 1997, which in turn triggered the contagion and the financial crisis that swept through the region. Stock market values fell, exchange rates depreciated sharply, and interest rates spiked, reflecting the rise in risk premia. These developments led to bankruptcies among banks and finance companies as loans soured. Output and consumption declined, and investment was hit especially hard.

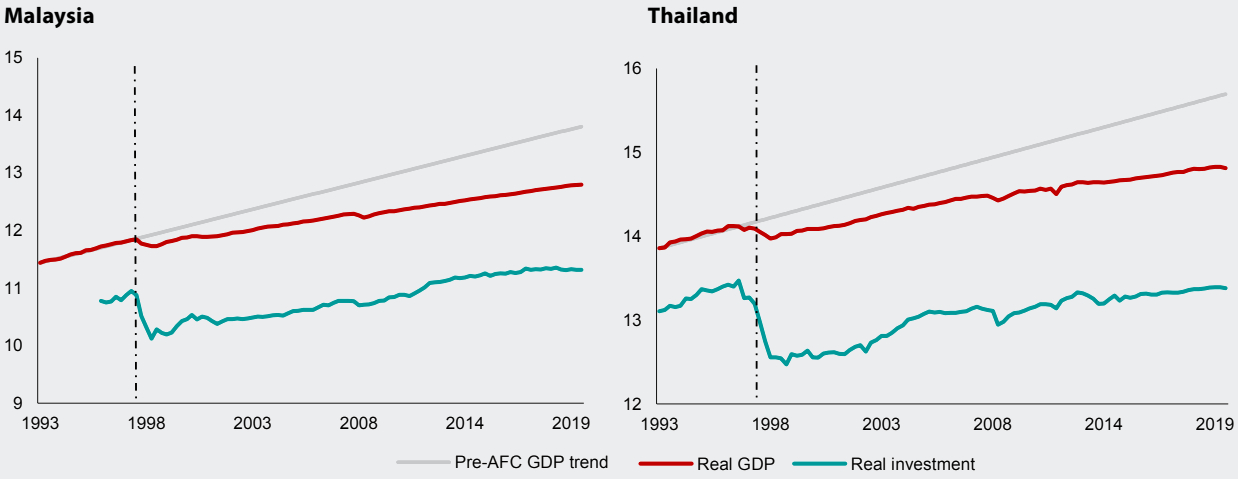
Severe policy adjustments by the affected economies—under emergency IMF programs in the case of Thailand (August 1997–June 2000), Indonesia (November 1997–December 2003), and Korea (December 1997–December 2000)—eventually enabled them to restore confidence and stem capital outflows. The recovery was led by exports, which were facilitated by sharply depreciated currencies and robust external demand. By 1999, GDP growth in the crisis-hit economies had recovered, albeit not to precrisis rates; neither did GDP levels recover to their precrisis trends (Figure 2.1.1).

The principal manifestation of scarring in the Asian financial crisis was slower capital accumulation. Private investment in the crisis-hit economies never fully recovered after the crisis (Figure 2.1.2). To some extent, this reflected the correction in precrisis excesses in real estate and infrastructure spending (Park, Shin, and Jongwanich 2009). But the investment decline also reflected the long-drawn-out process of rebuilding damaged corporate balance sheets as well as disruptions in domestic and external sources of financing—the consolidation in banking systems hindered lending (Figure 2.1.3), and capital inflows took a few years to return to the region after the crisis (Figure 2.1.4). Coupled with the decline in public investment arising from fiscal consolidation, this slump in investment spending lowered potential output growth for years to come (AMRO 2017).

Figure 2.1.1. ASEAN-3 and Korea: Real Output and Investment against Pre-Crisis Trends
(Millions of local currency, log scale)

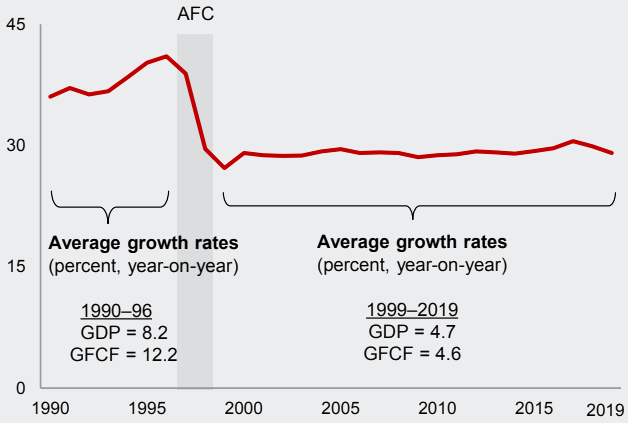


The authors of this box are Chiang Yong (Edmond) Choo and Ling Hui Tan.



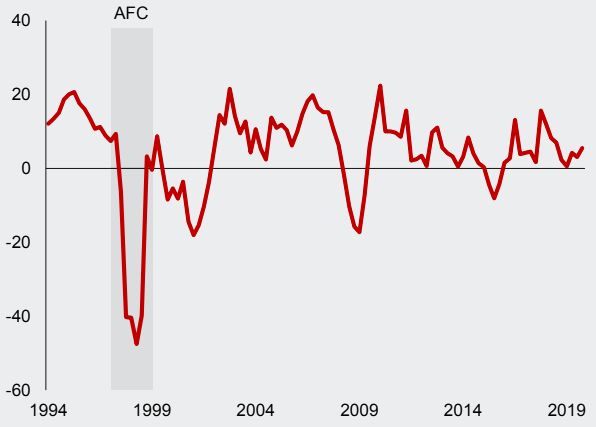
Sources: National authorities via Haver Analytics; and AMRO staff estimates.
Note: Real GDP and real investment data are seasonally adjusted. The vertical dotted line at Q3 1997 demarcates the onset of the Asian financial crisis (AFC). The pre-AFC trend growth rate of real GDP for each economy is calculated by averaging the quarterly logarithmic difference of real GDP from Q1 1993 to Q4 1996; this trend growth rate is extended through Q4 2019 to obtain the gray "pre-AFC GDP trend" line.

Figure 2.1.2. ASEAN-3 and Korea: Pre- and Post-Crisis Investment-to-GDP Ratio
(Percent of GDP)



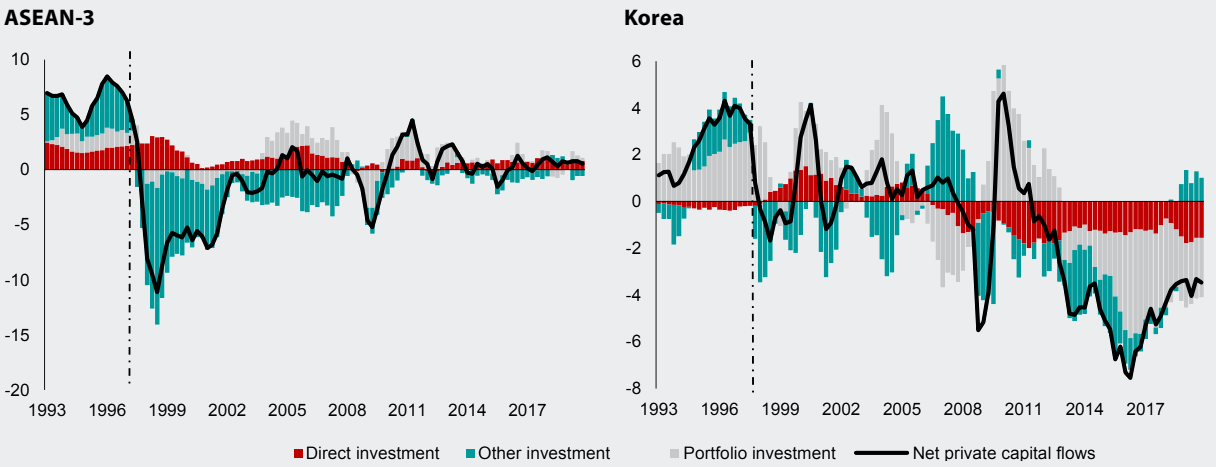
Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Investment refers to real gross fixed capital formation (GFCF) in national accounts. ASEAN-3 = Indonesia, Malaysia, and Thailand. AFC = Asian financial crisis; GDP = gross domestic product.

Figure 2.1.3. ASEAN-3 and Korea: Pre- and Post-Crisis Growth in Real Credit to the Private Sector
(Percent, year-on-year)



Source: Bank for International Settlements via Haver Analytics.
Note: ASEAN-3 = Indonesia, Malaysia, and Thailand. AFC = Asian financial crisis.

Figure 2.1.4. ASEAN-3 and Korea: Pre- and Post-Crisis Net Private Capital Flows
(Percent of GDP, 4-quarter moving average)



Sources: IMF, International Financial Statistics; national authorities via Haver Analytics; and AMRO staff calculations.
Note: The vertical dotted line at Q3 1997 demarcates the onset of the Asian financial crisis.

Will the Labor Force Shrink?

The COVID-19 pandemic is first and foremost a health crisis. Hence, the natural starting point is to consider its effect on labor supply. COVID-19's immediate impact on mortality in the region, though small, has been non-negligible. Although the case fatality rate (at the time of writing) is much lower compared to the 2003 SARS epidemic, the number of deaths to date has far outstripped that caused by SARS (Table 2.1). Within the region, COVID-19 death rates in the larger ASEAN economies have been much higher compared to the Plus-3 economies and Singapore (Figure 2.2). The long-term impact of COVID-19 on the labor force, however, will depend on how it affects demographic trends—specifically, the growth of the working-age population—and the labor force participation rate in the future. Since labor supply is an important determinant of an economy's output potential, any lasting influence of COVID-19 on labor force growth would have implications for potential output growth in the medium to long term.

Table 2.1. ASEAN+3 and World: Mortality Rates for COVID-19, SARS, and H1N1

	COVID-19 2020–		SARS 2003		H1N1 2009–2010
	World	ASEAN+3	World	ASEAN+3	World
Cases	437,098,038	29,248,186	8,096	7,416	–
Deaths	5,957,571	362,372	774	690	–
Infection rate (percent of population)	5.6	1.3	0.00013	0.00037	11–21
Death rate (per million persons)	768	160	0.1	0.3	22–84
Case fatality rate (percent)	1.4	1.2	9.6	9.3	0.01

Sources: National authorities via CEIC; Dawood and others (2012); Kelly and others (2011); Riley and others (2011); and AMRO staff calculations.
Note: Data for COVID-19 cases and deaths are up to February 28, 2022. SARS = severe acute respiratory syndrome.

Demographics

COVID-19 has been most lethal to the elderly. Unlike influenza, which typically causes mortality peaks in the very young and the very old, the death rate from COVID-19 has tended to increase with age, with those older than 70 most at risk, based on data from regional economies (Figure 2.3). Theoretically, a disease that kills mostly the elderly would have a different economic impact than a disease that kills mostly the working-age population—all else constant, the former would lead to an initial increase in GDP per capita whereas the latter would be a one-time reduction in the labor force, which would lower per capita output growth in the long term.

The pandemic has intensified chronically declining birth rates in the region's aging economies (Figures 2.4, 2.5). In China, early hopes for a "baby boom" when the lockdowns started did not materialize.[5] China recorded 7.52 births per 1,000 people in 2021—the lowest in more than 70 years—raising concerns among its demographers that the working-age share of the population might fall to half by 2050. Birth rates in Hong Kong, Japan, Korea, and Singapore likewise continued to trend downward during the pandemic to all-time lows, creating a renewed sense of urgency in these economies to address the troubling demographics. The Singapore government, for example, introduced a one-off Baby Support Grant to parents of infants born from October 1, 2020 to September 30, 2022, after receiving feedback that the pandemic had led to some people postponing their parenthood plans (Mohan 2020). Japan introduced a Newlywed Support Program in 2020 to provide a cash payment to newly married couples in participating municipalities with the aim of boosting marriage rates and birth rates (Kyodo News 2020).[6]

The trend of fewer births is less of a concern for the rest of the region. In fact, economies such as Indonesia and the Philippines braced for a surge in the number of

5/ Early in the pandemic, many headlines in the (mostly Western) media predicted that the lockdowns would result in a baby boom at the end of 2020. A March 2020 opinion piece by China's Xinhua media agency also speculated that a baby boom could be an upside to the pandemic: "Newlyweds and couples in their 30s or 40s in Wuhan and other locked down cities may make good use of the commuting time saved to cement ties and procreate" (Chen 2021).

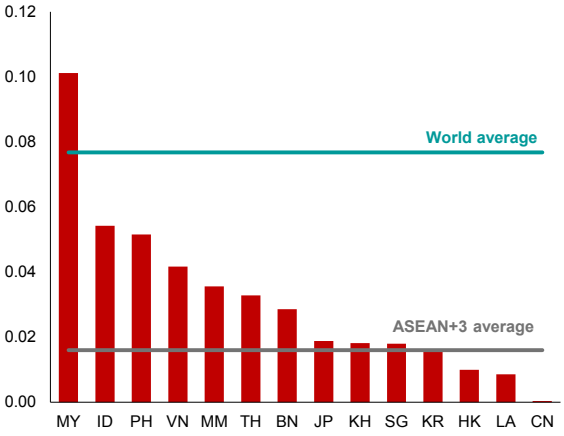
6/ The number of marriages in Japan fell by 12.7 percent in 2020 from a year earlier—the biggest percentage drop since 1950. There is a strong correlation between the marriage rate and the birth rate in Japan, as only a very small percentage of babies are born out of wedlock (Takenaka 2021).

births due to reduced access to family planning options during the lockdowns in 2020 (Straits Times 2020, Barcelo 2020). As it turned out, however, the number of births in the Philippines in 2020–21 dropped to record lows, due in part to women delaying pregnancies because of the pandemic (Cudis 2021). In contrast with Japan, however, the Philippine authorities are more sanguine about marriage and birth rates rebounding quickly once the pandemic is over (Philippine News Agency 2021).[7]

Prolonged border closures have kept foreign (or migrant) workers out of many of the region's economies. In Singapore, the share of foreign workers in the total labor force dropped to 33 percent in 2020 from 38 percent in 2019 (Figure 2.6); in Malaysia, the number of foreign workers dropped to 1.1 million in 2020 from 1.9 million in 2018 (Zainal 2021); and in Thailand, at least one-fifth of its estimated 2.5 million foreign workers have left the country since the start of the pandemic (Yuvejwattana 2021). Japan and Korea, which had started to open their economies to foreign labor in recent years, saw this trend weaken or stall during the pandemic (Figure 2.6). The ensuing labor shortages—in critical sectors such as construction, manufacturing, healthcare, and plantations—coupled with stiff demographic headwinds, have resulted in recent policy shifts to (re-)attract foreign workers. For example, Malaysia and Thailand have decided to lift restrictions and/or step up recruitment of foreign workers, while Japan is looking to allow foreign workers in sectors such as farming, construction, and sanitation to stay in the country indefinitely.[8]

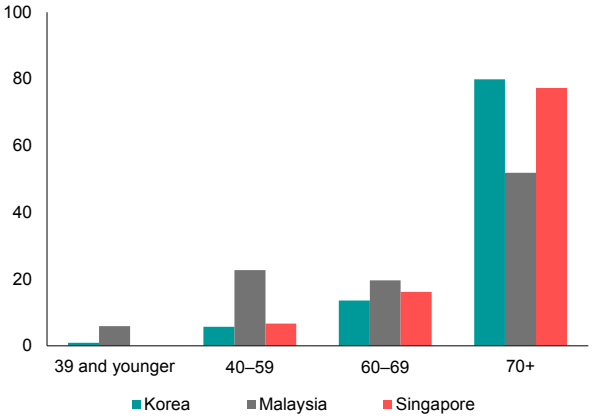
The barring of foreign workers could have a chilling effect on future immigration. Whether migrants will return to shore up the labor supply in these economies will depend on the opportunities available to them when the dust settles, as well as any lingering perceptions of unfavorable treatment by host countries during the pandemic.[9] Low-skilled workers—which form the bulk of migrant labor in Asia—are likely to return once borders reopen as they have fewer good opportunities in their home countries. Skilled workers, especially those in the technology and finance sectors, would have more options available as advanced economies, including those in the region such as Hong Kong, Japan, Korea, and Singapore, vie to attract them in the ongoing global competition for talent.

Figure 2.2. ASEAN+3: COVID-19 Death Rates, February 28, 2022
(Percent of population)



Sources: Johns Hopkins University; and AMRO staff calculations.
Note: BN = Brunei; CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

Figure 2.3. Selected ASEAN+3: COVID-19 Death Rates, by Age Group, February 28, 2022
(Percent)



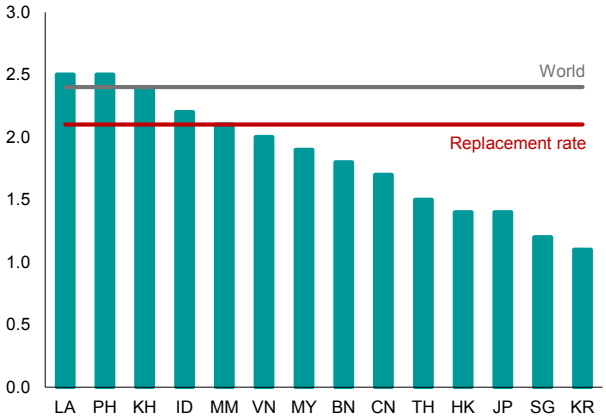
Sources: National authorities; and AMRO staff calculations.
Note: Singapore stopped reporting deaths in ages 39 and younger since November 2021.

7/ The number of marriages in the Philippines in 2020 was the lowest in 20 years (Philippine News Agency 2021).

8/ Thai authorities have begun signing memorandums of understanding with neighboring economies (Cambodia, Lao PDR, and Myanmar) to allow migrant workers to (re-)enter amid a severe labor shortage affecting some 45 industries, especially the food industry (Apisitniran 2022).

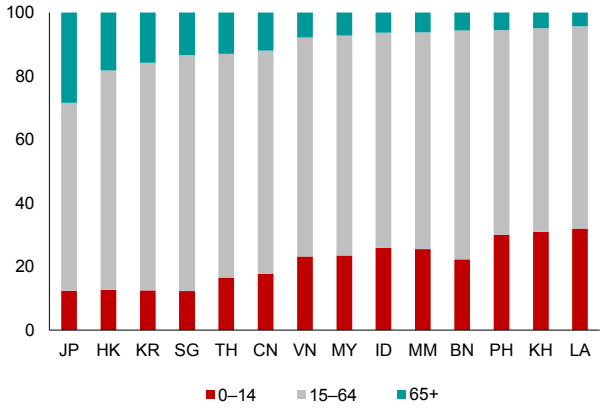
9/ Media reports have emerged as to some foreign professionals who chose to leave Hong Kong and Singapore because they felt the social distancing rules and mobility restrictions were too excessive. Some were put off by travel restrictions that made it difficult for them to visit their home countries. Some were laid off as government fiscal aid was directed to keeping citizens employed (AMRO 2021e).

Figure 2.4. ASEAN+3: Fertility Rates, 2021
(Per woman)



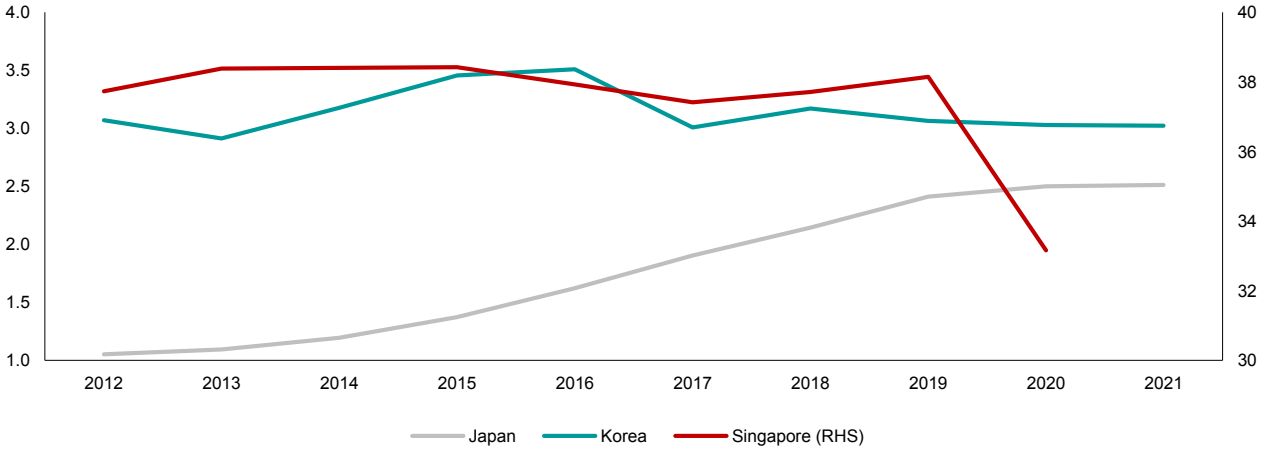
Source: United Nations Population Fund.
Note: BN = Brunei; CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

Figure 2.5. ASEAN+3: Demographic Structure, 2020
(Percent, by age group)



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

Figure 2.6. Selected ASEAN+3: Foreign Workers
(Percent of labor force)



Sources: National authorities via Haver Analytics; Statistics Korea; and AMRO staff calculations.

Labor force participation

Labor force participation rates declined across the region after the pandemic hit. The decline was largest in the Philippines, Korea, Hong Kong, and Singapore, where the labor force participation rate (LFPR) dropped by about 1.0–2.9 percent in 2020 compared with the 2019 average—although the worst LFPR drops in 2020 and 2021 were in the range of 2.5–9.1 percent relative to the 2019 average for these economies (Figure 2.7).[10] Compared to other crises such as SARS (which was relatively short-lived) and the global financial crisis (which was not a health crisis), COVID-19 has had a relatively larger and longer impact on LFPRs in the region (Figure 2.8).

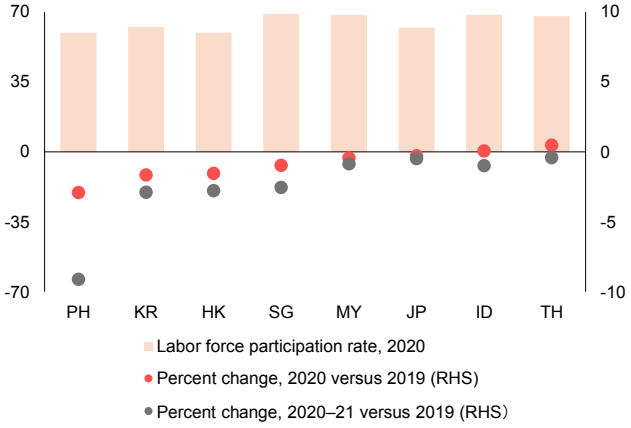
How lasting the decline in LFPRs will be depends on how COVID-19 has affected individual decisions to enter and leave the labor force. The pandemic has led to both involuntary and voluntary exits from the labor force. Individuals who had severe and/or prolonged COVID-19 infections have had to drop out of the labor force for health reasons.[11] Some—usually women—had to stop working to take care of family members who were sick or to look after their children when schools were closed and/or childcare was not available (ADB 2021a). The pandemic has also prompted workers to rethink their careers, work conditions, and long-term goals—young

[10] In Korea, the economically inactive population (i.e., those who are not working and not looking for a job) hit an all-time high in 2021: about 628,000 people gave up looking for jobs—the highest number since tracking of the statistic started in 2014—and a record 2.4 million "took a break from work with no plausible reasons like childcare, studies or illness" (Hwang 2022).

[11] In severely affected economies, the heavy burden of taking care of COVID-19 patients has also compromised the capacity of hospitals to provide adequate care for other patients, further harming the overall health of the population and contributing to declines in labor force participation.

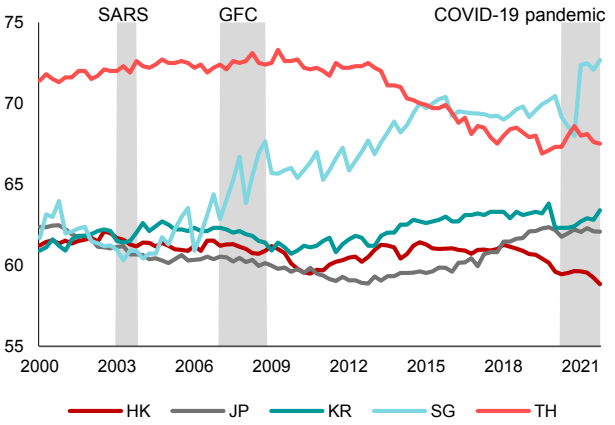
people have decided to stay in school or stay at home rather than enter the labor force during a recession; older workers with sufficient savings have decided to retire earlier than planned. In Japan and Korea, two of the region's economies most vulnerable to shrinking labor supply, estimates suggest that the pandemic's impact on labor force growth could be quite large (Box 2.2).

Figure 2.7. ASEAN+3: Labor Force Participation Rate, 2020
(Percent; percent, year-on-year)



Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: All data are quarterly (non-seasonally adjusted) except for Indonesia (biannual). HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = the Philippines; SG = Singapore; and TH = Thailand. The red dot refers to the percentage change between the average labor force participation rates (LFPR) in 2020 and 2019. The gray dot refers to the percentage change between the lowest quarterly LFPR in 2020–21 and the 2019 average.

Figure 2.8. Selected ASEAN+3: Labor Force Participation Rate during Crisis Periods
(Percent)



Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Data are seasonally adjusted. GFC = global financial crisis; HK = Hong Kong; JP = Japan; KR = Korea; SARS = severe acute respiratory syndrome; SG = Singapore; and TH = Thailand.

Box 2.2:

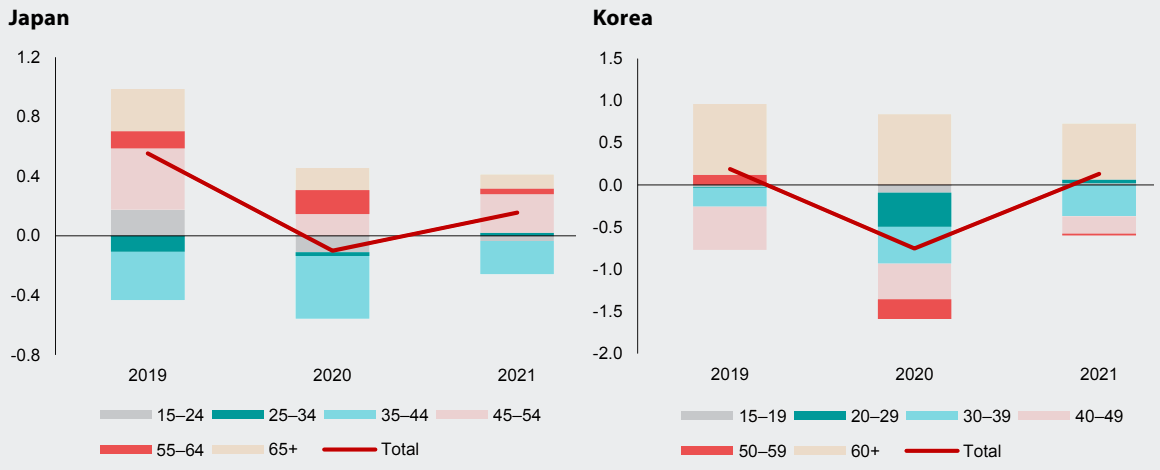
How Might the Pandemic Affect Labor Force Growth in Japan and Korea?

The pandemic has affected the labor force participation rate (LFPR) of different age groups differently in Japan and Korea. In Japan, the 15–24 age group and the 35–44 age group contributed to almost all of the LFPR decline in 2020 while the LFPR of the 35–44 age group and the 45–54 age group improved the most in 2021 (Figure 2.2.1). In Korea, all age groups except the 60-plus group contributed to the LFPR decline in 2020, and the LFPR of all age groups except the 60-plus group improved in 2021 (Figure 2.2.1).

The drop in the LFPR of younger people could be due to the discouraged worker effect, consistent with the higher unemployment rate among those cohorts (Figure 2.2.2). This is likely to be temporary as these individuals would normally return to the workforce when the economy improves. By contrast, a drop in the LFPR reflecting mainly older workers taking early retirement is more likely to be permanent as these individuals are unlikely to return to the workforce full time. In Korea, for example, there have been reports of major banks asking employees to accept early retirement to cut costs amid the prolonged pandemic and the increasing rate of digitalization of the industry (Choi 2020).

A back-of-the-envelope calculation suggests that COVID-19 could have a substantial impact on the labor force growth in these two economies. The impact of COVID-19 on labor force growth is captured by the change in the working-age population and the change in the LFPR due to the pandemic. We assume that the population of each (working-age) age group will remain at the corresponding 2021 level, and that the LFPR for each age group grows at the 2020–21 average growth rate for that group in 2022–26—in other words, that the pandemic leads to a one-time change in the size of each working-age cohort, but the change in attitudes to work (proxied by the change in labor force participation decisions) induced by the pandemic persists for the next five years. Based on these assumptions, labor force growth is projected to be about 0.3 percent in 2022–26 for Japan, and about –0.1 percent in 2022–26 for Korea (Figure 2.2.3). In the counterfactual scenario of no pandemic, which assumes the population of each age group will remain at the corresponding 2019 level, and that the LFPR for each age group grows at the pre-pandemic (2010–19 average) growth rate for that group in 2022–26, labor force growth would be about 0.9 percent in 2020–26 for Japan, and about 0.6 percent in 2020–26 for Korea. These results could overestimate the negative impact of the pandemic if the LFPR rebounds and if efforts to attract foreign workers bear fruit.

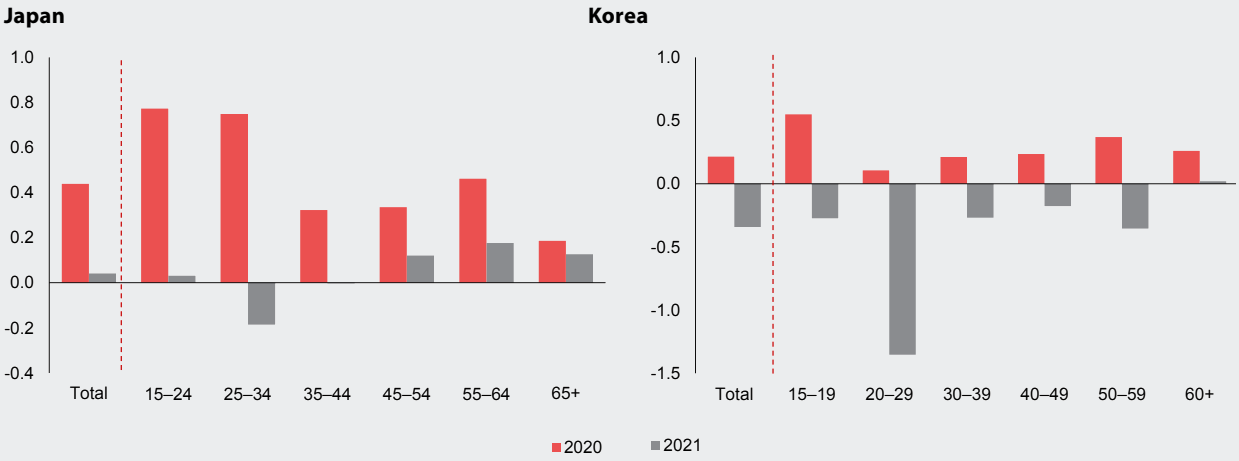
Figure 2.2.1. Japan and Korea: Contribution to Change in Labor Force Participation Rate, by Age Group
(Percent)



Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Data for 2021 refer to the monthly average from January to November.

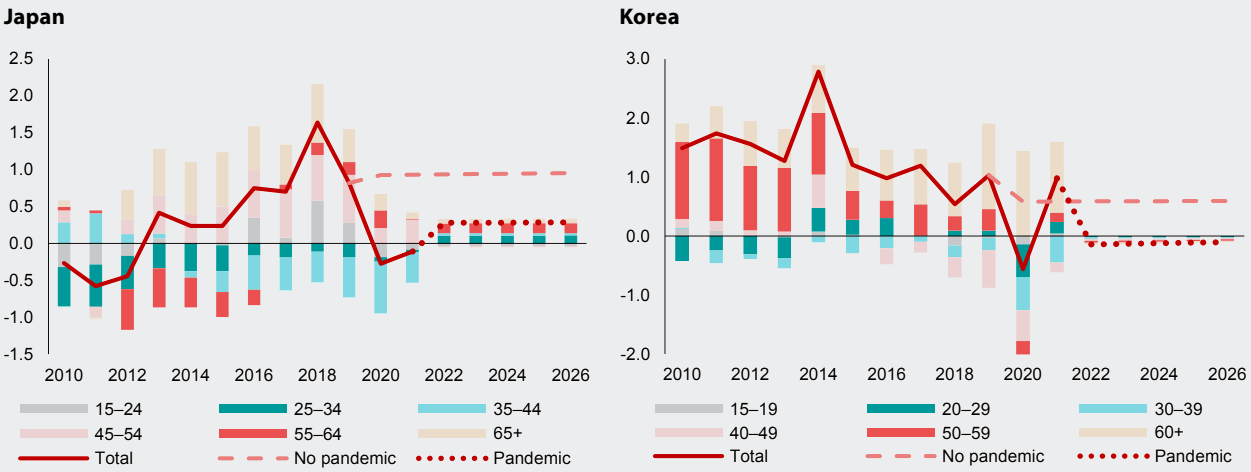
The author of this box is Hongyan Zhao.

Figure 2.2.2. Japan and Korea: Change in Unemployment Rate, by Age Group, 2020–21
(Percent)



Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Data for 2021 refer to the monthly average from January to November.

Figure 2.2.3. Japan and Korea: Labor Force Growth
(Percent)



Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Data for 2022–26 are estimated.

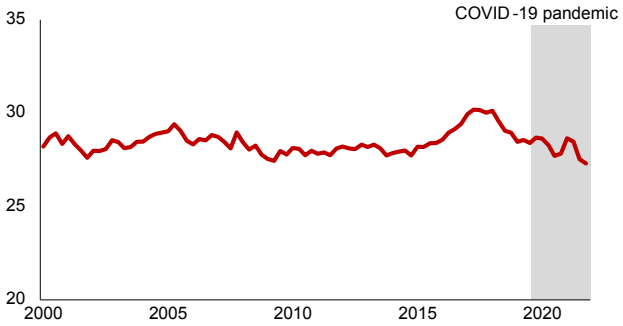
Will Capital Accumulation Slow Down?

The atmosphere of uncertainty generated by the COVID-19 pandemic has had an impact on fixed capital formation in the region. Unlike wars and natural disasters, epidemics and pandemics do not result in the destruction of physical capital stock in the affected economies. But the immediate impact of the pandemic and associated recession has been to undermine investment, which determines the rate of physical capital accumulation (Figure 2.9). The pandemic triggered a massive spike in uncertainty (Figure 2.10) surrounding, for instance: the spread and evolution of the virus; the efficacy and deployment of vaccines; the duration and effectiveness of social distancing, lockdowns, and other containment strategies; the near-term economic impact of the pandemic and policy responses; and how long government interventions and support policies would last. The conventional wisdom is that uncertainty causes firms to pause or delay new investment or expansion, causing capital stock to shrink through depreciation and attrition, until prospects for economic activity become clearer.[12]

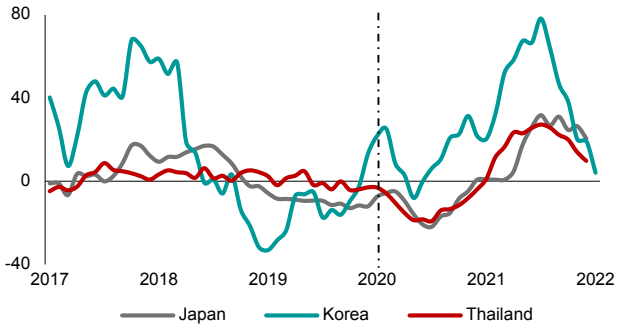
But heightened uncertainty on its own is unlikely to generate a persistent reduction in investment. Evidence from past recessions suggests that once the initial uncertainty subsides, pent-up demand would lead to a quick recovery in investment. In other words, uncertainty typically generates short, sharp drops in investment followed by a rapid rebound (Bloom 2014).[13] For the COVID-19 pandemic to generate a persistent reduction in investment—as in the type of scarring seen after the Asian financial crisis (see Box 2.1)—additional factors would have to be at play. The rest of this sub-section discusses various scenarios that could impair capital accumulation even after the pandemic is over, namely: scarring in corporate balance sheets; a banking crisis; loss of confidence by foreign direct investors; and loss of fiscal space for public investment.

Figure 2.9. ASEAN+3: Investment

Investment-to-GDP Ratio
(Percent of GDP)



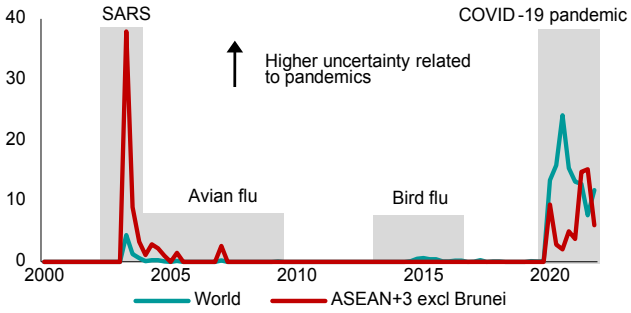
Real Growth in Capital Expenditure
(Percent, year-on-year)



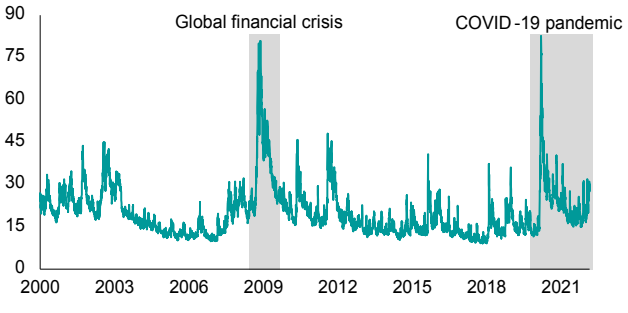
Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Investment is measured by real gross fixed capital formation in the national accounts.

Figure 2.10. Uncertainty Indices

Pandemic Uncertainty Index



VIX Index



Sources: Chicago Board Options Exchange (CBOE) via Haver Analytics; World Uncertainty Index; and AMRO staff calculations.
Note: The World Pandemic Uncertainty index counts the number of times the word "uncertain" and its variants appear near pandemic-related keywords in Economist Intelligence Unit country reports, normalized by the total number of words and multiplied by 1,000. The pandemic-related keywords include severe acute respiratory syndrome, SARS, Avian flu, H5N1, Swine flu, H1N1, Middle East respiratory syndrome, MERS, Bird flu, Ebola, Coronavirus, COVID-19, influenza, H1V1, World Health Organization, and WHO. A higher number means higher uncertainty related to pandemics. The index for ASEAN+3 (excluding Brunei) is calculated based on a simple average of individual economy indices. The CBOE Volatility Index (VIX) is constructed from the values of a range of call and put options on the Standard & Poor 500 Index and represents the market's expectation of volatility over the next 30 days.

12/ See Bloom, Bond, and Van Reenen (2007), for example. The idea is that uncertainty makes firms cautious about investment if adjustment costs make the action expensive to reverse. Investment adjustment costs may include, for example, the cost of damage to equipment during installation and removal and the loss from reselling used equipment at a discount (Bloom 2014).

13/ In the current context, the rebound could be additionally propelled by the need for spending on information and communication technology (ICT) to ensure business resiliency amid COVID-19-related restrictions.

Scarring in corporate balance sheets

"Financial scarring" is what happens when a recession damages private-sector balance sheets, destroying wealth and/or adding to debt burdens. These dynamics were particularly important after the Asian financial crisis and the global financial crisis, when affected economies suffered multiyear "balance-sheet recessions," with households, banks, and firms trying to resolve severe underlying financial imbalances that had built up in the run-up to the crisis. While financial vulnerabilities were not the root cause of the COVID-19 crisis, the pandemic has the potential to significantly weaken firms' balance sheets, which affects their incentive and hampers their ability to borrow and invest for some time. In contrast with the Asian financial crisis, firms in many of the region's economies entered the pandemic with stable leverage and relatively resilient balance sheets (Figure 2.11).[14] However, many ASEAN firms—especially small firms, and firms in the energy, materials, and "consumer discretionary" (i.e., nonessential goods and services) sectors—had high debt service burdens, low liquidity buffers, and weak cash-flow generating capacities, leaving them vulnerable to the extraordinary shock(s) caused by the pandemic (Kim, Li, and Yoo 2021).

Like most governments around the world, ASEAN+3 policymakers have been mindful of this risk from the outset, and all of them have extended critical policy support to firms. Support measures have been geared toward financing working capital and alleviating cash-flow problems (such as subsidized lending, grants, and temporary tax deferrals and exemptions) as well as maintaining solvency (such as loan restructuring and repayment moratoriums). In addition, some support measures for households (such as consumption vouchers) have been designed to incentivize spending to help domestic firms. Monetary easing and regulatory forbearance measures have supported liquidity in credit markets and allowed banks to restructure or roll over existing debt. The support measures have been mostly targeted to small- and medium-sized enterprises (SMEs) and sectors such as travel (e.g., aviation), tourism (e.g., hotels), and close-contact services (e.g., restaurants) that have been most hard hit by travel restrictions and other virus containment measures, as well as economically important sectors in some cases (e.g., the garment and footwear industry in Cambodia and the automobile industry in Indonesia). In a few economies such as Japan, Korea, and Thailand, the financial authorities have also provided more broad-based credit support for firms via existing or newly established corporate bond and/or equity stabilization funds.[15] Some economies explicitly introduced measures in their stimulus packages to encourage investment—Malaysia, for example, provided an accelerated capital allowance for capital expenditure on machinery and equipment, including information, communication, and technology (ICT) equipment, to incentivize businesses to undertake investments in 2020 and 2021.

It is too early to assess the extent of scarring in corporate balance sheets. The support policies have helped keep firms afloat so far, but debt levels have increased in some of the region's economies. Corporate debt-at-risk—that is, debt owed by firms that cannot cover their interest expenses with their earnings—increased sharply across the region in 2020 although it appears to have moderated in 2021 (see Chapter 1). However, the data do not cover micro, small, and medium-sized enterprises (MSMEs), which form a large share of firms in ASEAN economies (Figure 2.12). Available evidence on corporate insolvencies in the region suggests that corporate failure rates have not spiked relative to pre-pandemic levels. Still, if the pandemic drags on for too long, more and more companies, especially MSMEs, may not be able to generate enough earnings to service their debts, and a wave of business failures could follow when financial support is eventually withdrawn.

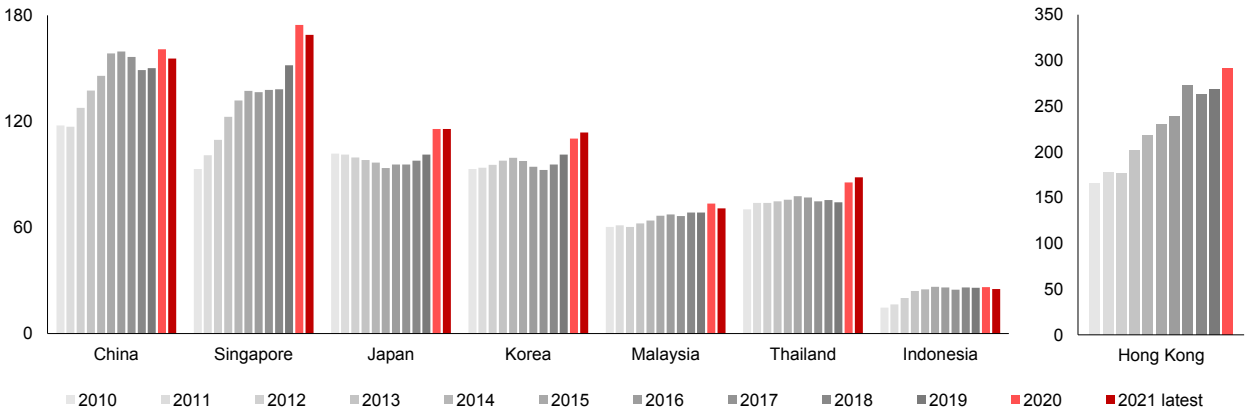
The vulnerability to firm financial distress would be more acute in economies where support policies turned out to be too generous or targeted at the "wrong" firms, and/or if global financial market conditions tighten in the process of recovery, triggering liquidity problems among surviving but fragile firms (G30 2020). As of end-2021, some ASEAN+3 members (including Cambodia, Indonesia, Malaysia, Singapore, Thailand, and Vietnam) have made efforts to ensure that financial and debt relief support is targeted at viable firms, while others (including China, Hong Kong, Japan, and Korea) have extended more broad-based credit support and regulatory forbearance.[16]

14/ Kim, Li, and Yoo (2021) note that nonfinancial firms in Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam had kept their balance sheet leverage broadly stable since the global financial crisis while reducing their reliance on short-term debt and limiting their exposure to currency risks.

15/ Korea's Financial Services Commission established a bond market stabilization fund and a stock market stabilization fund in March 2020 and has also provided support for corporate bond issuance and liquidity support for short-term money markets. The Bank of Japan more than tripled its outright purchases of commercial paper and corporate bonds when the pandemic started. The Bank of Thailand established a corporate bond stabilization fund in April 2020 to provide bridge financing to help companies facing a liquidity shortage to roll over their maturing bonds and avoid default.

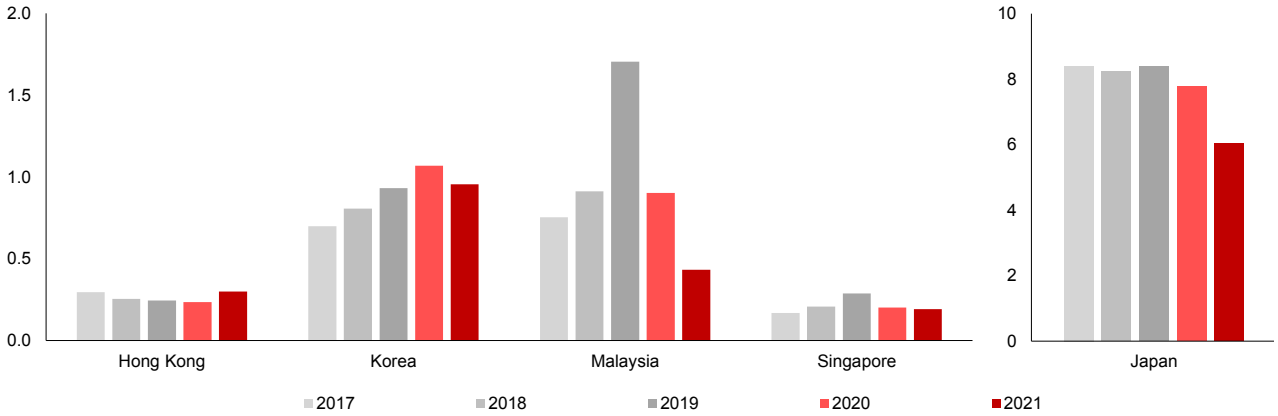
16/ In 2021 Japan recorded the fewest bankruptcies in a half century, a testament to how well the government's support, such as zero-interest loans and subsidies, has worked in keeping businesses afloat (Takeo and Huang 2022).

Figure 2.11. Selected ASEAN+3: Nonfinancial Corporate Debt
(Percent of GDP)



Source: Bank for International Settlements via Haver Analytics.
Note: Data refer to Q4 for each year except for 2021 where the latest data refer to Q3. 2020 and 2021 columns are in red to differentiate the pre-pandemic and pandemic periods.

Figure 2.12. Selected ASEAN+3: Corporate Bankruptcies
(Thousands of companies)



Sources: National authorities; and Tokyo Shoko Research.
Note: Data refer to end-December of each year. For Malaysia, 2021 refers to cumulative cases up to September 2021. 2020 and 2021 columns are in red to differentiate the pre-pandemic and pandemic periods.

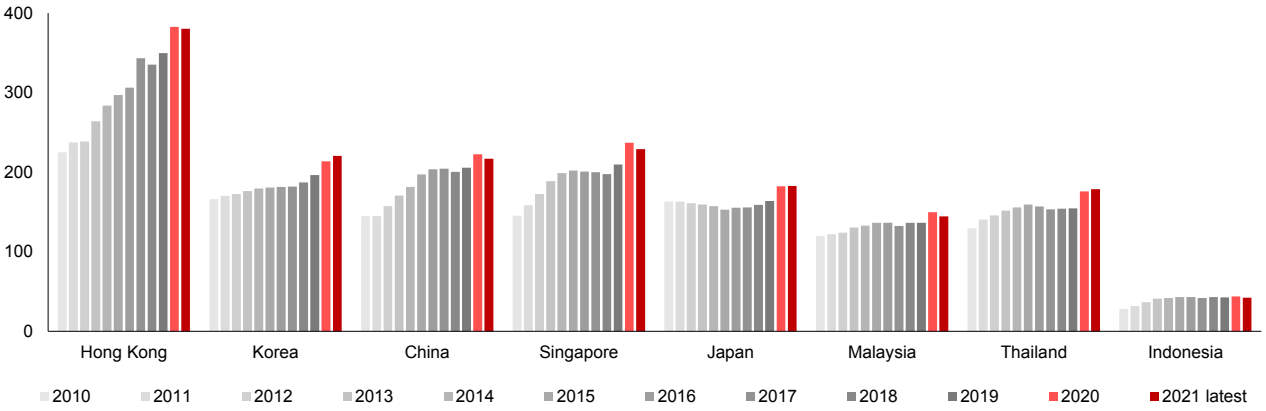
Banking crisis

In the worst-case scenario, the aforementioned wave of business failures could spill over into a banking crisis, which would further depress investment by cutting off the supply of credit to firms. Both household and nonfinancial corporate borrowing increased during the pandemic and the private sector's debt to banks has risen in some economies (Figure 2.13) (see Chapter 1). If firms and households are unable to fulfil their loan payments and other debt obligations, this could lead to mass defaults and a shock to banks' asset quality. Large losses by banks could cause a domino effect through the region's increasingly interconnected financial system as contagion caused by investor herd behavior could then push other financial institutions into distress. As the supply of credit becomes more limited, firms would face tougher financing conditions in the form of stricter lending standards and higher costs of borrowing, and investment would be likely to suffer (AMRO 2021a).

AMRO staff consider this scenario to be a tail risk. Going into the COVID-19 pandemic, ASEAN+3 banking systems were well-capitalized—the outcome of many years of effort to strengthen the financial system in the wake of the Asian financial crisis (AMRO 2021a). Bank capitalization ratios are well above minimum requirements and top-down stress tests of individual bank balance sheets in ASEAN+3 economies suggest that most banking systems remain generally well-buffered against large shocks (see Chapter 1). Nonperforming loans have not spiked relative to pre-COVID-19 levels.[17]

[17] The Bank of Thailand, while noting that commercial banks remained strong with high levels of capital, reserves, and liquidity has proactively encouraged banks to form joint ventures with asset management companies to handle nonperforming loans that may increase in the future (Banchongduang 2022).

Figure 2.13. Selected ASEAN+3: Nonfinancial Private Sector Bank Debt
(Percent of GDP)



Source: Bank for International Settlements via Haver Analytics.
Note: Data refer to Q4 for each year except for 2021 where the latest data refer to Q3. 2020 and 2021 columns are in red to differentiate the pre-pandemic and pandemic periods.

Loss of confidence by foreign direct investors

If the pandemic causes foreign investors to lose confidence in the future prospects of the economy, capital inflows could slow down, stall or even be reversed. This could happen, for example, if the government response to the pandemic is perceived to be ineffective, raising concerns among foreign investors about the institutional quality or political stability of the economy. Since investor confidence, once lost, generally takes some time to be regained, this could impair capital accumulation in the medium to long term, through less foreign direct investment (FDI) and less available funding for investment in general.

Realized FDI flows into ASEAN+3 economies in 2020–21 do not suggest any loss of confidence in the region as a direct result of the pandemic. The number and capital expenditure of announced FDI projects in the region plunged in the middle of 2020 but quickly recovered by early 2021 (see Chapter 1). Notwithstanding occasional media reports of foreign investors' dissatisfaction with the COVID-19 policies of some governments in the region, FDI decisions are ultimately driven by fundamental factors such as local market size, labor costs, human capital quality, transportation infrastructure, and trade openness—areas where the ASEAN+3 region continues to perform relatively well compared to other alternative locations (AMRO 2021b).[18] Recent supply chain disruptions (an indirect effect of the pandemic) and geopolitical tensions between the United States and China (which predate the pandemic) have motivated, and could still motivate, a certain degree of reconfiguration of global manufacturing supply chains, but are unlikely to lead to a permanent reduction in FDI in the region's economies (see Section IV).

Meanwhile, many ASEAN+3 economies have stepped up efforts to increase their attractiveness to foreign investors to help bolster their economic recovery from the pandemic. For example:

- Cambodia approved two draft bills amending the Law on Commercial Enterprises and the Law on Commercial Regulations and the Commercial Register to improve the ease of doing business in Cambodia and prepare for post-pandemic economic recovery.

- China further liberalized inward FDI by shortening its negative investment lists, removing foreign ownership caps on passenger car manufacturing companies, and opening all manufacturing sectors to foreign investors in the pilot free trade zones, among other changes.

- Indonesia passed the Omnibus Law on Job Creation, a massive deregulation effort to improve the investment environment, covering areas such as business licensing, investment requirements, employment, ease of doing business, research and innovation support, and special economic zones. The Omnibus Law lays the groundwork for shortening the negative investment list and opening investment opportunities in more sectors in the economy (AMRO 2021b, 2020c).

[18/] In September 2021, four leading foreign business chambers in Vietnam warned the government that its strict lockdown to control COVID-19 in the country's industrial south had led at least 20 percent of their manufacturing members to shift some production to another country, and that the Vietnam was "missing out on investment opportunities that may not return" if it was unable to demonstrate that it was a reliable alternative location to China (Reed 2021). Shortly thereafter, Vietnam's government abandoned its zero-COVID strategy and allowed factories in the south to reopen. Although the resumption of production has not been smooth, no reports of foreign manufacturers decamping from Vietnam have emerged. A subsequent survey by the American Chamber of Commerce in Vietnam reported that 78 percent of American companies in the country considered it a "positive" or "very positive" long-term investment destination (Nguyen 2021).

- As part of its economic recovery plan, Malaysia's government created a special unit within the Malaysian Investment Development Authority to facilitate the speedy implementation of investment projects. It also announced special tax rates for the next 10–15 years for manufacturing and selected services companies that bring in new investments to Malaysia before the end of 2022 (AMRO 2020d).

- Under the Republic Act No. 11595, the Philippines approved amendments to the Retail Trade Liberalization Act of 2000 to encourage more foreign retailers to directly own and operate retail stores in the Philippines by reducing their minimum capitalization. The Philippines also lowered corporate income tax rates from 30 percent to 25 percent, effective the second half of 2021, to attract more FDI.

- Thailand extended an investment incentive scheme and approved a one-year extension of incentives to accelerate investment in large-scale projects and for investments in the Eastern Economic Corridor, a special economic zone.

- Vietnam passed a new Law on Investment that aims to attract FDI by replacing its positive list approach to foreign investment with a more liberal negative list, expanding the number of sectors open for investment without formal approval, and introducing new investment incentives for investment projects in specified fields.

Loss of fiscal space for public investment

The fiscal stimulus packages rolled out by ASEAN+3 economies during the COVID-19 pandemic could set back public investment in much-needed infrastructure in the future. The stimulus packages have narrowed many governments' policy space and fiscal buffers (see Chapter 1). With increasing concerns about debt sustainability, some economies would need to balance the need for infrastructure investment with the need to restore their fiscal buffers in the medium term. This may prevent them from resuming and increasing infrastructure spending after the pandemic is over.

Public investment in the region has not declined overall during the pandemic, although public-private partnership (PPP) investment commitments have fallen sharply. Some governments (e.g., Hong Kong and Indonesia) increased public capital expenditure relative to GDP in 2020 and 2021.[19] Some governments (e.g., Brunei and the Philippines) cut capital outlays in 2020 to reallocate resources to more urgent spending on healthcare and support for businesses affected by the pandemic, and restored public capital expenditure in 2021. Some governments (e.g., Cambodia, Japan, and Vietnam) included capital investment projects in their fiscal stimulus packages in 2020 and returned public capital expenditure spending to normal levels in 2021 or, in the case of Lao PDR, had to cut back due to budget constraints (Figure 2.14). By contrast, new commitments of PPP projects dropped during the pandemic to about one-fifth of the 2019 number, and annual PPP investment, while relatively stable during the pandemic, is expected to fall in the coming years (Figures 2.15, 2.16)

The fall in PPP commitments recorded during the pandemic could delay capital formation in those ASEAN economies with the largest infrastructure gaps. Emerging and developing ASEAN economies face sizeable investment needs in both traditional and new infrastructure. Going into the pandemic, these economies had a considerably smaller stock of public and PPP capital per capita compared with advanced or wealthier ASEAN economies (Figure 2.17). In terms of physical infrastructure, gaps were especially evident in transportation (e.g., roads, railways, airports, and shipping ports) and ICT infrastructure (e.g., telecommunications and internet access) and relatively small in utility infrastructure (e.g., electricity and water supply) (Figure 2.18). The investment needed through 2030 to reach the United Nations Sustainable Development Goals for roads, electricity, water, and sanitation is estimated at 2.7 percent of GDP and 9.8 percent of GDP per year in emerging market and low-income economies, respectively (IMF 2020). In addition, spending on digital infrastructure will also be necessary to close the sizeable digital gaps in these economies (AMRO 2021b). And public (and private) investment needs for mitigation of and adaptation to climate change are also sizable and crucial for all economies in the region and around the world.

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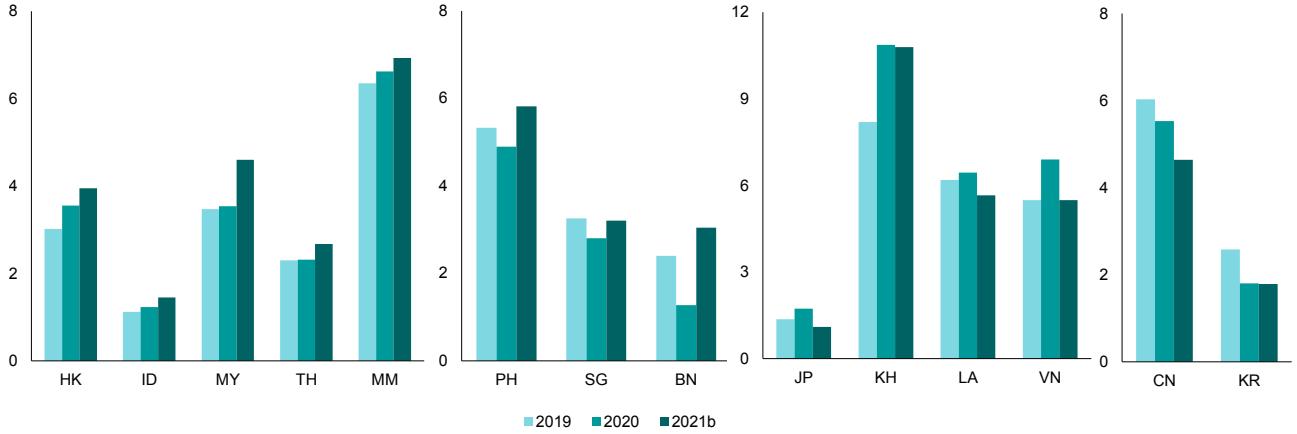
[19] There is a case to be made for increasing public investment to stimulate the economy during a recession. Public investment typically has a larger multiplier than public consumption, taxes, or transfers, and the multiplier tends to be larger in recessions when resources are idle and when central bank rates hit their effective lower bound (IMF 2020). Public investment may also have a higher multiplier in periods of high uncertainty, possibly because it signals the government's commitment to growth and stability and thus helps to raise confidence and encourage private investment (Gbohoui 2021). The case for increasing public investment to stimulate the economy is strongest in economies that have been able to borrow cheaply at historically low interest rates to finance an investment scale-up.

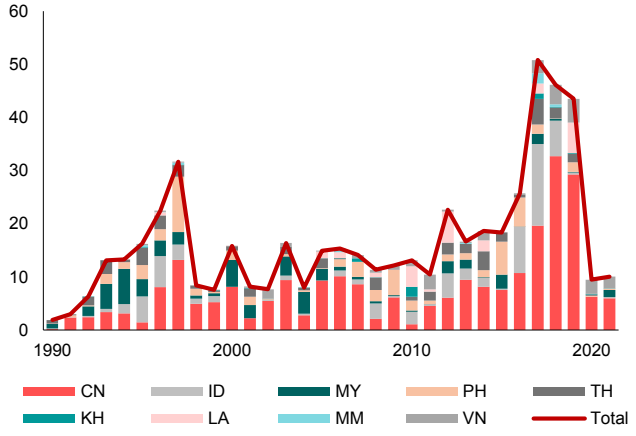
Deteriorating debt dynamics and tight financing conditions could also constrain public investment in a few ASEAN economies in the medium term. Public debt-to-GDP ratios have increased substantially in all ASEAN+3 member economies during the pandemic, due to revenue shortfalls and massive spending on support/stimulus measures and healthcare. Although the risk of debt distress is low and the degree of fiscal policy space is moderate to ample for most economies in the short term, the need to rebuild fiscal policy buffers—together with a higher debt service burden from the elevated level of public debt—could squeeze capital expenditure in the medium term in economies such as Indonesia and the Philippines, where infrastructure gaps are large (AMRO 2020c, 2020e).[20] The challenge is even greater for economies with large infrastructure gaps and limited market access—as indicated by sovereign debt ratings (see Chapter 1)—such as Cambodia and Lao PDR (AMRO 2020b, 2021c).

Figure 2.14. ASEAN+3: Government Capital Expenditure
(Percent of GDP)



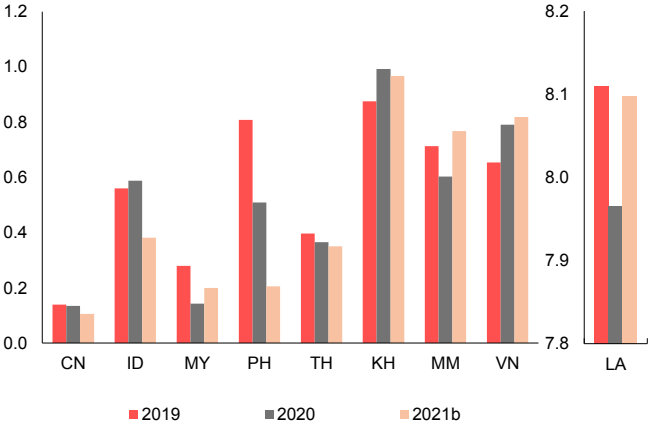
Sources: IMF, Investment and Capital Stock Dataset (ICSD); national authorities; and AMRO staff estimates.
Note: BN = Brunei; CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam. ICSD data available until 2019. Capital expenditure of the central government (plus local governments in the case of Cambodia, China, and Vietnam) is used as an estimate for public capital expenditure in 2020 and 2021. For China, capital expenditure is proxied by expenditures under the following functional classifications: urban and rural community affairs; agriculture, forestry, water conservancy; and transportation. For Japan, capital expenditure is proxied by expenditures under the functional classification of public works. 2021b denotes budgeted capital expenditure for 2021. ASEAN+3 members are categorized into 4 groups according to the evolution of public capital expenditure during the pandemic.
The first chart in the figure shows economies where the public capital expenditure-to-GDP ratio increased in 2020 and 2021. In Malaysia, and Thailand, public capital expenditure decreased in absolute terms in 2020, but by less than the decline in GDP; in 2021, these economies increased public capital expenditure substantially both in absolute terms and as a share of GDP. Indonesia and Hong Kong maintained positive public capital expenditure growth in 2020 and 2021.
The second chart in the figure shows economies where the public capital expenditure-to-GDP ratio declined in 2020 but rebounded in 2021.
The third chart in the figure shows economies where the public capital expenditure-to-GDP ratio rose in 2020 but declined in 2021.
The fourth chart shows economies where the public capital expenditure-to-GDP ratio fell in 2020 and 2021. In Korea, the decline in the public capital expenditure-to-GDP ratio in 2020 was due to a one-off increase in the ratio in 2019; the public capital expenditure-to-GDP ratio in 2020 was 18.5 percent higher than in 2018.

Figure 2.15. Selected ASEAN+3: Public-Private Partnership Investment Commitments
(Billions of US dollars)



Source: World Bank, Private Participation in Infrastructure.
Note: CN = China; ID = Indonesia; KH = Cambodia; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; TH = Thailand; and VN = Vietnam.

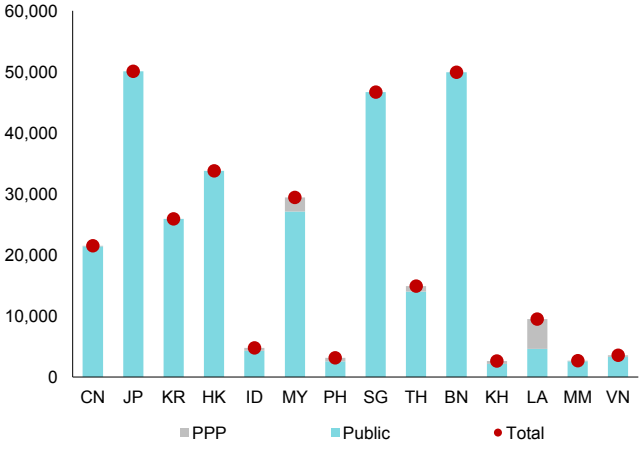
Figure 2.16. Selected ASEAN+3: Public-Private Partnership Investments
(Percent of GDP)



Sources: World Bank, Private Participation in Infrastructure; and AMRO staff estimates.
Note: 2021b refers to the budgeted PPP investment for 2021. CN = China; ID = Indonesia; KH = Cambodia; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; TH = Thailand; and VN = Vietnam.

20/ In addition, abrupt changes in global market sentiment could result in sudden increases in financing costs, especially for those economies with large contingent liabilities from state-owned enterprises and PPPs.

Figure 2.17. ASEAN+3: Public and PPP Capital Stock per Capita, 2019
(US dollars, PPP)



Sources: IMF, Investment and Capital Stock Dataset; and AMRO staff estimates.
Note: BN = Brunei; CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; PPP = public-private partnership; SG = Singapore; TH = Thailand; and VN = Vietnam.

Figure 2.18. ASEAN+3: Infrastructure Competitiveness, 2019
(0 = lowest; 100 = highest)

Sources: World Economic Forum, Global Competitiveness Report 2019; and AMRO staff calculations.
Notes: BN = Brunei; CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.
ICT = information and communications technology. The Global Competitiveness Index (GCI) score for transportation infrastructure is based on indicators including road connectivity/quality of road infrastructure, railway density, airport connectivity, and liner shipping connectivity. The GCI score for utility infrastructure is based on indicators including electricity access/electricity supply quality and safe drinking water/reliability of water supply. The GCI score for ICT infrastructure is based on indicators including mobile-cellular telephone subscriptions; fixed-broadband subscription; and internet users. Scores for Myanmar are for 2015–16.

Will Productivity Fall?

Besides slowing factor accumulation, crises and recessions can cause persistent losses in potential output from reduced productivity. Typically, this results from adverse effects on human capital accumulation, innovation, and resource reallocation.

Human capital accumulation

In addition to the outright destruction of human capital reflected in COVID-19-related mortality and morbidity rates, the pandemic could lead to slower human capital accumulation because of learning losses due to extended school closures and skill deterioration during extended periods of unemployment. Evidence from past crises indicates that school closures often do long-term damage, with affected cohorts of students ending up with lower educational attainment, lower earnings, and higher unemployment in adulthood (World Bank, UNESCO, and UNICEF 2021).[21] Similarly, long-term unemployment erodes human capital. Unemployed workers who stay out of their jobs for long periods may find that their skills have deteriorated or become outdated. On the other hand, the crisis could have a positive effect on human capital accumulation by ushering in and accelerating a permanent shift toward digital technology.

The unprecedented disruption to education caused by COVID-19 will harm future learning trajectories for this generation of students, especially in economies most in need of human capital. From February 2020 through December 2021, education systems in the region were on average fully closed for 169 instructional days and partially closed for 184 days, about 31 percent more than the global average.[22] While some economies (e.g., Japan and Singapore) quickly reopened schools, others kept all schools closed for exceptionally long periods (e.g., Cambodia, Malaysia, Myanmar, and the Philippines) or reopened but only partially (e.g., Indonesia and Korea) (Figure 2.19).

21/ Learning losses due to prolonged school closures include not only forgone learning from canceled in-person classes but also loss (forgetting) of previously acquired learning and—because learning is a cumulative process—slower accumulation of skills after students return to school.

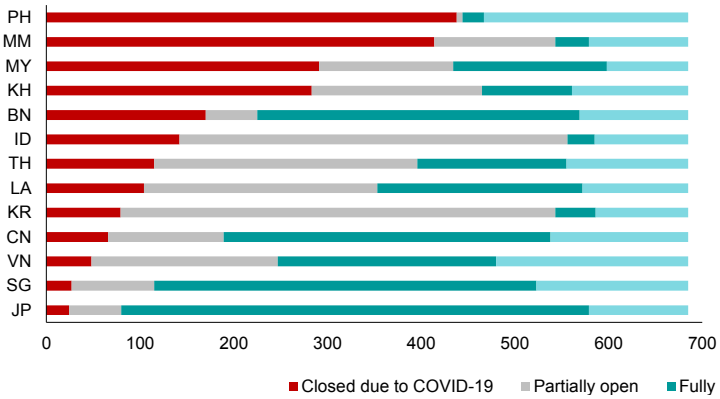
22/ According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) map of school closures in 210 countries and territories, from mid-February 2020 to end-December 2021, schools were fully closed for an average of 135 days and partially closed for 134 days, where "fully closed" refers to government-mandated closures of educational institutions affecting most or all of the student population and "partially closed" refers to the situation where schools are open in certain regions and closed in others, and/or open for some grades/levels/age groups and closed for others, and/or open with reduced in-person class time, combined with remote learning (hybrid approach).

Education systems have attempted to mitigate the effects of school closures by implementing remote learning modalities, including online platforms, but the deployment, uptake, and effectiveness of such programs has varied. As a whole, the region's economies rank highly compared to the rest of the world in the share of school-age children with internet access at home, especially in urban areas (World Bank, UNESCO, and UNICEF 2021). Still, the economies best able to respond to COVID-19 educational disruptions have been those that could build on long-established investments in the development of digital learning systems and resources, notably China, Korea, and Singapore.[23] Estimates by ADB (2021b) of learning losses in the ASEAN+3 due to COVID-19 vary according to the length of school closures, effectiveness of remote learning, and increase in the dropout rate—all of which point to the fact that the damage to human capital will be greatest in economies that can least afford it (Figure 2.20).[24]

Some ASEAN+3 economies have reported increases in the rate of long-term unemployment during the pandemic; some have also introduced skills training for the unemployed in their pandemic support/stimulus packages. Long-term unemployment rates rose in 2021 in Hong Kong, Japan, Korea, and Singapore, for example.[25] In Japan, the monthly average number of long-term unemployed (who had been out of a job for more than 12 months) was about 660,000 in the third quarter of 2021, higher by about 180,000 compared to the same period in 2020. In Korea, the number of long-term unemployed (who had been out of a job for more than six months) was about 128,000 in 2021, up 8.1 percent from 2020; about half of the long-term unemployed Koreans in 2021 were in their twenties and thirties. According to the Bank of Korea, the pandemic has crimped hiring while automation continues to eliminate jobs, for example, in fast-food restaurants where digital kiosks are increasingly being used to accept orders (Kim 2021). The Korean New Deal economic revitalization package launched in 2021 includes projects to strengthen assistance for the unemployed, including through a reorganized vocational training program (AMRO 2021d). Singapore's SGUnited Jobs and Skills Packages in 2020 provided skills training, career-matching and conversion services, and subsidized training and attachments for displaced workers (AMRO 2021e).

Survey evidence suggests that ASEAN populations have increased their acquisition of digital skills during the pandemic. No operational metrics are available for assessing the level of digital skills in the region, but annual surveys by the World Economic Forum (WEF) reported that digital skills increased during the pandemic among young people aged 16 to 35 in six ASEAN economies. Its 2020 survey found that more than 42 percent of respondents had picked up at least one new digital tool during the pandemic, and that the use of

Figure 2.19. ASEAN+3: School Closures and Remote Learning Modalities, 2020–21
(Number of days)



	Enrolment	Remote learning modalities
PH	26,950,258	TV + Online + Radio
MM	9,640,610	TV + Radio
MY	6,690,717	Online + TV
KH	3,353,432	Online + TV
BN	95,323	Online + TV
ID	60,228,568	TV + Online + Radio
TH	12,705,131	Online + TV
LA	1,661,990	TV + Online + Radio
KR	6,873,663	Online + TV
CN	236,991,152	Online + TV
VN	21,079,770	Online + TV
SG	479,722	Online
JP	16,323,977	TV + Online + Radio

Source: United Nations Educational, Scientific and Cultural Organization.
Note: Data cover the period from February 6, 2020 to December 31, 2021. BN = Brunei; CN = China; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

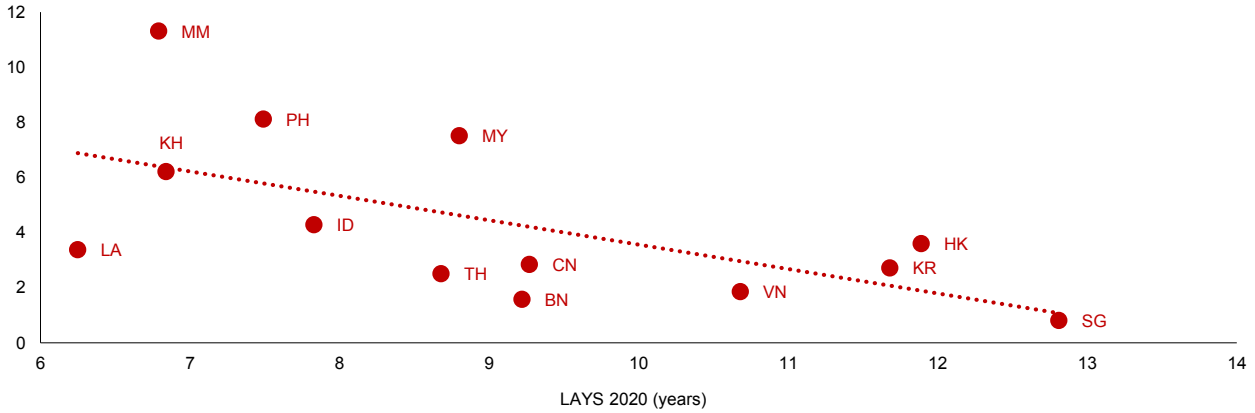
23/ According to the World Bank, UNESCO, and UNICEF (2021), China, Korea, and Singapore have been implementing national education masterplans incorporating ICT for more than 2 decades.

24/ Learning losses are measured in terms of learning-adjusted years of schooling (LAYS), which is the number of years of schooling a child can expect to obtain by age 18, adjusted by a country's average student achievement based on standardized test scores harmonized across countries. The framework assumes that school closures affect LAYS by reducing the expected years of schooling (quantity effect) and harmonized test scores (quality effect). Both effects are mitigated by the effectiveness of remote learning. The indirect effect of income shocks also reduces the expected years of schooling.

25/ The definition of long-term unemployed varies in different economies, with the duration of unemployment ranging from 3 to 12 months. According to the Organisation for Economic Co-operation and Development (OECD), the long-term unemployment rate (defined as the share of the labor force that has been unemployed for 12 months or more) in Japan and Korea declined slightly in 2020 from the previous year and in any case remained well below the OECD average.

online education had increased significantly among full-time students and active workers (WEF 2020).[26] Its 2021 survey revealed that digital skills transfers took place during the pandemic—some 40 percent of respondents reported having learned how to use digital tools from others, while 36 percent reported having taught others how to use digital tools (WEF 2021). The Go Digital ASEAN initiative, launched in June 2020, has trained more than 3,000 local volunteer trainers across the region to provide customized training to equip a target of 200,000 micro- and small-sized enterprises and underemployed youth, particularly those in rural and isolated areas, with crucial digital skills and tools and minimize the negative impact from the COVID-19 crisis.[27]

Figure 2.20. ASEAN+3: Learning Losses, 2020–21
(Percent decline in learning-adjusted years of schooling versus 2020 baseline)



Sources: World Bank, Human Capital Index; and Asian Development Bank.
Note: BN = Brunei; CN = China; HK = Hong Kong; ID = Indonesia; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam. Learning-adjusted years of schooling (LAYS) are based on the "intermediate" scenario of the effectiveness of remote learning (relative to in-person classes) for the relevant country group, i.e., 66 percent for high-income economies, 50 percent for upper middle-income economies, 29 percent for lower middle-income economies, and 13 percent for low-income economies.

Innovation

The potential impact of the pandemic on innovation in the region is mixed, ex ante. On the one hand, the pandemic and associated recession could diminish business dynamism, and lower entry rates of new firms (including foreign multinationals) could lead to missed opportunities for innovation and the creative destruction process. On the other hand, the pandemic-related containment measures have inspired innovations in business models (for example, in production and delivery processes and the digitalization of services) that will survive into the future (see Section III).

Available (albeit limited) evidence indicates that the rate of new business formation has varied across the region during the pandemic. In Singapore, the numbers of new businesses formed in 2020 and in 2021 were actually higher than in pre-pandemic years (2015–19) (Figure 2.21); new businesses have been mostly in professional services, wholesale and retail trade, and finance and insurance. In Malaysia, on the other hand, there were about 45,000 new registrations in 2021 and 44,000 in 2020—compared to 47,000 in 2019. Similarly, in Hong Kong, the number of local companies incorporated was lower in 2020 and 2021 compared to the pre-pandemic level, and in Vietnam, official statistics show that the number of newly established enterprises declined slightly in 2020 compared to 2019, and more sharply in 2021. In Japan: "New firm entry has been weak, and the pandemic is likely to have depressed entry" (OECD 2021a).[28]

The rate of foreign-firm entry is also different across the region. Greenfield FDI announcements have recovered from their lows in 2020, with the rebound especially strong in China where the number of new FDI project announcements soared in 2021 well above pre-pandemic levels (Figure 2.22). The distribution of new projects by sector and subregion anticipate the future drivers of investment and employment in the ASEAN+3 region in the next few years—for example, most retail FDI projects are headed toward China, most likely to take advantage of the massive consumption potential; ASEAN takes the bulk of announced manufacturing projects; while the rest of the Plus-3 economies are set to receive research and development (R&D) and data center FDI and electricity and utility projects (Figure 2.23).

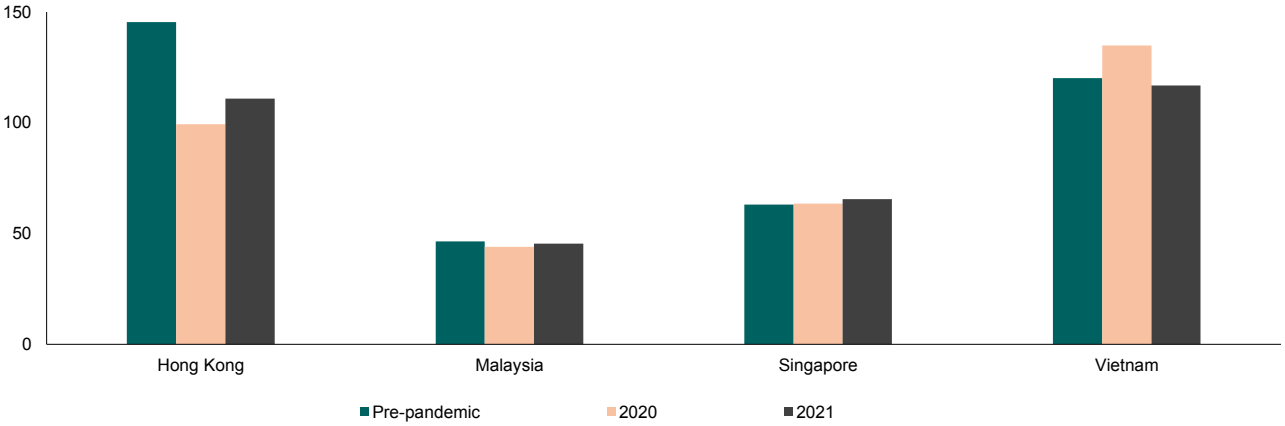
26/ Some 64 percent of full-time students and 38 percent of active workers surveyed in 2020 reported using online education tools more actively during the pandemic. By comparison, in the 2019 survey, 48 percent of student respondents reported using online education, and only 8 percent of surveyed employees reported learning essential workplace skills through online training (WEF 2020).

27/ The initiative was approved by the ASEAN Coordinating Committee on Micro, Small and Medium Enterprises in November 2019.

28/ Korea stopped reporting statistics on new company creation in January 2020.

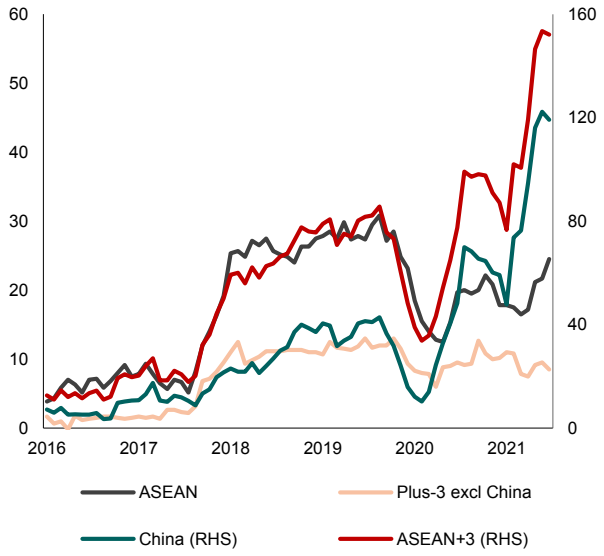
The pandemic has not stifled innovation activity in ASEAN+3's technology leaders. R&D spending by the Plus-3 economies has remained strong despite the large amounts of fiscal resources that have had to be rerouted to pandemic management and economic support. China's R&D expenditure rose by about 10 percent to reach a record high of about USD 380 billion in 2020, equivalent to 2.4 percent of GDP (Figure 2.24). Japan's R&D expenditure decreased slightly in value terms but remained stable as a share of GDP in (fiscal year) 2020. In Korea, state-led R&D spending grew by 15.8 percent year-on-year in 2020, the fastest pace in 15 years, mostly going toward machinery, ICT, and electrical and electronic technology (Korea Ministry of Science and ICT 2021); robust R&D spending is expected to continue in the next few years, focusing on next-generation technologies (Chae 2021). All three of the Plus-3 were among the top ten global economies with the highest intellectual property filings in 2020 (Figure 2.25).[29]

Figure 2.21. Selected ASEAN+3: New Business Formation, 2020–21
(Thousands of companies)



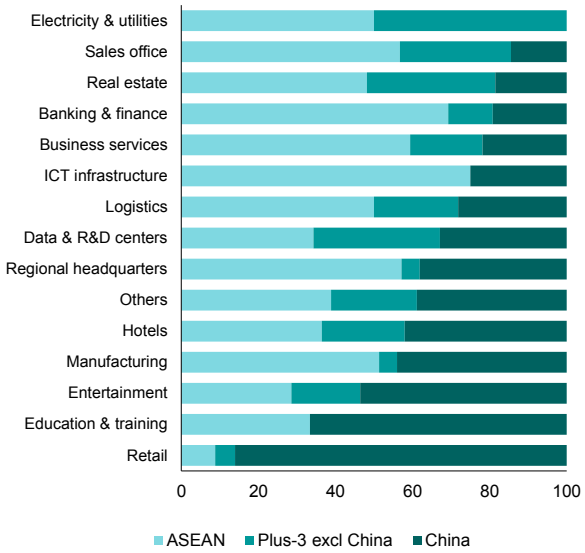
Source: National authorities via Haver Analytics.
Note: Pre-pandemic refers to the average from 2015 to 2019 except for Hong Kong (2016 to 2019). Data for Hong Kong refer to the total number of local companies incorporated. For other economies, data refer to the number of new business registrations or newly formed businesses.

Figure 2.22. ASEAN+3: Inward Greenfield FDI Announcements, by Recipient
(Number of projects)



Sources: Orbis Crossborder; and AMRO staff calculations.
Note: FDI = foreign direct investment.

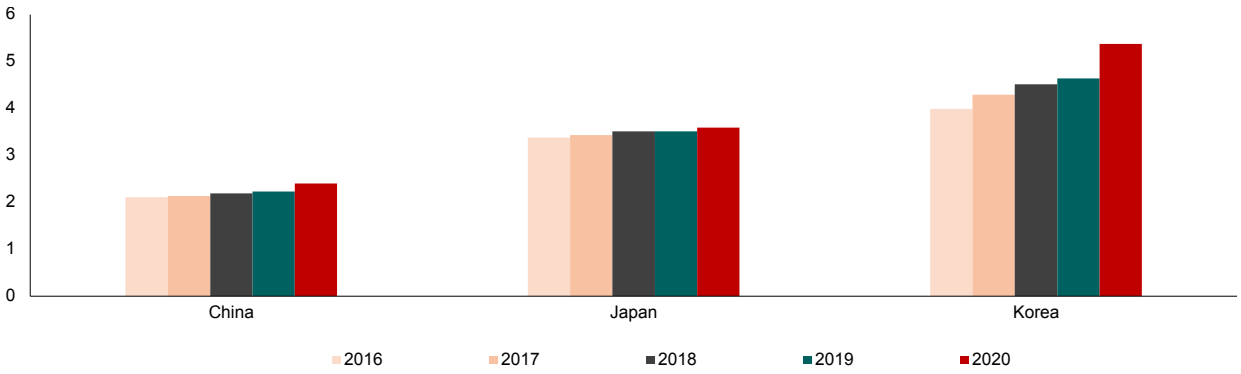
Figure 2.23. ASEAN+3: Inward Greenfield FDI Announcements, by Sector and Subregion, 2020–21
(Percent share to sector total)



Sources: Orbis Crossborder; and AMRO staff calculations.
Note: FDI = foreign direct investment; ICT = information and communications technology; R&D = research and development.

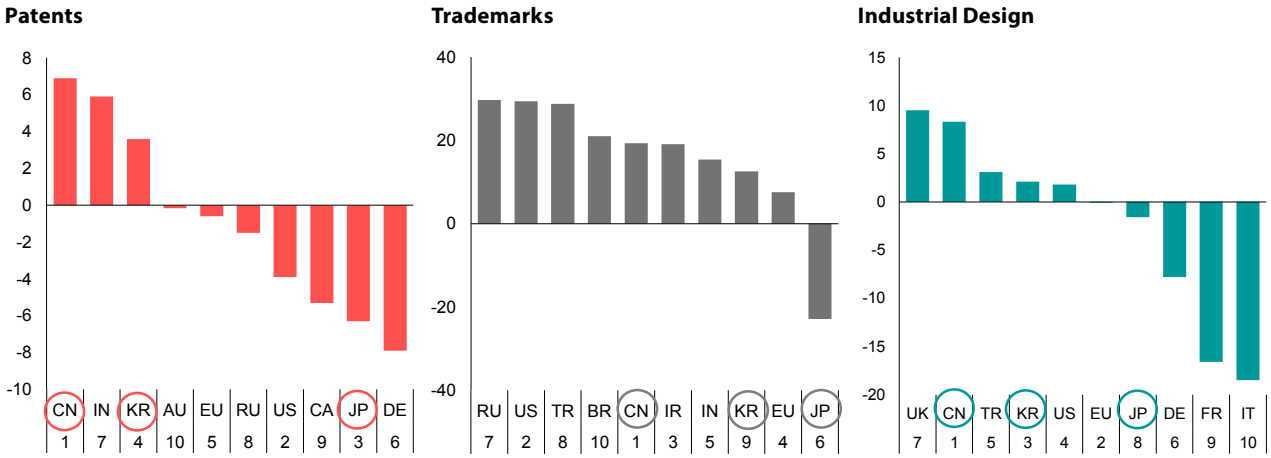
29/ China granted more than 3.5 million patents in 2020, 40 percent more than in the previous year.

Figure 2.24. Plus-3: Gross R&D Spending
(Percent of GDP)



Source: National authorities.
Note: Data for Japan refer to fiscal year starting April to March of the following year. R&D = research and development.

Figure 2.25. Top 10 Economies in Intellectual Property Filings, 2020
(Percent, year-on-year)



Source: World Intellectual Property Organization.
Note: Number labels refer to the economy's rank within the top 10 group for each intellectual property filing category in 2020. AU = Australia; BR = Brazil; CA = Canada; CN = China; DE = Germany; EU = European Union; FR = France; IN = India; IR = Iran; IT = Italy; JP = Japan; KR = Korea; RU = Russia; TR = Turkey; UK = United Kingdom; and US = United States.

Resource (re)allocation

Although the pandemic may have spurred increased digitalization, the resource reallocation needed for ASEAN+3 economies to adapt to the new normal and embrace the new economy may be larger than in past crises and recessions. To the extent that the new normal implies the need for a substantial reallocation of labor across sectors, some economies could see an increase in medium-term frictional unemployment and an increase in the underlying ("structural") unemployment rate. Moreover, if the COVID-19 crisis hurts the ability of economies to allocate resources to their most productive use—for example, by discouraging intersectoral or intraregional labor mobility; or by prolonging government support that keeps nonviable firms alive; or worse, by morphing into a banking crisis that damages the financial system's ability to allocate loanable funds productively—total factor productivity would be badly scarred.

Pandemic policies in the region have restricted intraregional labor mobility and helped preserve domestic employment matches in the short term. Many host countries in the region still have restrictions on the return or entry of foreign (migrant) workers. In some instances, restrictions have originated from the source country—for example, the Philippines imposed a temporary ban and ceiling on the overseas deployment of healthcare workers in 2020 and 2021, citing its own domestic need to fight the pandemic. At the same time, many economies in the region have provided wage subsidies to help protect domestic residents' jobs in sectors hard hit by the pandemic.[30] Cambodia, Hong Kong,

[30/] Temporary wage subsidies have been a common policy tool among advanced economies to contain the employment and social fallout of the COVID-19 crisis. Examples include the *kurzarbeit* (short time work allowance) in Germany, the *activité partielle* (partial unemployment) in France, the Emergency Bridging Measure in the Netherlands, and the JobKeeper Payment in Australia. These schemes provide the necessary liquidity to firms to hold on to their workers and allows them to ramp up operations quickly once economic activity recovers. A crucial aspect of these schemes is that workers retain their jobs even if their work is suspended, while the government picks up all or part of the wage bill.

Japan, Korea, Malaysia, and Singapore, among others, have implemented schemes to provide temporary wage support to employers (typically small businesses) whose operations have been affected by COVID-19 to retain employees instead of laying them off or dismissing them. While wage subsidies can help preserve employment matches during the pandemic, they could also hinder the reallocation of labor necessary for structural shifts after the pandemic if they lock workers in declining sectors for too long.

These policies per se are not expected to engender "labor match scarring" in the medium term. According to the Asian Development Bank (ADB), many migrant workers who have returned to face limited employment opportunities in their home countries still hope to work abroad when possible, and lessons from past crises suggest that intraregional labor mobility will pick up as economies recover and borders reopen (Kikkawa and others 2021).[31] Pandemic-related wage subsidy schemes in the region, by and large, have struck the right balance between supporting jobs that are temporarily redundant and limiting the extent of support for jobs that are unviable in the long term. All the schemes were time-bound—typically 1–3 months in duration, although extensions were sometimes necessitated by the health and economic situation—and some schemes have already expired. The subsidies were mostly partial and did not fully cover the wages of laid-off employees (although the employer contribution was as low as 10 percent in Japan and Korea). In most cases, the temporary wage subsidies were targeted at sectors whose activities were legally curtailed by mobility restrictions (e.g., in Malaysia and Singapore) and/or sectors that were likely to become viable again in the short to medium term (e.g., the garment and footwear sector in Cambodia).

However, prolonged regulatory forbearance and financial support could affect productivity in the long run if too many "zombie" firms are allowed to survive. As noted earlier in this chapter and in Chapter 1, many economies in the region have supported, and continue to support, firms that have been suffering due to the pandemic, through policy measures such as government loan guarantees, subsidized lending, loan forbearance, and repayment moratoria. While such support might help more firms to survive the pandemic, it could also create the problem of zombie firms—generally defined as firms that are unable to cover debt servicing costs from current profits over an extended period. An excessive number of zombie firms could cause a persistent drag on growth by depressing the creation of new businesses: as banks roll over existing loans to protect zombie firms from going bust, resources get trapped in those unproductive firms instead of being reallocated to more productive firms, leading to lower productivity for the overall economy.[32]

III. Will the Pandemic Brighten or Dim Services' Potential as an Engine of Growth?

Past AREO thematic chapters have emphasized the need for ASEAN+3 economies to build resilience through multiple engines of growth, notably by developing the services sector in parallel with manufacturing. AMRO (2018) noted that the services sector is no longer necessarily the low-productivity, low-wage sector of the past because technology has made many services more sophisticated ("commoditized") and tradable across borders. AMRO (2019) predicted that: "Traditional services such as tourism will grow exponentially, driven by the rising middle class. However, they will be transformed by the new technology and become more diverse and customized. New services such as BPO [business process outsourcing], e-commerce, Uber, and online gaming will emerge and develop into major industries."

The services sector has borne the brunt of the COVID-19 lockdowns and other pandemic containment measures. However, the impact has been differentiated across services depending on the extent of close-contact transactions and vulnerability to disruption (for example, the ease with which they could switch to online delivery). COVID-19 has pushed economies to rapidly adopt new behaviors for close-contact transactions and working environments, such as telework, virtual meetings, remote learning, e-commerce, digital payments, and greater use of automation and artificial intelligence (AI). To the extent that these new behaviors become permanent, the COVID-19 crisis would transform the landscape of services in the region in the post-pandemic new normal.

31/ As noted in AMRO (2020a), pre-COVID-19, up to 87 percent of intra-ASEAN migrants were low-skilled workers looking for better opportunities. Malaysia, Singapore, and Thailand were regional migration hubs for ASEAN migrant workers. The main senders of migrant workers across the region were Cambodia, Indonesia, Lao PDR, Malaysia, and Myanmar.

32/ For example, evidence from Japan in the 1990s—where the term "zombie firms" originated—shows that zombie-dominated sectors exhibited more depressed job creation and destruction and lower productivity than sectors with fewer zombies (Caballero, Hoshi, and Kashyap 2008). Lam and others (2017) find strong linkages between zombie firms and state-owned enterprises in contributing to corporate debt vulnerabilities and low productivity in China. In the current context, the global policy response to the COVID-19 pandemic has featured a combination of ultra-loose monetary policy and regulatory forbearance, raising the specter of a worldwide "zombie apocalypse" with "a growing number of 'invisible' walking dead among smaller firms" (G30 2020). See Acharya, Lenzu, and Wang (2021) for a theoretical framework explicating zombie lending and associated policy traps.

Will services still hold their promise as the new engine of growth for the region after the pandemic? This section takes a closer look at the longer-term impact of the COVID-19 crisis on key service industries highlighted in past thematic chapters as promising growth drivers for the region.

Travel and Tourism

Before COVID-19, there was reason to expect that the travel and tourism sector would account for a rapidly growing share of services exports in many ASEAN+3 economies for years to come. The rapid growth of ASEAN economies had improved the region's attractiveness as a tourism destination, including to its own expanding middle class (AMRO 2020a). Outbound tourism by Chinese nationals in the region was growing rapidly.[33] Existing tourism infrastructures and ecosystems were continuing to expand in scale and sophistication, and there were strategic plans to upgrade marketing, quality standards, connectivity, safety and security, natural and cultural heritage conservation, theme parks, hotels and restaurants, and other areas. The number of inbound tourists in the ASEAN+3 region reached 280.8 million in 2019, of which more than 60 percent were from within the region. The tourism sector's average contribution to economic activity and employment reached 11.5 percent of GDP and 12.9 percent of total employment, respectively, in 2019.

The region's travel and tourism industry has faced—and rebounded from—shocks in the recent past. In the last two decades, regional tourism has been hit by major crisis and catastrophic events, including the Bali bombings and the SARS outbreak (2002); the Indian Ocean tsunami (2004); the global financial crisis (2007); and the Tohoku earthquake and tsunami (2011), to name a few. The shocks had differential effects on tourist arrivals and tourism-related revenues across the region, reflecting their diverse nature, duration, and geographical point of impact. Extra-regional shocks like the global financial crisis affected inbound tourist arrivals in the region while region-specific shocks like natural disasters literally destroyed local physical tourism infrastructure as well as affecting tourist arrivals. Where tourist arrivals plunged, the effects became magnified across the economy through reduced demand for auxiliary services such as hotels, restaurants, travel agencies, and transportation, which dampened local employment and led to a broader contraction of demand that rippled out to the rest of the economy.

But the COVID-19 pandemic has disrupted the industry on an unprecedented scale for an extended period of time. With the worldwide collapse in international travel, the World Tourism Organization labeled 2020 as the "worst year in tourism history." This was certainly true for the ASEAN+3, whose prior experience with the SARS outbreak paled in comparison in terms of impact (Figures 2.26, 2.27). In 2020, the region's inbound tourist arrivals and tourism receipts plunged by roughly 85.0 percent and 77.6 percent, respectively, as ASEAN+3 economies implemented border closures, travel restrictions, mandatory quarantines, and other stringent containment measures to prevent the import and spread of the COVID-19 virus (Figures 2.28, 2.29). The travel and mobility restrictions also crimped domestic tourism in and outbound tourism from ASEAN+3 economies (including to the rest of the region) (Figures 2.30, 2.31).

The pandemic has taken the greatest economic toll on the region's tourism-dependent smaller economies. Cambodia and Thailand, in particular, had reaped large benefits from tourism prior to the pandemic—the sector's contribution to their respective GDPs amounted to more than 20 percent in 2019.[34] However, this contribution shrank sharply to just below 10 percent in 2020 (Figure 2.32). The collapse in tourism led to considerable job losses of about 24 million in the whole region in 2020—especially in Cambodia and Vietnam, where tourism employment declined by 27.9 percent and 24.7 percent, respectively, compared to 2019 (Figure 2.33).[35] The decline in tourism earnings also eroded the external position of several economies in the region—travel services exports as percent of GDP fell by more than 7 percentage points in 2020 compared to 2019 in Cambodia, Hong Kong, and Thailand due to the collapse in inbound tourism (Figure 2.34).[36]

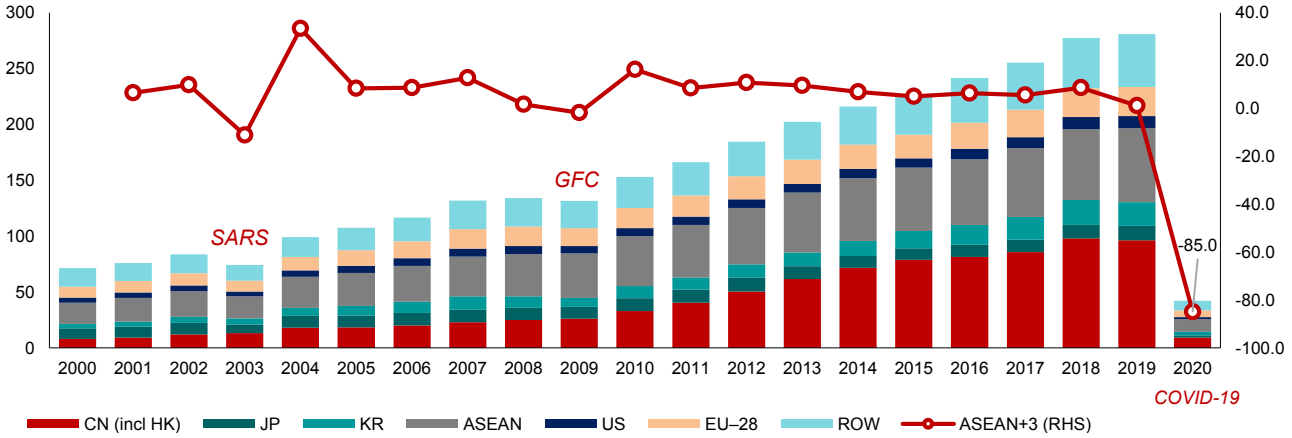
33/ Inbound tourism refers to the activities of a nonresident visitor within the country of reference. Outbound tourism refers to the activities of a resident visitor outside the country of reference. Domestic tourism refers to the activities of a resident visitor within the country of reference. Internal tourism refers to domestic and inbound tourism. National tourism refers to domestic and outbound tourism.

34/ The contribution of tourism to GDP, or "tourism GDP" is the change in national income resulting from the direct, indirect, and induced responses of domestic producers to the additional demand associated with domestic and international visitors. The direct effect includes the value-added of tourism-characteristic sectors such as hotels, airlines, airports, travel agents, and leisure and recreation services that deal directly with tourists. The indirect effect includes the value-added of other industries that supply tourism with intermediate inputs and capital goods such as the construction of new hotels, tourism marketing and promotion, food and cleaning services for hotels, fuel and catering services for airlines, and so on. The induced effect captures the additional demand for goods and services by those who are directly and indirectly employed by the tourism sector. See Oxford Economics (2021).

35/ Similar to tourism GDP, the contribution of tourism to employment, or "tourism employment" is the change in employment resulting from the direct, indirect, and induced responses of domestic producers to the additional demand associated with domestic and international visitors. See Oxford Economics (2021).

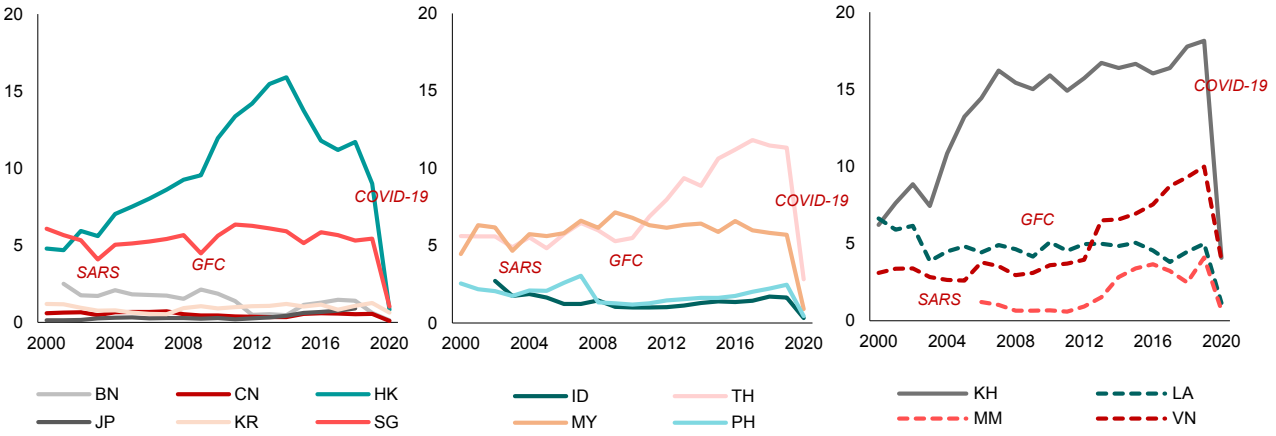
36/ According to Choo and others (2020), robust tourism receipts over the past decade have served as an essential source of foreign exchange for many economies in the region and have contributed to trade surpluses or helped cushion trade deficits in Cambodia, Indonesia, and Myanmar.

Figure 2.26. ASEAN+3: Inbound Tourist Arrivals, by Source Country
(Millions of tourist arrivals; percent, year-on-year)



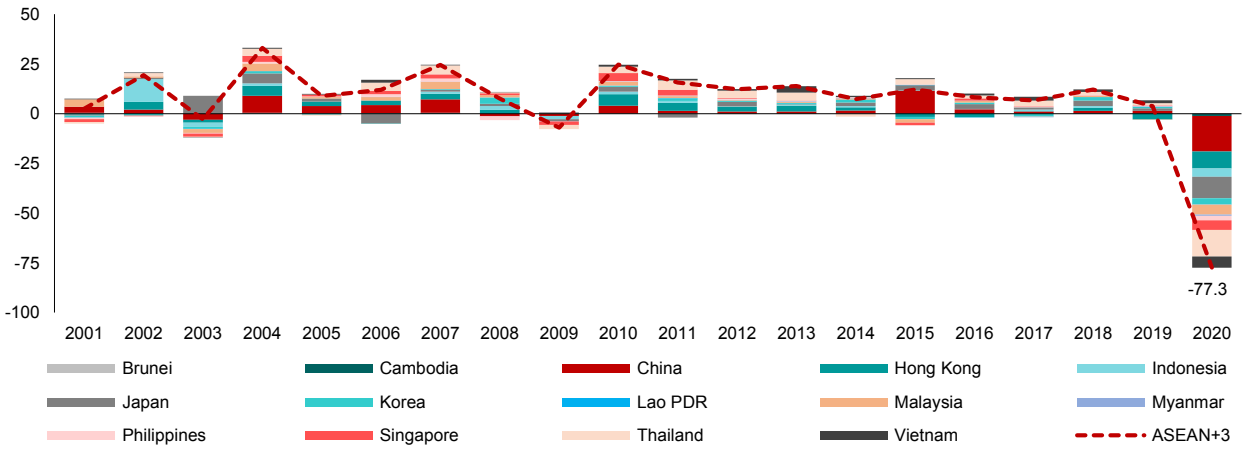
Sources: ASEANstats; national authorities; United Nations, World Tourism Organization; and AMRO staff calculations.
Note: China's tourist arrivals are AMRO staff estimates in 2020 and exclude arrivals from Hong Kong and Macau. CN = China; EU = European Union; HK = Hong Kong, China; JP = Japan; KR = Korea; ROW = rest of world; and US = United States.

Figure 2.27. ASEAN+3: Tourism Receipts, by Economy
(Percent of GDP)



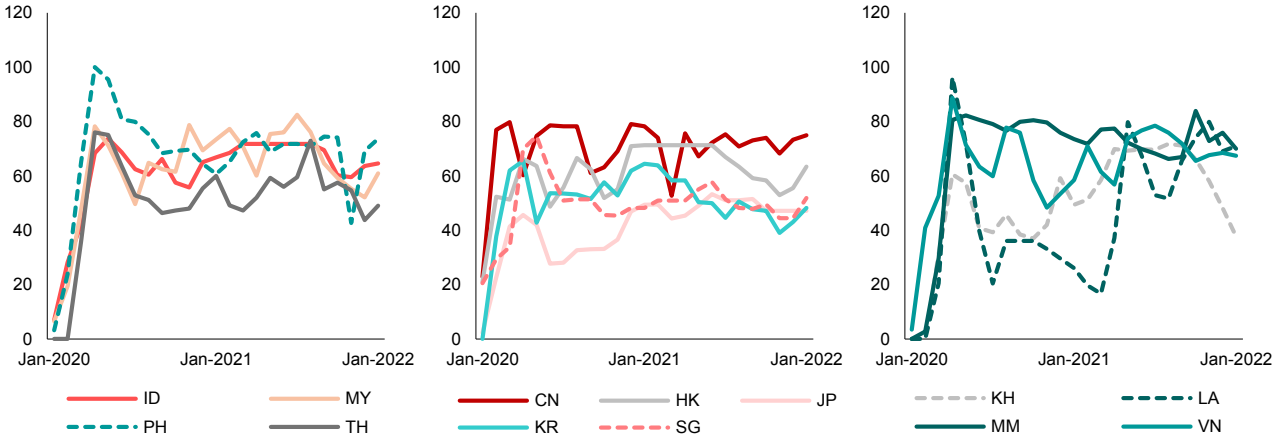
Sources: ASEANstats; national authorities; United Nations, World Tourism Organization (UNWTO); and AMRO staff calculations.
Note: Tourism receipts for China, Hong Kong, Indonesia, Japan, and Thailand in 2020 are sourced from the UNWTO. BN = Brunei; CN = China; GFC = global financial crisis; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SARS = severe acute respiratory syndrome; SG = Singapore; TH = Thailand; and VN = Vietnam.

Figure 2.28. ASEAN+3: Contribution to Growth of Tourism Receipts
(Percentage point contribution)



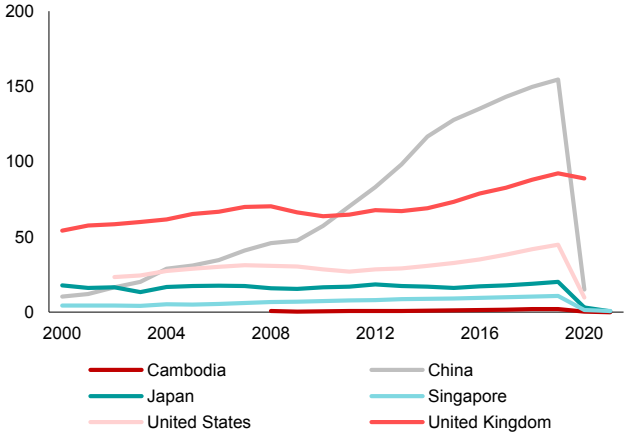
Sources: ASEANstats; national authorities; United Nations, World Tourism Organization (UNWTO); and AMRO staff calculations.
Note: Tourism receipts for China, Hong Kong, Indonesia, Japan, and Thailand in 2020 are sourced from UNWTO.

Figure 2.29. ASEAN+3: Government Response Stringency Index, by Economy
(100 = most stringent)



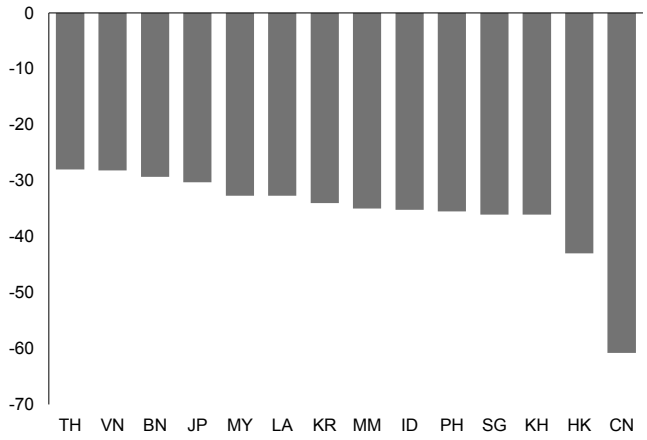
Source: Hale and others (2020).
Note: The index records the strictness of governments' lockdown policies, which primarily restrict people's activities. CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MY = Malaysia; MM = Myanmar; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

Figure 2.30. Selected Economies: Outbound Tourism, by Country of Origin
(Millions of outbound visitors)



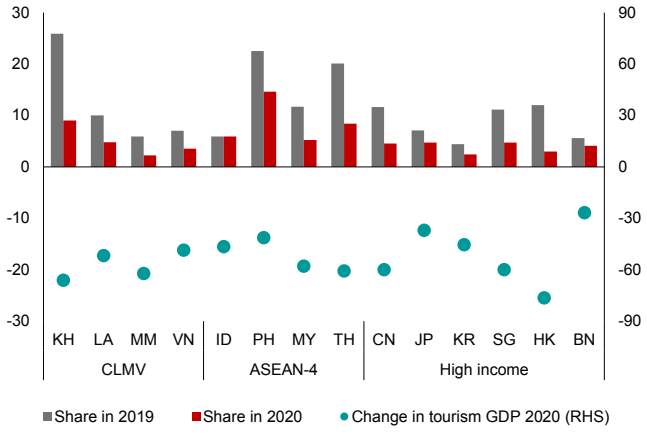
Sources: IBIS World; national authorities; Statista; and AMRO staff calculations.
Note: Data for the whole of China are not available for 2020 but estimated by applying the 2020 growth rate of outbound tourists from Beijing.

Figure 2.31. ASEAN+3: Growth in Domestic Visitor Spending, 2020
(Percent, year-on-year)



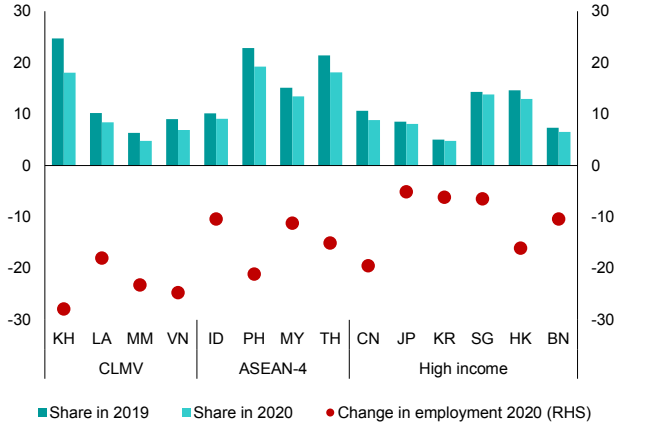
Source: World Travel and Tourism Council.
BN = Brunei; CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

Figure 2.32. ASEAN+3: Tourism GDP, 2019–20
(Percent of GDP; percent, year-on-year)



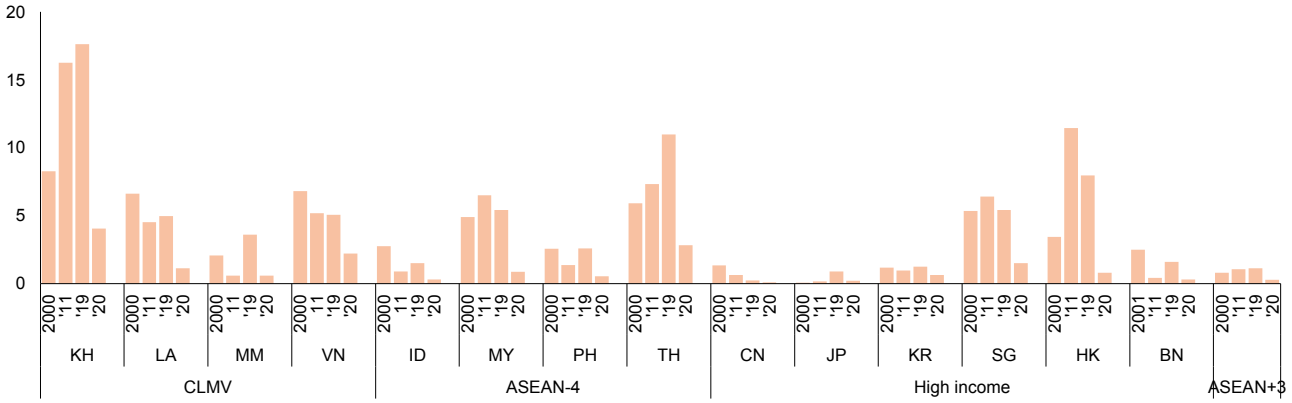
Source: World Travel and Tourism Council.
Note: BN = Brunei; CLMV = Cambodia (KH), Lao PDR (LA), Myanmar (MM), and Vietnam (VN); CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = the Philippines; SG = Singapore; and TH = Thailand.

Figure 2.33. ASEAN+3: Tourism Employment, 2019–20
(Percent of total employment; percent, year-on-year)



Source: World Travel and Tourism Council.
Note: BN = Brunei; CLMV = Cambodia (KH), Lao PDR (LA), Myanmar (MM), and Vietnam (VN); CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = the Philippines; SG = Singapore; and TH = Thailand.

Figure 2.34. ASEAN+3: Travel Services Exports
(Percent of GDP)



Sources: National authorities; and AMRO staff calculations.
Note: BN = Brunei; CLMV = Cambodia (KH), Lao PDR (LA), Myanmar (MM), and Vietnam (VN); CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = the Philippines; SG = Singapore; and TH = Thailand.

Tourism can only fully recover when COVID-19 is brought under control globally. More than two years into the pandemic, recurring outbreaks and the emergence of new virus variants continue to cloud the outlook for the tourism. The World Health Organization's (WHO's) caution—"if [COVID-19] is anywhere, it's everywhere, and people traveling have to understand that"—highlights the challenges to the sector's full recovery, which most experts do not envisage to be feasible before 2023 (Reuters 2020; UNWTO 2021). For recovery to be fully underway requires that not only COVID-19 infections be contained globally, but traveler confidence be fully restored. The latter may take a considerable amount of time, especially if the perceived risks to travelers vary across world regions (Box 2.3).

Tourism policy strategies focusing on rebuilding confidence, especially at the domestic level, will boost the sector in the initial phase of recovery. Several ASEAN+3 economies have taken measures to boost domestic tourism—a natural response when international borders remain largely closed—by offering discounted travel, lifestyle programs ("wellness tourism") and marketing support to entice (vaccinated) local residents to visit (Table 2.2).[37] Some of these ideas, such as wellness and adventure tourism, are likely to thrive in the post-pandemic period as well, as they would also appeal to foreign tourists. Refocusing on domestic tourism would also help larger ASEAN economies offset the loss of inbound tourists from China to some extent in the short term (Box 2.4).

In the longer term, policy action to drive the sector's growth must take into account the more long-lasting changes triggered by the pandemic. The pandemic has introduced significant changes to consumer and market behavior, and tourism in the post-pandemic world will no longer be business-as-usual. For the ASEAN+3 region's tourism sector, this offers opportunities to innovate, diversify service offerings, find new markets, and pursue a more sustainable and inclusive growth paradigm. In the aftermath of COVID-19, safety and sustainability will most likely be factored in consumer choices, while the travel industry will need to contend with the changes in the labor landscape and some constraints in capacity due to pandemic scars. These changes would have implications for future tourism policy in the region—one that puts more emphasis on resilience and crisis management (OECD 2020).

On the demand side, the pandemic has influenced travel preferences and behavior, and thus the nature of future tourism consumption. Industry analysts predict that post-pandemic travelers will place a higher premium on personal safety including hygiene standards and privacy; and will prefer activities with less social contact and smaller or open-air gatherings, such as ecotourism. Social distancing restrictions and health protocols are likely to be de rigueur in the short term, especially as governments around the world continue to work on the harmonization and mutual recognition of COVID-19 travel risk reduction measures. Survey evidence also suggests that the volume of inbound tourists to the region from China might not yet return to pre-pandemic levels, as overseas travel restrictions remain and domestic destinations become increasingly attractive to local travelers (Penhirin and Wouters 2021, Huang and others 2021) (Figures 2.35, 2.36; see Box 2.4).[38]

Tourism businesses and service providers must be able to quickly adapt to new emerging trends and demand drivers to survive post-pandemic. Some businesses in the

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37/ Domestic tourism had been growing in the region prior to the pandemic—see Choo and others (2020).

38/ China's development plan for the tourism sector during the 14th Five-Year Plan period (2021–25) maps out the promotion of inbound and outbound travel "in an orderly, steady manner, on the premise that the global COVID-19 pandemic is brought under control" (State Council, People's Republic of China 2022). Until such time, domestic tourists will likely be the main focus of the tourism development plan.

tourism sector and auxiliary industries, such as hotels and airlines, have already been forced to cut operations or shut down, limiting the capacity for recovery in the near term. ASEAN+3 flag carriers have grounded a large number of aircraft since the onset of the pandemic, eliminated regional airlines, streamlined their operations, and laid off staff including pilots and cabin crew.[39] In Thailand, at least a third of all tourism-related businesses have already closed shop (Clarke 2021), while in Cambodia, more than 3,000 have done so. This has resulted in job losses in many Asian economies, as a large number of workers became redundant for several months (ILO 2020). With many of these workers having moved to other sectors or been reskilled for other occupations, or simply having lost their skills due to the long period of unemployment, the industry is now experiencing a skills shortage—albeit transitory—which may derail the potential for a faster turnaround.[40] Furthermore, with digital transformation imminent in the tourism sector post-pandemic, traditional business operators must adapt quickly to technology-enabled solutions, collaborate closely with technology service providers, and rethink ways of delivering tourism offerings and services.

The pandemic has thus given ASEAN economies an opportunity to revisit their tourism strategies and set new priorities for the sector to evolve as a growth driver going forward. The ASEAN Tourism Strategic Plan (2016–25) could be updated to reflect post-pandemic realities, for example, by shifting the focus of tourism development from volume to value and putting greater emphasis on sustainable tourism—defined by the World Tourism Organization as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities." One silver lining of the pandemic-induced tourism slowdown has been the opportunity to restore the region's natural environments and cultural sites after being exploited and damaged from years of mass-tourism and pollution, and to reboot the tourism model to respond to shifting demand trends. Indonesia and Thailand, for example, are shifting their focus from "quantity" (the number of tourists who visit) to "quality" (the amount of time and money they spend in the country and their impact on the environment). Malaysia and Thailand are also further developing their medical tourism industry.

Table 2.2. Selected ASEAN+3: Domestic Tourism Marketing Campaigns

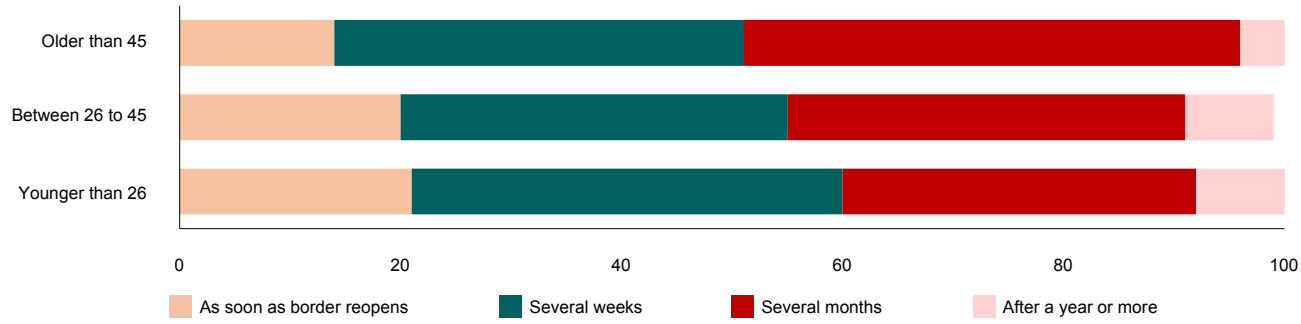
Economy	Campaign
Brunei	*Selera Bruneiku* (A Taste of Brunei), November 2020: Domestic tourism campaign offering staycation packages and tours, promotional menus, and cultural and recreational activities to encourage residents to visit local attractions and spend on Brunei-made products.
Cambodia	#AngkorLikeNeverBefore, February 2021: Social media campaign to attract local (and foreign) tourists to visit Angkor without the crowds. "Rediscover the Wonders of Cambodia," January 2022: Digital marketing campaign highlighting activities and ecotourism destinations to promote domestic tourism.
Indonesia	#DiIndonesiaAja (#JustStayInIndonesia), July 2020: Social media campaign to encourage Indonesians to travel domestically and highlighting messages of cleanliness, health, and safety and social distancing.
Japan	Go To Travel, temporarily suspended: Domestic tourism campaign offering discounts on travel inside Japan for residents of Japan.
Lao PDR	*Lao Thiao Lao* (Lao Visit Laos), September 2020: Online national tourism marketing campaign primarily targeted to younger locals, showcasing travel destinations and activities in every province.
Malaysia	*Jom Jalan Jalan*, October 2021: 5-month campaign with prizes including holiday packages and cash rewards for Petron Malaysia customers to explore local tourist spots.
The Philippines	*Have A Safe Trip, Pinas*, November 2020: Videos promoting the observance of health and safety protocols among local tourists and the general public when traveling amid the pandemic.
Thailand	*Rao Tiew Duay Kan* (We Travel Together), February 2022: Discounts on hotel room rates and airfares to encourage Thais to travel and spend domestically. *Tour Teaw Thai* (Travel Around Thailand), October 2021: Subsidized local tour packages for domestic tourists.
Vietnam	Vietnamese People Travel in Vietnam, May 2020: Promotional campaign with discounted tour packages and other incentives to encourage domestic tourism, together with guidelines on reopening tourism activities in localities with safety measures against the pandemic.

Sources: AMRO staff; and various media reports.

39/ Singapore Airlines and Cathay Pacific laid off 20–25 percent of their staff in 2020 and have switched to focusing mainly on international air cargo flights. Singapore Airlines absorbed its regional carrier, SilkAir, while Cathay Pacific dissolved its regional carrier, DragonAir. Malaysia Airlines, Philippine Airlines, Garuda, Thai Airways, and All Nippon Airways, among others, have undergone, or are undergoing major restructuring as a result of large losses inflicted by the pandemic.

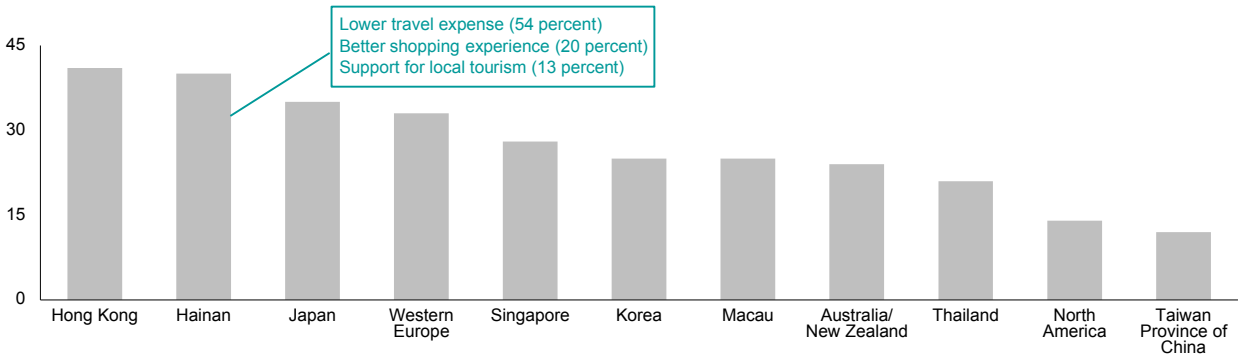
40/ A recent survey found that slightly more than half of employed airline pilots in the Asia-Pacific region—the worst hit globally by the drop in international travel due to tough border restrictions—were flying and about a quarter were still unemployed (Freed 2022). As borders reopen and commercial air travel resumes, an added need will emerge to address the problem of skill deterioration in pilots who may have been out of a cockpit for up to 18 months.

Figure 2.35. China: Chinese Tourists' Intent to Travel Post-Pandemic
(Percent of respondents by age group)



Source: Penhirin and Wouters (2021).
Note: Survey (n = 2,000) conducted March 2021.

Figure 2.36. China: Chinese Tourists' Top Three Locations to Visit Post-Pandemic
(Percent of respondents)



Source: Penhirin and Wouters (2021).
Note: Survey (n = 2000) conducted March 2021, with the question, "Assuming the pandemic is fully under control and China has resumed travel with the entire world, what would be your top three destinations to visit?"

Box 2.3:

Tourism Recovery after SARS

Like COVID-19, severe acute respiratory syndrome (SARS) and travel were intricately interlinked. At that time "[t]ravelers belonged to those primarily affected in the early stages of the outbreak, travelers became vectors of the disease, and finally, travel and tourism themselves became the victim," (Wilder-Smith 2006). By March 15, 2003, the World Health Organization (WHO) had begun to issue advisories to postpone nonessential travel to SARS-affected areas, in an effort to limit the spread of infection by international travel. International tourist arrivals in SARS-affected economies such as China, Hong Kong, and Singapore declined sharply in the second quarter of 2003; other regional economies that were SARS-free, such as Malaysia and Thailand, also saw declines in tourist arrivals.

The SARS experience highlighted how the perception of risk can magnify the direct consequences of a health crisis for tourism recovery. The slowdown in tourist arrivals in SARS-affected economies persisted for 6–9 months, before starting to return to pre-SARS levels after the WHO declared the outbreak contained in July 2003 (Figure 2.3.1). As noted by Wilder-Smith (2006), the outbreak of SARS created international anxiety because of its novelty, its ease of transmission in certain settings, and the speed of its spread through air travel, combined with extensive media coverage. This suggests that perception of elimination (or at least containment) of the disease is as crucial as the disease itself, as fear and perceived risk of infection would cause travelers to be cautious—until the official SARS alert was lifted from their country or territory, the authorities had "no ground[s] to promote and attract inbound tourists from other countries" (Mao, Ding, and Lee 2010). This factor tends to be more important following health crises than other types of tourism shocks such as natural disasters or financial crises, as evidenced by the shallower drop and/or a faster turnaround in arrivals after those crises compared to SARS (Figure 2.3.1).

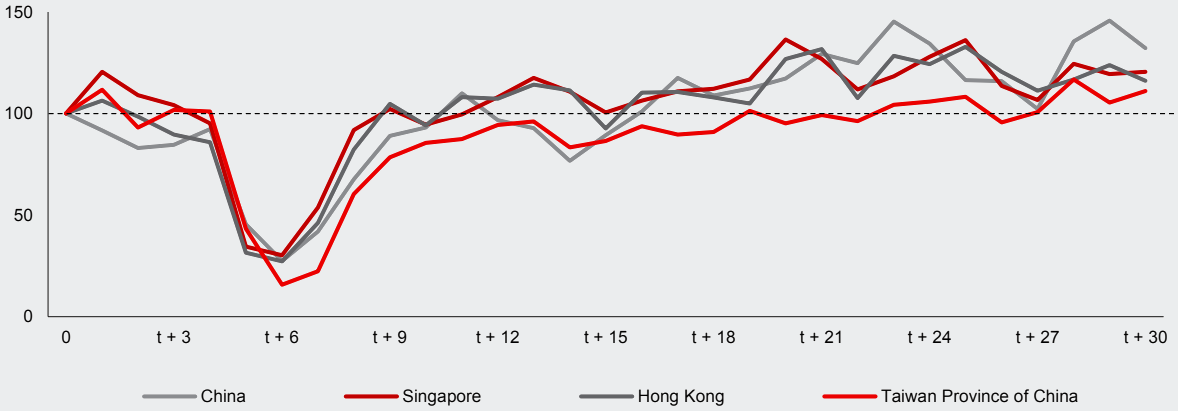
In the aftermath of SARS, massive marketing campaigns and attractive travel incentives were rolled out to restore international traveler confidence and entice tourists back to the region. These included Hong Kong's "Live It, Love It" campaign (2003), Singapore's "Singapore Roars!" campaign (2003) and the regionally coordinated "Project Phoenix" by the Pacific Asia Travel Association. The aim of these campaigns was to rebuild the affected economies' reputations as safe tourism destinations.

But not all tourists returned immediately. In the case of Taiwan Province of China, a study by Mao, Ding, and Lee (2010) shows that tourists from Hong Kong and the United States were the first to return after the territory was officially removed from the list of SARS-affected areas in July 2003, whereas tourist arrivals from Japan resumed very slowly, taking almost a year to recover to pre-outbreak levels. Thus, different tourist-origin economies can have their own different recovery patterns and underlying driving forces. According to Mao, Ding, and Lee (2010), while neither Japan nor the United States were affected by SARS, Japanese tourists took longer to feel fully safe about traveling to Taiwan Province of China, whereas US tourists might have had greater confidence in the messaging of the WHO.

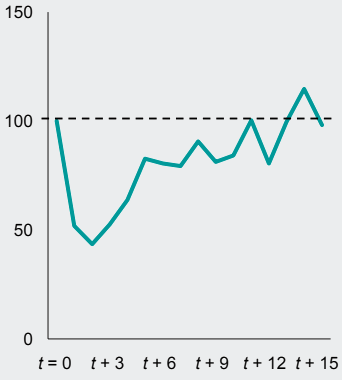
The author of this box is Marthe Hinojales.

Figure 2.3.1. Selected Asian Economies: Visitor Arrivals after Major Shocks
(100 = month corresponding to the initial shock)

SARS (2002)

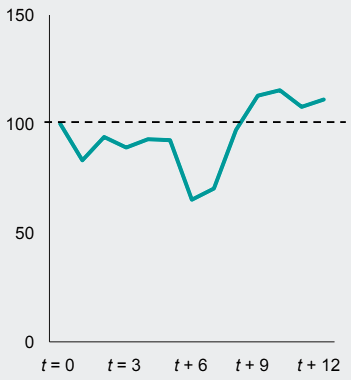


Japan: Tohoku Earthquake and Tsunami (2011)



Indonesia, Thailand: Indian Ocean Tsunami (2004)

Indonesia: Bali Bombings (2002)



Sources: National authorities via CEIC; and AMRO staff calculations.
Note: For the SARS crisis, t0 = November 2002 (first case reported). For the Tohoku earthquake and tsunami, t0 = March 2011; for the Indian Ocean tsunami, t0= December 2004; for the Bali bombings, t0 = October 2002.

Box 2.4:

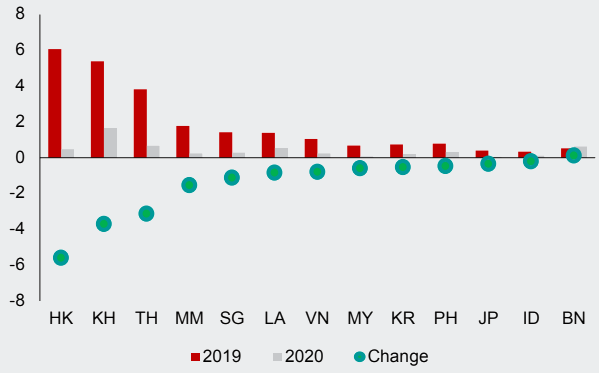
ASEAN+3 Inbound Tourism: The Importance of China

Two years into the pandemic, the need to reopen to international visitors has been particularly urgent for several ASEAN economies that are heavily reliant on the tourism sector. In 2019, the contribution of tourism to GDP—or "tourism GDP"—was more than 20 percent in Cambodia, the Philippines, and Thailand, and more than 10 percent in Hong Kong, Lao PDR, Malaysia, and Singapore.[1] In 2020, tourism GDP in all ASEAN+3 economies fell dramatically due to border closures in response to the pandemic: the declines ranged from 27 percent in Brunei to 76 percent in Hong Kong (see Figure 2.34 in the main text). As vaccines become more widely available in the ASEAN+3, some economies in the region have slowly begun reopening their borders in an effort to revive their tourism industry and start the economic recovery process (Table 2.4.1).

Yet a rapid revival in inbound tourism is unlikely without the return of Chinese tourists—a key source of tourism earnings for the region. China ranks among the top three tourism source countries for the ASEAN+3, according to estimates by the United Nations World Tourism Organization and the World Travel and Tourism Council (Table 2.4.2). Pre-pandemic, its share of inbound arrivals ranged from 12 percent in Malaysia to 68 percent in Hong Kong. China's borders have been closed since the onset of the pandemic, with authorities tightening restrictions on overseas travel of its citizens and limiting passport issuance and renewals to essential purposes only. In the first half of 2021, China's immigration authority issued only 335,000 passports, or only 2 percent of the number issued in the same period in 2019. In the short term, outbound Chinese travel for leisure is unlikely to recover fully to pre-pandemic levels.

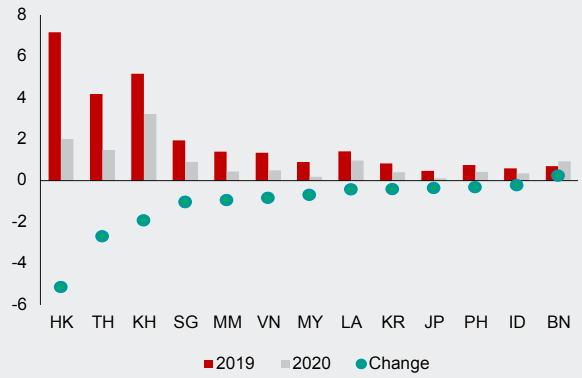
A slower (faster) return of Chinese tourists will be felt across the ASEAN+3 region differently. In 2020, China's contribution to tourism GDP in Hong Kong dropped to 0.5 percent of GDP from 6.1 percent in 2019; in Cambodia and Thailand, the contribution by Chinese visitors dropped by more than 3 percent of GDP (Figure 2.4.1). The same economies also saw the sharpest fall in the share of tourism employment to total employment due to the loss of Chinese tourists in 2020 (Figure 2.4.2). In 2021–22, the potential economic benefit for economies that have reopened or will reopen to Chinese tourists is estimated to range from 0.05 percent of GDP for Indonesia to 5.6 percent of GDP for Hong Kong, with Cambodia and Thailand also likely to receive a bigger boost compared to the rest of ASEAN+3 (Figure 2.4.3).[2]

Figure 2.4.1. ASEAN+3: China's Contribution to Tourism GDP, 2019–20
(100 = month corresponding to the initial shock)



Sources: World Tourism and Travel Council; and AMRO staff calculations.
Note: China's contribution is estimated by adjusting the destination economy's tourism GDP by the share of international visitor expenditure in total visitor expenditure and the share of Chinese visitors in total international visitors.
BN = Brunei; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

Figure 2.4.2. ASEAN+3: China's Contribution to Tourism Employment, 2019–20
(Percent of total employment)



Sources: World Tourism and Travel Council; and AMRO staff calculations.
Note: BN = Brunei; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

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1/ For details on the definitions of "tourism GDP" and "tourism employment" see footnotes 34 and 35 in the main text and Oxford Economics (2021).

2/ The potential receipts from Chinese tourists in 2021–22 are estimated as the 2020 loss of travel and tourism spending by Chinese visitors prorated by the amount of time the economy has been or will be open to Chinese tourists. The estimation assumes that these economies could achieve 2019 levels of tourism GDP in 2021–22 if Chinese arrivals return to pre-pandemic levels; this, however, is an admittedly optimistic assumption as high travel costs, strict travel protocols, changes in preferences, and other factors could still reduce arrivals.

Table 2.4.1. ASEAN+3: Restrictions on Inbound Tourism and Border Reopening Plans, December 31, 2021

Economy	Status at the end of 2021	Plans for Reopening to International Tourists in 2022 (as of the end of 2021)
Brunei	Not open to foreign visitors	
Cambodia	Fully open to foreign visitors as of November 15, 2021—fully vaccinated visitors can skip quarantine if they test negative for COVID-19.	
China	Not open to foreign visitors	
Hong Kong	Not open to foreign visitors. Visitors from mainland China, Macao, and Taiwan Province of China can enter but must undergo quarantine.	
Indonesia	Partially open to foreign visitors as of October 14, 2021—visitors from certain countries (including China) can enter Bali and the Riau Islands on direct flights only, with a quarantine period of 5 days.	Vaccinated travel lanes (VTLs) from Kuala Lumpur to Jakarta and Bali to start in early 2022.
Japan	Not open to foreign visitors	
Korea	Partially open to foreign visitors (not including China) as of November 15, 2021—VTL with Singapore.	
Lao PDR	Not open to foreign visitors	Fully vaccinated tourists to be allowed to visit provinces and cities designated as "green zones" (where vaccination rates exceed 70 percent) beginning January 1, 2022.
Malaysia	Partially open to foreign visitors as of November 15, 2021—fully vaccinated visitors can enter the Langkawi islands without having to quarantine but must stay there for a minimum of 3 days (7 days if they wish to travel to other parts of Malaysia). VTL with Singapore.	VTLs from Kuala Lumpur to Indonesia Jakarta and Bali to start in early 2022.
Myanmar	Not open to foreign visitors	Land border crossings with Thailand and China to reopen by January 2022; international commercial air travel to restart by Q1 2022.
The Philippines	Not open to foreign visitors	Fully vaccinated tourists arriving from 44 "green list" countries (including China) to be allowed to enter in 2022 (delayed from December 1, 2021).
Singapore	Partially open to foreign visitors as of September 8, 2021—VTLs with Brunei and Germany, subsequently extended to 22 more countries (not including China). – New ticket sales for all VTL flights temporarily suspended from 23 December 2021.	Temporary suspension of VTL flight ticket sales to be lifted on January 20, 2022.

Economy	Status at the end of 2021	Plans for Reopening to International Tourists in 2022 (as of the end of 2021)
Thailand	Partially open to foreign visitors as of July 1, 2021—fully vaccinated visitors can enter without having to quarantine under the Phuket Sandbox program but must stay in Phuket for a minimum of 7 days if they wish to travel to other parts of Thailand. Sandbox program subsequently expanded to include more "blue zones" (where vaccination rates exceed 70 percent) and all tourist-origin countries. Fully vaccinated visitors from certain countries (including China) can enter without having to quarantine under the "Test & Go" scheme. – "Test & Go" scheme and all Blue Zone Sandbox programs (except Phuket) temporarily suspended effective December 22, 2021.	Temporary suspension of "Test & Go" scheme and Blue Zone Sandbox programs to be lifted in 2022.
Vietnam	Partially open to foreign visitors as of November 20, 2021—fully vaccinated visitors from certain countries (including China) can enter without quarantine on a package tour to certain locations under the Vaccine Passport Program.	Second phase of reopening to start in January 2022 with more locations added to the Vaccine Passport Program; full reopening expected sometime in June or July 2022.

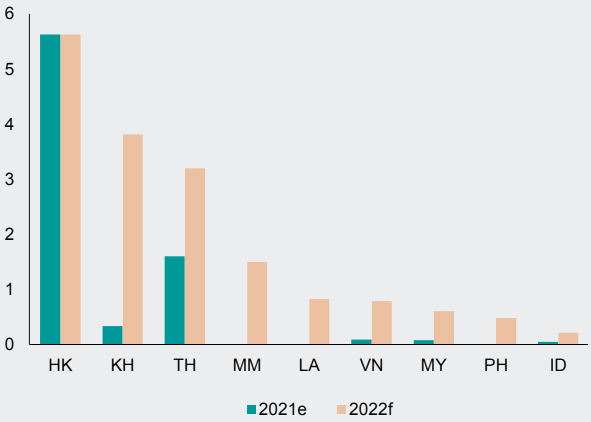
Sources: AMRO (2021f); and media reports.

Table 2.4.2. ASEAN+3 excluding China: Top Five Source Economies of Inbound Tourists, 2019

Rank	1	2	3	4	5
Cambodia	CN (27)	VN (13)	TH (7)	LA (7)	KR (5)
Hong Kong	CN (68)	KR (3)	US (3)	PH (3)	JP (3)
Japan	CN (30)	KR (18)	TW (15)	HK (7)	US (5)
Korea	CN (34)	JP (19)	TW (7)	US (6)	HK (4)
Singapore	CN (19)	ID (14)	IN (8)	AU (6)	MY (5)
Thailand	CN (28)	MY (11)	IN (5)	LA (5)	KR (5)
Vietnam	CN (29)	KR (25)	JP (6)	TW (5)	US (4)
Brunei	MY (25)	CN (21)	ID (10)	PH (7)	KR (5)
Indonesia	MY (19)	CN (13)	SG (13)	AU (9)	IN (4)
Lao PDR	TH (44)	CN (21)	VN (19)	KR (5)	US (1)
Myanmar	TH (44)	CN (34)	JP (3)	IN (3)	KR (3)
Philipines	KR (24)	CN (21)	US (13)	JP (8)	TW (4)
Malaysia	SG (39)	ID (14)	CN (12)	TH (7)	BN (5)

Source: World Travel and Tourism Council.
Note: AU = Australia; BN = Brunei; CN = China; HK = Hong Kong; ID = Indonesia; IN = India; JP = Japan; KR = Korea; LA = Lao PDR; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; TW = Taiwan Province of China; US = United States; and VN = Vietnam. Numbers in parentheses refer to source economy's percent share of total inbound tourists.

Figure 2.4.3. Selected ASEAN+3: China's Potential Contribution to Tourism GDP, 2021–22
(Percent of 2019 GDP)



Sources: World Tourism and Travel Council; and AMRO staff calculations.
Note: Travel and tourism spending by Chinese visitors is not calculated for 2021 for Lao PDR, Myanmar, and the Philippines (as they have not reopened to Chinese tourists). Other regional economies are not included in calculations for both years as they did not/have not announced plans to reopen to Chinese tourists. e = estimate; f = forecast; HK = Hong Kong; ID = Indonesia; KH = Cambodia; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; TH = Thailand; and VN = Vietnam.

E-Commerce and Other Digital Services

The rise of the services sector in the ASEAN+3 region has been facilitated by the technological revolution, which has made services more tradable and commoditized. As envisaged in AMRO (2019, 2020a), services in the new economy would include not just traditional services such as tourism, but also new services that have been made viable and thrived under the digital economy, such as e-commerce and ride-sharing.

The COVID-19 pandemic has accelerated the "flight to digital" and induced quicker adoption of digital services, driven by the implementation of social distancing measures and government support measures to curb the spread of the virus. Many ASEAN+3 governments have also included special measures in their COVID-19 support and stimulus packages to encourage digital services (Table 2.3). This has resulted in a boom in digital service consumption, including e-commerce, videoconferencing, digital financial services, video-streaming, and digital health (or "healthtech")—a trend that is expected to continue post-pandemic. In the large ASEAN economies, the number of new internet users increased by some 40 million in 2021, raising internet penetration to 75 percent of the population—compared to 68.4 percent in 2020 and 62.2 percent in 2019, and to the current world average of about 60 percent (Google, Temasek, Bain & Company 2021). The ASEAN Digital Masterplan 2025, which was shaped by and launched amid the COVID-19 pandemic in January 2021, envisions ASEAN as a leading digital community with high-quality and ubiquitous connectivity running safe digital services relevant to the needs of end-users (ASEAN 2021a).

Table 2.3. Selected ASEAN+3: Measures to Promote Digital Services in Pandemic Support/Stimulus Packages

Economy	Measures
Brunei	• Co-matching grant for e-commerce and logistic services. • E-commerce platform *e-Kadai* for businesses to market their products online. "Community for Brunei" digital platform for consumers to purchase from and support micro- and smallsized businesses through online payments.
China	• Stepped-up financing support for major technological innovation projects.
Indonesia	• Acceleration of digitalization via raising the Quick Response Indonesian Standard transaction limit and lowering the merchant discount rate for public service providers.
Malaysia	• Acceleration of the National Digital Network (JENDELA) Plan to improve broadband quality and coverage and provide internet access across the country. • Loans for SMEs looking to digitalize or automate their businesses.
The Philippines	• Waiver of fees for central bank-supervised financial institutions to offer digital financial services.
Singapore	• Grants for businesses in the food services and retail sectors to digitalize with business process, e-commerce, or advanced solutions.
Thailand	• Corporate income tax exemptions for foreign investment projects that support digital technology adoption.
Vietnam	• Reduction in e-banking fees to encourage cashless transactions.

Sources: AMRO (2021f); and media reports.

E-commerce

E-commerce—the buying and selling of goods and services over the internet—has been a bright spot in the region's economies during the pandemic. In the large ASEAN economies, about one in three digital merchants surveyed in 2021 believed they would not have survived the lockdowns if not for digital platforms (Google, Temasek, and Bain & Company 2021). E-commerce retail sales in these economies are estimated to have reached USD 174 billion in gross merchandise value in 2021, a 49 percent increase from 2019 (Figure 2.37). Among the Plus-3 economies, China is estimated to have generated the world's highest amount of retail e-commerce sales in 2021—almost USD 2.8 trillion or 56.8 percent of global retail e-commerce sales—with Japan and Korea in fourth and fifth place, respectively (Figure 2.38).

The outlook for e-commerce in the region's economies is positive even after the COVID-19 crisis, as consumers and businesses have become accustomed to using digital services. Digital consumption has now turned out to be a way of life in the region. Survey data from the large ASEAN economies show that new digital consumers in 2020 continued with their online consumption in 2021 with no signs of reversal, chiefly because of the

convenience and integration of digital services into their daily life (Google, Temasek, Bain & Company 2021) (Figure 2.39). In these economies, 8 in 10 internet users, on average, have made online purchases at least once (Figure 2.40). In the medium to long term, the gross merchandise value of ASEAN's digital economy is projected to soar from USD 117 billion in 2020 to USD 363 billion in 2025 and USD 1 trillion in 2030 (Google, Temasek, Bain & Company 2021). The outlook for the e-commerce sector in the Plus-3 economies is similarly rosy, with online retail sales in China, Japan, and Korea projected to surpass USD 3.3 trillion, USD 273.4 billion, and USD 242.2 billion, respectively, in 2025, according to GlobalData. This is largely supported by the economies' strong technological infrastructure, high internet and smartphone penetration, rising e-commerce platforms and consumer confidence, as well as the availability of various payment solutions.

China's trailblazing in e-commerce may hold useful lessons for the region on creating a supportive policy environment for the sector to develop. From accounting for less than 1 percent a decade ago, China today makes up more than half of global e-commerce retail sales (Belcher 2006).[41] In 2021, China is expected to have digitally transacted 52.1 percent of its total retail sales, becoming the first economy where e-commerce sales outstripped brick-and-mortar retail sales (Cramer-Flood 2021). China's government has attached great importance to the development of e-commerce, which it regards as an important instrument for economic transition and opening-up. Over the last decade and a half, the government has played a supporting role in the development of e-commerce by promoting the development of basic e-commerce infrastructure; popularizing e-commerce through training and other activities to raise e-commerce awareness and skills among businesses; and encouraging innovation and cultivating modern online businesses by assisting with developing production and processing supply chains and marketing links (Jiang, Zhang, and Jin 2021) (Box 2.5). After a decade or so of expansion in the retail e-commerce sector, however, the authorities are now shifting their focus to next-generation issues such as securing private data, stamping out monopolistic practices, and encouraging greater competition. In August 2021, China passed the Personal Information Protection Law, which lays out for the first time a comprehensive set of rules around data collection, processing, and protection. In October 2021, China amended its Anti-Monopoly Law for the first time since it came into force in 2008, toughening antitrust penalties and spelling out anti-competitive behavior in the digital sector.

Within ASEAN, the Agreement on Electronic Commerce aims to bolster the e-commerce sector and help realize its full potential in driving economic growth in the region. To serve as a growth driver, e-commerce would have to do more than supplant domestic retail sales in individual economies. The E-Commerce Agreement, which came into effect in December 2021, will facilitate cross-border e-commerce transactions in the ASEAN region and deepen cooperation among member states to further develop the use of e-commerce. Preparatory work has focused on areas such as ICT infrastructure, legal and regulatory frameworks, electronic payment and settlement, online consumer protection, cybersecurity, and logistics to facilitate e-commerce, among others (Figure 2.41). However, ASEAN economies would need to address the barriers to implementation posed by the different stages of digital development within ASEAN to bring all the members along (Tham 2021).[42]

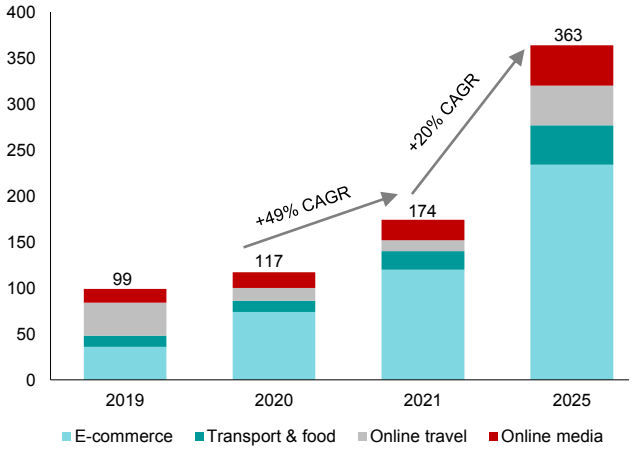
Real-time and efficient cross-border payment methods would facilitate the growth of e-commerce in the region. The region has made significant strides in payment modernization, with many economies having a domestic real-time payment infrastructure in place, such as FAST/PayNow in Singapore, PromptPay in Thailand, DuitNow in Malaysia, BI-FAST in Indonesia, and InstaPay in the Philippines. Some ASEAN economies have launched direct infrastructure linkages and cross-border QR code links. For example, over the past two years, Thailand has launched cross-border inter-operable quick-response (QR) code payment links with Cambodia, Indonesia, Malaysia, and Vietnam; Malaysia and Indonesia launched a cross-border QR payment linkage in January 2022. Singapore's PayNow and Thailand's PromptPay launched the world's first linkage of real-time payments systems in April 2021; Singapore and the Philippines signed a similar agreement in November 2021; and a phased linkage of Singapore's PayNow and Malaysia's DuitNow will be launched in the fourth quarter of 2022.[43]

41/ China's share of global *total* e-commerce sales—including business-to-business as well as business-to-consumer e-commerce—is smaller. The latest available estimates put China's share of global total e-commerce sales at 9.8 percent in 2019, behind the United States (35.9 percent) and Japan (12.8 percent) (UNCTAD 2021).

42/ The ASEAN Digital Integration Index points to a large disparity among the ASEAN economies across 6 pillars: digital trade and logistics; data protection and cyber security; digital payments and identities; digital skills and talent; innovation and entrepreneurship; and institutional and infrastructural readiness (ASEAN 2021b).

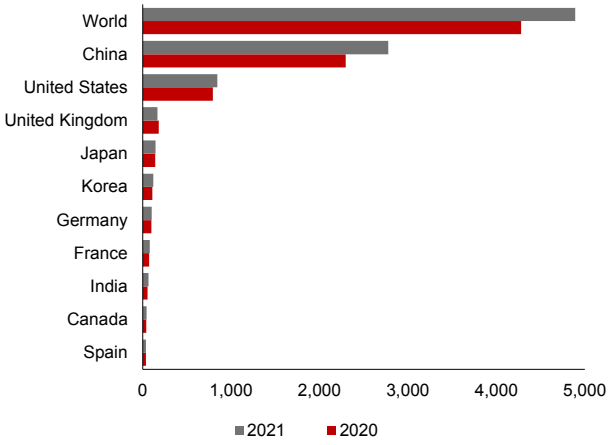
43/ Separately, some of the region's central banks are exploring the use of central bank digital currencies (CBDCs) in cross-border settlements. For example, the People's Bank of China, Hong Kong Monetary Authority, and Bank of Thailand, together with the Central Bank of the United Arab Emirates and the Bank for International Settlements Innovation Hub Hong Kong Centre are building a multiple-CBDC platform—the mBridge project—that would significantly reduce the time and costs of international trade settlement transactions. Testing of sample transactions across the four jurisdictions and 11 industries (including semiconductors, medical equipment, and apparel) has already started and the project is expected to enter the pilot stage in 2022. See Pande and Long (2022) for an overview of CBDC developments in the ASEAN+3 region.

Figure 2.37. ASEAN-6: Gross Merchandise Value of Digital Economy Sectors
(Billions of US dollars)



Source: Google, Temasek, and Bain & Company (2021).
Note: ASEAN-6 = Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam. E-commerce includes transactions on online marketplaces, online malls and resellers, and online direct-to-consumer sales. CAGR = compound annual growth rate.

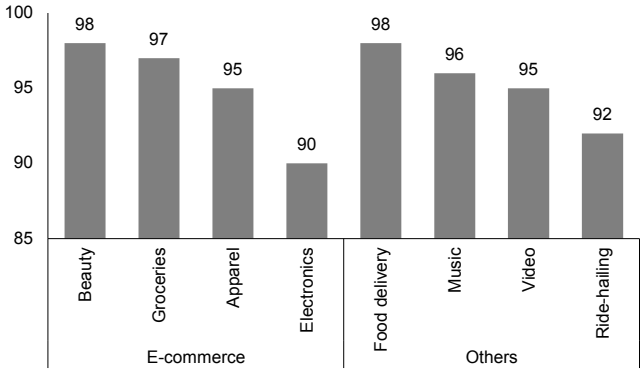
Figure 2.38. Selected Economies: Retail E-Commerce Sales, 2020–21
(Billions of US dollars)



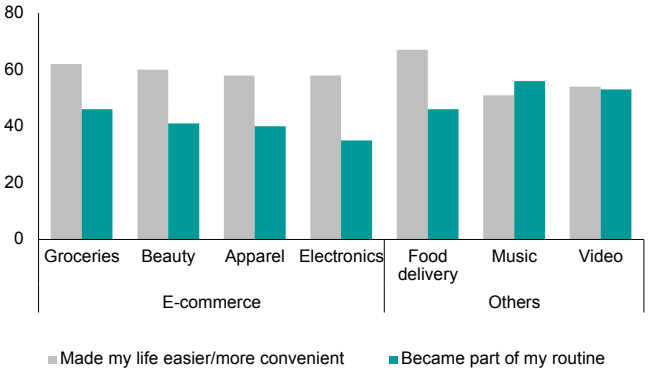
Source: eMarketer.
Note: Retail e-commerce sales include products or services ordered using the internet and exclude travel and event tickets; payments for bills, taxes, or money transfers; food services and drinking place sales; and gambling and other vice goods sales.

Figure 2.39. ASEAN-6: Use of Digital Services, 2021

New Consumers in 2020 Who Continued Using Digital Services in 2021
(Percent of consumers surveyed)

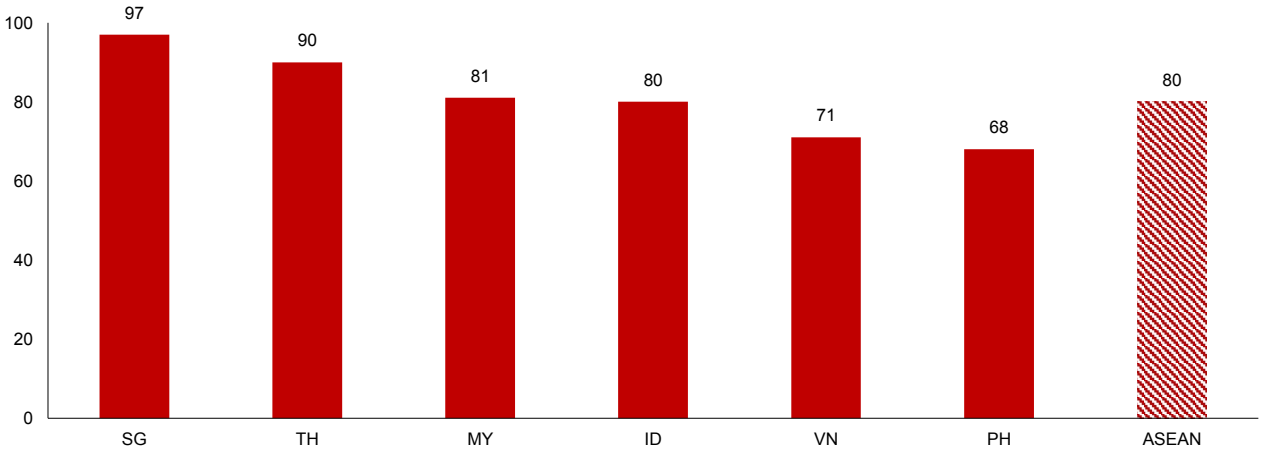


Reasons Consumers Continued Using Digital Services
(Percent of consumers surveyed)



Source: Google, Temasek, and Bain & Company (2021).
Note: ASEAN-6 = Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.

Figure 2.40. ASEAN-6: Internet Users Who Have Made at Least One Purchase Online, 2021
(Percent of internet users)



Source: Google, Temasek, and Bain & Company (2021).
Note: ASEAN-6 = Indonesia (ID), Malaysia (MY), the Philippines (PH), Singapore (SG), Thailand (TH), and Vietnam (VN).

Figure 2.41. ASEAN Agreement on Electronic Commerce: Key Measures Related to Cross-Border E-Commerce

Online Consumer Protection and Data Privacy

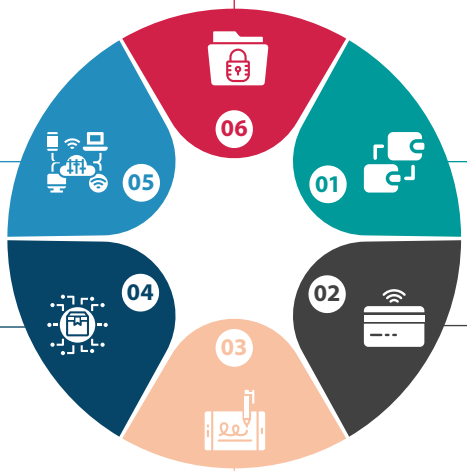
- Establish enabling legal and regulatory frameworks and adopt a harmonized approach to standards to provide e-commerce users with the security and confidence to engage on e-commerce platforms
- Adopt/maintain an appropriate legal framework and measures to protect personal information and privacy in conformity with ASEAN and other international best practices

Cross-Border Transfer of Information by Electronic Means

- Facilitate the cross-border flow of data for business purposes, subject to the appropriate safeguards
- Harmonize practices and interoperate with other cross-border data transfer mechanisms

Electronic Transactions and Paperless Trading

- Establish e-transactions laws and regulations aligned with international standards
- Expand the use of digital trade documents
- Increase technical interoperability with ASEAN partners



Trade Facilitation and E-commerce Logistics

- Collaborate with public and private e-commerce facilitators (customs, postal, logistics, express couriers) to resolve trade facilitation bottlenecks and challenges across the e-commerce fulfilment chain

Electronic Payments

- Develop secure, efficient, and interoperable e-payment systems

Electronic Signatures and Authentication

- Establish laws and regulations governing electronic signatures aligned with international standards
- Develop a user-friendly interoperable electronic authentication approach

Source: ASEAN (2021a).

Box 2.5:

China's E-Commerce Development Plans

China's government has been formulating five-year plans for the development of the e-commerce sector since the 11th Five-Year Plan period (2006–10). The plans define e-commerce services broadly to include web-based transaction services as well as business outsourcing services (e.g., web-based product design) and information technology system outsourcing services (e.g., web-based equipment rental) (Figure 2.5.1).

The first three plans guided the evolution of the e-commerce sector by facilitating the construction and upgrade of e-commerce platforms, encouraging businesses to develop standardized product information and delivery processes, creating an open business environment based on fair market competition and internet technology regulations and law, and deepening the integration of traditional industries and e-commerce to create a cohesive ecosystem of production and distribution (Jiang, Zhang, and Jin 2021). Between 2011 and 2020—during the second and third plan periods—the value of China's e-commerce transactions grew from less than USD 1 trillion to more than USD 5 trillion (Figure 2.5.2).

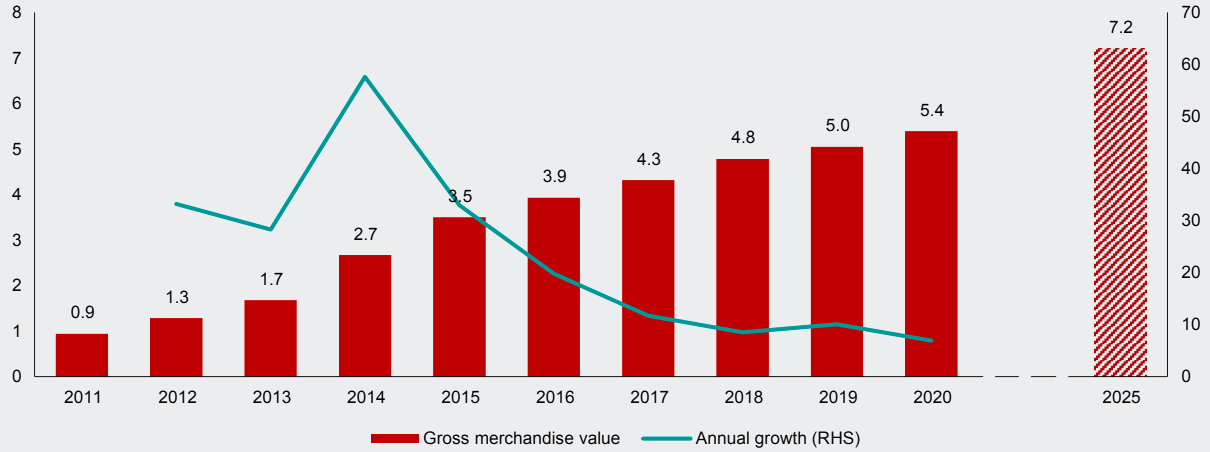
The fourth e-commerce development plan signals a shift in focus from quantity to quality in this now-mature sector. This is in line with China's overall shift to focus more intently on sustaining high-quality economic growth in the long term. The plan, covering the 14th Five-Year Plan period (2021–25), was jointly released by China's Ministry of Commerce, Office of the Central Cyberspace Affairs Commission, and National Development and Reform Commission in October 2021. It envisages a moderation in retail e-commerce growth in the coming years as the market matures, and specifies three new subindices for tracking e-commerce development: (1) the industrial e-commerce penetration rate (as an indicator of the extent of integration of e-commerce with traditional industries); (2) the transaction volume for rural e-commerce (as an indicator of rural revitalization and modernization of the rural economy); and (3) the transaction volume for cross-border e-commerce (as an indicator of "high-quality trade growth") (Zhang 2021). The plan also sets out the goal of improving e-commerce-related laws, regulations, and standard settings, including by speeding up the revision of the Anti-Monopoly Law and E-commerce Law to prevent monopolistic behavior and unfair competition in the platform economy (Fan 2021). The total transaction volume of China's e-commerce segment is expected to reach USD 7.2 trillion by 2025, and e-commerce is envisioned to be an important driver of China's economic and technological growth by 2035 (Zhang 2021).

Figure 2.5.1. China: E-Commerce Development Plans

Sources: Jiang, Zhang, and Jin (2021); and Zhang (2021).
Note: SMEs = small- and medium-sized enterprises.

The author of this box is Vanne Khut and Ling Hui Tan.

Figure 2.5.2. China: E-Commerce Transaction Value
(Trillions of US dollars; percent, year-on-year)



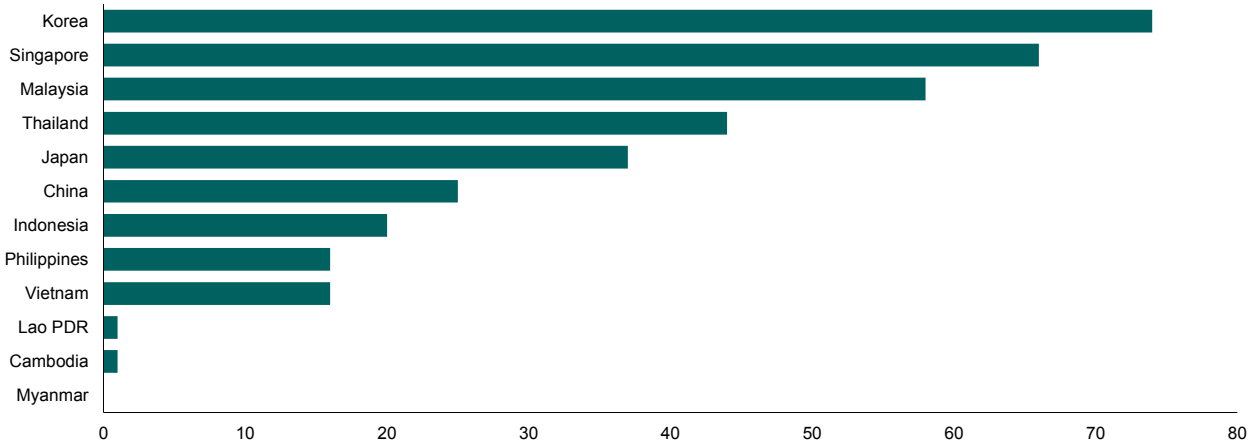
Sources: China Business Industry Research Institute; Statista; and AMRO staff calculations.
Note: E-commerce transactions include business-to-business and business-to-consumer transactions.

Digital financial services

In tandem with e-commerce, digital financial services have also flourished during the pandemic and will continue to see bright prospects in the years to come. Digital financial services include a broad range of financial services accessed and delivered through digital channels, including payments, lending, savings, remittances, and insurance. The pandemic has helped to shift consumers' preferences from traditional payment methods to cashless transactions and digital banking via mobile apps ("mobile banking"). In the ASEAN+3 region, high internet penetration and widespread digital adoption, as well as mobility restrictions during the pandemic, are contributing to a growing trend of digital banking, with Korea, Malaysia, and Singapore having the highest online banking penetration rate (Figure 2.42). Digital financial services are critical enablers of e-commerce as e-wallets and buy-now-pay-later options have allowed a new generation of underbanked consumers to shop online. Digital merchants, on their part, are very likely to continue or increase their usage of digital payments—which tend to be more convenient and safer to process than cash payments, and less costly to process than credit card payments—as well as digital lending and supply chain financing (Figure 2.43).

ASEAN+3 central banks and financial regulators are leaning into this trend by setting standards for digital banking and determining license allocations. Digital-only banks—which do not have a brick-and-mortar branch—are already in operation in China, Hong Kong, Japan, Korea, and the Philippines. Singapore granted four digital bank licenses at the end of 2020 and the new banks are expected to start operations in 2022; Malaysia issued its digital banking framework in December 2020 and expects to issue up to five licenses in the first quarter of 2022; Indonesia, Thailand, and Vietnam have issued or are working on enabling digital banking regulations.

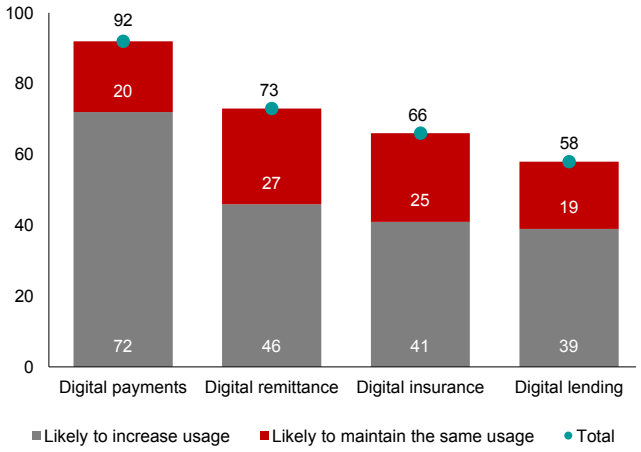
Figure 2.42. Selected ASEAN+3: Online Banking Penetration Rate, 2020
(Percent)



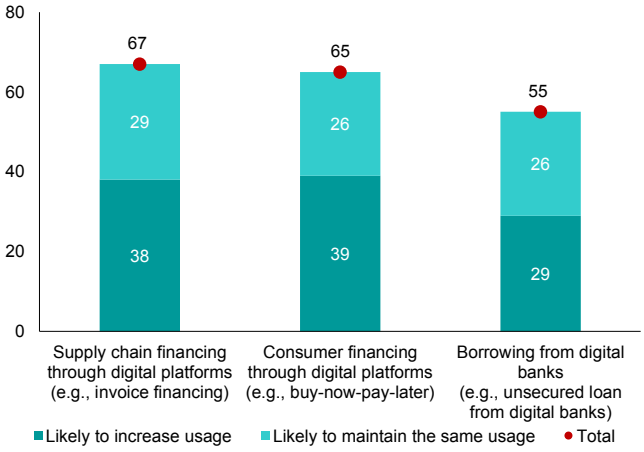
Source: Statista.
Note: Data for Brunei and Hong Kong are not available. Data refer to the share of individuals who use the internet (through mobile or computer) for online banking, as opposed to a mobile app.

Figure 2.43. ASEAN-6: Likely Usage of Digital Financial and Lending Services in the Next 1–2 Years

Digital Financial Services
(Percent of digital merchants surveyed)



Digital Lending Services
(Percent of digital merchants surveyed)



Source: Google, Temasek, and Bain & Company (2021).
Note: ASEAN-6 = Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.

Digital health

The region's economies have harnessed technology to strengthen the public health response to the pandemic. This has resulted in strong growth in telemedicine, digital therapeutics and diagnostics, and remote patient monitoring and analytics. Digital health—using technology to help improve individuals' health and wellness—is a broad sector that can cover everything from wearable gadgets and electronic records to mobile health apps and robotic caregivers. Digital health apps have been deployed to flatten the curve of COVID-19 infections and alleviate burdens on the healthcare system. Telemedicine—the use of ICT to provide clinical healthcare remotely—has been playing a vital role in providing necessary care to patients while reducing the risk of virus transmission amid the pandemic (Table 2.4).[44]

Limited access to traditional face-to-face appointments during the pandemic has spurred quick adoption of digital healthcare tools. China's largest healthcare platform, Ping An Good Doctor, recorded a 900 percent increase in the number of new users in January 2020 compared with the previous month; at MyDoc, a telemedicine platform in Singapore, the number of daily active users rose by 60 percent in February 2020 and more than doubled again the following month (Kapur and Boulton 2020). More than a billion users were registered in key digital health platforms in the region in 2020, with prominent examples in China and key ASEAN economies (Baur, Yew, and Xin 2021).

Digital health is still at a nascent stage although there is strong potential for growth. Strong adoption, together with fast-growing funding, bodes well for innovation and growth in this sector. In China, the digital healthcare market grew to USD 28.4 billion in 2020 (a 48 percent increase from 2019), while its online pharmacies market surged to USD 35.0 billion in 2021 (a 24 percent increase from 2020) (Figure 2.44). Market analysts predict that the market for telehealth in China will overtake that in the United States in 2023 and be worth more than USD 50 billion in 2025 (Handley 2020). In the six largest ASEAN economies, venture capital investment into healthtech reached USD 1.1 billion in the first half of 2021, higher than the investment for the whole year of 2020 (Figure 2.45). In Hong Kong, Japan, and Korea where telemedicine has advanced less rapidly compared to the rest of the region, there is evidence of underlying demand and increasing calls for the governments to do more to plan and support its development in light of their aging populations and healthcare supply constraints.[45] Digital health is one of the four pillars of the Korean government's plan for the Fourth Industrial Revolution, with particular emphasis on areas such as healthcare-related big data, health information technology (IT), and AI, and the government has pledged to increase investment and drive deregulation where appropriate to spur innovation.[46]

Further initiatives are needed to unlock digital health's potential for growth after the pandemic ends. Key areas that policymakers in the region need to address include:

- Ensuring legal certainty for all stakeholders (patients, medical practitioners, medical institutions and facilities, as well as supporting institutions such as insurance companies and payment gateways) and the quality of service to users. Telemedicine frameworks are currently at different levels of development in the region and a few ASEAN economies have implemented amendments in response to the pandemic. ASEAN regulators could work toward harmonization of terminology and definitions in their legal frameworks to enable cross-border provision of telemedicine services.

- Establishing a clear legal framework for data protection governing the collection, storage, processing and sharing of patient data.

- Clarifying reimbursement rules, for example, whether virtual/remote consultations are covered by insurance or not.

- Upskilling health professionals in digital technologies.

- Enhancing the IT infrastructure and its capacity to process intensive information flows (OECD 2021b).

44/ The terms "telemedicine" and "telehealth" are often used interchangeably to refer to the provision of healthcare remotely via ICT, but according to some definitions, telemedicine refers specifically to remote clinical services, while telehealth can include non-clinical services such as education, reminders, appointments, and monitoring.

45/ In Hong Kong, a survey by Lingnan University found that more than 60 percent of the 638 respondents aged 55 years or older were willing to try teleconsultations when the relevant technology was fully developed (He 2021). In Korea, a survey by the Federation of Korean Industries found that more than 60 percent of the 1,000 respondents were favorable to introducing telemedicine (which is still prohibited under the Korean Medical Service Act) (Shim 2021). In Japan, the government decided in June 2021 that the temporary measures introduced in April 2020 to ease restrictions on telemedicine would be maintained permanently.

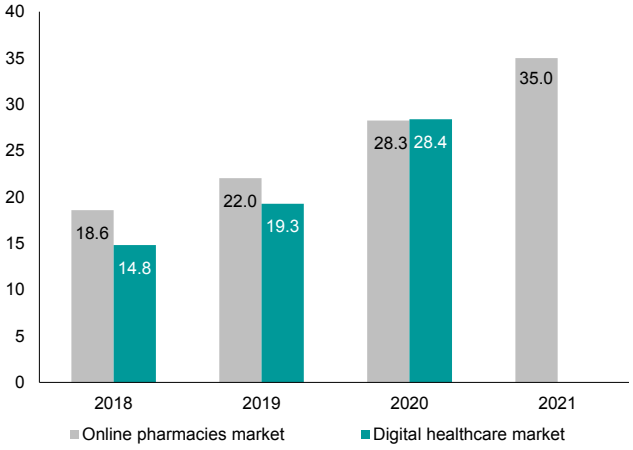
46/ According to Statista.com, Korea's AI healthcare market increased from USD 47.57 million in 2019 to USD 65.48 million in 2020 and is projected to reach USD 216.5 million in 2023.

Table 2.4. Selected ASEAN+3: Key Digital Health Platforms and Government Telemedicine Initiatives in Response to the Pandemic

	Key Digital Health Platforms	Government Initiatives on Telemedicine during the Pandemic
China	AliHealth, Ping An Good Doctor, WeDoctor, JD Health	China's National Health Commission promoted the use of internet-based medical services during the COVID-19 pandemic to minimize population movements and reduce the risk of infection.
Hong Kong	DoctorNow, DrGo	
Indonesia	Alodokter, Good Doctor Technology, Halodoc, Homecare24, KlikDokter, KlinikGo, Lekasehat, LinkSehat, mdoc, MILVIK BIMA, ProSehat, SehatQ, Trustmedis, Vascular Indonesia, YesDok	Indonesia's Ministry of Health partnered with ride-hailing firm Gojek and several telemedicine providers such as Halodoc to provide teleconsultation services and free medicine for COVID-19 patients under self-isolation, mostly in urban areas.
Japan	LINE Doctor	Japan's Ministry of Economy, Trade and Industry launched a free remote health consultation service run by Mediplat and LINE Healthcare, in response to growing public health concerns caused by the spread of COVID-19.
Korea	My HealthWay	Telemedicine is prohibited by law in Korea, but the government allowed Seoul National University Hospital to provide a telemedicine service to COVID-19 patients near the epicenter of country's virus outbreak.
Malaysia	DoctorOnCall, Speedoc, Doctor Anywhere	Malaysia's Ministry of Health and telemedicine platform DoctorOnCall established a Virtual Health Advisory portal to provide free public access to consultations with Ministry of Health family medicine specialists or medical officers and address uncertainties regarding COVID-19.
Myanmar	HOPE Telecare	
The Philippines	KonsultaMD, Medgate Philippines, HealthNow, SeeYouDoc	The Philippines' Department of Health vetted 11 third-party telemedicine service providers and launched 24/7 telemedicine hotlines to minimize face-to-face consultations during the pandemic.
Singapore	MaNaDr, MyDoc, Raffles Connect, Doctor Anywhere, Speedoc, WhiteCoat	Singapore's Ministry of Health allowed the use of government subsidies and the national medical savings scheme (MediSave) to pay for follow-ups of chronic conditions through video consultations during the COVID-19 pandemic.
Thailand	Doctor Raksa, Doctor Anywhere	Thailand's Ministry of Public Health partnered with the Thailand Tech Startup Association and private telemedicine providers such as Doctor Raksa to make telehealth services available to the general public and healthcare professionals during the COVID-19 pandemic.
Vietnam	Viettel, Doctor Anywhere, VieVie Healthcare	The government collaborated with telecommunications service company Viettel Group to develop the Viettel Telehealth platform which enables remote medical consultations, including for severe COVID-19 cases.

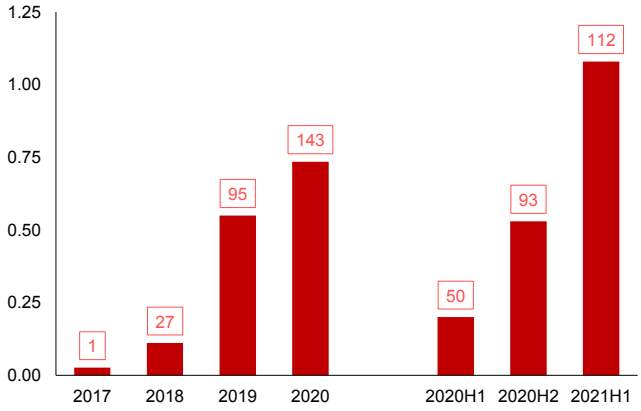
Sources: Media reports; and OECD (2021b).

Figure 2.44. China: Digital Healthcare and Online Pharmacies Markets
(Billions of US dollars)



Sources: China Business Intelligence Network; national authorities; Qianzhan Industry Research Institute; and AMRO staff calculations.
Note: Data for the digital healthcare market in 2021 are not available.

Figure 2.45. ASEAN-6: Value and Number of Total Healthtech Deals
(Billions of US dollars)



Source: Google, Temasek, and Bain & Company (2021).
Note: Numbers in boxes refer to the number of deals for the year shown.
ASEAN-6 = Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam.

Modern Services

The pandemic has also highlighted the resilience of "modern services" exports. Modern services—defined by Loungani and others (2017) as internationally tradable services that can be provided "without proximity between buyer and supplier"—include ICT, finance and insurance, and professional services.[47] Two economies in the region that have benefitted from modern services exports during the pandemic are the Philippines and Singapore (Figure 2.46).

- In the Philippines, growth in the business process outsourcing (BPO) sector during the pandemic was underpinned by technology's crucial role in business continuity during lockdowns and remote-working conditions. BPO sector revenues are projected to have grown 9 percent in 2021, from less than 2 percent the previous year (Royandoyan 2021). With BPO employees tagged as "essential" by the authorities (thus allowing for more mobility), the industry managed to take advantage of pandemic-driven client demand in segments like healthcare, banking and financial services, and other high value-added areas like software and game development (Crismundo 2021).[48]

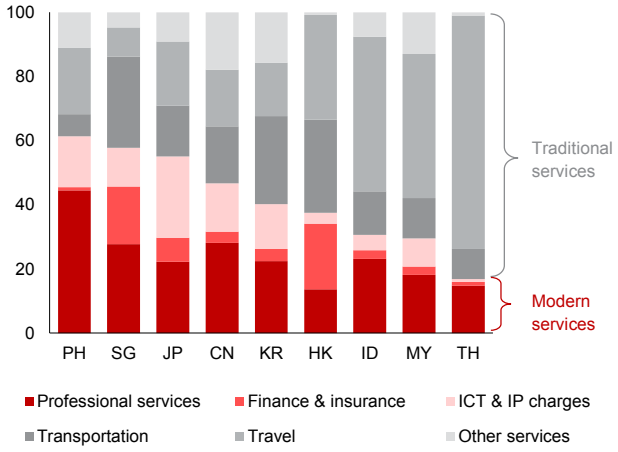
- In Singapore, an international business hub and leading financial center, exports of modern services quickly rebounded to pre-pandemic levels after a slight dip in second quarter of 2020 due to the "circuit breaker" lockdown, whereas exports of traditional services recovered much more gradually and are still far below their pre-pandemic level (Figure 2.47). This has highlighted the importance of modern services in diversifying the economy's services exports in the face of continued headwinds against traditional services, particularly travel and tourism (AMRO 2021e).

To further develop modern services as a growth driver, the region's economies would need to constantly upgrade and innovate to stay at the forefront of this increasingly competitive field. In the Philippines' case, this would entail continued investments in education and training to upgrade the skills of the BPO workforce to offer new services after existing soft-skill modern services jobs (e.g., in call centers) are lost to automation (AMRO 2018). Most of the future growth in BPO services is expected to come from the healthcare and animation and game development sectors, which require technical and creative skills (Figure 2.48); however, only about 60 percent of Filipino BPO employees currently have the capacity to deliver the complex and high-value services required by clients (Magellan 2020). In Singapore's case, this would entail capitalizing on its strengths in financial sector innovation, its skilled workforce, and dynamic technological ecosystem to strengthen its foothold in new growth areas such as green financing, consulting services on climate change management, and telemedicine (AMRO 2021e).

47/ By contrast, "traditional" services such as transport, travel, and manufacturing services still require physical presence and proximity of buyer and supplier, although Loungani and others (2017) acknowledge that the line between traditional and modern services activities is becoming more blurred.

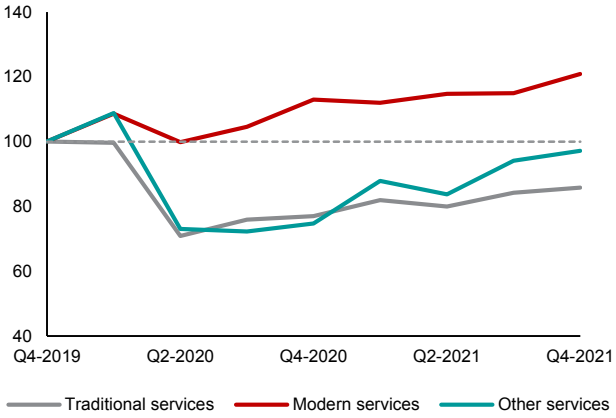
48/ The BPO sector has long been a key growth driver in the Philippines, where it accounts for about 85 percent of total services exports (similar to India) and employs more than 1 million workers. Over the past decade, the BPO sector has expanded from call centers to a broader set of ICT-enabled functions and more complex services (AMRO 2018). In particular, the country has already established itself as a leading off- or nearshore location for healthcare service delivery (Oxford Business Group 2021).

Figure 2.46. Selected ASEAN+3: Exports of Modern and Traditional Services
(Percent share of total services exports, 2016–20 average)



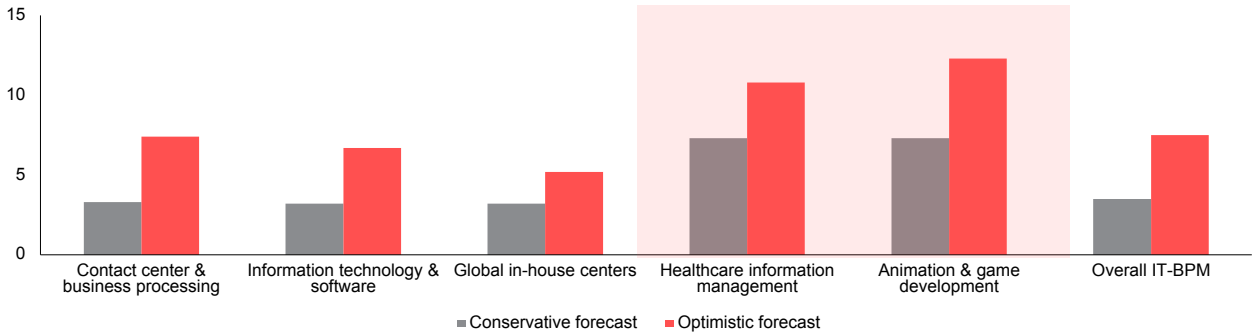
Sources: National authorities via Haver Analytics; and AMRO staff calculations.
Note: Data for the Philippines and Thailand refer to the average for 2016–19, and data for Hong Kong refer to the average for 2016–18. ICT = information and communications technology; IP = intellectual property.

Figure 2.47. Singapore: Exports of Modern and Traditional Services
(Index, Q4 2019 = 100)



Sources: Singapore Department of Statistics.
Note: Other services refer to construction services, manufacturing services on physical inputs owned by others, maintenance and repair services, government goods and services, and personal, cultural and recreational services.

Figure 2.48. The Philippines: Information Technology and Business Process Management Revenue Forecast, 2022
(Percent compound annual growth rate, 2019–22)



Source: Information Technology and Business Process Association of the Philippines.
Note: BPM = business process management; IT = information technology.

Logistics

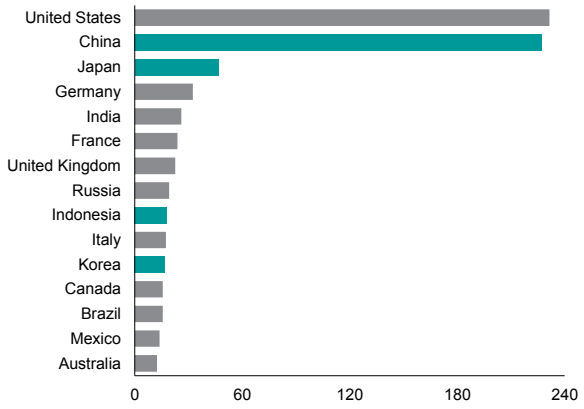
The new growth paradigm of "Factory Asia serving Shopper Asia" involves a key role for the logistics sector for just-in-time production and delivery of goods (AMRO 2020a). The Plus-3 economies are already among the key players in the global logistics industry, which includes service categories such as freight (road, rail, air, and sea); freight forwarding; warehousing; small-package delivery services; and value-added services.[49] China, Japan, and Korea are among the world's top 15 largest markets for third-party logistics, i.e., outsourced businesses that take care of companies' supply chain and logistics operations (Figure 2.49). Within ASEAN, Indonesia is the largest logistics market, owing to its huge consumer population, while Singapore is the most sophisticated, being a top international shipping center. The logistics sector accounted for about 5 percent of ASEAN GDP and employed about 17 million people in 2019 (OECD 2021c) (Figure 2.50). In terms of overall performance of the sector—along such dimensions as customs, infrastructure, international shipments, logistic competence, tracking and tracing, and timeliness—Japan ranked the highest among the ASEAN+3 on the World Bank's 2018 Logistics Performance Index (LPI) in fifth place, followed by Singapore in seventh place out of 160 economies (Figure 2.51).[50]

49/ Among the world's largest freight companies are China's COSCO Shipping, Japan's Yamato Holdings, Korea's Hyundai Merchant Marine, and Hong Kong's Cathay Pacific Airways, to name a few; among the world's largest freight forwarders are Japan's Nippon Express, China's Sinotrans, and Hong Kong's Kerry Logistics, to name a few.

50/ The World Bank's LPI assessed economies along six key dimensions of logistics performance: (1) efficiency of the clearance process (i.e., speed, simplicity, and predictability of formalities) by border control agencies, including customs; (2) quality of trade and transport related infrastructure (e.g., ports, railroads, roads, IT); (3) ease of arranging competitively priced shipments; (4) competence and quality of logistics services (e.g., transport operators, customs brokers); (5) ability to track and trace consignments; and (6) timeliness of shipments in reaching their destination within the scheduled or expected delivery time. The assessments were based on a worldwide survey of operators on the ground (global freight forwarders and express carriers), providing feedback on the logistics "friendliness" of the countries in which they operated and those with which they traded.

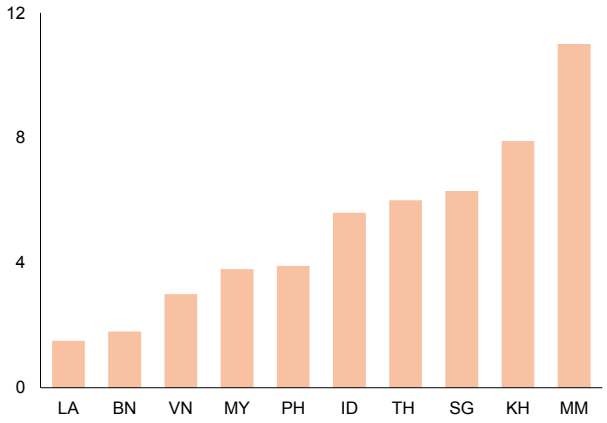
The COVID-19 pandemic has directly affected the logistics sector in both positive and negative ways. On the one hand, the pandemic has created a boom in e-commerce; on the other hand, lockdowns and supply chain disruptions have imposed crippling operational constraints. Up-to-date data from the ASEAN+3 region are not available for an assessment of the pandemic's net impact on this sector, although estimates from the OECD suggest that the overall impact on ASEAN's logistics sector has been negative—ASEAN's total freight and logistics market revenues were estimated to have dropped by 12 percent in 2020 from approximately USD 358 billion in 2019, as a consequence of mobility restrictions and other COVID-19 containment measures across the region (OECD 2021c). Different segments have been affected differently, however. The freight transport and warehousing segments were estimated to have had the largest revenue drop in 2020 compared to the previous year, reflecting significant declines in air and maritime freight revenues despite record profits for container shipping in 2020 (Figure 2.52) (OECD 2021c). On the other hand, courier, express, and parcel-delivery services in ASEAN were seen to have grown by about 20 percent year-on-year in 2020, due to strong online demand for grocery items, home furnishings and medical supplies when lockdowns were in place (OECD 2021c).

Figure 2.49. World: Top 15 Economies in Third-Party Logistics Market Size, 2020
(Billions of US dollars)



Source: Armstrong & Associates, Inc.

Figure 2.50. ASEAN: Logistics Sector Contribution to GDP, 2019
(Percent of GDP)



Sources: National authorities; and OECD (2021).
Note: BN = Brunei; ID = Indonesia; KH = Cambodia; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam. Data for Cambodia and Lao PDR refer to 2018.

Figure 2.51. ASEAN+3: Logistics Performance Index Scores, 2018
(1 = lowest; 5 = highest)

Economy	LPI rank	Overall LPI score	Customs	Infrastructure	International shipments	Logistics competence	Tracking & tracing	Timeliness
Japan	5	4.03	3.99	4.25	3.59	4.09	4.05	4.25
Singapore	7	4.00	3.89	4.06	3.58	4.10	4.08	4.32
Hong Kong	12	3.92	3.81	3.97	3.77	3.93	3.92	4.14
Korea	25	3.61	3.40	3.73	3.33	3.59	3.75	3.92
China	26	3.61	3.29	3.75	3.54	3.59	3.65	3.84
Thailand	32	3.41	3.14	3.14	3.46	3.41	3.47	3.81
Vietnam	39	3.27	2.95	3.01	3.16	3.40	3.45	3.67
Malaysia	41	3.22	2.90	3.15	3.35	3.30	3.15	3.46
Indonesia	46	3.15	2.67	2.89	3.23	3.10	3.30	3.67
Philippines	60	2.90	2.53	2.73	3.29	2.78	3.06	2.98
Brunei	80	2.71	2.62	2.46	2.51	2.71	2.75	3.17
Lao PDR	82	2.70	2.61	2.44	2.72	2.65	2.91	2.84
Cambodia	98	2.58	2.37	2.14	2.79	2.41	2.52	3.16
Myanmar	137	2.30	2.17	1.99	2.20	2.28	2.20	2.91

Source: World Bank.
Note: The 2018 Logistics Performance Index (LPI) was assessed for 160 economies. The deeper the shade of green, the higher the index score (i.e., closer to 5); the deeper the shade of red, the lower the score (i.e., closer to 1).

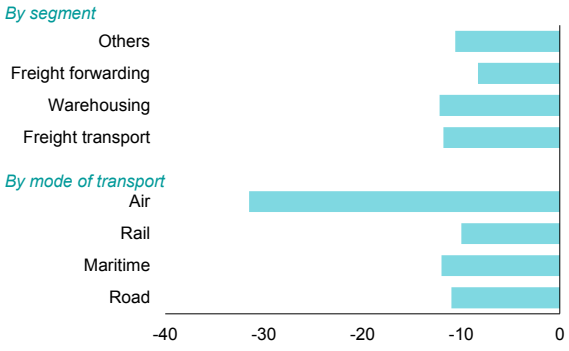
The outlook for the ASEAN+3 logistics sector is bright, as evidenced by its increasingly dynamic market. Start-ups are expanding product offerings and increasing industry competition, especially on last-mile delivery and freight platforms. While the number of new start-ups in the transport and logistics sector fell in 2020 and 2021, the funding behind these tech start-ups increased to a four-year high, on the back of keen interest from investors in tech industries (Figure 2.53). At the same time, larger players have been actively expanding their network in the region to position themselves for the region's anticipated pick-up in trade and economic activity (Chu and others 2021).

E-commerce activity will underpin the medium-term growth of the ASEAN+3 logistics market. Retail e-commerce sales in the Asia-Pacific region are forecast to grow more than 10 percent in compound annual terms in the next three years, led primarily by China (Forrester 2020).[51] This will put increasing demands on last-mile services (i.e., the stage of distribution closest to buyers) as consumers are increasingly willing to pay extra charges for faster delivery (Colliers 2021, Forrester 2020) (Figure 2.54).[52] Additionally, the region's huge consumer base for temperature-sensitive healthcare and food products—as evidenced during the pandemic—bodes well for the cold-chain segment and well-located warehouse assets (IMarc 2021).[53]

Swift adoption of technology will help the ASEAN+3's logistics sector take advantage of rapidly increasing demand and address existing challenges. Logistics operators with strong digital capabilities tailored to e-commerce demands will have a strong advantage in the post-pandemic world. This would entail investments in technology, such as the Internet of Things, blockchain, cloud computing, and data analytics (Figure 2.55). In the longer term, more widespread utilization of robots and autonomous vehicles would reduce risks from labor shortages—a vulnerability highlighted during the pandemic. In the ASEAN region, where geography and poor connectivity has hampered the development of efficient delivery systems, technology-based solutions offer an opportunity to bridge the distance to the consumer and refine legacy processes to adapt to post-pandemic consumer preferences. For example, the use of AI, blockchain, and sensors to provide route optimization and smart shipping could help address some of the challenges faced by logistics operators such as high fuel costs, delayed deliveries, and order-fulfillment issues.

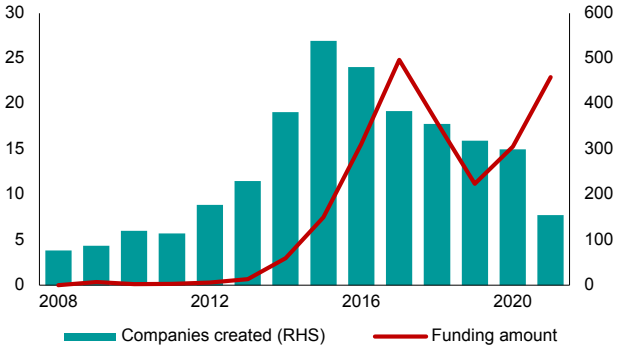
Enhancing infrastructure quality is more crucial than ever, post-pandemic. Efficient logistics performance is crucial to improving efficiency, and ultimately, profit margins. In general, the bulk of logistics costs comes from transportation (58 percent), followed by inventory carrying (23 percent) and warehousing (11 percent) (Rodrigue 2020). Infrastructure quality is uneven in the ASEAN+3, with only the Plus-3 and Singapore scoring highly in the World Bank's LPI (Figure 2.51). The quality of roads and port infrastructure across ASEAN has improved over the last decade but rail has received less attention—until the launch of the newly completed China–Laos railway in January 2022, together with ongoing projects like Indonesia's Jakarta–Bandung High-Speed Railway and Malaysia's East Coast Rail Link.[54] Improving roads and ports, as well as warehouse supply and capabilities would lower freight costs and attract more manufacturers (and logistics operators) to the ASEAN region to serve its growing e-commerce market, especially as China's production costs have increased over the years (AMRO 2020a).

Figure 2.52. ASEAN: Logistics Revenues, by Segment and Mode of Transport, 2020
(Percent, year-over-year)



Source: OECD (2021c).
Note: Data refer to forecast growth in 2020.

Figure 2.53. Selected ASEAN+3: New Start-ups in Transportation and Logistics
(Billions of US dollars; number of companies)



Source: Tracxn.
Note: Data include Cambodia, China, Indonesia, Japan, the Philippines, Singapore, and Thailand.

51/ Refers to Australia, China, India, Indonesia, Japan, Korea, Malaysia, the Philippines, Singapore, Thailand, and Vietnam (Forrester 2020).

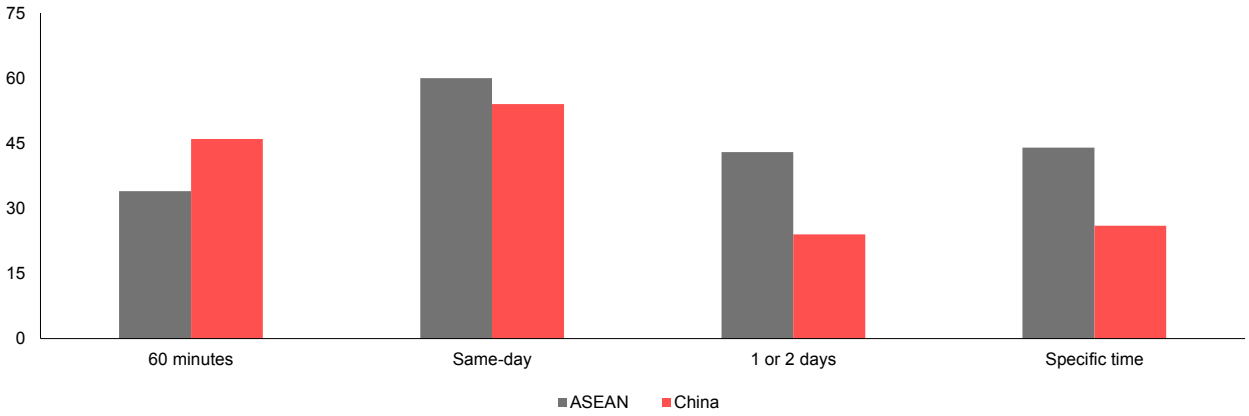
52/ For example, the Indonesian Courier Association estimates that the market share for same-day delivery will grow from 8 percent (300,000 parcels per day) in 2018 to 30 percent (4.5 million parcels per day) by 2023 (Pitoyo 2020).

53/ This is particularly true in the Plus-3 economies, where commercial real estate demand is increasingly shifting toward "new economy" occupiers, based largely around e-commerce growth and technology-enabled supply chains (JLL 2021).

54/ In January 2022, DHL Global Forwarding became the first international forwarder to launch a two-way China–Laos rail service, facilitating trade between China and ASEAN amid heavy road congestion on the China–Vietnam border due to local COVID-19-related situations.

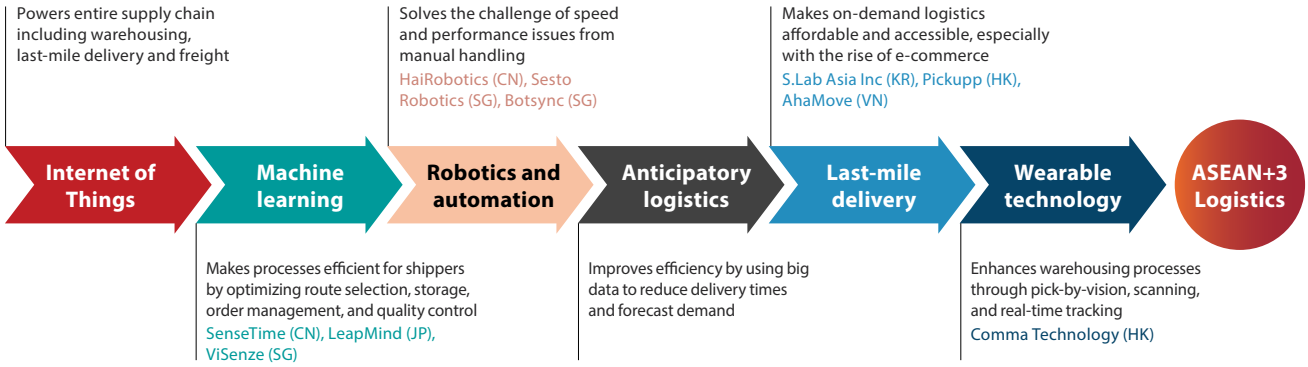
Reconfiguration of supply chains—some of which began even before the pandemic—will also impact the role of the logistics sector as a future driver of growth in the ASEAN+3. The pandemic has exposed the vulnerability of long and complex value chains to production disruptions, especially in the ASEAN+3 (AMRO 2021b).[55] To improve supply chain resilience, some of these production nodes may be diversified or linkages shortened through strategies such as reshoring or nearshoring of strategic products to reduce dependence on a single source of production (AMRO 2021b). For example, the trend of locating additional warehousing capacity or dry ports near demand centers to shrink the distance to market could be an upside for the ASEAN+3 region, given its potential for future consumption. On the downside, the shortening of supply chains by US and European multinationals may benefit manufacturers in other low-cost regions, such as in Africa or Latin America, rather than those in the ASEAN+3.

Figure 2.54. ASEAN and China: Willingness to Pay for Faster Delivery Speeds
(Percent of respondents)



Source: PwC (2016).

Figure 2.55. Logistics and Technology



Source: AMRO staff, adapted from StartUs Insights.
Note: CN = China; HK = Hong Kong; JP = Japan; KR = Korea; SG = Singapore; and VN = Vietnam.

IV. What Will the Pandemic Do to the Manufacturing-for-Export Growth Strategy?

Global value chains (GVCs) have played a critical role in driving the ASEAN+3's industrialization and economic development. Since the 1960–70s, wave after wave of the region's economies have pursued a manufacturing-for-export strategy of development by entering the production network and moving up the value chain. GVCs are now an integral part of ASEAN+3 economies; in 2019, the region's GVC participation rate was about 40–50 percent of total exports. However, regional value chain participation is much lower—about 12–13 percent of total exports in 2019—suggesting

[55] For example, during 2020–21, tech firms in Malaysia and garment manufacturers in Cambodia and Vietnam experienced disruptions in the supply of components and raw materials, respectively, from China. Japan's Toyota Motor Corporation had to suspend operations at 2 domestic plants due to lingering constraints in supply of auto parts from Southeast Asia. And McDonald's in Japan had to limit the sale of french fries for about a month due to delays in shipments from North America.

that the ASEAN+3 economies are more tightly embedded in global than in regional trade (AMRO 2021b).

Even before the COVID-19 pandemic, it was recognized that the strategy of manufacturing for exports would be facing increasing challenges as a growth driver, particularly for developing economies in the region. Technological advances—automation, AI, and 3D printing, to name a few—and compressed production processes for more customized goods have been increasing the capital intensity of most manufacturing subsectors and shortening supply chains, making it more difficult for emerging market and developing ASEAN economies to join, and become more competitive within, GVCs. Added to that, political and popular pressure has been rising in economies such as the United States to reshore jobs and bring GVCs back home. The combined impact of these factors would appear to favor a (re-)agglomeration of production in advanced economies.

The pandemic has provided new impetus to the debate. By accelerating the adoption of automation and AI—including in manufacturing plants, to reduce workplace density and cope with surges in demand—COVID-19 has further narrowed the window for developing ASEAN economies to shift from labor-intensive and low-technology production to more capital-intensive and high-technology production. Of greater concern, widespread and severe supply chain disruptions brought about by the pandemic—including of critical products such as semiconductors—have highlighted the drawbacks of long and complex value chains and renewed interest in, and calls for, reshoring, nearshoring, and regionalizing supply and production networks.

Will the pandemic reshape GVCs and undermine the manufacturing-for-export growth strategy for the region? Last year's thematic chapter looked at this very issue, albeit more from the perspective of technological changes and trade tensions between the United States and China. The main conclusion was that the evidence, so far, did not point to wholesale reshoring, nearshoring, or transfer of manufacturing capacity out of China or the rest of the ASEAN+3, although more geographical movements could be expected in the future as multinational enterprises (MNEs) sought to strengthen the resilience of their global supply chains (AMRO 2021b). This section revisits some of the same questions against the backdrop of supply chain developments over the past year.

The numerous supply chain disruptions that have dogged global trade during the pandemic have encouraged advanced-economy manufacturers to reconsider their geographical footprint—and existing GVC paradigms—to improve resilience. Post-pandemic, four alternative trajectories of international production are likely: diversification, replication, reshoring (also called "onshoring" or "backshoring"), and regionalization (or "nearshoring") (UNCTAD 2021). The latter two options entail relocation of production sites, leading to shorter GVCs and a considerable transformation of future supply chains. The ultimate trajectory chosen by key GVC players will depend on factors such as cost efficiencies arising from technology and automation; conduciveness of the policy environment (e.g., subsidies for reshoring or closer regional economic integration); and supply chain resilience in the face of major shocks, such as the COVID-19 pandemic.

Available data in 2021 suggest that reshoring and nearshoring intentions, if not activities, have gained some traction globally (Figure 2.56). Still, fully shifting production capacity from one location to another is neither easy nor straightforward. Each industry faces different challenges to their supply chain, and there is further differentiation by sub-sector and product. Firms in sectors that need to be nimble and quick to respond to changing demands—such as healthcare and garments and textiles—may find ways to nearshore or reshore more quickly, especially if they have existing factories or suppliers in different parts of the world. But for asset-intensive industries that require large, expensive production sites, such as chemicals and metals, investment in new capacity would take years to complete. In addition, some companies have struggled to find suitable suppliers to support their localization or nearshoring plans (Alicke, Barriball, and Trautwein 2021).

The pandemic's impact on supply chains has triggered new initiatives by governments in major advanced economies to reshore production of critical items. Government policies and incentives to bring GVCs back home are not new.[56] However, a recent United Nations Conference on Trade and Development (UNCTAD) study noted that reshoring initiatives announced during the pandemic differed from pre-pandemic initiatives in their speed of development (months rather than years) and their industry-specificity (health and technology rather than manufacturing in general) (Elia and others 2021). For instance, in September 2020, the French government presented an economic program to boost the manufacturing sector and encourage reshoring, with incentives targeted at specific value chains such as pharmaceuticals, aerospace, food, automotive, electronics, critical raw materials, and industrial applications of 5G technology) (Elia and others 2021). In June 2021, the US Biden administration announced a series of actions to address vulnerabilities in critical product supply chains (medicines, advanced batteries, critical minerals, and semiconductors) and build industrial bases (The White House 2021).

56/ In the United States, the Obama administration's (2012) "Blueprint for an America Built to Last" included reshoring incentives such as lower taxes and energy costs and the creation of supporting "manufacturing universities" and "manufacturing hubs," while the Trump administration (2018) utilized trade protection in the form of higher tariffs on imports from China to bring manufacturing jobs back to the United States. In Europe, France (2013) provided financial aid and the United Kingdom (2014) provided support for upstream activities for manufactures (Elia and others 2021).

Figure 2.56. Reshoring and Nearshoring Trends in Manufacturing, 2020-21

Global

- A global survey of 71 senior supply chain executives by McKinsey and Company in May 2020 found that more than 75 percent intended to make physical changes to their supply-chain footprints.
- A follow-up survey in the second quarter of 2021 with a similarly diverse group of supply-chain leaders revealed that actual implementation of supply-chain changes focused more on inventory management and dual sourcing of raw materials than on implementing nearshoring or regionalization strategies. But almost 90 percent of respondents to the second survey intended to pursue some degree of regionalization during the next 3 years, and 100 percent of respondents from both the healthcare and the engineering, construction, and infrastructure sectors said the approach was relevant to their sector (Alicke, Barriball, and Trautwein 2021).

United States

- A survey of 120 US manufacturing executives by Kearney in March 2021 found that 52 percent of respondents had increased domestic manufacturing or sourcing of products when COVID-19 disrupted global supply chains. About 47 percent intended to diversify their supply chain over the next 3 years to reduce dependence on a single country source or manufacturing location, particularly China (Van den Bossche and others 2021).
- The Reshoring Initiative, an organization dedicated to the promotion of reshoring by US companies, projected that 1,334 companies would reshore operations in 2021, bringing back 138,110 jobs—a 25 percent increase from the number of jobs reshored in 2020—driven by proximity to market and government incentives. Most of the jobs being reshored were high-tech and medium-high tech positions in the transportation equipment, chemicals, computer and electronics, and medical equipment and supplies industries (The Reshoring Initiative 2021).

Europe

- Some Europe-based fashion brands, such as Germany's Hugo Boss and Italy's Benetton, have announced that they would shift part of their production operations out of Southeast Asia and closer to their base to shorten lead times and gain better control of their supply chains (Storbeck 2021; Anzolin and Aloisi 2021). Benetton said it would halve Asian-based manufacturing by the end of 2022 (Anzolin and Aloisi 2021).

Plus-3

- Some of Japan's top apparel makers have announced that they would shift more production capacity onshore over the next 3–5 years, in part because of rising labor costs in overseas hubs like China and Vietnam and shipment troubles caused by the pandemic (Hanada 2021).
- In a survey of more than 500 Japanese manufacturing companies conducted by the Japan Bank for International Cooperation in the second half of 2021, the majority of respondents in the general machinery, and electrical and electronics industries—but less than half of respondents in the automotive sector—indicated that "diversification of production sites and suppliers" was the most important way to improve the resilience of supply chains against external shocks. This reflects the complexity of the value chain of the automotive industry, which considered "preparing risk scenarios and business continuity plans" more important for improving supply chain resilience (JBIC 2021).
- The 2021 business confidence survey by the EU Chamber of Commerce in China found that a quarter of respondents from the manufacturing sector intended to further onshore at least some of their supply chains into China, with 4 percent attempting to fully onshore. One in 10 were diversifying future investment into other markets, but would leave their operations in China untouched. Of respondents engaged in production, only 4 percent were planning to shift some current investment out of China, and only 1 percent intended to fully divest. In other words, five times as many companies were onshoring as there were offshoring (European Union Chamber of Commerce in China 2021).
- According to Korea's Ministry of Trade, Industry, and Energy, the number of Korean companies that reshored hit an all-time high in 2021. A total of 26 firms in industries including automobiles, electric and electronics, and steel, relocated their factories from China (18), Vietnam (4), and the United States (2). The companies cited unfavorable business circumstances in foreign economies and the growth in domestic demand (Yonhap 2022).

Source: AMRO staff compilation.

In the region, Japan and Korea have launched similar initiatives to secure critical supply chains. After Japan experienced an acute shortage of medical equipment when the COVID-19 pandemic broke out, in April 2020, the government announced incentives for Japanese companies (particularly in health-related industries) to reshore or relocate to other Asian economies manufacturing activities earlier offshored to China (Sim 2020). In June 2020, as part of its economic recovery plan, Korea's government offered incentives for high-tech companies to reshore, and for reshoring companies investing in production process automation (Song 2020). Such moves received an added impetus after the global semiconductor shortage in 2021 forced production cuts across such industries as automobiles, medical devices, and home appliances. Korea has established a center in its foreign ministry dedicated to responding to "global shifts in supply chains" (Hosokawa 2021).[57] With semiconductors increasingly critical for a functioning society, the Japanese government is looking to play a more active role in securing the country's chip supply. In December 2021, it passed legislation to provide subsidies for advanced chipmakers building new production hubs in the country, starting with a multibillion-dollar package for Taiwan Semiconductor Manufacturing Company (TSMC).[58] Japan's next economic stimulus package will feature a subsidy program to assist companies developing chips, large-capacity batteries, and other key materials.

Notwithstanding the increasing interest in reshoring to protect critical supply chains, the likelihood that a significant share of GVCs will be reconfigured away from the ASEAN+3 is low. While some US- and Europe-based firms have shifted some production back from the ASEAN+3 region to, or near their home base, others are moving in the opposite direction. Indeed, many of the key factors behind global offshoring activity remain in place in the region—for example, low labor costs, attractive FDI incentives, and business-friendly regulations.[59] The deep and well-established GVCs in the ASEAN+3 region, especially in China, that were built and fortified over decades would be very costly, complex, and time-consuming to fully reconfigure (AMRO 2021b). China and the rest of the ASEAN+3 have built strong capabilities in high-tech manufacturing, for example, that are yet to be matched by competitors in other parts of the world. Furthermore, reshoring does not completely foreclose supply chain risks; resilience is still likely to come from more, rather than less, diversification involving more suppliers in more economies to mitigate disruptions when individual economies stop production for any reason (Strange 2020).[60] Last but not least, the importance of proximity to large consumer markets would also militate against relocating production away from the region's large and rapidly growing middle class.

The Regional Comprehensive Economic Partnership (RCEP) holds promise for promoting—and keeping—supply chains in the region. Nearshoring within the ASEAN region is an attractive option for MNEs located in the Plus-3 as a way to build supply chain resilience. China, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam are all among the top 10 most "promising" destinations for Japanese manufacturing business development in the medium term (JBIC 2021). Rising wages and high-tech skills in China suggest that multinationals would benefit from leveraging its high-end manufacturing base while moving lower-end products elsewhere in the region. This is where the RCEP comes in (Box 2.6). By harmonizing rules-of-origin provisions and establishing a single set of regional content rules, the RCEP effectively creates a single market for intermediate goods that will promote the creation of supply chains across the region: low-cost manufacturers in ASEAN will be able to use high value added inputs such as semiconductor items and chemicals originating from Japan or Korea, and their outputs can be further processed by more comprehensive manufacturing in China, all while taking advantage of low preferential tariff rates. Thus, MNEs will be able to use the comparative advantages of different production bases in the ASEAN+3 to meet demand in the region and beyond.

By adapting to the demand for greater resilience and changing cost structure across the region, manufacturing-for-export will remain an important component of the region's development strategy. Given the diverse levels of development and factor endowments in the ASEAN+3 region, many manufacturing industries will continue to provide feasible entry points to GVCs. However, reaping the benefits of higher productivity and job creation will require economies to capitalize on post-pandemic trends, for example, by taking into account the increasing role of services to climb up the value chain ("servicification"), technological leapfrogging opportunities from increased digitalization, as well as the growing emphasis on green growth and sustainability. Plus-3 economies, on their part, have a crucial role to play in strengthening the regional value chain through technology transfer, technical assistance, and promoting multilateral cooperation to achieve supply chain security.

57/ Economic security became a top priority for Korea after it suffered a urea shortage in November 2021 when China began restricting urea solution exports due to a shortage of coal, from which the material is extracted. The shortage threatened to shut down Korea's trucking sector, which relies heavily on diesel-powered vehicles (urea solution is used to clean exhaust from diesel vehicles).

58/ In October 2021, TSMC announced plans to build an advanced chipmaking factory in Japan in 2022, with multiyear financial support from the Japanese government. The plant, which will start operations in 2024, will be jointly run with Sony Group Corporation, and produce semiconductors used in automobiles among other products.

59/ For example, an analysis by the Milken Institute suggests that when it comes to attracting foreign investors, emerging Southeast Asia compares well with other emerging markets and developing economies, particularly in terms of economic fundamentals and integration with the global economy (Contreras, Bendix, and Smith 2022).

60/ Japanese automakers, for example, are moving from a "just-in-time" to a "just-in-case" strategy, including stockpiling inventory and increasing end-to-end visibility of their supply chain (Sugiura and Tanaka 2021).

Box 2.6:

Deepening Economic Integration under the RCEP

Encompassing the 13 ASEAN+3 nations plus Australia and New Zealand, the Regional Comprehensive Economic Partnership (RCEP) is the world's largest trade bloc and a strong statement of the region's commitment to openness. The agreement took effect on January 1, 2022 among 10 members—Australia, Brunei, Cambodia, China, Japan, Lao PDR, New Zealand, Singapore, Thailand, and Vietnam—with Korea following in February and Malaysia in March (Indonesia, Myanmar, and the Philippines have not yet ratified the agreement).

The RCEP Agreement updates the coverage of ASEAN's existing bilateral free trade agreements (FTAs) with China, Korea, Japan, and Australia and New Zealand (Figure 2.6.1, Table 2.6.1). It comprises 20 chapters and includes many areas not previously covered in the ASEAN+1 FTAs. The following are some areas of note.

Tariff reductions. RCEP members are due to eliminate tariffs on more than 90 percent of goods traded within the bloc over a 20-year period. This will particularly benefit the Plus-3 economies, which are now connected by a free trade agreement for the first time; the direct impact of the tariff reductions on ASEAN economies will be more limited, given their existing FTAs with the other RCEP signatories. At the same time, RCEP members have opted out of commitments in certain sensitive and strategic sectors such as agriculture and transport equipment, including motor vehicles.

Consolidated rulebook. One key advantage of the RCEP is that it provides a single consolidated rulebook that applies to trade among all 15 members, whereas under the ASEAN+1 FTAs, businesses have to navigate different requirements for each FTA. The single set of rules provides greater consistency in trade and customs practices and should lead to greater efficiency and ease of doing business in the region.

More accommodating rules of origin. RCEP members adopt one single set of rules of origin with regional value content (RVC) of no less than 40 percent (Table 2.6.2). The cumulation rule allows goods originating from one member state that are used as inputs in the production of a new product in a second member state to be considered as originating in the second member state. This gives firms in the region more flexibility to source raw materials and intermediate inputs from RCEP members while benefiting from lower tariff rates.

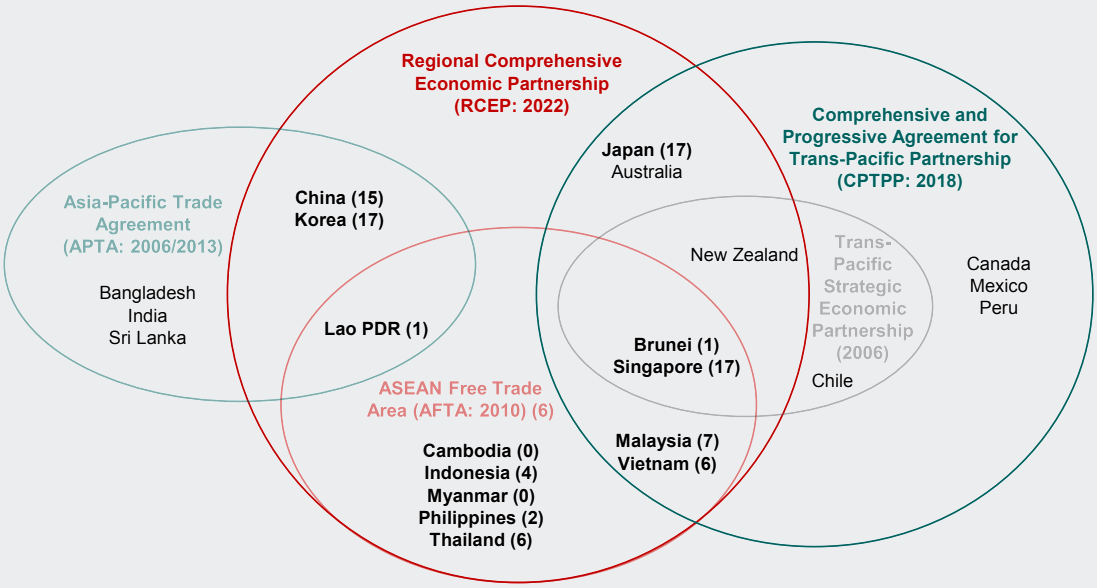
Services trade liberalization. The RCEP Agreement builds on the existing ASEAN+1 FTAs to provide additional liberalization of some services sectors including financial services, telecommunication services, and professional services, as well as those related to supply chains such as distribution and freight transport services (Figure 2.6.2).

Labor mobility. The RCEP Agreement allows temporary cross-border movement of individuals to deliver services and/or conduct business activities. In a few cases, commitments in this area go beyond existing commitments under ASEAN's Framework Agreement on Services (Malaysia) and ASEAN+1 FTAs (China, Japan).

E-commerce and digital trade. The RCEP Agreement includes provisions that are primarily aimed at increasing the level of trust and confidence of e-commerce users, such as: acknowledging the validity of electronic signatures; enacting regulations on the protection of personal data and protection of e-commerce users from fraud and misleading practices; maintaining the current practice of not imposing customs duties for electronic transmissions between member states; prohibiting the requirement to use or locate a computing facility in a certain territory to conduct business in that territory; and prohibiting the prevention of cross-border transfer of information (unless otherwise provided to achieve public policy objectives and protect security interests). The RCEP has more provisions relating to e-commerce than earlier ASEAN agreements, but fewer compared to the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) (Figure 2.6.3).

The authors of this box are Marthe Hinojales and Ling Hui Tan.

Figure 2.6.1. ASEAN+3: Regional Trade Agreements



Source: World Trade Organization.
Note: Number in parentheses indicates number of bilateral free trade agreements. Year indicates year of entry into force—for APTA (previously known as the Bangkok Agreement), the first year is for goods (under the amended agreement), and the second year is for services. Not shown in the figure are the Global System of Trade Preferences among Developing Countries (1989), under which Korea, Indonesia, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam are members, together with 34 other economies around the world; and the Protocol on Trade Negotiations (1973), under which Korea and the Philippines are members, together with 13 other economies around the world.

Table 2.6.1. ASEAN+3: Bilateral Trade Agreements

Signatory	Agreement
ASEAN	ASEAN-Australia-New Zealand; **China-ASEAN**; **ASEAN-Hong Kong**; ASEAN-India; **ASEAN-Japan**; **ASEAN-Korea**
Brunei	**Brunei-Japan**
Indonesia	Chile-Indonesia; Indonesia-Australia; Indonesia-Pakistan; **Japan-Indonesia**
Lao PDR	**Lao PDR-Thailand**
Malaysia	Chile-Malaysia; India-Malaysia; **Japan-Malaysia**; Malaysia-Australia; New Zealand-Malaysia; Pakistan-Malaysia; Turkey-Malaysia
The Philippines	EFTA-Philippines; **Japan-Philippines**
Singapore	China-Singapore; Costa Rica-Singapore; EFTA-Singapore; EU-Singapore; GCC-Singapore; India-Singapore; Japan-Singapore; Jordan-Singapore; Korea-Singapore; New Zealand-Singapore; Pacific Alliance-Singapore; Panama-Singapore; Peru-Singapore; Singapore-Australia; Singapore-Chinese Taipei; Turkey-Singapore; United Kingdom-Singapore; United States-Singapore
Thailand	Chile-Thailand; India-Thailand; **Japan-Thailand**; **Lao PDR-Thailand**; Thailand-Australia; Thailand-New Zealand; Thailand-Peru
Vietnam	Chile-Vietnam; EU-Vietnam; EAEU-Vietnam; **Japan-Vietnam**; **Korea-Vietnam**; United Kingdom-Vietnam
China	**China-ASEAN**; China-Australia; China-Chile; China-Costa Rica; China-Georgia; **China-Hong Kong**; **China-Korea**; China-Macao; China-Mauritius; China-New Zealand; **China-Singapore**; Iceland-China; Pakistan-China; Peru-China; Switzerland-China
Hong Kong	**ASEAN-Hong Kong**; **China-Hong Kong**; EFTA-Hong Kong; Hong-Kong-Australia; Hong Kong-Chile; Hong Kong-Georgia; Hong Kong-Macao; Hong Kong-New Zealand
Japan	**ASEAN-Japan**; **Brunei-Japan**; Chile-Japan; EU-Japan; India-Japan; Japan-Australia; **Japan-Indonesia**; **Japan-Malaysia**; Japan-Mexico; Japan-Mongolia; Japan-Peru; **Japan-Philippines**; **Japan-Singapore**; Japan-Switzerland; **Japan-Thailand**; **Japan-Vietnam**; United Kingdom-Japan
Korea	**ASEAN-Korea**; Canada-Korea; **China-Korea**; EFTA-Korea; EU-Korea; Korea-Australia; Korea-Central America; Korea-Chile; Korea-Colombia; Korea-India; Korea-New Zealand; **Korea-Singapore**; Korea-Turkey; Korea-United States; **Korea-Vietnam**; Peru-Korea; United Kingdom-Korea

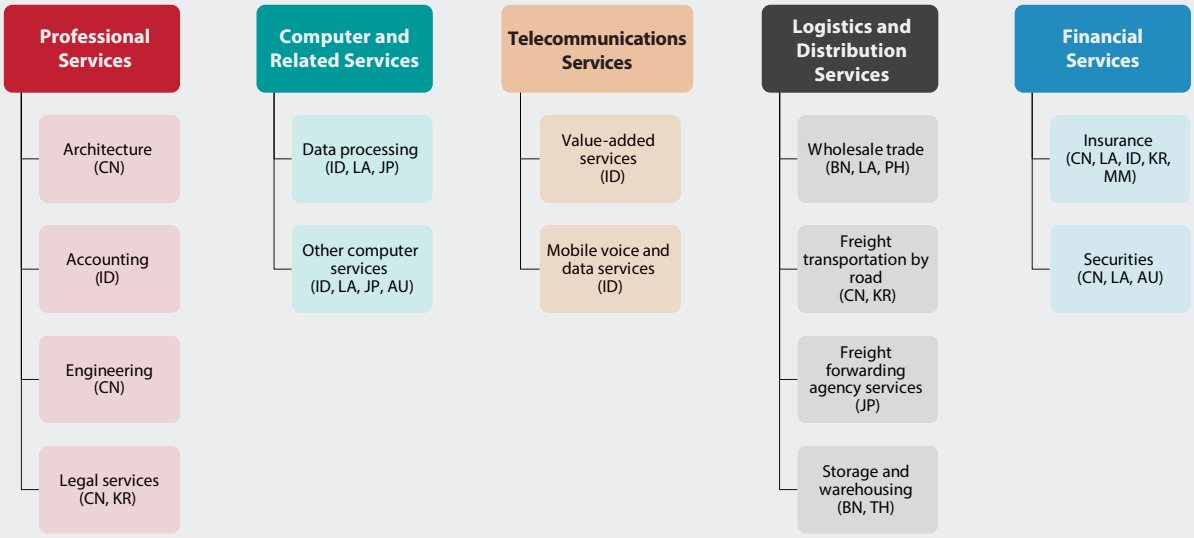
Sources: World Trade Organization; and AMRO staff compilation.
Note: Bolded pairs refer to intra-ASEAN+3 agreements. EAEU = Eurasian Economic Union; EFTA = European Free Trade Association; EU = European Union; GCC = Gulf Cooperation Council. The Pacific Alliance comprises Chile, Colombia, Mexico, and Peru. The bilateral trade agreement between Lao PDR and Thailand is called the "Laos-Thailand Preferential Trading Agreement."

Table 2.6.2. Rules of Origin in the RCEP and ASEAN+1 Free Trade Agreements

	Calculation of Regional Value Content (RVC)	Minimal Operations and Processes	Indirect Materials/ Neutral Elements
RCEP vs. ASEAN Trade in Goods Agreement (ATIGA)	N/A	In addition to the minimal operations and processes listed under the ATIGA, the RCEP includes 8 more categories of minimal operations that do not confer origin.	The ATIGA rules disregard neutral elements, while the RCEP treats an indirect material as an originating material without regard to where it is produced.
RCEP vs. ASEAN-China FTA (ACFTA)	In addition to the Indirect/Build-Down formula provided for under the ACFTA, the RCEP also provides for a Direct/Build-Up formula for RVC calculation.	In addition to the minimal operations and processes listed under the ACFTA, the RCEP includes 8 more categories of minimal operations and processes that do not confer origin.	The ACFTA rules disregard neutral elements, while the RCEP treats an indirect material as an originating material without regard to where it is produced.
RCEP vs. ASEAN-Japan Comprehensive Economic Partnership (AJCEP)	In addition to the Indirect/ Build-Down formula provided for under the AJCEP, the RCEP also provides for a Direct/Build-Up formula for RVC calculation.	The RCEP rules contain more categories of minimal operations and processes than those set out under the AJCEP.	N/A
RCEP vs. ASEAN-Korea FTA (AKFTA)	N/A	The AKFTA rules contain more categories of minimal operations and processes than those included by the RCEP rules.	The AKFTA rules disregard neutral elements, while the RCEP treats an indirect material as an originating material without regard to where it is produced.
RCEP vs. ASEAN-Australia-New Zealand FTA (AANZFTA)	N/A	The RCEP rules contain more categories of minimal operations and processes than those included by the AANZFTA rules.	N/A

Source: Tan and others (2020).
Note: "Indirect material/neutral element" refers to a good used in the production, testing, or inspection of another good but not physically incorporated into that other good, or a good used in the maintenance of buildings or the operation of equipment associated with the production of a good, including fuel, energy, lubricant, tools, dies, molds, etc. The calculation of RVC is as follows:
Indirect/Build-Down Formula: RVC = (FOB – VNM) / FOB * 100%; Direct/Build-Up Formula: RVC = (VOM + direct labor + direct overhead + profit + other cost) / FOB x 100%, where FOB = free-on-board value of the good; VOM = value of originating materials/parts/produce acquired or self-produced and used in the production of the good; VNM = value of non-originating materials used in the production of the good. N/A = not available.

Figure 2.6.2. Additional Services Trade Liberalization under the RCEP



Source: Singapore Ministry of Trade and Industry.
Note: Additional services liberalization under the Regional Comprehensive Economic Partnership (RCEP) provided by ASEAN economies compared with ASEAN's Framework Agreement on Services; by China, Japan, Korea, Australia, and New Zealand compared to their respective ASEAN+1 FTA Schedules of Specific Commitments. AU = Australia; BN = Brunei; CN = China; ID = Indonesia; JP = Japan; KR = Korea; LA = Lao PDR; MM = Myanmar; PH = the Philippines; and TH = Thailand.

Figure 2.6.3. E-Commerce Provisions in the RCEP and Other Agreements

E-Commerce Provisions	RCEP (2022)	ASEAN Agreement on Electronic Commerce (2021)	CPTPP (2018)	AANZFTA (2010)
Cooperation	Art. 12.4	Art. 6	Art. 14.15-16	Art. 10.9
Transparency	Art. 12.12	Art. 13	None	Art. 10.3
Stakeholder engagement	Art.12.16	Art. 11	None	Art. 10.10
Paperless trading	Art. 12.5	Art. 7.1	Art. 14.9	Art. 10.8
Electronic authentication and electronic signatures	Art. 12.6	Art.7.2	Art. 14.6	Art.10.5
Online consumer protection	Art.12.7	Art. 7.3	Art. 14.7	Art. 10.6
Online personal information protection	Art. 12.8	Art. 7.5	Art. 14.8	Art.10.7
Domestic regulatory framework	Art. 12.10	Art. 12	Art. 14.5	Art. 10.4
Dispute settlement	Art. 12.17	Art. 15	Art. 14.18	Art. 10
Electronic payment	None	Art. 9	None	None
Logistics	None	Art. 10	None	None
Cross-border transfer of information	Art. 12.15	Art. 7.4	Art.14.11	None
Location of computing facilities	Art. 12.14	Art. 6	Art. 14.13	None
Cybersecurity	Art. 12.13	Art. 8	Art.14.16	None
Customs duties	Art.12.10	None	Art. 14.3	None
Unsolicited commercial electronic messages	Art. 12.9	None	Art. 14.14	None
Non-discrimination of digital products	None	None	Art. 14.4	None
Source code	None	None	Art. 14.10	None
Principles on access to use of the internet for e-commerce	None	None	Art. 14.12	None
Internet interconnection charge sharing	None	None		None

Source: Tham (2021).
Note: AANZFTA = ASEAN-Australia-New Zealand Free Trade Agreement; CPTPP = Comprehensive and Progressive Agreement for Trans-Pacific Partnership; RCEP = Regional Comprehensive Economic Partnership.

V. Summary and Policy Implications

The tenacious COVID-19 pandemic has disrupted, and continues to disrupt, economic activity in the ASEAN+3 region and around the world. What began as a health crisis developed into sectoral supply shocks as lockdowns and physical distancing rules disrupted economic activities. The initial supply shocks propagated to a decline in demand, which was amplified in many cases as businesses were forced to cut back on production and lay off workers. Swift action by policymakers has cushioned the loss in household income and firms' cash flow and prevented an amplification of shocks through the financial sector. But prolonged policy support, made necessary by repeated waves of the pandemic, could bring its own risks by delaying the reallocation of resources needed for economies to heal and thrive in the post-pandemic new normal.

After two years and counting, some extent of scarring is unavoidable—although it will take different forms in different economies and some economies will be more affected than others. Aging economies such as Japan and Korea could experience scarring mainly in the labor supply as the pandemic has intensified already worrying trends in labor force growth. Some advanced and emerging-market economies in the region also face the prospect of scarring on the productivity front if prolonged government support and forbearance creates a cohort of zombie firms that become a drag on future economic growth. Emerging-market and developing economies in ASEAN could experience scarring in capital stock and investment as the rebuilding of fiscal buffers and a high debt service burden may constrain much-needed investments in infrastructure, especially those needed for digitalization. The least developed ASEAN economies will suffer the deepest scarring in human capital and labor productivity, given the minimal financial support they can afford and their lower capacity to utilize technology to effectively adapt to remote or low-contact modes of schooling and work.

On the other hand, the pandemic has spurred innovation in sectors such as retail, finance, and healthcare, which might lift the region's economies in the long run toward higher productivity-driven growth. By prompting innovation and adaptation to digital technology—out of sheer necessity in many cases—the COVID-19 pandemic has accelerated the pace of many pre-existing trends. Online shopping and digital payments were in relative infancy in the region (outside of China and Korea) before the pandemic, but they are becoming the norm now. Video conferencing and meetings, a last resort for most businesses in the past, have also become the norm, saving time and travel costs. Telemedicine was a slow-moving trend that suddenly gained enormous steam when the pandemic forced a shift in the public mindset regarding healthcare delivery.

The COVID-19 pandemic is a truly global crisis, and the world will look different when we come out on the other side. Previous crises seared into the region's collective memory, such as the Asian financial crisis and the SARS outbreak, were more limited in scope and did not affect most parts of the world, which provided a lifeline for the region's crisis-hit economies. The global financial crisis was relatively contained in its impact on the region, as the epicenter was in the United States and banking systems in the region were relatively sound and unaffected by the spillovers. By disrupting international mobility and trade through border closures, the pandemic has shocked the traditionally outward-looking ASEAN+3 region. Travel and tourism, a mainstay of many ASEAN economies, will take a long time to recover. GVCs, already discombobulated by geopolitical tensions, have been further challenged by pandemic-induced supply chain disruptions. Globally, economic nationalism is rising, driven by countries' experiences in trying to procure medical equipment, treatments, and vaccines and fueled by the United States' ongoing competition with China in trade and technology.

Looking ahead, the ASEAN+3 economies will need to double down on strengthening intra-regional links by deepening economic integration and expanding areas of cooperation. The launch of the RCEP at the start of 2022 comes at an opportune time for the region as it seeks to recover from the pandemic and shore up supply chains. Going forward, the region could build on the RCEP Agreement in several areas to invigorate growth in the pandemic's wake:

- **Advancing regional digital integration**. Given the extensive impact the pandemic has had in elevating digital transformation to the forefront of the policymaking agenda, it has become ever more crucial to ensure the alignment and sustainability of digital integration efforts across the region as it seeks to capitalize on these opportunities. ASEAN+3 governments will need to continue leading by example for industry to follow, including reforming and enhancing regulatory and legislative frameworks for greater digital innovation. But the need remains to ensure universal digital inclusion so that no economy or societal group gets left behind. Compared to the Plus-3, emerging-market and developing ASEAN economies still have some catching up to do, especially in areas such as digital skills and talents, digital payments and identities, and cybersecurity and data protection (ASEAN 2021b). This points to the importance of creating opportunities for economies to cooperate within the ASEAN+3 framework to address the digital divide, improve data protection and governance, and explore bilateral or multilateral digital agreements based on rules and mutual trust. ASEAN+3 members could also consider setting up a special fund to provide longer-term financing to support structural reforms, particularly in low-income members.

- **Improving logistics interconnectivity and integration**. Trade and commerce have been, and will continue to be, a lifeline and a key engine of growth for the ASEAN+3. While ASEAN+3 economies have made much progress in improving logistics efficiency and competitiveness, more can be done to make regional trade in goods as seamless as possible. In addition to regulatory reforms along the lines recommended in OECD (2021c)—including removing restrictive provisions on cross-border road freight transport and cabotage and facilitating region-wide development of multimodal goods transportation—there is scope for greater collaboration within the ASEAN+3 to improve logistics interconnectivity and integration in the region. The new ASEAN Smart Logistics Network (ASLN) platform, launched in November 2020, for example, is a promising initiative in this area; while the main entities in ASLN projects will be ASEAN-based, the Plus-3 economies can collaborate in various ways, including through the exchange of technological know-how, goods, and services for infrastructure development (Koty 2021).[61] Another example is the ASEAN Single Window (ASW), a digital initiative that connects and integrates the national "single windows" to enable the electronic exchange of border trade-related documents, thus helping expedite and simplify customs procedures.[62] Once fully operational, there will be much to gain by bringing in China, Japan, and Korea to the ASW to further streamline customs operations and facilitate intra-ASEAN+3 trade.[63]

- **Enabling real-time cross-border payments and settlements**. Instant cross-border payments can bring an array of benefits for the region, supporting economic growth, financial inclusion, and regional and international trade—similar to what the Single Euro Payments Area (SEPA) has done in Europe.[64] Most ASEAN economies have a robust domestic real-time payments infrastructure in place, and some have launched, or are planning to launch, direct cross-border infrastructure linkages. The issuance of guidelines for implementing the ASEAN payments policy framework for cross-border real-time retail payments in 2020 was a significant step in advancing the goal of achieving greater payment integration and connectivity within ASEAN by 2025. Going forward, a safe and resilient regionwide real-time payment network that harmonizes payment standards and ensures interoperability among all ASEAN+3 economies would further enable and provide a boost to economic activity, especially e-commerce. Future success would need to be underpinned by strong regional cooperation on harmonized data-protection and privacy regulations and frameworks, to establish user trust, minimize fraud, and encourage more cross-border financial flows.

- **Strengthening regional supply chain security**. The pandemic has highlighted the vulnerability of global supply chains, especially for critical items such as medical supplies, semiconductors, oil, and basic food items. Regional mechanisms for exchange of these critical goods during times of emergency could offer temporary solutions while economies ramp up domestic capacity or diversify their sources of supply. ASEAN's 2020 Hanoi Plan of Action to "identify and address trade disruptions….on the flow of essential goods, including food, medicines, and medical and other essential supplies in the region" is a good example of how economies in the region can collaborate to secure the flow of essential goods, but it excludes the Plus-3 economies, which are key GVC nodes that the rest of the ASEAN connects to (ASEAN 2020).[65] As the ASEAN+3 becomes increasingly integrated post-pandemic, closer cooperation and collaboration in building a regional post-pandemic view of essential supply chains will be critical, along with understanding their interrelationships and risks to supply, and future-proofing them against shocks.

For individual ASEAN+3 economies, the COVID-19 pandemic demonstrates the importance of resilient economic systems. A resilient economy is one with the "ability to implement appropriate responses after a shock occurs, with the aim of reverting back to the previous growth path" (Brunnermeier 2021). As the pandemic stretches into its third year, it is not too late for the ASEAN+3 to implement appropriate responses to prevent or reverse the effects of scarring in their economies and gird themselves for future shocks. Key priorities include the following, although the urgency and type of reforms

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61/ Two projects have been launched under the ASLN so far. The first project, launched in November 2020, is the Vinh Phuc Inland Container Depot Logistics Centre (SuperPort) in Vietnam, a multi-modal logistics hub integrating dry port and advanced supply chain nerve center operations that will make it a key connection point for trade and supply chains between China, Vietnam, ASEAN and other international markets. The second project, launched in March 2021, is the Phnom Penh Logistics Complex in Cambodia, which will follow the SuperPort concept and also feature a training academy and startup hub to develop Cambodia's human capital in the logistics sector (Koty 2021).

62/ A single window is a facility that allows parties involved in trade and transport to lodge standardized information and documents with a single entry point to fulfill all import, export, and transit-related regulatory requirements. The ASW enables a single submission of data, a single synchronous processing of information, and a single decision-making for customs release and clearance among ASEAN members and participating economies.

63/ The ASW has developed a roadmap for the exchange of e-documents with ASEAN dialogue partners, and discussions are underway with Japan and Korea on the possibility of exchanging the electronic certificate of origin.

64/ SEPA provides a common set of standards and frameworks to harmonize cashless euro transactions (credit transfers, direct debit payments, and card payments) across Europe. The SEPA platform was modernized in 2017 to enable real-time payments across the region. SEPA covers the whole of the European Union (EU) plus 11 non-EU members.

65/ In April 2021 Japan joined the trilateral Supply Chain Resilience Initiative with Australia and India ostensibly to counter China's dominance in the region's trade. The three countries will share best practices on supply-chain resilience and hold investment promotion events to explore the possibility of diversification of their supply chains.

will differ across the different economies depending on their pre-COVID-19 circumstances and potential areas of scarring due to the pandemic.

- **Strengthening "health resilience."** For some economies, enhancing the ability to bounce back from health shocks such as the COVID-19 pandemic requires significant investments to ensure rapid access to adequate health services at all times. This would entail, for example, the ability to rapidly scale up health system infrastructure during a crisis, e.g., by constructing new treatment facilities (as China has done) or converting or reconfiguring existing facilities; as well as incentivizing the adoption of digital technology or telehealth services to provide ongoing and acute care (Haldane and others 2021). More importantly, the pandemic has demonstrated the need to invest in improving both the quantity and quality of health workers in the long term.

- **Reversing human capital losses due to the disruption in education**. Estimated learning losses are especially large in economies where the human capital stock is already relatively low, such as Cambodia, Lao PDR, and Myanmar. Without policy action, the current generation of students in these economies will be permanently scarred, and both within-country and cross-country inequality of development opportunities will widen. Thus, these economies urgently need to implement a learning recovery program to help students catch up on lost schooling (World Bank, UNESCO, and UNICEF 2021). Since pandemic-induced school closures may not be over, they should not wait to improve their readiness for remote learning, including by increasing access to affordable devices and internet connectivity. Such investments will strengthen the education system's resilience to meet future public health emergencies or natural disasters that impede in-person classes. Korea's government, for example, has dedicated a portion of its total stimulus packages to education and training, including deployment of digital infrastructure from kindergarten through grade 12, support of remote learning for universities, strengthening teacher capacities in remote teaching, and development of Korean massive open online course content (World Bank, UNESCO, and UNICEF 2021).

- **Investing in infrastructure for the digital economy**. By forcing a shift to contactless interactions that rely on digital technology, the pandemic has significantly shortened the timeframe for ASEAN+3 economies to upgrade their technological capability and build the advanced telecommunications infrastructure needed for the digital economy. For most ASEAN economies, spending on digital infrastructure is essential to improve their ability to support social-distancing policies and enable remote schooling and work. In addition to mitigating the effect of the COVID-19 crisis on the economy and human capital, digital infrastructure needs to be developed or improved to compete effectively in the post-pandemic new economy by harnessing technological progress. Governments could facilitate this transition by providing appropriate incentives. For example, Thailand offers an eight-year corporate income tax exemption for submarine cables, data centers, and cloud services. Building these new infrastructure requirements will be particularly challenging for low-income economies in the region, which already have large gaps in basic infrastructure entering the pandemic and have weaker fiscal positions as a result of the pandemic. A concerted effort would be needed to reallocate spending, enhance domestic revenue mobilization, and improve investment efficiency, as well as to leverage financing options and expertise available in the region.

- **Fostering a competitive business environment**. A resilient economy bounces back faster through creative and disruptive innovation, even if that means that some firms will exit the market. As many ASEAN+3 governments debate how long they should continue extending regulatory forbearance and direct financial support for domestic firms, they face a delicate trade-off between averting a potential bankruptcy wave that could jeopardize economic recovery on the one hand and impeding the Schumpeterian creative destruction process necessary for long-term growth on the other hand. Sooner rather than later, ASEAN+3 economies need to shift their support for firms toward facilitating the necessary reallocation of capital and labor to new and expanding sectors. While the circumstances will vary for different economies, policymakers should keep their focus on three critical areas: the long-term health of the corporate sector, the most productive use of public resources and interventions, and preventing collateral damage such as unintended consequences for financial stability (G30 2020).

- **Continuous learning and upgrading**. Workers should keep their skills up to date so that they can build personal resilience in a rapidly changing labor market. Continual upskilling, reskilling, cross-skilling, and new-skilling are imperative as economies undergo structural changes accelerated by the crisis—certain jobs will disappear as some close-contact industries shrink after prolonged social distancing while others increase their reliance on robotics and AI. For example, in addition to its existing SkillsFuture lifelong learning initiative that provides training subsidies for all citizens, the Singapore government has offered job, traineeship, and skills-training opportunities through its pandemic-support SGUnited Jobs and Skills Package, which has helped to speed up job-matching and shift displaced workers to recovering sectors (AMRO 2021e). Governments need not do this alone—they can also incentivize

firms to invest in their workforce since developing human capital to be future-ready is key for businesses to be sustainable in the new economy. For example, Malaysia's newly established Government-Industry Technical and Vocational Education and Training Coordination Body will facilitate the direct involvement of industries in skills development to ensure that workforce abilities match market demand.

- **Rebuilding fiscal policy space**. The COVID-19 crisis has reinforced the lesson that resilience requires fiscal policy space to implement appropriate responses to support the economy to minimize scarring and speed up post-shock recovery. Although most emerging-market and developing ASEAN+3 economies had significantly more fiscal space entering the pandemic than they did in previous crises, the large and sustained response necessitated by the prolonged pandemic has tested, and continues to test, the limits of policy space in emerging and developing economies—which are also more vulnerable to capital flow reversals. Rebuilding fiscal policy space will be an important task for ASEAN+3 economies after the recovery takes hold. While specific reforms will vary with individual economies' circumstances, the overall objective will involve reforms to enhance taxing power, restore fiscal buffers, and strengthen borrowing capacity.

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Annex:

Developments in ASEAN+3 Economies

Brunei Darussalam

The Bruneian economy registered year-on-year declines for 4 consecutive quarters through Q3 2021. Real GDP declined by 1.7 percent year-on-year in the first 9 months of 2021, driven mainly by contraction in the oil and gas sector. Turnaround activities and a limited onsite workforce because of COVID-19 reduced the sector's ability to recover from unscheduled deferment of well, reservoir and facilities management activities. The non-oil and gas sector registered positive growth in Q3 2021, thanks to subsectors such as finance, communication, health services, and manufacturing of food and beverages. Growth in the non-oil and gas sector was mainly driven by increased domestic demand. Retail sales performed well in the first 9 months of 2021 as restrictions on overseas travel prompted a rise in domestic consumption, but dropped by 5.2 percent in Q3 2021 as movement restriction mandates took effect. The economy is expected to have rebounded in Q4 2021 with the relaxation of border restrictions and containment measures. As a result, real GDP is expected to have grown marginally by 0.2 percent for the whole year of 2021. Economic growth should continue to pick up in 2022 to 4.1 percent, benefiting from high oil and gas prices, the ongoing global recovery, and the low-base effect.

Consumer price inflation averaged 1.7 percent year-on-year for the first 10 months of 2021, compared to 1.9 percent in 2020. Price increases were mainly in imported food items and household products, due to supply chain disruptions, particularly during the second wave of the COVID pandemic. For the entirety of 2021, inflation is estimated at 1.7 percent. Looking ahead, inflation is projected at 1.3 percent in 2022, as supply constraints ease.

The external sector expanded strongly in 2021. The value of exports in January–October 2021 increased significantly, by 54.3 percent, from the same period in 2020, reflecting the pickup in crude oil and gas exports driven by rising oil and gas prices. The value of imports also increased strongly, by 58.9 percent year-on-year in January–October 2021, reflecting an increase in crude oil imports as raw material for oil refinery production. As a result, the trade surplus was BND 2,619 million in the first 10 months of 2021, 40 percent higher than the same period in 2020. The current account surplus is expected to increase to 8.2 percent of GDP in 2021 and 10.9 percent in 2022. Overall, the external position remains strong with ample official reserves and foreign assets.

The financial sector remains sound as credit risk is under control and banks continue to be well-capitalized with ample liquidity and reasonable profitability. The deferment of principal and interest payments—a policy in place since April 2020—has succeeded in containing nonperforming loans (NPLs): the NPL ratio declined to 3.7 percent in Q3 2021 from over 4 percent in 2020. The capital adequacy ratio remained high at 19.9 percent and liquidity was ample in the banking system in Q3 2021. Banks maintained a reasonable return on equity of about 9.5 percent in Q3 2021. Bank credit grew for the second consecutive quarter in Q3 2021, underpinned by a significant increase in credit to the household sector.

After registering a record budget deficit of 20.1 percent of GDP in FY2020 because of the huge drop in oil and gas revenue, the fiscal deficit is expected to narrow to 9.1 percent and 6.0 percent in FY2021 and FY2022, respectively. The improvement in the fiscal deficit is attributable to increased oil revenue due to higher global oil demand and prices.

In the short term, major risks facing the economy continue to revolve around its concentration in the oil and gas sector and the COVID-19 pandemic. The country's high dependence on the oil and gas sector makes it less resilient to domestic and external shocks which adversely impact its external position and fiscal balance. The plunge in global demand for oil and gas in 2020, for instance, affected the economy significantly. In addition, the second wave of COVID-19 infections due to the Delta variant and the COVID-related border restrictions have adversely affected the country's short-term performance. Despite the easing of containment policies in late 2021 as the second wave of infections subsided, any new and sustained wave of the Omicron variant could threaten the near-term outlook, especially considering the slow progress in economic diversification.

Over the longer term, structural reform efforts need to be continued to diversify Brunei's economy to improve its economic growth prospects. Without economic diversification, a broad-based global recession that leads to a decline in world demand and oil prices will affect Brunei's economic growth, fiscal balance, and external sector. Climate change, particularly the low-carbon transition, is also a key perennial risk impacting the country's economic sustainability.

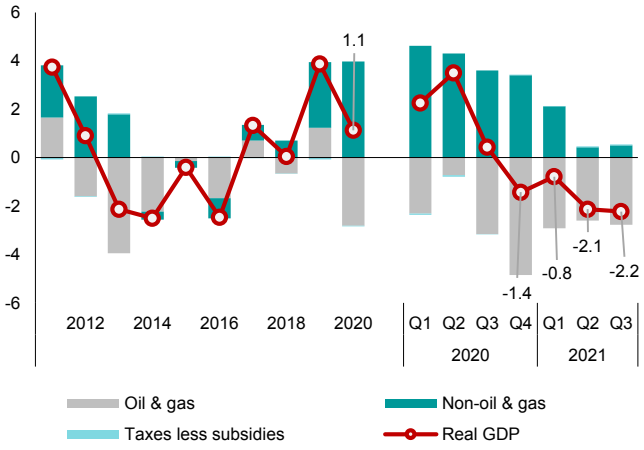
The author of this note is Heung Chun (Andrew) Tsang.

Brunei Darussalam: Selected Figures

Growth momentum is slowing down due to the COVID-19 pandemic.

Contributions to Real GDP Growth by Sector

(Percentage points, year-on-year)

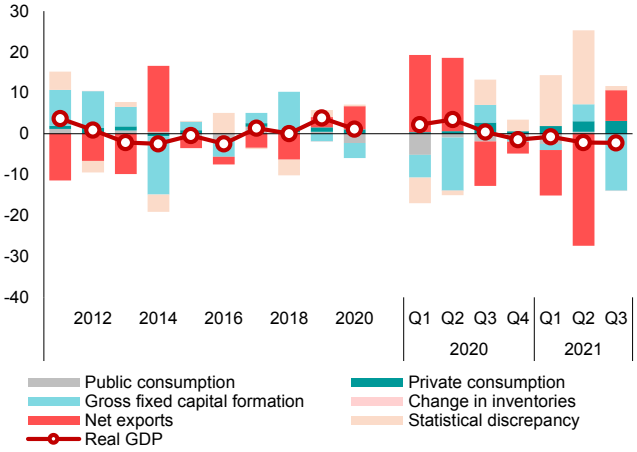


Sources: Department of Economic Development and Planning via CEIC; and AMRO staff calculations.

Net exports and private consumption were the main drivers of economic growth in Q3 2021.

Contributions to Real GDP Growth by Expenditure

(Percentage points, year-on-year)

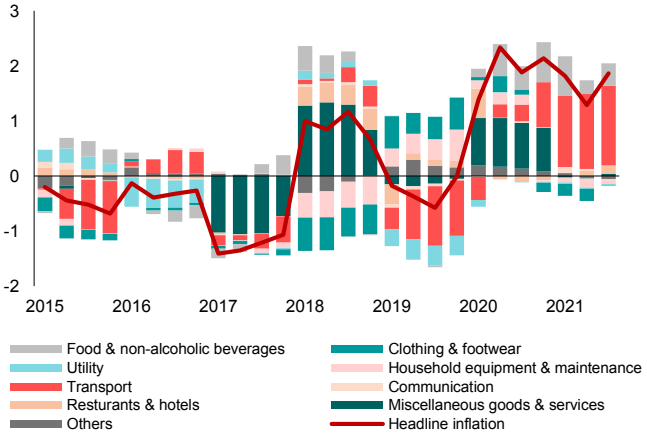


Sources: Department of Economic Development and Planning via CEIC; and AMRO staff calculations.

Inflation has risen considerably as a result of supply chain disruptions.

Contributions to CPI Inflation

(Percentage points, year-on-year)

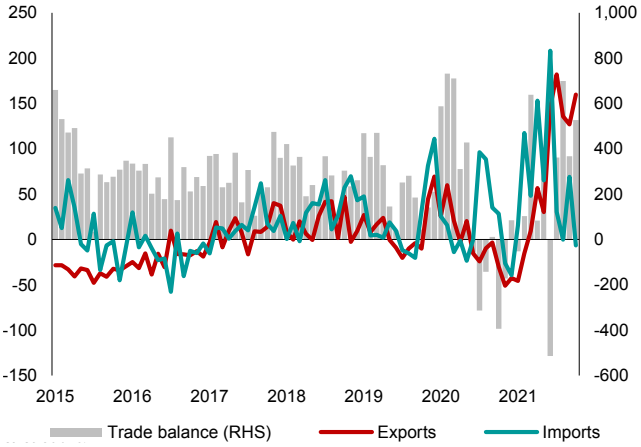


Sources: Department of Economic Development and Planning via CEIC; and AMRO staff calculations.

The trade balance has registered a strong surplus since mid-2021 due to the strong rebound in oil and gas export prices.

Trade Balance

(Percent, year-on-year; millions of Bruneian dollars)

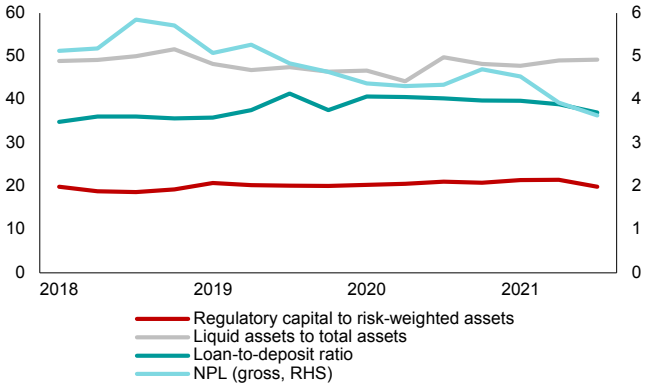


Sources: Department of Economic Development and Planning via CEIC; and AMRO staff calculations.

The banking sector remains sound with high levels of capital and liquidity, and credit risks are contained.

Financial Soundness Indicators

(Percent)

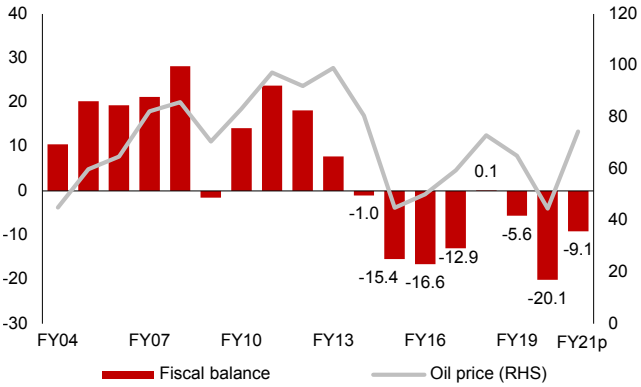


Sources: Brunei Darussalam Central Bank; and AMRO staff calculations. CAR = capital adequacy ratio; NPL = nonperforming loan.

The fiscal deficit has narrowed due to the increase in oil and gas revenues.

Fiscal Position and Oil Prices

(Percent of GDP; US dollars per barrel)



Sources: Ministry of Finance and Economy; and AMRO staff calculations.
Note: p = AMRO staff projection. The oil price for FY2021/22 is the average prices during April to October 2021.

Brunei Darussalam: Selected Economic Indicators

Indicator	2018	2019	2020	2021
Real sector	(in annual percentage change)			
Real GDP	0.1	3.9	1.1	0.2
Private consumption	2.2	5.9	5.3	–
Government consumption	1.6	1.8	–9.6	–
Gross fixed capital formation	28.1	–4.4	–9.3	–
Imports of goods and services	28.1	13.8	–2.1	–
Exports of goods and services	5.7	14.9	7.5	–
External sector	(in percent of GDP, unless otherwise specified)			
Current account balance	6.9	6.6	4.5	8.2
Trade balance	17.4	16.4	11.5	–
Capital and financial account balance	–0.5	3.0	–2.2	–
Direct investment	3.8	2.8	4.8	–
Portfolio investment	10.6	–10.4	–9.9	–
Other investment	–14.9	10.6	2.9	–
Errors and omissions	-6.4	–4.0	–6.0	–
Overall balance	-0.1	5.6	–3.7	2.2
International reserves (in USD million, end of period)	3,220.6	4,051.9	3,721.3	4,000.0
Fiscal sector[1]	(in percent of GDP)			
Revenue and grants	32.7	26.4	12.6	20.5
Expenditure	32.5	31.9	32.6	29.6
Fiscal balance	0.1	–5.6	–20.1	–9.1
Monetary and financial sectors	(in annual percentage change)			
Broad money	2.8	4.3	-0.4	4.6
Domestic credit	5.9	2.2	18.3	–16.4
Private sector credit	-3.1	2.0	0.2	2.8
Memorandum items:				
Nominal GDP (in BND million)	18,300.6	18,375.0	16,564.4	18,904.5
Nominal GDP (in USD million)	13,567.4	13,469.4	12,005.8	14,107.8
Headline inflation (in percent y-o-y, period average)	1.0	–0.4	1.9	1.7
Exchange rate (in BND/USD, period average)	1.35	1.36	1.38	1.34

Sources: National Authorities via CEIC and Haver Analytics; World Bank; and AMRO staff estimates.
Note: Numbers in red denote AMRO staff estimates. y-o-y = year-on-year.
1/ Refers to fiscal year, which starts from April 1 and ends on March 31, 2021; data are budget figures for FY2020/21.
2/ Domestic credit is based on Domestic claims on Financial Corporation Survey data.

Cambodia

Cambodia suffered a surge in COVID-19 infections in 2021, which severely dampened domestic economic activity. Strong performance in the agriculture and manufacturing sectors partially mitigated the adverse impact of the pandemic and helped drive GDP growth to an estimated 2.9 percent year-on-year in 2021 from a contraction of 3.1 percent year-on-year in 2020. The economy is expected to steadily recover in 2022, supported by the continued expansion of garment and non-garment manufacturing. High vaccination rates have facilitated the resumption of businesses, especially in the services sector. Despite the relatively open borders of Cambodia, tourism recovery is projected to proceed at a slower pace, as it hinges largely on the global pandemic situation and resumption of international and regional tourism.

Inflation remained stable at 2.9 percent year-on-year in 2021 as lower prices for most food items—particularly rice, as good weather resulted in a bumper harvest—offset the impact of increased energy and transportation costs. Inflation is projected to rise in 2022 from higher oil prices, although prices of pork, fish, and seafood are anticipated to decline with a projected increase in domestic supply.

Strong exports in 2021 were led by agriculture, garments and non-garment manufactured products, as Cambodia benefitted from strong external demand, particularly from the United States. Meanwhile, imports bounced back across most major items after the contraction in 2020. With tourism receipts remaining depressed and remittances low, the current account deficit is estimated to have widened in 2021 to about 40 percent of GDP (20 percent if excluding gold). The current account deficit is expected to have been partially offset by steady foreign investment inflows. Thus, Cambodia is estimated to have recorded an overall balance of payments deficit in 2021, resulting in a reduction in international reserves. Nonetheless, external buffers remain sizeable at USD 20.3 billion, equivalent to 7.9 months of imports of goods and services as of end-December 2021.

Liquidity remained ample in 2021 as monetary policy continued to be accommodative. Credit growth recovered across a broad range of sectors in 2021, rising above 20 percent since May 2021, despite the rise in COVID-19 community cases. NPLs remained low at 2.4 percent, while the reopening of the economy has resulted in the steady decline of restructured loans. The National Bank of Cambodia (NBC) provided timely and welcome guidance to banks on assessing the creditworthiness of and increasing provisioning for restructured loans.

Fiscal policy continued to be expansionary in 2021, with the fiscal deficit rising to 9.2 percent of GDP from 5.3 percent of GDP in 2020. In response to the community outbreak of infections in 2021, the government almost doubled its COVID-19 intervention package to USD 1,291 million, with the bulk allocated to COVID-19 treatment and prevention, while also increasing the budget for cash transfers to the poor. Public debt is estimated to have risen slightly to 34.6 percent of GDP at end-2021 from 33.8 percent at end-2020, as Cambodia drew down its fiscal reserves to finance the deficit.

Despite its high vaccination rate and significantly upgraded health system since the pandemic started, risks of a large outbreak from new virus variants remain, which could derail economic recovery.

Slow and uneven recovery, coupled with economic scarring may adversely affect businesses and households, leading to rising NPLs. Economic damage brought about by the prolonged pandemic may lead to permanent job losses and business closures, potentially resulting in a deterioration in the quality of outstanding loans. It is estimated that NPLs could rise by 1 percentage point from current levels if regulatory forbearance is withdrawn. However, a larger-than-anticipated shock could push NPLs higher, dampening the prospects for economic recovery.

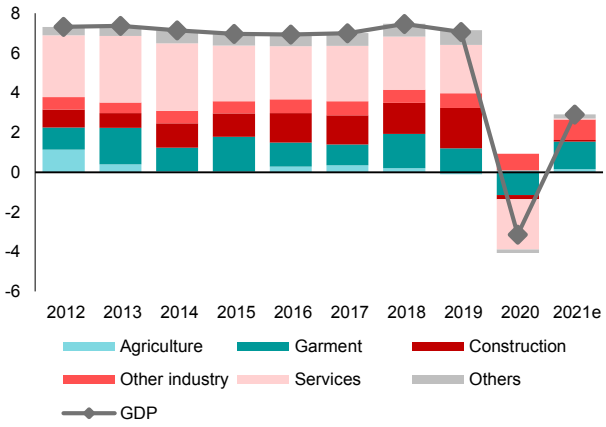
Moreover, narrowing fiscal space may limit the government's capacity to provide support in case of another surge in infections. With government savings drawn down by USD 1.7 billion to help finance the stimulus budget in 2020–21, government savings that can be tapped for discretionary spending have gone down by almost a third compared to their pre-pandemic level. This steady decline in fiscal savings could limit the government's capacity to provide counter-cyclical support in the future, particularly given the persistent risk of further waves of infections from new virus variants. The reduction in fiscal revenues relative to pre-pandemic trends has also made it more challenging to rebuild fiscal buffers.

The author of this note is Paolo Hernando.

Cambodia: Selected Figures

Growth is estimated to have returned to positive territory in 2021 after the contraction in 2020.

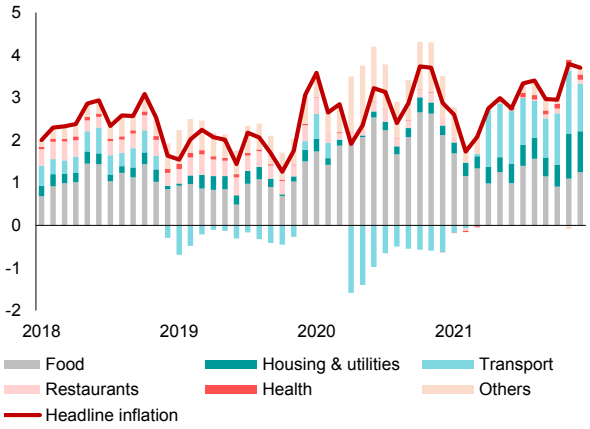
Contributions to Real GDP Growth
(Percentage points, year-on-year)



Sources: National Institute of Statistics of Cambodia; and AMRO staff estimates.
Note: e denotes estimate.

Inflation remained stable in 2021 as lower food prices offset higher energy prices.

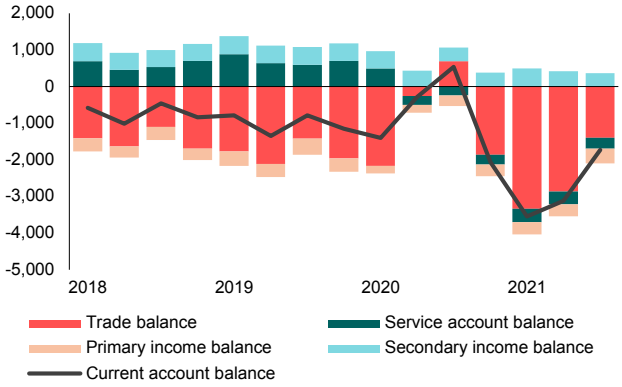
Contributions to CPI Inflation
(Percentage points, year-on-year)



Sources: National Bank of Cambodia; and AMRO staff calculations.
Note: Food includes non-alcoholic beverages. CPI = consumer price index.

The current account registered a large deficit in 2021 as growth of imports outpaced that of exports and net services plummeted due to the decline in tourism.

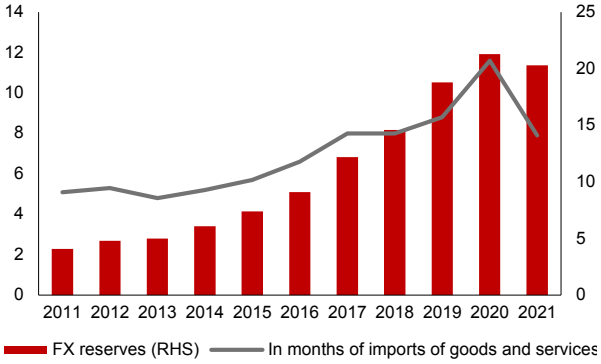
Current Account Balance
(Millions of US dollars)



Sources: National Bank of Cambodia; and AMRO staff calculations.

International reserves fell to USD 20.3 billion at the end of December 2021, equivalent to 7.9 months of imports.

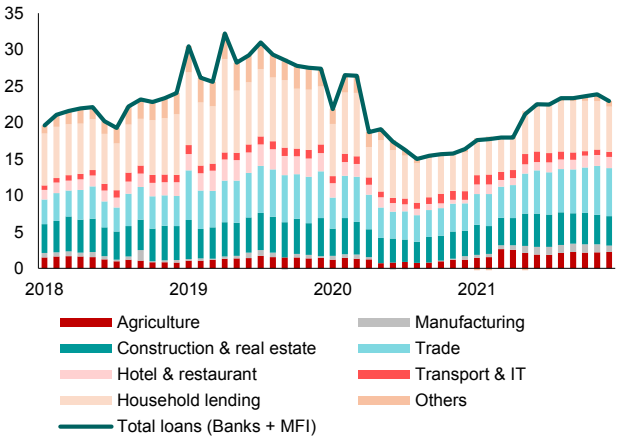
International Reserves
(Months of imports; billions of US dollars)



Sources: National Bank of Cambodia; and AMRO staff calculations.
Note: FX = foreign exchange.

Credit to the economy has recovered since May 2021, led by increased lending to households, trade, construction, and real estate.

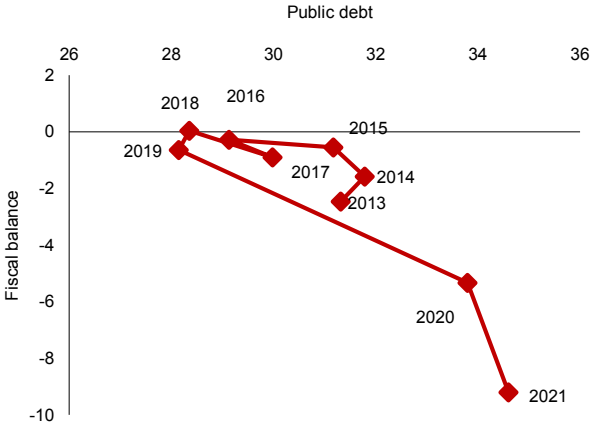
Contributions to Credit by Banks and Microfinance Institutions (MFI)
(Percentage points, year-on-year)



Sources: National Bank of Cambodia; and AMRO staff calculations.
Note: IT = information technology.

Further fiscal support measures were rolled out in 2021 to mitigate the impact of the COVID-19 pandemic on lives and livelihood.

Fiscal Balance and Public Debt
(Percent of GDP)



Source: Ministry of Economy and Finance.

Cambodia: Selected Economic Indicators

Indicator	2018	2019	2020	2021
Real sector	(in annual percentage change)			
Real GDP	7.5	7.1	–3.1	2.9
Agriculture	1.1	–0.5	0.6	1.0
Industry	11.6	11.3	–1.4	6.7
Services	6.8	6.2	–6.5	0.1
External sector	(in percent of GDP, unless otherwise specified)			
Current account balance	–11.8	–15.0	–11.9	–41.6
Trade balance	–23.8	–26.8	–13.9	–40.0
Capital and financial account balance	16.2	24.8	15.9	36.8
Direct investment	12.6	13.1	13.5	14.5
Portfolio investment	–0.2	0.0	–0.4	0.0
Other investment	2.5	10.4	1.8	21.7
Errors and omissions	1.5	0.6	–1.6	0.9
Overall balance	5.9	9.8	2.5	–3.9
Gross external debt	53.3	56.5	65.3	70.4
International reserves (in USD billion, end of period)	14.6	18.8	21.3	20.3
Fiscal sector	(in percent of GDP)			
Revenue and grants	23.8	26.2	23.5	20.9
Expenditure	23.8	26.9	28.8	30.1
Fiscal balance	0.0	–0.6	–5.3	–9.2
Government debt	28.4	28.1	33.8	34.6
Monetary and financial sectors	(in annual percentage change)			
Broad money	24.0	18.2	15.3	16.3
Domestic credit	21.1	24.4	20.0	22.9
Private sector credit	23.2	26.7	17.7	24.1
Memorandum items:				
Nominal GDP (in KHR billion)	99,544	110,014	105,857	111,903
Nominal GDP (in USD million)	24,572	27,089	25,864	27,233
Headline inflation (in percent y-o-y, period average)	2.5	1.9	2.9	2.9

Sources: National authorities; and AMRO staff estimates.
Note: Numbers in red denote AMRO staff estimates. y-o-y = year-on-year.

China

China's economic recovery remains intact despite a slowdown in the second half of 2021, and inflation is contained. GDP growth was a brisk 8.1 percent for the year, although the momentum slowed markedly in the second half and was moderate in the early part of 2022 due to various factors including supply-side disruptions and COVID-19 outbreaks. The surveyed urban unemployment rate was a low 5.1 percent in 2021, before rising to 5.5 percent in February 2022. Firm job market conditions have supported consumption, the key driver of growth. CPI inflation has been contained, coming in at 0.9 percent for 2021 and January–February 2022. The external position remains strong.

The overall banking system continues to have adequate capital and liquidity buffers. Total social financing growth eased to 10.3 percent in 2021 from 13.3 percent in 2020; it stood at 10.2 percent in February 2022. Credit conditions should remain supportive ahead, with the People's Bank of China providing guidance and having cut the required reserve ratio and relending rates.

Real estate activities have slowed significantly, and property prices have fallen in some cities – triggered by tightening of macroprudential measures, and financial difficulties of some large property developers. With property markets cooling since mid-2021, authorities have adjusted policy settings measuredly to facilitate orderly adjustments.

China's fiscal deficit has narrowed. As the revenue in the general public budgetary account (general account) increased by 10.7 percent year-on-year in 2021 while expenditure rose by only 0.3 percent, the general public budgetary account deficit is expected to narrow from 6.2 percent of GDP in 2020 to 3.8 percent of GDP in 2021. The authorities expect the official fiscal deficit, based on China's accounting method, to narrow from 3.6 percent of GDP in 2020 to 3.2 in 2021 and to 2.8 percent in 2022.

For 2022, GDP growth is projected at 5.2 percent, with sequential momentum picking up through the year. Consumption should remain the key driver, with investment playing an important supporting role.

However, risks will still be elevated in 2022. The pandemic and geopolitical tensions remain key risks to the global economy and the Chinese economy. The recovery of China's domestic economy and labor market could remain uneven. US–China technology tensions will probably be prolonged. Pockets of vulnerabilities in the financial and property sectors persist. Some policy measures to reduce imbalances and boost the sustainability of economic growth could have unintended effects in the near term. These will need careful management.

Given these risks, using available policy levers to safeguard macro-financial stability in the near term is vital— this will involve delicate trade-offs. First, China needs to strike a judicious balance when adjusting its pandemic control measures as conditions change and devise a plan for border reopening. Second, fiscal policy should continue to support economic growth and job creation. Third, monetary policy should ensure that liquidity and credit conditions are supportive, and macroeconomic and financial stability are safeguarded. At the same time, it is important to make steady progress in overall deleveraging.

To address climate change, China needs concrete policies and careful risk mitigation measures. Following the commendable action plan for peaking carbon emissions before 2030, a similar plan for the 2060 carbon neutrality target is needed. The national emissions trading scheme could be strengthened. Carbon taxes should be considered. Further targeted measures should be deployed to support technology development and innovation. There is a need to provide income transfers for less wealthy regions, strengthen safety nets for the vulnerable, and mitigate financial risks from asset stranding and green investment.

Dual Circulation and Common Prosperity are key overarching strategies for pursuing high-quality inclusive growth. A systematic approach is needed to implement policies, monitor results, assess trade-offs, and make adjustments. The design and execution of Common Prosperity policy measures need to guard against unintended effects such as weakening incentives for entrepreneurship and innovation. There should be transparency and predictability, to avoid disrupting businesses.

Efforts to safeguard fiscal sustainability must continue. On the revenue side, the property market slowdown and carbon reduction efforts are key challenges. For expenditure, risks could arise from the need to significantly strengthen social welfare. Uncertainty over public spending for climate change is high. Ways need to be found to: (1) improve fiscal spending efficiency and reallocate expenditure to priority areas; (2) boost revenue by making further progress on tax administration reform, including expanding the tax base; (3) make the income tax system more progressive; and (4) strengthen debt management.

China has strong economic foundations to pursue sustained high-quality growth. There are also several promising growth drivers. These include productivity gains through technological advancement, strong innovation by enterprises, continued uplift of the middle class, and further development of the services sector. With well-considered policies, close coordination among government bodies and effective policy communication, China can stay the course for robust and inclusive growth.

The author of this note is Suan Yong Foo.

China: Selected Figures

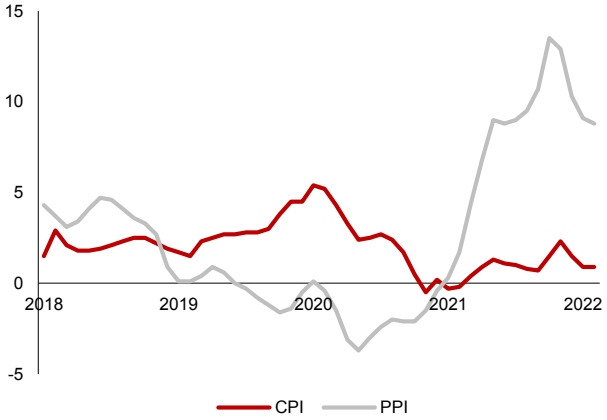
China's recovery from the 2020 downturn has remained intact in 2021 and the early part of 2022.

Contributions to Real GDP Growth
(Percentage points, year-on-year)

Source: National Bureau of Statistics.

Despite a surge in the PPI, CPI inflation has remained well contained.

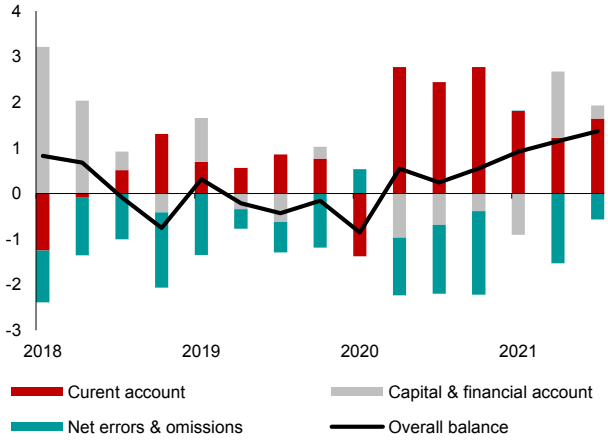
Inflation
(Percent, year-on-year)



Source: National Bureau of Statistics.
Note: CPI = consumer price index. PPI = producer price index.

The overall balance of payments position has been healthy, with the current account surplus being a key factor.

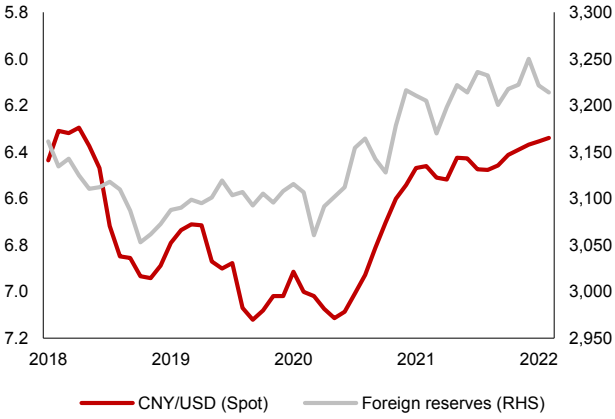
Balance of Payments
(Percent of GDP)



Source: State Administration of Foreign Exchange.

Foreign reserves have trended up slightly to reach USD 3.21 trillion in February 2022.

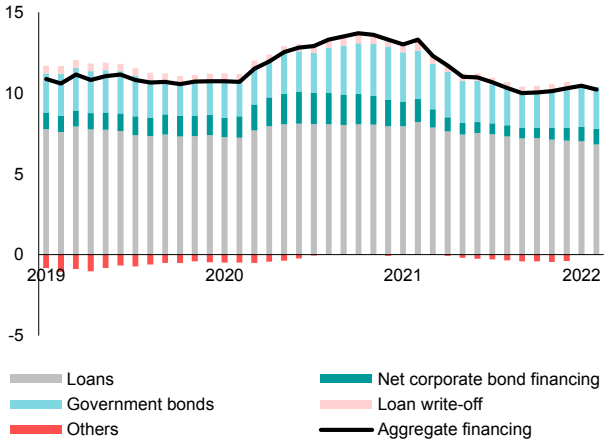
USD-RMB Exchange Rate and Foreign Reserves
(Chinese yuan/US dollar inverse; billions of US dollars)



Sources: China Foreign Exchange Trading Center; and The People's Bank of China.

Total social financing growth has trended up gradually, with the deleveraging policy still in place.

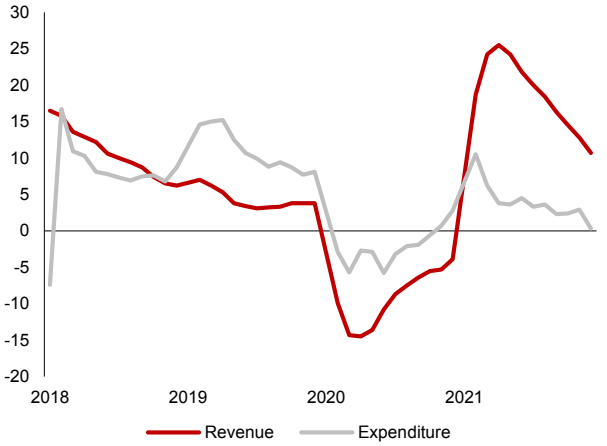
Contributions to Outstanding Total Social Financing Growth
(Percent, year-on-year)



Source: The People's Bank of China.

Fiscal revenue growth slowed in the second half of 2021 while spending was restrained throughout the year.

Fiscal Revenue and Expenditure
(Percent year-on-year, year-to-date)



Source: China Ministry of Finance.

China: Selected Economic Indicators

Indicator	2018	2019	2020	2021
Real sector	(in annual percentage change)			
Real GDP	6.7	5.9	2.2	8.1
Private consumption	8.1	6.4	–0.9	9.8
Gross fixed capital formation	6.6	4.5	5.1	2.6
Imports of goods and services	15.8	–2.8	–0.4	30.1
Exports of goods and services	9.9	0.5	9.9	29.9
External sector	(in percent of GDP, unless otherwise specified)			
Current account balance	0.2	0.7	1.9	1.8
Trade balance	0.6	0.9	2.5	2.6
Capital and financial account balance	1.1	0.2	–0.7	0.3
Direct investment	0.7	0.4	0.7	1.2
Portfolio investment	0.8	0.4	0.6	0.5
Other investment	–0.1	–0.7	–1.7	0.0
Errors and omissions	–1.3	–0.9	–1.1	0.0
Gross external debt	14.3	14.3	15.0	14.0
Foreign exchange reserves (in USD billion, end of period)	3,072.7	3,107.9	3,216.5	3,250.0
Fiscal sector[1]	(in percent of GDP)			
Revenue and grants	19.9	19.3	18.0	17.7
Expenditure	24.0	24.2	24.2	21.5
Fiscal balance	–4.1	–4.9	–6.2	–3.8
Government debt	36.2	38.3	45.8	48.3
Monetary and financial sectors	(in annual percentage change)			
Broad money[2]	8.1	8.7	10.1	9.0
Total Social Financing	10.3	10.7	13.3	10.3
Memorandum items:				
Nominal GDP (in RMB trillion)	91.9	98.7	101.4	114.4
Headline inflation (in percent y-o-y, period average)	2.1	2.9	2.5	0.9
Lending rate (LPR), 1 year (period-end)	4.35	4.35	4.35	4.35
Exchange rate (in RMB/USD, period average)	6.62	6.91	6.90	6.45

Sources: National authorities via CEIC and Haver Analytics; and AMRO staff estimates.
Note: Numbers in red denote AMRO staff estimates. y-o-y = year-on-year. LPR = loan prime rate.
1/ Includes only general government account and incorporates AMRO staff estimates.
2/ Refers to M2.

Hong Kong, China

The economy rebounded in 2021, but the recovery has remained uneven across sectors. Growth rebounded strongly to 6.4 percent year-on-year in 2021, following a 6.5 percent year-on-year contraction in 2020. On the demand side, exports, private consumption, and investment rebounded in 2021. Activities in retail, transportation, and accommodation improved but remained well below pre-recession levels in 2018 as inbound tourism was at a standstill. Looking ahead, effective pandemic control and further progress in COVID-19 vaccination toward the target rate would facilitate a gradual phase-out of social distancing measures and allow for targeted border reopening.

Labor market conditions have improved steadily after a marked deterioration in 2020. The unemployment rate declined quickly to 3.9 percent in November 2021–January 2022 from the peak of 7.2 percent in December 2020–February 2021, led by the recovery of employment in labor-intensive and hard-hit sectors, such as transportation, retail, and accommodation. The overall recovery is expected to continue in 2022 as the economy further rebounds and cross-border travel partially resumes.

Inflation rose in 2021 on the back of the economic recovery after a sharp decline in 2020. Headline inflation rose to 1.6 percent year-on-year, in 2021 from 0.3 percent year-on-year in 2020, largely due to rising energy and food prices. Overall price pressures are likely to increase further as housing rentals are expected to bounce back due to the pass-through effect from elevated housing prices.

The government announced countercyclical measures worth HKD170 billion to combat the recent wave of COVID-19 infections. The package includes HKD67 billion anti-epidemic package, HKD45 billion tax/fee reductions or subsidies, and HKD10,000 consumption vouchers. As a result, the fiscal deficit in FY2022/23 is projected to reach 1.9 percent of GDP, reversing from a surplus position equivalent to 0.7 percent of GDP in FY2021/22. Over the medium term, fiscal reserves are projected to be around 30 percent of GDP during FY2023/24– FY2025/26, declining from the current level of 35 percent. They would cover 13–16 months of government spending.

Hong Kong banks have remained resilient, bolstered by strong buffers and policy support during the pandemic. They maintained strong capital and liquidity ratios, well above the regulatory minimums. The NPL ratio increased from 0.6 percent in Q1 2020 to 0.9 percent in Q4 2020 and then declined slightly to 0.8 percent in Q3 2021, in part thanks to the government's loan guarantee programs and Pre-approved Principal Payment Holiday Scheme. However, the low-interest rate environment has weighed on banks' profitability as net interest margins declined sharply during the pandemic.

The residential property market remained resilient throughout the 2-year recession in 2019 and 2020, but the commercial property market was hit hard. Private residential property prices have held up well and will likely remain elevated as the economy recovers further. Prices for private office and retail space dipped pronouncedly due to work-from-home arrangements, social distancing, and strict cross-border restrictions. Since the latter part of 2020, transactions in these markets have recovered steadily and prices have bottomed out.

The government has stepped up efforts to boost the supply of both public and private housing to address the supply-demand imbalance and housing affordability. In 2021, the government pledged to provide about 330,000 public housing units during FY2022/23 to FY2031/32, and as many as 926,000 residential units in the Northern Metropolis, a new international information technology hub, which would accommodate about 2.5 million people. The government also introduced short-term transitional housing, cash allowances, and tenancy control to support vulnerable households in the interim.

While the growth outlook has improved, downside risks are still significant in the near term. A protracted wave of COVID-19 infections and the resulting weakening domestic and global demand could hinder economic recovery. Prolonged strict border controls and quarantine measures could affect business sentiment and encourage some foreign companies and expatriates to relocate. Business and investor sentiments could worsen from an escalation of geopolitical tensions including the US-China tensions and the Russia-Ukraine conflicts. Moreover, an earlier-than-expected tightening in US monetary conditions could lead to a sharp reversal of domestic financial conditions.

In the medium term, there is also uncertainty about the impact of the implementation of international tax changes on multinational corporations' investments and government revenue. In the longer term, the aging population and climate change could pose significant risks to growth and financial stability.

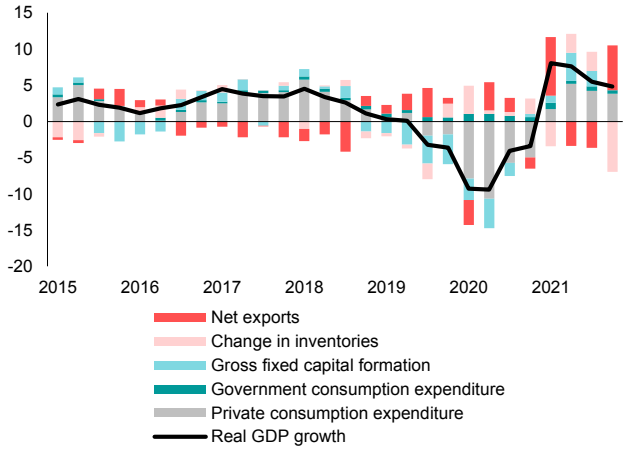
The author of this note is Xu (Kimi) Jiang.

Hong Kong, China: Selected Figures

Hong Kong's economy rebounded sharply in 2021 after a pronounced contraction in 2020 due to the pandemic.

Contributions to Real GDP Growth

(Percentage points, year-on-year)

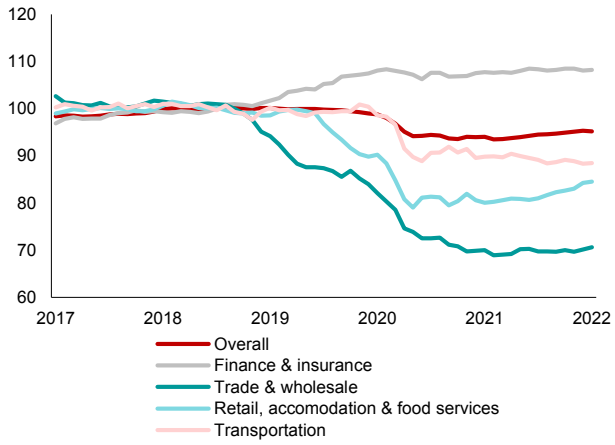


Sources: Census and Statistics Department; and Haver Analytics.

Overall employment improved in 2021, but the recovery remained uneven across sectors.

Employment by Sector

(2018 = 100, non-seasonally adjusted, 3-month moving average)

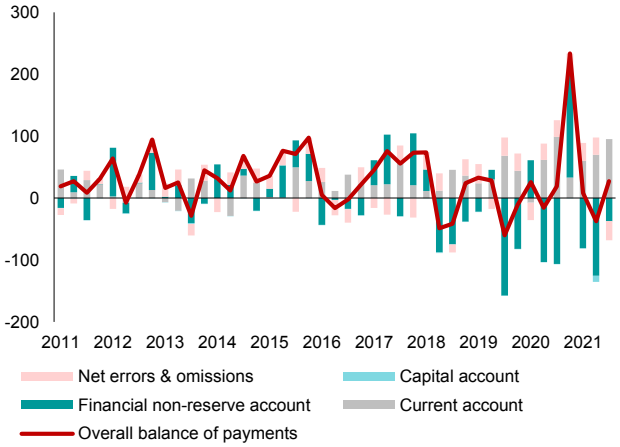


Sources: Census and Statistics Department; and Haver Analytics.

The external position has remained resilient since the outbreak of the pandemic.

Balance of Payments

(Billions of Hong Kong dollars)

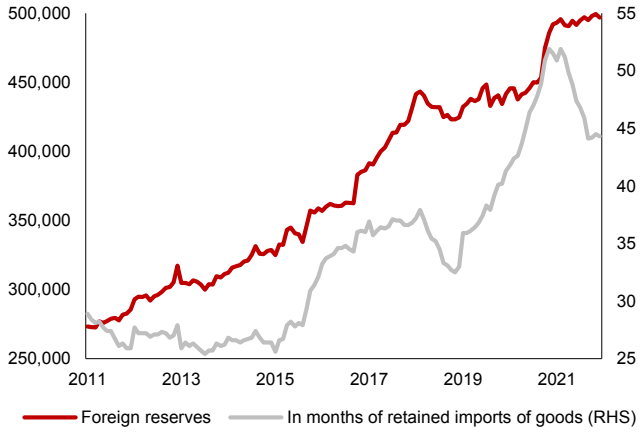


Sources: Census and Statistics Department; and Haver Analytics.

Foreign reserves remained ample, covering about 45 months of retained imports.

Foreign Reserves

(Millions of US dollars; months of imports)

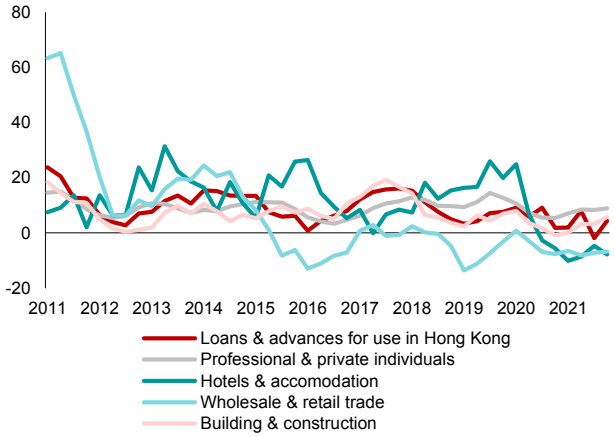


Sources: Hong Kong Monetary Authority; and Haver Analytics.

Bank lending to wholesale and retail trade, building and construction, and hotels and accommodation continued to contract.

Bank Lending Growth by Sector

(Percent, year-on-year)

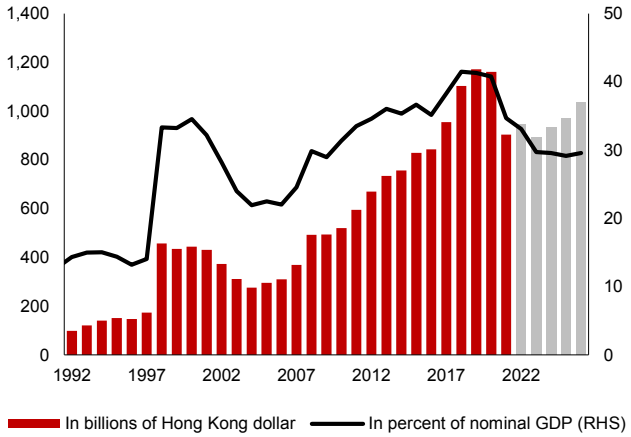


Sources: Haver Analytics; and Hong Kong Monetary Authority.

The government has projected that fiscal reserves would stabilize at 30 percent of GDP over the medium term.

Fiscal Reserves Projections

(Billions of Hong Kong dollars; percent of GDP)



Sources: CEIC; and Financial Services and the Treasury Bureau.
Note: Grey bars denote government projections in the 2022 Budget Speech.

Hong Kong, China: Selected Economic Indicators

Indicator	2018	2019	2020	2021
Real sector	(in annual percentage change)			
Real GDP	2.8	–1.7	–6.5	6.4
Private consumption	5.3	–0.8	–10.5	5.7
Government consumption	4.2	5.1	7.9	4.6
Gross fixed capital formation	1.7	–14.9	–11.3	10.1
Imports of goods and services	4.5	–7.2	–6.9	17.0
Exports of goods and services	3.7	–6.1	–6.7	16.1
External sector	(in percent of GDP, unless otherwise specified)			
Current account balance	3.7	5.8	6.5	5.5
Trade balance	–8.9	–4.2	–1.5	–0.8
Capital and financial account balance	–6.2	–8.3	–9.0	–8.4
Direct investment	6.1	5.7	9.8	10.6
Portfolio investment	–21.7	–7.6	–19.6	–27.1
Other investment	8.6	–6.7	9.8	4.6
Errors and omissions	2.4	2.5	2.4	2.9
Overall balance	0.3	–0.3	9.8	–2.7
Gross external debt	1,695	1,675	1,789	1,800
International reserves (in USD billion, end of period)	425.0	441.0	491.8	495.0
Fiscal sector[1]	(in percent of GDP)			
Revenue and grants	21.2	20.8	21.0	22.8
Expenditure	18.8	21.4	30.3	24.4
Fiscal balance	2.4	–0.4	–8.7	0.7
Government debt	0.1	0.3	1.0	1.3
Monetary and financial sectors	(in annual percentage change)			
Broad money	-0.4	–1.0	10.9	16.3
Domestic credit	4.4	6.7	1.2	3.8
Private sector credit	5.4	7.1	1.6	9.4
Memorandum items:				
Nominal GDP (in HKD trillion)	2.8	2.8	2.7	2.9
Headline inflation (in percent y-o-y, period average)	2.4	2.9	0.3	1.6
Policy rate (in percent per annum)	2.75	2.50	0.50	0.50
Exchange rate (in HKD/USD, period average)	7.84	7.84	7.76	7.77

Sources: Bank for International Settlements; International Monetary Fund; national authorities via CEIC and Haver Analytics; and AMRO staff estimates.
Note: Numbers in red denote AMRO staff estimates. y-o-y = year-on-year.
1/ Refer to fiscal year, which starts on April 1 and ends on March 31.

Indonesia

The recovery of the Indonesian economy has regained traction, thanks to effective containment of the Delta variant outbreak and ongoing policy support. Real GDP rebounded by 3.7 percent year-on-year in 2021, led by robust exports and stronger domestic demand, and is projected to grow further by 5.2 percent year-on-year in 2022. Demand recovery is expected to lift inflation from a subdued 1.6 percent year-on-year (period average) in 2021 to 2.8 percent year-on-year (period average) in 2022.

Stellar export performance and increased foreign investment inflows have supported Indonesia's external position. Merchandise exports posted a 43 percent year-on-year growth in 2021, underpinned by the global demand recovery and higher prices for Indonesia's key commodities. Foreign direct investment realization also increased by 8.5 percent year-on-year in 2021, with sustained inflows to metal-processing, automotive manufacturing, and mining activities. These developments supported the rupiah and led to an increase in gross international reserves to USD 144.9 billion in December 2021.

Financial markets remained resilient to external headwinds. Outflows were observed in the government bond market in 2021, as investor sentiment toward emerging markets (EMs) was adversely affected by uncertainties over the US Federal Reserve's policy normalization and the virus resurgence in the region. Indonesia's government bond yields have picked up, albeit moderately relative to its EM peers, as inflation remained low. Improved corporate performance, underpinned by higher commodity prices and a recovery in domestic demand, has attracted inflows to the stock market.

Improved economic conditions are supporting a recovery in loan growth and a moderation in loan restructuring. Commercial bank loans rebounded by 5.2 percent year-on-year at the end of 2021, and further to 6.3 percent year-on-year in February 2022, the highest growth since mid-2020. With more borrowers making repayments, the total amount of restructured loans declined to about IDR 663 trillion in December 2021, equivalent to 11.5 percent of total loans. Banks have downgraded or even written off nonviable loans voluntarily, aiming to avoid a potential spike in NPLs post-restructuring. High capital adequacy ratios of above 20 percent, alongside elevated loan loss provisions that cover close to 200 percent of NPLs, should provide adequate support to the banking sector's resilience moving forward.

Bank Indonesia's (BI's) policy mix continues to support economic recovery. BI has kept its policy rate at a record low of 3.5 percent following 6 rate cuts since the pandemic broke out in 2020. A low-interest environment, coupled with BI's quantitative easing measures and fiscal-monetary policy synergy to support economic recovery from the pandemic, have underpinned loose liquidity conditions. As the banking sector remains sound, macroprudential regulations on automotive and property loans have been further relaxed, in sync with the government's tax incentives on car and home purchases, to boost domestic demand. Efforts have also been stepped up to digitalize the payment system and enhance financial inclusion.

Fiscal policy remains supportive. The government increased the fiscal support package to about 4.4 percent of GDP in 2021 to combat the impact of the Delta variant outbreak, of which 88.4 percent or about 3.9 percent of GDP was disbursed. The 2022 Budget has been designed to sustain the recovery momentum in view of continuing pandemic uncertainties. BI has contributed to the financing of pandemic-related healthcare cost and humanitarian aid in 2021–22, by buying government bonds through private placement at variable rates equivalent to the 3-month reverse repo rate. To support fiscal consolidation post-pandemic, the government has succeeded in pushing through parliament a comprehensive tax reform package, including a higher value-added tax rate and a new carbon tax, a signal of its commitment to the climate change agenda.

Risks to Indonesia's near-term outlook continue to stem from possible COVID-19 resurgences and US Federal Reserve policy uncertainties, as well as ongoing geopolitical tensions. Repeated waves of infections, especially with the emergence of new virus variants, followed by tighter containment measures, would weigh on recovery prospects. A spike in risk aversion among global investors, triggered by a sharper-than-expected tightening by the US Fed, or intensified geopolitical tensions, could heighten volatility in domestic financial markets. However, reduced foreign holdings of government bonds, a strengthened external position, and low inflation, should help mitigate possible spillovers.

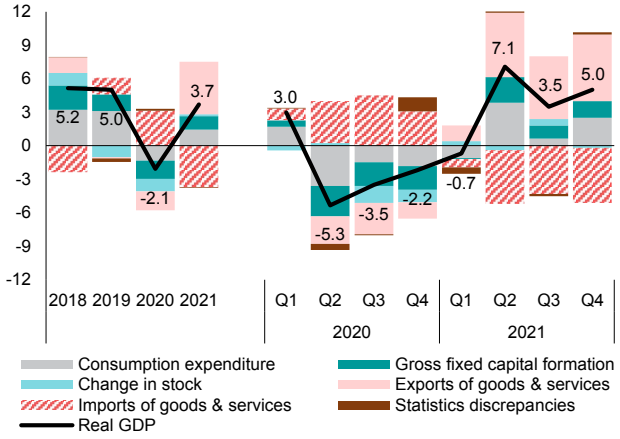
Indonesia is facing challenges in executing a smooth exit from its expansionary pandemic policies in the medium term. The country's elevated debt-service burden, aggravated by higher government debt during the pandemic, could increase further should Fed tightening lead to significantly higher domestic interest rates, reducing the room for much-needed capital spending. This will be critical when Indonesia restores the fiscal rule of a maximum budget deficit of 3 percent of GDP in 2023.

The author of this note is Thi Kim Cuc Nguyen.

Indonesia: Selected Figures

A strong export performance and rebounding domestic demand underpinned the economic recovery in 2021.

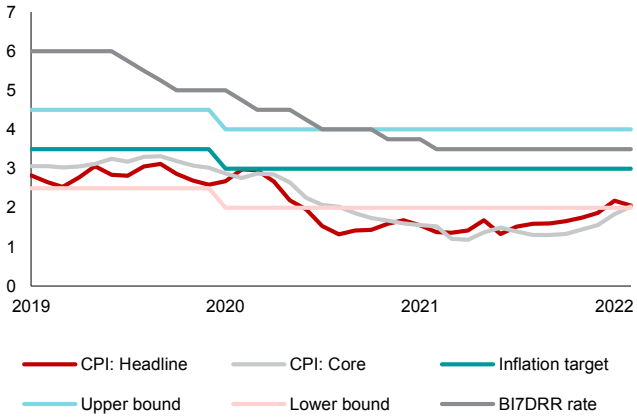
Contributions to Real GDP Growth
(Percentage points, year-over-year)



Source: Statistics Indonesia.

In light of subdued inflation, Indonesia kept its policy rate at a record-low to support the economy.

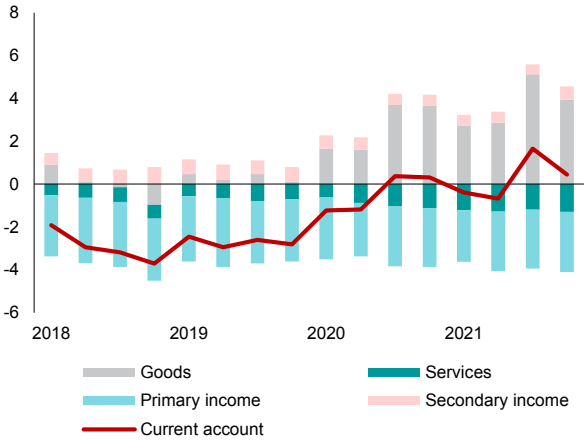
Bank Indonesia's Policy Rate and Inflation
(Percent)



Sources: Statistics Indonesia; and Bank Indonesia.
Note: BI7DRR refers to Bank Indonesia's 7-day reverse repo rate.

An improved current account balance …

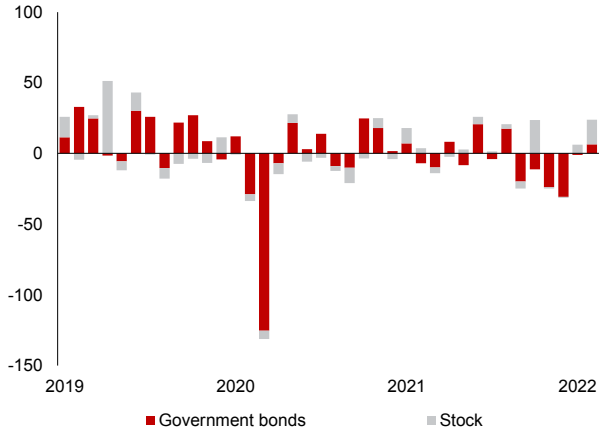
Current Account Balance
(Percent of GDP)



Source: Bank Indonesia.

…amid intermittent capital outflows, notably from the government bond market…

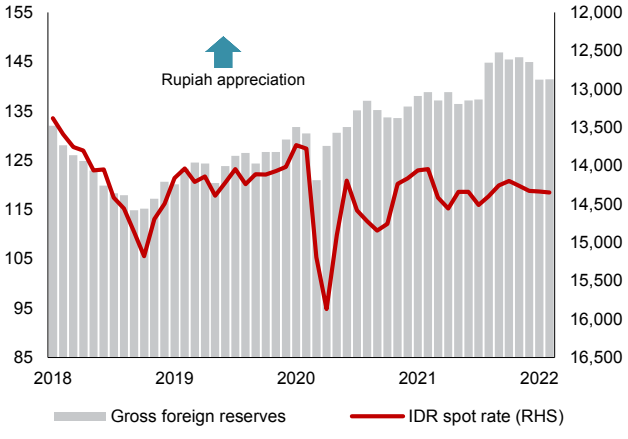
Net Capital Flows to Government Bond and Equity Markets
(Trillions of Indonesian rupiahs)



Sources: Bank Indonesia; Indonesia Stock Exchange; and Ministry of Finance of Indonesia.

… supported the rupiah and reserves accumulation in 2021.

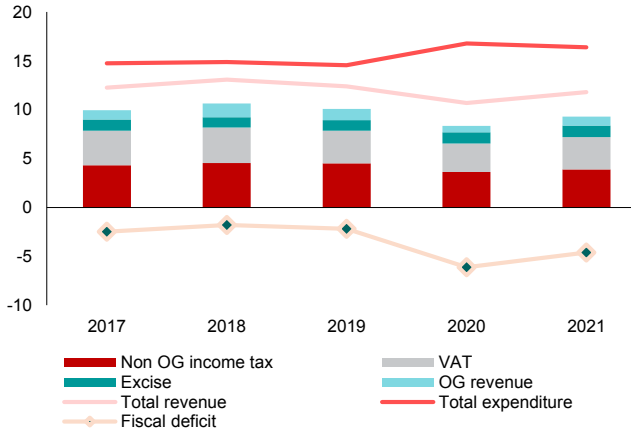
Gross Foreign Reserves and Rupiah Spot Rate
(Billions of US dollars; Indonesia rupiah/US dollar inverse)



Source: Bank Indonesia.

Despite a still-elevated budget expenditure, the fiscal deficit narrowed in 2021, thanks to a revenue windfall from higher commodity prices.

Budget Revenue, Expenditure, and Overall Balance
(Percent of GDP)



Sources: Ministry of Finance via CEIC; and AMRO staff estimates.
Note: Data for 2021 are AMRO staff estimates based on the preliminary fiscal realization data announced by Ministry of Finance of Indonesia. OG = oil & gas.

Indonesia: Selected Economic Indicators

Indicator	2018	2019	2020	2021
Real sector	(in annual percentage change)			
Real GDP	5.2	5.0	–2.1	3.7
Household consumption	5.1	5.0	–2.6	2.0
Government consumption	4.8	3.3	2.0	4.2
Gross fixed capital formation	6.7	4.5	-5.0	3.8
Imports of goods and services	12.1	–7.1	–16.7	23.3
Exports of goods and services	6.5	–0.5	–8.1	24.0
External sector	(in percent of GDP, unless otherwise specified)			
Current account balance	–2.9	–2.7	–0.4	0.3
Trade balance	0.0	0.3	2.7	3.7
Capital and financial account balance	2.4	3.3	0.7	1.0
Direct investment	1.2	1.8	1.3	1,4
Portfolio investment	0.9	2.0	0.3	0.4
Other investment	0.3	–0.5	–0.9	–0.9
Overall balance	–0.7	0.4	0.2	1.1
Gross external debt	36.0	36.1	39.3	35.0
International reserves (in USD billion, end of period)	120.7	129.2	135.9	144.9
Fiscal sector[1]	(in percent of GDP)			
Revenue and grants	13.1	12.4	10.7	11.8
Expenditure	14.9	14.5	16.8	16.4
Fiscal balance	–1.8	–2.2	–6.1	–4.6
Government debt	30.4	30.2	39.5	40.7
Monetary and financial sectors	(in annual percentage change)			
Broad money	6.3	6.5	12.5	13.9
Private sector credit	12.5	5.5	–1.7	5.4
Memorandum items:				
Nominal GDP (in IDR trillion)	14,838	15,834	15,434	16,971
Headline inflation (in percent y-o-y, period average)	3.2	3.0	2.0	1.6
Policy rate (in percent per annum)	6.0	5.0	3.8	3.5
Exchange rate (in IDR/USD, period average)	14,246	14,237	14,582	14,310

Sources: National authorities via CEIC and Haver Analytics; and AMRO staff estimates.
Note: Numbers in red denote AMRO staff estimates. y-o-y = year-on-year.
1/ 2021 fiscal data are estimated based on the preliminary 2021 budget realization data provided by Ministry of Finance.

Japan

The Japanese economy experienced a bumpy recovery with growth averaging 1.6 percent in 2021, after being severely battered by the COVID-19 pandemic in 2020. In Q1, real GDP contracted by 2.2 percent (seasonally adjusted annualized rate) against the backdrop of a renewed state of emergency. The economy expanded by 2.4 percent in Q2 before shrinking again by 2.8 percent in Q3 amid the extension of the state of emergency. In Q4, real GDP rebounded by 4.6 percent, reflecting strong private consumption, which had been highly volatile during the whole year, fluctuating in line with repeated waves of infections. Business investment was weak, dragged down by global supply chain disruptions. Exports grew rapidly in the first half of 2021, led by strong external demand, before slowing in the second half as auto shipments declined sharply due to parts shortages. Overall labor market conditions have been resilient, despite the pandemic. The unemployment rate declined gradually to 2.7 percent in December 2021, after peaking at 3.1 percent in October 2020, mainly driven by job losses among non-regular workers.

Looking forward, the Japanese economy is forecast to register a stronger expansion in 2022, reflecting pent-up private consumption and business investment as the rapid spread of the Omicron variant is contained and the economy gradually reopens. Households are expected to increase spending on the back of huge savings accumulated during the pandemic. Firms are poised to expand investments to strengthen their production capacity, improve their resilience against supply chain disruptions, and meet digital transformation and green-economy goals. Meanwhile, exports will likely moderate with the global economic slowdown.

Consumer price inflation remained weak in 2021 due to declining prices for services. In 2021, the CPI (less fresh food) fell by 0.2 percent on average while the prices of services declined sharply, primarily due to reduced mobile phone charges. Meanwhile, the increase in goods prices accelerated to 3.4 percent year-on-year in December, driven by rising import prices of industrial products. Looking ahead, CPI inflation is projected to rise moderately in 2022.

Japan's external position has stayed strong, supported by a continued large primary income surplus. In 2021, the current account surplus amounted to 2.8 percent of GDP. The goods account posted a surplus, driven by a strong recovery in exports, but the services account deteriorated led by a sharp drop in the travel account surplus. The primary income surplus remained the main contributor to Japan's continued current account surplus.

Financial conditions have been accommodative, with substantial financial and liquidity support from the government and the Bank of Japan since the outbreak of the pandemic. Bank lending grew sharply by 5–6 percent year-on-year from Q2 2020 to Q1 2021, before decelerating to about 1 percent year-on-year from Q3 to Q4 2021. The overall financial system remained stable with sufficient liquidity and capital buffers. The NPL ratio inched up from 1.1 percent in March 2020 to 1.2 percent in March 2021. In terms of profitability, most banks, particularly regional banks, continue to see low returns on assets. That said, net income improved in FY2020 on the back of rapid loan growth and cuts in administrative expenses.

The fiscal deficit widened sharply in FY2020, as a result of the massive stimulus packages deployed in response to the pandemic. Government spending increased sharply from 38.5 percent of GDP in FY2019 to 47.0 percent of GDP in FY2020 with 3 supplementary budgets, which led the fiscal deficit to widen from 3.1 percent of GDP in FY2019 to 10.0 percent of GDP in FY2020. Moreover, in November 2021, the government announced yet another sizable stimulus package for FY2021, backed by a supplementary budget, and subsequently proposed its largest-ever initial budget of JPY 107.6 trillion for FY2022. Going forward, the fiscal deficit, which is estimated to have narrowed modestly in FY2021, is expected to shrink further in FY2022.

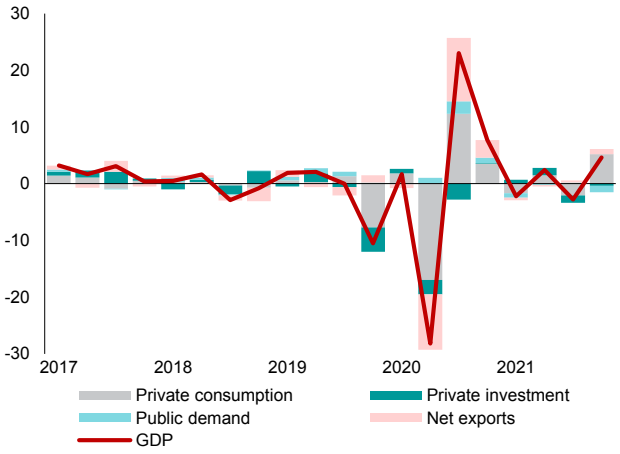
The Japanese economy is confronted with several near-term risks, including recurrent COVID-19 infections and protracted supply chain disruptions, as well as lingering structural challenges. Any recurrent waves of the COVID-19 infections will have a significant impact on economic activities at home and abroad. Sustained global supply chain disruptions and bottlenecks will adversely affect Japanese manufacturers' production and exports. The Russia-Ukraine conflict could delay Japan's economic recovery by triggering high energy import prices, deteriorating corporate profits, and dampening consumer and business sentiments. Meanwhile, a premature unwinding of the government's special lending programs for small- and medium-sized enterprises, before the pandemic comes well under control, could put an upward pressure on the number of bankruptcies. Structural challenges include deterioration of fiscal situation, side effects from prolonged monetary easing, the declining profitability of regional banks, and demographic drag from population aging and low fertility rates.

The author of this note is Jinho Choi.

Japan: Selected Figures

The Japanese economy experienced a bumpy recovery in 2021 after being severely hit by the COVID-19 pandemic.

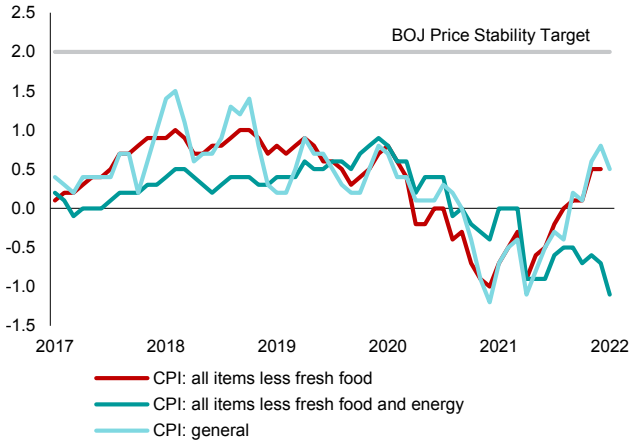
Contributions to Real GDP Growth
(Percent, quarter-on-quarter, seasonally adjusted annualized rate)



Source: Cabinet Office via Haver Analytics.

CPI inflation remained weak in 2021 but turned positive in the second half of the year reflecting rising oil prices.

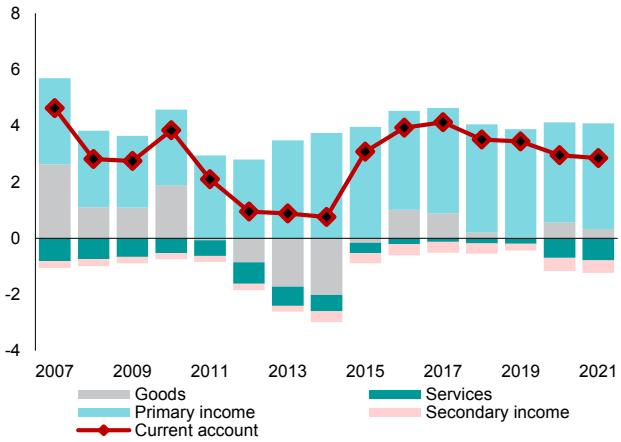
CPI Inflation
(Percent, year-over-year)



Source: Ministry of Internal Affairs and Communications via Haver Analytics.
Note: BOJ = Bank of Japan; CPI = consumer price index.

The current account surplus remained strong in 2021 on the back of a large primary balance surplus.

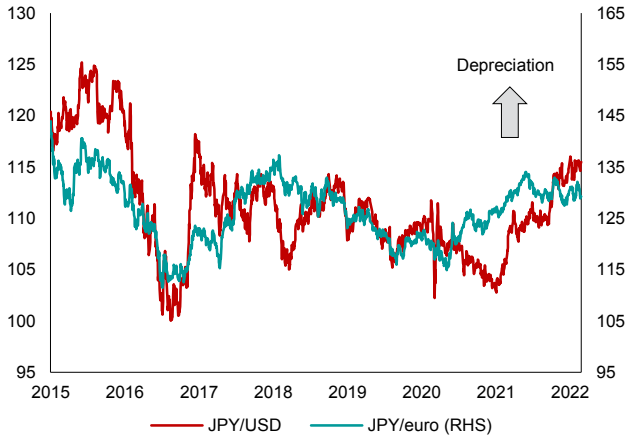
Current Account Balance
(Percent of GDP)



Source: Ministry of Finance via Haver Analytics.

In 2021, the JPY depreciated on the back of a stronger USD and rising long-term US interest rates.

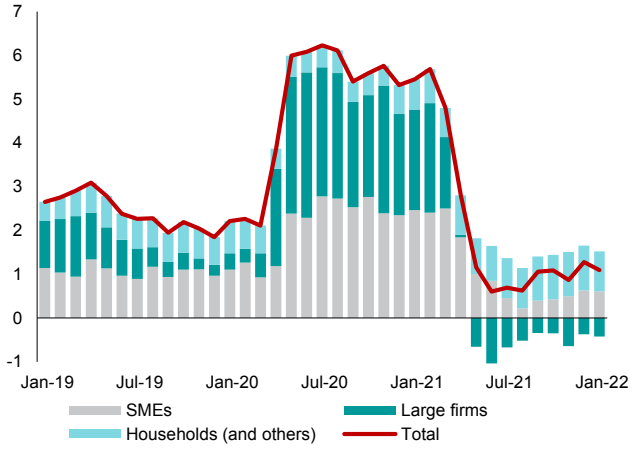
Exchange Rates
(Japanese yen/US dollars; Japanese yen/euros)



Source: Bank of Japan via CEIC.

Loan growth slowed gradually, reflecting the reduction in large firms' financing needs.

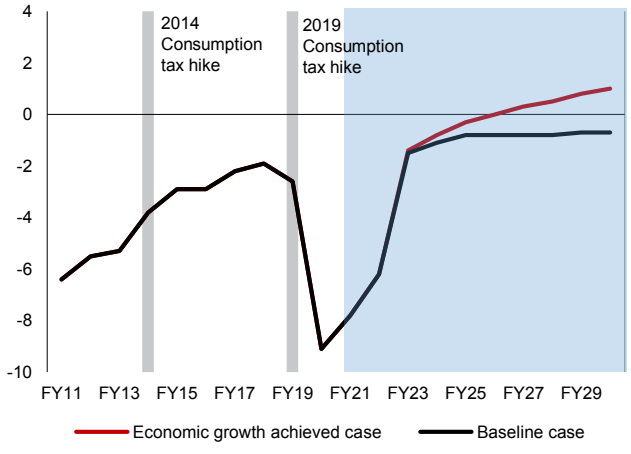
Contributions to Bank Lending Growth
(Percentage points, year-on-year)



Source: Bank of Japan via CEIC.
Note: SME = small- and medium-sized enterprise.

The fiscal deficit widened sharply in FY2020 as a result of massive stimulus packages in response to the COVID-19 pandemic.

Primary Balance of Central and Local Governments
(Percent of GDP)



Source: Cabinet Office (January 2022) via CEIC.

Japan: Selected Economic Indicators

Indicator	2018	2019	2020	2021
Real sector	(in annual percentage change)			
Real GDP	0.6	–0.2	–4.5	1.6
Private consumption	0.2	–0.5	–5.2	1.3
Government consumption	1.0	1.9	2.3	2.1
Gross fixed capital formation	0.4	1.0	–4.6	–1.5
Imports of goods and services	3.8	1.0	–7.2	5.2
Exports of goods and services	3.8	–1.5	–11.8	11.6
External sector	(in percent of GDP, unless otherwise specified)			
Current account balance	3.5	3.4	3.0	2.8
Trade balance	0.0	–0.2	–0.1	–0.5
Capital account balance	0.0	–0.1	0.0	–0.1
Financial account balance	3.1	3.9	2.3	0.7
Direct investment	2.7	4.3	1.8	2.4
Portfolio investment	1.8	1.7	0.8	–4.1
Financial derivatives	0.0	0.1	0.2	0.5
Other investment	–1.4	–2.1	–0.4	1.9
Errors and omissions	0.2	1.1	–0.4	–0.8
Overall balance	0.5	0.5	0.2	1.3
Gross external debt	79.9	82.9	92.8	98.0
International reserves (in USD billion, end of period)	1,271.0	1,323.8	1,394.7	1,405.8
Fiscal sector[1]	(in percent of GDP)			
Revenue and grants	35.5	35.4	37.0	39.5
Expenditure	37.9	38.5	47.0	48.8
Fiscal balance	–2.4	–3.1	–10.0	–9.4
Government debt	237.8	238.5	262.2	271.6
Monetary and financial sectors	(in annual percentage change)			
Broad money	2.2	1.7	4.1	5.6
Domestic credit	3.2	2.6	4.8	4.8
Private sector credit	4.1	3.6	5.3	6.7
Memorandum items:				
Nominal GDP (in JPY trillion)	556.3	558.5	538.2	541.9
Headline inflation (in percent y-o-y, period average)	1.0	0.5	0.0	–0.3
Core inflation, less fresh food (in percent y-o-y, period average)	0.9	0.6	–0.2	–0.2
Policy rate (in percent per annum, end of period)	–0.1	–0.1	–0.1	–0.1
Exchange rate (in JPY/USD, period average)	110.4	109.0	106.8	109.8

Sources: National authorities via CEIC and Haver Analytics; and AMRO staff estimates.
Note: Numbers in red denote AMRO staff estimates. y-o-y = year-on-year.
1/ Refers to fiscal year, which starts April 1 and ends March 31.

Korea

Despite lingering outbreaks of COVID-19, Korea's economic growth is expected to have rebounded robustly at 4.0 percent in 2021 from its 0.9 percent slump in 2020. The strong growth was on the back of semiconductor exports, underpinned by a tremendous rise in global demand. Facilities investment expanded in line with exports. Despite prolonged containment measures and limits on social gathering, domestic private consumption also grew strongly due to the low-base effect and flourishing e-commerce. Meanwhile, construction was sluggish due to rising material prices, underpinned by supply chain disruption of construction materials, and worsening weather in the summer.

By sector, the Korean economy continued to exhibit a K-shape recovery, where large companies and firms in the manufacturing sector recovered strongly while small- and medium-sized firms in the services sectors did not.

The labor market largely recovered and created more jobs in 2021. Only close- contact services sectors including food services, restaurants, and hotels continued to experience job losses due primarily to restrictions on cross-border travel and social distancing practices.

Consumer price inflation rose to about 3.5–4.0 percent in late 2021, exceeding the Bank of Korea's (BOK's) 2 percent target. The soaring CPI was underpinned by both supply and demand factors. Cost-push pressures were due to rising global energy prices and local fresh food prices, while demand-pull pressures had built up in line with the recovery of domestic demand.

Korea's external position continued to be strong, supported by a sustained surplus in the current account, a net external asset position and ample international reserves. The current account surplus is expected to have remained at 5.1 percent of GDP in 2021 on the back of strong goods exports and air cargo and shipping service income. The bulk of the current account surplus continued to be invested overseas in the form of direct investment and portfolio investment despite the pandemic. Gross international reserves rose to USD 464 billion at the end of November 2021, equivalent to more than 9 months of goods and services imports and about 2.8 times short-term external debt.

Monetary conditions are still accommodative, although the BOK started normalizing the policy rate in the second half of 2021. The government's credit support measures and strong loan demand led to high growth in SME loans, while household loan growth also surged with an increase in stock investment and residential property purchases.

Korea's financial system has remained generally sound. Korean banks and nonbank financial institutions are well capitalized with declining NPL ratios. Meanwhile, Korean Treasury bond yields spiked in the last quarter of 2021, reflecting market concerns over global inflation and tapering of support by the US Federal Reserve, as well as expectations of a BOK rate hike.

On the fiscal front, the government continued its expansionary policy stance in 2021 to support the economic recovery amid the pandemic. Total government spending was expanded further to 29.5 percent of GDP in 2021 from 28.9 percent in 2020. Meanwhile, the boom in asset markets led to strong revenue collection. Government revenue is expected to have increased to 25.1 percent of GDP in 2021 from 25.0 percent in 2020. The fiscal deficit is expected to have widened minimally to 4.4 percent of GDP in 2021 from 3.7 percent in 2020.

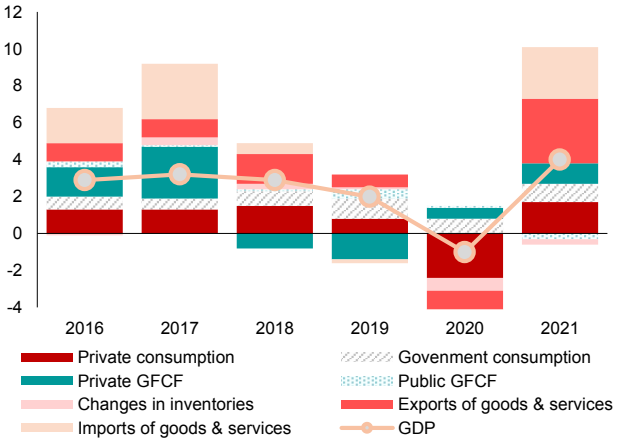
Going forward, Korea's economic growth is forecast to continue at a robust 3.0 percent in 2022. The growth driver is expected to shift from external demand toward domestic demand. Downside risks to the growth outlook stem from a resurgence of COVID-19 infections and the emergence of new virus variants locally and abroad and rising consumer price inflation. On the financial stability front, financial imbalances from surging house prices and rising household debt continue to build up and warrant close monitoring.

The author of this note is Wanwisa (May) Vorranikulkij.

Korea: Selected Figures

Growth in 2021 rebounded strongly on the back of semiconductor exports.

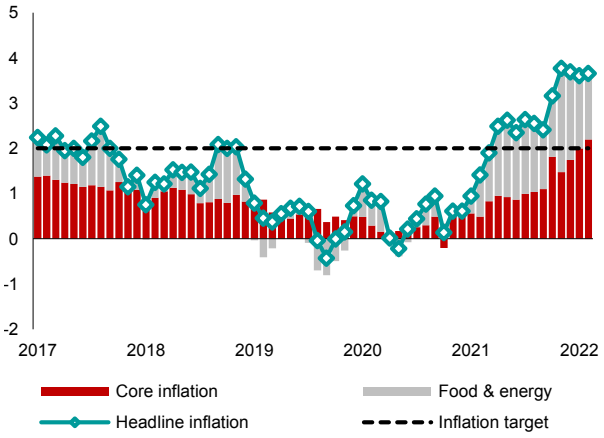
Contributions to Real GDP Growth
(Percentage points, year-on-year)



Sources: Bank of Korea; and AMRO staff estimations.
Note: GFCF = gross fixed capital formation.

Headline inflation soared in the second half of 2021 on the back of rising global oil prices.

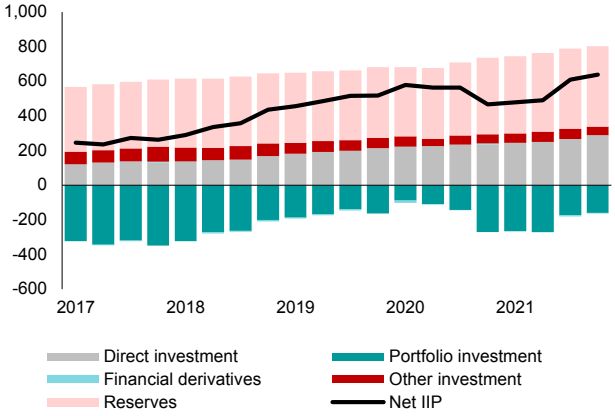
Contributions to CPI Inflation
(Percentage points, year-on-year)



Sources: Statistics Korea; and Bank of Korea.
Note: CPI = consumer price index.

Korea's net asset position rebounded from the decline in The first half of 2021.

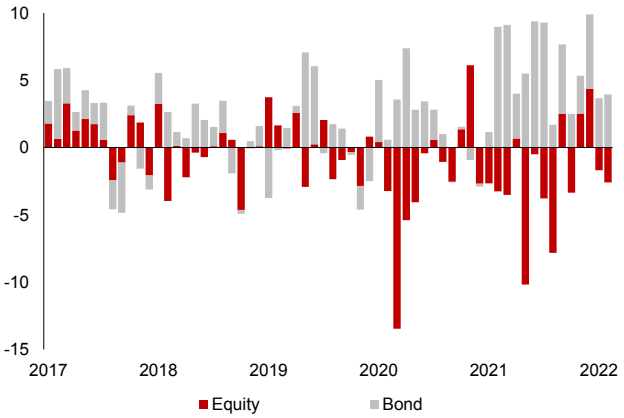
Net International Investment Position
(Billions of US dollar)



Sources: Bank of Korea; and AMRO staff calculations.
Note: IIP = international investment position.

Nonresident flows to Korea's bond market were strong in 2021, while flows to the stock market turned around in the second half of the year.

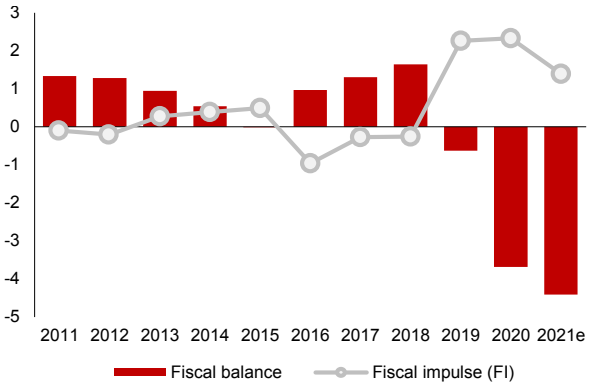
Portfolio Flows
(Billions of US dollar)



Source: Bank of Korea.

Korea employed an expansionary fiscal stance amid the COVID-19 pandemic.

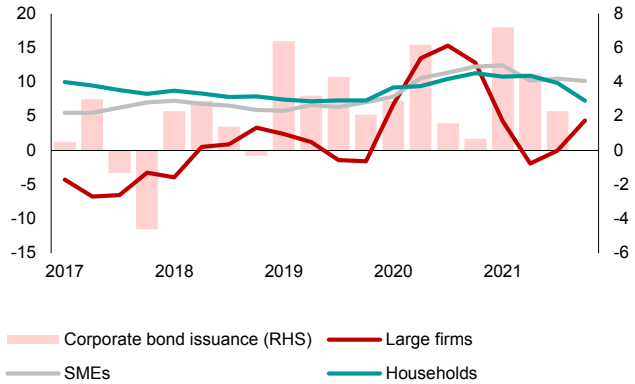
Fiscal Balance
(Percent of GDP)



Sources: Ministry of Economy and Finance; and AMRO staff estimates.
1/ Fiscal balance includes Social Security Fund.
2/ FI is the difference between fiscal balance of the current and previous fiscal years. FI<0 indicates less expansionary (or more contractionary) while FI>0 indicates more expansionary (or less contractionary) policy. e denotes estimate.

Accommodative monetary policy, high loan demand, and the government's support measures led to robust credit growth.

Credit Growth
(Percent, year-on-year; trillions of Korean won)



Source: Bank of Korea.
Note: SME = small- and medium-sized enterprise.

Korea: Selected Economic Indicators

Indicator	2018	2019	2020	2021 [1]
Real sector	(in annual percentage change)			
Real GDP	2.9	2.2	–0.9	4.0
Private consumption	3.2	2.1	–5.0	3.6
Government consumption	5.3	6.4	4.9	5.5
Gross fixed capital formation	–2.2	–2.1	2.6	2.5
Imports of goods and services	1.7	–1.9	–3.3	8.4
Exports of goods and services	4.0	0.2	–1.8	9.7
External sector	(in percent of GDP, unless otherwise specified)			
Current account balance	4.5	3.6	4.6	5.1
Trade balance	6.4	4.8	5.0	4.4
Capital and financial account balance	4.4	3.6	4.7	2.3
Direct investment	1.5	1.6	1.4	1.7
Portfolio investment	2.7	2.6	2.5	0.9
Other investment	–0.8	–1.0	–0.6	–0.2
Errors and omissions	–0.1	0.0	0.1	0.0
Overall balance	1.0	0.1	1.1	2.3
Gross external debt	25.6	28.5	33.2	31.6
International reserves (in USD billion, end of period)	403.7	408.8	443.1	463.1
Fiscal sector	(in percent of GDP)			
Revenue and grants	24.5	24.6	25.0	25.1
Expenditure	22.9	25.2	28.9	29.5
Fiscal balance	1.6	–0.6	–3.7	–4.4
Government debt	35.9	37.6	43.8	47.3
Monetary and financial sectors	(in annual percentage change)			
Broad money [2]	6.7	7.9	9.8	11.9
Domestic credit [3]	7.2	9.1	9.0	12.2
Private sector credit [4]	7.1	7.0	10.1	10.4
Memorandum items:				
Nominal GDP (in KRW trillion)	1,835.7	1,898.2	1,924.5	2,039.7
Headline inflation (in percent y-o-y, period average)	1.5	0.4	0.5	2.5
Policy rate (in percent per annum)	1.75	1.25	0.50	1.00
Exchange rate (in KRW/USD, period average)	1,100.6	1,165.2	1,180.3	1,146.4

Sources: National authorities via CEIC and Haver Analytics; and AMRO staff estimates.
Note: Numbers in red denote AMRO staff estimates. y-o-y = year-on-year.

1/ National income indicators are based on the advance estimate of GDP, published by the Bank of Korea. Fiscal and external indicators are estimated by AMRO, and monetary and financial indicators are as of September 2021.

2/ Refers to M2.

3/ Domestic credit refers to claims of other depository corporations on domestic agencies that comprise the central government, local governments, Social Security Office, and private sector. It does not include claims of the Bank of Korea.

4/ Private sector credit refers to corporate loans and consumer loans lent by commercial banks, specialized banks, and nonbanks.

Lao People's Democratic Republic

The pandemic continued to weigh on Lao PDR's economy in 2021, with growth estimated at 2.6 percent year-on-year, as repeated tightening of containment measures severely constrained economic activities, especially in the hospitality and transport sectors. The unemployment rate increased by 11 percent to 20.1 percent in 2020 and increased further to 21.1 percent in 2021. Meanwhile, the capital-intensive electricity and mining sectors and agricultural production and manufacturing in several special economic zones, grew robustly despite rising community infections. The economy is projected to grow by 3.9 percent year-on-year in 2022, supported by continued expansion of power generation capacity, an increase in agricultural exports, and a gradual resumption of tourism.

Inflation accelerated toward the end of 2021 due to high energy and food prices and rising import prices. Inflation was moderate from late 2020 till early 2021, which lowered the average inflation rate in 2021 to 3.8 percent from 5.1 percent in 2020. As inflationary pressures are projected to continue, inflation is expected to increase to 5.0 percent in 2022.

Despite the current account surplus, the overall balance of payments in Q1–Q3 2021 recorded a small deficit due to the large external debt service burden. The 2020 trade surplus continued in 2021, as robust exports outstripped the recovery in imports. Sizeable interest payments and the government's repayment of external debt were offset by trade surplus and robust FDI leading to a small decline in foreign reserves. With the recovery in imports, import cover remains at a low level and is projected to decline further in 2022 and 2023.

Structural external imbalances continue to put pressure on the thin external buffer and the Lao kip exchange rate. An unexpected large depreciation could erode public confidence in the Lao kip, increase consumer price inflation, and weaken the financial position of the public sector.

Continued deposit growth did not lead to strong private credit growth in 2021, weakening the profitability of the banking sector. Despite the Bank of Lao PDR's policy efforts to support liquidity and lending through reserve requirement ratio cuts and loan restructuring, commercial banks increased their investment in securities, including government bonds and their balances at the Bank of Lao PDR and credit growth was subdued. Although profitability indicators dropped, other financial soundness indicators seemed to be less affected by the pandemic, but underestimated risk of asset quality deterioration of restructured loans may be in a factor. Also, heterogeneity among banks implies heightened risks for some banks with thin capital buffers and high NPL ratios. Enhanced supervision and a well-phased withdrawal of pandemic measures are essential to maintain financial sector stability.

The fiscal deficit narrowed in 2021. With a rebound in revenue collection and a reduction in fiscal spending, the fiscal deficit is estimated to have declined to 2.0 percent of GDP in 2021 from 5.2 percent of GDP in 2020. However, the government debt-to-GDP ratio is estimated to have increased from 61.9 percent of GDP in 2020 to 70.4 percent in 2021 because of the growth slowdown and increase in nominal value of external debt. With the government's continued commitment to fiscal consolidation, the 2022 budget targets a fiscal deficit of 2.5 percent of GDP.

The high and rising government debt and debt service burden have raised concerns about debt sustainability, in the medium term. Amid unfavorable market conditions and worsening sovereign credit ratings, it has become difficult for the government to obtain new loans or roll over existing loans. Contingent liabilities arising from state-owned enterprises and large-scale public-private-partnership projects may put an additional financial burden on the government.

Economic recovery prospects remain vulnerable to the uncertain evolution of the pandemic. Lao PDR's vaccination rate and coverage are lower than neighboring countries. Careful reopening of economic activities and a ramping up of vaccination efforts should continue, while job support programs for unemployed workers need to be strengthened.

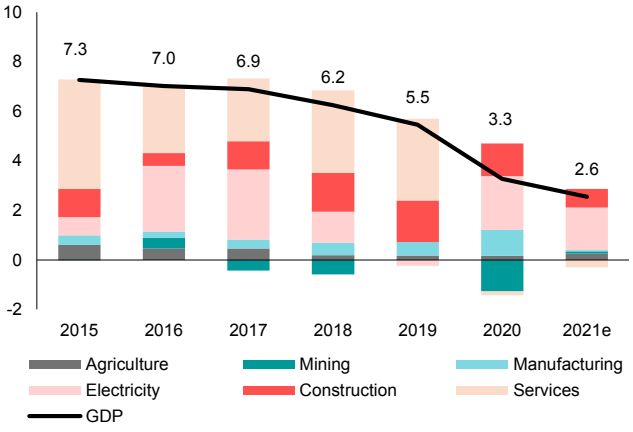
Past strong growth was driven by a few capital-intensive sectors, including hydropower generation and mining, which tend to yield relatively low benefits for the domestic economy and create limited job opportunities, which encourages outward labor migration. The low contribution of those projects to government revenue constrains the government capacity in pursuing the United Nations Sustainable Development Goals, including poverty reduction, quality education, and climate change adaptation and mitigation. Policy efforts to diversify the economy are essential to achieve a more inclusive and sustainable economic recovery.

The author of this country note is Yohei Okawa.

Lao PDR: Selected Figures

The Lao PDR economy is estimated to have slowed in 2021 due to the pandemic.

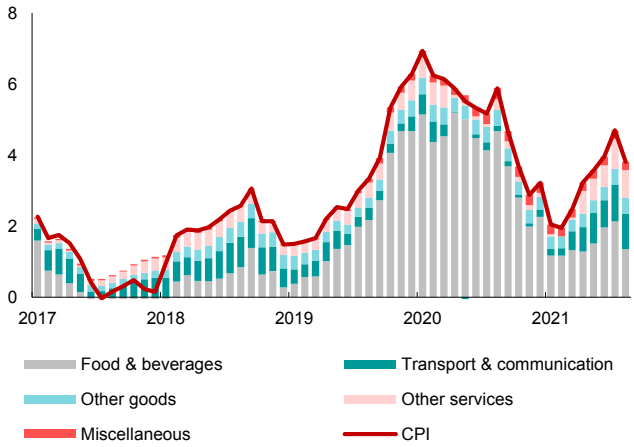
Contributions to Real GDP Growth
(Percentage points, year-on-year)



Sources: Lao Statistics Bureau; and AMRO staff estimates.
Note: e denotes estimate.

Inflation accelerated in late 2021, due to high energy and food prices and rising import prices.

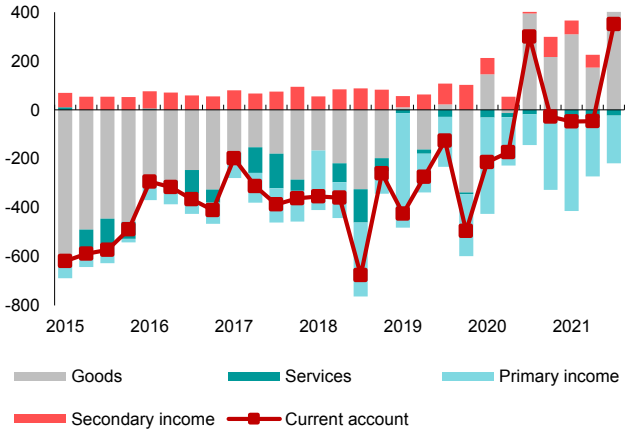
Contribution to CPI Inflation
(Percentage points, year-on-year)



Source: Lao Statistics Bureau.
Note: CPI = consumer price index.

The current account improved in 2021, driven by strong electricity and mining exports.

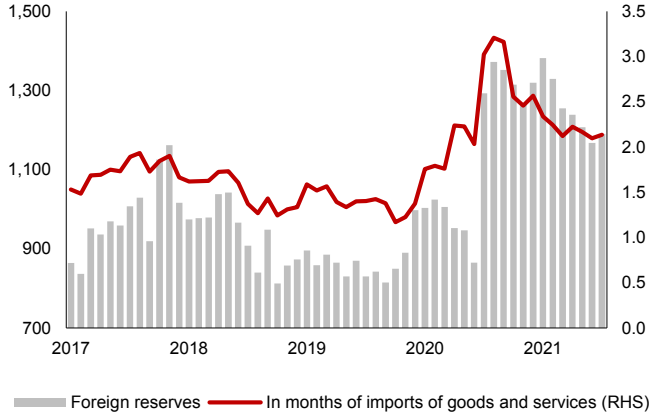
Current Account
(Millions of US dollars)



Source: Bank of Lao PDR.

Foreign exchange reserves are on downward trend, despite the SDR allocation in August 2021.

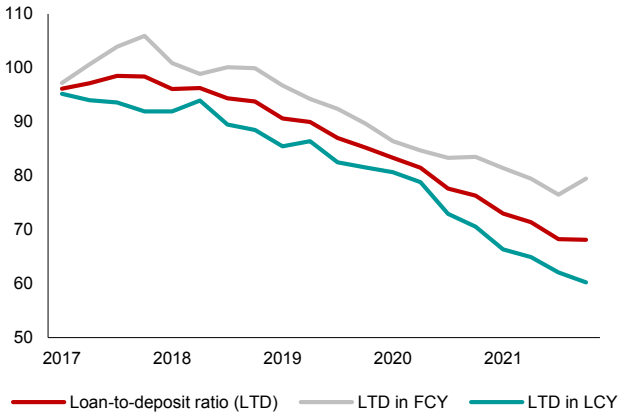
International Reserves
(Millions of US dollars; months of imports)



Sources: Bank of Lao PDR; and AMRO staff estimates.

The loan-to-deposit ratio continued its declining trend amid steady deposit growth.

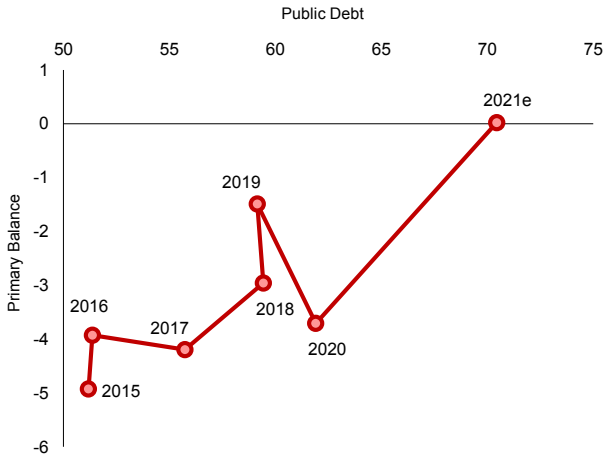
Loan-to-Deposit Ratio
(Percent)



Source: Bank of Lao PDR.
Note: FCY = foreign currency; LCY = local currency.

The primary balance improved in 2021, but public debt increased because of currency depreciation.

Primary Balance and Public Debt
(Percent of GDP)



Source: Bank of Lao PDR.
Note: e denotes estimate.

Lao PDR: Selected Economic Indicators

Indicator	2018	2019	2020	2021
Real sector	(in annual percentage change)			
Real GDP	6.2	5.5	3.3	2.6
Agriculture	1.3	1.2	1.1	1.5
Industry	7.8	5.6	9.2	6.9
Services	6.8	6.9	–1.2	–1.5
External sector	(in percent of GDP, unless otherwise specified)			
Current account balance	–9.1	–7.0	–0.6	1.1
Trade balance	–5.0	–2.5	3.9	6.5
Capital and financial account balance	–12.1	–10.4	–6.1	–3.5
Direct investment	–7.5	–4.0	–5.1	–5.0
Portfolio investment	–2.9	0.2	1.3	0.5
Other investment	–1.7	–6.6	–2.4	1.1
Errors and omissions	–3.8	–2.7	–3.9	–5.4
Overall balance	–0.8	0.7	1.7	–0.8
Gross external debt[1]	84.7	85.3	85.7	97.2
International reserves (in USD million, end of period)	873.0	997.0	1,319.0	1,168.0
Fiscal sector	(in percent of GDP)			
Revenue and grants	16.2	15.6	12.7	14.5
Expenditure	20.9	18.8	17.9	16.5
Fiscal balance	–4.7	–3.3	–5.2	–2.0
Government debt	59.4	59.1	61.9	70.4
Monetary and financial sectors	(in annual percentage change)			
Broad money	8.4	18.9	16.3	24.0
Domestic credit[2]	9.2	4.4	7.6	11.5
Private sector credit[3]	4.4	8.5	5.5	10.6
Memorandum items:				
Nominal GDP (in LAK trillion)	152.4	162.7	172.6	182.0
Headline inflation (in percent y-o-y, period average)	2.0	3.3	5.1	3.8
Policy rate (in percent per annum, end period)	4.00	4.00	3.00	3.0
Exchange rate (in LAK/USD, period average)	8,403.0	8,681.0	9,048.0	9,707.0

Sources: National authorities via CEIC and Haver Analytics; and AMRO staff estimates.
Note: Numbers in red denote AMRO staff estimates. y-o-y = year-on-year.

1/ Using end of period exchange rates.
2/ Domestic credit composes net claims from central government, local government, nonfinancial corporations and households.
3/ Private sector credit excludes credit to state-owned enterprises (SOEs).

Malaysia

The Malaysian economy is on track to recover in 2022 after the COVID-19 disruptions for the most part of 2021. The resurgence of COVID-19 infections and subsequent tightening of movement curbs constrained private sector spending and brought the economy into a recession in Q3 2021. That said, the economy has regained momentum since mid-Q3 2021 as the sharp decline in daily infections and wide vaccination coverage allowed for domestic economic and social activities to resume. A sustained rebound in domestic demand and continued improvement in the labor market, in addition to buoyant external demand, is expected to drive GDP growth higher in 2022. However, a potentially slow resumption of international travel and tourism, owing to lingering concerns over virus infections, would continue to weigh on the recovery of the services sector.

Despite upward pressures, headline inflation has been largely contained and has in part kept the policy rate unchanged at a record low. While the base effect from the increase in fuel prices has begun to dissipate, higher food prices and the expiry of electricity bill discounts for domestic consumers have pushed headline inflation higher toward end-2021. Ongoing measures by the Malaysian authorities to stabilize food prices, such as the price control scheme for essential items and financial assistance to farmers facing higher input costs, are expected to cap headline inflation at 2.7 percent year-on-year in 2022. Core inflation has likewise increased, although subdued domestic demand is likely to keep it well below headline inflation. Against the emergence of cost-push inflation, the policy rate has been maintained at 1.75 percent since September 2020.

Robust trade surpluses and foreign investment inflows have strengthened Malaysia's external position. Despite constraints on operating capacity and some production facility shutdowns following the wave of COVID-19 infections in July and August, the export recovery broadened and strengthened in 2021. As such, merchandise trade continued to support the current account surplus as the deficit in services and primary income widened. At the same time, strong foreign portfolio and direct investment inflows drove the financial account into surplus. Aside from Malaysia's sound macro fundamentals, capital inflows may have also been aided by Bank Negara Malaysia's (BNM's) further liberalization of the foreign exchange policy. Amid these developments and the USD 5 billion SDR allocation by the IMF, BNM's international reserves rose by USD 9.3 billion to USD 116.9 billion in 2021. The reserves position is more than sufficient to cover the short-term external debt at end-2021.

The banking system is able to support the economic recovery and withstand credit and liquidity risks. Underpinned by low interest rates and measures to encourage demand for residential property and passenger vehicles, loan growth was higher at 4.5 percent year-on-year at end-2021 (end-2020: 3.4 percent) despite renewed movement curbs. While loan impairments could increase once the extensive loan relief measures are unwound in 2022, banks have capital buffers that are well above regulatory thresholds, which should enable them to weather the increase in credit risks. Liquidity risks are likewise mitigated by the banking system's liquidity coverage and net stable funding ratios of above 100 percent.

Fiscal policy has been expanded to counter the economic cost of the pandemic. On top of the stimulus measures in 2020, 4 additional packages—amounting to MYR 225 billion (14.6 percent of 2021 GDP)—were rolled out in the first half 2021. The bulk of these measures were non-fiscal injection, such as the loan moratorium, pre-retirement withdrawals from the Employees Provident Fund, credit guarantees, and BNM's soft loans to SMEs. The direct fiscal support, largely in the form of cash aid to households and wage subsidies to SMEs, amounted to MYR 25 billion (1.6 percent of GDP). As a result, the fiscal deficit increased to 6.4 percent of GDP in 2021 from the initial government target of 5.4 percent. The fiscal stimulus entailed greater domestic borrowing, while increased dividends from government-linked institutions augmented the revenue. Meanwhile, the 2022 Budget will continue to keep the fiscal deficit elevated at about 6 percent of GDP, in line with the government's commitment to support the recovery.

The resulting increase in government debt, in addition to the narrowed tax base and large committed operating expenses of the government, underscores the importance of restoring fiscal buffers over the medium term. Doing so would entail a faster pace of fiscal consolidation primarily through tax reforms once the recovery is firmly established. At the same time, sustaining the policy momentum to protect people's welfare, attract quality and strategic investment, and raise productivity, is crucial to rebuild incomes and savings buffers post-pandemic. Moreover, integrating environmental, social, and governance principles in the medium-term development plan would enhance economic resilience as Malaysia advances to a progressive, high-income nation.

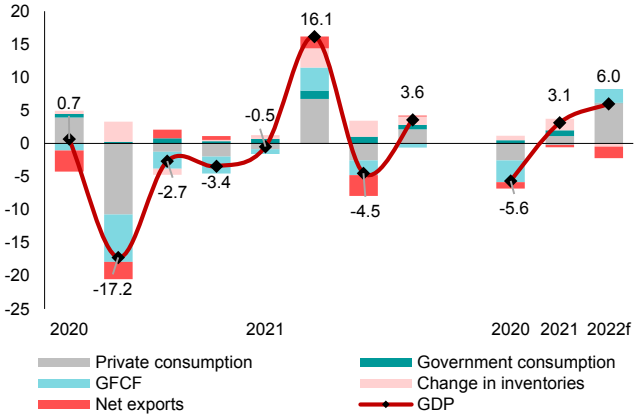
The author of this country note is Diana del Rosario.

Malaysia: Selected Figures

GDP growth is set to rebound in 2022 as widespread vaccinations keep the COVID-19 situation under control.

Contributions to Real GDP Growth

(Percentage points, year-on-year)

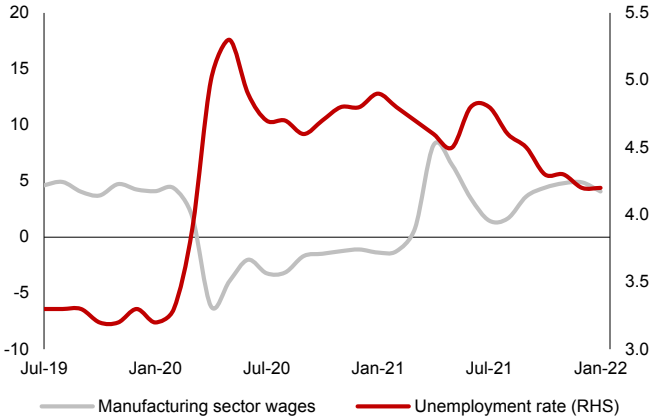


Sources: Department of Statistics Malaysia; and AMRO staff estimates.
Note: GFCF denotes gross fixed capital formation.

Labor market conditions have improved in line with the easing of movement restrictions since July 2021.

Wages and Unemployment Rate

(Percent, year-on-year; percent, seasonally-adjusted)

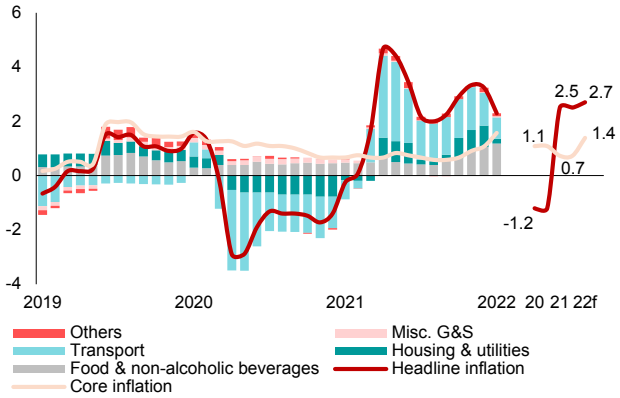


Source: Department of Statistics Malaysia.

Despite upside risks primarily from food prices, inflation is likely to remain manageable in 2022.

Contributions to Headline and Core Inflation

(Percentage points, year-on-year)

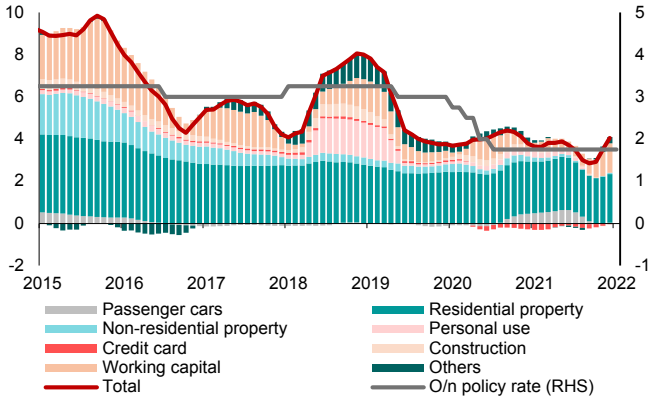


Sources: Department of Statistics Malaysia; and AMRO staff estimates.
Note: Misc. G&S = miscellaneous goods and services. f denotes forecast.

Low interest rates and incentives to encourage domestic demand continued to support loan growth in 2021.

Contributions to Loan Growth and Policy Rate

(Percentage points, year-on-year, 3-month moving average; percent)

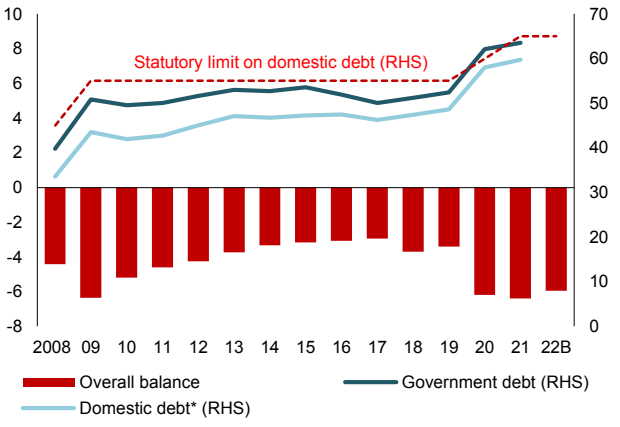


Source: Bank Negara Malaysia.
Note: O/n denotes overnight.

Pandemic-related fiscal support since 2020 has led to increases in the fiscal deficit and government debt.

Fiscal Balance and Federal Government Debt

(Percent of GDP; percent of GDP)

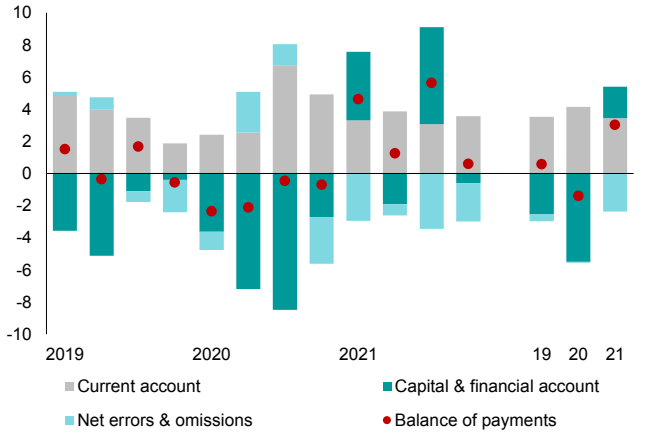


Sources: Bank Negara Malaysia; Department of Statistics Malaysia; and Malaysia Ministry of Finance.
Note: 22B refers to the estimates under the 2022 Budget, respectively. * Domestic debt refers to Malaysian Government Securities, Malaysian Government Investment Issues, and Malaysian Islamic Treasury Bills.

A robust trade surplus and strong foreign investment inflows drove the balance of payments into surplus in 2021.

Balance of Payments

(Percent of GDP)



Sources: Bank Negara Malaysia; and Department of Statistics Malaysia.

Malaysia: Selected Economic Indicators

Indicator	2018	2019	2020	2021
Real sector	(in annual percentage change)			
Real GDP	4.8	4.4	–5.6	3.1
Private consumption	8.0	7.7	–4.3	1.9
Government consumption	3.4	1.8	3.9	6.6
Gross fixed capital formation	1.4	–2.1	–14.5	–0.9
Imports of goods and services	1.5	–2.4	–8.4	18.5
Exports of goods and services	1.9	–1.0	–8.9	15.9
External sector	(in percent of GDP, unless otherwise specified)			
Current account balance	2.2	3.5	4.2	3.5
Trade balance	7.9	8.2	9.8	11.0
Capital and financial account balance	0.8	–2.5	–5.4	1.9
Direct investment	0.7	0.4	0.2	2.1
Portfolio investment	–3.4	–2.1	–3.4	1.2
Other investment	3.4	–0.8	–2.2	–1.4
Errors and omissions	–2.5	–0.5	–0.2	–2.4
Overall balance	0.5	0.6	–1.4	3.0
Gross external debt	63.8	62.6	67.6	69.3
International reserves (in USD billion, end of period)	101.4	103.6	107.6	116.9
Fiscal sector	(in percent of GDP)			
Revenue and grants	16.1	17.5	15.9	15.1
Expenditure	19.8	21.0	22.2	21.5
Fiscal balance	–3.7	–3.4	–6.2	–6.4
Government debt	51.2	52.4	62.1	63.4
Monetary and financial sectors	(in annual percentage change, end of period)			
Broad money	9.1	3.5	4.0	6.4
Private sector credit	8.4	4.4	3.5	3.8
Loans	7.1	4.2	3.2	4.5
Securities	18.5	5.7	6.0	–0.6
Memorandum items:				
Nominal GDP (in MYR billion)	1,448	1,513	1,417	1,544
Headline inflation (in percent y-o-y, period average)	1.0	0.7	–1.2	2.5
Policy rate (in percent per annum)	3.25	3.00	1.75	1.75
Exchange rate (in MYR/USD, period average)	4.04	4.14	4.20	4.14

Sources: National authorities via CEIC and Haver Analytics; and AMRO staff estimation.
Note: Red number denotes AMRO staff estimate. y-o-y = year-on-year.

Myanmar

Myanmar's growth was significantly affected in FY2020/21 (October 2020 to September 2021) due to the COVID-19 pandemic and the state of emergency in 2021. After the COVID-19 outbreak in 2020, the economy deteriorated further with the announcement of the state of emergency in February 2021. Investment dried up without new FDI inflows. Consumption and domestic manufacturing activities were also subdued. The economy is estimated to have contracted by 18.7 percent year-on-year in FY2020/21. That said, there have been some signs of stabilization since November 2021. Google's mobility index suggests that activities such as retail and recreation have recovered, and the Purchasing Managers' Index shows that manufacturing activities are entering a modest expansion.

Inflation has been picking up since February 2021 and will rise further in 2022. Monthly average CPI inflation slowed to 3.6 percent in FY2020/21 compared to 5.8 percent in the previous year. After slowing to a low of 0.7 percent year-on-year in January 2021, headline inflation has trended up, and recorded at 9.9 percent in October 2021. Supply chain disruptions and the sharp devaluation of the exchange rate could be key driving factors for the higher inflation, as demand remained subdued. Inflation is likely to continue to increase in 2022, driven by the low-base effect and easing COVID-19 restrictions.

While the goods trade balance improved due to a faster contraction in imports than exports, there were smaller inflows of primary income receipts and overseas workers' remittances. Meanwhile, receipts from tourism-related services vanished, and the garment sector's cut-make-pack service receipts also dropped significantly. As a result, a current account deficit of USD 0.6 billion was recorded in the first half of 2021, compared to a surplus of USD 0.3 billion in the second half of 2020. Meanwhile, the financial account surplus deteriorated to 0.9 billion from 2.2 billion during the same period above due to a significant drop in FDI and official development assistance (ODA) loan inflows.

With physical cash becoming scarce and the outlook uncertain, banks' credit growth to the private sector edged down further, slowing to 3.0 percent as of Q2 2021, from 11.5 percent 1 year ago. On a quarter-on-quarter basis, it contracted by 1.5 percent. The Central Bank of Myanmar had reduced the policy rate from 10 percent to 7 percent and specified a longer timeline for regulatory compliance in 2020 and no further adjustments were made in 2021.

Government revenue in FY2020/21 contracted by 33.2 percent year-on-year, and expenditure decreased by 19.6 percent. The fiscal deficit in FY2020/21 was estimated to have widened to about 8.6 percent of GDP, compared to 6.2 percent in FY2019/20.[1] Bond financing was limited without much demand from commercial banks for government securities, and Central Bank of Myanmar helped the government to finance its deficit.

Risks to growth arise mainly from a recurrence of COVID-19 outbreaks and further virus mutations. While confirmed cases have been trending down and the Omicron virus variant has not yet spread in Myanmar, a new wave of infections could significantly affect Myanmar's growth as the vaccination rate remains low among the population.

Further isolation of Myanmar from the international community could lead to a narrower economic base and lower growth potential. The halt of new investments into Myanmar has reduced the chance for Myanmar to tap its advantage in labor-intensive sectors further and build other value-added industries. Public infrastructure investment has also stalled without further ODA support.

The banking sector continues to be highly stressed amid accumulating imbalances. Although some banking functions have returned to operation in the past few months, overall banking sector soundness, including asset quality and capital adequacy, deteriorated after the state emergency.

Priority should be placed on containing the COVID-19 pandemic, resuming economic activity and restoring public confidence. A ramp-up in the vaccination rate is needed to protect the population from being severely affected by new waves of infections going forward. Stronger efforts are needed to restore public trust and instill investor confidence.

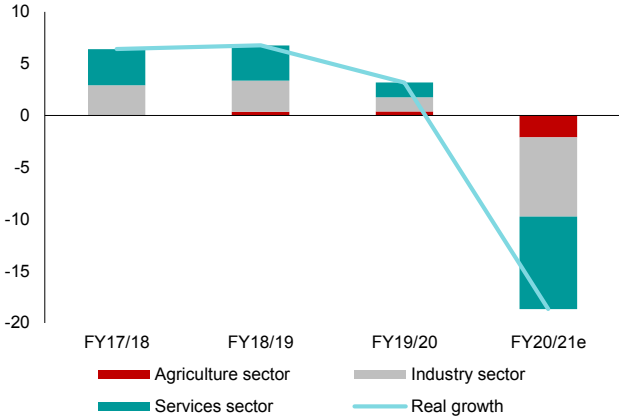
The author of this note is Xianguo (Jerry) Huang.

[1/] A mini 6-month budget was prepared by the government for October 2021—March 2022 to shift the FY cycle back to starting from April 1.

Myanmar: Selected Figures

Growth contracted significantly in FY2020/21 due to the continued COVID-19 pandemic and the state of emergency that started in February 2021.

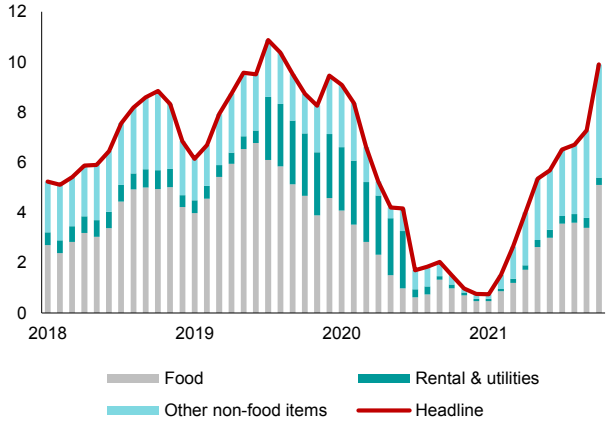
Contributions to Real GDP Growth
(Percent points, year-on-year)



Sources: Ministry of Planning and Finance; and AMRO staff estimates.
Note: e denotes estimate.

Inflation has trended up since February 2021, driven by supply-side disruptions and exchange rate deprecation.

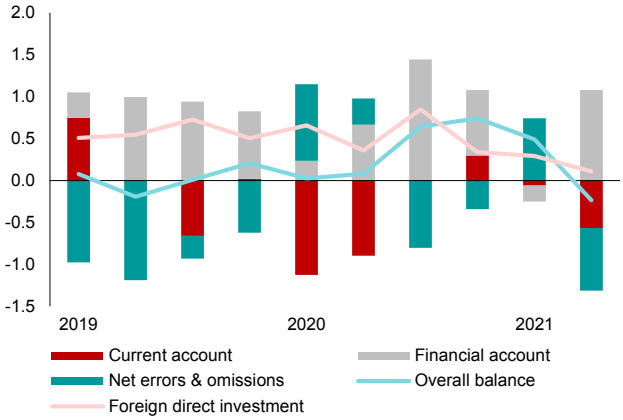
Contributions to CPI Inflation
(Percentage points, year-on-year)



Source: Central Statistical Organization.

The overall balance deteriorated after the state of emergency due to reduced exports and FDI inflows.

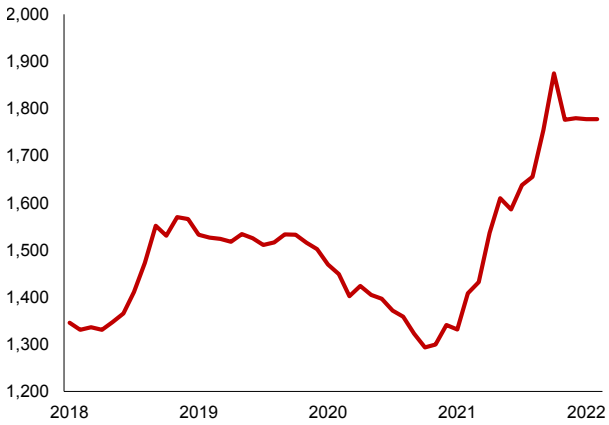
Balance of Payments
(Percent of GDP)



Sources: Central Bank of Myanmar; and AMRO staff calculations.

The Myanmar kyat experienced a significant depreciation in 2021 but stabilized somewhat toward the end of the year.

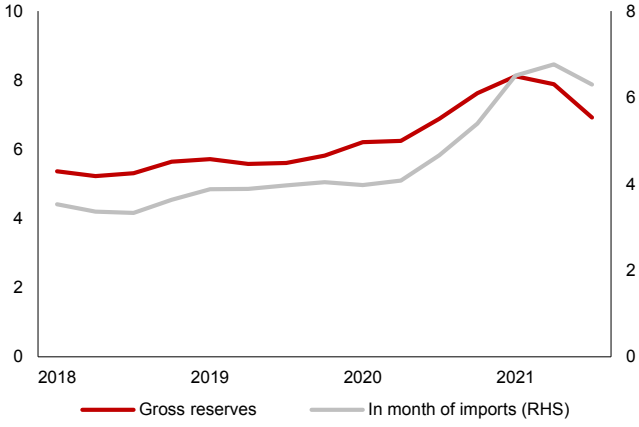
Exchange Rate
(Myanmar kyat/US dollar)



Source: Central Bank of Myanmar.

Foreign exchange reserves have deteriorated since the state of emergency, and imports have contracted fast.

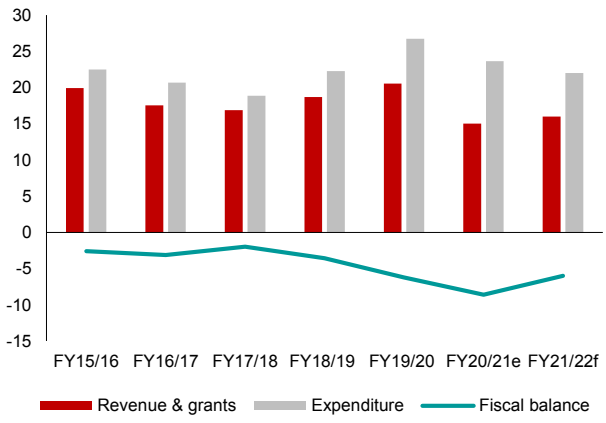
Gross International Reserves
(Billions of US dollars; months of imports)



Sources: Central Bank of Myanmar; and AMRO staff calculations.

The fiscal deficit is expected to increase significantly due to a slump in revenue in FY2020/21.

Fiscal Balance
(Percent of GDP)



Source: Ministry of Planning, Finance and Industry.
Note: e denotes estimate. f denotes forecast. Revenue and expenditure data are tentative actual in FY20/21, and GDP is estimated.

Myanmar: Selected Economic Indicators

Indicator	2018	2019	2020	2021
Real sector	(in annual percentage change)			
Real GDP	6.4	6.8	3.2	–18.7
External sector	(in percent of GDP, unless otherwise specified)			
Current account balance	–4.9	–0.2	–2.5	–1.8
Trade balance	–6.5	–4.3	–5.3	–1.7
Capital and financial account balance	6.0	3.3	4.3	2.7
Direct investment	4.9	2.4	3.0	1.2
Other investment	0.5	1.5	1.8	1.3
Errors and omissions	–0.8	–2.7	–0.2	–1.2
Overall balance	0.3	0.3	1.5	–0.4
Gross external debt	15.5	14.7	15.1	17.4
International reserves (in USD billion, end of period)	5,306.5	5,604.6	6,913.4	6,917.9
Fiscal sector[1]	(in percent of GDP)			
Revenue and grants	16.9	18.7	20.5	15.0
Expenditure	18.9	22.3	26.7	23.6
Fiscal balance	–2.0	–3.6	–6.2	–8.6
Government debt	38.4	38.7	42.2	56.7
Monetary and financial sectors	(in annual percentage change)			
Broad money	18.6	15.4	15.0	11.4
Domestic credit	21.4	17.4	14.4	14.5
Private sector credit	21.1	16.1	8.6	1.5
Memorandum items:				
Nominal GDP (in MMK trillion)	92.8	105.3	112.8	102.7
Headline inflation (in percent y-o-y, period average)	5.9	8.6	5.8	3.6
Policy rate (in percent per annum, end of period)	10.00	10.00	7.00	7.00
Exchange rate (in MMK/USD, period average)	1,383.3	1,531.9	1,426.0	1,493.7
Exchange rate (in MMK/USD, end of period)	1,560.0	1,532.8	1,308.5	1,927.1

Sources: National authorities via CEIC and Haver Analytics; and AMRO staff estimations.
Note: Red number denotes AMRO staff estimate. y-o-y = year-on-year. All data are based on fiscal year which starts on October 1 and ends on September 30.
1/ Revenue and expenditure for FY20/21 are tentative actual while nominal GDP is estimated.

The Philippines

Despite recurrent waves of COVID-19 infections, economic recovery has remained on track. Recovery slowed due to a new wave of infections in March 2021; however, it regained momentum in Q3 amid the second wave of infections as targeted containment measures lessened the adverse impact of mobility restrictions. Overall, GDP growth rebounded to 5.6 percent in 2021 from a contraction of 9.6 percent in 2020 and is expected to accelerate to 6.5 percent in 2022.

Headline CPI inflation (base year = 2018) rose from 2.4 percent in 2020 to 3.9 percent in 2021, close to the upper bound of the 2—4 percent inflation target range. Core CPI inflation, excluding food and energy items, has been hovering about 3.6 percent, suggesting that the inflationary pressures were mainly caused by supply-side factors, including the African swine fever outbreak, weather disturbances, and a steep rise in global oil prices.

The current account recorded a deficit of USD 2.6 billion in Q1–Q3 2021, or 0.9 percent of GDP, mainly owing to widening of goods trade deficit. The financial account recorded net inflows of USD 0.8 billion in Q1–Q3 2021. The modest weakening in the overall BOP and a stronger US dollar led the peso to depreciate by 5.9 percent from about PHP 48 per US dollar in early 2021 to about PHP 51 per US dollar by end 2021.

The Bangko Sentral ng Pilipinas (BSP) maintained an accommodative monetary policy stance throughout 2021 by keeping the policy rate at a historic low of 2.0 percent and ensuring ample liquidity through open market operations, while continuing to provide support for national government financing. Further effort was made to encourage credit growth including the implementation of regulatory measures and facilitating the disposal of non-performing assets. The BSP also strengthened consumer protection by imposing ceiling rates for credit card charges.

The BSP has further enhanced its efforts to promote digital transformation in the financial sector for greater financial inclusiveness. Since the release of the *Digital Payments Transformation Roadmap 2020-2023* in late 2020, the BSP has continued to develop and improve the rules and infrastructure to facilitate the increased usage of digital payments, including integrating QR code-based payment facilities into the payment system. The BSP also started licensing new digital banks to serve the (large) segments of the population that are unbanked or underbanked; 6 digital bank licenses have been issued to start. In addition, the BSP issued the Open Finance Framework in December 2021 to foster innovation and inclusion in the financial ecosystem.

Fiscal expenditure accelerated in 2021 as the government stepped up its efforts to revive the economy and mitigate the impact of the pandemic. In the first 3 quarters of 2021, government spending increased from 23.6 percent of GDP in 2020 further to 24.6 percent of GDP, a historic high. The increase in government spending was primarily due to infrastructure expenditure, which increased from 3.8 percent of GDP in 2020 to 4.7 percent of GDP in 2021. Government current spending declined from 18.5 percent of GDP in 2020 to 18.3 percent of GDP in 2021, notwithstanding COVID-19 related expenditures, such as financial assistance to households and companies.

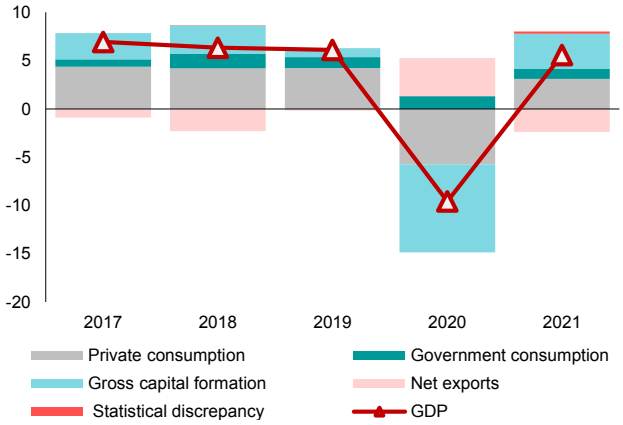
The Philippine economy continues to face several risks and challenges. A potential resurgence of COVID-19 infections remains the biggest threat to the recovery in the short term. Firm solvency continues to pose a risk to the financial health of the banking sector. The impact from these 2 risks may have abated somewhat; however, capital flow volatility is set to rise in 2022 as global financial conditions tighten. In addition, some lasting damage caused by the pandemic as well as new trends catalyzed by the pandemic, have become clearer, raising the urgency for the authorities to take action to ensure resilient, sustainable, and inclusive long-term growth.

The author of this note is Zhiwen Jiao.

The Philippines: Selected Figures

Economic recovery remained on track.

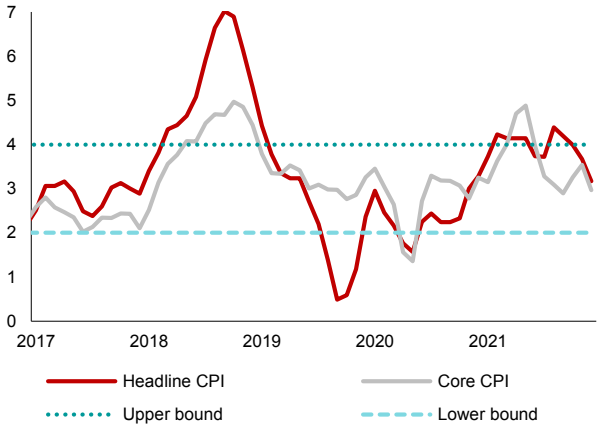
Contributions to Real GDP Growth
(Percentage points, year-on-year)



Sources: Philippine Statistics Authority; and AMRO staff calculations.

Inflation stayed above the 2–4 percent target range.

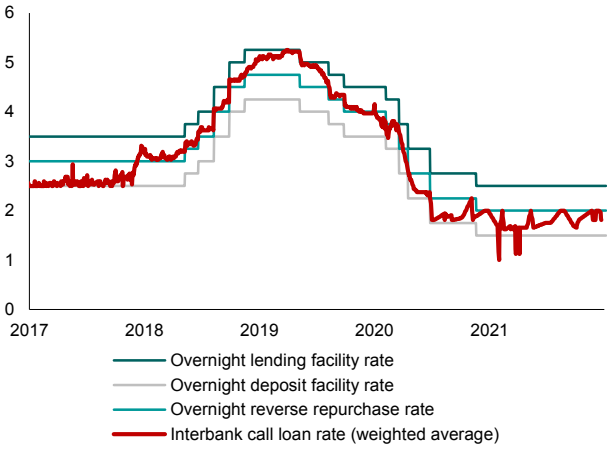
Headline CPI and Core CPI
(Percent, year-on-year)



Sources: Philippine Statistics Authority; Haver Analytics and AMRO staff calculations.
Note: CPI = consumer price index (base year = 2018).

Monetary policy remained accommodative.

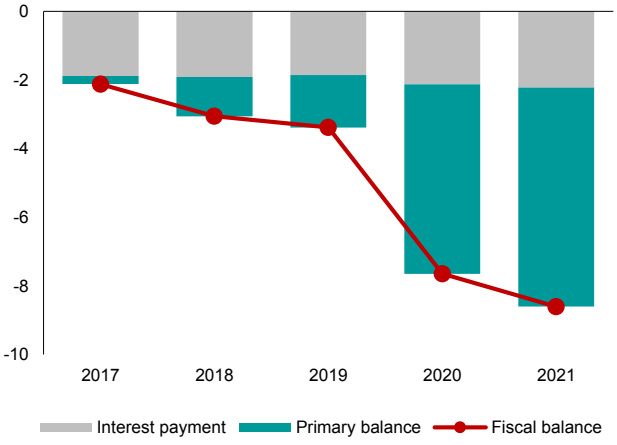
Monetary Policy and Market Rate
(Percent)



Source: Bangko Sentral ng Pilipinas.

The fiscal deficit widened as the government accelerated spending.

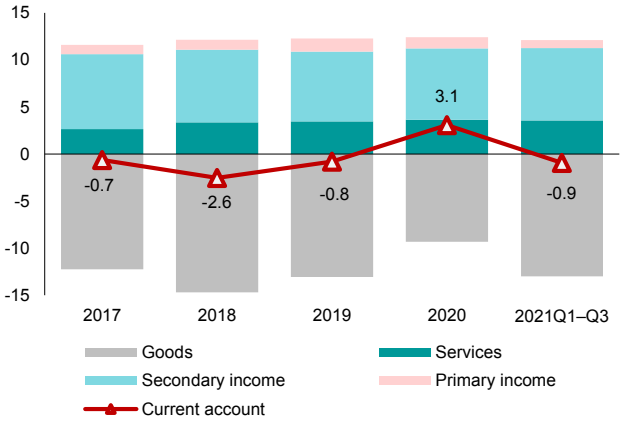
Fiscal Balance
(Percent of GDP)



Source: Bureau of Treasury.

The current account reversed to a small deficit.

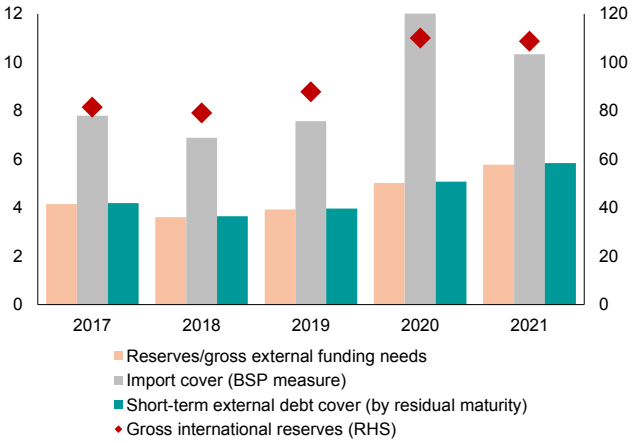
Current Account Balance
(Percent of GDP)



Source: Bangko Sentral ng Pilipinas.

International reserves remained stable at high levels.

International Reserve Adequacy
(Times; billions of US dollars)



Source: Bangko Sentral ng Pilipinas.
Note: Import cover refers to number of months of average imports of goods and payment of services and primary income. BSP = Bangko Sentral ng Pilipinas.

The Philippines: Selected Economic Indicators

Indicator	2018	2019	2020	2021
Real sector	(in annual percentage change)			
Real GDP	6.3	6.1	–9.6	5.6
Private consumption	5.8	5.9	–7.9	4.2
Government consumption	13.4	9.1	10.5	7.0
Gross fixed capital formation	12.9	3.9	–27.5	9.6
Imports of goods and services	14.6	2.3	–21.6	12.9
Exports of goods and services	11.8	2.6	–16.3	7.8
External sector	(in percent of GDP, unless otherwise specified)			
Current account balance	–2.6	–0.8	3.1	–1.0
Trade balance	–14.7	–13.1	–9.3	–13.3
Capital and financial account balance	–2.7	–2.1	–1.9	–0.4
Direct investment	–1.7	–1.4	–0.8	–1.7
Portfolio investment	0.4	–0.7	–0.5	1.3
Other investment	–1.4	0.0	–0.6	0.5
Errors and omissions	–0.8	0.7	–0.6	0.2
Overall balance	–0.7	2.1	4.4	0.3
Total external debt	22.8	22.2	27.2	28.1
International reserves (in USD billion, end of period)	79.2	87.8	110.1	108.8
Fiscal sector	(in percent of GDP)			
Revenue and grants	15.6	16.1	15.9	15.5
Expenditure	18.7	19.5	23.6	24.1
Fiscal balance	–3.1	–3.4	–7.6	–8.6
Government debt	39.9	39.6	54.6	60.5
Monetary and financial sectors	(in annual percentage change)			
Broad money[1]	9.0	9.8	8.7	7.4
Domestic claims	14.9	10.7	4.7	7.7
Claims on private sector	15.1	7.8	–0.2	2.8
Memorandum items:				
Nominal GDP (in PHP billion)	18,265.2	19,517.9	17,938.6	19,387.2
Headline inflation (in percent y-o-y, period average)[2]	5.2	2.4	2.4	3.9
Headline inflation (in percent y-o-y, period average)[3]	5.2	2.5	2.6	4.5
Policy rate (in percent per annum, end of period)	4.8	4.0	2.0	2.0
Exchange rate (in PHP/USD, period average)	52.7	51.8	49.6	50.2

Sources: National authorities via CEIC and Haver Analytics; and AMRO staff estimates.
Note: Red number denotes AMRO staff estimate. y-o-y = year-on-year

1/ Refers to M4.
2/ Inflation rate is based on 2018 as the base year.
3/ Inflation rate is based on 2012 as the base year.

Singapore

Singapore's economy rebounded strongly in 2021, on the back of strong policy support, robust external demand, and easing of containment measures. Real GDP grew by 7.6 percent in 2021 after contracting by 4.1 percent in 2020. Growth was led by a turnaround in the services sector and a continued robust expansion in the manufacturing sector. Meanwhile, the recovery in the construction and tourism-related sectors continued to lag behind the rebound in the broader economy.

The labor market has improved. Overall employment rose by 39,700 in 2021 compared to the large decline of 181,100 in 2020. In addition, the relaxation of border restrictions towards end-2021 has supported non-resident employment, particularly in the construction sector. The overall unemployment rate fell steadily to 2.4 percent in Q4 2021 after peaking at 3.5 percent in Q3 2020.

Inflationary pressures rose in 2021. The headline and core Inflation rebounded to 2.3 percent and 0.9 percent respectively in 2021. The rise in the Monetary Authority of Singapore core inflation was attributed to higher services costs and food prices. Meanwhile, the sharper rise in headline inflation reflected the surge in private transportation costs (which was attributed to the increase in car prices) and the rise in accommodation costs.

Non-oil domestic export (NODX) growth strengthened further in 2021. NODX growth accelerated in both electronics and non-electronics sectors following their steady expansion in 2020. NODX to key markets, such as China, Hong Kong, Korea, and a few ASEAN countries grew strongly.

The financial sector has remained resilient throughout the pandemic period. Bank lending activities rebounded in 2021. The banking system's overall NPL ratio fell to 2.1 percent in Q4 2021 from 2.6 percent at the end of 2020. The NPL ratio in the general commerce segment remained high at 5.3 percent, reflecting the significant impact of the pandemic on the retail and tourism-related sectors. Meanwhile, nonbank lending to residents and nonresidents shifted from a contraction in 2020 to a steady expansion in 2021. Capital and liquidity buffers remained strong and well above regulatory requirements.

Prices of residential properties, including resale of public housing and private residential properties, rose strongly in 2021. The number of transactions also increased in tandem, reflecting robust homebuyer sentiment, bolstered by the low interest-rate environment.

Targeted support for affected businesses and households was extended under the FY2021 Budget and the July Ministerial Statement. In the FY2021 budget, a total of SGD 11 billion was set aside to safeguard public health, ensure safe reopening, support workers and businesses, and provide targeted support for distressed sectors. An additional SGD 3.4 billion was redeployed to support affected businesses and households from May to December 2021.

Monetary policy was tightened in view of rising inflation amidst a robust growth outlook. The slope of the SGD nominal effective exchange rate policy band was raised slightly in October 2021 and again in January 2022, from zero percent previously. The monetary policy normalization reflected the rising inflationary pressures amid the strong economic rebound and increasing tightness in the labor market.

Measures to ease cash flow constraints of businesses and households have been phased out, in line with the robust economic outlook. The extended loan moratorium for households and businesses expired in September 2021 in view of the continued steady recovery. Meanwhile, the extension of the Monetary Authority of Singapore's Singapore dollar facility for Enterprise Singapore's loans until March 2022 would help ensure that SMEs continue to have access to low financing costs amid the prolonged uncertainties from the pandemic.

Macroprudential measures have been tightened to cool the property market. In December 2021, the additional buyer's stamp duty was raised, the total debt-servicing ratio and loan-to-value limits for public housing loans were lowered.

A renewed resurgence of the COVID-19 pandemic is still the main risk to the outlook. Despite Singapore's high vaccination rate, the emergence of new and more virulent COVID-19 variants could derail Singapore's reopening plans, especially if the resulting surge in COVID-19 infections leads to a re-imposition and retightening of containment measures. Potential acute supply chain disruptions stemming from prolonged containment measures in its key trading partners can, in turn, affect Singapore's manufacturing and trading activities.

In the medium term, potential changes to international tax rules could affect tax revenues and investments by multinational companies.

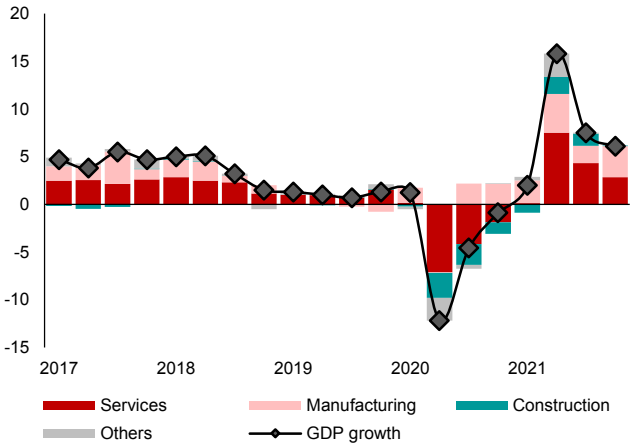
Over the longer term, Singapore will also need to contend with significant challenges arising from an aging population and climate change.

The author of this note is Ming Han (Justin) Lim.

Singapore: Selected Figures

Singapore's economy rebounded in 2021, led by a turnaround in the services sector and a continued robust expansion in the manufacturing sector.

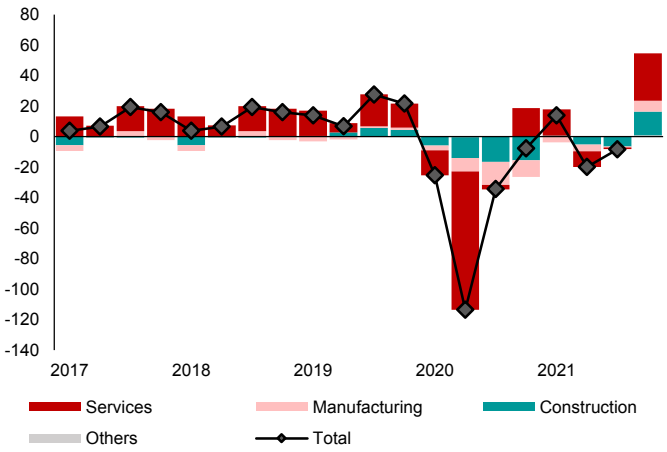
Contributions to Real GDP Growth
(Percentage points, year-on-year)



Source: Singapore Department of Statistics.

Overall employment improved but remained weak in 2021.

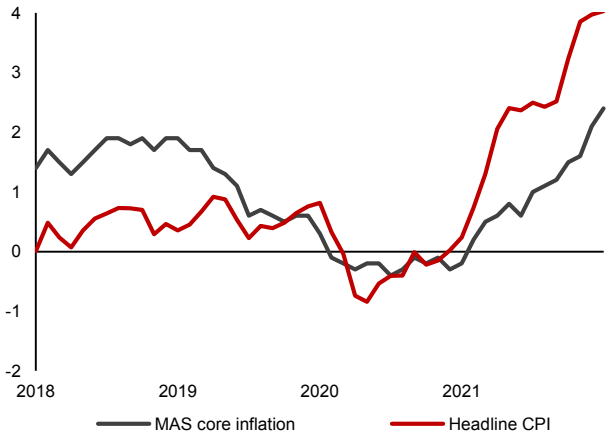
Net Change in Employment by Sector
(Change in employment; thousands of persons)



Source: Ministry of Manpower.

Headline and MAS core inflation continued to rise.

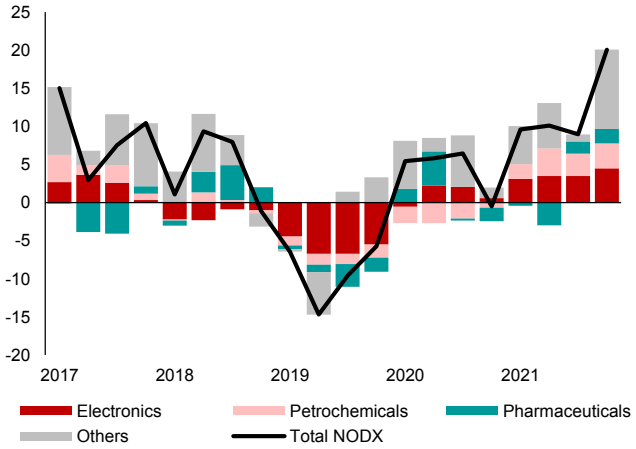
Headline and Monetary Authority of Singapore Core Inflation
(Percent, year-on-year)



Sources: Singapore Department of Statistics; and Monetary Authority of Singapore (MAS).
Note: CPI = consumer price index.

Electronics and non-electronics exports expanded robustly in 2021.

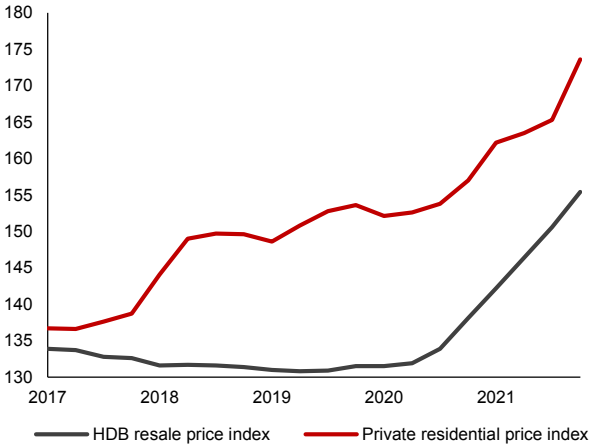
Contributions to Non-Oil Domestic Export Growth
(Percentage points, year-on-year)



Source: Enterprise Singapore
Note: NODX = non-oil domestic exports.

Prices of resale public housing and private residential properties rose steadily.

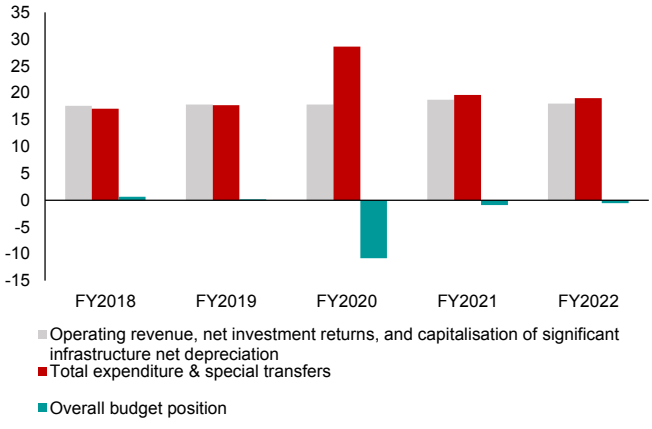
Private Residential and HDB Price Index
(Index, 2009Q1 = 100)



Sources: Housing and Development Board (HDB); and Urban Redevelopment Authority.

The overall budget deficit narrowed further in FY2022.

Overall Budget Position
(Percentage of GDP)



Source: Ministry of Finance Singapore.

Singapore: Selected Economic Indicators

Indicator	2018	2019	2020	2021
Real sector	(in annual percentage change)			
Real GDP	3.7	1.1	–4.1	7.6
Private consumption	4.0	3.2	–12.9	4.5
Government consumption	3.0	3.4	13.3	4.5
Gross fixed capital formation	–5.1	1.7	–14.2	19.6
Imports of goods and services	7.2	0.1	–2.3	7.6
Exports of goods and services	7.6	0.3	–0.2	6.8
External sector	(in percent of GDP, unless otherwise specified)			
Current account balance	15.2	14.5	16.8	18.1
Trade balance	27.6	26.1	30.0	29.8
Capital and financial account balance	11.8	16.6	–4.6	2.1
Direct investment	–15.7	–14.9	–12.5	–14.6
Portfolio investment	14.1	28.9	17.5	14.4
Other investment	7.8	0.8	–9.2	1.6
Derivatives	5.6	1.8	–0.4	0.8
Errors and omissions	0.0	0.0	0.3	0.6
Overall balance	3.3	–2.2	21.7	16.7
Net investment international position[1]	188.4	205.0	295.1	287.6
International reserves (in USD billion, end of period)	287.7	279.5	362.3	417.9
Fiscal sector[2]	(in percent of GDP)			
Revenue[3]	17.6	17.8	17.8	18.7
Expenditure[4]	17.0	17.7	28.6	19.7
Fiscal balance	0.7	0.2	–10.8	–0.9
Government debt[5]	107.5	125.2	147.9	145.9
Monetary and financial sectors	(in annual percentage change)			
Broad money[6]	5.1	4.4	10.7	10.2
Total domestic credit (Resident non-bank loan)[7]	5.1	2.4	1.1	6.0
Memorandum items:				
Nominal GDP (in SGD billion)	508.5	512.2	476.4	533.4
Headline inflation (in percent y-o-y, period average)	0.4	0.6	–0.2	2.3
MAS core inflation (in percent y-o-y, period average)	1.7	1.0	–0.2	0.9
Private Residential Property Index (2009Q1=100)	149.6	153.6	157.0	173.6
Exchange rate (in SGD/USD, period average)	1.3491	1.3642	1.3792	1.3439

Sources: National authorities via CEIC; and AMRO staff estimates.
Note: Numbers in red denote AMRO staff estimates. y-o-y = year-on-year.

1/ Net International investment position (IIP) as a percentage of GDP indicated under reference year 2021 is computed based on the net IIP as of end Q3 2021, divided by sum of quarterly GDP from 4Q 2020 to 3Q 2021; 4Q 2021 IIP estimates will be available by end-March 2022.
2/ Refers to fiscal year. Figures may not add up due to rounding.
3/ Revenue refers to the sum of operating revenue, net investment returns contribution, and capitalisation of nationally significant infrastructure net depreciation.
4/ Expenditure refers to the sum of total expenditure and special transfers.
5/ Presently, the Singapore government issues domestic debt securities to: (1) develop the domestic debt market using marketable Singapore Government Securities; (2) meet the investment needs of CPF (Singapore's national pension fund) using Special Singapore Government Securities; and (3) provide individual investors with a long-term savings option that offers safe returns using the Singapore Savings Bonds. The borrowing proceeds from the issuance of these securities under the Government Securities Act cannot be spent and are invested. Singapore is in a net asset position; its financial assets are well in excess of its liabilities.
6/ AMRO's estimates. With the removal of the DBU-ACU divide from July 2021, the 2021 data on broad money are compiled using the all-currencies data, while the historical data from 2018–20 are compiled based on the aggregate of DBU and ACU data.
7/ On 1 July 2021, 2 major changes in MAS' banking sector regulatory framework took effect, which led to changes in the way data are reported by financial institutions including the removal of the DBU-ACU divide. The affected statistical releases now directly present data based on whether the counterparty to the banks' or merchant banks' transactions are resident or nonresident, and these transactions are reported in Singapore dollars or in all currencies (including Singapore dollars).

Thailand

After contracting sharply by 12.1 percent year-on-year in Q2 2020 at the onset of the pandemic, the Thai economy's growth rate gradually improved to –5.3 percent year-on-year in the second half of 2020 and 1.6 percent in 2021. Notwithstanding the opening of quarantine-free entry for vaccinated travelers in November 2021, exports of services remained depressed in 2021 as international tourists remained hesitant to travel amid the continuing pandemic and border restrictions. Overall, economic performance has varied considerably across sectors as the contact-sensitive tourism and related sectors are still depressed, while manufacturing goods sectors are rebounding from strong external demand.

Going forward, the economy is expected to recover more strongly, albeit unevenly, across sectors, with GDP remaining below its pre-COVID-19 level. Domestic demand will likely remain weak, while exports and public sector expenditures are expected to be the main drivers of growth until international travel is able to recover fully.

Headline inflation increased in Q4 2021 due to high oil prices and the low-base effect, while core inflation has been soft. Going forward, inflationary pressure is likely to pick up but remain contained, given the expected stabilization of crude oil and pork prices, and gradual easing of semiconductors shortages and port congestions globally. The headline inflation is projected to average 2.4 percent in 2022, up from 1.2 percent in 2021, still within the Bank of Thailand's inflation target band.

Despite the weakening of the current account balance, the external position has remained strong, underpinned by large international reserves. In 2021, imports recovered faster than exports, reducing the trade surplus, while tourism receipts fell further, resulting in a deficit in both the current account and the overall balance of payments. International reserves fell to USD 246 billion in 2021 from USD 258.1 billion in December 2020, although they were still high and is sufficient to cover about 2.9 times of short-term external debt.

Fiscal policy has become highly expansionary to support the economy amid the COVID-19 pandemic, with significant increases in both budget and off-budget expenditures. Apart from the budget, the fiscal stimulus was financed by an additional THB 1.5 trillion in bond issuance in total (almost 9.0 percent of 2019 GDP) for COVID-19 relief measures. The budget deficit expanded from 3.0 percent of GDP in FY2019 to 5.2 percent in FY2020 and 4.7 percent in FY2021. In September 2021, under the Fiscal Responsibility Act B.E. 2561, the Fiscal Policy Committee increased the ceiling on the public debt-to-GDP ratio from 60 percent to 70 percent, giving the authorities more room to provide fiscal support to the economy, if necessary.

Downside risks to growth stem mainly from uncertainties due to recurrent waves of COVID-19 infections. Globally, the resurgence of COVID-19 infections could also weaken Thailand's recovery through trade and investment linkages. Domestically, in an adverse scenario, a fourth wave of infections, leading to a retightening of travel restrictions, could result in a much slower return of international tourists.

Risks to financial stability remain contained thus far, although they require vigilant monitoring going forward. Markets have rebounded from the capital outflows and stock market decline in the early part of 2020. The authorities have taken steps to conduct a fresh round of stress tests to ensure that banks' capital buffers are adequate. Overall, the banking system's NPL ratio has been broadly stable, helped by the Bank of Thailand's debt relief programs and regulatory relief. Commercial banks remain sound, supported by strong buffers from capital and loan-loss reserves.

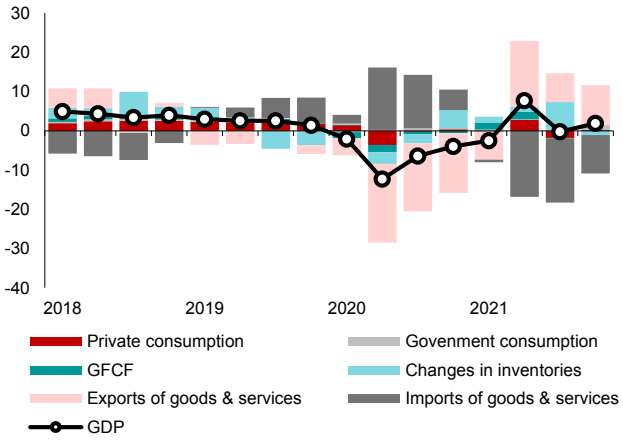
Economic scarring from the pandemic could weaken the recovery. There is a risk that the need by corporates to repair their balance sheets may cause the recovery to take longer than expected, and if liquidity problems drag out, some firms may become insolvent. Additionally, high household debt and unemployment can be a drag on private consumption. The need for re-skilling and upskilling workers who were laid off or underemployed may slow adjustment to the post-pandemic new normal.

The co-authors of this note are Ming Han (Justin) Lim, Ruperto Majuca, and Wanwisa (May) Vorranikulkij.

Thailand: Selected Figures

Growth in 2021 rebounded on the back of strong goods export.

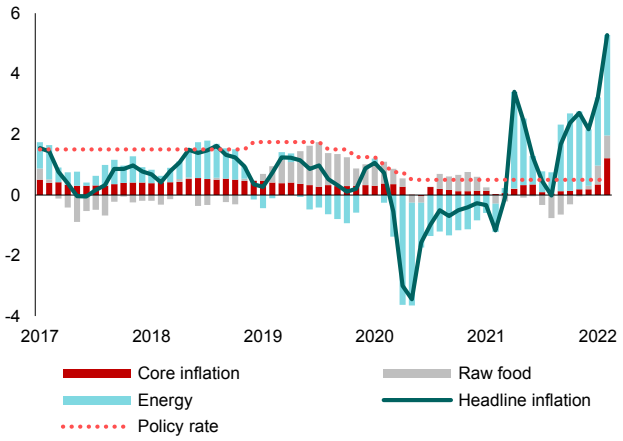
Contribution of Real GDP Growth
(Percentage points, year-on-year)



Sources: Office of the National Economic and Social Development Council; and AMRO staff estimations.
Note: GFCF = gross fixed capital formation.

Headline inflation 2021 was pushed up by rising oil prices, while demand-pull pressure remained weak.

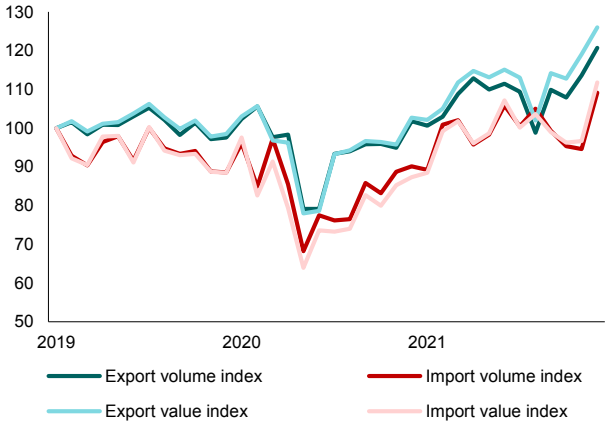
Contributions to CPI Inflation
(Percentage points, year-on-year)



Sources: Bank of Thailand; and Thailand Ministry of Commerce.
Note: CPI = consumer price index.

Merchandise goods exports recovered in line with global demand.

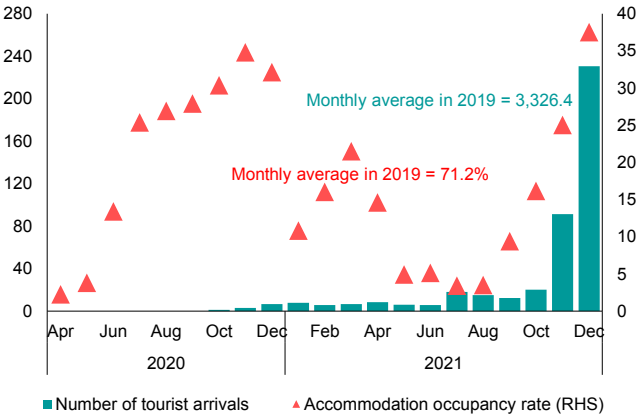
Merchandise Goods Trade
(Index, January 2019 = 100, seasonally-adjusted)



Sources: Bank of Thailand; and AMRO staff calculations.

Tourist arrivals and hotel occupancy rates rose marginally but remained much lower than the pre-pandemic levels.

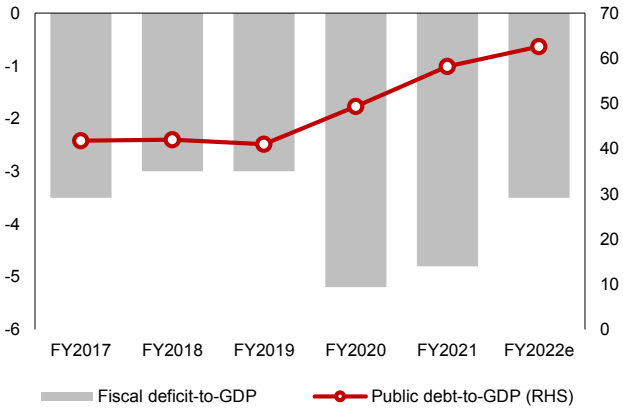
Tourism Sector
(Thousands of persons; percent)



Source: Bank of Thailand.

The public debt-to-GDP ratio increased with the continued implementation of fiscal stimulus measures.

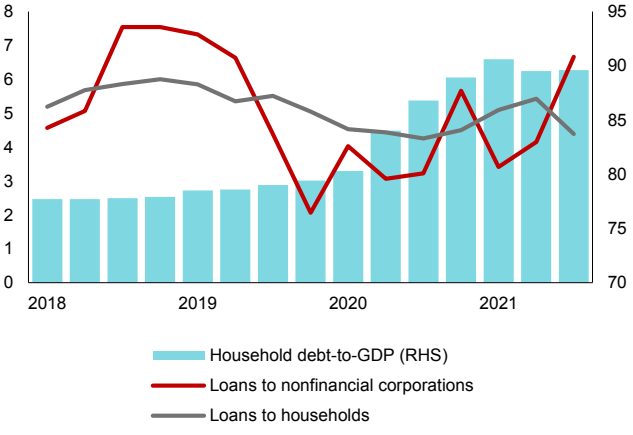
Fiscal Balance
(Percent of GDP)



Sources: Ministry of Finance; and AMRO staff estimations.
Note: Fiscal year (FY) runs from October 1 to September 30. For example, FY2022 is from October 1, 2021, to September 30, 2022. e denotes estimate.

Loans to the private sector trended upward during the pandemic.

Credit Growth from Financial Institutions
(Percent, year-on-year; percent of GDP, seasonally-adjusted)



Sources: Bank of Thailand; and AMRO staff calculations.

Thailand: Selected Economic Indicators

Indicator	2018	2019	2020	2021
Real sector	(in annual percentage change)			
Real GDP	4.2	2.3	–6.1	1.6
Private consumption	4.6	4.0	–1.0	1.0
Government consumption	2.6	1.7	0.9	0.3
Gross fixed capital formation	3.8	2.0	–4.8	3.4
Imports of goods and services	8.3	–5.2	–13.3	17.9
Exports of goods and services	3.4	3.0	–19.4	10.4
External sector	(in percent of GDP, unless otherwise specified)			
Current account balance	5.6	7.0	4.2	–2.2
Trade balance	4.4	4.9	8.2	7.9
Capital and financial account balance	–2.6	–2.9	–2.4	–0.4
Direct investment	–0.8	–1.0	–4.8	0.2
Portfolio investment	–1.2	–1.6	–2.4	–3.0
Other investment	-0.6	–0.2	4.8	2.4
Errors and omissions	–1.4	–1.6	1.8	0.3
Overall balance	1.4	2.5	3.7	–2.6
Gross external debt	35.5	34.2	36.8	–
International reserves (in USD billion, end of period)	205.6	224.3	258.1	246.0
Fiscal sector[1]	(in percent of GDP)			
Revenue and grants	15.6	15.1	14.8	15.3
Expenditure	18.6	18.1	20.0	20.0
Fiscal balance	–3.0	–3.0	–5.2	–4.7
Government debt	42.0	41.0	49.4	58.1
Monetary and financial sectors[2]	(in annual percentage change)			
Broad money	4.9	3.9	10.3	4.9
Domestic credit[3]	6.5	2.0	8.0	8.7
Private sector credit	6.7	3.7	5.0	4.8
Memorandum items:				
Nominal GDP (in THB billion)	16,368.7	16,898.1	15,698.3	16,179.8
Headline inflation (in percent y-o-y, period average)	1.1	0.7	–0.8	1.2
Policy rate (in percent per annum)	1.75	1.25	0.50	0.50
Exchange rate (in THB/USD, period average)	32.3	31.1	31.3	32.0

Sources: National authorities via CEIC and Haver Analytics; and AMRO staff estimates
Note: Numbers in red denote AMRO staff estimates. y-o-y = year-on-year.

1/ Fiscal year (FY) runs from October 1 to September 30. For example, FY2021 are from October 1, 2020, to September 30, 2021.
2/ Numbers in 2021 are as at end of September 2021.
3/ Domestic credit composes net claims from central government, local government, nonfinancial corporations, and households.

Vietnam

Vietnam's economy started to rebound in Q4 2021, at 5.2 percent year-on-year, after a significant contraction of 6.0 percent year-on-year in the previous quarter. The loosening of mobility restrictions at the beginning of Q4 allowed economic activities to recover across the board. The manufacturing sector expanded once again with workers gradually returning to cities and factories resuming operations. The services sector also rebounded along with the easing of restrictions on social distancing, transportation, and logistics, although the hospitality segment remained hamstrung by international border restrictions. The rebound in Q4 helped Vietnam achieve an annual growth rate of 2.6 percent in 2021. Looking ahead, the economy is expected to continue on the path of recovery on the back of sustained progress in vaccination and resilient external demand.

More stable food prices helped offset the impact of higher fuel prices, allowing the authorities to contain headline inflation, at 1.8 percent year-on-year as of December 2021, well below the target ceiling of 4 percent. Going forward, greater inflationary pressure is on the horizon in light of a pickup in domestic demand as well as rising commodity prices.

The return of workers into cities and the gradual resumption of factory operations led to a recovery in export growth and brought the trade balance back into surplus over the last 4 months of 2021. Meanwhile, continued FDI inflows have helped shore up the financial account. As of Q3 2021, the BOPs remained in surplus, with foreign reserves increasing to USD 105.2 billion, from USD 94.4 billion at the end of 2020.

Relatively flat tax collection due to subdued economic growth and a decrease in fees and charges as part of pandemic support measures led to a decline in revenue collected to 16.3 percent of GDP in 2021, from 18.9 percent of GDP in 2020. Meanwhile, expenditure declined to 20.4 percent of GDP in 2021, from 22.4 percent of GDP in 2020, in light of limited expenditure support. The budget deficit widened slightly to 4.1 percent of GDP in 2021, from 3.5 percent of GDP in 2020. As a result, the wider deficit is estimated to have increased public debt slightly to 44.2 percent of GDP in 2021, still far below the authorities' ceiling of 60 percent of GDP. Going forward, the deficit is expected to rise further as a result of the most recent stimulus package—approved in January this year—which focuses on public investment expansion.

After cutting key policy rates by a total of 150–200 basis points in 2020, the State Bank of Vietnam (SBV) has since left the rates unchanged to support economic recovery. The accommodative monetary stance has left the banking system flush with liquidity and supported credit growth, which is estimated at 13.5 percent year-on-year as of end-2021, above the SBV's credit growth target of 12 percent. Similarly, looser macroprudential policy, including regulatory forbearance, has been kept in place to assist borrowers and support banks' balance sheets.

Despite experiencing elevated levels of COVID-19 infections since November 2021, the country has not applied the type of restrictions imposed in previous infection surges with a view to supporting the economy. Looking ahead, pandemic containment remains the major domestic challenge, with the ongoing recovery in domestic demand as well as export performance resting crucially on the nature of containment measures. On the external front, while Vietnam is well-placed to benefit from the recovery in global demand in light of the outsize role of exports in the economy and its membership in several free trade agreements, major flare-ups in COVID-19 infections across the world would continue to pose a significant downside risk for Vietnam's exports. Moreover, lasting scars from the pandemic on corporate sector balance sheets and on labor and employment, may undermine the strength of economic recovery in the medium to long term.

Despite banks' efforts on loan restructuring, further action should be undertaken to safeguard banks' asset quality to limit the erosion of their capital buffers—the banking system's capital adequacy ratio stood at 11.5 percent as of December 2021. Against the backdrop of the SBV's forbearance policy on loan classification, it is vital to maintain heightened monitoring of the potential deterioration in asset quality—the on-balance sheet NPL ratio was 1.5 percent as of end-2021—so as to provide timely warning and intervention.

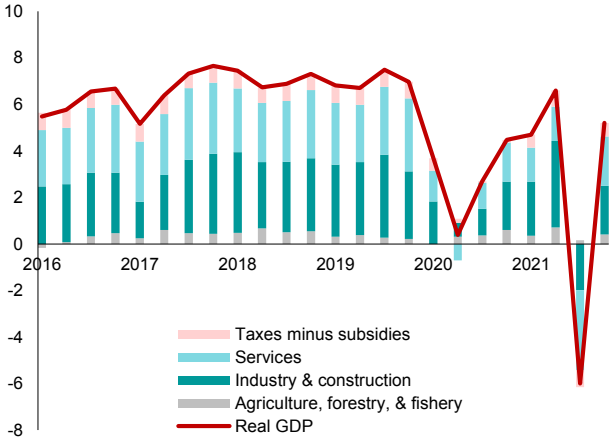
The author of this note is Jade Vichyanond.

Vietnam: Selected Figures

The economy started to rebound in Q4 last year after a significant contraction the previous quarter.

Contributions to Real GDP Growth

(Percentage points, year-on-year)

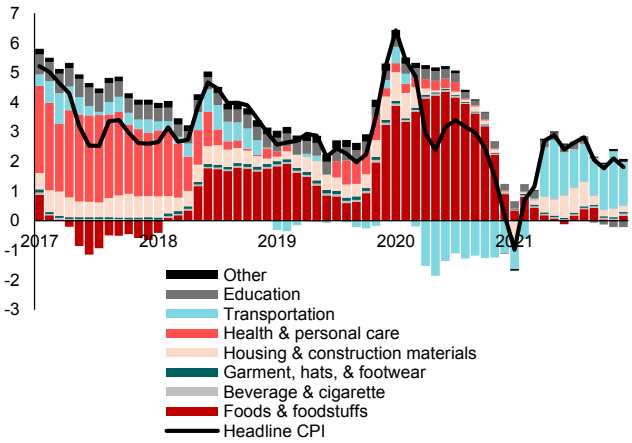


Sources: General Statistics Office; and AMRO staff calculations.

Moderation in food prices was the main driver of the decline in headline inflation in 2021.

Contributions to CPI Inflation

(Percentage points, year-on-year)

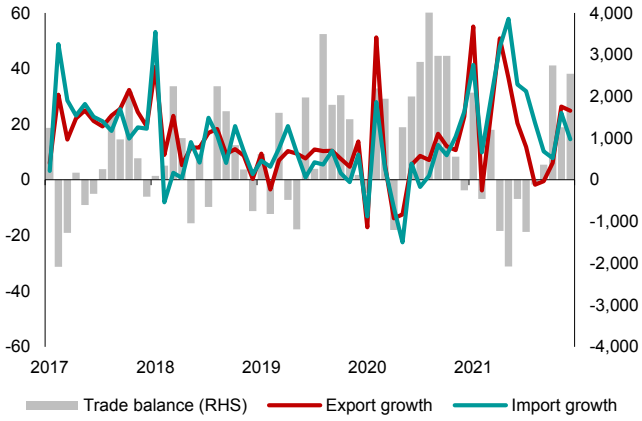


Sources: General Statistics Office; and AMRO staff calculations.
Note: CPI = consumer price index.

The return of workers into cities and the gradual resumption of factory operations led to a recovery in export growth…

External Trade

(Percent, year-on-year; millions of US dollars)

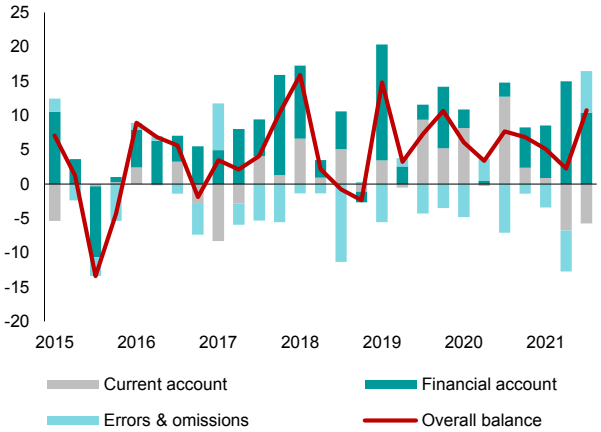


Sources: General Statistics Office; and AMRO staff calculations.

…while continued capital inflows shored up the financial account, keeping the balance of payments in surplus.

Balance of Payments

(Billions of US dollars)

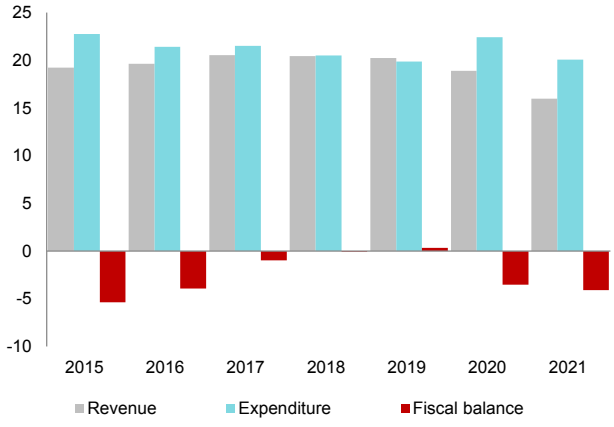


Sources: General Statistics Office; AMRO staff calculations.

The budget deficit widened slightly to 4.1 percent of GDP in 2021 as revenue collection slowed.

Fiscal Balance

(Percent of GDP)

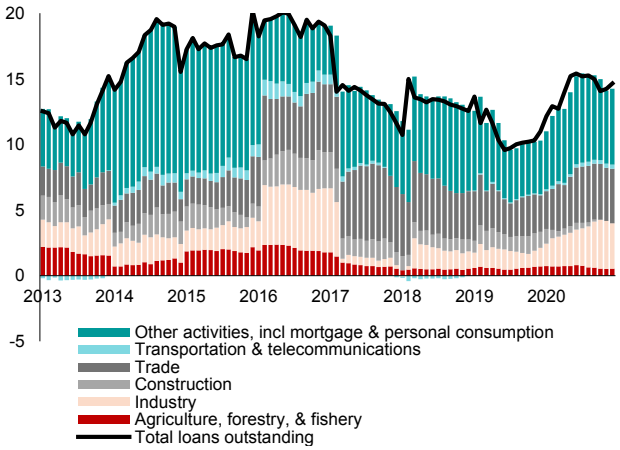


Sources: Ministry of Finance; and AMRO staff calculations.
Note: Calculations involving GDP and fiscal data are based on the recently revised GDP data for 2010–17 and AMRO staff GDP estimates for 2018–20.

The SBV's accommodative stance has supported the banking sector's credit growth.

Contributions to Credit Growth

(Percentage points, year-over-year)



Sources: State Bank of Vietnam; and AMRO staff calculations.

Vietnam: Selected Economic Indicators

Indicator	2018	2019	2020	2021
Real sector	(in annual percentage change)			
Real GDP	7.1	7.0	2.9	2.6
External sector	(in USD billion, unless otherwise specified)			
Current account balance	6.9	12.5	15.1	–5.8
Trade balance	16.2	21.0	30.7	4.6
Capital and financial account balance	8.5	19.0	8.7	17.8
Direct investment	14.9	15.7	15.4	13.5
Portfolio investment	3.0	3.0	-1.3	1.3
Other investment	–9.5	0.3	-5.5	3.0
Errors and omissions	–9.4	–8.2	–7.1	–2.0
Overall balance	6.0	23.3	16.7	10.0
Gross external debt (in percent of GDP)	38.8	39.5	39.4	38.5
International reserves (end of period)	55.5	78.3	94.4	104.4
Fiscal sector[1]	(in percent of GDP)			
Revenue and grants	20.5	20.2	18.9	16.3
Expenditure	20.5	19.9	22.4	20.4
Fiscal balance	–0.1	0.3	–3.5	–4.1
Public debt	46.2	43.4	43.6	44.2
Monetary and financial sectors	(in annual percentage change)			
Broad money	12.4	14.8	14.5	13.7
Domestic credit	12.7	12.8	11.6	13.3
Memorandum items:				
Nominal GDP (in VND trillion)	6,998.4	7,677.8	7,974.1	8,398.6
Headline inflation (in percent y-o-y, period average)	3.5	2.8	3.2	1.8
Policy rate (in percent per annum, end of period)	6.25	6.00	4.00	4.00
Exchange rate (in VND/USD, period average)	22,609	23,054	23,202	23,160

Sources: National authorities via CEIC and Haver Analytics; and AMRO staff estimates.
Note: Numbers in red denote AMRO staff estimates. y-o-y = year-on-year.
1/ Calculations involving GDP and fiscal data are based on the recently revised GDP data for 2010–17 and AMRO staff's GDP estimates for 2018–20.

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