



# ASEAN+3 REGIONAL ECONOMIC OUTLOOK 2021 UPDATE



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## Abbreviations

AE	advanced economies
ASEAN	Association of Southeast Asian Nations
ASEAN-6	Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam
BN	Brunei Darussalam (“Brunei”)
CN	China
CLMV	Cambodia, Lao PDR, Myanmar, and Vietnam
DAR	debt-at-risk
EU	eurozone
Fed	US Federal Reserve
GDP	gross domestic product
JHU	Johns Hopkins University
HK	Hong Kong, China (“Hong Kong”)
ID	Indonesia
JP	Japan
KH	Cambodia
KR	Korea
LA	Lao People’s Democratic Republic (“Lao PDR”)
MY	Malaysia
PH	the Philippines
PMI	Purchasing Managers’ Index
SG	Singapore
TH	Thailand
US	United States
UK	United Kingdom
VN	Vietnam
WHO	World Health Organization

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### Highlights

- The realization of downside risks foreshadowed in March in [AMRO \(2021a\)](#)—mainly in the form of disruptions caused by the COVID-19 Delta variant—has resulted in downward revisions to AMRO staff’s ASEAN+3 growth forecasts for this year. Economic activity in the region is now projected to expand by an aggregate 6.1 percent in 2021, down from the 6.7 percent forecast earlier this year, after posting flat growth in 2020.
- However, ASEAN+3 economies are gaining recovery momentum and the region as a whole is expected to grow strongly next year, by 5.0 percent. Inflation is projected to rise to 2.9 percent in 2022, from 2.4 percent this year.
- Rapid vaccinations, along with greater adeptness at targeting containment and support policies, are fueling optimism and providing more clarity on what an “endemic new normal” could look like.
- The region is adapting and learning to function within the more uncertain environment. The pandemic has altered the way businesses and consumers transact, accelerated digitalization, and led to the emergence of new business models and types of firms. Rising protection and immunity are also allowing some resumption of travel.
- Any withdrawal of policy support needs to tread the fine line between preserving the remaining policy space and supporting the rebound. Existing policy measures should be phased out in a gradual and well-communicated manner to avoid cliff effects.
- Targeted policy measures should continue to support the hard-hit sectors, minimize scarring effects that could lead to lasting inequalities and social inequity, and facilitate the transition to the new digital economy.

## ***"Just get vaccinated."***

Anthony Fauci  
Director, US National Institute of Allergy and Infectious Diseases  
CNN Sunday, August 29, 2021

### **I. Risks to Recovery**

A year and a half into the COVID-19 pandemic, the combination of efficacious vaccines and evolving virus variants may be providing greater clarity on what the “new normal” looks like. Many economies around the world continue to report significant numbers of new infections and fatalities on a daily basis (Figure 1). As of September 30, 2021, some 233 million confirmed cases and 4.7 million deaths have been reported ([Johns Hopkins University 2021](#)), as governments continue to struggle to contain the spread of infections. The most recent outbreak—by far the most contagious and virulent yet—is attributed to the “Delta variant,” whose rapid spread has seen the retightening of physical containment measures that has put a brake on the recovery momentum for 2021. The transmissibility of this virus strain, even among the vaccinated, has undermined the effectiveness of the “zero Covid” strategy adopted by some countries (Appendix I), and caused many to pivot to more sustainable pandemic management strategies.

Among ASEAN+3 economies, continuing policy support and greater adeptness at employing more targeted containment measures, amid the deployment of vaccines, have kept economic activity going. As policy space continues to narrow in the region, the rollout of vaccination programs—coupled with increasing realization about the endemic nature of the virus—could become a crucial game changer for growth (Choo and others forthcoming). Rising vaccination rates have allowed governments to further ease domestic mobility restrictions, and in some economies, restart international leisure travel via—albeit fragile—travel bubbles, which should enable the gradual restart of hard-hit service sectors such as tourism and hospitality. But, full resumption is likely to take a while yet, given the wide variation in vaccination rates across the region, ranging from below 15 percent in Myanmar to more than 80 percent in Singapore (Figure 2), largely due to supply considerations. The ebb and flow in infections even in some highly vaccinated economies further underscore the complexity of economic reopening.

Proactive fiscal and monetary policies have helped to temper the risks to financial stability identified in [AMRO \(2021a\)](#), but new risks have been added to the equation. With inflation reaching near 30-year highs in the United States, the spotlight has been placed squarely on the US Federal Reserve’s (“Fed’s”) stance on monetary policy (Figure 3). In light of the 2013 “taper tantrum” experience, ASEAN+3 central banks are mindful of the risks to capital flows posed by any sudden shift in the Fed’s monetary policy stance. Rising corporate defaults, particularly of highly leveraged firms, could weaken investor sentiment and risk regional contagion. Domestically, increasing price pressures could pose a separate headache for regional central banks, as they parse the factors currently driving producer and consumer prices ([Kho and others 2021](#)).

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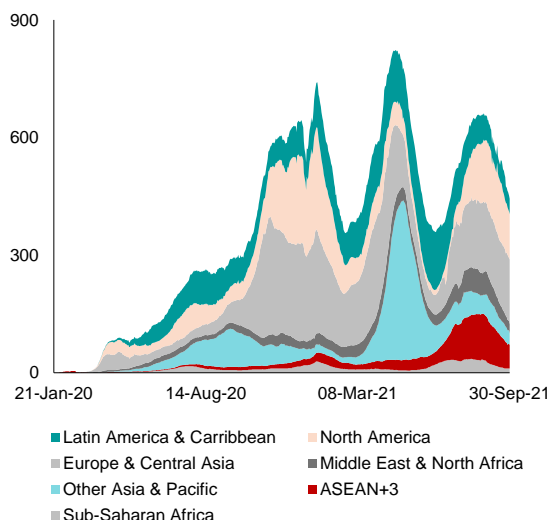


Meanwhile, the recurring waves of infections foreshadowed half a year ago have indeed materialized, with attendant impact on regional growth. The greater risk at this stage is the continuing mutation of the virus into potentially vaccine-resistant strains (World Health Organization 2021) that could have important implications for the economy:

- The prolonged impact of the pandemic on business and household incomes means that financial risks are still elevated (AMRO 2020; AMRO 2021a). Several policy support measures, which have helped tide over firms and individuals during the crisis, are scheduled to start expiring toward the end of this year (AMRO 2021b). Such normalization could lead to significant deterioration in banks' asset quality, especially if new outbreaks further depress demand and labor market conditions. Similarly, some of the regulatory forbearance measures that have helped shield the banking sector from deteriorating asset quality to date are also set to expire.
- The COVID-19 pandemic is presenting an increasing challenge for fiscal sustainability in the region. Public debt ratios are rising, with the deployment of massive fiscal resources to support economic activity through the crisis, and the possibility that protracted support may be needed poses a threat to fiscal health, especially for economies with narrow fiscal space. Lower government revenues are also contributing to the widening of fiscal deficits.

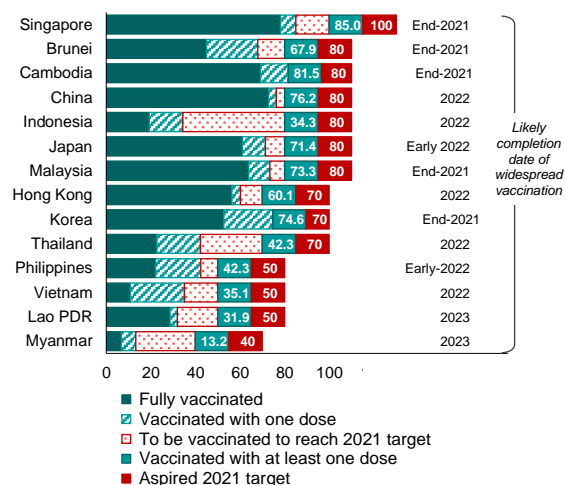
Risks continue to lurk even when the severity of infections have been brought under control and regional economies are on the path to recovery. Some are starting (and others are planning) to gradually edge toward the exit from pandemic support policies. However, any premature or miscommunicated withdrawal could trigger economic turmoil, leading to sharp cliff effects and potentially threaten financial stability.

**Figure 1. World: Confirmed Cases by Region, as of September 30, 2021**  
(7-day average; thousand cases)



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

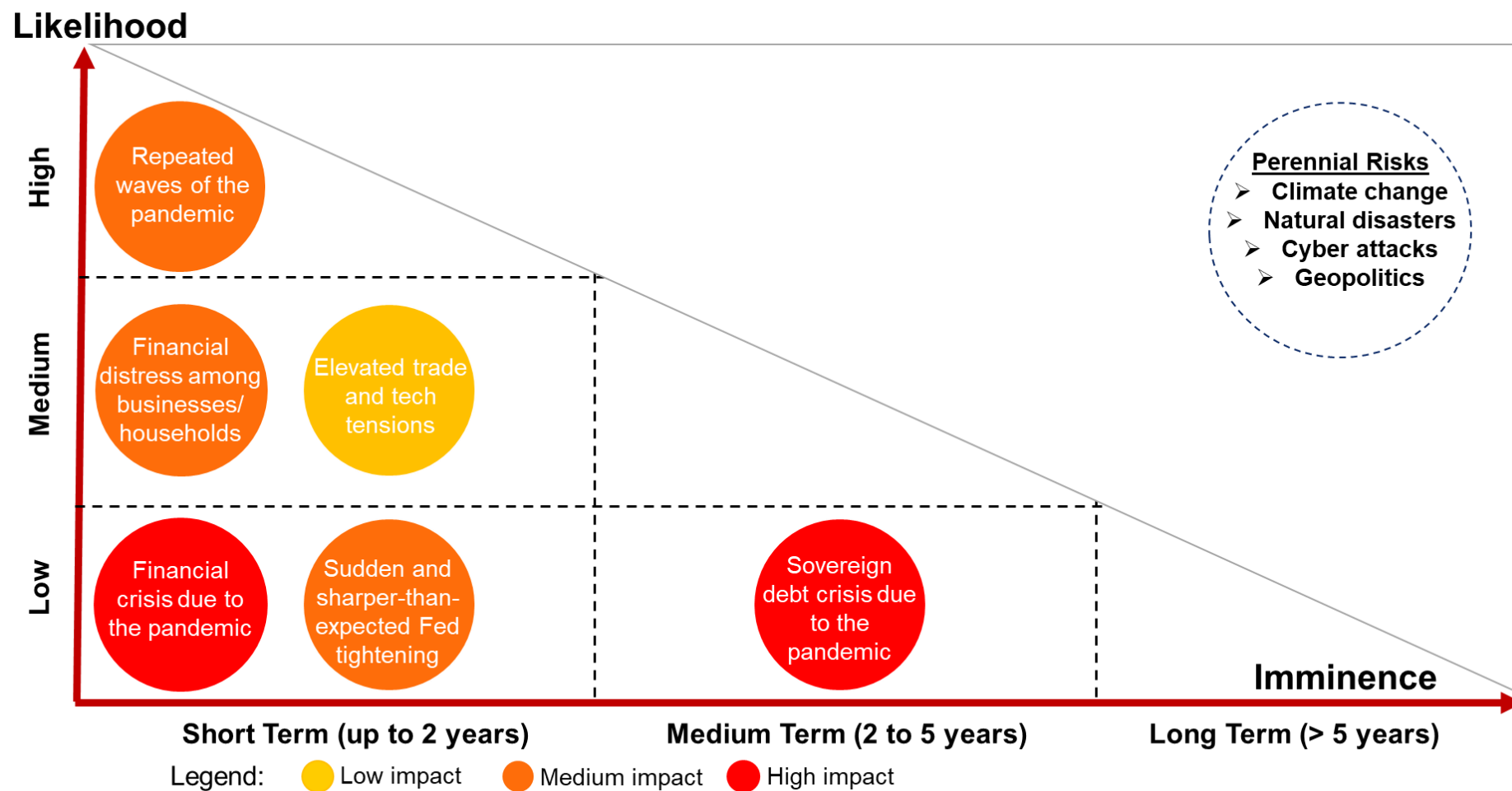
**Figure 2. ASEAN+3 and Selected Economies: Vaccinations and Aspired Population Coverage**  
(Percent, as of September 29, 2021)



Sources: Our World in Data via Haver Analytics; and AMRO staff calculations.

Note: Share of population vaccinated is derived from dividing total administered doses by 2 to reflect the two-dose regime of most vaccines. "Aspired" figures are taken from published media articles quoting government sources, and refers to either the goal, forecast, or estimates for 2021.

Figure 3. Global Risk Map, October 2021



Source: AMRO staff estimates.

There is cautious optimism in the outlook although AMRO staff's baseline is that the ASEAN+3 region will grow at a more moderate pace in 2021 than initially projected in [AMRO \(2021a\)](#). The region's GDP is forecast to expand by 6.1 percent this year, a 0.6 percentage point reduction compared to staff's projection back in March 2021 (Table 1). The Plus-3 economies are continuing to drive regional recovery—especially China, which has fully vaccinated two-thirds of its population—benefiting from effective containment measures that have allowed the domestic economy to open up quite fully. Growth for the ASEAN sub-region, however, is forecast to be much slower at 2.7 percent, as a result of recurring new waves of infections followed by the retightening of containment measures. But, with most members anticipated to achieve their vaccination targets by early 2022, AMRO staff's assessment is for almost all the ASEAN+3 economies to register stronger growth next year.

Inflation is projected to rise in 2021, reflecting base effects, recovery in demand, and global supply constraints. More than half of the region's economies are forecast to face higher inflation this year, mainly because of elevated global energy and commodity prices. Although consumer price inflation across the region is currently low by historical standards, rapidly climbing producer prices are fueling concerns over impending pass-through to consumer prices ([Kho and others 2021](#)).

AMRO staff simulated both upside and downside scenarios to assess the potential impact of the identified major risk factors on baseline GDP growth. Amid improving global demand, the recurrent waves of virus infections pose the most immediate downside risk to growth (Appendix II). In the event that the virus evolves into new variants that are resistant to vaccines, economies would be forced to revert to implementing mobility restrictions yet again, as a primary means of containing transmission. On the other hand, the approval—beyond emergency use—and take-up of efficacious vaccines, as well as the anticipated availability of COVID-19 antiviral medication, could turn the tide on the pandemic and enable faster economic reopening regionally and globally. AMRO staff therefore estimate that the ASEAN+3 region could expand at a pace ranging between 4.7–7.7 percent in 2021, with the realization of some of the downside risks mooted in [AMRO \(2021a\)](#), but with an improved outlook for 2022 of 3.8–7.3 percent compared to previous projections.

## II. Uneven Turnaround Continues

The strong rebound in ASEAN+3 exports that began in late 2020 held up well in the first half of 2021, but has subsequently softened. The recovery in merchandise goods exports continued to outpace that of services (Figure 4), especially travel and tourism (Figure 5), on the back of strengthening demand from major trading partners, as well as last year's low base. The region's total export volume rose sharply by at least 30 percent in year-over-year terms, between February and April 2021 (Figure 6), buoyed by solid export performances in China, Hong Kong, Malaysia, the Philippines, and Vietnam, and the sturdy global demand for electronics, computers and parts, as well as automobiles. However, this momentum had started to wane in May, as the Delta variant triggered fresh restrictions across the region. In China, the outbreaks in its eastern and southern provinces have weighed on factory output in recent months ([Qian and Crossley 2021](#)).

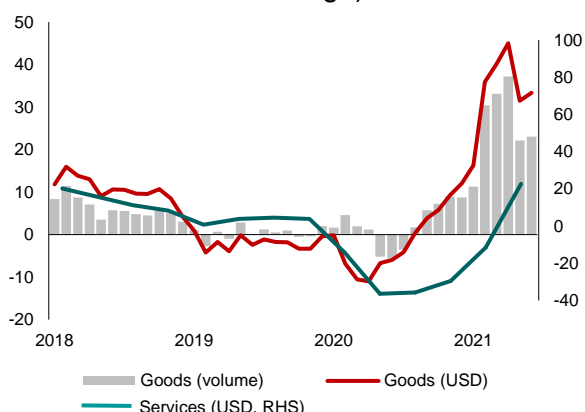
**Table 1. ASEAN+3: AMRO Growth and Inflation Projections, 2021–22**

Economy	Gross Domestic Product (year-over-year)					Consumer Price Index (year-over-year)				
	2020 (Actual)	AREO 2021 (March 2021)		AREO 2021 Update (October 2021)		2020 (Actual)	AREO 2021 (March 2021)		AREO 2021 Update (October 2021)	
		2021 <sup>P</sup>	2022 <sup>P</sup>	2021 <sup>P</sup>	2022 <sup>P</sup>		2021 <sup>P</sup>	2022 <sup>P</sup>	2021 <sup>P</sup>	2022 <sup>P</sup>
<b>ASEAN+3</b>	<b>0.0</b>	<b>6.7</b>	<b>4.9</b>	<b>6.1</b>	<b>5.0</b>	<b>1.8</b>	<b>2.2</b>	<b>2.3</b>	<b>2.4</b>	<b>2.9</b>
<b>Plus-3</b>	0.9	7.2	4.7	6.9	4.8	0.8	1.1	1.4	1.1	1.6
China	2.3	8.7	5.5	8.2	5.5	2.5	1.5	2.0	1.3	2.0
Hong Kong, China	-6.1	4.8	6.5	6.5	4.0	0.3	2.0	2.0	1.7	2.0
Japan	-4.6	2.7	1.8	2.6	2.4	0.0	-0.1	0.3	-0.5	0.4
Korea	-0.9	3.2	3.0	3.9	3.0	0.5	1.0	1.3	1.9	1.9
<b>ASEAN</b>	<b>-3.3</b>	<b>4.9</b>	<b>5.7</b>	<b>2.7</b>	<b>5.8</b>	<b>2.1</b>	<b>2.6</b>	<b>2.6</b>	<b>3.0</b>	<b>3.5</b>
Brunei Darussalam	1.1	3.1	4.0	2.1	3.2	1.9	1.2	1.0	1.6	1.0
Cambodia	-3.1	4.7	6.1	2.8	6.6	2.9	3.5	2.4	3.3	2.3
Indonesia	-2.1	4.9	5.3	3.8	5.6	2.0	2.5	3.0	1.6	2.7
Lao PDR	3.3	4.6	4.8	2.9	5.0	5.1	3.5	4.0	4.0	5.2
Malaysia	-5.6	5.6	6.2	4.1	6.7	-1.1	2.0	2.2	2.5	2.2
Myanmar	3.2	-2.6	4.5	-18.7	0.0	5.8	5.0	5.5	6.7	12.4
The Philippines	-9.6	6.9	7.8	4.3	6.7	2.6	3.8	3.3	4.3	3.2
Singapore	-5.4	6.0	4.7	6.3	4.0	-0.2	0.5	0.7	1.6	1.3
Thailand	-6.1	2.3	4.8	0.8	5.8	-0.8	0.8	0.9	0.8	1.0
Vietnam	2.9	7.0	6.8	2.6	7.5	3.2	3.2	3.2	3.2	3.2

Source: AMRO staff estimates.

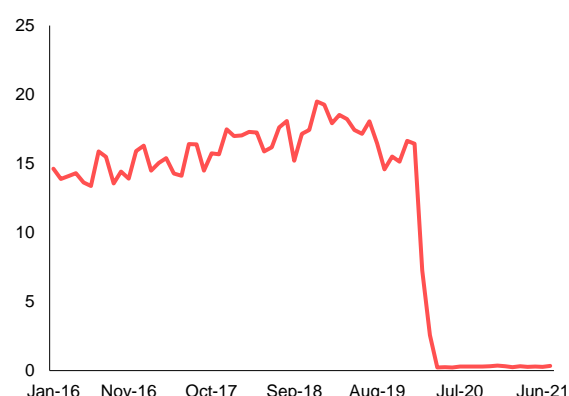
Note: AREO = ASEAN+3 Regional Economic Outlook report. p = projections. Regional aggregates for growth are estimated using the weighted average of 2020 GDP on purchasing power parity basis; regional aggregates for inflation are computed using simple averaging. Myanmar's numbers are based on its fiscal year starting from October 1 of the previous year to September 30 of the current year.

**Figure 4. ASEAN+3: Goods and Services Exports**  
(Percent year-over-year; 3-month moving average)



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

**Figure 5. Selected ASEAN+3: Aggregate Tourist Arrivals**  
(Millions of persons)



Sources: National authorities via Haver Analytics; and AMRO staff calculations.  
Note: Data include Cambodia, Hong Kong, Indonesia, Japan, Korea, Singapore, Thailand, and Vietnam.

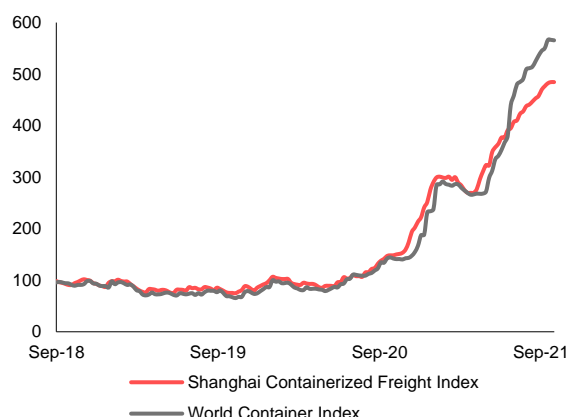
**Figure 6. Selected ASEAN+3: Exports**  
(Percent year-over-year, 3-month moving average)

Economy	2018 Jan – Dec	2019 Jan – Dec	2020 Jan – Dec	2021 Jan – Sep	Latest yoy change
<b>PLUS-3</b>					<b>26.0</b>
China					25.6
Hong Kong					25.4
Japan					21.8
Korea					16.7
<b>ASEAN</b>					<b>31.6</b>
Brunei					156.9
Cambodia					-11.8
Indonesia					64.1
Lao PDR					95.8
Malaysia					17.4
Myanmar					-20.6
Philippines					12.7
Singapore					18.6
Thailand					6.4
Vietnam					-0.6

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

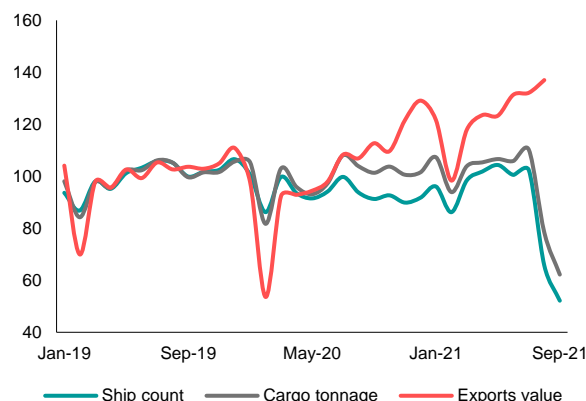
The resurgence in infections and resulting lockdown measures have cast a shadow on the region’s merchandise export outlook for 2021. Pent-up pandemic demand from the United States may have already peaked, and several exporters in the region are struggling with shortages in inputs—such as semiconductors—logistical bottlenecks, rising raw material prices, and skyrocketing shipping costs (Figure 7). High-frequency shipping data show a sharp drop in the number of cargo ships and their volume at key regional ports in August this year (Figure 8; [del Rosario and Quách 2021](#)), while movement restrictions appear to have translated to container vessels staying at port markedly longer (Figure 9). Still, there are some bright spots: imported cargo volumes have been resilient (Figure 10). Given the high import intensity of exports ([AMRO 2021c](#)), it suggests that ASEAN+3 exporters are still fairly optimistic, which could be attributable to the expansion in vaccinations worldwide and more targeted containment measures. The latest Purchasing Managers’ Index (PMI) also indicates that sentiment toward new export orders continue to hold up well in the region (Figure 11).

**Figure 7. Global Shipping Costs**  
(December 27, 2019 = 100)



Sources: Bloomberg Finance L.P.; and AMRO staff calculations.  
Note: The Shanghai Containerized Freight Index reflects the spot shipping rates for 15 major container trade routes coming out of Shanghai. The World Container Index is a weighted average by volume of the spot container freight rates for eight major East-West trade routes. The two series are presented in weekly frequency, with September 3, 2021 as latest observation.

**Figure 8. Plus-3 and Singapore: Export Value and Shipping Indicators**  
(Percent, 2019 = 100)



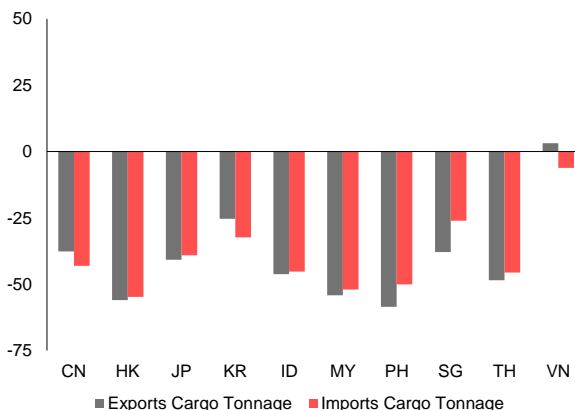
Sources: MarineTraffic; and AMRO staff calculations.  
Note: Shipping data until September 30, 2021. See [del Rosario and Quách \(2020\)](#) for a discussion on the development of the shipping indicators.

**Figure 9. ASEAN-6, Plus-3, and United States: Ship Vessel Turnaround Times**  
(Number of Hours)



Sources: MarineTraffic; and AMRO staff calculations.  
Note: Shipping data cover the period until July 31, 2021, and include container ships with a carrying capacity of more than 2,000 TEUs (twenty-foot equivalent unit), which tend to be involved in international trade (see [del Rosario and Quách \(2021\)](#) for a discussion on the development of said indicator.)  
CN = China; HK = Hong Kong; JP = Japan; KR = Korea; ID = Indonesia; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; VN = Vietnam; US = United States.

**Figure 10. ASEAN-6 and Plus-3: Export and Import Cargo Tonnage**  
(Percent Change from 2019 Average)

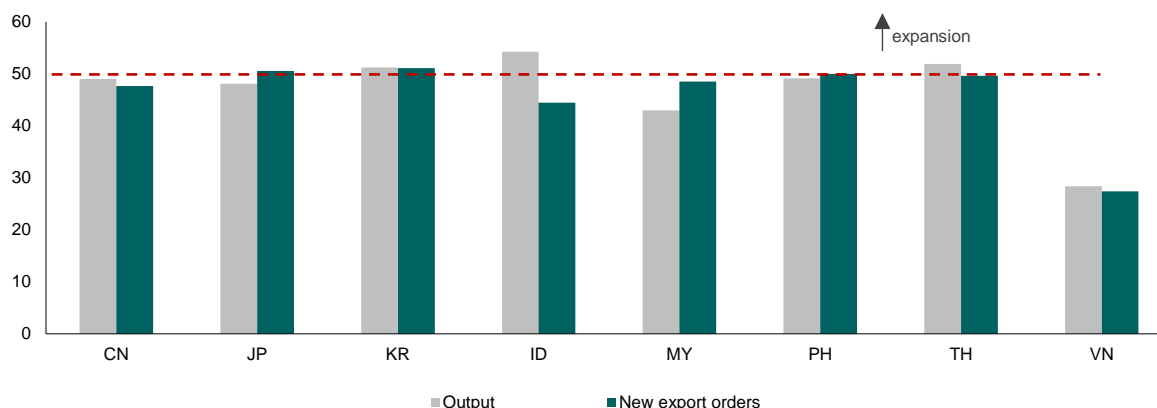


Sources: MarineTraffic; and AMRO staff calculations.  
Note: Shipping data until September 30, 2021. See [del Rosario and Quách \(2020\)](#) for a discussion on the development of the shipping indicators.

Meanwhile, services exports have continued their lethargic trend, and recovery may have been pushed back by the recurring outbreaks in the region from the Delta variant. Travel restrictions have been kept largely in place globally, and are assessed to be as tight in August 2021 as they were a year ago ([UBS 2021](#)). But, even though overall travel and tourism remain subdued, green shoots are emerging in cruise tourism—in the United States, Europe, as well as a few ASEAN+3 economies (Figure 12). Greater caution about reopening in Asia saw cruise operators in Singapore and Hong Kong launch “cruises to nowhere”—or round-trip cruises without ports of call—in November 2020 and August 2021, respectively

(Choo, del Rosario, and Quách forthcoming). Still, full recovery in the region’s services exports will largely depend on the timing and scale of reopening of international travel, which, in turn, will be mainly predicated on the progress in vaccinations and the risk tolerance of each economy towards COVID-19 infections.

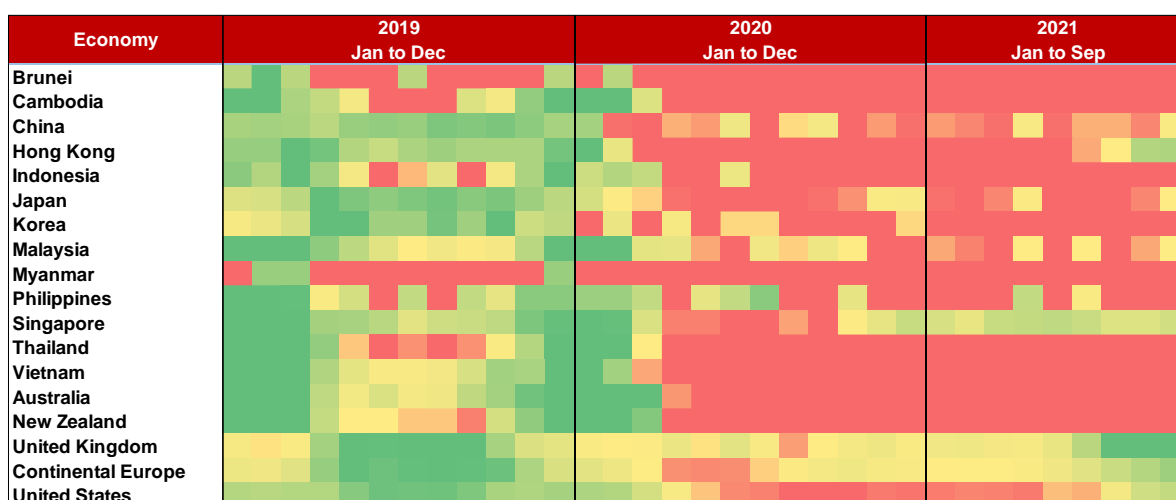
**Figure 11. Selected ASEAN+3: PMI for Manufacturing Sector, September 2021**  
(Diffusion Index)



Source: IHS Markit via Haver Analytics.

Note: CN = China; JP = Japan; KR = Korea; ID = Indonesia; MY = Malaysia; PH = the Philippines; TH = Thailand; VN = Vietnam.

**Figure 12. ASEAN+3 and Selected Advanced Economies: Number of Cruise Ship Voyages**  
(Percentile, 2019 = 100)



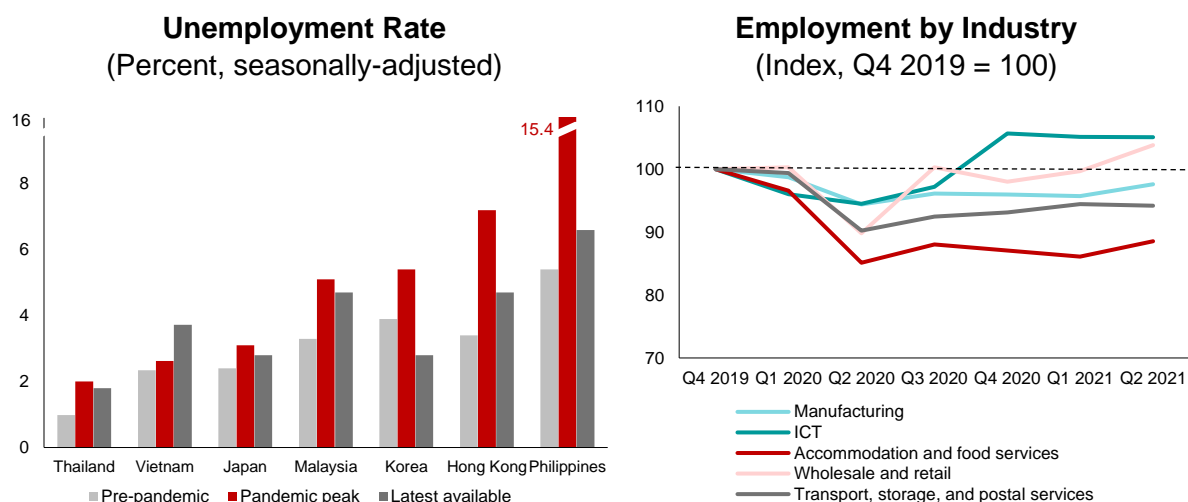
Sources: MarineTraffic; and AMRO staff calculations.

Note: Cruise ships refer to passenger ships with over 40,000 gross tonnage, which have visited more than three different ports in a given year. Red, Yellow, and Green refer to the 10th, 50th, and 90th percentiles, respectively, of the number of cruise ship (in 2019=100) in ASEAN+3, Australia, New Zealand, United Kingdom, Continental Europe, and the United States for the 2019-2021 period.

Encouragingly, labor market conditions in the region have improved from their lows in 2020, on the back of government policy support and some easing in mobility restrictions. Headline unemployment rates appear to have peaked in the first quarter of 2021, with the most notable declines recorded in Hong Kong, Korea, and the Philippines (Figure 13). Across sectors, the pick-up in employment remains uneven, reflecting the divergence in recovery across the region (Appendix III; [Oeking 2021](#)). Employment has yet to return to pre-pandemic levels in sectors such as manufacturing; services requiring close contact, such as accommodation and food services; transport, storage and postal services, which have been hard-hit by mobility restrictions; and in service sectors that employ migrant labor, as border

controls remain in place. On the other hand, employment in information, technology, and communication services has been robust, and there are signs of improvement in wholesale and retail services (Figure 13).

**Figure 13. Selected ASEAN+3: Employment**



Sources: National authorities via Haver Analytics; and AMRO staff calculations.  
 Note: Pre-pandemic data refers to January 2020 for Japan, Korea, Hong Kong and Malaysia; to Q4 2019 for the Philippines; and to Q1 2020 for Vietnam. Pandemic peak refers to the maximum unemployment rate between February 2020 and March 2021. Latest data refers to August 2021 for Hong Kong, Japan and Korea; July 2021 for Malaysia; Q2 2021 for Thailand; and Q3 2021 for the Philippines and Vietnam.

Sources: National authorities via Haver Analytics; and AMRO staff calculations.  
 Note: The data for employment by industry include that of Hong Kong, Japan, Korea, Malaysia, the Philippines and Singapore. Employment levels are normalized at Q4 2019 to represent pre-pandemic period. ICT = information and communications technology.

Easier employment conditions and gradual economic reopening are also helping to boost private consumption. While consumer confidence appears fragile, retail sales have been buoyed by strong online spending, improving mobility, and helped, in part, by the low base of 2020 (Figure 14). Policy support in the form of cash handouts, wage subsidies, and debt relief programs has helped buttress consumer spending. Going forward, any sustained recovery in consumption will be contingent on effectively reducing the severity of infections through inoculation to reach herd immunity, as authorities gradually unwind policy support. Strategic reopening of borders will enable the resumption in the flow of international visitors to the region, which will be crucial for service sectors that depend on tourist receipts. However, any concerted rise in consumer inflation could risk derailing the recovery in private consumption, especially among vulnerable households.

### III. Financial Markets and Inflation

The key underlying drivers for global markets this year have been the rise in global inflation and market expectations of monetary policy responses. Market indicators of inflation expectations had seen a steady rise in late 2020 and early 2021 (Figure 15), largely driven by demand optimism as the global economic recovery gathered momentum amid low base effects from 2020. During the first quarter of 2021, rising inflation expectations also brought forward the expected start of monetary tightening in advanced economies (AEs), especially in the United States (Figure 16). It was reflected in the pick-up in real rates and caused some stress in global risk assets including ASEAN+3 equities, currencies, and debt markets (Pande 2021). Since then, Fed communications (which have tilted toward the dovish side of market expectations), global spread of the Delta variant, and the associated risks to the



growth outlook have kept expectations of Fed tightening in check. These factors have pushed real rates lower again, providing a benign backdrop for ASEAN+3 markets (Kho and others 2021), despite inflation and inflation expectations staying elevated.

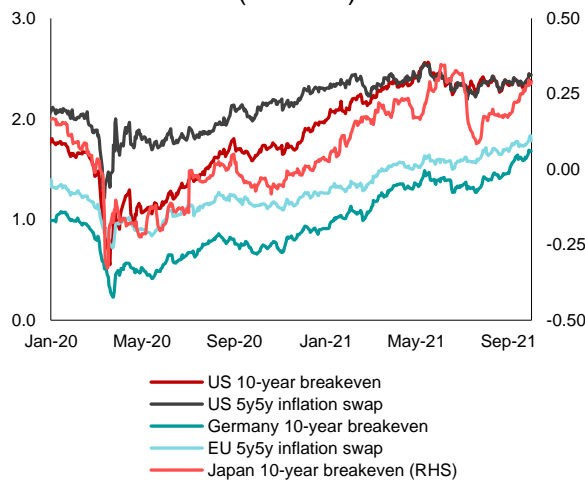
**Figure 14. Selected ASEAN+3: Retail Sales**  
(Percent year-over-year, 3-month moving average)

Economy	2018 Jan to Dec	2019 Jan to Dec	2020 Jan to Dec	2021 Jan to Sep	Latest yoy change from previous year
China	[Heatmap]				7.7
Hong Kong	[Heatmap]				6.8
Indonesia	[Heatmap]				-0.1
Japan	[Heatmap]				-0.2
Korea	[Heatmap]				8.2
Malaysia	[Heatmap]				19.8
Philippines	[Heatmap]				18.9
Singapore	[Heatmap]				27.6
Thailand	[Heatmap]				13.5
Vietnam	[Heatmap]				-30.1

Sources: CEIC Data; Haver Analytics; and AMRO staff estimates.

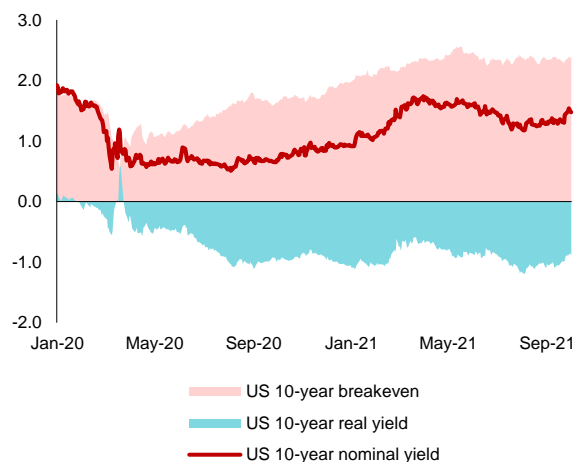
Note: The data are calculated based on local currency values. Quarterly data for Malaysia are linearly interpolated.

**Figure 15. Selected AEs: Market-Implied Inflation Expectations**  
(Percent)



Sources: Bloomberg Finance L.P.; and AMRO staff calculations.

**Figure 16. United States: Breakdown of 10-year Nominal Yields**  
(Percent)



Sources: Bloomberg Finance L.P.; and AMRO staff calculations..

Beyond inflation and AE monetary policy expectations, domestic factors had a material impact on market sentiment in the region (Table 2; Appendix IV):

- Most regional equity markets strengthened year-to-date with the notable exceptions of Malaysia (virus situation, political uncertainty), the Philippines (virus situation) and Hong Kong (changing regulatory landscape in China and property sector stress); on the other hand, Korea, Singapore, Thailand, and Vietnam strengthened on improved external demand.

**Table 2. ASEAN+3 and Selected AEs: Performance of Equity, Exchange Rate, and Government Bond Markets, as of September 30, 2021**

Economy	Benchmark equity index (log returns)					Currency (against USD, log returns)					10-year yield (basis points)				
	Level	2021 (YTD)	2020	2019	2018	Level	2021 (YTD)	2020	2019	2018	Level	2021 (YTD)	2020	2019	2018
US	4,359	14.9%	15.1%	25.4%	-6.4%	97.1	4.6%	-7.5%	0.3%	4.1%	1.52	60.4	-100.4	-76.7	27.9
EU	4,080	13.8%	-5.3%	22.1%	-15.5%	1.166	-5.2%	9.1%	-2.0%	-4.5%	-0.21	35.6	-38.4	-42.7	-18.5
UK	7,108	9.6%	-15.5%	11.4%	-13.3%	1.350	-1.3%	3.7%	3.3%	-5.8%	1.02	82.9	-62.5	-45.8	8.6
CN	3,536	1.8%	13.0%	20.1%	-28.2%	6.466	1.2%	6.2%	1.2%	-5.5%	2.87	-26.6	0.1	-16.4	-57.9
HK	24,664	-9.9%	-3.5%	8.7%	-14.6%	7.784	-0.4%	0.5%	0.4%	0.0%	0.78	0.0	-98.6	-24.3	17.3
JP	29,544	7.4%	14.9%	16.7%	-12.9%	111.3	-7.7%	5.2%	1.4%	2.2%	0.08	5.7	3.2	-1.4	-4.5
KR	3,060	6.3%	26.8%	7.4%	-19.0%	1,185	-8.6%	6.0%	-3.5%	-4.4%	2.20	48.0	5.0	-28.4	-51.1
ID	6,163	3.0%	-5.2%	1.7%	-2.6%	14,293	-1.7%	-1.3%	3.7%	-5.9%	6.24	35.6	-117.7	-96.2	170.6
MY	1,548	-5.0%	2.4%	-6.2%	-6.1%	4.185	-4.0%	1.8%	1.0%	-2.0%	3.41	75.9	-65.0	-77.4	16.5
PH	6,934	-2.9%	-9.0%	4.6%	-13.7%	50.9	-5.7%	5.3%	3.7%	-5.2%	3.87	105.1	-152.5	-266.8	208.5
SG	3,074	7.8%	-12.5%	4.9%	-10.3%	1,357	-2.7%	1.8%	1.2%	-2.0%	1.58	74.1	-89.8	-29.9	3.6
TH	1,617	10.9%	-8.6%	1.0%	-11.5%	33.9	-12.3%	-0.6%	8.4%	0.6%	1.83	51.0	-15.7	-100.5	15.9
KH	486	-28.7%	-16.2%	46.0%	33.4%	4,086	-1.4%	0.9%	1.0%	0.2%					
LA	632	5.3%	-19.6%	13.9%	-17.7%	9,916	-6.5%	-4.5%	-3.9%	-2.9%					
MM	399	-4.9%	-6.4%	11.7%	-13.5%	1,956	-38.7%	10.6%	3.8%	-11.9%					
VN	1,339	19.3%	13.9%	7.4%	-9.8%	22,760	1.5%	0.3%	0.2%	-2.2%	2.183	-39.6	-83.7	-170.9	-7.9

Sources: Haver Analytics; and AMRO staff calculations.

Note: YTD = year-to-date. CN = China; EU = eurozone; HK = Hong Kong; JP = Japan; ID = Indonesia; KR = Korea; KH = Cambodia; LA = Lao People's Democratic Republic; MM = Myanmar; MY = Malaysia; PH = the Philippines; SG = Singapore; TH = Thailand; VN = Vietnam; UK = United Kingdom; US = United States.

- The majority of regional currencies depreciated against the US dollar but the underperformance of Myanmar kyat, Thai baht, and Korean won were driven by political risks, weaker growth outlook, and equity outflows, respectively.
- Bond yields across the region tightened in line with the rise in US Treasury yields, with the exception of Chinese government bonds, which saw higher demand as investors sought safer assets amid regulatory tightening in some sectors.

Capital flows in the region have improved. Equity outflows have slowed throughout most of the region while debt flows have picked up (Figure 17). Korean equity markets have been the notable exception, experiencing larger outflows than in 2020 on global weakness in semiconductor stocks and market positioning ahead of monetary policy normalization. The inflows into Chinese equity markets up to June 2021 have also slowed as markets evaluated the regulatory changes in the tech sector. On the other hand, foreign investors continue to find Korean bonds attractive. Despite the Bank of Korea being the only regional central bank to deliver a hike since the pandemic started, there are few signs that foreign investors foresee any significant rise in yields or volatility in Korean bond markets.

**Figure 17. Selected ASEAN+3: Monthly Portfolio Flows into Equity and Debt Markets, as of August 2021**  
(Billions of US dollars)

Market	Period	2020	2021	2021							
		YTD	YTD	Jan	Feb	Mar	Apr	May	Jun	Jun	Aug
<b>Equity Flows</b>											
<b>Total</b>		<b>182.8</b>	<b>43.8</b>	<b>20.6</b>	<b>-2.4</b>	<b>-32.5</b>	<b>26.1</b>	<b>33.7</b>	<b>-1.6</b>		
China		221.1	64.7	25.8	0.1	-30.5	26.7	43.0	-0.4		
<b>Total (excl. China)</b>		<b>-38.2</b>	<b>-30.3</b>	<b>-5.2</b>	<b>-2.5</b>	<b>-2.0</b>	<b>-0.6</b>	<b>-9.3</b>	<b>-1.2</b>	<b>-4.8</b>	<b>-4.6</b>
Indonesia		-3.2	1.6	0.8	0.3	-0.2	-0.2	0.2	0.3	0.1	0.3
Korea		-20.1	-26.3	-5.3	-1.8	-1.3	0.1	-8.0	-0.8	-4.2	-5.1
Malaysia		-5.8	-1.1	-0.2	-0.2	0.0	-0.3	0.0	-0.3	-0.3	0.3
Thailand		-8.3	-2.8	-0.4	-0.6	0.0	-0.1	-1.1	-0.3	-0.5	0.2
Vietnam		-0.9	-1.6	-0.1	-0.1	-0.5	0.0	-0.5	-0.2	0.2	-0.3
<b>Debt Flows</b>											
<b>Total</b>		<b>205.4</b>	<b>129.6</b>	<b>42.5</b>	<b>24.1</b>	<b>4.0</b>	<b>13.7</b>	<b>24.0</b>	<b>21.3</b>		
China		187.2	87.2	39.8	15.5	-4.4	7.3	18.4	10.6		
<b>Total (excl. China)</b>		<b>18.3</b>	<b>54.4</b>	<b>2.6</b>	<b>8.6</b>	<b>8.4</b>	<b>6.4</b>	<b>5.7</b>	<b>10.7</b>	<b>6.7</b>	<b>5.3</b>
Indonesia		-4.7	1.3	0.8	-1.1	-1.3	1.0	0.2	1.3	-0.6	1.0
Korea		20.5	43.0	1.0	8.0	8.1	3.0	5.0	8.3	8.1	1.5
Malaysia		4.5	6.7	0.9	1.8	1.4	1.6	0.5	-0.1	-0.9	1.6
Thailand		-2.0	3.4	0.0	-0.1	0.2	0.9	0.0	1.2	0.1	1.2

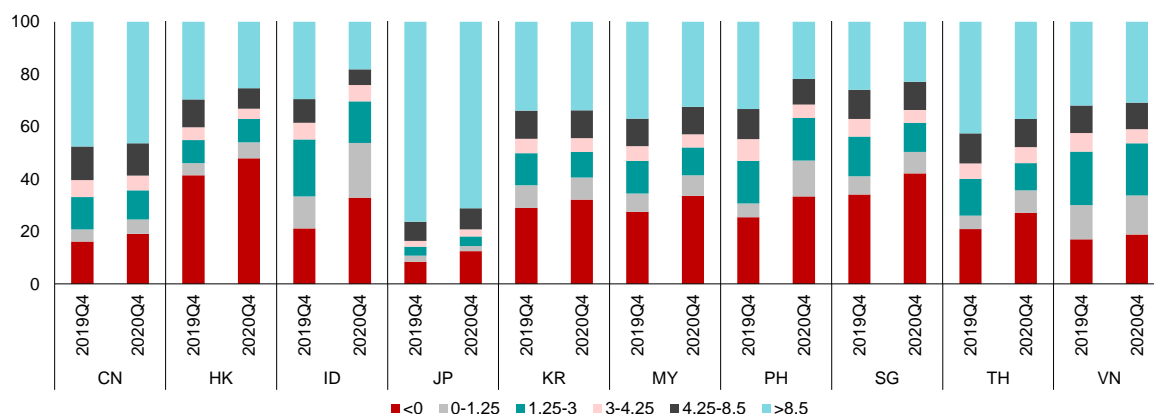
Sources: Bloomberg Finance L.P.; Haver Analytics; and AMRO staff calculations.

Looking ahead, inflation dynamics and changes in AE (especially US) monetary policies are expected to be among the key risk factors for markets. Another episode of stress, as AE central banks approach monetary tightening, cannot be ruled out but given the strong forward guidance in recent months, any market disruption is expected to be relatively muted. Regional inflation dynamics will also be important for markets, given that it can have material impact on valuations and domestic monetary policy settings. The evolving pandemic situation will be another key factor in determining the relative performance of regional markets. The rising credit risks from financially distressed large firms with deep and complex

links to a wide-range of financial institutions could heighten uncertainties in the financial markets.

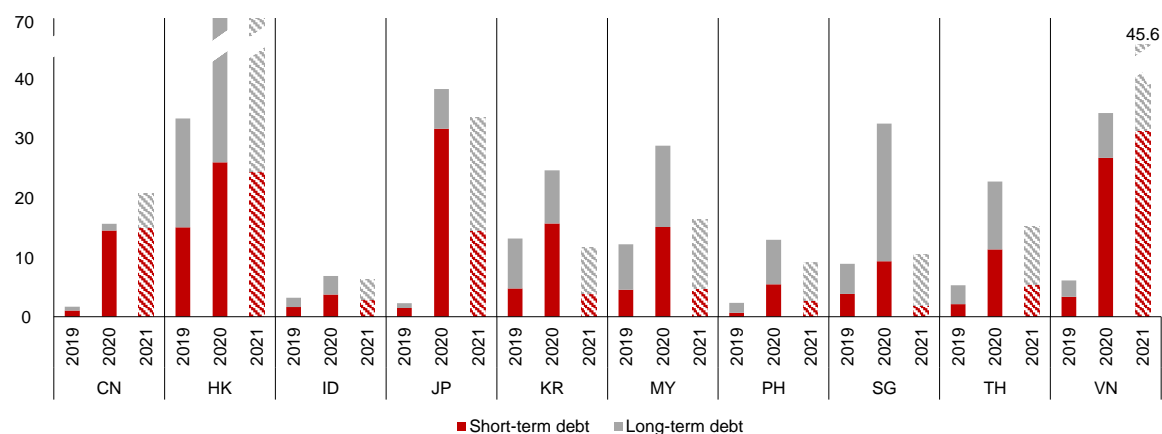
Corporate default risks jumped in 2020, amid increases in debt levels to all-time highs, but appear to have moderated markedly this year. Firms across the region recorded significant declines in earnings and even losses as a result of recurring physical containment measures in the face of resurgent infections; the deployment of monetary easing and regulatory forbearance measures supported liquidity in credit markets and allowed banks to restructure or roll-over existing debt. Unsurprisingly, the proportion of firms that were struggling to cover their short-term obligations rose in 2020 (Figure 18) and firms' debt-at-risk (DAR) as a percentage of GDP increased sharply across the region (Figure 19), attributable in part to the large contractions in GDP. Corporate DAR as a percentage of GDP is projected to fall markedly in some economies in 2021 as accommodative monetary policy and the economic turnaround reduce the overall risks to firms, notwithstanding the higher levels of debt (Ho and Ong forthcoming). It underscores the critical importance of keeping interest rates low and returning the economy to sustained growth.

**Figure 18. Selected ASEAN+3: Interest Coverage Ratio of Listed Firms**  
(Percent of total firms)



Sources: Bloomberg L.P.; national authorities via Haver Analytics; and Ho and Ong (forthcoming).  
Note: CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = The Philippines; SG = Singapore; TH = Thailand; VN = Vietnam.

**Figure 19. Selected ASEAN+3: Debt-at-Risk of Listed Firms, as of End 2019–21**  
(Percentage of GDP)



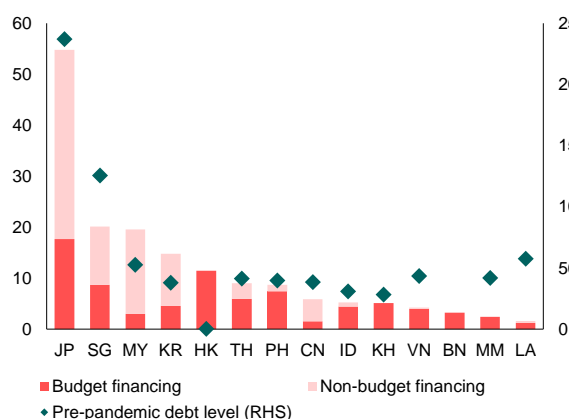
Sources: Bloomberg L.P.; national authorities via Haver Analytics; and Ho and Ong (forthcoming).  
Notes: CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = The Philippines; SG = Singapore; TH = Thailand; VN = Vietnam. The ratios for 2021 (patterned bars) are projected using actual data on the first half of 2021.

#### IV. Looking for the Exit

After a tumultuous year, ASEAN+3 economies that were gradually recovering have begun to scale back policy support. The adverse impact of the pandemic on the region has been mitigated by unprecedented fiscal spending (Figure 20). In addition, swift monetary policy accommodation pumped much-needed liquidity into the system and lowered interest rates substantially in many economies to facilitate the flow of credit (Figure 21). In recent months, the successful deployment of vaccines and strong economic rebound have given policymakers in some economies the confidence to begin tapering support measures. China's fiscal policy stance has shifted from expansionary at the beginning of the year to contractionary, while its monetary policy stance has moved from accommodative to neutral; Japan's is also assessed to be less expansionary compared to a year ago, while Korea has raised its policy interest rate, but is keeping fiscal policy expansionary to provide continuing support to hard-hit sectors of the economy (Figure 22).

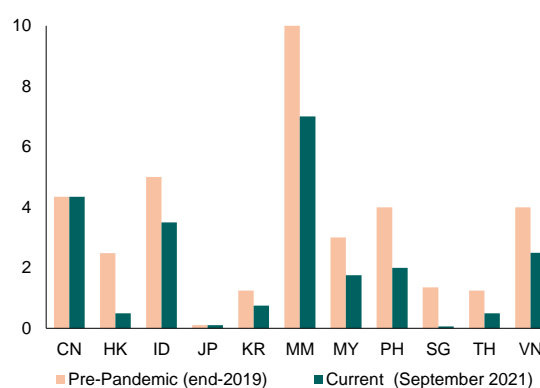
In contrast, ASEAN economies that are experiencing weaker-than-expected growth as a result of resurgent infections have had to maintain their expansionary stance. For example, the Philippines and Thailand have continued to provide fiscal support as their economies struggle with high COVID-19 caseloads and challenging vaccination progress. Elsewhere, the fiscal policy stance for Vietnam and Indonesia is expected to shift to neutral this year, reflecting lower fiscal impulse, notwithstanding recent increases in fiscal support to vulnerable sectors. Meanwhile, Lao PDR is expected to move to a contractionary fiscal stance given its limited policy space amid rising public debt and external debt service.

**Figure 20. ASEAN+3: Economic Stimulus Packages and Government Debt (Percent of GDP)**



Sources: National authorities; and AMRO staff estimates.  
 Note: The estimates are based on the governments' announced stimulus packages across regional economies from February 1, 2020 to September 30, 2021; and do not include monetary policy and other indirect support measures, such as regulatory forbearance. Pre-pandemic debt refers to general government gross debt level as of end-2019. BN = Brunei Darussalam; CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KH = Cambodia; KR = Korea; LA = Lao PDR; MM = Myanmar; MY = Malaysia; PH = Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

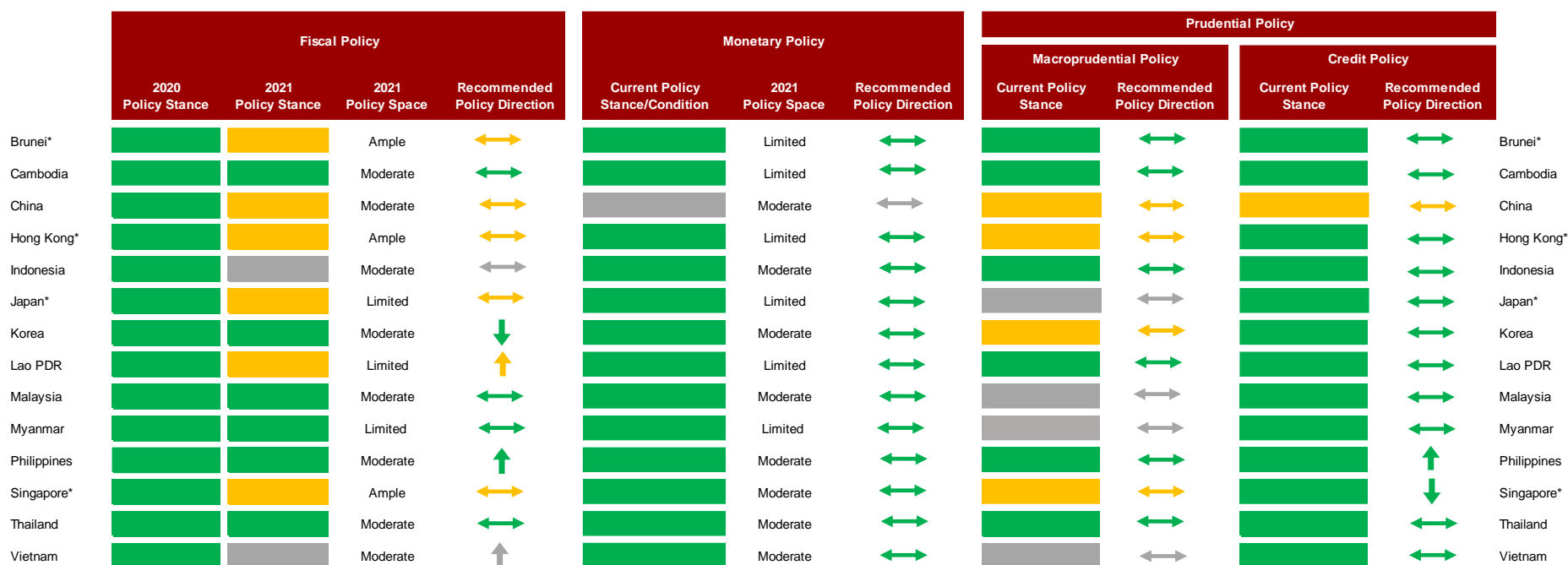
**Figure 21. Selected ASEAN+3: Key Interest Rates (Percent)**



Sources: National authorities via Haver Analytics; and AMRO staff calculations.  
 Note: The definition of key interest rate varies across economies, and could mean 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 respective monetary policies. CN = China; HK = Hong Kong; ID = Indonesia; JP = Japan; KR = Korea; MM = Myanmar; MY = Malaysia; PH = Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

Policy space remains largely unchanged across the region, except for a few economies. Cambodia's fiscal policy space is now assessed as moderate, from being ample pre-pandemic, as pandemic-related spending have widened the fiscal deficit this year. In

Figure 22. ASEAN+3: AMRO Staff Assessment of Current Policy Stance and Recommendations, as of September 2021



Legend:

AMRO's assessment of current policy stance

- Expansionary/Accommodative
- Neutral
- Contractionary/Tight

AMRO's recommendation

- Expand**
- Expand more
  - Expand less
  - Maintain current expansion /accommodation
- Tighten**
- Tighten more
  - Tighten less
  - Maintain tightening
- Neutral**
- Easing bias
  - Tightening bias
  - Maintain neutral

Source: AMRO staff.

Note: "\*" denotes fiscal year of April 1 to March 31. For Brunei, Cambodia, and Hong Kong, current monetary stance refers to the state of 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. Policy space definitions are discussed in [Poonpatpibul and others \(2020\)](#).

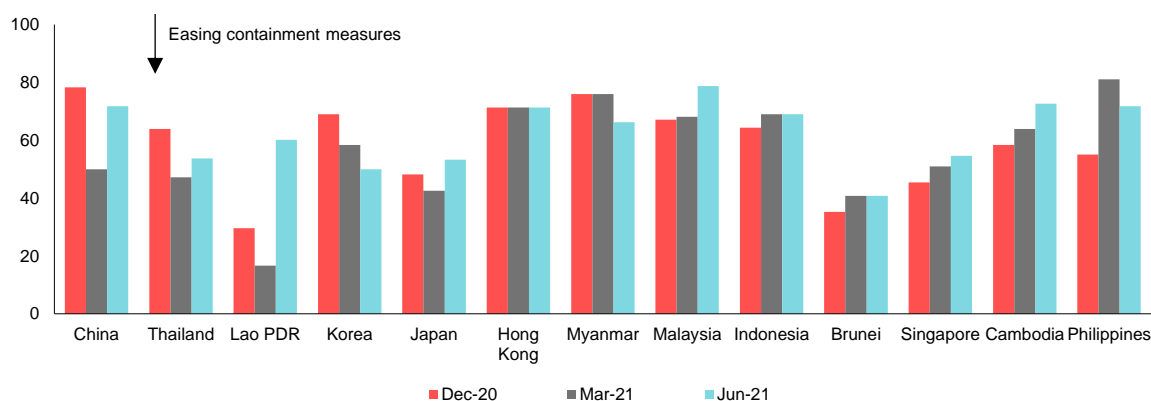
contrast, Brunei Darussalam’s (hereafter “Brunei”) fiscal policy space has returned to being ample, in the wake of higher oil prices. Monetary policy is expected to remain accommodative for almost all economies. By and large, AMRO staff recommend that member economies keep credit policies expansionary—given the generally lackluster growth in credit—and calibrate macroprudential policy, if necessary, to safeguard financial stability. The policy assessments for all other regional economies remain unchanged from those in [AMRO \(2021a\)](#).

As the severity of the pandemic recedes with rising vaccination rates, more regional economies will start to exit from pandemic support policies. If prolonged, generous policy measures risk artificially propping up non-viable sectors and companies. There is no “one size fits all” exit strategy, given that each economy should take into consideration existing macro- and socioeconomic conditions, such as healthcare capacity, the speed and trajectory of economic recovery, and policy space (Appendix V; Choo and others 2021). Any withdrawal also needs to be strategically timed, well calibrated and communicated to ensure that the economic gains arising from successful pandemic management are not derailed. Exit considerations could also be complicated by shifting external developments, such as shifts in AE monetary policy or spikes in financial market volatility. Any earlier-than-expected normalization in monetary conditions to stabilize financial markets could undo the nascent recovery in private consumption and investment inflows.

## V. Cautious Optimism

Almost two years into the COVID-19 pandemic, the world has had to learn to function within a more uncertain environment. Various incarnations of containment measures remain necessary to protect lives. Several economies in the region eased restrictions in early 2021 when infections appeared to have been brought under control, but were forced to reimpose them when the Delta variant spread like wildfire around the world. Among them, only Korea did not tighten again in the first half of 2021 (Figure 23). Brunei, Hong Kong, and Indonesia maintained their tight restrictions, while Cambodia, Japan, Malaysia, Singapore, and Thailand implemented tighter measures to stem rising infections when the infectiousness and increased virulence of the Delta variant became evident.

**Figure 23. ASEAN+3: Government Response Stringency Index, as of September 30, 2021**  
(Index)



Sources: [Hale and others \(2020\)](#); and AMRO staff calculations.

Note: The Government COVID-19 Stringency Index is a composite measure based on nine response indicators, including school closures, workplace closures, and travel bans, rescaled to a value from 0 to 100 (100 = strictest). If policies vary at the subnational level, the index is shown as the response level of the strictest sub-region. Data refers to the index average for the month.

Nonetheless, businesses appear to have adapted their operations and economic activity has been able to resume somewhat. Although manufacturing and services activities in the Asian region have moderated in recent months, the PMI remains higher than the trough seen in 2020 (Figure 24). In particular, global electronics manufacturing has turned around strongly, benefiting the region’s chip exporters. Mobility indicators have also picked up in recent months, particularly in the Plus-3 economies, a positive signal for future consumption (Figure 25). Rising vaccination rates and refinement in travel protocols across economies are also allowing the restart of travel—airlines are gradually increasing the availability of seats across the region with the launch of travel bubbles, sandboxes, and corridors for vaccinated travelers (Figure 26).

Looking ahead, the transition to an “endemic” new normal is encouraging, but will undoubtedly come with challenges. Permanent scarring inflicted by the pandemic will require policies to help upskill and shift workers into new jobs, transition businesses into new growth areas, and, gradually, rebuild fiscal positions onto stronger footing. The pandemic has altered the way businesses and consumers transact, accelerated digitalization, and consequently, incentivized the emergence of new business models and types of firms (Figure 27).

**Figure 24. Monthly Purchasing Managers’ Index: Global Electronics and Asia Sectors**

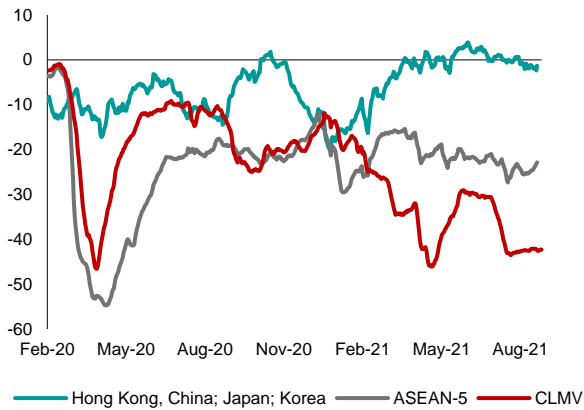
Sectors	2020				2021			Change from Prev Month	Trend
	Jan	Apr	Jul	Oct	Jan	Apr	Jul		
<b>Global Sector</b>									
<b>Electronics</b>								↓ -2.1	
Output								↓ -6.8	
New Orders								↓ -1.7	
Backlogs of Work								↓ -1.7	
Employment								↑ 0.1	
Input Prices								↓ -1.3	
Output Prices								↓ -0.3	
Quantity of Purchases								↓ -3.2	
Stocks of Finished Goods								↑ 0.4	
Stocks of Purchases								↓ 0.0	
Suppliers' Delivery Times								↓ -0.6	
<b>Asia Sector</b>									
<b>Basic Materials</b>								↓ -0.6	
Chemicals								↓ -3.2	
Resources								↑ 0.3	
<b>Consumer Goods</b>								↓ -2.4	
Automobiles & Auto Parts								↓ -1.8	
Food & Beverages								↓ -2.3	
Household & Personal Use								↓ -2.8	
<b>Consumer Services</b>								↓ -11.4	
<b>Financial Services</b>								↑ 1.8	
Banks								↑ 3.0	
Insurance								↑ 2.2	
Real Estate								↑ 1.5	
<b>Healthcare</b>								↓ -0.2	
Healthcare Services								↓ -2.3	
Pharmaceuticals								↑ 2.9	
<b>Industrials</b>								↓ -2.8	
Industrial Goods								↓ -2.7	
Industrial Services								↓ -1.7	
Transportation Services								↓ -4.3	
<b>Technology</b>								↓ -6.0	

Source: IHS Markit via Haver Analytics.

Note: The PMI headings are coded by colors. The deeper the red the further below (< 40) from the diffusion level of 50; greener denotes the further above (> 60) from 50. A PMI reading above 50 denotes an increase in business activity over previous month, and a reading below 50 denotes otherwise.

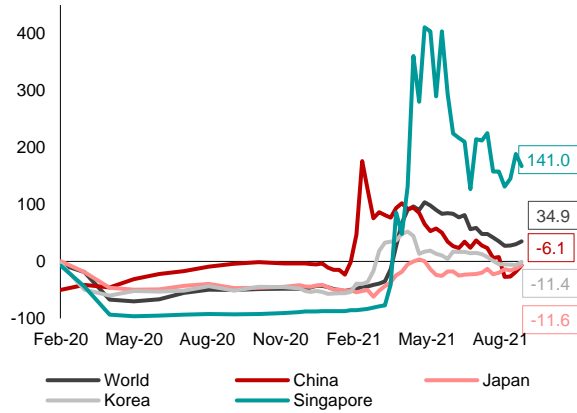


**Figure 25. Selected ASEAN+3 Economies: Non-Residentials Mobility**  
(Percentage change from baseline, 5-day moving average)



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 Jan 3–Feb 6, 2020. “Non-residentials” refer to the aggregated mobility data for places such as groceries and pharmacies, retail and recreation facilities, transit station and workplaces. ASEAN-5 = Indonesia, Malaysia, the Philippines, Thailand, and Singapore; CLMV = Cambodia, Lao PDR, Myanmar, and Vietnam.

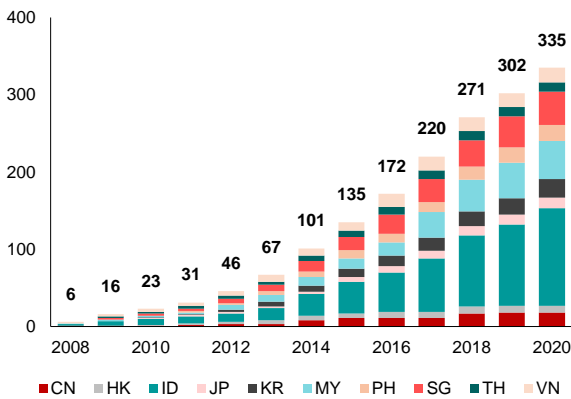
**Figure 26. World and Selected ASEAN+3: Weekly Scheduled Flight Seats, as of September 27, 2021**  
(Percent year-on-year)



Sources: Official Aviation Guide; and AMRO staff calculations.  
Note: Scheduled seat capacity data until November 2020 are on a monthly basis and on a weekly basis thereafter.

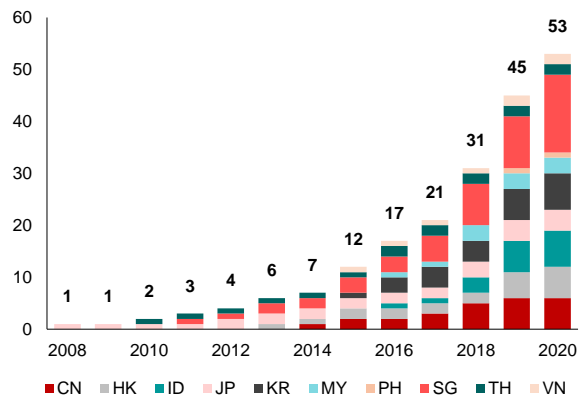
**Figure 27. Selected ASEAN+3 Economies: Active Startups in Fintech**  
(Cumulative number of firms)

**Consumer Payments Segment**



Source: Tracxn database.  
Note: Consumer payments firms refer to firms that provide various products such as e-wallets and card-based services, for consumers to make payments. Some examples of such firms are Grab in Singapore, Gojek in Indonesia, and BigPay in Malaysia. CN = China; HK = Hong Kong; ID =Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

**Digital Banking Segment**



Source: Tracxn database.  
Note: Digital banks refer to both licensed and non-licensed financial institutions which operate entirely online with no physical bank branches. Some examples of such firms are Tonik in Singapore, Albonia Fast Bank in the Philippines, and Timo in Vietnam. CN = China; HK = Hong Kong; ID =Indonesia; JP = Japan; KR = Korea; MY = Malaysia; PH = Philippines; SG = Singapore; TH = Thailand; and VN = Vietnam.

Given the susceptibility of economic activity to new severe outbreaks, any withdrawal of policy support needs to tread the fine line between preserving the remaining policy space and supporting the recovery. Achieving both objectives will require a multi-faceted framework that incorporates successful vaccination campaigns and transformations of the workforce and industries to address challenges exposed by the pandemic and rebuild a more robust economy. The pandemic has shown how quickly healthcare systems can be overwhelmed, resulting in the loss of lives and forcing costly economic shutdowns. Going forward, efforts to strengthen the healthcare system will be critical to prepare for future disease outbreaks. At the same time, policymakers need to ensure that the observed unevenness in the recovery across sectors and businesses, segments of the population, and individual economies does not lead to lasting inequalities and social inequities.

\*\*\*\*\*

## Appendix I. The Covid Cycle

**Appendix Figure 1. ASEAN+3 and Selected Economies: Covid Cycle Heatmap, as of September 30, 2021**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Daily new cases (7-day average)	Hospital Beds to Active Cases	Hospital Bed Density (Beds per 1,000)
China										31 ↓	5,426.6	4.2
Hong Kong, China										7 ↑	—	—
Japan										1,904 ↓	25.6	13.4
Korea										2,663 ↑	18.3	11.5
Indonesia										1,935 ↓	-1.5	1.2
Malaysia										10,897 ↓	0.3	1.9
Philippines										16,459 ↓	0.2	0.5
Singapore										1,952 ↑	0.7	2.4
Thailand										11,266 ↓	0.2	2.1
Brunei Darussalam										218.6 ↑	0.4	2.7
Cambodia										862 ↑	3.6	0.8
Lao PDR										457 ↑	2.0	1.5
Myanmar										1,524 ↓	3.2	0.9
Vietnam										8,903 ↓	1.2	2.6
Australia										1,891 ↑	2.4	3.8
Brazil										16,985 ↓	0.3	2.2
France										4,696 ↓	1.2	6.5
Germany										8,014 ↓	4.0	8.3
India										20,740 ↓	4.1	0.7
United Kingdom										39,717 ↑	0.3	2.8
United States										111,715 ↓	0.3	2.9

■ First   
 ■ First-mid   
 ■ Mid   
 ■ Late   
 ■ End   
 ■ Reappearance/Minor outbreak

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

Note: Based on [Hinojales, Oeking, and Ong \(2020\)](#). Minor outbreaks classified as outbreaks in the bottom 75<sup>th</sup> percentile of a country's 7-day average daily new cases.

## Appendix II. Risks to Growth: Vaccine-driven Recovery

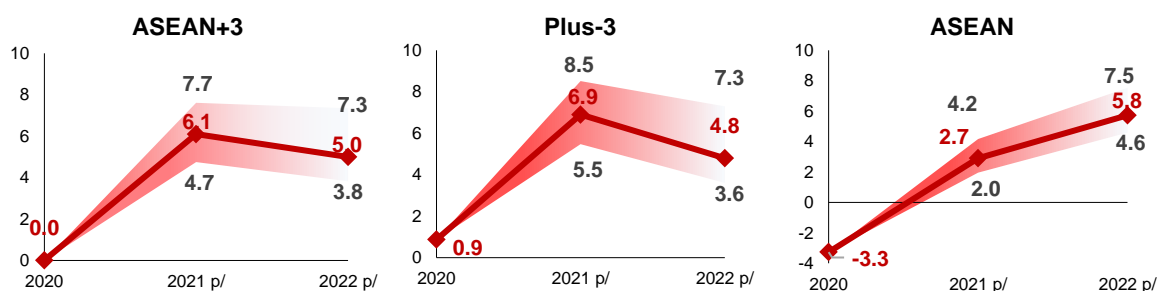
AMRO's growth projections are largely predicated on the outcome of the race between vaccinations and evolution of new virus variants. Increased vaccine supplies will accelerate the progress in inoculations against COVID-19 across the region, thus enabling faster economic reopening. Conversely, the emergence of more transmissible and virulent COVID-19 variants could undo vaccination gains and delay the resumption of economic activity. Given both scenarios, growth in the region could range between 4.7 to 7.7 percent in 2021 and 3.8 to 7.3 percent in 2022 (Appendix Figure 2.1).<sup>1/</sup>

**Baseline: Economic reopening enabled by steady vaccination progress.** At least half of the ASEAN+3 economies are currently on track to inoculate between 70–80 percent of their populations by the first quarter of 2022. Leisure travel for these economies would likely resume by end-2021. Social distancing requirements and border restrictions could then be scaled back throughout the rest of 2022. Price pressures from supply bottlenecks are likely to be contained as lockdowns are expected to be localized. Some households and firms, particularly in hard-hit sectors, would likely be under financial pressure for some time in their transition to new jobs and businesses.

**Adverse scenario: Vaccination progress delayed by new virus variants.** Economic reopening would be delayed if new virus variants render vaccines significantly less effective. Widespread, stringent lockdowns would again become a crucial means of protecting the health of the population. Current vaccination progress is likely to be stalled as the need to review vaccination protocols, including booster doses or more efficacious vaccines, may be necessary. Hence, the achievement of previous vaccination targets may no longer ensure herd immunity. Consequently, border closures and physical distancing measures would remain in place throughout 2022, intensifying financial distress among households and businesses, potentially impacting the banking system.

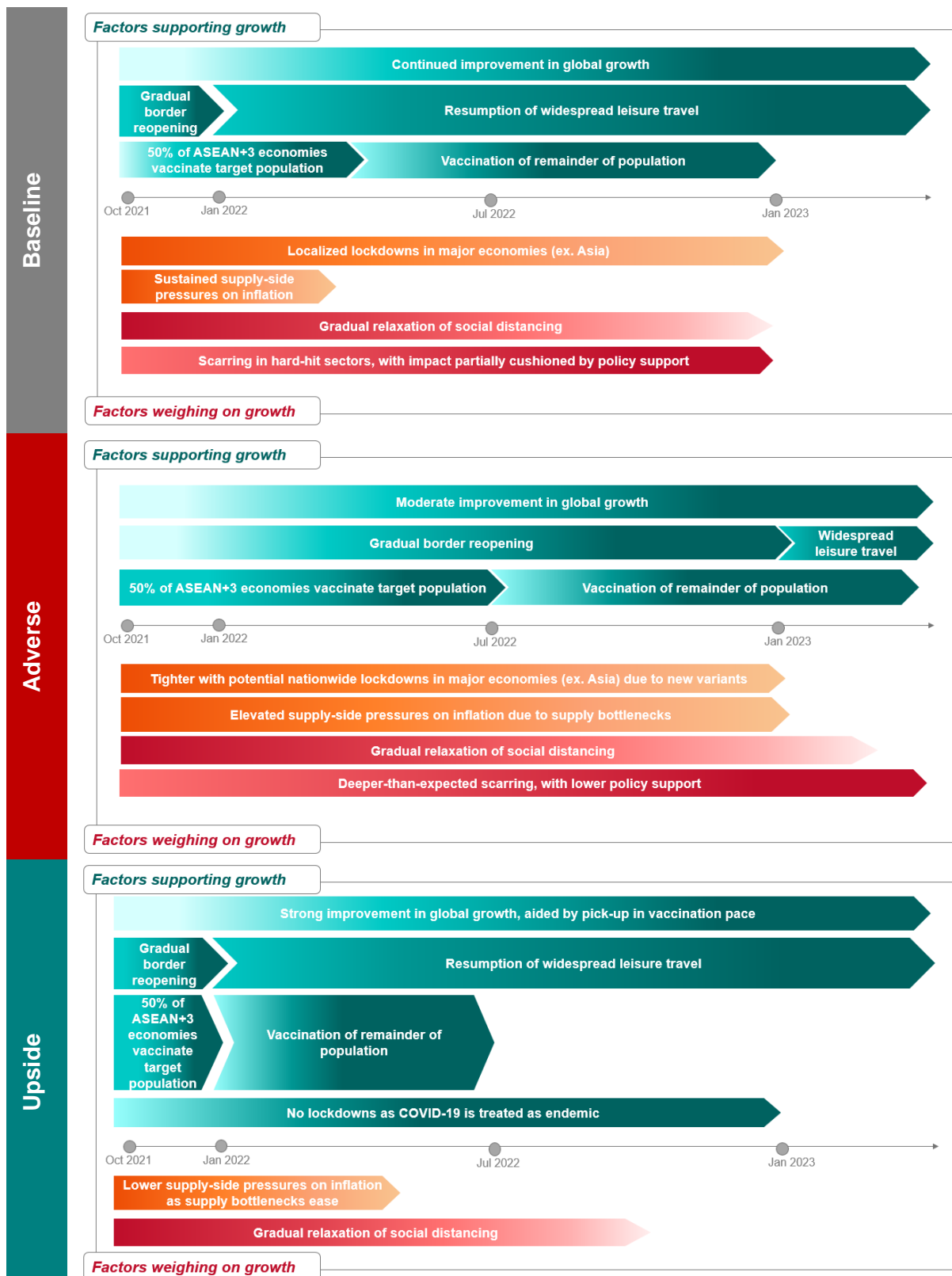
**Upside scenario: Faster vaccination rate accelerates endemic state.** The approval of new, and potentially more effective vaccines could boost global vaccination rates. At least half of ASEAN+3 economies can achieve their vaccination target rates by end-2021. Consequently, border restrictions and physical distancing measures could be eased by the first quarter of 2022. Lockdowns would no longer be required to stem infection rates, easing supply bottlenecks and cost pressures on inflation. Economic scarring will largely be limited to sectors that have been affected to-date. The labor market will also gradually recover as firms pivot to new growth areas.

**Appendix Figure 2.1. GDP Growth Forecast**  
(Percent year-over-year)



Sources: National authorities via Haver Analytics; and AMRO staff estimates.  
Note: p/ denotes projection.

Appendix Figure 2.2. ASEAN+3 Scenarios: Summary of Key Assumptions

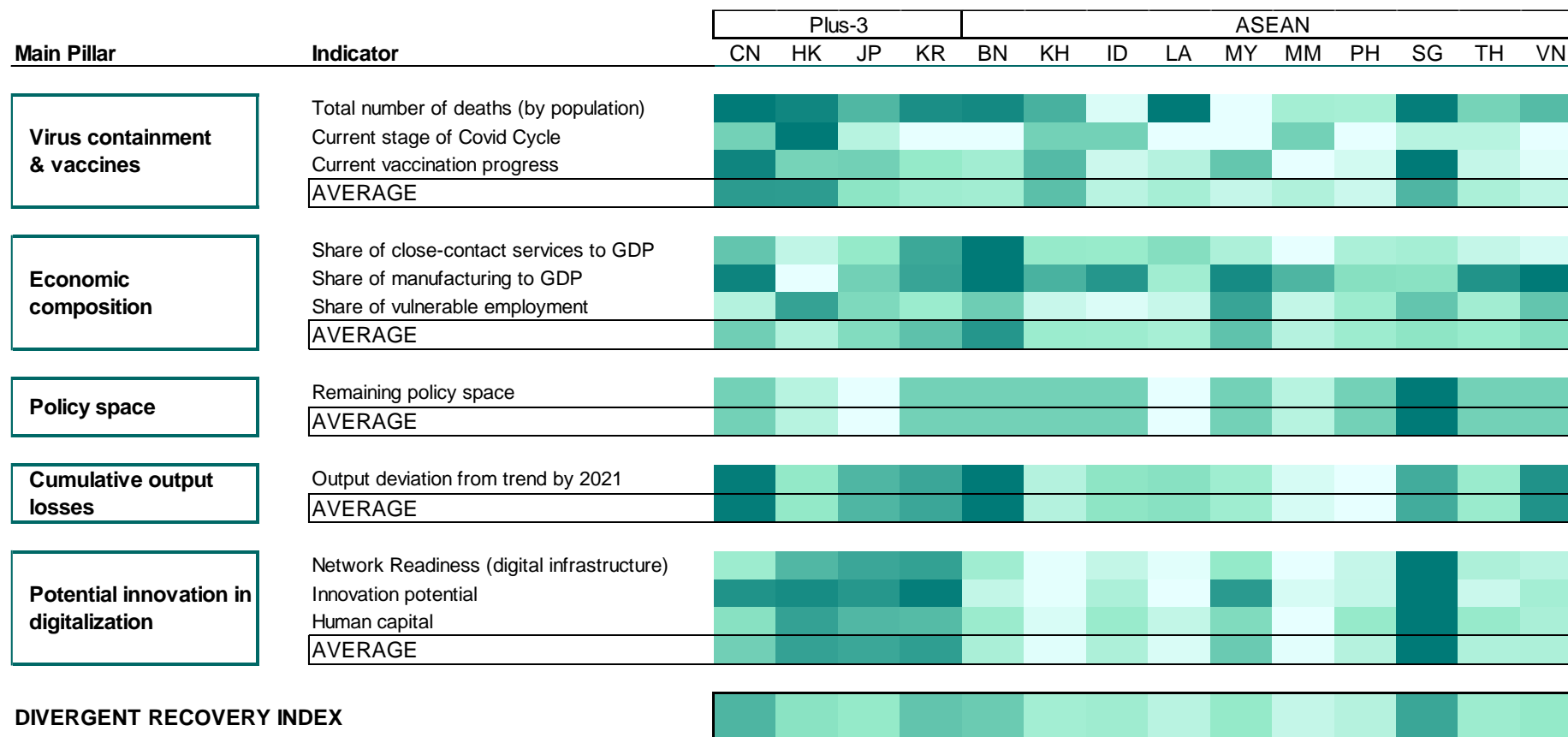


Source: AMRO staff estimates.

<sup>1</sup> Simulations are run using the Oxford Economics' Global Economic Model (GEM), which covers 80 economies and six regional blocks, interlinked through trade, prices, exchange rates, and interest rates. The GEM estimates how quickly a dependent variable returns to its equilibrium state after a shock to its independent variables. Hence, the model approximates both the short- and long-term effects of variables. In the short term, the model exhibits "Keynesian" features: sticky factor prices and aggregate demand-determined output. In the long term, prices adjust fully and the equilibrium is determined by supply factors such as productivity, labor, and capital; rising growth, by boosting demand, will lead to higher prices. For this exercise, only the short-term estimates are produced and discussed. The extended model covers all ASEAN+3 economies; the underlying dataset is updated every month.

### Appendix III. Economic Inequality

Appendix Figure 3. ASEAN+3: Divergent Recovery Index, as of September 2021

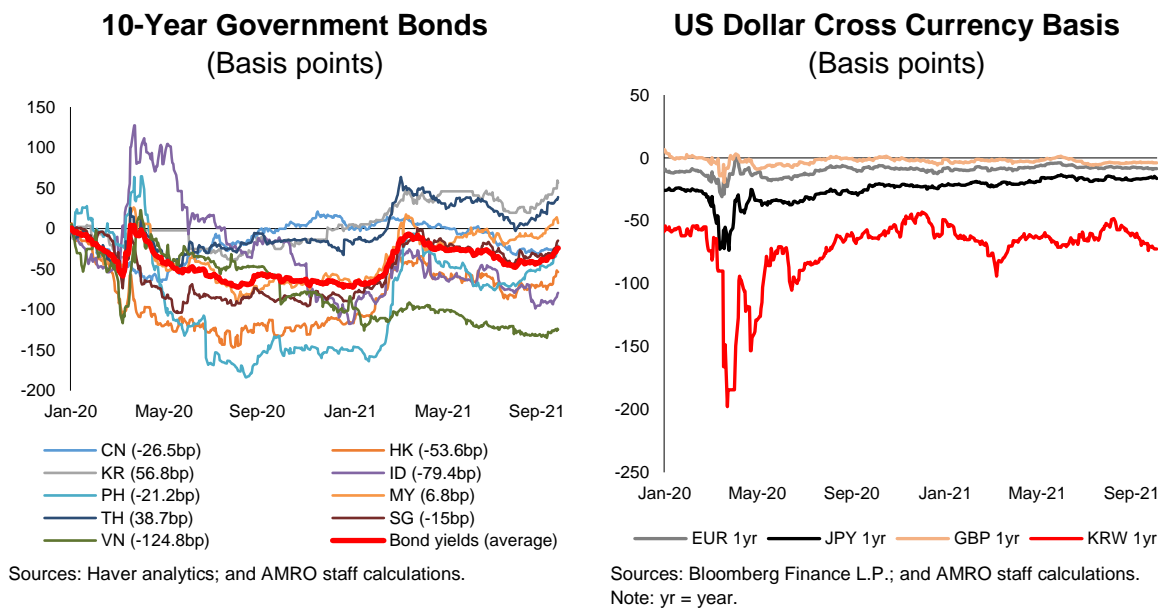
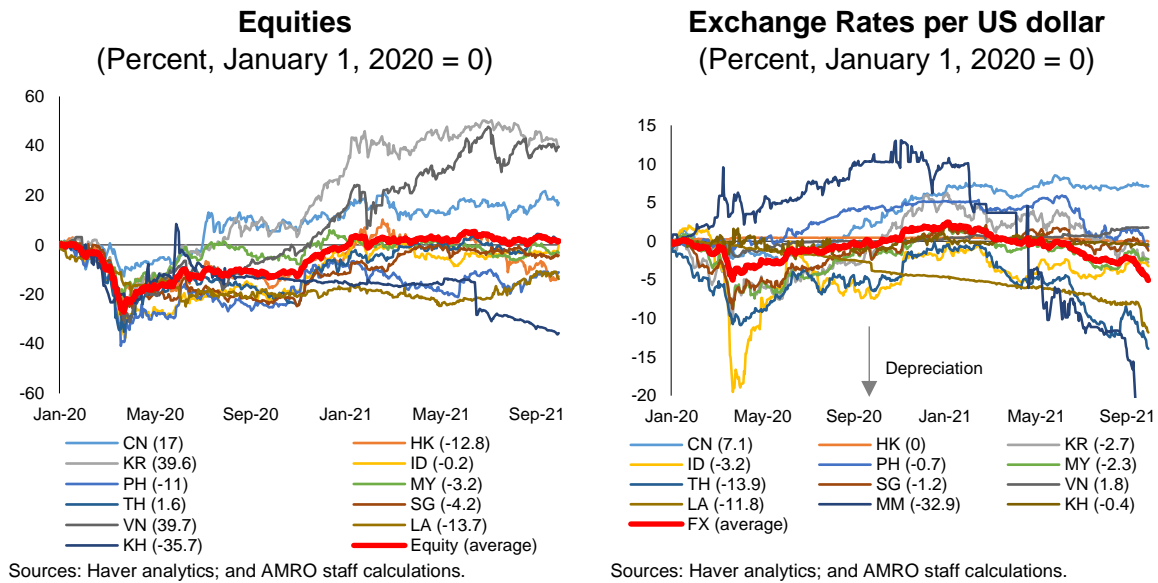


Sources: Asian Development Bank; International Food Policy Research Institute; Johns Hopkins University, national authorities, and Our World in Data, all via Haver Analytics; Organization for Economic Co-operation and Development; Portulans Institute; World Bank; World Economic Forum; World Intellectual Property Organization; and AMRO staff calculations, estimations, and projections.

Note: Data for each indicator is standardized from 1 (light green) to 4 (dark green); the main pillars are built on simple averages across sub-indicators. The final index averages across pillars. The higher the score (the darker the green), the more conducive the conditions for recovery. The score is lower for a larger share of close-contact services, or lower share of manufacturing, or lower share of vulnerable employment, as measured by the share of employment in MSMEs and informal employment. See [Oeking \(2021\)](#) for a complete discussion of each pillar and underlying indicators. The assessment of remaining policy space does not necessarily take into account the ability and capacity of monetary authorities to undertake unconventional monetary policy.

**Appendix IV. Financial Market Developments in the ASEAN+3 Region**

**Appendix Figure 4. ASEAN+3: Financial Market Performance, as of September 30, 2021**



## Appendix V. Pandemic Exit

Appendix Figure 5. ASEAN+3: Vulnerability to Exit Risks, as of September 2021

Indicator	Rating													
	ASEAN										Plus-3			
	BN	KH	ID	LA	MY	MM	PH	SG	TH	VN	CN	HK	JP	KR
Healthcare capacity (low → high)	Orange	Orange	Orange	Red	Yellow	Red	Orange	Green	Yellow	Orange	Green	Green	Orange	Yellow
Size of domestic market (small → large)	Red	Orange	Green	Orange	Yellow	Orange	Yellow	Red	Orange	Orange	Green	Yellow	Green	Yellow
Economic diversity (narrow → diverse)	Red	Orange	Orange	Yellow	Yellow	Orange	Yellow	Yellow	Yellow	Yellow	Green	Orange	Yellow	Yellow
Remaining policy space (limited → ample)	Yellow	Yellow	Yellow	Red	Yellow	Red	Yellow	Green	Orange	Yellow	Yellow	Yellow	Red	Yellow
Degree of policy support (significant → limited)	Yellow	Yellow	Orange	Yellow	Yellow	Orange	Orange	Orange	Orange	Green	Yellow	Orange	Orange	Yellow
Recovery rate (to 2021) (weak → strong)	Green	Orange	Yellow	Yellow	Yellow	Red	Orange	Green	Orange	Yellow	Green	Green	Yellow	Green
External buffers (limited → significant)	Green	Green	Yellow	Red	Orange	Orange	Green	Green	Green	Yellow	Green	Green	Green	Green
<b>Overall vulnerability rating</b>	Orange	Orange	Yellow	Orange	Yellow	Red	Yellow	Yellow	Yellow	Yellow	Green	Yellow	Yellow	Yellow

Stronger rating		Weaker rating	

Source: AMRO staff estimates.

Note: Ratings are assigned as follows: (1) red – weaker; (2) orange – less weak; (3) yellow – less strong; (4) green – stronger. The overall vulnerability rating is a simple average of the individual ratings. “Healthcare capacity” refers to the availability of hospital beds and the quality of healthcare, the latter of which draws on AMRO staff judgment; “Size of domestic market” refers to the economy’s import-adjusted GDP; “Economic diversity” refers to the relative size of key economic sectors (e.g., agriculture, manufacturing, services), overlaid by AMRO staff judgment about the diversity of industries within each sector; “Remaining policy space” is based on the methodology presented in [Poonpatpibul and others \(2020\)](#); “Degree of policy support” is based on the extent of actual policy support provided since the start of the pandemic assessed by AMRO staff; “Recovery rate” is proxied by AMRO staff’s projections of the output gap as of end-2021; “External buffers” are the reserve coverage indicator based on the ERP Matrix Scorecard percentile. See Choo and others (forthcoming) for more details. BN = Brunei Darussalam; 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.



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