Economic Outlook for Southeast Asia, China and India 2022

FINANCING SUSTAINABLE RECOVERY FROM COVID-19

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OECD DEVELOPMENT CENTRE

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Foreword

The *Economic Outlook for Southeast Asia, China and India* is a regular publication on Asia's regional economic growth, development and regional integration processes. It focuses on the economic conditions of the Association of Southeast Asian Nations (ASEAN) member countries (Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Viet Nam) and two large economies in the region, the People's Republic of China (hereafter "China") and India. The Outlook was initially proposed at an informal reflection group on Southeast Asia in 2008 as a follow-up of the Council Meeting at Ministerial level (MCM) in 2007 and was accepted by ministers and senior officials from ASEAN countries at the occasion of the 2nd OECD Southeast Asia Regional Forum in Bangkok in 2009. The Outlook project was officially launched in 2010 and each edition is regularly presented on the occasion of the ASEAN/East Asia Summit. It was included in the OECD's Southeast Asia Regional Programme (SEARP) at the Steering Group Meeting in Jakarta, Indonesia in March 2015, with the role of providing a horizontal view of activities, identifying emerging trends in the region and providing a backbone for the different streams of the Programme confirmed at the 2015 MCM. The Outlook serves as a strategic foresight and policy dialogue tool for the SEARP. The Outlook consultation group (OCG) was established in 2014 with OECD Delegations and embassies of Asian countries in Paris.

This edition of the Outlook comprises two parts of two chapters each. The first part presents the regional economic monitor, depicting the economic outlook and macroeconomic challenges in the region (Chapter 1) and examines the risks posed by the ongoing COVID-19 pandemic and the associated health, monetary and fiscal policy responses in detail (Chapter 2).

The second part of the Outlook explores innovative financing options and other practical steps for financing a sustainable economic recovery from the COVID-19 pandemic. Chapter 3 discusses methods of addressing increased sovereign debt levels and market-based means of financing a sustainable recovery from the COVID-19 pandemic while advancing other key policy agendas on matters such as climate change mitigation and environmental sustainability. Chapter 4 discusses practical changes necessary to implement the options discussed in Chapter 3.

The OECD Development Centre is committed to working alongside governments and actors in the region to identify key areas of intervention and address these challenges. The Centre enjoys the full membership of three Southeast Asian countries, namely Indonesia, Thailand and Viet Nam, as well as China and India. This project has also benefited from the generous support of other Emerging Asian countries.

The OECD is committed to supporting Asian countries in their efforts to promote economic and social well-being through rigorous analysis, peer learning and the sharing of best practices.

Acknowledgements

The *Economic Outlook for Southeast Asia, China and India 2022 – Financing for sustainable recovery* was prepared by the Asia Desk of the OECD Development Centre. The Outlook 2022 benefited from constructive feedback received during *the Outlook Consultation Group* (OCG) meetings that took place in December 2020 and in June 2021 in Paris, with OECD Delegations and representatives from Emerging Asian countries. This flagship publication was also enriched by discussions with regional partners, including the ASEAN Secretariat, ASEAN+3 Macroeconomic Research Office (AMRO), the Asian Development Bank (ADB), the Asian Development Bank Institute (ADBI), and the Economic Research Institute for ASEAN and East Asia (ERIA), as well as the feedback from participants of the OECD Southeast Asia Regional Programme (SEARP) meetings.

The team was led by Kensuke Tanaka, Head of the Asia Desk and this edition of the report was drafted by a core team composed of Kensuke Tanaka, Prasiwi Ibrahim, Raluca Maran, Alexander Hume, and Ryan Jacildo, under the guidance of Ragnheiður Elín Árnadóttir, Director of the OECD Development Centre, and Mario Pezzini, former Director. Federico Bonaglia, Deputy Director, provided useful suggestions. Kenneth He provided useful inputs and Sonja Marki provided valuable administrative support for this project. Many thanks go to the Publications and Communications Division of the OECD Development Centre, in particular, Delphine Grandrieux, Elizabeth Nash, Aida Buendia, Laura Parry-Davies, Irit Perry, and Henri-Bernard Solignac-Lecomte for facilitating the process of turning the manuscript into a publication. The launch event of this edition was jointly organised by OECD Development Centre and OECD Tokyo Centre. Many thanks go to Naoko Kawaguchi and Yumiko Yokokawa for the excellent collaboration, and David Repeta provided useful support for the preparation of the launch event.

The *Outlook* also benefited from discussion with experts in the region at the *9th Asian Regional Roundtable on Macroeconomic and Structural Policies*, jointly organised by AMRO, ADB, ADBI, ERIA and the OECD Development Centre, in Singapore on 15-16 June 2021. The authors are grateful to Tetsushi Sonobe, Dean of the ADBI, Toshinori Doi, Director of AMRO, Hidetoshi Nishimura, President of ERIA, Koji Hachiyama, Yasuyuki Sawada, Abdul Abiad, Reza Anglingkusumo, Nella Hendriyetty, as well as Naoyuki Yoshino, Porametee Vimolsiri, Destry Damayanti, Dicky Kartikoyono, Bunnaree Punnarach, Zakiah Jaafar, G.A. Diah Utari, Moreno Bertoldi, Erica Gerretsen and Matteo Fumerio.

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Acronyms and abbreviations

ABMI	Asian Bond Market Initiative
ACRAA	Association of Credit Rating Agencies in Asia
AFC	Asian Financial Crisis
AFI	Alliance for Financial Inclusion
AI	Artificial intelligence
APVAX	Asia Pacific Vaccine Access facility
ARC	African Risk Capacity
ASEAN	Association of Southeast Asian Nations
ASEAN-5	Indonesia, Malaysia, Philippines, Thailand and Viet Nam
ASEAN+3	ASEAN-10 countries plus China, Japan and Korea
ASEAN WC-FINC	ASEAN Working Committee on Financial Inclusion
ATMs	Automated teller machines
BIS	Bank for International Settlements
BND	Brunei dollars
BSP	Bangko Sentral ng Pilipinas
CBI	Climate Bonds Initiative
CCRIF	Caribbean Catastrophe Risk Insurance Facility
CDB	Caribbean Development Bank
CEPI	Coalition for Epidemic Preparedness Innovations
CGIF	Credit Guarantee and Investment Facility
CIPFA	Chartered Institute of Public Finance and Accountancy
CLM	Cambodia, Lao PDR, Myanmar
COVAX	COVID-19 Vaccines Global Access facility
CPI	Consumer Price Index
CSE	Cambodia Securities Exchange
DSSI	Debt Service Suspension Initiative
DTI	Debt-to-income
ECB	European Central Bank
EIB	European Investment Bank
EMEAP	Executives' Meeting of East Asia-Pacific Central Banks
ESG	Environmental, Social and Governance
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
FEPA	Financial Education Programme for Adults
FET	Fast and Easy Testing
FinTech	Financial technology
GBP	Green Bond Principles
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GPS	Global Positioning System
ICC	International Chamber of Commerce
ICMA	International Capital Market Association
ICT	Information and Communication Technology

ICU Intensive Care Unit
IDR Indonesian rupiah
IFC International Finance Corporation
ILO International Labour Organization
ILS Insurance-linked securities
IMF International Monetary Fund
INR Indian rupee
IRDAI Insurance Regulatory and Development Authority of India
JPY Japanese yen
KHR Cambodian riel
KPI Key performance indicator
LIBOR London Interbank Offered Rate
LTV Loan-to-value
MAS Monetary Authority of Singapore
MDBs Multilateral development banks
MLI Multilateral lending institution
MMK Myanmar kyat
mRNA Messenger ribonucleic acid
MSMEs Micro, small and medium enterprises
MTI Ministry of Trade and Industry
MYR Malaysian ringgit
NEER Nominal Effective Exchange Rate
NNT National News Bureau of Thailand
NPIs Non-pharmaceutical interventions
NPV Net present value
NSFE National Strategy for Financial Education
OECD Organisation for Economic Co-operation and Development
PBOC People's Bank of China
PCDIP Philippine City Disaster Insurance Pool
PCRAFI Pacific Catastrophe Risk Assessment and Financing Initiative
PEF Pandemic Emergency Financing Facility
PHP Philippine peso
PMI Purchasing Managers' Index
PPE Personal Protective Equipment
PSA Philippine Statistics Authority
QR Quick Response
RBF Reserve Bank of Fiji
RBI Reserve Bank of India
RMB Chinese renminbi
RT-PCR Reverse transcription polymerase chain reaction
SBP Social Bond Principles
SDGs Sustainable Development Goals
SEADRIF Southeast Asia Disaster Risk Insurance Facility
SEBI Securities and Exchange Board of India
SFWG Sustainable Finance Working Group
SMEs Small and medium-sized enterprises

SPV	Special-purpose vehicle
TAT	Tourism Authority of Thailand
TCFD	Taskforce for Climate-related Financial Disclosures
TFCA	United States Tropical Forest and Coral Reef Conservation Act
THB	Thai baht
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNICEF	United Nations Children's Fund
USD	US dollars
VAT	Value added tax
VND	Vietnamese dong
WHO	World Health Organization
WISE	Womenpreneur Indonesia for Sustainability & Empowerment
WRI	World Resources Institute

Executive summary

Emerging Asia's economies are poised to rebound, but further turbulence may lay ahead

After setting out on the path to economic recovery in 2021, Emerging Asia is expected to continue its rebound in 2022. However, there remains a high degree of uncertainty in the first half of the year. Overall, Emerging Asian economies are expected to grow by 5.8% on average in 2022 and by 5.2% on average in 2023. Meanwhile, economic growth in the Association of Southeast Asian Nations (ASEAN) is projected to increase by 5.2% in 2022, followed by a 5.2% expansion in 2023. However, there remain some substantial differences among Emerging Asian countries in terms of the pace of the recovery.

The outlook for economic growth faces several risks, including the current and possible future waves of COVID-19, and the potential emergence of new variants of concern. Other major risks include rising inflation, and supply-chain disruptions in Emerging Asia. A further risk stems from rising interest rates in the United States, which could lead to a tightening of external financing conditions for Emerging Asian countries. Meanwhile, political instability in Myanmar remains a concern and the war in Ukraine may pose additional risks for Emerging Asia.

As the pandemic continues to cause disruption, and with the Omicron variant causing a sharp rise in caseloads in early 2022, public health still constitutes one of the major areas of risk. Vaccination programmes have been an important tool in the fight against the pandemic. Countries in the region have shown significant progress in vaccination, but several challenges persist, including ensuring a ready supply of vaccines wherever people need them, and tackling vaccine hesitancy. While countries remedy these issues, other public health measures will remain a useful complement to vaccination. Meanwhile, international co-operation has the potential to make sure that supplies of vaccines make their way to the countries that need them. In addition, digital tools, including telehealth and telemedicine solutions, have been important in managing the pandemic, and their development should continue.

The gradual rise in inflation is also a cause for concern. Indeed, although inflation does seem to be more contained in Emerging Asia than in advanced economies, the region could experience a rise in inflation as 2022 progresses, notably in terms of food and energy prices. Additionally, supply-chain disruptions have built up across various key industries. While supply-side bottlenecks eased somewhat in early 2022, they remain a concern due to their potential impact on economic growth and consumer prices.

Recovery requires broader financing options

As the pandemic drags on, the economic environment in Emerging Asia remains challenging despite forecasts of a continued recovery. The supportive measures that countries implemented in response to the pandemic have led to an unprecedented widening of fiscal deficits, and to increasing levels of public debt. Meanwhile, prolonged monetary accommodation has kept borrowing costs low, while the natural rate of interest has also declined in most countries.

In the current fiscal and monetary context, policy makers have a range of options for managing the stock of public debt. These include multilateral initiatives, swap arrangements, and debt buybacks.

Alternative sources of financing for a sustainable recovery include green, social and sustainability-related bonds. Developing markets for themed bonds of this kind requires robust frameworks of classification and certification, dedicated regulatory frameworks, increasing the supply of sovereign bonds, and more incentives for investors to participate in this market. Insurance-linked securities could provide an additional layer of financial coverage, including pandemic bonds, extreme mortality bonds, pandemic derivatives, mortality swaps, and pandemic risk pools.

Regional co-operation can also play an important role in financing the post-pandemic recovery. For instance, sovereign catastrophe risk pools can provide a mechanism for Emerging Asian governments to enhance their financial preparedness against pandemic risks: they can pool risks into a single, more diversified, and less risky portfolio. Four sovereign catastrophe risk pools already exist, including the Southeast Asia Disaster Risk Insurance Facility (SEADRIF).

Policies to develop market-based financing tools

Several barriers hamper the further development of capital markets in Emerging Asia, particularly bond markets. They differ substantially between countries: where bond markets are at an early stage, and institutional and legal frameworks are only just developing, levels of investor protection and transparency with regard to tax processes remain insufficient. By contrast, in countries with more advanced capital markets, there is still scope to diversify the investor base and improve the liquidity of secondary markets.

Furthermore, policies that improve the overall level of financial literacy could promote more participation of individual investors, a key to bolstering the competitiveness of bond markets in the region.

Finally, a strong framework of macroprudential policy represents another enabling factor for the development of bond markets. Indeed, authorities in Emerging Asia have enacted a range of macroprudential measures in order to bolster the stability of the financial system. Furthermore, macroprudential policy will also be a key factor in stabilising cross-border capital flows in a post-pandemic economy.

Overview

Macroeconomic assessment and economic outlook

The economic recovery in Emerging Asia, which began in 2021, is expected to continue in 2022, although great uncertainty remains. Countries in Emerging Asia faced persistent waves of COVID-19 cases from the Delta variant in 2021 and, more recently, from the Omicron variant. The potential emergence of new variants of concern in 2022 remains a risk. Furthermore, differences in economic outlook among Emerging Asian countries have become more visible, with approaches to managing the pandemic differing starkly. Looking ahead, Emerging Asian economies are projected to expand by 5.8% on average in 2022 and by 5.2% in 2023. Growth in real gross domestic product (GDP) is forecast to be 5.2% for the Association of Southeast Asian Nations (ASEAN) in 2022 and 5.2% in 2023, albeit with countries in the region varying in the pace of their recoveries. Indeed, economic growth in ASEAN will range from -0.3% in Myanmar to 7.0% in the Philippines in 2022 (Table 1).

Table 1. **Real GDP growth in ASEAN, China and India, 2020-23**

Percentage

	2020	2021	2022	2023
ASEAN-5				
Indonesia	-2.1	3.7	5.2	5.1
Malaysia	-5.7	3.1	6.0	5.5
Philippines	-9.6	5.6	7.0	6.1
Thailand	-6.2	1.6	3.8	4.4
Viet Nam	2.9	2.6	6.5	6.9
Brunei Darussalam and Singapore				
Brunei Darussalam	1.1	0.5	3.5	3.0
Singapore	-4.1	7.6	4.0	3.0
CLM countries				
Cambodia	-3.2	2.8	5.6	6.3
Lao PDR	3.3	2.5	4.6	4.9
Myanmar	3.2	-18.6	-0.3	3.3
China and India				
China	2.4	8.1	5.1	5.1
India	-7.3	9.4	8.1	5.5
Average of ASEAN-10	**-3.2**	**3.0**	**5.2**	**5.2**
Average of Emerging Asia	**-0.8**	**7.4**	**5.8**	**5.2**

Note: Data are as of 7 March 2022. Data for India and Myanmar relate to fiscal years. The 2020 figures are based on national sources. The 2021 actual figures for China, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam are based on national sources. The 2022 and 2023 projections for China, Indonesia, and India, as well as the 2021 projections for India, are based on the *OECD Economic Outlook No. 110*.

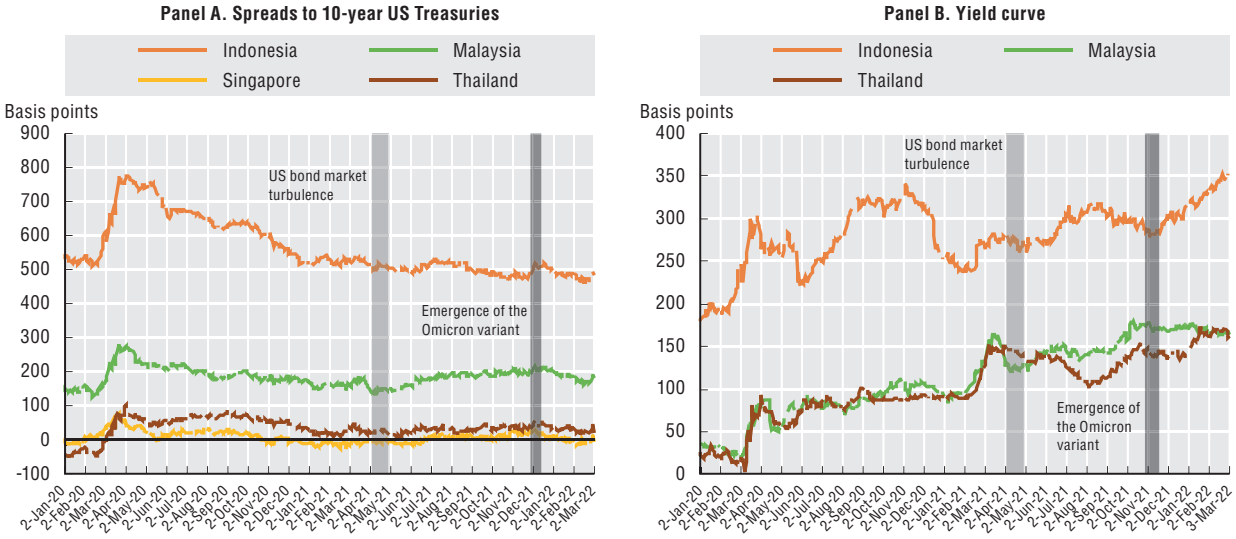
Source: OECD Development Centre and OECD (2021).

Developments on financial markets were broadly benign in 2021, as the evolution of stock-market capitalisation demonstrates. After falling sharply in the first quarter of 2020, stock-market capitalisation recovered quickly, exceeding pre-pandemic levels in most countries in Emerging Asia. As for bond markets, the increase in nominal interest rates in the United States in the first quarter of 2021 was temporary, and its effects on Emerging Asian government-bond yields were limited (Figure 1, Panel A). In parallel, yield curves widened to some extent recently, in particular in Indonesia and Thailand (Figure 1, Panel B), due to a combination of rising long-term yields and declining short-term yields. The risk of a correction in global stock prices remains high and the war in Ukraine may trigger higher

financial market volatility. In addition, the increase in policy rates in the United States could quickly lead to capital outflows from Emerging Asia.

Figure 1. **Spreads to 10-year US Treasuries and yield curve of selected ASEAN economies, January 2020 to March 2022**

Basis points



Note: Data are as of 3 March 2022. The yield curve is computed as the difference between yields on ten-year government bonds and yields on one-year government bonds.

Source: Authors' calculations based on data from CEIC and national sources.

StatLink https://doi.org/10.1787/888934303716

The COVID-19 pandemic has affected banking sectors across Emerging Asia. In several countries, profitability levels in the banking industry deteriorated between the first quarter of 2019 and the second quarter of 2021, although non-performing loan ratios remained mostly stable during the same period. In the first half of 2021, growth in bank lending turned negative in some countries, while deposit growth also fell back to levels that are more moderate. On a more positive note, however, stability in the banking sector remained relatively robust, with capital adequacy ratios above 15% in most countries.

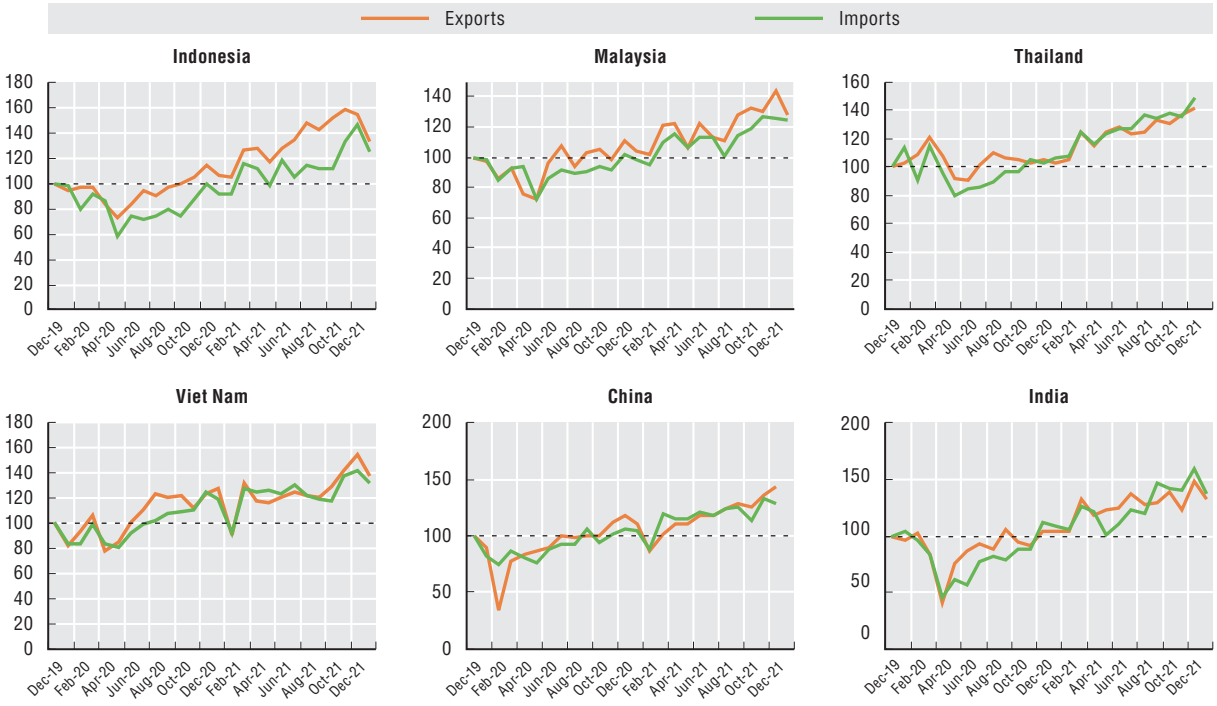
The pandemic has inflicted substantial damage on labour markets in Emerging Asia. This deterioration has been particularly acute in the Philippines and Viet Nam. In terms of individual sectors across Emerging Asia, the impact has been especially heavy for the micro-, small- and medium-sized enterprises. Sectors of the economy that are especially cyclical, and indeed those that rely on face-to-face interactions, have endured the gravest job losses since the onset of the COVID-19 crisis.

On the upside, international trade was a bright spot in 2021. Indeed, the recovery of global trade following the severe contraction of early 2020 has been remarkable. The upturn that started to take hold in the final quarter of 2020 continued into 2021, and onwards into early 2022. Importantly, trade activity has been plateauing at high levels in recent months, rather than declining. Merchandise exports in Indonesia, Malaysia, Thailand, Viet Nam, China and India have exceeded their pre-pandemic levels in recent months (Figure 2). Indeed, robust global demand for goods has driven a strong trade performance in the region, in particular for manufactured goods, chemicals and transportation equipment. However, supply disruptions affecting key sectors such as semiconductors could weigh on growth in

some countries in the region. In light of the Omicron variant, and as case counts increase across Asia's production and shipping hubs, the risk of extended dislocations to the balance of supply and demand around the globe will remain high, at least in the first half of 2022. The war in Ukraine also risks triggering further supply-chain bottlenecks.

Figure 2. **Evolution of exports and imports of goods for selected Emerging Asian economies, January 2020 to January 2022**

December 2019 = 100



Note: Latest data are as of January 2022, except for China (December 2021) and Thailand (December 2021).

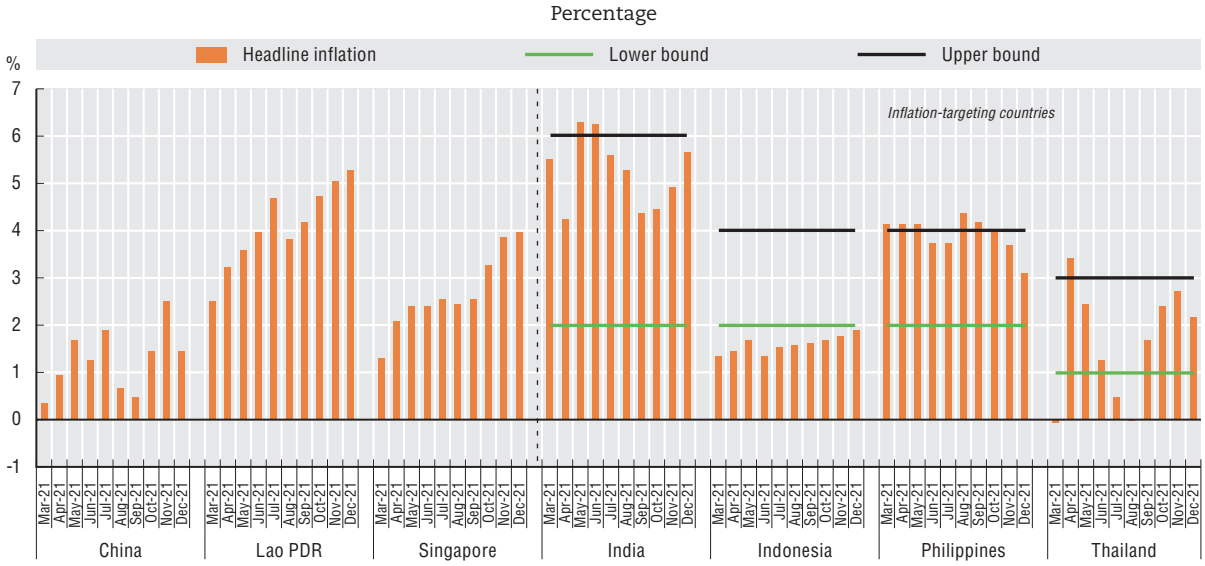
Source: Authors' calculations based on data from CEIC and national sources.

StatLink https://doi.org/10.1787/888934303735

Inflation has surprised to the upside in major advanced and emerging economies, with a combination of rising energy prices, a swift rebound in demand, persistent supply-chain bottlenecks, and the comparison with weak figures from a year earlier all adding to the uptick. Higher commodity prices have led to an increase in energy prices, adding acute cost pressures in a range of industries. Indeed, headline inflation has come in above expectations for inflation-targeting countries in the region, with the Philippines, Thailand and India all experiencing headline inflation above the upper limit of their tolerance bands at various points between April and November 2021. In India and Indonesia, data for December 2021 also pointed to rising inflation, even though it remained within these countries' tolerance bands (Figure 3). Energy prices were a key driver of inflation dynamics in 2021. Indeed, there was a steep rise as of August 2021 in the prices of energy commodities such as natural gas, oil and coal. In the countries of Emerging Asia, another factor contributing to headline inflation is the pass-through from currency depreciation.

Oil prices are expected to remain volatile throughout 2022, against a background of low levels of global inventories and declining amounts of spare production capacity. Moreover, lingering uncertainty around the war in Ukraine could push oil prices higher still.

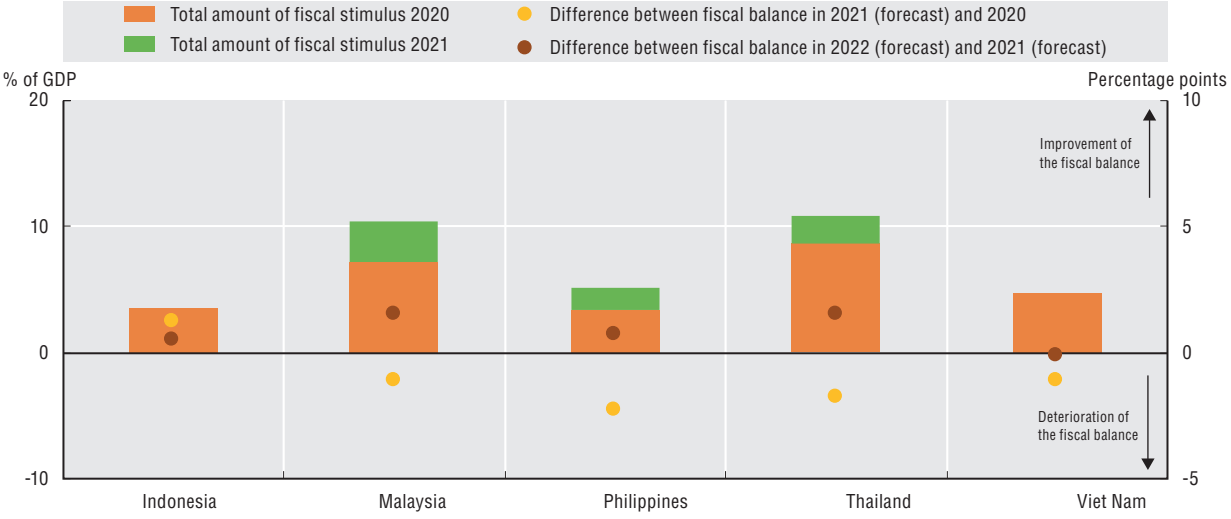
Figure 3. **Headline inflation in selected Emerging Asian economies, March to December 2021**



Source: Authors' calculations based on data from CEIC and national sources.
StatLink https://doi.org/10.1787/888934303754

With COVID-19 caseloads up again due to the Omicron variant, monetary policy makers in Emerging Asia have been holding rates steady until economic prospects improve durably. Many central banks in the region kept policy rates unchanged in January and February 2022. The People's Bank of China unveiled further measures to support liquidity, including an additional cut to the reserve requirement ratio.

Figure 4. **Total size of fiscal packages and estimated impact on the fiscal balance in selected ASEAN economies, 2020-22**



Note: The cut-off date for the fiscal stimulus data is 15 November 2021. Data on fiscal balances refer to the general government.

Source: OECD Development Centre and OECD (2021), *OECD Economic Outlook No. 110*; and ADB (n.d.a), *COVID-19 Policy Database*, https://covid19policy.adb.org/ (accessed multiple times between June 2021 and March 2022).
StatLink https://doi.org/10.1787/888934303773

Central banks in the region are expected to maintain an accommodative monetary stance over the course of the year.

Although fiscal support programmes have continued into 2021, the outlook for public finances is gradually improving. Throughout 2021, Malaysia, the Philippines, Singapore and Thailand rolled out extra fiscal stimulus, adding to the large amounts already deployed in 2020 (Figure 4). Indeed, fiscal deficits are still projected to exceed 5% of GDP in many ASEAN countries for the full year of 2021. As economies slowly recover, however, and notwithstanding the continuation of discretionary fiscal measures to shelter households, workers and firms from the impact of renewed COVID-19 outbreaks, fiscal deficits are forecast to narrow marginally in 2022 (Figure 4).

As regards public debt, the debt-to-GDP ratios of general governments in most Emerging Asian countries are expected to continue rising in 2022, although at a much slower pace compared to 2020. The rapid build-up of government debt at a period of low economic growth during the COVID-19 crisis has increased the need for an assessment of the sustainability of government debt.

Challenges to the Outlook

Looking ahead, the most immediate threat to the near-term growth outlook in Emerging Asia remains the evolution of the COVID-19 pandemic, as cases due to the Omicron variant remain elevated in the first quarter of 2022. The public health situation is nevertheless expected to improve gradually over the course of 2022, as vaccination rates increase, and as societies adapt to new protocols. Further risks to the recovery stem from longer-than-expected supply chain disruptions and higher-than-expected inflation. The war in Ukraine may also push up inflation. A normalisation of monetary policy in advanced economies, including the US Federal Reserve's policy-rate hike of March 2022, will lead to a tightening of external financing conditions, and could increase the volatility of capital flows. Furthermore, a return to political stability in Myanmar would greatly contribute to the economic recovery in the country.

ASEAN-5

- **Indonesia** is experiencing steady economic recovery. Real GDP growth is projected to reach 5.2% in 2022, and 5.1% in 2023. Fiscal stimulus is expected to do the heavy lifting, with the 2022 budget aiming to improve welfare for the lower-income fringes of the population. In addition, a gradual easing of travel restrictions is expected to lead to a recovery in the tourism sector. On the downside, however, the economic recovery remains subject to a very high degree of uncertainty due to the continued spread of the Omicron variant. Room for monetary manoeuvre has narrowed given the risk of capital flight, amid rising yields on US Treasuries.
- **Malaysia** was confronted with a sharp rise in COVID-19 cases in 2021, with repeated outbreaks between February and October, and a peak in August. Real output is projected to expand at an annual rate of 6% in 2022, and 5.5% in 2023. On the upside, the negative effects of containment measures on growth should be tempered by sustained fiscal support and recovering global demand. The outlook is exposed to downside risks, however, with the fast-spreading Omicron variant and an intensifying degree of disruption to supply chains expected to slow the recovery in the near term.

- In the **Philippines**, renewed outbreaks of COVID-19 in the autumn of 2021, followed by record-high case counts due to the Omicron variant in early 2022, have prompted new rounds of restrictions, albeit more localised in nature. The outlook is for robust growth in 2022 (+7%), while output growth is likely to remain strong in 2023 (+6.1%). A faster implementation of investment projects in infrastructure, plus the recovery in cash remittances by overseas Filipino workers constitute upside risks to the forecast, although pandemic-related uncertainties continue to tilt the risk balance to the downside.
- **Thailand** also experienced a new wave of COVID-19 cases in the second half of 2021, with Omicron-fuelled cases surging in early 2022. Real GDP is forecast to grow by 3.8% in 2022, before accelerating to 4.4% in 2023. The continued fiscal support provided in 2021 will likely ease pandemic-related pressures on domestic demand. In addition, the reopening of borders to visitors from certain countries will support efforts to restart Thailand's key tourism sector. On the other hand, the evolution of the pandemic remains an important downside risk.
- In **Viet Nam**, surging COVID-19 caseloads with a record-high number of cases recorded in February 2022 constitute a headwind to economic growth, in addition to lingering supply-chain disruptions. Real GDP is expected to expand by 6.5% in 2022, and then to edge 6.9% higher in 2023. Still, the balance of risk remains tilted mainly to the downside. A marked deterioration in employment in the third quarter of 2021, when Viet Nam's unemployment rate surged to multi-year highs, is expected to weaken household demand in the short term.

Brunei Darussalam and Singapore

- **Brunei Darussalam** recorded weak growth for most of 2021, amid the continued spread of COVID-19 and the reimposition of containment measures. On the upside, the economy should benefit from government policies aimed at intensifying activities outside of the oil and gas sector. Real GDP is set to grow by 3.5% in 2022, followed by an expansion of 3% in 2023. Furthermore, volatile commodity prices and the uncertain medium- to long-term outlook for fossil fuels continue to cloud the outlook for exports.
- In **Singapore**, a sharp rise in COVID-19 cases in the second half of 2021, followed by another significant surge due to Omicron, prompted the authorities to unwind the country's remaining restrictions at a slower pace than had initially been foreseen. Nevertheless, economic growth is still set to reach 4% in 2022, followed by 3% in 2023. Furthermore, risks to the outlook are broadly balanced. On the upside, the reopening of international borders to travellers from certain countries should buttress services exports. On the downside, persistent supply bottlenecks could hamper merchandise exports.

Cambodia, Lao PDR and Myanmar

- In **Cambodia**, a severe resurgence of the COVID-19 pandemic began in the second quarter of 2021, and case counts have been on the rise in recent weeks, fuelled by the Omicron variant. Output growth is expected to come in at 5.6% in 2022, and 6.3% in 2023. On the upside, Cambodia's high vaccination rate should alleviate the burden on the healthcare system. Moreover, Cambodian agriculture is expected to remain resilient. Still, the balance of risks to this outlook appears to be slightly to the downside, due to the importance of foreign tourism. This is a sector with high uncertainty despite

the easing of some restrictions. Furthermore, a rapid increase in flows of credit to the non-financial corporate sector risks undermining financial stability.

- In **Lao PDR**, a rising number of daily new COVID-19 cases prompted a tightening of containment measures throughout 2021 and early 2022. On the upside, exports of goods are expected to be a bright spot in the economy, supported by increasing demand in neighbouring countries. However, the risks to the economic forecast are mostly tilted to the downside. A lower rate of vaccination coverage in Lao PDR compared to some other countries in the region means that domestic risks related to the pandemic remain high. Overall, real GDP growth for 2022 is forecast at 4.6%, followed by 4.9% in 2023.
- In **Myanmar**, political unrest that began in February 2021, and which coincided with the sharp rise in COVID-19 cases, has derailed the recovery. Output is forecast to decline by 0.3% in 2022, before expanding by 3.3% in 2023. This outlook is subject to downside risks related to the impact of the political turmoil on consumption and investment, and to the relatively low vaccination rate in Myanmar compared to neighbouring countries. Another factor tilting the balance of risks to the downside is the persistent depreciation of the domestic currency, the Myanmar kyat, which has lost nearly 34% of its value since February 2021.

China and India

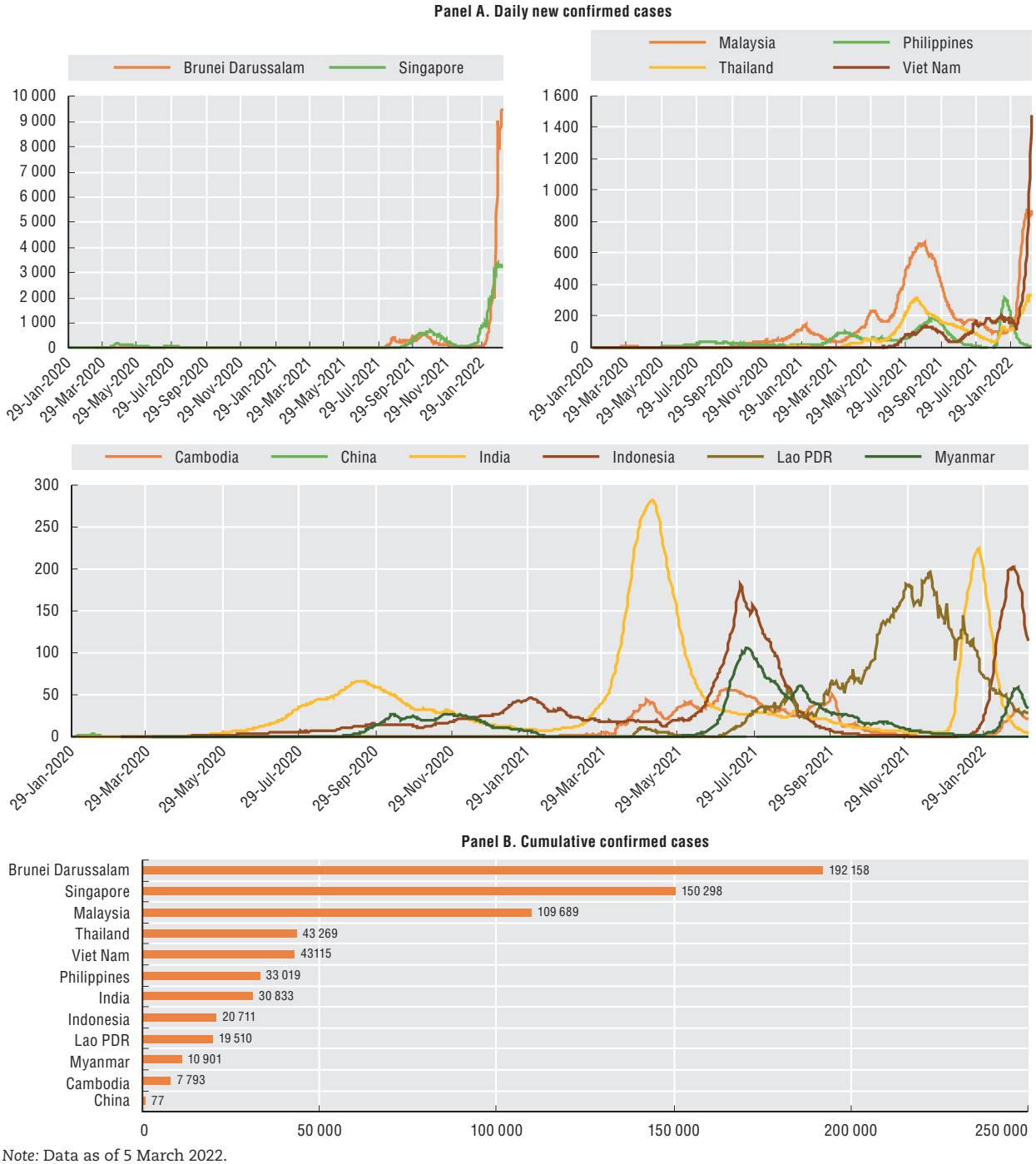
- In **China**, the pandemic remained largely under control in 2021. Localised outbreaks led to the reimposition of restrictions in parts of the country, as the Omicron variant continued to spread. On the upside, however, exports reached record highs in 2021 and are expected to remain buoyant in the near term. Still, weak domestic consumption continues to pose a major downside risk. Meanwhile, the ongoing turmoil in the property sector, which has resulted from the financial distress of Evergrande Group and several other property developers, remains a major downside risk. China's real GDP growth is projected to reach 5.1% in 2022, followed by another 5.1% expansion in 2023.
- In **India**, the period from April to June 2021 saw a steep contraction in activity on the back of a severe wave of COVID-19. Subsequently, new COVID-19 cases rose to multi-month highs in early January 2022, fuelled by the Omicron variant. Overall, real GDP is projected to grow by 8.1% in 2022 and by 5.5% in 2023. On the upside, budget measures for the 2022 fiscal year, including higher infrastructure spending, could support the post-pandemic recovery. On the other hand, the evolution of the pandemic remains a significant downside risk to the outlook. The deterioration of the situation on the fiscal front is also worrisome. The financial sector is constrained by non-performing assets.

Healthcare and vaccine responses remain critically important as the pandemic continues to unfold

The countries of Emerging Asia are still in the grip of the pandemic. Although the numbers of daily new confirmed COVID-19 cases in some countries in the region have decreased from the peaks that they reached in the second half of 2021, recent data show increases in cases in some countries at the beginning of 2022 (Figure 5, Panel A). As of 5 March 2022, Brunei Darussalam had experienced more than 190 000 cumulative confirmed cases per million people. Meanwhile, Singapore and Malaysia saw more than 150 000 and

100 000 cases per million people, respectively. Thailand and Viet Nam had reached more than 40 000 cases per million people, and India and the Philippines had both reached more than 30 000 cases (Figure 5, Panel B).

Figure 5. **COVID-19 cases per million people in Emerging Asia**



Note: Data as of 5 March 2022.

Source: Authors' compilation based on Our World in Data (2022), *Coronavirus Pandemic (COVID-19) database*, https://ourworldindata.org/coronavirus.

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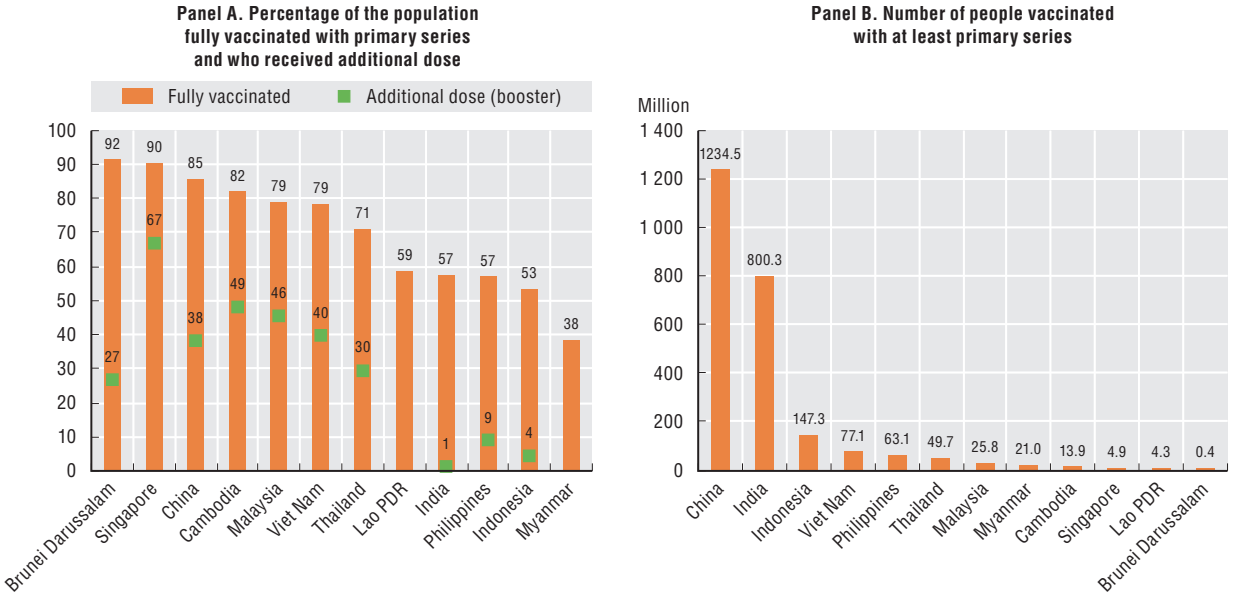
Various challenges still hinder the effective distribution of vaccines

Vaccination has so far been considered effective in helping to protect people against severe disease. Although billions of doses of vaccine have been distributed in the region, and billions of people have been fully vaccinated with the primary series of doses (Figure 6, Panel B), vaccine distribution programmes are uneven across Emerging Asian countries and still face challenges in some countries. As of 5 March 2022, Brunei Darussalam, Singapore and China led the region, also among the highest in the world, in vaccine distribution, with 92%, 90% and 85% of their respective populations having received a complete schedule of the primary series of vaccine doses (Figure 6, Panel A). Elsewhere, Cambodia had attained a rate of full vaccination of around 82%, while Malaysia and Viet Nam had both reached around 79%, and Thailand had hit 71%. In Myanmar, Indonesia, Philippines, India, and Lao PDR, however, the number of fully vaccinated individuals still accounted for less than 60% of the population.

Figure 6. **Vaccination rate in Emerging Asia**



Note: Data as of 5 March 2022 (or latest data available). People fully vaccinated with primary series are defined as people who received all doses prescribed by the initial vaccination protocol.

Source: Authors' compilation based on Our World in Data (2022), *Coronavirus Pandemic (COVID-19) database*, https://ourworldindata.org/coronavirus.

StatLink https://doi.org/10.1787/888934303811

A range of challenges has hindered the distribution of vaccines in Emerging Asia. Problems regarding the vaccine supply range from upstream manufacturing issues to questions of vaccine distribution. Together, these problems constitute one of the major challenges that countries face in improving their performance. Some Emerging Asian countries will need to improve vaccine facilities, including via the provision of a stable electricity supply and the availability of cold storage. This is important in order to be able to receive and safely distribute a fuller range of vaccines, including those that require storage at an ultra-low temperature. Governments also need to ensure a smooth distribution and last-mile delivery of vaccines, especially in remote and rural areas.

From a demand perspective, it is crucial to address vaccine hesitancy. In order to address the fears and doubts of people who are hesitant about taking a vaccine, it is crucial to ensure a high degree of transparency, to strengthen vaccine outreach efforts and campaigns, and to provide clear and accurate information about the virus and vaccines continuously. Information should address questions of safety and the potential side effects of vaccines, as well as the risks of getting a severe case of COVID-19. When it comes to addressing the safety question, any potential adverse reactions following vaccination should be reported in due time. Health professionals should communicate such information in order to build trust and confidence.

International co-operation can provide valuable support to speed up vaccine distribution

It is clear that international co-operation helps to accelerate the worldwide development, manufacturing and distribution of vaccines. Notably, the COVID-19 Vaccines Global Access facility (COVAX) and the Asia Pacific Vaccine Access facility (APVAX), are two examples of co-operation that include Emerging Asian countries. The COVAX initiative was launched in April 2020, and by mid-January 2022, the facility had reached its milestone of delivering a billion doses of COVID-19 vaccines to 144 participant countries, including some in Emerging Asia. However, there remains room for a further enhancement of international co-operation, particularly at the regional level. Indeed, regional initiatives have the potential to address further the large gaps that remain between countries when it comes to vaccination. More recently, some ASEAN member countries have called for an increase in support and for the specific allocation of more resources from the COVID-19 ASEAN Response Fund for vaccine procurement.

Public healthcare responses are a necessary complement to vaccination programmes

Even as vaccination rates increase, preventive measures and non-pharmaceutical interventions (NPIs) are still an important part of the governments' response to COVID-19. These include wearing masks, physical distancing measures, restrictions on movement, hygiene measures, proper ventilation, and robust testing and contact tracing. In addition, medical systems and facilities also need to be improved.

Most countries have made policy adjustments in response to the emergence of the Omicron variant, and Emerging Asian countries are no exception. Brunei Darussalam, Cambodia, Lao PDR, Malaysia and Viet Nam issued travel bans, at certain times, from countries where the variant was first identified. Countries have also extended, strengthened, or reintroduced non-pharmaceutical interventions. Most measures in response to Omicron have taken the form either of capacity limits or of vaccination requirements for particular settings. Mask mandates of some form were already widely in place. With the exceptions of Indonesia's introduction of capacity limits, and Singapore's expansion of vaccination requirements, non-travel reactions to the emergence of the Omicron variant have been rather muted. This is likely to be because stringent measures, such as requirements to wear masks, were already in place beforehand, and due to the apparent rarity of severe disease and death from Omicron as compared to other variants of the virus.

In addition to preventive and restrictive measures, improving medical facilities and supplies is crucial as countries seek to cope with large increases in COVID-19 caseloads. In addition to short-term responses to outbreaks of the virus, some countries have unveiled strategies aimed at enhancing healthcare capacity that will yield benefits in the longer term.

Digital tools have played an important part in the management of the pandemic

The pandemic has led to an acceleration in digitalisation. Indeed, digital health tools have played a key role in helping to manage the pandemic (Table 2), especially as restrictions on human contact have been employed in order to stop the spread of the virus. These tools have been developed by both public and private actors, and they fall into two main categories: surveillance and telemedicine. However, some tools possess functions that overlap these two categories. Broadly speaking, surveillance tools are used to track the spread of the virus in the community.

Table 2. **Examples of digital applications related to COVID-19 in Emerging Asia**

Country	Check-in	Exposure monitoring	Quarantine enforcement	Health advice	Health records	Medical appointments	Book vaccine
Brunei Darussalam	●	●		●	●	Book/attend	●
Cambodia	●				COVID-19 (web-based)		●
Indonesia		●			COVID-19	Book/attend	●
Lao PDR	●	●		●		Book virological tests	●
Malaysia	●	●	●	●	COVID-19	Book/attend	●
Myanmar	●		Maybe		COVID-19		
Philippines	Web-based	●		●	COVID-19		
Singapore	●	●	●	●*	●*	Book*	●
Thailand	●	●			COVID-19		
Viet Nam		●		●	COVID-19		●
China	●	●	●		●		
India		●		●	COVID-19		●

Notes: Information as of 20 November 2021. A function marked with * refers to a function on a digital health tool that existed prior to the COVID-19 pandemic. The dot indicates that at least one government-issued digital health tool possesses the given feature. The presence of the dot for health records includes proof of COVID-19 vaccination, unless otherwise indicated.

Source: Authors' compilation based on various sources.

Telehealth and telemedicine could be further developed

The expansion of telemedicine will require improvements to infrastructure, such as fast and affordable wireless Internet connections. In order to reap the gains from this infrastructure, meanwhile, digital skills in the medical sector and the general population must improve. Education on how to use telemedicine applications will need to be widespread, and developers must make them as user-friendly as possible, without compromising their functionality. Care providers will need to learn how to operate the applications in order to work with both medical professionals and patients, and to be able to demonstrate to patients how to use them effectively, troubleshooting as needed. They will need training on how to make assessments via teleconference, a setting in which current patient data is often absent. In addition, legal frameworks will need to be created or updated. Some countries in Emerging Asia already have legal frameworks for telemedicine.

Dealing with the risk of inflation amid an uneasy economic recovery is essential

A gradual rise in inflation in Emerging Asia is causing some concerns. At present, inflation seems to be more contained in Emerging Asia than in advanced economies, in part due to monetary policy's effectiveness at managing inflationary pressures. This notwithstanding, the region could see a rise in inflation as 2022 progresses, as the economy strengthens and as food prices rebound.

A sustained rise in global prices for food and fuel could alter the course of inflation

Developments in global commodities and energy markets are a big driver of inflation risks. In particular, the focus is on food and fuel prices. Notably, food accounts for the largest weighting in the consumer price index (CPI) for many economies, including those in Emerging Asia. Moreover, apart from their direct impact on headline inflation, food and fuel also have indirect effects, as their prices tend to affect the cost of other goods and services.

Having lost substantial ground in 2020, global fuel prices soared to multi-year highs in 2021, following sharp cuts in supply from oil-producing countries, and then a recovery in demand. Likewise, food prices have been picking up some steam. In the first half of 2021, food prices were generally fairly contained in Emerging Asia. However, upward pressure on prices in global markets is likely to feed through into domestic prices if it continues. Indeed, the latest data for January 2022 point to rising food prices in India, Malaysia, Singapore and Thailand. Furthermore, disruptions to global supply chains could also underpin faster inflation, exacerbated by rising shipping costs. In addition, the war in Ukraine is likely to compound inflationary pressure. Prices for agricultural commodities such as wheat, sunflower oil and corn, for which Russia and Ukraine are major producers, have risen because of supply risks. Global food price inflation is anticipated to pass through to higher domestic prices in Emerging Asian countries.

A reversal in the monetary-policy stances of advanced economies poses another risk

The trajectory of inflation in advanced economies, and its possible implications for international capital flows, constitutes another source of apprehension. As shown in Figure 7, headline inflation rates in the euro area, the United Kingdom and the United States have risen sharply to multi-year highs since the start of 2021. The possibility of inflation overshooting expectations, a phenomenon that was observed during previous financial crises, also cannot be discounted over the coming quarters. However, inflation in selected member countries of ASEAN appears for now to be more moderate than in the advanced economies.

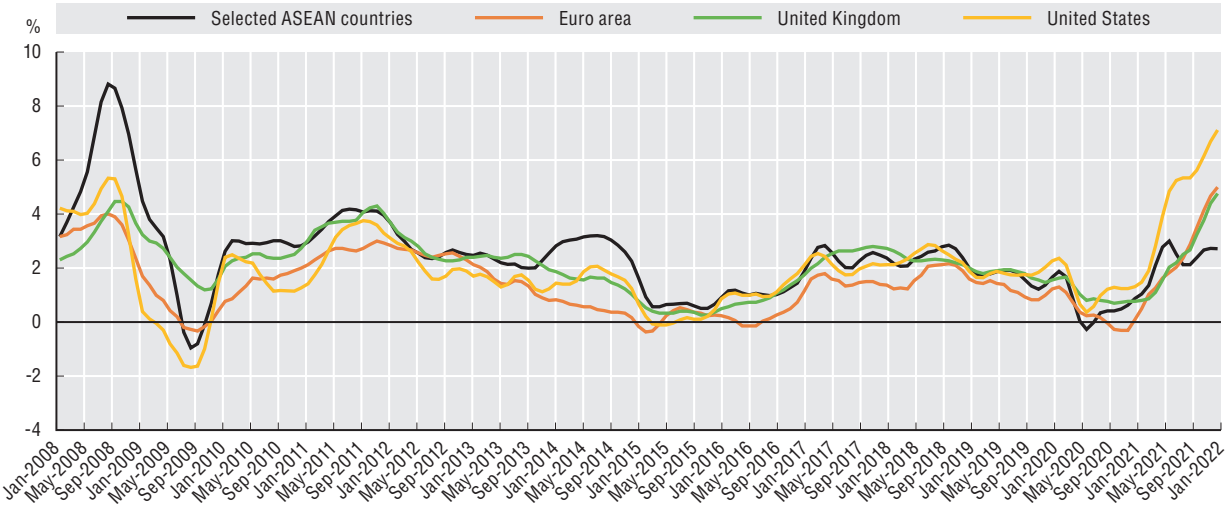
Vulnerable households are likely to feel the pinch of inflation

At a time when labour markets are still reeling from the impact of the pandemic, a successful anchoring of inflation is of critical importance. The impact of the pandemic in Emerging Asia included income losses, a fall in working hours for those in employment, and a fall in labour income in 2020, before income-support measures were implemented. Furthermore, job destruction has disproportionately affected low-paid and low-skilled jobs.

Indeed, published data for 2021 indicate that the picture for wages and earnings in the region remains grim. Policy makers should remain mindful of the interactions between wages and inflation, even if wage pressures currently appear to be low in Emerging Asia. Moreover, there is evidence of growing wage inequality in some countries the region.

Figure 7. **Headline inflation in selected ASEAN countries, the euro area, the United Kingdom, and the United States, January 2008 to January 2022**

3-month moving average (percentage)



Note: The data are as of March 2022. The average headline inflation for selected ASEAN countries represents the average of monthly headline inflation in Indonesia, Malaysia, the Philippines and Thailand.

Source: Authors' calculations, based on OECD (2022).

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Buoyed by rising input costs such as base metals, the robustness of property prices in Emerging Asia is another point of concern. Indeed, property prices are reported to have increased considerably across major cities in Emerging Asia. While this indicates favourable prospects for the sector, it will also fuel inflation, further tightening the budgets of households that are already experiencing economic difficulty and contending with lower real earnings.

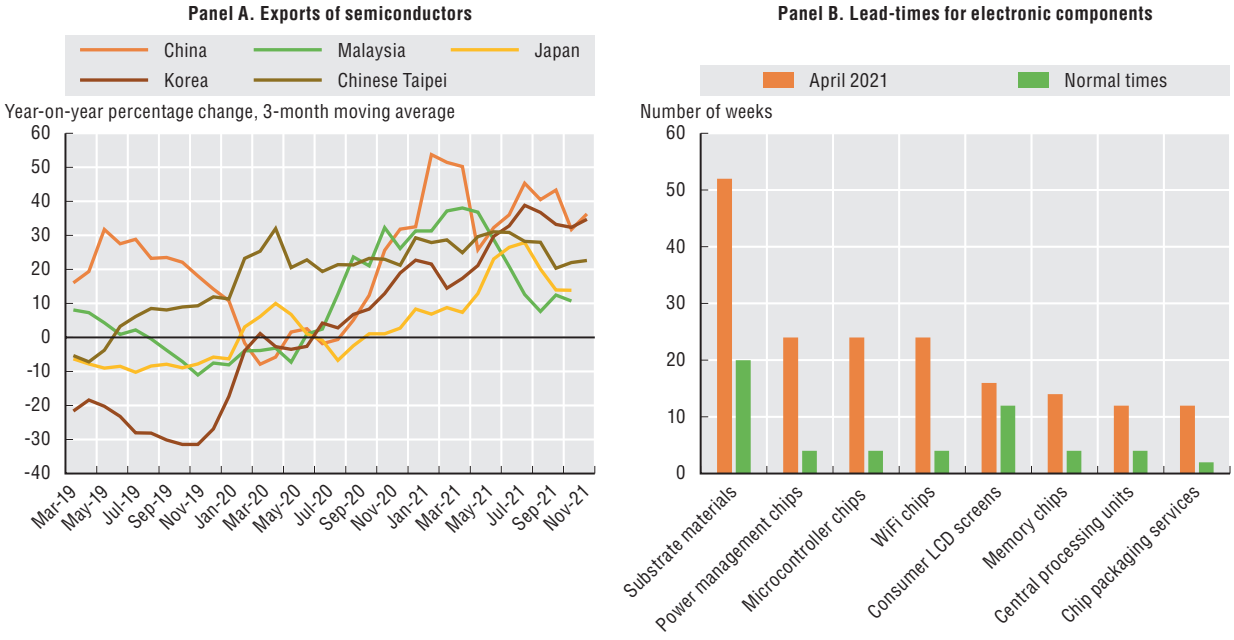
Supply-chain disruptions continue to pose challenges

Imbalances in supply and demand have affected global logistics and the production of semiconductors

Imbalances between supply and demand have affected several key industries, including the global logistics sector and the production of semiconductors. One of the major factors behind these bottlenecks is the rise in demand for semiconductors, which has been driven by structural changes triggered by the shift to remote work. Major manufacturers such as China, Malaysia, Japan, Korea and Chinese Taipei saw their exports of semiconductors surge in the first half of 2021 (Figure 8, Panel A). Meanwhile, measures to contain COVID-19 disrupted production in major chip-manufacturing hubs, as well as in packaging sites in countries such as Korea, Malaysia and Viet Nam. Due to imbalances between supply and demand, the

lead times for various electronic components lengthened considerably in 2021. For instance, lead times for power management and microcontroller chips lengthened to a minimum of 24 weeks in April 2021, compared to four weeks in normal times (Figure 8, Panel B).

Figure 8. **Exports of semiconductors from selected Asian economies, and minimum lead times for electronic components**



Note: Latest data on exports of semiconductors as of December 2021, except for Malaysia (November 2021) and Japan (November 2021). Lead time is defined as the period between the ordering and delivery of an electronic component. LCD stands for liquid-crystal display.
Source: Authors' calculations, based on data from CEIC and Ting-Fang and Li (2021).
StatLink https://doi.org/10.1787/888934303849

Increases in the price of commodities to above their pre-pandemic levels, in particular for energy and metals, represents another triggering factor.

Finally, logistical disruptions have emerged in the transport sector, and in container shipping in particular. The brisk rebound in trade in merchandise as of the second half of 2021 coincided with a shortage of shipping containers, as the spread of the Delta variant to many Southeast Asian countries exacerbated bottlenecks in the supply chain. On top of that, waiting times at ports increased due to high import volumes, containment measures at port facilities, and labour shortages, with measures to contain the spread of COVID-19 affecting the mobility of migrant workers. As a result, shipping transit times increased, and transport costs from China to ports in the United States and Europe rose sharply.

Supply-chain disruptions could weaken output growth and affect consumers in Emerging Asia

Supply-chain disruptions could reverberate through Emerging Asian economies and weaken output growth. Indeed, manufacturing sectors affected by severe shortages appear to have been reporting weaker output dynamics since May 2021. For instance, the total

production output for integrated circuits declined substantially in Thailand in June, and in Malaysia in July. Other sectors that rely on electronic equipment, such as the production of passenger cars, also reported lower output. In Malaysia, for example, the production of passenger cars declined by nearly 17.8% in April 2021 compared to the previous month.

At the consumer level, shortages of certain products have triggered rationing and cost-push increases to prices, as discussed in the previous section. These shortages may be partially responsible for the recent spike in inflation for consumer durables in some countries in the region. Prices of oil, natural gas and commodities had already firmed up since the second half of 2020, while higher transport costs have added further to price pressures. Prices of household durable goods rose in November 2021 in some countries in Emerging Asia, most notably in India, Lao PDR, Malaysia and Singapore.

As of early 2022, there were some signs that stresses in supply chains were easing. However, the balance of risks is mostly tilted to the downside. The concern is that the Omicron variant of COVID-19 could delay further improvements. Additional supply-chain disruptions and slowdowns may occur in the near term, as cases of the fast-spreading variant are reported across major production and shipping hubs in Asia. In particular, and against the backdrop of China's zero-COVID strategy, potential lockdowns in areas of the country in which large-scale production facilities are concentrated, such as the lockdown of the city of Shenzhen in mid-March 2022, could imply higher producer prices in the coming months. Furthermore, the war in Ukraine could add further upside pressure on oil and metal prices. On the other hand, the imbalance between supply and demand for semiconductors is likely to ease gradually in 2022 as pandemic-related risks recede, and as investment in semiconductor facilities increases.

The current economic environment calls for innovative financing solutions

The current fiscal environment in Emerging Asia is challenging

The COVID-19 pandemic has significantly increased the pressure on public finances due to supportive measures such as cash-transfer packages and higher healthcare budgets. As expected, widening deficits led to a significant rise in governments' stock of debt after the outbreak of the pandemic. The public debt of Emerging Asia (excluding Brunei Darussalam) increased by an average of 15.5% from 2019 to 2020. Debt levels are forecast to have risen by the end of 2021. Fiscal deficits widened sharply in 2020 in all countries in Emerging Asia, and they are expected to have deteriorated further in 2021 in many countries. In addition, a comparison with the pre-pandemic period 2010-19 shows that both debt levels and fiscal deficits deteriorated markedly in 2020 and 2021 compared to that period.

As levels of sovereign debt have increased sharply in Emerging Asia, the question of the sustainability of this debt has come to the fore. Fiscal frameworks, which comprise fiscal rules, fiscal institutions and budgetary procedures, are an important tool both for supporting fiscal sustainability and for increasing the predictability of public policies. Most countries rely on a combination of numerical and procedural rules. Policy makers should assess the advantages and drawbacks associated with different types of numerical and non-numerical fiscal rules. Table 3 summarises some of these advantages and drawbacks.

Table 3. **Advantages and limitations of different types of fiscal rules**

Type of fiscal rule	Advantages	Limitations
Expenditure rule	• Clear operational guidance in the budget-planning process. • Relatively easy to monitor and communicate. • Permits the conduct of countercyclical fiscal policy by constraining spending during booms.	• Could lead to unintended changes in the distribution of spending if governments shift spending to categories that are not subject to the ceiling. • May leave too much scope to increase debt.
Revenue rule	• Can improve revenue management. • Permits the conduct of countercyclical fiscal policy.	• No direct link to the control of public debt.
Budget balance rule	• Clear operational guidance in the budget-planning process. • Easy to monitor and communicate. • Close link to debt sustainability.	• Budget balance can be affected by unexpected shocks, which are outside the control of the government (e.g. pandemic shock).
Structural budget balance rule	• Corrects for the economic cycle, and for one-off events. • May improve the overall sophistication of public debates about fiscal policy.	• The estimation of the structural balance is challenging. • Difficult to communicate to the general public.
Debt rule	• The debt-to-GDP ratio is a simple, easy-to-monitor statistic, and has predictive power for crises.	• No clear operational guidance in the short run, as the impact of policy on the debt ratio is not immediate. • The debt ratio may not capture well the cost of debt if interest rates trend downward. • Where the debt limit is combined with a deficit limit, the long-term stable debt ratio consistent with a given deficit limit will be higher if the long-term economic growth rate has declined. • Rule could be met via measures that are temporary in character (e.g. below-the-line transactions).
Procedural rules	• Provide more flexibility than numerical rules.	• May be harder to communicate and monitor without numerical targets.

Note: Expenditure rules limit the amount of government spending or the rate of growth in government spending. Revenue rules place constraints on the tax-to-GDP ratio, and impose restrictions on government revenues raised in excess of projected amounts. Budget-balance rules include requirements to run a balanced position, not to exceed a defined deficit limit, or to attain a defined minimum surplus. The structural fiscal balance is the difference between government revenues and expenditures, which is then corrected for effects that could be attributed to the economic cycle and one-off events. Debt rules limit the amount of debt that governments can accumulate. Procedural rules comprise various non-numerical rules, such as fiscal institutions and budget procedures.

Source: Authors' elaboration based on IMF (2021), Schaechter et al. (2012).

The monetary environment is changing due to the pandemic

In order to keep the system as liquid and accommodative as possible, and to avert a significant loss in market confidence, Emerging Asian economies have implemented a mixture of monetary policies. These include direct lending and forbearance, loan guarantees, loan reclassification and restructuring, and adjustments to interest rates and reserve requirements.

In parallel, there seems to be a consensus that natural rates of interest are trending downwards in developed and developing economies alike. Emerging Asian economies are no exception, although there are also cases in the region where the trend is on the rise. Indonesia, Malaysia, the Philippines, Singapore and Thailand experienced a decline in their real natural rate of interest over the past two decades. This decline was already in progress for these countries in the early 1990s.

The effective use of various debt-related tools is critical

In the current fiscal and monetary environments described above, policy makers in Emerging Asia should consider a range of options for managing public debt.

Depending on the national context, swap agreements provide an additional tool for renegotiating the terms of debt. In the process of renegotiation, payments can be earmarked for a particular objective. The debt-for-policy swap is an umbrella term for a type of financial swap where a sovereign issuer accepts debt relief in exchange for participation in a mandated policy action. Under such a scheme, the creditor buys the debt of a participating debtor country in exchange for a commitment to channel payments directly into achieving policy goals selected by the creditor.

Debt-for-climate swaps have the potential to provide debt relief for Emerging Asian economies while simultaneously promoting climate-change mitigation or disaster prevention. These swaps may be particularly useful for island nations in Asia, which are some of the most exposed in the world to risks related to climate and natural disasters. Debt-for-equity swaps are another variation on this arrangement, and are used in both the public and private sectors. In this type of deal, a share in a public or private company is exchanged for an equivalent amount of debt. This provides a mutual benefit, both to the debtor (debt relief and investments), and to the creditors (partial recovery of debt beyond what would be expected otherwise).

In the same way, a debt buyback, wherein debtors offer a lump-sum payment in exchange for the cancellation of the remainder of the outstanding debt, can also be an option for some countries. Creditors are more likely to accept these terms when it appears that the lump-sum payment is the best possible outcome for them with respect to the debt in question.

With the encouragement of the International Monetary Fund and the World Bank, the Group of Twenty (G20) countries launched the Debt Service Suspension Initiative (DSSI), which aims to lessen the debt burden of low-income and least-developed countries, as they recover from the impact of the COVID-19 pandemic. The DSSI suspends debt-service payments (both principal and interest), and provides emergency relief for eligible countries.

Broadening the financing options by making effective use of market-based instruments

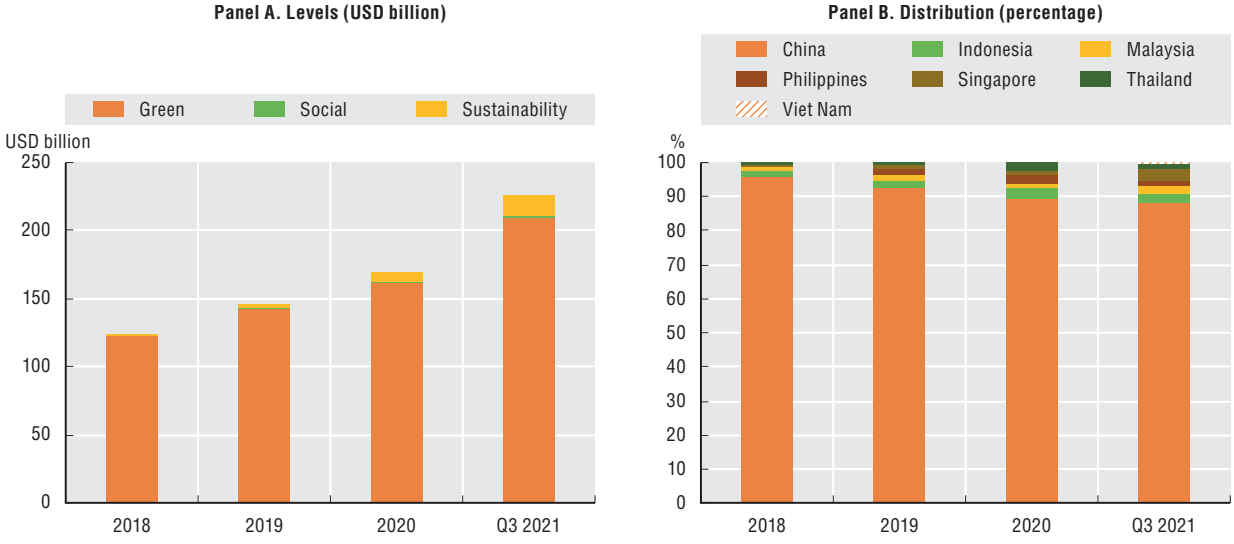
Prevailing conditions present significant opportunities for policy makers. First, there is an opportunity to increase the efficiency of how the financial resources that are available in the system are put to use. Second, there is an opportunity to harness other financing modalities in order to facilitate recovery from the pandemic.

Green bonds herald a number of advantages for governments seeking financing

One potential upside of bond and security instruments that are in line with environmental, sustainability and governance (ESG) principles is the guarantees they offer about how the funds are used. Green bonds that focus on environmentally responsible projects are used widely, and are one of the most promising instruments for financing the transition to a low-carbon economy. Another advantage of green bonds is their capacity to spread the cost of funding the mitigation of climate change across several human generations. This makes green bonds particularly suitable for raising money for environmentally friendly investments, both public and private. Green bonds are also a good option for attracting a broad spectrum of institutional investors.

Recourse to ESG-themed bonds is not new in Emerging Asia. In terms of market size, data as of the third quarter of 2021 showed that the combined value of outstanding green, social and sustainability bonds in the seven economies for which data were available is more than USD 225 billion (Figure 9, Panel A), which is still a fairly small amount. In 2020, these bonds accounted for about 0.9% of the total for all outstanding bonds (i.e. local and foreign-currency bonds combined). Nevertheless, the stock of this kind of debt grew at an encouraging pace of about 24% a year in compounded annual growth terms between 2018 and the first three quarters of 2021, even when pandemic bonds are excluded. China still accounts for the highest share of outstanding ESG bonds, but the other economies in the region are gradually catching up (Figure 9, Panel B).

Figure 9. **Outstanding green, social and sustainability bonds in selected Emerging Asian economies, 2018-Q3 2021**



Note: The countries included in the calculation are China, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam. The data exclude pandemic bonds.

Source: Authors' calculation based on ADB (n.d.b).

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Various policies are needed to address existing barriers to the development of the green bond market

In order to develop green bond markets, it is important to address barriers for both issuers and investors. In particular, a broad pool of investors is crucial for ensuring the successful development of sovereign green bond markets and making sure that yields respond accurately to fundamentals. Hereafter, Table 4 summarises existing barriers, together with potential policy options to overcome these obstacles, both on the supply side and the demand side.

External support and private placements could be leveraged to overcome complexity and cost

In order to reduce the cost of external reviews, and to streamline the reporting process, governments in Emerging Asia should take advantage of the support that they can get from organisations and experts such as development banks, structuring advisors and

stock exchanges. Notwithstanding the longer-term desirability of a generalisation of public issuance in order to foster liquid markets, governments could also potentially cut costs by envisaging private placements of green bonds, selling them directly to a limited number of investors. In addition to cutting costs, private placements can also speed up the issuance of a bond. The Indonesian government, for example, turned to private placements in April 2020 to finance its response to the COVID-19 pandemic.

Table 4. **Summary of existing challenges, and policy options to support the further development of sovereign green bond markets in Emerging Asia**

Stakeholder	Challenges	Policy options
Sovereign issuer	The complexity and cost of external review and reporting procedures.	• Seek support from international financial institutions (i.e. ADB, IMF, World Bank), in order to reduce the cost and complexity of external review and reporting procedures.
		• Envisage private placements of green bonds in order to reduce costs (although this can be detrimental to liquidity).
	Regulatory barriers relating to the management of proceeds from the issuance of green bonds.	• Develop sound processes for managing the proceeds of green bonds.
		• Remove any regulatory barriers that could hinder the effective allocation of proceeds from the issuance of green bonds.
Investor	The lack of clear definitions and the risk of greenwashing.	• Endorse internationally agreed standards.
		• Agree on a standardised framework at the regional level.
	Limited supply of sovereign green bonds.	• Increase issuance by national governments and subnational entities, in particular cities.
		• Establish public green banks.
	Reduced incentives for domestic institutional and retail investors to participate in green bond markets.	• Hold investor roadshows in order to boost awareness of green bonds.
		• Encourage the participation of institutional investors, in particular pension funds.
		• Encourage the participation of retail investors.
		• Provide tax incentives to investors.
		• Tackle reputational risk through penalty mechanisms (e.g. bond buyback obligations).

Source: Authors' elaboration.

Regulatory challenges relating to the management of proceeds from green bond issuance need to be addressed

Sovereign issuers should plan in advance for how they will manage the proceeds if they do not expect to invest them immediately. Moreover, there have to be safeguards to track the allocation of proceeds, and to make sure that the same eligible green project does not get listed more than once. In making sure that the net proceeds from a green bond flow into a suitable budget allocation, it is important to consider whether governments should open a special account to manage the funds that they raise from green bonds. Although there is currently no consensus on the best practice in this regard, setting up a special account for the management of net proceeds may streamline the allocation process and enhance investors' confidence.

Clear and standardised definitions can reduce the risk of greenwashing and facilitate cross-border transactions

One of the bottlenecks constraining the development of markets for green bonds in Emerging Asia is the lack of an overarching framework to define and classify these assets. At present, the market for green bonds in most countries in the region is generally not subject

to government regulation. This presents a challenge, as the risk of greenwashing is arguably higher in countries that lack a clear regulatory framework for green bonds. Furthermore, the standardisation of definitions for green bonds is essential in order to facilitate cross-border transactions in Emerging Asia, albeit without resorting to a heavy-handed approach. Imposing overly detailed standards has the potential to increase issuance costs, so standards should allow issuers sufficient room for flexibility in order to respond to the different constraints that they may face.

Increasing the supply of sovereign green bonds, in particular from sub-national entities, is equally important to attract more institutional investors

There is scope in Emerging Asia for more sovereign issuers to launch green bonds. In so doing, they would signal their support for the market, and would contribute to its deepening by increasing the supply of green bonds in the medium term. Arguably, the issuance of sovereign green bonds could send a strong signal that governments are committed to supporting the market for this kind of asset by providing opportunities to invest in a broad range of projects, and at relatively low yields. In turn, a deeper market would create favourable conditions for a decline in yields. Moreover, sub-national entities (e.g. cities, regions, provinces and public utilities) could also issue green bonds in order to finance investments in green public infrastructure.

There are various policy options for increasing the participation of domestic institutional and retail investors in green bond markets

Institutional investors may face specific constraints that can limit their investment options. For instance, investors have to work within a framework of restrictions regarding the currencies that they can invest in and the size of the deals that they can make. Such limits can affect their capacity to invest in green bonds. As they seek to make their offerings as attractive as possible, sovereign issuers of green bonds need to strike a careful balance between the duration of the projects that they wish to finance, and the appetite of investors. For instance, longer tenors tend to attract insurance companies and pension funds that seek to match their long-term liabilities with long-term assets. Reputational risk could be tackled through penalty mechanisms in case the issuer does not fulfil its environmental obligations. In addition, governments may apply tax incentives to green bonds. They can also hold regular investor roadshows to promote participation in green bond markets, both within the region and beyond.

Social and sustainability bonds can complement green bonds in financing a sustainable recovery

Social and sustainability bonds are similar to green bonds. Social bonds finance projects that aim to address a specific social issue, or to achieve positive social outcomes. Meanwhile, sustainability bonds are bonds that raise funds for undertakings that have green or social aspects. The outstanding value of social and sustainability bonds is still marginal by comparison with green bonds. However, available data show a rising tide of interest in these bonds in Asia following the emergence of COVID-19 in early 2020. Even if pandemic bonds are excluded, the average monthly issuance of social and sustainability bonds in Emerging Asian economies for which data are available rose more than five-fold from 2019 through to the third quarter of 2021. Among the economies of Emerging Asia, China, Malaysia and Singapore are leading the way in terms of new issuance.

Social and sustainability bonds come in different shapes and sizes, and pandemic-oriented bonds increasingly now constitute one type of social bond among others. Their proceeds can finance the fight against the COVID-19 pandemic and help mitigate its economic and social repercussions. Governments in Emerging Asia have also begun to explore the potential of social bonds to finance public spending related to COVID-19. In April 2020, the Government of Indonesia issued its first pandemic bond.

Other types of social or sustainability bonds include education bonds, health bonds and gender bonds. As their names suggest, the proceeds of such bonds flow into projects in the education and health sectors, or into efforts to promote gender equality and the empowerment of women. Water bonds, meanwhile, fund improvements to the quality and scope of water infrastructure. In Emerging Asia, multilateral institutions such as the Asian Development Bank (ADB) are among the active issuers of these bonds. Moreover, there are promising signs that other stakeholders are increasingly willing to participate in this market. In the case of gender bonds, for example, a number of non-sovereign, non-multilateral issuances followed in the wake of the gender bond that the ADB issued in 2017.

As with green bonds, various institutional and regulatory barriers hinder the further development of social and sustainability bonds. Some Emerging Asian countries already have dedicated frameworks, but the adoption of common standards has been relatively slow, and the lack of a standardised set of metrics to measure their impact has led to concerns about "social washing", or so-called "pink washing". For the social and sustainability bond markets to grow further, more issuance by sovereign and sub-sovereign entities is essential. Additionally, social and sustainability bonds would benefit from a broadening of the investor base.

Offshore debt issuance can be an option under certain circumstances

The offshore bond market has significant potential to close funding gaps. Indeed, there is scope for Emerging Asia's policy makers to take advantage of the much bigger offshore investor base, which contains many investors that are keen to invest in ESG-linked instruments. In addition, ESG instruments can provide an additional dimension to efforts to recycle Asia's sizeable savings pool within the region.

In order to capitalise on this opportunity whilst mitigating debt-servicing risks, Emerging Asia can bolster the capacity of the cross-country systems that are already in place. One important facility in this respect is the Multi-Currency Bond Issuance Framework (AMBIF), which the ASEAN+3 grouping (including China, Japan and Korea) put together in order to make the recycling of the region's savings more efficient and inclusive, but without overlooking individual countries' peculiarities. Recent data show that there have been 12 issuances under the AMBIF, and that these are denominated in seven different local currencies.

It is worthy of note, moreover, that smaller economies in Emerging Asia can also leverage strong bilateral relations in order to gain access to offshore markets.

Multilateral lending institutions play a pivotal role in implementing innovative financing solutions

Multilateral institutions and development banks will continue to have a big role to play in helping emerging economies to raise funds and to ensure the sustainability of their debt as they recover from the COVID-19 pandemic. Their assistance is particularly critical

for low-income economies with very tight fiscal situations and highly under-developed domestic capital markets. Indeed, multilateral institutions and development banks have the potential both to provide risk-management solutions and to leverage their high credit ratings in order to reduce the cost of borrowing for their clients, both public and private. Multilateral institutions can also intermediate syndicated loans.

Insurance-linked securities could provide extra financial coverage against extreme events

It is impossible to rule out the recurrence of pandemics or other similar catastrophes. Considering their potential impact, hedging the associated risks is, therefore, critically important. Insurance-linked securities (ILS) can offer insurance companies and governments some respite in challenging situations, by transferring a portion of these risks to investors. Below, Table 5 lists various ILS that could be used to cope with pandemic-related risks.

Table 5. **Overview of ILS that could be used to cope with pandemic-related risks**

Type of ILS	Description
Pandemic bonds	Securities whose proceeds could be used to mitigate the economic and social repercussions of the COVID-19 pandemic.
Extreme mortality bonds	Short-term securities whose payout is linked to a mortality index.
Pandemic futures and options	Exchange-traded futures, or options linked to widely followed COVID-19 metrics (e.g. case fatality rate).
Mortality swaps	Agreements to exchange one or more cash flows in the future based on the outcome of at least one (random) survivor or mortality index.
Pandemic risk pools, partly financed through the issuance of pandemic bonds	Mechanisms for the sharing of pandemic-related risks between public and private insurance companies and the government.

Source: Authors' elaboration.

Pandemic bonds are one of the kinds of ILS mechanisms that are worthy of consideration over the coming years. They are similar in structure to catastrophe bonds, and are distinct from pandemic social bonds. A prominent example of pandemic bonds is the Pandemic Emergency Financing Facility (PEF) bond that raised USD 325 million when it was issued in 2017.

Another relevant and related initiative is **risk pooling**. In this mechanism, different stakeholders contribute to a fund. The list of contributors typically includes insurance companies, and sometimes government entities. Instruments like catastrophe bonds or pandemic bonds are issued in order to generate revenues. Coupon payments are then paid on a regular basis, as long as the underlying event does not occur. One good example is the Indian insurance regulator's proposal in 2020 to create an Indian Pandemic Risk Pool. Pandemic bonds would back up this pool, and it would have a multiple-trigger mechanism in order to respond both to epidemics and pandemics.

Another ILS option is the **mortality swap**, which is an agreement to exchange one or more cash flows in the future, based on the outcome of at least one index measuring survival rates or mortality, chosen at random. Mortality swaps bear considerable similarity to reinsurance contracts, as both often involve swaps of anticipated payments for actual payments (or claims), and both may be used for similar purposes. Mortality swaps are not insurance contracts in the legal sense of the term, and therefore are not affected by some of the distinctive legal features of insurance contracts. They can typically be arranged at a lower transaction cost than a bond issuance, and can be cancelled more easily. They are also more flexible, and they can be tailor-made to suit diverse circumstances.

A further variation on this theme are **extreme mortality bonds**, which hedge against an insurer or reinsurer becoming insolvent. They work on the premise that a jump in mortality rates adversely impacts the amount and timing of the death benefits that an insurer or reinsurer would have to pay out. Extreme mortality bonds are short-term tradeable securities, with a payout structure that is explicitly linked to a mortality index. The main focus of extreme mortality bonds is pandemic outbreaks. As such, extreme mortality bonds are designed to cover the risk of mortality or the specific risk of premature death.

Finally, another option for hedging the losses that can emanate from financially costly pandemics presents itself in the form of **pandemic futures and options**. In a related field, and by way of background, the emergence of markets for weather-related derivatives (i.e. weather futures and options) is a remarkable development, because these instruments target risks that are not market risks, but which, on the contrary, are relatively uncorrelated with the fluctuations of the stock market. Pandemic derivatives could be envisaged along similar lines to exchange-traded weather derivatives, which are usually linked to widely followed measures such as temperature and rainfall. Bilateral deals traded over the counter could be tailor-made for specific pandemic-related risks.

There is scope for regional co-operation in hedging risks

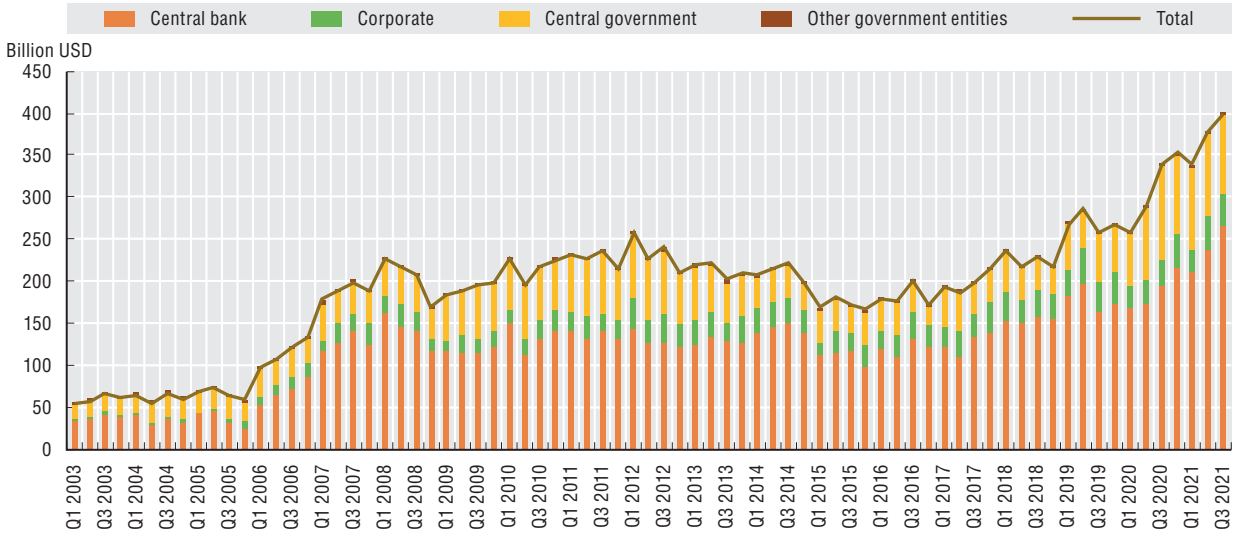
Exploring potential options further, sovereign catastrophe risk pools could provide a mechanism for Emerging Asian governments to enhance their financial preparedness against pandemic risks, by pooling risks into a single, more diversified, and less risky portfolio. Catastrophe risk pools also allow participating countries to partially retain risk through joint reserves or capital, and to transfer excess risk to the re-insurance and capital markets. Another advantageous feature of a risk pool is that profits that accrue to the pool during years with fewer disaster events can be retained within the pool, rather than being distributed to various stakeholders. Four sovereign catastrophe risk pools exist currently, including one in Southeast Asia. The four pools are the Caribbean Catastrophe Risk Insurance Facility (CCRIF), the African Risk Capacity (ARC), the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), and the Southeast Asia Disaster Risk Insurance Facility (SEADRIF).

A model could be envisaged whereby countries enter into an insurance contract with an over-arching risk-pooling facility, and pay a premium to gain access to rapid liquidity in the aftermath of a pandemic in the form of bridge financing. In order to avoid cross-subsidisation of premiums among countries, the premiums that each participating country would pay should have a basis in the level of risk that it brings to the regional risk pool. The participation of sub-national entities (i.e. municipalities) in this platform could also be considered.

Developing bond markets is essential for broadening financial options

Bond issuance in Emerging Asia has grown significantly over the past two decades. The amount of local-currency bonds issued in the member countries of ASEAN for which data are available increased to approximately USD 399 billion at the end of the third quarter of 2021, from around USD 55 billion in early 2003 (Figure 10). As the bond market has grown, issuance by governments, government-affiliated entities and corporations has also progressed.

Figure 10. **Local-currency bond issuance in selected ASEAN countries by issuer type, Q1 2003 to Q3 2021**



Note: The ASEAN total is the sum of local-currency bond issuance volumes in Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam.

Source: Authors' elaboration based on data from AsianBondsOnline (ADB, n.d.b).

StatLink https://doi.org/10.1787/888934303887

Aggregate data that depict a growing bond market do, however, mask considerable diversity across the different economies of Emerging Asia. Bond markets account for a larger share of GDP in countries with more advanced capital markets such as Malaysia and Singapore. In the third quarter of 2021, this amounted to 125.2% in Malaysia and 115% in Singapore. Bond markets are also relatively large in Thailand, at around 86% of GDP. In contrast, bond markets in Indonesia and Viet Nam remain very small, equating to less than 30% of these countries' GDP as of the third quarter of 2021.

There is scope for reducing barriers to bond market participation in Emerging Asia

At present, the goal of broadening the participation of issuers and investors in Emerging Asia's bond markets faces a range of barriers, and these differ substantially among countries. For instance, in countries whose bond markets are at an early stage of development, basic institutional and legal frameworks are still in the process of being established. In these markets, levels of investor protection, and of transparency with regard to tax processes, remain insufficient. In other countries with more advanced capital markets, there is still scope to diversify the investor base. One area for improvement in such countries is the level of liquidity in secondary markets.

Regional initiatives have played an important role in the development of Emerging Asia's bond markets

In order to enhance the development of local financial markets across the region, a number of multilateral initiatives were established in the aftermath of the Asian financial crisis of 1997-98 (Table 6). As early as September 2001, ASEAN+3 policy makers worked together with domestic credit rating agencies within the region to form the Association

of Credit Rating Agencies in Asia (ACRAA). In 2003 and 2004, meanwhile, the Executives' Meeting of East Asia-Pacific Central Banks (EMEAP)[1] established the first and second Asian Bond Funds. The aim of these funds was to support the development of regional bond markets, and to retain some of the region's foreign currency reserves in local investments. In launching the Asian Bond Market Initiative (ABMI) at the end of 2002, the ASEAN+3 countries sought to develop local-currency bond markets, and to promote regional financial co-operation and integration.

Table 6. **Key multilateral initiatives to support the development of bond markets in Emerging Asia**

Date	Description of initiative
September 2001	Establishment of the Association of Credit Rating Agencies in Asia to assist the member countries of ASEAN+3 in adopting best practices and common standards in order to improve members' rating quality, and the comparability of ratings throughout the region.
December 2002	Launch of the Asian Bond Market Initiative by ASEAN+3 countries in order to develop local-currency bond markets, to promote regional financial co-operation and integration, to strengthen financial stability, and to reduce the region's vulnerability to a sudden reversal of capital flows.
July 2003	Launch of the first Asian Bond Fund, ABF 1. This fund invested USD 1 billion in USD-denominated bonds issued by sovereign and quasi-sovereign entities in eight of the eleven EMEAP economies (excluding Australia, Japan and New Zealand).
December 2004	Launch of ABF 2, which invested USD 2 billion in local-currency denominated bonds issued by sovereign and quasi-sovereign entities in 8 of the 11 EMEAP economies (excluding Australia, Japan and New Zealand).
2008	Launch of a new medium-term roadmap under the auspices of the ABMI, focusing on activities in four areas. The first of these was to promote the issuance (supply) of local-currency bonds. The second was to facilitate demand for local-currency bonds. The roadmap's third goal was strengthening the regulatory framework. The fourth was to improve bond-market infrastructure.
May 2010	Establishment of the Asian Bond Market Forum (ABMF) as a common platform to foster a standardisation of market practices, and a harmonisation of regulations relating to cross-border bond transactions in the region.
2012	Launch of a subsequent roadmap under the auspices of the ABMI, taking further aim at the four main areas of focus in the 2008 roadmap.
2015	Establishment of the ASEAN+3 Multi-Currency Bond Issuance Framework (AMBIF), again under the auspices of the ABMI. Its aim was to create a nexus among domestic professional local-currency bond markets in the region, in order to help facilitate intra-regional transactions through a standardisation both of the issuance of bonds and notes, and of investment processes more generally.
May 2016	Launch of the ABMI's Medium-Term Roadmap 2016-18.
May 2019	Launch of the ABMI's Medium-Term Roadmap 2019-22.
May 2021	The 24th ASEAN+3 Finance Ministers' and Central Bank Governors' Meeting acknowledged the continuing progress of the ABMI under the ABMI Medium-Term Roadmap 2019-22.

Note: This list is not exhaustive.

Source: Authors' elaboration based on ADB (2017) and various national sources.

Again within the context of the ABMI, other initiatives include the establishment by ASEAN+3 of a multi-currency bond-issuance framework. The purpose of this framework is to support intra-regional transactions via standardised processes for the issuance of bonds and notes, and for investments more generally. It has achieved this by creating common market practices, by instituting a common document for submission, and by setting out transparent issuance procedures in the implementation guidelines for each participating market. In May 2021, the 24th meeting of ASEAN+3 finance ministers and central bank governors acknowledged the continuing progress of the ABMI under its medium-term roadmap for 2019-22.

Financial literacy is an important enabling factor for capital-market development

Digital and financial literacy are increasingly relevant policy areas

Given the rapid digitalisation of financial services, financial literacy has become increasingly intertwined with digital literacy over the past few years. While technology can certainly broaden the reach of financial services, it also tends to increase the scale of the risk that users need to understand and be mindful about. Moreover, as with other forms of literacy, there are notable "divides", such as between men and women, urban and rural residents, and small and large firms. This is largely due to disparities in access to digital tools, and in people's abilities to use them.

National authorities in Emerging Asia are aware of the challenges at hand, and financial literacy has been pursued vigorously in the region, with authorities gradually integrating the digital component into their frameworks. Indonesia, Malaysia, and Singapore are already implementing strategies for financial education, all of which are stand-alone projects. In Malaysia and Singapore, the frameworks have been in place since the early 2000s. The strategies to enhance digital financial literacy in Emerging Asia are generally multi-pronged, and they tend to take effect through various media platforms.

In order to make policy interventions more inclusive, it is crucial for national authorities to identify gaps by systematically collecting data, and by incorporating this information into the design and execution of their programmes.

Effective macroprudential policy can stabilise financial markets

Financial stability is a critical prerequisite for the use of market-based instruments. The global financial crisis of 2007-08 and its aftermath led to a new emphasis on macroprudential policy as a means of addressing systemic risk. Indeed, it became clear after that crisis that microprudential policy alone could not cope with system-wide financial distress. In light of adverse developments in the build-up to both the Asian and the global financial crises, authorities in Emerging Asia enacted a range of macroprudential measures to ensure the stability of the financial system as a whole, to increase banks' resilience to shocks, and to reduce the build-up of systemic risk.

Macroprudential policy must preserve financial stability in the aftermath of the COVID-19 crisis

The COVID-19 outbreak has been the first test for many countries of how changes in their macroprudential framework would perform during a severe negative shock. Monetary authorities in Emerging Asia responded differently during the COVID-19 shock compared to two other recent shocks, namely the taper tantrum and the commodity-price shock. During the first half of 2020, which corresponded to the height of the COVID-19 shock, a number of Emerging Asian countries temporarily eased some macroprudential constraints that could have impeded the provision of credit to the economy. For instance, Malaysia and India temporarily relaxed liquidity requirements, while Indonesia, Malaysia, the Philippines, Singapore and Thailand loosened other types of macroprudential measures.

The stabilisation of cross-border capital flows may gain a new dimension in the aftermath of the pandemic. The divergence in economic performance between advanced and

emerging economies in the aftermath of the COVID-19 crisis is likely to lead to an increase in the volatility of capital flows for most Emerging Asian countries. Macroprudential measures can affect the nature and volume of cross-border capital flows by influencing the composition of balance sheets in the banking system, both in terms of assets and of liabilities.

Finally, the COVID-19 crisis highlights the importance of regional and international co-operation in the area of macroprudential policy. Policy makers in Emerging Asia and around the world intervened in a relatively synchronised way to mitigate the impact of the economic fallout from the COVID-19 pandemic, by exploiting the flexibility of existing regulatory frameworks. Given the cross-border spillover effects of domestic macroprudential measures, which are potentially amplified by frictions in the banking sector, regional or international co-ordination of macroprudential policy may be all the more necessary.

Note

1. EMEAP includes central banks from the following countries: Australia, China, Hong Kong (China), Indonesia, Japan, Korea, Malaysia, New Zealand, the Philippines, Singapore and Thailand.

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Chapter 1

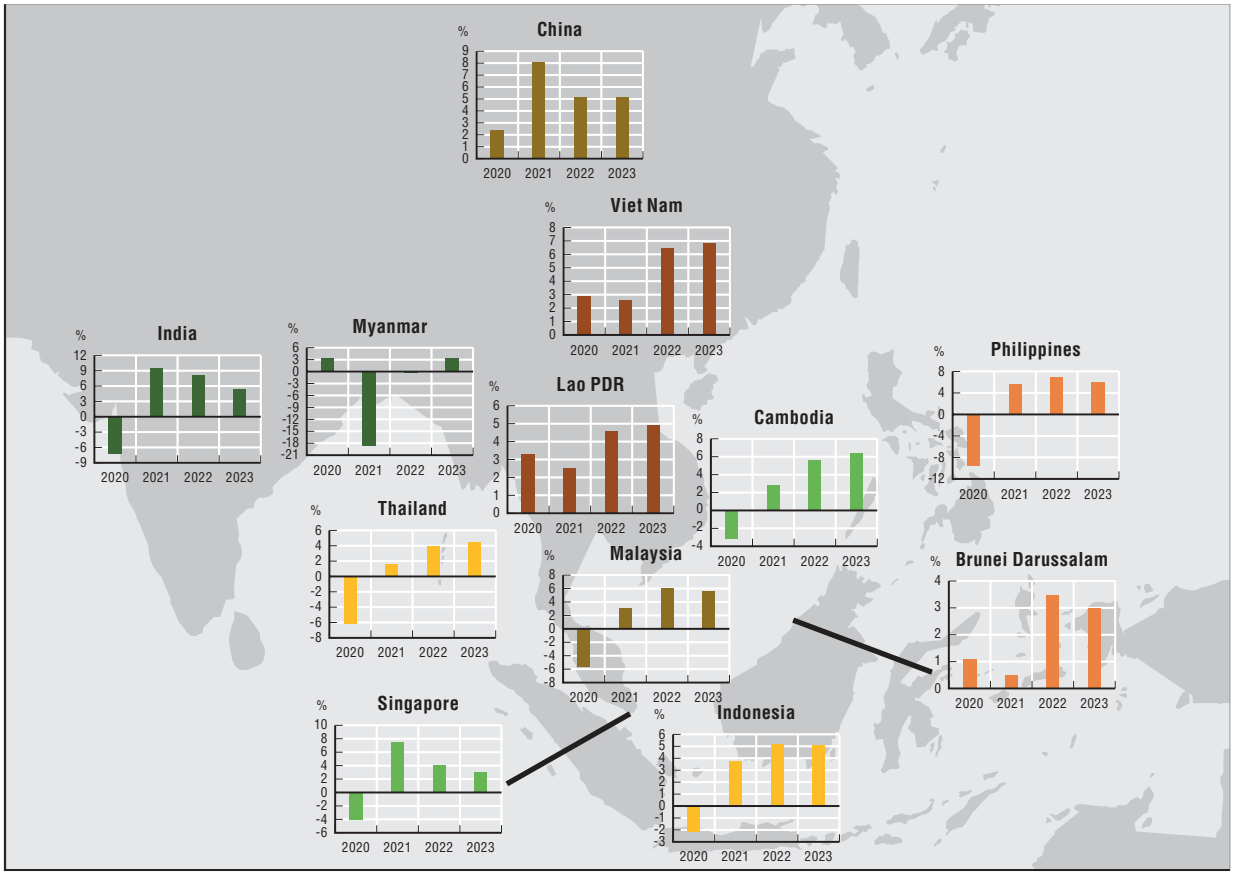
Macroeconomic assessment and economic outlook in Emerging Asia

The economic recovery that started in 2021 in Emerging Asia – ASEAN, China and India, is anticipated to continue in 2022. The chapter presents recent macroeconomic developments and provides the near-term outlook for key sectors. Financial markets were calm in 2021, but rising interest rates in advanced economies and geopolitical tensions such as the escalation of the ongoing war in Ukraine could pose a challenge in upcoming months. The pandemic had an impact on the banking sector, as evidenced by declining profitability and bank lending in a number of countries. In parallel, international trade continued to provide key support, but response to the Omicron variant could disrupt supply chains and weigh on growth. Headline inflation increased in a sustained way, in particular in the second quarter of 2021, amid rising energy prices. Monetary policy remains accommodative in most countries in response to subdued or fragile recoveries. Fiscal stimulus continued, but the impact on public finances is anticipated to be more moderate than in 2020.

Introduction

Following the historic decline in economic activity recorded in the first half of 2020, and the subsequent rebound that occurred in the second half of 2020, the countries of Emerging Asia faced another setback in the second and third quarters of 2021, as another wave of the COVID-19 pandemic prompted a new round of containment measures. Still, the recovery that started in 2021 is anticipated to continue in 2022, though great uncertainty remains (Figure 1.1).

Figure 1.1. **Growth in real GDP in Southeast Asia, China and India: Comparison between growth rates for 2021, 2022 and 2023 (%)**



Note: Data are as of 7 March 2022. Data for India and Myanmar relate to fiscal years. The 2021 actual figures for China, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam are based on national sources. The 2022 and 2023 projections for China, Indonesia, and India, as well as the 2021 projections for India, are based on the *OECD Economic Outlook No. 110*.

Source: OECD Development Centre and OECD (2021a).

StatLink https://doi.org/10.1787/888934303906

Financial markets were generally calm in 2021. Looking ahead, however, rising policy rates in advanced economies and the war in Ukraine could both pose challenges in the upcoming months. It is worthy of note, meanwhile, that the pandemic has had a negative impact on the banking sector, as evidenced by declining level of profitability and bank lending in a number of countries in the region. In parallel, international trade continued to provide vital support for Emerging Asian economies, although supply-chain disruptions affecting key sectors such as raw materials and semiconductors could restrict economic growth in some

countries. Moreover, the pandemic inflicted lasting damage to labour markets. In addition, there was a sustained increase in headline inflation, particularly in the second quarter of 2021. This reflects not just rising commodity prices, but also the comparison with a low base a year earlier. Meanwhile, monetary policy remains accommodative in most countries in Emerging Asia. Fiscal stimulus continued in 2021, with Malaysia, the Philippines, Singapore and Thailand unveiling new support packages. However, the impact on public finances is anticipated to be more moderate than it was in 2020. Looking ahead, growth prospects in the near term will largely be determined by the way countries respond to the various risks.

Overview and main findings

Countries in Emerging Asia faced persistent waves of cases from the Delta variant of COVID-19, whose duration and severity was even worse than in 2020. However, the restrictions were less disruptive in 2021 thanks to their being more targeted. Differences in economic outlooks among Emerging Asian countries have become even more relevant, with the management of the pandemic differing starkly among countries. While a number of countries have embarked on mass vaccination programmes using a variety of vaccines, attaining herd immunity is likely to be a very slow process in some countries due to constraints in the supply of vaccines, logistical issues, and vaccine hesitancy. Looking ahead, Emerging Asian economies are projected to increase by 5.8% on average in 2022, and to expand by 5.2% in 2023. Furthermore, ASEAN's average real GDP growth is forecast to be 5.2% in 2022, and 5.2% in 2023. Output growth in 2022 in ASEAN will range from -0.3% in Myanmar to 7.0% in the Philippines (Table 1.1).

Table 1.1. **Real GDP growth in ASEAN, China and India, 2020-23**

Percentage

	2020	2021	2022	2023
ASEAN-5				
Indonesia	-2.1	3.7	5.2	5.1
Malaysia	-5.7	3.1	6.0	5.5
Philippines	-9.6	5.6	7.0	6.1
Thailand	-6.2	1.6	3.8	4.4
Viet Nam	2.9	2.6	6.5	6.9
Brunei Darussalam and Singapore				
Brunei Darussalam	1.1	0.5	3.5	3.0
Singapore	-4.1	7.6	4.0	3.0
CLM countries				
Cambodia	-3.2	2.8	5.6	6.3
Lao PDR	3.3	2.5	4.6	4.9
Myanmar	3.2	-18.6	-0.3	3.3
China and India				
China	2.4	8.1	5.1	5.1
India	-7.3	9.4	8.1	5.5
Average of ASEAN-10	**-3.2**	**3.0**	**5.2**	**5.2**
Average of Emerging Asia	**-0.8**	**7.4**	**5.8**	**5.2**

Note: Data are as of 7 March 2022. Data for India and Myanmar relate to fiscal years. The 2021 actual figures for China, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam are based on national sources. The 2022 and 2023 projections for China, Indonesia, and India, as well as the 2021 projections for India, are based on the *OECD Economic Outlook No. 110*.

Source: OECD Development Centre and OECD (2021a).

ASEAN-5

- **Indonesia** is experiencing steady economic recovery, supported mainly by international trade. Real GDP growth is expected to reach 5.2% in 2022, before expanding by another 5.1% in 2023. In terms of supporting Indonesia's suppressed domestic demand, fiscal stimulus is expected to do the heavy lifting, with the 2022 budget aiming to improve welfare for the lower-income fringes of the population. In addition, it is anticipated that the gradual easing of travel restrictions will lead to a recovery in the tourism sector, which is an important part of the country's economy. On the downside, however, the economic recovery remains subject to a very high degree of uncertainty due to the continued spread of the Omicron variant.
- **Malaysia** was confronted with a sharp rise in COVID-19 cases in 2021, with repeated outbreaks between February and October, and a peak in August. Real output is projected to expand at an annual rate of 6% in 2022, and 5.5% in 2023. The outlook is exposed to downside risks, with the fast-spreading Omicron variant and an intensifying degree of disruption to supply chains expected to slow the recovery in the near term. On the other hand, the negative effects of containment measures on growth should be tempered by sustained fiscal support and recovering global demand. In addition, Malaysia's 2022 budget, which includes a record spending package, is expected to improve consumer sentiment, and to support domestic demand. Services exports are expected to benefit from the gradual recovery in tourist flows, after the launch of a vaccinated travel lane with a number of countries.
- In the **Philippines**, renewed outbreaks of COVID-19 in the autumn of 2021, followed by record-high case counts due to the Omicron variant in early 2022, have prompted new rounds of restrictions, albeit more localised in nature. The outlook is for robust growth in 2022 (+7%), while output growth is likely to remain strong in 2023 (+6.1%). A faster implementation of investment projects in infrastructure, and the recovery in cash remittances by overseas Filipino workers constitute upside risks to the forecast, although pandemic-related uncertainties amid relatively low vaccination rates and still-elevated infections due to the Omicron variant continue to tilt the risk balance to the downside. Inflation has also picked up, and even exceeded the upper limit of the tolerance band during the second half of 2021. This reflects a combination of a low comparison base from a year earlier, as well as rising energy prices.
- **Thailand** was also affected by a new wave of COVID-19 cases in the second half of 2021, with Omicron-fuelled cases surging in early 2022. Real GDP is forecast to grow by 3.8% in 2022, before accelerating to 4.4% in 2023. The continued fiscal support that the Thai government provided in 2021 will likely ease pandemic-related pressures on domestic demand. In addition, a quarantine-free reopening of borders to visitors from certain countries will support efforts to restart Thailand's key tourism sector. On the other hand, risks to the outlook include persistent bottlenecks in supply chains. Exports are also likely to be less dynamic due to supply-chain disruptions.
- In **Viet Nam**, surging COVID-19 cases with a record-high number recorded in February 2022 constitute a headwind to economic growth, in addition to lingering supply-chain disruptions. Real GDP is expected to expand by 6.5% in 2022, and then to edge 6.9% higher in 2023. Still, the balance of risks remains tilted mainly to the downside. The Vietnamese labour market is likely to require more time before it will

be able to leave the pandemic-induced crisis fully behind it. A marked deterioration in employment in the third quarter of 2021, when Viet Nam's unemployment rate surged to multi-year highs (3.6% in September), is expected to weaken household demand in the short term.

Brunei Darussalam and Singapore

- **Brunei Darussalam** recorded weak growth for most of 2021, amid the continued spread of COVID-19 and the re-imposition of containment measures, which dragged on private consumption and investment. Net exports also contributed negatively to growth in the first three quarters of 2021, as buoyant import growth outpaced a rise in exports. Real GDP is set to grow by 3.5% in 2022, and further increase by 3% in 2023. Still, volatile commodity prices and the uncertain medium- to long-term outlook for fossil fuels continue to cloud the outlook for exports. On the upside, the economy should continue to benefit from government policies aimed at intensifying activities outside of the oil and gas sector.
- In **Singapore**, a sharp rise in COVID-19 cases in the second half of 2021, followed by another significant surge due to Omicron, has prompted the authorities to unwind the country's remaining restrictions at a slower pace than had initially been foreseen. Since the most recent restrictions have tended to be more targeted, however, economic growth in Singapore is set to reach 4% in 2022, after a historic plunge in 2020 and a strong recovery in 2021. Subsequently, output growth is expected to settle at 3% in 2023. The risks to the outlook are broadly balanced. On the downside, persistent supply bottlenecks could hamper exports. On the upside, the reopening of international borders to travellers from certain countries under the "Vaccinated Travel Lane" framework should buttress services exports. In addition, Singapore's high vaccination rate reduces its domestic pandemic-related risks to a certain extent.

Cambodia, Lao PDR and Myanmar

- In **Cambodia**, a severe resurgence of the COVID-19 pandemic began in the second quarter of 2021, with repeated localised spikes occurring until November. Moreover, case counts have also been on the rise in recent weeks, fuelled by the Omicron variant. Output growth is anticipated to come in at 5.6% in 2022 and 6.3% in 2023. Yet the balance of risks to this outlook appears to be slightly tilted to the downside due to the importance of foreign tourism, a sector in which uncertainty remains high despite the easing of restrictions on people arriving from certain international destinations. Furthermore, the rapid rise in credit to the non-financial corporate sector, and the concentration of domestic credit in the construction and real-estate sectors, risk undermining financial stability. On the upside, Cambodia's high vaccination rate should alleviate the burden on the healthcare system. Moreover, the agricultural sector is expected to remain resilient, while exports of garments should benefit from the ongoing economic recovery of trading partners.
- In **Lao PDR**, rising COVID-19 cases prompted a tightening of containment measures throughout 2021 and early 2022. Moreover, the risks to the economic forecast for the country are mostly tilted to the downside. Although the Omicron wave appears to

be on a declining path, a comparatively lower rate of vaccination coverage in Lao PDR than in other countries in the region means that domestic risks related to the pandemic remain relatively high. On the upside, exports of goods are expected to be a bright spot in the economy, supported by increasing demand in neighbouring countries, and the launch of a high-speed railway between China and Lao PDR. Overall, real GDP growth for 2022 is forecast at 4.6%. In 2023, growth is anticipated to accelerate to 4.9%.

- In **Myanmar**, political unrest that began in February 2021, and which coincided with the sharp rise in COVID-19 cases, has derailed the recovery. Output growth is forecast to reach -0.3% in 2022 and 3.3% in 2023, after moving deeply into negative territory in 2021 (–18.6%). This outlook is subject to downside risks related to the impact of the political turmoil on consumption and investment, and also to the relatively low vaccination rate in Myanmar compared to neighbouring countries. Another factor tilting the balance of risks to the downside is the persistent depreciation of the domestic currency, the Myanmar kyat, which has lost nearly 34% of its value since February 2021.

China and India

- In **China**, the pandemic remained largely under control in 2021, even as other countries in Emerging Asia struggled with record increases in cases. This notwithstanding, localised outbreaks led to the reinstatement of restrictions in parts of China, as the highly-contagious Omicron variant continued to spread. Economic momentum in the country has subsequently weakened. In particular, it has been burdened by sluggish private consumption and the ongoing turmoil in the property sector, which has resulted from the financial distress of Evergrande Group and several other property developers. A rising debt burden represents an additional vulnerability. On the upside, however, exports reached record highs in 2021, and they are anticipated to remain buoyant in the near term. Moreover, authorities still have the fiscal headroom to respond to economic headwinds. Real GDP growth is still projected to reach 5.1% in 2022 and 2023.
- In **India**, the period from April to June 2021 saw a steep contraction in activity on the back of a severe COVID-19 wave. Then, after a steady fall in case counts in late 2021, caseloads rose to multi-month highs in early January 2022, fuelled by the Omicron variant. Overall, real GDP is projected to grow by 8.1% in 2022, and by 5.5% in 2023. Still, the evolution of the pandemic remains a significant downside risk to the outlook. The deterioration of the situation on the fiscal front is worrisome, with public debt now stabilising at the high level of 90% of GDP. In addition, the financial sector is constrained by non-performing assets, with the gross non-performing assets ratio standing at 6.9% in September 2021. On the upside, budget measures for the 2022 fiscal year, including higher infrastructure spending, could support the post-pandemic recovery.

Other key points regarding the economic outlook and assessment for Emerging Asia

- Developments on financial markets were broadly benign in 2021, but the war in Ukraine amplified stock market volatility in early 2022. After falling sharply in the first quarter of 2020, stock-market capitalisation recovered quickly, exceeding pre-pandemic levels in

most countries in Emerging Asia. As for bond markets, the increase in nominal interest rates in the United States in the first quarter of 2021 was temporary, and its effects on Emerging Asian government-bond yields were limited. These favourable developments notwithstanding, the risk of a correction in global stock prices remains high. Indeed, the war in Ukraine may trigger higher financial market volatility. In addition, a rise in policy rates in the United States and other advanced economies could quickly lead to capital outflows from Emerging Asia.

- The pandemic affected banking sectors in Emerging Asia. Indeed, profitability levels in the banking sector deteriorated between the first quarter of 2019 and the second quarter of 2021 in several countries, although non-performing loan ratios remained mostly stable during the same period. In the first half of 2021, growth in bank lending turned negative in some countries, while deposit growth also fell back to more moderate levels. On a more upbeat note, however, stability in the banking sector remained relatively robust, with capital adequacy ratios above 15% in most countries.
- Another way in which recent economic turmoil has affected Emerging Asian economies is via the tightening of global credit conditions, resulting in a slowdown or even a temporary reversal of capital inflows into the region. According to balance of payments data, other investment flows have been more affected than foreign direct investment or portfolio flows since the beginning of the pandemic, mostly due to smaller inflows to the banking sector. With the stabilisation of global financial markets and easing liquidity pressures, from the fourth quarter of 2020 banks in some countries again started to rebuild their stocks of foreign assets.
- International trade continues to provide important support for economic growth in Emerging Asia. Indeed, robust global demand for goods has driven a strong trade performance in the region, in particular for manufactured goods, chemicals and transportation equipment. However, supply disruptions affecting key sectors such as semiconductors could weigh on growth in some countries. The underlying cause for these bottlenecks is a level of demand that has been running well ahead of supply, reflecting key structural shifts on the demand side. These demand pressures have been compounded by production disruptions due to localised outbreaks of COVID-19, and to labour shortages stemming from restrictions on the mobility of migrant workers. In light of the Omicron variant, and as case counts remain elevated across Asia's production and shipping hubs, the risk of extended dislocations to the balance of supply and demand around the globe will remain high. The war in Ukraine also risks triggering further supply-chain bottlenecks.
- Headline inflation increased sharply in the second quarter of 2021, mostly reflecting rising commodity prices, but also the effects of a low comparison from a year earlier. Prices of natural gas, oil and coal have reached multi-year highs, while prices of agricultural commodities and metals have also surged. Several inflation-targeting countries in Emerging Asia have seen headline inflation exceed the upper limit of their tolerance bands. Another factor contributing to headline inflation in Emerging Asian economies is the pass-through from currency depreciation. Looking ahead, oil prices are projected to remain elevated amid rising demand, lower levels of inventories, and the war in Ukraine.

- The pandemic has inflicted lasting damage on labour markets in Emerging Asia. This deterioration has been particularly acute in the Philippines and Viet Nam. Sectors of the economy that are especially cyclical, and indeed those that rely on face-to-face interactions, have endured the gravest job losses since the onset of the COVID-19 crisis. The widespread use of job-retention schemes has helped countries to contain the deterioration of labour markets, although this damage has still been substantial.
- Monetary policy remains accommodative in most countries. Against the background of still-elevated numbers of COVID-19 cases from the Omicron variant, monetary policy makers are holding rates steady until economic prospects improve durably. In light of the aggressive easing of monetary policy that has taken place, real interest rates have fallen in many countries. Looking ahead, monetary policy is expected to remain accommodative as inflationary pressures are broadly under control. While central banks in Emerging Asia still have some cause to ease monetary policy themselves, however, they are wary of the potential knock-on effects of policy decisions by the US Federal Reserve, such as a tapering of asset purchases or the policy rate hike, which could put pressure on capital flows in the region.
- Following on from supportive measures in the first months of the pandemic, fiscal support continued into 2021 amid renewed COVID-19 outbreaks, with Malaysia, the Philippines, Singapore and Thailand rolling out additional fiscal stimulus throughout the year. Now, as economies recover, fiscal deficits are forecast to narrow marginally in 2022. Still, the debt-to-GDP ratios of most Emerging Asian countries are expected to continue rising in 2022, although at a much slower pace than in 2020. Although governments need to restore some fiscal flexibility, a strong complementarity between fiscal and monetary policies will remain essential. Calls from across society for measures to address longer-term challenges such as climate change will also lead to continued demands on government spending.
- Given that the Omicron wave of the pandemic is likely to remain a significant factor in the first quarter of 2022, the effectiveness of healthcare responses and vaccination programmes will have a strong role to play in determining economic developments. Furthermore, coping with inflation risks is also crucial. The trend of headline inflation is pointing upwards in some Emerging Asian economies, clouding the outlook for economic growth and social stability. In addition, the brisk rebound in global demand in the second half of 2020 corroborated with persistent localised pandemic-related disruptions have affected several key industries, including the production of raw materials and semiconductors. These supply chain disruptions have the potential to reverberate through Emerging Asian economies and weigh on economic growth in the near term.
- Political stability in Myanmar is important for the growth prospect of the country and the region.

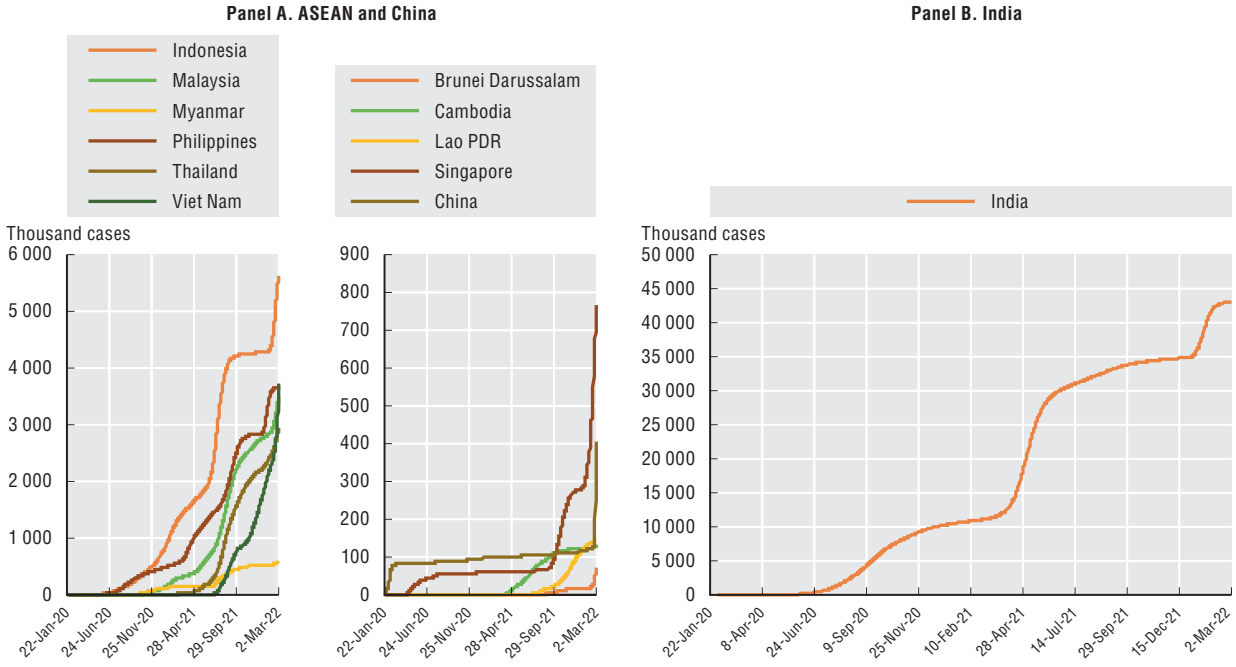
Recent developments and near-term outlook

Emerging Asia's headwinds in 2021 stem largely from the renewed lockdown measures that many countries imposed in order to manage the Delta variant. Infections rose considerably in 2021, putting renewed pressure on health systems. This was particularly the case in India,

Indonesia, the Philippines, Malaysia, Singapore, Thailand and Viet Nam (Figure 1.2). Brunei Darussalam and the CLM countries (Cambodia, Lao PDR and Myanmar) managed to keep cases very low in 2020, but were confronted with sharp surges starting from the second quarter of 2021. Vaccination campaigns, which began in early 2021 in most Emerging Asian countries, promise an eventual decline in the severity of COVID-19 cases. Indeed, while the emergence of the highly contagious Omicron variant led to a sharp rise in infections in early 2022, particularly in India, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam, hospitalisation and fatality rates were relatively more manageable than the rates recorded from late 2020 to early 2021.

Figure 1.2. **Cumulative confirmed cases of COVID-19 in Emerging Asia, January 2020 to March 2022**

Thousand cases



Note: Data as of 3 March 2022.

Source: Johns Hopkins University & Medicine (n.d.).

StatLink https://doi.org/10.1787/888934303925

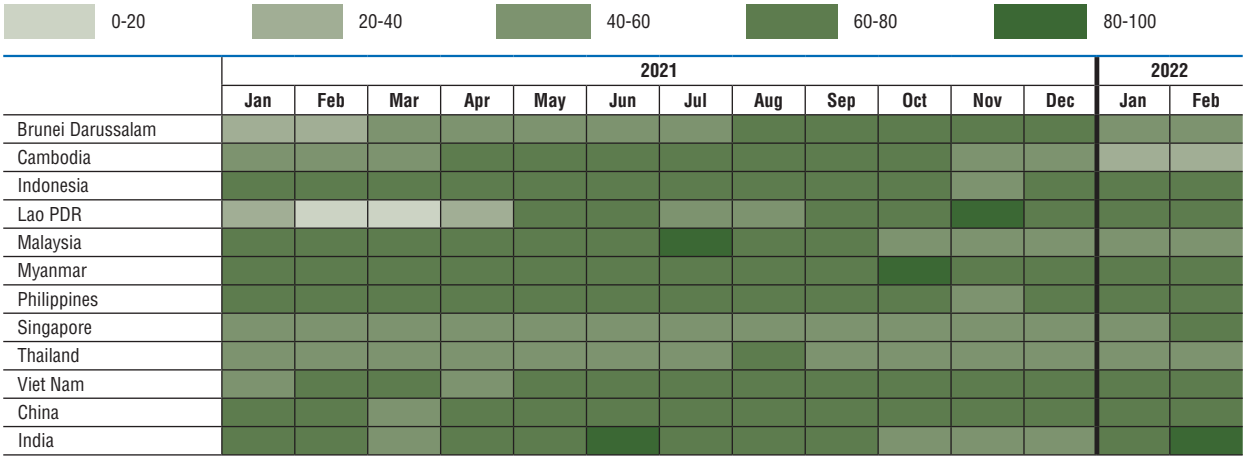
Renewed outbreaks of COVID-19 prompted authorities in several Emerging Asian countries to tighten restrictions, in particular during the third quarter of 2021. These included measures such as curfews, the partial closure of stores and factories in non-essential sectors, limits on travelling between provinces, and renewed calls to switch to remote working wherever possible. As vaccination coverage improves, however, there is an increasing shift in policy towards greater tolerance of COVID-19.

Even as more economies move to a policy of living with COVID-19 without major restrictions, the intensity of countries' responses to the pandemic in recent months has varied considerably across Emerging Asia. Some economies have imposed tight restrictions in response to fresh outbreaks. Countries that have taken this approach include China,

India, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore and Viet Nam. Meanwhile, other countries, namely Brunei Darussalam, Cambodia and Thailand, have implemented lighter mobility restrictions in response to outbreaks (Table 1.2). In India and Singapore, which have contended with sharp surges in cases fuelled by the Omicron variant, data for February 2022 point to a tightening of restrictions compared to the previous month. However, reassured by lower hospitalisation rates from Omicron, no country in Emerging Asia has returned to a full-scale lockdown.

Table 1.2. **Stringency of COVID-19-related restrictions in Emerging Asian economies, January 2021 to February 2022**

Stringency index on a scale of 0-100



Note: The data are as of 24 February 2022. Monthly values of the index represent the average of daily values for the respective month. An index between 0 and 20 denotes the lowest level of stringency. Meanwhile, an index between 80 and 100 corresponds to the highest level of stringency, which could include full-scale lockdowns.

Source: Authors' elaboration based on Oxford COVID-19 Government Response Tracker.

Against a backdrop of new outbreaks of COVID-19, weaker-than-anticipated growth momentum has coincided with surprisingly high inflation over recent months, denting optimism for economic recovery in Emerging Asia. However, the contraction in economic activity in 2021 was far milder than in the first half of the previous year. After relatively broad-based declines in the first quarter, most economies rebounded strongly in the second quarter. Annual growth rates above 10% were recorded in the second quarter in Malaysia (16.1%), Singapore (15.8%), and the Philippines (12.0%). Nevertheless, strong base effects are at play in all of these countries, in that the comparison from 2020 reflects the turmoil of the early months of the pandemic. Growth figures for the third quarter of 2021 paint a more contrasted picture. The high stringency of COVID-19-related restrictions during the summer months caused several economies in Emerging Asia to plunge back into negative territory, while other countries experienced a deceleration in their annual growth rates (Table 1.3). The contraction in third-quarter output was most pronounced in Viet Nam (-6.0%) and Malaysia (-4.5%). Finally, most Emerging Asian countries posted solid growth rates in the three months to 31 December, ranging from 1.9% in Thailand to 7.7% in the Philippines.

Table 1.3. **Quarterly real GDP growth in ASEAN, China and India, Q1 2020 to Q4 2021**

Year-on-year percentage changes

	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021
ASEAN-5								
Indonesia	3.0	-5.3	-3.5	-2.2	-0.7	7.1	3.5	5.0
Malaysia	0.7	-17.2	-2.7	-3.5	-0.5	16.1	-4.5	3.6
Philippines	-0.7	-16.7	-11.6	-8.3	-3.9	12.0	6.9	7.7
Thailand	-2.2	-12.3	-6.4	-4.2	-2.4	7.7	-0.2	1.9
Viet Nam					4.7	6.7	-6.0	5.2
Brunei Darussalam and Singapore								
Brunei Darussalam	2.3	3.5	0.4	-1.4	-0.8	-2.1	-2.2	
Singapore	1.2	-12.2	-4.6	-0.9	2.0	15.8	7.5	6.2
CLM countries								
Myanmar	-0.3	-2.8	-7.3	-8.5	-0.7	-0.7		
China and India								
China	-6.9	3.1	4.8	6.4	18.3	7.9	4.9	4.0
India	-23.8	-6.6	0.7	2.5	20.3	8.5	5.4	

Note: Data as of 7 March 2022. Data for Q4 2021 were unavailable for Brunei Darussalam. Data for the period running from Q3 2021 to Q4 2021 were unavailable for Myanmar. Data for Q4 2021 were unavailable for India. Data for India and Myanmar relate to fiscal years ending in March. Quarterly data for Cambodia and Lao PDR were unavailable. The measurement method of real GDP growth for Viet Nam was changed as of Q1 2021.

Source: Authors' calculations based on data from CEIC Data and national sources.

The most immediate threat to the near-term growth outlook in Emerging Asia remains the COVID-19 pandemic, with Omicron-fuelled case counts reaching record-high levels in several countries. The public health situation is nevertheless expected to improve gradually over the course of 2022 as vaccination rates increase, and as societies adapt to new protocols. However, there remains a downside scenario, in which vaccine-resistant virus mutations emerge, prolonging the crisis and requiring the implementation of new containment measures. Further risks to the recovery stem from longer-than-expected supply chain disruptions and higher-than-expected inflation. Furthermore, the war in Ukraine may also push up inflation.

In addition, authorities in Emerging Asia will need to cope with the lasting structural changes that the pandemic has brought about. There is broad consensus in the economic literature that the COVID-19 pandemic will, through the interplay of various transmission channels, have a lasting impact on economic factors such as potential output and economic resilience. Important structural economic changes that are expected to persist include the expansion of digital workplaces, e-commerce, and FinTech services. The increased use of digital financial services is expected to affect how and where economic agents consume, produce, and sell goods and services. For instance, Chinese consumers have increasingly turned to e-commerce and focused on neighbourhood shops and small-format stores, even as the pandemic outbreak subsided (Guthrie, Fosso-Wamba and Arnaud, 2021). In product markets, structural changes have also occurred that will affect potential output once the pandemic has subsided. These include changes in the overall composition of different sectors of the economy. The recovery in economic activity is expected to differ from sector to sector in the near term, altering the composition of overall economic activity. Recreational services are set to bear the brunt of the pandemic in the near term in Emerging Asia. According to the latest forecasts by the United Nations World Tourism Organization (UNWTO), international arrivals to the Asia-Pacific region are expected to return to pre-pandemic levels only in 2024 or later (UNWTO, 2022).

The highly contagious Omicron variant of COVID-19 emerged during a period of economic recovery in Emerging Asia, with stretched supply chains, elevated inflation, and rising inequality. However, high-frequency data indicate that Omicron has so far had a temporary and muted impact on regional economies. On the other hand, pressure on supply chains is likely to remain elevated in the first half of 2022. This will particularly be the case if China's zero-COVID policy leads to additional disruptions around the country's major production and shipping hubs in response to cases of Omicron in these areas. Moreover, such bottlenecks could have broader implications on production chains in other Emerging Asian countries. Indeed, a slowdown of the Chinese economy could also have a significant impact on its trading partners across Emerging Asia. The war in Ukraine could have implications for the region's economies as a result of higher energy and food prices, and higher volatility on financial markets. Furthermore, trade and foreign direct investment may also be affected, albeit to a lower degree.

ASEAN-5

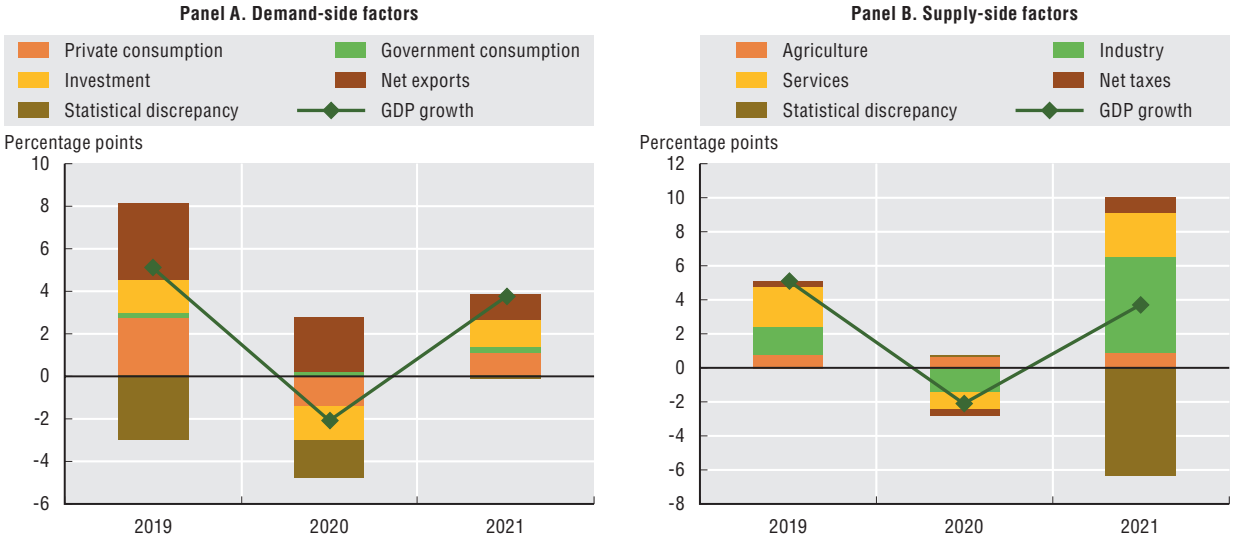
Indonesia

Economic activity in Indonesia moderated in the third quarter of 2021, after the government reintroduced restrictions to curb the transmission of the Delta variant. But as daily cases fell from their peak in mid-July 2021, the government announced a partial easing of restrictions in shopping malls, restaurants and places of worship in some parts of the country. In January 2022, the number of cases started to rise again due to the fast-spreading Omicron variant, and it remained high throughout February. However, restrictions on mobility have been lighter than for previous flare-ups of the pandemic. Real GDP increased by 7.1% in the second quarter of 2021, on strong base effects, marking Indonesia's first spell of positive year-on-year growth since the first quarter of 2020. The emergency measures and travel restrictions put in place in July impacted growth in the third quarter of 2021, in which real GDP growth slowed to 3.5% in annual terms. Growth in real GDP reached 3.7% in 2021 on an annual basis. The recovery in 2021 was mostly driven by strong net exports and investment growth, although other demand-side components also provided support (Figure 1.3, Panel A). On the supply-side, growth recovered in all sectors, led by industry, while services also recovered in part, supported by the partial resumption of tourism-related activities (Figure 1.3, Panel B).

High-frequency indicators suggest that the expansion of economic activity has continued in recent months, despite slowing slightly in some areas (Table 1.4). Vehicle sales rebounded strongly in 2021, and remained robust in early 2022, mainly due to the effect of a low basis of comparison from a year earlier. Export activity was also solid throughout 2021. Overall, Indonesia's cumulative trade surplus for the entire year was USD 35.3 billion, an increase of nearly 64% in annual terms. Meanwhile, merchandise exports increased by 41.9% compared to 2020, driven by the general upward trend in commodity prices since June 2020. The main export items in 2021 were iron and steel, oil and gas, and machinery and electrical equipment. Despite a slight rebound in November as international borders reopened for certain categories of tourists, tourism flows have remained subdued, and are still far below their pre-pandemic levels. In order to allow a resumption of tourism activity, authorities announced in October 2021 that restrictions on international travel to the island of Bali would be eased for nationals of 18 countries. However, the emergence of the Omicron variant has slowed the pace of foreign arrivals.

Figure 1.3. **Contribution to GDP growth in Indonesia, 2019-21**

Percentage



Source: Authors' calculations based on data from CEIC and national sources.

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Table 1.4. **Evolution of selected high-frequency indicators for Indonesia, January 2020 to January 2022**

Year-on-year change (%)

Indicator	2020												2021												2022
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Passenger car sales (units)																									
Merchandise exports (USD million)																									
Merchandise imports (USD million)																									
Visitor arrivals																									
Cargo loaded at main ports (tons)																									
Total bank loans (IDR billion)																									

Note: Data are as of 24 February 2022. Data on visitor arrivals and total bank loans were unavailable for January 2022. Data on cargo loaded at main ports were unavailable for December 2021 to January 2022. The colour coding for each indicator should be interpreted as follows: dark red indicates a decline of more than 50%, light red indicates a decline equal to or below 50%, light green indicates an increase of less than or equal to 50%, and dark green indicates an increase of more than 50%. USD stands for United States dollar and IDR stands for Indonesian rupiah.

Source: Authors' elaboration based on data from CEIC and national sources.

Indonesia's GDP is expected to grow at a rate of 5.2% in 2022, followed by an expansion of 5.1% in 2023. Indeed, economic activity is expected to gradually improve, provided that the impact of the Omicron variant on the healthcare system remains contained. A gradual improvement in household consumption, which accounts for nearly 60% of GDP, is expected to drive growth in 2022. Fiscal stimulus is expected to do the heavy lifting in supporting Indonesia's suppressed domestic demand. Total spending in the 2022 budget was approved

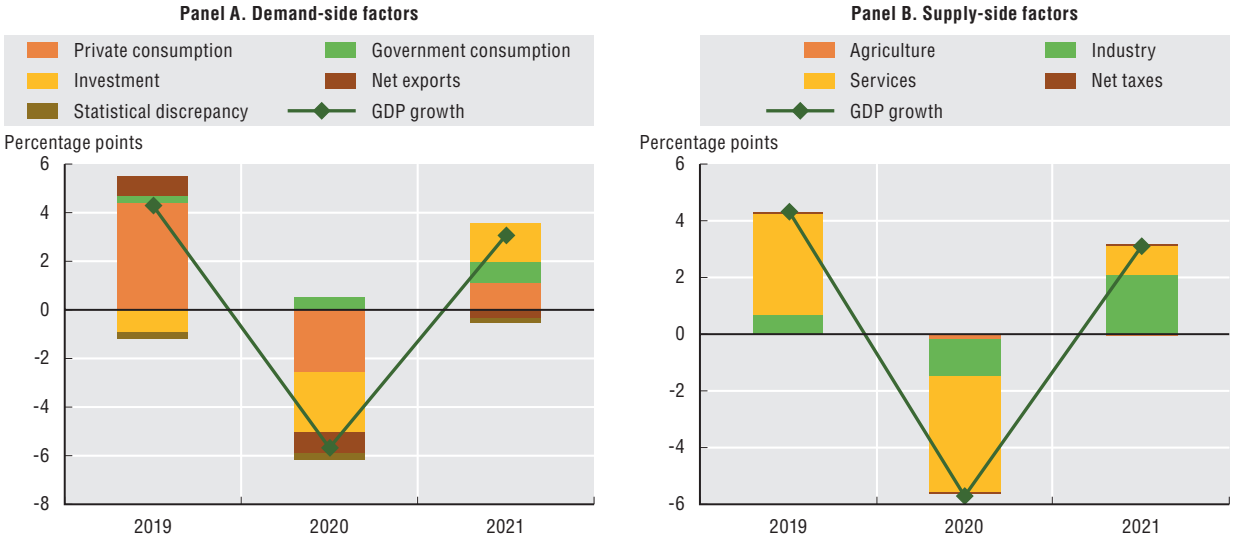
at around USD 190.4 billion, which is 0.6% higher than estimated spending in 2021. The 2022 budget is aimed at safeguarding welfare for the lower-income fringes of the Indonesian population, and to support the resilience of business sectors and small and medium-sized enterprises (Cabinet Secretariat of the Republic of Indonesia, 2021). On the downside, the room for monetary manoeuvre has narrowed. The resumption of activities in the tourism sector also remains subject to very high uncertainty, as Omicron-related cases are expected to remain at high levels in the first quarter of 2022.

Malaysia

In Malaysia, a severe resurgence of COVID-19 cases peaked in August 2021. Authorities implemented new and very strict restrictions in geographical areas that host the core of the country's economic activities, including certain districts of Kuala Lumpur and large parts of the state of Selangor. Manufacturing activity shrank considerably in the second quarter of the year, as firms were confronted with severe shortages of products and workers. In order to limit the economic impact of these measures, the government authorised the resumption of activity in certain economic sectors, such as electrical and electronic industries, aeronautics, and sectors related to food and health, as of mid-August. Output grew by 16.1% in the second quarter of 2021 in annual terms, following a 0.5% contraction in the prior quarter. In the third quarter of 2021, real GDP dropped again, by 4.5%, held back by a high degree of uncertainty and by containment measures in response to the pandemic. Overall, Malaysia's real GDP rebounded by 3.1% in 2021. In 2021, the economy benefited from strong investment, although net exports made a slightly negative contribution, due to an intensification of supply-chain disruptions during the second and third quarters of the year (Figure 1.4, Panel A). On the supply side, industrial production contributed the most to economic growth in 2021 (Figure 1.4, Panel B). But despite this progress in 2021, the first cases involving the Omicron variant were reported in Malaysia in mid-December, and case counts reached record highs as of February 2022.

Figure 1.4. **Contribution to GDP growth in Malaysia, 2019-21**

Percentage



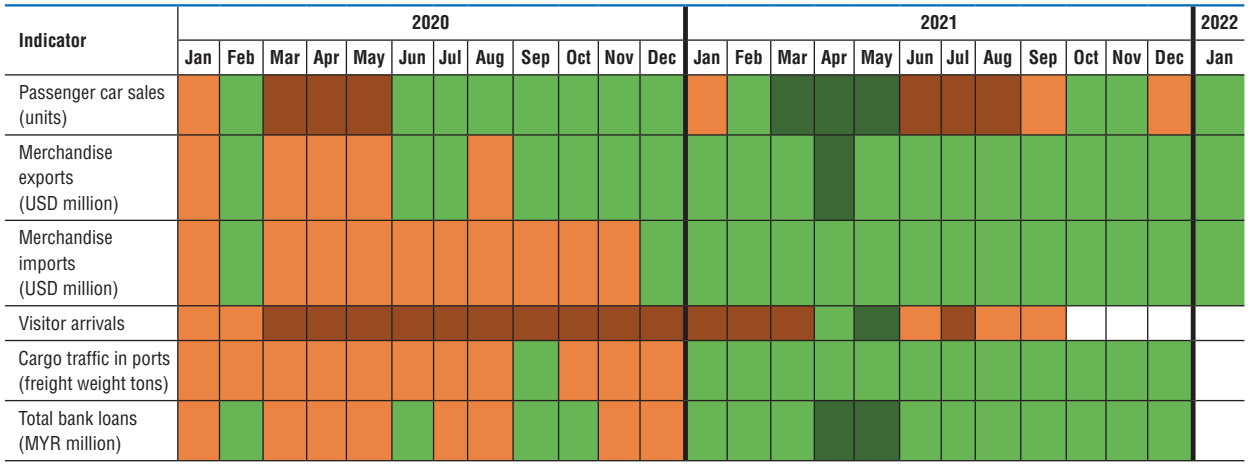
Source: Authors' calculations based on data from CEIC and national sources.

StatLink https://doi.org/10.1787/888934303963

Over the past year, the continuous succession of periods of lockdown restrictions followed by a resumption of economic activity has resulted in a rather mixed picture from selected high-frequency indicators (Table 1.5). As most retail points were ordered to close, passenger car sales were particularly affected in 2021, falling by 6.8% from 2020. On the other hand, all components of foreign trade posted solid performances in 2021, and this continued into 2022. Total goods exports rose by 26% in annual terms in 2021, while imports progressed by 23.3%. The expansion in exports was driven mostly by petroleum products and the manufacturing of metals and electrical and electronic goods, while the rise in imports came mainly from products such as crude oil and chemical products. Cargo traffic in ports also increased, mirroring the rise in foreign trade. On the other hand, visitor arrivals remain at low levels. Plans by the Malaysian government to reopen international borders in November to fully vaccinated tourists from Singapore, followed by an extension to other countries as of early January 2022, have been revised in the context of the Omicron variant (Shukry, 2021).

Table 1.5. **Evolution of selected high-frequency indicators for Malaysia, January 2020 to January 2022**

Year-on-year change (%)



Note: Data are as of 24 February 2022. Data on visitor arrivals for October 2021 to January 2022 were unavailable. Data on cargo traffic in ports and total bank loans were unavailable for January 2022. The colour coding for each indicator should be interpreted as follows: dark red indicates a decline of more than 50%, light red indicates a decline equal to or below 50%, light green indicates an increase of less than or equal to 50%, and dark green indicates an increase of more than 50%. MYR stands for Malaysian ringgit.

Source: Authors' elaboration based on data from CEIC and national sources.

In full-year terms, GDP growth in Malaysia is forecast to reach 6% in 2022, and 5.5% in 2023. Still, growth will largely depend on the country's ability to contain the pandemic amid the emergence of the Omicron variant. While the resurgence of COVID-19 cases, and the potential re-imposition of nationwide containment measures, are expected to weigh on growth in 2022, several factors should mitigate their impact. These include continued government support for businesses in essential economic sectors, a higher degree of adaptability to remote work, and higher levels of automation and digitalisation. In addition, the 2022 budget unveiled on 29 October 2021 included a record spending package worth 332.5 billion Malaysian ringgit (MYR), or USD 80.1 billion. The allocation to the country's COVID-19 Fund was set at MYR 23 billion (USD 5.5 billion), with the bulk of this outlay earmarked for cash payments and social assistance (Ministry of Finance of Indonesia, 2021).

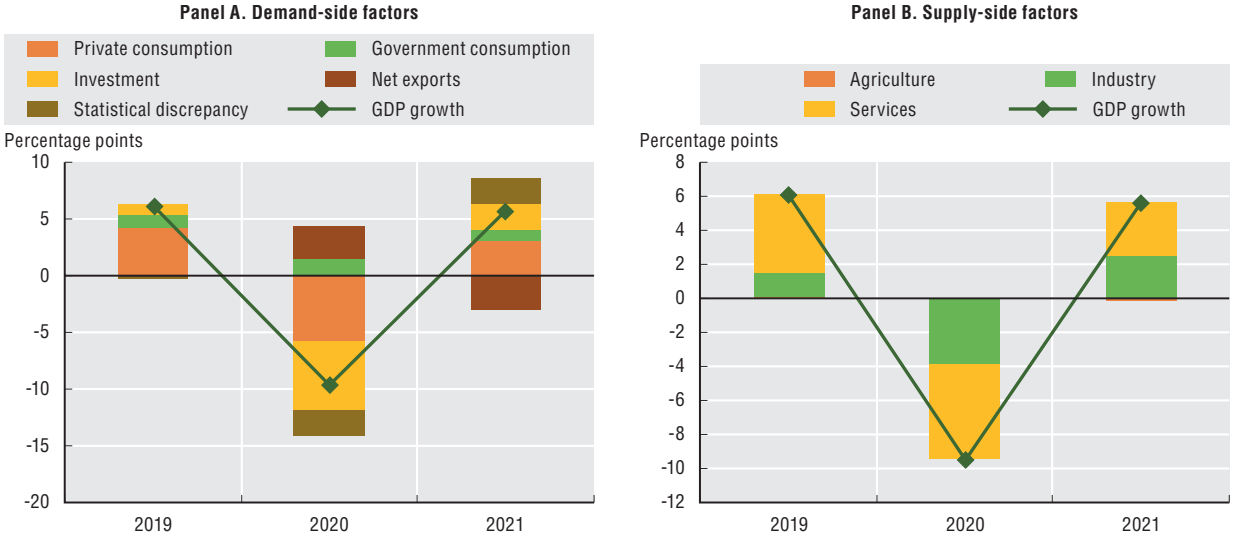
Meanwhile, the gradual implementation of spending plans outlined in Malaysia's five-year plan for 2021-2025 will also support growth in the near term. Among other goals, the plan is expected to improve living standards, in particular for the lower-income fringes of the Malaysian population (Economic Planning Unit, 2021).

Philippines

The economy of the Philippines remained under the grip of the pandemic in 2021. The number of new daily COVID-19 cases reached record levels in August and September, prompting authorities to reinstate lockdowns in the Metro Manila region, as well as in a number of other cities and provinces. The Omicron variant fuelled a record spike in the number of cases in mid-January 2022, although reports seem to point to lower pressure on hospitals compared to previous outbreaks. Following a contraction of 3.9% in the first quarter of 2021, real GDP posted year-on-year growth of 12% in the second quarter, ending five quarters of negative growth since the first three months of 2020. This double-digit growth in the second quarter of 2021 was mainly the result of a strong base effect, as GDP had contracted by 17.0% in the second quarter of 2020. In the third quarter of 2021, output growth in the Philippines registered 6.9% in annual terms. Moreover, the country's real GDP inched 5.6% higher overall in 2021. Pent-up private consumption and considerable increases in investment drove the economic rebound in 2021, although supply-chain bottlenecks weighed on net exports (Figure 1.5, Panel A). On the supply side, the services sector made the largest contribution to growth (Figure 1.5, Panel B). Healthcare services expanded by 15% in annual terms, while information and communication services, which grew by 9.1%, also made a significant contribution to overall services growth in the Philippines.

Figure 1.5. **Contribution to GDP growth in the Philippines, 2019-21**

Percentage



Source: Authors' calculations, based on data from CEIC and national sources.

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Below, Table 1.6 illustrates the development of several high-frequency indicators in year-on-year terms. Domestic demand was weak in recent months. Sales of discretionary goods, such as passenger vehicles, fell by 20.7% in annual terms in January 2022, as mobility restrictions triggered by the Omicron variant suppressed domestic demand. Foreign trade was lacklustre, with the overall trade balance down by nearly 76% year-on-year in 2021. Moreover, manufacturing activity fell sharply in August and September 2021, as the rise in COVID-19 cases from the Delta-variant wave resulted in strict containment measures in the capital region and other parts of the Philippines. After several months of continuous expansion, the purchasing managers' index (PMI) for manufacturing fell to 47.5 in August, and then to 46.7 in September, as many factories and businesses were forced to halt their activity. The latest data point to a recovery in manufacturing in the three months to 31 December 2021, with the PMI crossing above the threshold of 50-index points, at 53.8. The PMI for services also returned to expansionary territory in late 2021, with the latest reading for December standing at 53.3. In addition, remittances by overseas Filipino workers increased in 2021, supported by the economic recovery around the world. Cash remittances edged 13.5% higher year-on-year in May, on large base effects from the low figures from 2020, and continued to post solid growth in the second half of 2021 (Box 1.1).

Table 1.6. **Evolution of selected high-frequency indicators for the Philippines, January 2020 to January 2022**

Year-on-year change (%)

Indicator	2020												2021												2022
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Passenger car sales																									
Merchandise exports (USD million)																									
Merchandise imports (USD million)																									
Visitor arrivals																									
Total bank loans (PHP billion)																									
Manufacturing PMI																									
Services PMI																									

Note: Data are as of 24 February 2022. Data on merchandise exports, merchandise imports, total bank loans, manufacturing PMI, and services PMI, were unavailable for January 2022. Data on visitor arrivals for July 2021 to January 2022 were also unavailable. The colour coding for each indicator should be interpreted as follows: dark red indicates a decline of more than 50%, light red indicates a decline equal to or below 50%, light green indicates an increase of less than or equal to 50%, and dark green indicates an increase of more than 50%. For the PMI for manufacturing and services, the colour coding is: dark red indicates a PMI value below 30, light red indicates a PMI value between 31 and 49, light green indicates a PMI value between 50 and 55, and dark green indicates a PMI value above 55. PHP stands for Philippine peso.

Source: Authors' elaboration, based on data from CEIC and national sources.

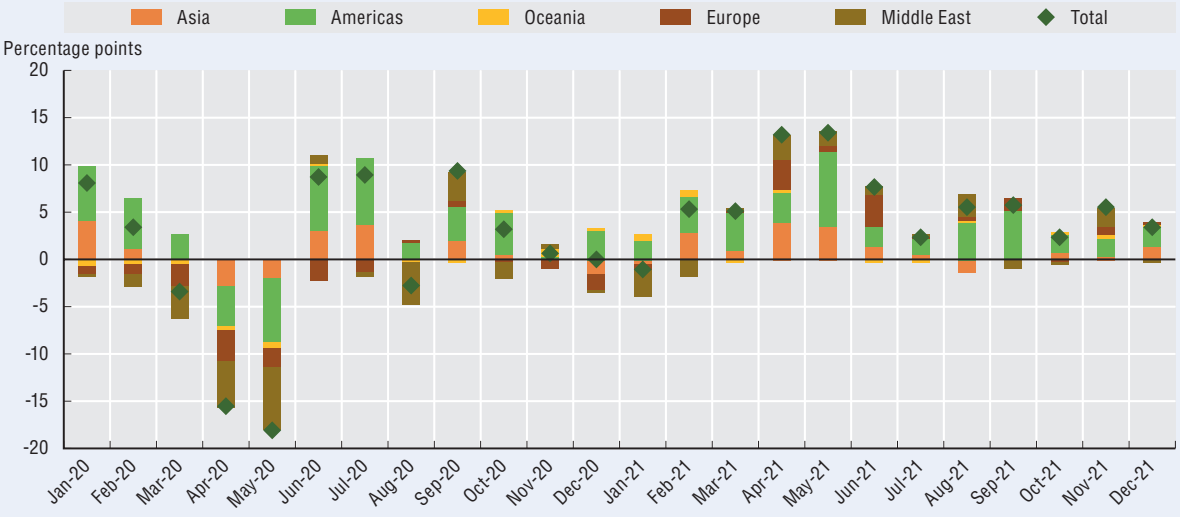
Box 1.1. **Cash remittances by overseas Filipino workers rebounded strongly in 2021**

Cash remittances by overseas Filipino workers exceeded their pre-pandemic levels in the second half of 2021. In annual terms, total cash remittances in 2021 were 5.1% higher compared to 2020. The rebound was strongest in April (+13.2%) and May 2021 (+13.5%), with large base effects at play. The latest reading, for December, points to annual growth of around 3.5% (Figure 1.6). The largest contribution to the growth in remittances in December came from the Americas and Asian countries, while the Middle East made a negative contribution to the year-on-year growth figures.

Box 1.1. **Cash remittances by overseas Filipino workers rebounded strongly in 2021** *(cont.)*

According to data published by the Philippine central bank, personal remittances by overseas Filipino workers reached an all-time high of USD 34.9 billion for the full year of 2021. The sustained growth in personal remittances during 2021 was mainly due to remittances by land-based workers with work contracts of one year or more, which rose by 5.6% in annual terms. In parallel, remittances by sea- and land-based workers with work contracts of less than one year grew by 2.9%. In terms of host countries, cash remittances from the United States accounted for the largest share of overall remittances for the full-year 2021 (at 40.5%), followed by Singapore, Saudi Arabia, Japan, the United Kingdom, the United Arab Emirates, Canada, Chinese Taipei, Qatar and Korea (BSP, 2022). Nevertheless, the outlook for remittances remains subject to a high degree of uncertainty in the near term, as certain types of restrictions could be re-instated in workers' host countries, depending on the evolution of the pandemic.

Figure 1.6. **Contribution to growth in cash remittances by overseas Filipino workers by host area, January 2020 to December 2021**



Note: Data as of 24 February 2022.

Source: Authors' calculations based on data from CEIC and national sources.

StatLink https://doi.org/10.1787/888934304001

The Philippines is expected to record solid economic growth of 7% in 2022, followed by an expansion of 6.1% in 2023. Public infrastructure spending is projected to contribute significantly to this growth. The 2022 National Expenditure Program amounts to around 5.1 trillion Philippine pesos (PHP), which is the equivalent of 22.8% of GDP. Infrastructure spending is expected to benefit from PHP 1.18 trillion of the total allocation, equivalent to 5.3% of GDP (Department of Budget and Management, 2021). The uptick in remittances by overseas Filipino workers is also expected to boost domestic spending. On the downside, however, the evolution of the situation on the health front remains subject to a very high degree of uncertainty. A new round of COVID-19-related restrictions amid the emergence of the Omicron variant, which were in place throughout most of December 2021 and January 2022, could reverse the recovery in the unemployment rate, which fell to 6.5% in November 2021 from a

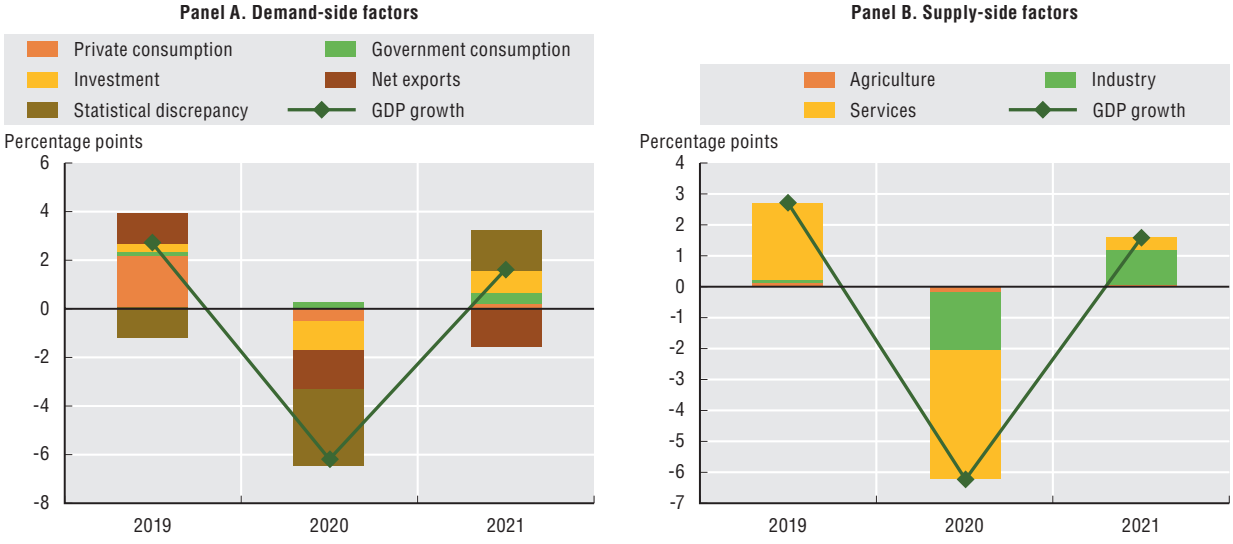
peak of 17.6% in the second quarter of 2020. Restrictions could also reverse the improvement in the poverty incidence rate, which fell to 16.7% in 2018, from 26.3% in 2009, amid rapid economic growth. In addition, inflation has also picked up, with headline inflation exceeding the upper limit of the tolerance band for most of the period from March to November 2021.

Thailand

In Thailand, COVID-19 cases increased sharply during the third quarter of 2021, before slowing down by the start of fall. The government reinstated a series of restrictions in Bangkok and some other provinces. In early January 2022, Thai authorities raised the country's alert level amid rising case counts driven by the spread of the highly contagious Omicron variant. In the second quarter of 2021, Thailand's economy posted positive year-on-year growth of 7.7% for the first time since the fourth quarter of 2019, though base effects cannot be ignored in light of 2020. The growth trend was reversed in the third quarter, when Thailand's real GDP edged 0.2% lower. Overall, real GDP grew by 1.6% in 2021. Output growth for full-year 2021 was mainly driven by private investment, while private consumption and government consumption also made modest positive contributions (Figure 1.7, Panel A). In parallel, the balance of trade contributed negatively to growth in 2021, with supply-chain disruptions coinciding with a strong increase in domestic demand, which boosted imports. On the supply side, growth was largely supported by industrial production, while the contribution from the services sector was also positive (Figure 1.7, Panel B).

Figure 1.7. **Contribution to GDP growth in Thailand, 2019-21**

Percentage points



Note: The calculations are based on chain-linked volume measure series.

Source: Authors' calculations based on data from CEIC and national sources.

StatLink https://doi.org/10.1787/888934304020

High-frequency indicators for Thailand paint a relatively mixed picture in 2021 (Table 1.7). Bottlenecks in global supply chains had a negative impact on the local automotive industry. Indeed, sales of passenger cars declined year-on-year each month between June and

December, as restrictions to curb the spread of the pandemic dented sales of non-essential goods. Meanwhile, and despite a strong rebound that began in late-2021 and continued into January 2022, visitor arrivals to Thailand continue to remain at very low levels. Foreign trade activity was weak, with the growth in merchandise exports more than offset by the increase in imports. Total exports of goods in 2021 grew by 17.1% in annual terms, while imports of merchandise were 29.8% higher year-on-year.

Table 1.7. **Evolution of selected high-frequency indicators for Thailand, January 2020 to January 2022**

Year-on-year change (%)

Indicator	2020												2021												2022
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Passenger car sales																									
Merchandise exports (USD million)																									
Merchandise imports (USD million)																									
Visitor arrivals																									
Cargo volume handled at ports (metric tons)																									
Total bank loans (THB million)																									

Note: Data are as of 24 February 2022. Data on passenger car sales, merchandise exports, merchandise imports, and total bank loans, were unavailable for January 2022. Moreover, data on visitor arrivals for April to September 2021 were unavailable. Data on the volume of cargo handled at ports from October 2021 to January 2022 were unavailable. The colour coding for each indicator should be interpreted as follows: dark red indicates a decline of more than 50%, light red indicates a decline equal to or below 50%, light green indicates an increase of less than or equal to 50%, and dark green indicates an increase of more than 50%. Data on visitor arrivals were unavailable for the period from April to September 2021. THB stands for Thai baht.

Source: Authors' elaboration based on data from CEIC and national sources.

Following a recovery in 2021, Thailand's real GDP is expected to rise by 3.8% in 2022, and to expand by a further 4.4% in 2023. Although the new round of restrictions announced to curb the transmission of the Omicron variant was less strict than the measures that were implemented in early 2020, it nevertheless constituted a setback for economic activity in early 2022. Export growth is likely to be less dynamic if supply-side bottlenecks persist into 2022. On the upside, the continued fiscal support outlined in the 2021 budget, as well as the stimulus packages rolled out in January and July 2021, are likely to ease pandemic-related pressures on domestic demand in the near term. In addition, the quarantine-free reopening of borders to vaccinated visitors from 45 countries (TAT, 2021), which resumed in early 2022 after being temporarily halted due to the Omicron variant, will provide support to the critically important tourism sector.

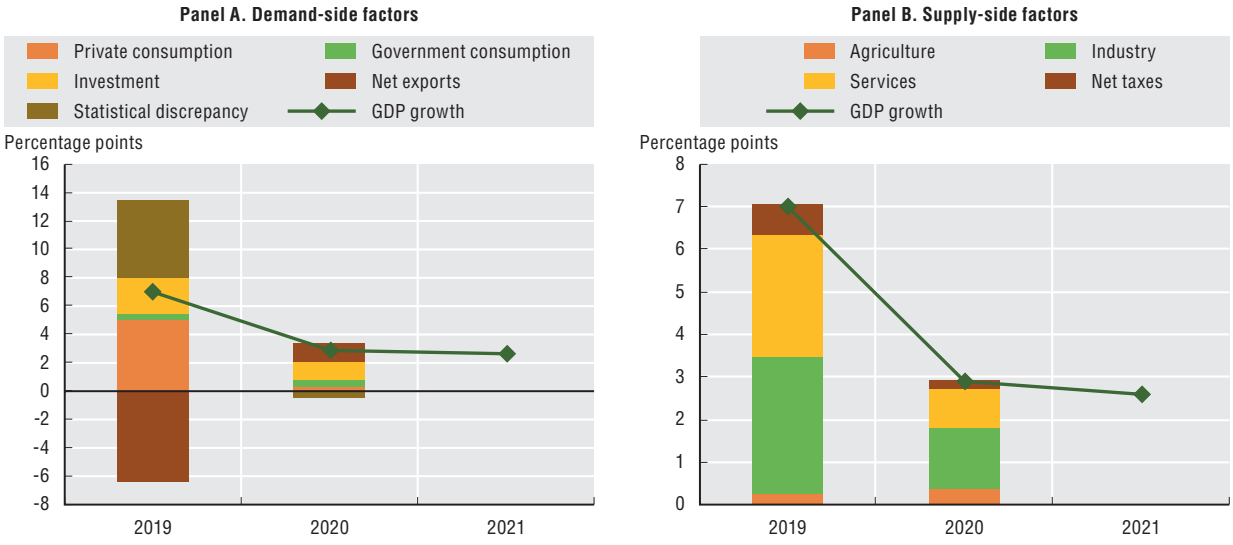
Viet Nam

As for Viet Nam, it is one of a few economies in Asia that avoided a recession in 2020 due to a relatively successful containment of the pandemic, which allowed businesses to resume their normal operations. As of May 2021, however, Viet Nam began to experience its largest COVID-19 outbreak since the beginning of the health crisis, with new daily cases

peaking at the beginning of September. Strict containment measures were implemented in Ho Chi Minh City, where many cases emerged. Restrictions included banning most travel in and out of the city, suspending most public transport, and requiring residents to remain at home except when purchasing essential goods or responding to exceptional circumstances. The first cases of community transmission of the Omicron variant in Viet Nam were reported in mid-January 2022, leading to another surge. This reached record highs as of late February. Real GDP increased by 5.2% in the final quarter of 2021, after declining by 6% in the three months to 30 September. Over the full year of 2021, the economy grew by 2.6% (Figure 1.8).

Figure 1.8. **Contribution to GDP growth in Viet Nam, 2019-21**

Percentage points



Note: Data on demand- and supply-side factors were unavailable for 2021.

Source: Authors' calculation based on data from CEIC and national sources.

StatLink https://doi.org/10.1787/888934304039

Several high-frequency indicators point to a rather mixed macroeconomic picture in recent months (Table 1.8). Viet Nam recorded a total trade surplus of USD 5.1 billion in 2021, contrasting with the USD 19.9 billion surplus that it achieved in 2020. Moreover, year-on-year growth of imports (+25.9%) more than outpaced growth in total exports of merchandise (+18.8%) in 2021, as businesses increased their imports of raw materials in order to resume production after the lifting of containment measures. These trends have continued into early 2022. Meanwhile, retail sales also dropped through most of 2021, with passenger car sales for the full year down by 5.7% in annual terms, as rising unemployment dented consumer sentiment. In addition, unemployment in Viet Nam soared to multi-year highs in the third quarter of 2021, reaching 3.98%. Furthermore, supply-side bottlenecks have made themselves felt in the decline in total freight carried in Hanoi, which was 10.3% lower in 2021 compared to 2020. Pandemic-related restrictions have also had implications for the tourism sector, with visitor arrivals still 99% below their pre-pandemic levels, despite a modest rebound in January 2022.

Table 1.8. **Evolution of selected high-frequency indicators for Viet Nam, January 2020 to January 2022**

Year-on-year change (%)

Indicator	2020												2021												2022
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Passenger car sales																									
Merchandise exports (USD million)																									
Merchandise imports (USD million)																									
Visitor arrivals																									
Total freight carried in Hanoi (tons)																									
Total bank loans (VND billion)																									

Note: Data are as of 24 February 2022. Data on passenger car sales and total bank loans were unavailable for January 2022. The colour coding for each indicator should be interpreted as follows: dark red indicates a decline of more than 50%, light red indicates a decline equal to or below 50%, light green indicates an increase of less than or equal to 50%, and dark green indicates an increase of more than 50%. Visitor arrival data are year-to-date. VND stands for Vietnamese dong.

Source: Authors' elaboration based on data from CEIC and national sources.

Against this background, real GDP growth is forecast to reach 6.5% in 2022, and 6.9% in 2023. However, the growth outlook is highly uncertain, and it will be shaped both by the evolution of the pandemic, and by the need for further containment measures in response to the fast-spreading Omicron variant, which led to record-high case counts as of late February 2022. Another downside risk is that of further supply chain disruptions, which could jeopardise the recovery in both domestic consumption and foreign trade. A further escalation of the war in Ukraine could put upward pressure on prices for agricultural products, which in turn could jeopardise the recovery in domestic consumption. On the other hand, some strengths inherent to the Vietnamese economy constitute bright spots. The bulk of the country's manufacturing output is destined for overseas markets, with goods exports equivalent to an average of 78% of GDP over the past five years. As a result, the country's exports stand to benefit from the ongoing robust recovery in the United States and other major advanced economies.

Brunei Darussalam and Singapore

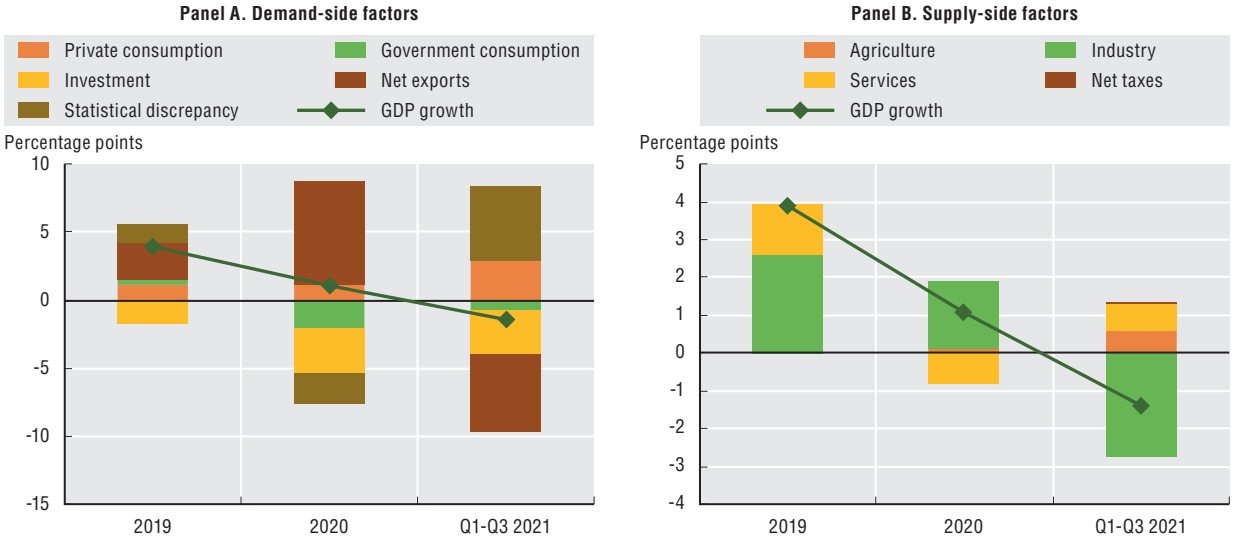
Brunei Darussalam

Economic activity in Brunei Darussalam recorded large swings over the first half of 2021. The country experienced a severe resurgence of the pandemic, which peaked around mid-October. In February 2022, meanwhile, the highly transmissible Omicron variant fuelled record-high numbers of cases after first being reported in the country in December. In 2021, the fallout from the resurgence of the pandemic was apparent in the second quarter, when GDP fell by 2.1%, and the third quarter, when it dropped by 2.2%. Overall, the contraction in the first three quarters of 2021 was largely driven by falling net exports (Figure 1.9, Panel A) and industrial production (Figure 1.9, Panel B). In addition, Brunei Darussalam's cumulated trade balance during the first nine months of 2021 was 7.6% lower in annual terms compared to the same period in 2020. The rise in imports during this period (+71.2%) largely outpaced that of exports (+46.5%), driven by imports of goods

to feed various construction projects in the petrochemicals industry. On the supply side, total industrial production during the first three quarters of 2021 dropped by 4.4% from the similar period the previous year. The items that fell most sharply in the industrial sector were construction activities (-8.3%), the manufacture of liquefied gas and methanol (-6.7%), and oil and gas mining (-3.8%). On the other hand, agricultural production soared by 46.8% in annual terms in the first three quarters of 2021, supported by authorities' plans to develop livestock, poultry and fisheries.

Figure 1.9. **Contribution to GDP growth in Brunei Darussalam, 2019-21**

Percentage points



Source: Authors' calculations based on data from CEIC and national sources.

StatLink https://doi.org/10.1787/888934304058

Real GDP growth in Brunei Darussalam is expected to come in at 3.5% in 2022. For 2023, an expansion in output of 3% is forecast. The near-term outlook for the beginning of 2022 is clouded by the rise in COVID-19 cases after the emergence of Omicron, and the restrictive measures that were put in place to curb its spread. The oil and gas industry is the main contributor to Brunei Darussalam's growth, with a 48% share of the country's GDP in 2020 (Petroleum Authority of Brunei Darussalam, 2021). Exports of refined fuels and foreign direct investment into refinery activities in the country are expected to be the main drivers of growth in 2022. Despite rising oil revenues, moreover, government expenditure will be constrained by the country's large fiscal deficit. On the upside, the economy is set to benefit from government measures to intensify activities in the non-oil and gas sector, including in agriculture and services (Ministry of Finance and Economy, 2020).

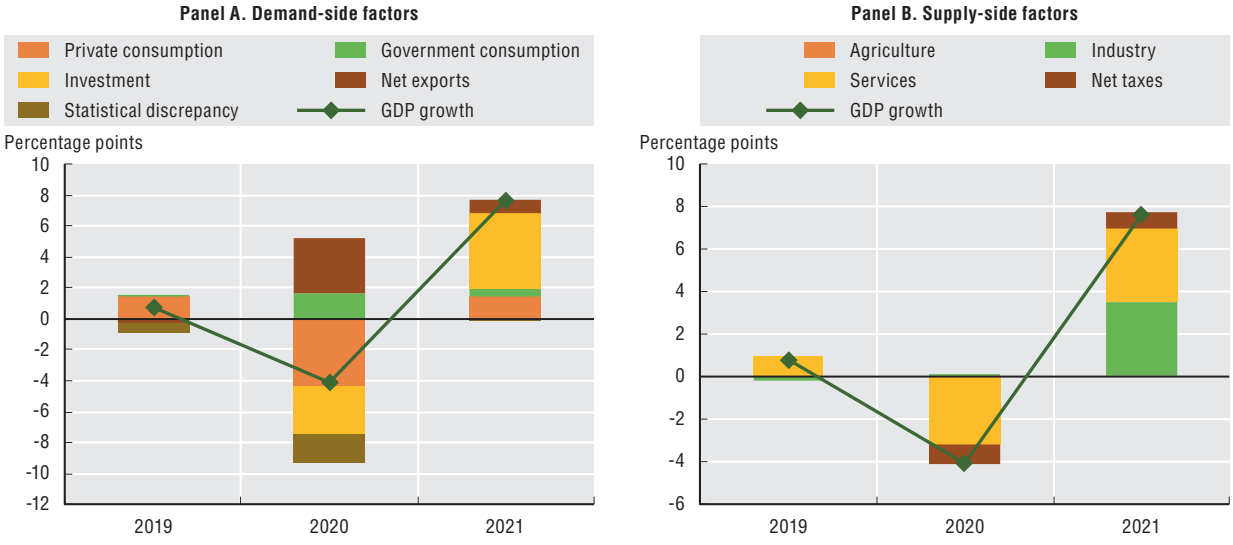
Singapore

From July 2021, Singapore was confronted with rising COVID-19 caseloads, and the surge was particularly acute during the months of October and November. More recently, a rise in the number of Omicron cases, which began in early 2022 and reached record highs in February, prompted Singaporean authorities to halt the easing of restrictions. However, the

management of cases is likely to become more streamlined as time goes by, as Singaporean authorities have signalled their intention to treat COVID-19 as an endemic disease. Although various restrictive measures were in place throughout most of the third quarter of 2021, their impact was rather contained, with real GDP coming in 7.5% higher year-on-year in that quarter. This followed growth of 15.8% in the second quarter of 2021, which partly reflected base effects, and growth of 2% in the first quarter. Overall in 2021, Singapore's real GDP rebounded by a robust 7.6%. Output growth over the year was mainly driven by investment and domestic consumption, while net exports also posted a positive contribution to GDP growth (Figure 1.10, Panel A). On the supply side, industrial production provided the largest contribution to growth, reflecting sustained external demand for pharmaceutical products and precision engineering. The services sector also posted a solid performance (Figure 1.10, Panel B), driven by information and communication, and by financial services.

Figure 1.10. **Contribution to GDP growth in Singapore, 2019-21**

Percentage points



Source: Authors' calculations based on data from CEIC and national sources.

StatLink https://doi.org/10.1787/888934304077

High-frequency indicators point to improvements on various fronts in late 2021, which continued into January 2022 (Table 1.9). Retail sales for full-year 2021 increased by 9.7% compared to 2020. Meanwhile, external demand has also remained strong in recent months. Singapore's total trade surplus in 2021 was 9.7% higher than in the same period in 2020. Exports of chemical products, in particular, edged 20.3% higher year-on-year in 2021. Another sector that benefitted from strong external demand is the manufacturing of electronic products. In this sector, exports for the full year of 2021 grew by 16.3% compared to 2020. Furthermore, numbers of visitors arriving in the country have benefited in recent months from the launch of the "Vaccinated Travel Lane" framework, which allows fully vaccinated travellers from several countries to enter Singapore without quarantining. After a temporary retightening in December 2021 due to Omicron, Singaporean authorities announced their intention in early January 2022 to "restore quarantine-free travel with more countries and regions as allowed for by the public health assessment" (Park, 2022). On the other hand, the

volume of sea cargo handled in Singapore fell each month in annual terms between August and October, before falling again in December. These declines reflected ongoing supply-chain bottlenecks in Southeast Asia. Port congestion rates increased in late 2021, with 53 vessels reported as waiting off the coast of Singapore, resulting in a backlog that was 22% above normal (Varley, 2021). The situation improved slightly in early 2022.

Table 1.9. **Evolution of selected high-frequency indicators for Singapore, January 2020 to January 2022**

Year-on-year change (%)

Indicator	2020												2021												2022
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Retail sales (excluding motor vehicles)																									
Merchandise exports (USD million)																									
Merchandise imports (USD million)																									
Visitor arrivals																									
Sea cargo handled (tons)																									

Note: Data are as of 24 February 2022. Data on retail sales were unavailable for January 2022. The colour coding for each indicator should be interpreted as follows: dark red indicates a decline of more than 50%, light red indicates a decline equal to or below 50%, light green indicates an increase of less than or equal to 50%, and dark green indicates an increase of more than 50%.

Source: Authors' elaboration based on data from CEIC and national sources.

Following the sharpest economic recession in decades, and a strong rebound in 2021, Singapore's economy is expected to edge 4% higher in 2022, on the back of a large fiscal expansion. The projection for 2023 is for the economy to grow by 3%. The government has stepped up its support for employment, unveiling subsidies of up to 25% of wages in the sectors that have been most affected by COVID-19 restrictions (Inland Revenue Authority, 2021). The financial sector has also demonstrated resilience during the crisis, and it is expected to benefit further from the launch of digital banking operations, after Singapore became the first country in Southeast Asia to issue digital banking licenses in 2020. The implementation of travel agreements that would allow tourists from a number of countries to visit Singapore under certain conditions is another upside factor for growth. Considering both the slower easing of remaining restrictions due to Omicron and the ongoing disruption to supply chains, the recovery path nevertheless remains highly uncertain, particularly in travel-related and consumer-facing sectors.

Cambodia, Lao PDR and Myanmar

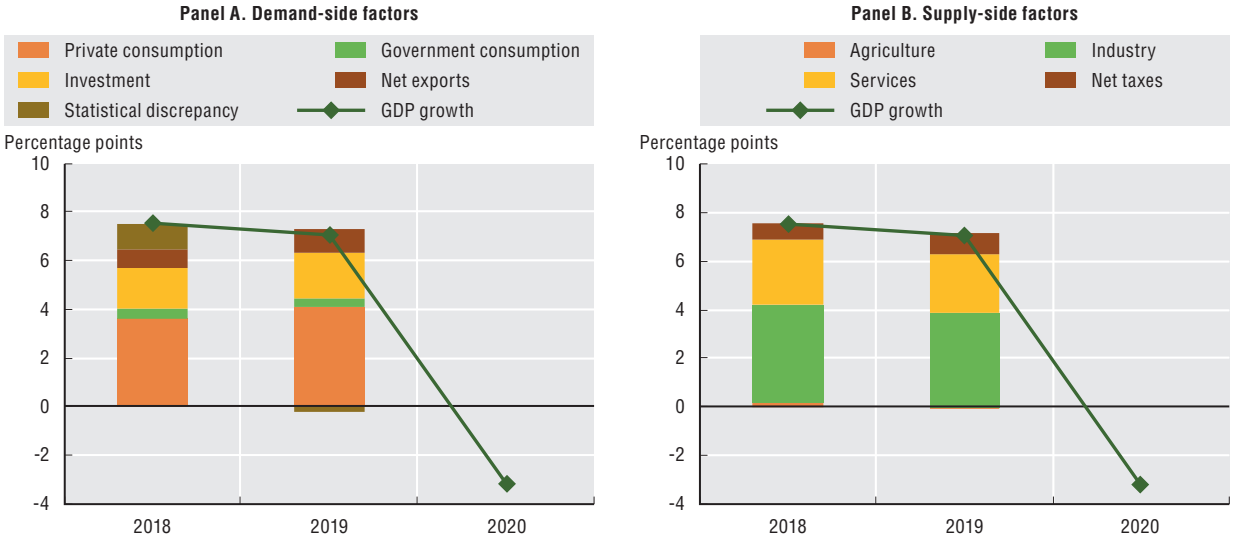
Cambodia

Cambodia was confronted with a severe resurgence of COVID-19 in the second quarter of 2021, with new daily cases remaining in the high digits through October. As 2021 began, momentum was already weak, after a 3.1% decline in economic activity in 2020. Due to the rapid deterioration of the health situation, Cambodian authorities took a series of measures in the second quarter of 2021 in order to stop the spread of the pandemic. Following

announcements including the closure of restaurants and tourist spots, a ban on gatherings, a night curfew, and a ban on movement between provinces, the capital Phnom Penh and several provinces ended up under lockdown measures. Some of these restrictions have since been relaxed, albeit in a very gradual manner. The emergence of Omicron led to a significant rise in cases, in particular from early February 2022 onwards.

Figure 1.11. **Contribution to GDP growth in Cambodia, 2018-20**

Percentage points



Note: Data on demand- and supply-side factors were unavailable for 2020.

Source: Authors' calculations based on data from CEIC and national sources.

StatLink https://doi.org/10.1787/888934304096

In the second half of 2021, the rise in COVID-19 cases slowed Cambodia's economic recovery, as depicted by selected high-frequency indicators (Table 1.10). Total merchandise exports in the first ten months of 2021 were down by 2.5% from the same period in 2020, while imports of merchandise grew by 49.7%. The drop in goods exports can be attributed in part to the decline in textile production, as textile factories were ordered to remain closed during the latest rounds of restrictions. The lockdown also caused disruptions in the haulage of inputs and finished products. On the other hand, agricultural exports have proven more resilient. According to Cambodia's agriculture ministry, exports of fish and other agricultural products in the first ten months of 2021 increased by 37.8% from the same period the previous year. Visitor arrivals remained well below pre-pandemic levels, but showed some signs of recovery in November and December 2021, following the easing of restrictions on certain international arrivals. As part of the country's gradual reopening, the government decided to open the borders to fully vaccinated tourists starting from mid-November 2021. This "Quarantine-Free Safe Tourism" programme is aimed at tourists with a minimum stay of five days (Ministry for Foreign Affairs and International Co-operation, 2021). Still, the outlook for tourism remains subject to a high degree of uncertainty, as the Omicron wave continues to unfold in Cambodia and several other countries in the region.

Table 1.10. **Evolution of selected high-frequency indicators for Cambodia, January 2020 to December 2021**

Year-on-year change (%)

Indicator	2020												2021											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Merchandise exports (USD million)																								
Merchandise imports (USD million)																								
Visitor arrivals																								
Total bank loans (KHR million)																								

Note: Data are as of 24 February 2022. Data on merchandise exports and merchandise imports for November to December 2021 period were unavailable. Moreover, data on total bank loans were unavailable for December 2021. The colour coding for each indicator should be interpreted as follows: dark red indicates a decline of more than 50%, light red indicates a decline equal to or below 50%, light green indicates an increase of less than or equal to 50%, and dark green indicates an increase of more than 50%. KHR stands for Cambodian riel.

Source: Authors' elaboration based on data from CEIC and national sources.

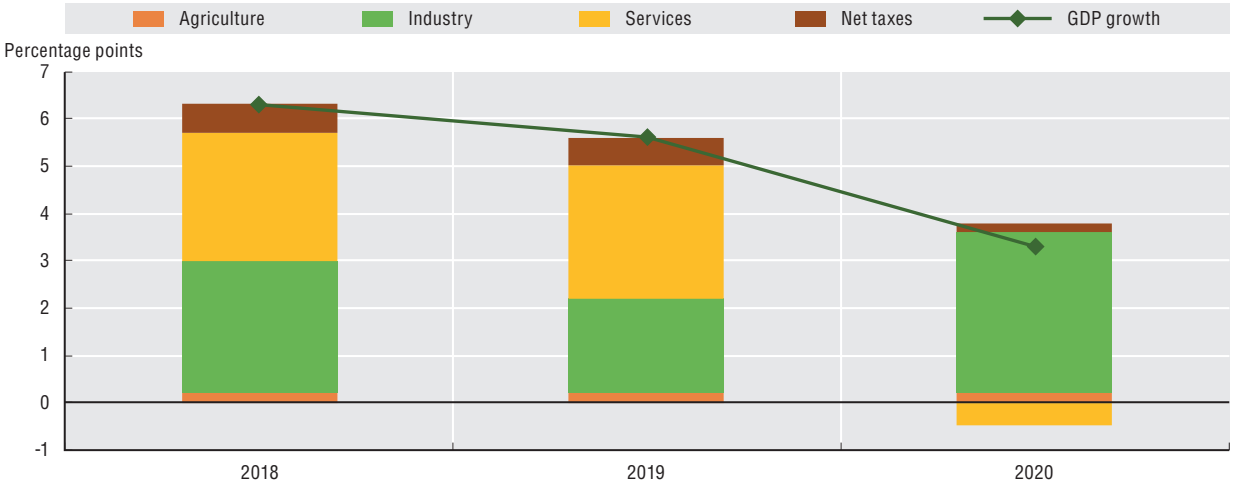
Containment measures are expected to weigh on Cambodia's economic growth, with real GDP expected to grow by 5.6% in 2022, before rising by 6.3% in 2023. As elsewhere, uncertainty surrounding the evolution of the pandemic and the need for further containment measures are major downside risks to the forecast. The health situation will continue to shape the outlook for private consumption, which accounts for around 70% of GDP. Domestic credit increased by 27.2% year-on-year in August 2021, following growth of 26.1% in July and 26.2% in June. Tourism, another important growth engine for Cambodia, remains subject to a high level of uncertainty amid the spread of Omicron, despite the country's recent easing of restrictions on certain international arrivals. In addition, strong credit growth, and the concentration of domestic credit in the construction and real-estate sectors, will present risks for Cambodia's financial stability. On the upside, the agricultural sector is anticipated to remain resilient, and exports of garments should benefit from the ongoing recovery in some of Cambodia's most important trading partners such as the United States and the European Union.

Lao PDR

The economy of Lao PDR recorded growth of 3.3% in 2020, supported mainly by resilient industrial production (Figure 1.12). After a relatively contained outbreak of COVID-19 in 2020, the number of infections started to rise in April 2021, with a sharp rise in daily new cases in September and October 2021. In light of rising caseloads, the government of Lao PDR decided in April to place the capital, Vientiane, under lockdown, while other provinces, particularly ones that lie on the border with Thailand, banned people from entering or exiting. In the second half of 2021, as clusters of COVID-19 cases were identified in several factories, the government enacted a new round of strict restrictions on travel to and from Vientiane. In addition, all passenger transport services were suspended, while shops and markets selling non-essential items were ordered to close. The decline in the number of daily COVID-19 cases, which was visible throughout the month of December, was then brought to a halt as the first cases of Omicron were reported in the country in early January 2022. As of late-February, the situation seems to have stabilised, with the Omicron wave on a declining trajectory.

Figure 1.12. **Contribution to GDP growth in Lao PDR, 2018-20**

Percentage points



Source: Authors' calculations based on data from CEIC and national sources.

StatLink https://doi.org/10.1787/888934304115

The real GDP of Lao PDR is forecast to expand by 4.6% in 2022, and by 4.9% in 2023. The Omicron wave of the COVID-19 pandemic, and the restrictions that have ensued, are expected to weigh on private consumption in the first quarter of 2022. Moreover, Lao PDR continues to post a lower vaccination rate than other countries in Emerging Asia. As a result, domestic risks related to the pandemic remain at a relatively high level. The slow recovery in tourism will also weigh on the services sector. In addition, repayment of the country's external debt remains challenging, with around USD 422 million due by the end of 2021, and an average of USD 1.2 billion due each year between 2022 and 2025. As mentioned above, rolling over upcoming maturities on the Thai bond market may also prove challenging (Fitch Ratings, 2021a). On the upside, exports of goods are expected to be a bright spot in the economy. Indeed, increasing demand in neighbouring countries such as China, Thailand and Viet Nam is expected to boost exports of goods, including agricultural products, electricity, and mining products. The launch, in December 2021, of a high-speed railway between Vientiane and the town of Boten on the border with China could also boost flows of trade and tourism between the two countries (Kishimoto, 2021).

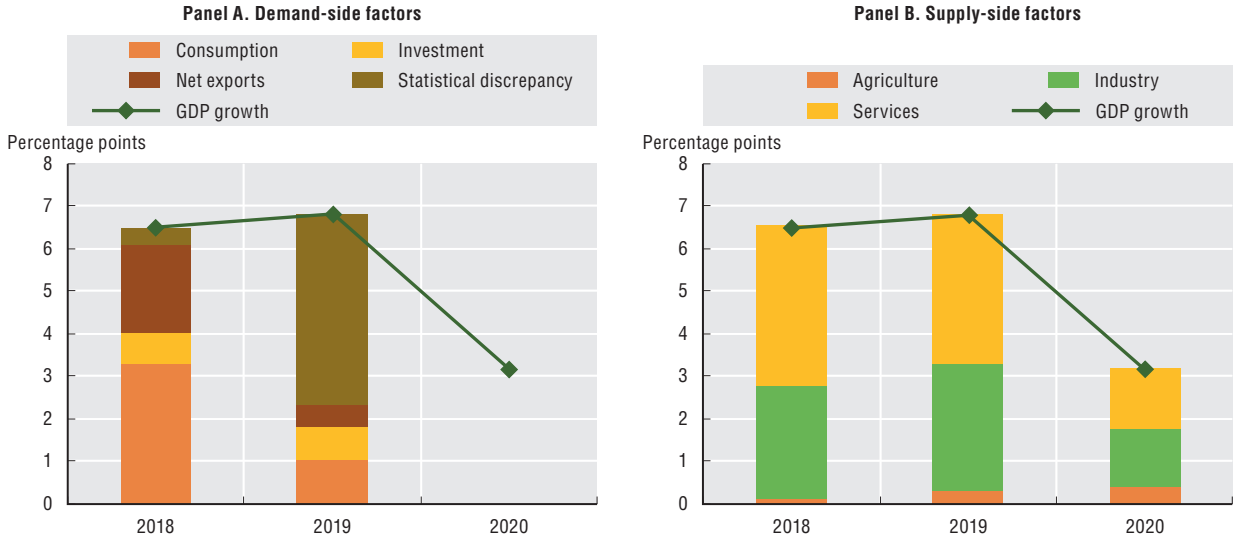
Myanmar

In 2021, Myanmar's economy was battered by pandemic-related restrictions and political unrest. In addition to the political tensions that began in February 2021, Myanmar was also confronted with a sharp rise in COVID-19 cases as of June. As 2021 began, momentum was already weak, with economic growth moderating to 3.2% in 2020, down from 6.8% in 2019. Industrial production and services made an almost equal contribution to output growth in 2020 (Figure 1.13, Panel B). The garment industry bore the brunt of the pandemic in 2020, amid low consumer demand, order cancellations, and supply-chain disruptions. According to the Myanmar Garment Manufacturers' Association, 50 out of around 700 member factories closed during the first wave of COVID-19 in 2020, with another 50 closed during the second wave (ILO, 2021a). The first cases of Omicron in Myanmar were reported in late December 2021, leading to another surge in the pandemic in early 2022. As of late February, the number of

daily new cases had more than tripled compared to the beginning of the month, signalling a potentially severe wave that could further dent the economic recovery in the first half of 2022.

Figure 1.13. **Contribution to GDP growth in Myanmar, 2018-20**

Percentage points



Note: Data on demand-side factors for 2020 were unavailable. Data relate to the fiscal year ending in March.

Source: Authors' calculations, based on data from CEIC and national sources.

StatLink https://doi.org/10.1787/888934304134

Several high-frequency indicators show that a marked deterioration of economic activity began in February 2021 (Table 1.11). The latest available figures show that, over the first ten months of 2021, exports contracted by 12.5% and imports fell by 22.4% from the same period in 2020. Freight transport also declined sharply since February 2021. According to a report by the International Labour Organization (ILO), Myanmar lost around 1.2 million jobs (out of a total of 20 million) following the political turmoil in February. In addition, during the first half of 2021, the number of hours worked fell by 14%. Construction, garments, and tourism and hospitality have been among the most affected sectors, with employment falling by an estimated 35%, 31% and 25%, respectively (ILO, 2021b). Despite a slight rebound in the number of visitor arrivals in September and October 2021, meanwhile, the outlook for tourism remains clouded both by the evolution of the Omicron wave, and by political instability.

The GDP of Myanmar is expected to have contracted sharply in 2021, by 18.6%. Thereafter, the economy is projected to slightly decline by 0.3% in 2022, and then to grow by 3.3% in 2023. However, the downside risks to this outlook are considerable. The ongoing political uncertainty that began in February 2021 is likely to curb new investment in Myanmar, and indeed to spur some investors to pull out of existing projects. At a time when the economy has been hit hard by the pandemic, political uncertainty could also prevent Myanmar from receiving foreign aid. Lacklustre domestic demand amid heavy job losses represents another major downside risk to the outlook. In addition, the country may continue to contend with heavy depreciation pressures on its currency. The Central Bank of Myanmar had to intervene multiple times during 2021 in order to stabilise the Myanmar kyat exchange rate. As of October 2021, the kyat had lost nearly 50% of its value since the February 2021 coup (Kyaw and Karunungan, 2021), increasing the cost of imports and exacerbating the economy's

struggle with the dual challenges of the pandemic and political instability. Notwithstanding a stabilisation in recent months, the kyat's value against the United States dollar was still nearly 34% lower in January 2022 than in January 2021.

Table 1.11. **Evolution of selected high-frequency indicators for Myanmar, January 2020 to October 2021**

Year-on-year change (%)

Indicator	2020												2021									
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Merchandise exports (USD million)																						
Merchandise imports (USD million)																						
Visitor arrivals																						
Total freight transported (ton miles)																						

Note: Data as of 24 February 2022. The colour coding for each indicator should be interpreted as follows: dark red indicates a decline of more than 50%, light red indicates a decline equal to or below 50%, light green indicates an increase of less than or equal to 50%, and dark green indicates an increase of more than 50%.

Source: Authors' elaboration based on data from CEIC and national sources.

China and India

China

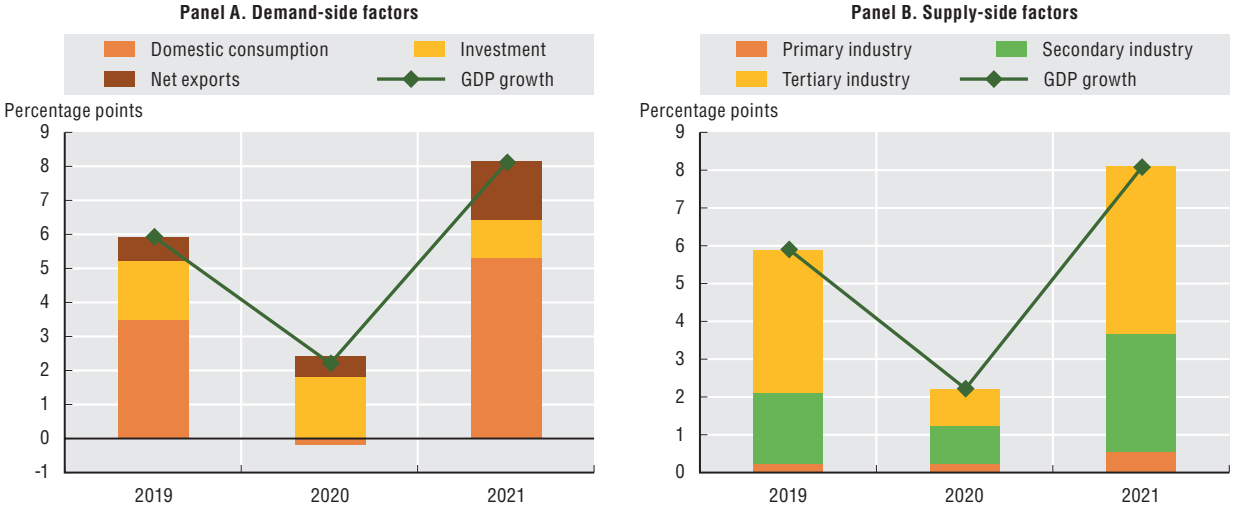
In China, new outbreaks of COVID-19 between September 2021 and February 2022 spurred parts of the country to place restrictions on movement. Some areas of Beijing have been sealed off, while regions in the northwest of China and the central province of Henan have imposed a range of restrictions, as the highly contagious Omicron variant has continued to spread. Real GDP growth in the three months to 31 December slowed to 4% year-on-year, the lowest since June 2020. Drags on growth in the fourth quarter stemmed mainly from contractions in real estate. In the third quarter of 2021, real GDP expanded by 4.9% year-on-year, following an expansion of 7.9% in the second quarter, and 18.3% in the first quarter. In 2021, China's economy grew by 8.1% overall. Domestic consumption proved to be the main overall driver of growth in 2021 (Figure 1.14, Panel A). A recovery in the labour market, rising household incomes and improved consumer confidence supported this domestic consumption. Net exports have also been an engine of growth. Meanwhile public-sector spending provided support for private investment. On the supply side, the services sector acted as the main contributor to growth for full-year 2021 (Figure 1.14, Panel B), driven mainly by the financial sector.

Other high-frequency data confirm the ongoing improvement in economic activity (Table 1.12), despite some moderation in growth rates towards the end of 2021. Retail sales posted solid annual growth throughout the year, amid improving consumer confidence. Meanwhile, strong external demand translated into a 28.3% annual increase in China's trade surplus in 2021 compared to the previous year. Export performance was driven by buoyant sales of lower-end consumer goods. As a corollary of this uptick in economic activity, the volume of freight transported during 2021 rose by 12.4%, year-on-year. On the other hand, the manufacturing PMI came in at 49.6 in September 2021, registering the first reading below the 50-point mark since March 2020, and it remained below the threshold of 50 in October. Weaknesses in manufacturing during this period are partly the result of power shortages, as companies in several energy-intensive sectors (e.g. chemicals, steel, non-ferrous metals,

coal mining, cement, and construction materials) were affected by power cuts. These reflect an imbalance in the supply and demand for power, driven by a variety of factors including the rebound of economic activity, high coal prices, and the government's carbon-neutrality objectives. A nationwide shortage of coal caused China's electricity output to fall in September from the previous month, forcing factories in 20 provinces to curb output, or indeed to halt their activity completely (Bloomberg, 2021a). A recovery has been underway in recent months, with the manufacturing PMI standing at 50.1 in January 2022. The PMI for services also recovered, after entering contractionary territory in August. The latest data for January 2022 puts the services PMI at 50.3.

Figure 1.14. **Contribution to GDP growth in China, 2019-21**

Percentage points



Source: Authors' calculations based on data from CEIC and national sources.

StatLink https://doi.org/10.1787/888934304153

Table 1.12. **Evolution of selected high-frequency indicators for China, January 2020 to January 2022**

Year-on-year change (%)

Indicator	2020												2021												2022
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Retail sales																									
Merchandise exports (USD million)																									
Merchandise imports (USD million)																									
Total freight carried (ton million)																									
Total bank loans (RMB billion)																									
Manufacturing PMI																									
Services PMI																									

Note: Data are as of 24 February 2022. Data on retail sales, exports and imports of merchandise, and total volume of freight carried are unavailable for January 2022. The colour coding for each indicator should be interpreted as follows: dark red indicates a decline of more than 50%, light red indicates a decline equal to or below 50%, light green indicates an increase of less than or equal to 50%, and dark green indicates an increase of more than 50%. For the PMI for manufacturing and services, the colour coding is: dark red indicates a PMI value below 30, light red indicates a PMI value between 31 and 49, light green indicates a PMI value between 50 and 55, and dark green indicates a PMI value above 55. RMB stands for Chinese renminbi.

Source: Authors' elaboration based on data from CEIC and national sources.

Overall, China's real GDP is forecast to post growth of 5.1% in 2022 and 2023. However, the balance of risks is mostly tilted to the downside. Potential outbreaks of COVID-19 both inside and outside of China due to the Omicron variant constitute a downside risk to growth. Other factors that drag on the outlook are the partial withdrawal of policy support as the impact of the pandemic has receded, the broad regulatory tightening that has occurred, and the financial distress of China Evergrande Group, one of China's largest property developers. Given the property sector's large contribution to GDP, and the possibility that real estate activity may not recover as strongly as in previous cycles, Evergrande's financial troubles plus slowing nationwide property sales are likely to limit economic growth (Box 1.2). A rising debt burden represents an additional structural vulnerability. On the upside, however, exports are expected to remain buoyant after reaching record highs in 2021. Moreover, the authorities have the fiscal headroom to respond to these headwinds.

Box 1.2. **The financial distress of Evergrande and China's property market**

Evergrande is one of the top three residential developers in China by sales volume, accounting for 4.7% of national contracted sales in 2020 (Evergrande, 2021). In 2020, the People's Bank of China announced a tightening of regulations on the funding and purchase of property. This included the introduction of new measures called the "three red lines", in order to limit debt growth among Chinese developers. Evergrande has fallen short of the three red lines on multiple occasions since they were implemented (Lin, Hale and Lockett, 2021). A series of failures on the part of Evergrande to repay to its creditors, including suppliers and investors, has triggered a heightened risk of default for the property developer. As of mid-September 2021, Evergrande had a total of USD 669 million in coupon payments coming due by the end of 2021, of which around USD 615 million were US dollar-denominated bonds (Wilkins, 2021). In early November, Evergrande missed coupon payments totalling USD 82.5 million on its US dollar-denominated bonds for November 2022 and November 2023 (Jim and Galbraith, 2021). As of mid-December 2021, creditors had sued Evergrande for a combined total of CNY 84 billion, or around USD 13.2 billion, in overdue payments. This amount relates to 367 cases submitted to a Chinese civil court between August and December 2021 (Yu, 2021).

Following news about Evergrande's financial distress, stock prices declined sharply for many Chinese property developers, underperforming the broad-based market index. In early October 2021, Fantasia Holdings Group, another Chinese property developer, announced that it had failed to redeem a USD 205.7 million bond that had come due on 4 October, and that it had also failed to repay a short-term loan of around USD 108.56 million (Somasundaram, 2021). In early November 2021, Yango Group, which ranked as the 18th largest developer in China by contracted sales, became the latest developer trying to improve its liquidity and avoid default. The company sought to extend three of its US dollar-denominated notes, citing insufficient internal resources (Wilkins and Huang, 2021).

On 9 December 2021, Fitch Ratings became the first credit rating agency to downgrade Evergrande Group and its subsidiaries, Hengda Real Estate Group and Tianji Holding Limited, to "restricted default". According to a statement by the credit rating agency, these downgrades reflected the non-payment of coupons that came due on 6 November 2021 for USD 1.2 billion worth of Tianji's bonds, after the grace period lapsed on 6 December (Fitch Ratings, 2021b).

Concerns over the liquidity of real estate developers have continued into 2022. For example, the bonds of Country Garden, China's largest developer by contracted sales, fell sharply in early January, after the company failed to garner enough support from investors for a USD 300 million convertible bond, triggering liquidity concerns

Box 1.2. **The financial distress of Evergrande and China's property market** *(cont.)*

(Huang and Wilkins, 2022). Meanwhile, Zhenro Properties Group stated that it may not have enough cash to meet debt-payment obligations that were coming due in March 2022 (Winters, 2022). In addition, Guangzhou R&F Properties Company required holders of a USD 725 million note maturing in mid-January 2022 to extend the due date by six months. Another Chinese developer, Aoyuan Group Limited, announced on 19 January 2022 that it would not make payments of principal or interest on its USD-denominated bonds maturing in January 2022, and would also not be paying the interest on its 2023 and 2024 notes upon expiry of the applicable 30-day grace period. In January 2022, and following these announcements, Fitch Ratings downgraded the long-term issuer-default ratings attributed to both Guangzhou and Aoyuan to "restricted default"[1] (Fitch Ratings, 2022a and 2022b).

The primary channel of onward transmission of the financial distress at Evergrande and other Chinese property developers is likely to be through its potential impact on the real economy, in particular the real-estate sector and industries in the sector's supply chain. The property sector accounts directly for 14% of China's GDP, but its total contribution, including other sectors along the supply chain, amounts to approximately 20% of GDP. Therefore, any reduction in property-market activity would have a negative impact on economic growth. Moreover, potential risks to the broader economic outlook might materialise if consumer confidence falters in housing as a store of value, thus reducing demand generally. As regards the prospects of property-market woes rippling out via the financial sector, the banking sector is exposed to Evergrande both directly and indirectly. Its direct exposure is through loans, debt securities and off-balance sheet exposures. Its indirect exposure is because banks may be exposed to Evergrande's suppliers. The total exposure of the banking sector to Evergrande is estimated at USD 193.9 billion (Fitch Ratings, 2021c), which is the equivalent of around 0.5% of total banking assets. The collateral channel of transmission is also important as real estate serves as collateral in bank lending, most of which is collateralised.

Chinese authorities have taken various actions to mitigate the turmoil at Evergrande. On 22 September 2021, the People's Bank of China injected CNY 120 billion, or around USD 18.6 billion, into the banking system through reverse repurchase agreements, resulting in a net injection of CNY 90 billion (Chen and Chen, 2021), or around USD 14.1 billion. On 23 September, the People's Bank of China injected an additional CNY 110 billion (around USD 17 billion) of cash with seven- and 14-day reverse repurchase agreements. This was the largest addition through open-market operations since late January 2021, when a funding squeeze prompted a sharp rise in inter-bank rates (Chen, 2021). Additional support measures were announced in February 2022, aimed at increasing liquidity in the property sector. According to the new rules, Chinese developers are allowed to sell projects before completing them, but are required to place such proceeds into escrow accounts[2] (Xie and Jim, 2022).

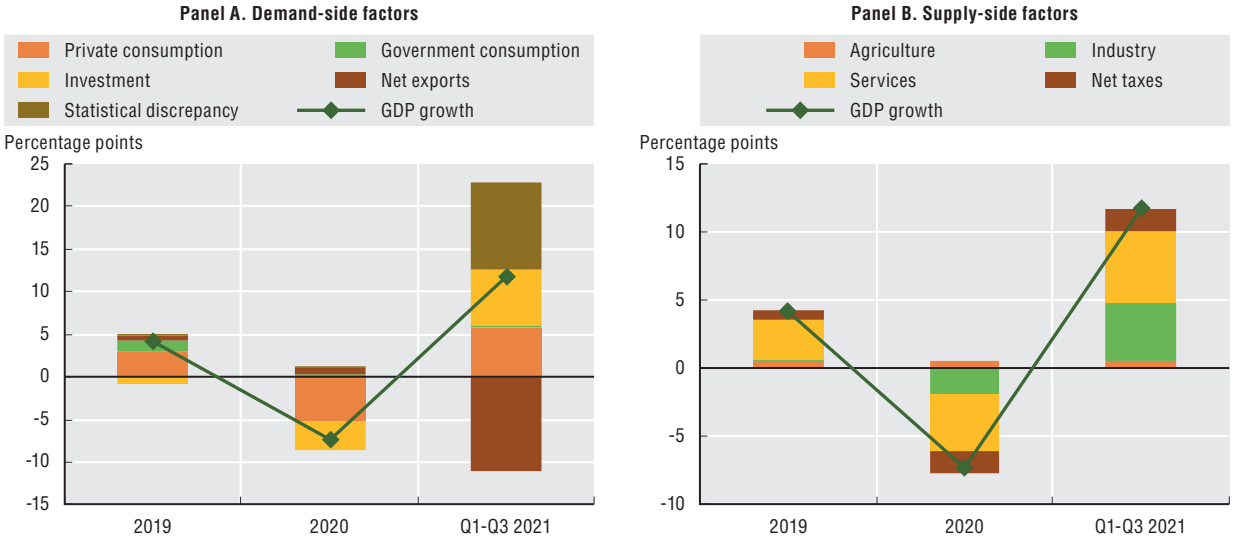
India

Since a peak in May 2021, India steadily reduced its number of COVID-19 cases, and then managed to keep them from rising again despite the progressive relaxation of restrictions. Localised lockdowns were enacted in the second quarter of 2021, but their effect on economic activity was less severe than the nationwide lockdown in April 2020, because they were more targeted and localised, and because consumers and businesses adapted to the situation. However, after a steady fall in case counts in late 2021, India reported new COVID-19 cases at multi-month highs in January 2022. Preliminary data suggest, however, that the impact of the wave driven by the Omicron variant on the healthcare system has been less severe than in previous outbreaks. Output rebounded strongly in the first quarter of the 2021-22 fiscal year, with a 20.3% growth rate in annual terms. The growth figure for the first quarter of 2021 is partly due to a very low base against

which it was measured. In the second quarter, India's real GDP rebounded by 8.5% in annual terms, followed by growth of 5.4% in the third quarter. On the demand side, investment and private consumption made a positive contribution to growth in the first three quarters of 2021-22, while net exports dragged down on growth (Figure 1.15, Panel A) as imports largely outpaced exports. On the supply side, services made the largest contribution to output growth over this period (Figure 1.15, Panel B).

Figure 1.15. **Contribution to GDP growth in India, 2019-21**

Percentage points



Note: Data relate to fiscal years ending in March. The sum of contributions may not necessarily be equal to GDP growth.

Source: Authors' calculations based on data from CEIC and national sources.

StatLink https://doi.org/10.1787/888934304172

The lockdowns that Indian authorities implemented in 2021 in response to the Delta variant had a mixed impact on economic activity, as shown by various high-frequency indicators (Table 1.13). Sales of passenger cars rebounded strongly between March and June 2021, but the figures from 2020 provided a low base of comparison. The latest available data point to a decline in vehicle sales in the final months of 2021, and this continued into January 2022. In addition, total exports and imports of merchandise increased sharply in 2021 from 2020. Exports rose by 42.6%, while imports grew by 54.4%. The rise in goods imports was driven mostly by oil and petroleum products, as commodity prices rose. Meanwhile, visitor arrivals have rebounded in recent months, as international borders were gradually reopened. Rising railway freight traffic, a proxy for manufacturing activity, led to solid increases in freight revenue. Indeed, total revenues from railway freight for the full year of 2021 were 21.4% higher in annual terms compared to 2020. Manufacturing PMI plunged to a 10-month low of 48.1 in June 2021, amid strict containment measures to combat a severe rise in COVID-19 infections in parts of India. However, the latest reading for January 2022 puts the PMI for manufacturing at 54.0. Services PMI was in contractionary territory between May and July 2021, as mobility restrictions restrained demand, but it has recovered strongly in recent months, standing at 51.5 in January 2022.

Table 1.13. **Evolution of selected high-frequency indicators for India, January 2020 to January 2022**

Year-on-year change (%)

Indicator	2020												2021												2022
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
Passenger car sales																									
Merchandise exports (USD million)																									
Merchandise imports (USD million)																									
Visitor arrivals																									
Railway freight revenue (INR million)																									
Total bank loans (INR million)																									
Manufacturing PMI																									
Services PMI																									

Note: Data are as of 24 February 2022. Data on visitor arrivals were unavailable for January 2022. The colour coding for each indicator should be interpreted as follows: dark red indicates a decline of more than 50%, light red indicates a decline equal to or below 50%, light green indicates an increase of less than or equal to 50%, and dark green indicates an increase of more than 50%. For the PMI for manufacturing and services, the colour coding is: dark red indicates a PMI value below 30, light red indicates a PMI value between 31 and 49, light green indicates a PMI value between 50 and 55, and dark green indicates a PMI value above 55. INR stands for Indian rupee.

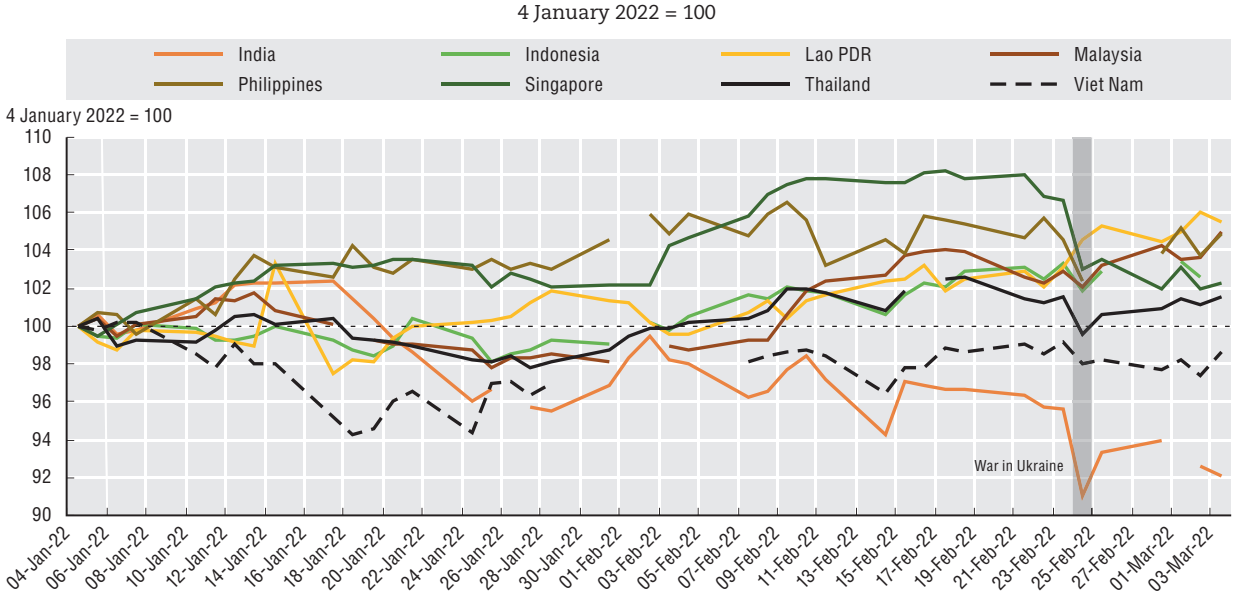
Source: Authors' elaboration based on data from CEIC and national sources.

Overall, real GDP growth is projected to reach 8.1% in 2022, followed by 5.5% in 2023. The evolution of the pandemic remains a downside risk to the outlook, despite a stabilisation in recent weeks. Particularly worrisome is the deterioration of the fiscal situation. Public debt soared as a result of the COVID-19 crisis, and seems now to be stabilising at the high level of 90% of GDP, versus 75% in the pre-pandemic period. In addition, the financial sector is constrained by non-performing assets, with the system-wide gross non-performing assets ratio standing at 6.9% in September 2021, one of the highest levels in Emerging Asia. According to estimates by the Reserve Bank of India, the gross non-performing asset ratio of commercial banks may increase to 9.8% by March 2022 under the baseline scenario, and to 11.22% under a severe stress scenario (RBI, 2021). On the upside, however, public spending over the fiscal year of 2021 has provided substantial support to the post-pandemic recovery, serving to reduce downside risks. The Indian government reiterated its plans to invest in the infrastructure sector, with the total planned outlay on capital expenditure for fiscal-year 2021 coming in 34.5% above revised estimates for fiscal-year 2020 (Ministry of Finance of India, 2021).

Rising policy rates in advanced economies and the war in Ukraine pose challenges for financial markets in Emerging Asia

In early 2022, stock markets in Emerging Asia were challenged by a combination of rising policy rates in advanced economies, and the war in Ukraine. Several stock market indices fell sharply on 24 February (Figure 1.16). Indeed, major declines from early January 2022 were recorded in India (-8.9%), China (-7.9%) and Thailand (-0.5%). Most markets have erased the losses incurred since then, but uncertainty remains elevated as the geopolitical situation continues to develop.

Figure 1.16. **Recent developments in major stock market indices of selected Emerging Asian economies, January-March 2022**



Note: Data are as of 3 March 2022. The following stock market indices are captured: Cambodia Securities Exchange Composite Index, Shanghai Shenzhen CSI 300 Index (China), BSE Sensex Index (India), Jakarta Stock Exchange Composite Index (Indonesia), Lao Securities Exchange Composite Index, FTSE Bursa Malaysia KLCI Index, PSEi Index (Philippines), Straits Times Index (Singapore), SET Index (Thailand) and Ho Chi Minh City Stock Exchange Index (Viet Nam).

Source: Authors' calculations based on data from CEIC.

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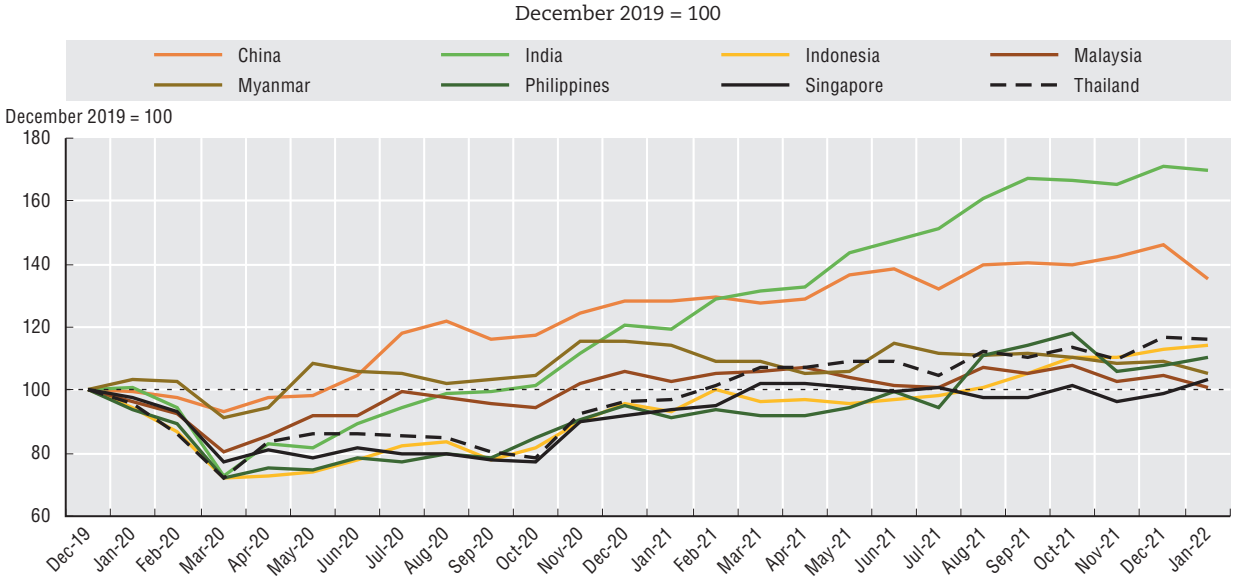
Nevertheless, the evolution of stock-market capitalisation depicts a relatively favourable picture. After falling sharply in the first quarter of 2020 following the health crisis, and after remaining below pre-pandemic levels throughout the remainder of 2020, stock market capitalisation recovered quickly in 2021 in most Emerging Asian countries. In India, it increased by more than 70% in January 2022 compared to December 2019, while significant increases in early 2022 compared to the end of 2019 were also recorded in China (46.2%) and in Thailand (16.9%) (Figure 1.17). Still, developments in total market capitalisation mask a large difference across economic sectors. Certain sectors like technology, industrial companies and financial stocks, rebounded more strongly than others from the trough, reflecting differences in the degree to which earnings were expected to recover. Meanwhile, surging energy prices also boosted energy stocks.

The risk of a correction in global stock prices, with potential reverberations affecting Emerging Asian markets, remains substantial. In the United States, the equity risk premium, which measures the additional return required by investors to invest in listed stocks rather than risk-free assets, has fallen to levels just above those reached before the 2007-08 global financial crisis. In this context, a rapid and marked rise in long-term interest rates could lead to stock-market corrections. This risk of correction, which may subsequently be transmitted by contagion to other financial centres, is reflected by the historically high level of the Skew Index for the S&P 500 stock market index, compiled by the Chicago Board Options Exchange (Figure 1.18), which measures the price that investors are willing to pay to shield themselves against a drop in prices. On 25 June 2021, the Skew Index reached a record high of 170.55,

considerably higher than its average value during the global financial crisis of 2007-08, which stood at 116.28. As of early-March 2022, the Skew Index was still hovering above the levels seen during the global financial crisis.

Figure 1.17. **Market capitalisation of major exchanges in selected Emerging Asian economies, December 2019 to January 2022**



Note: Data are as of 24 February 2022. Market capitalisation of the following stock exchanges is depicted: Shanghai Stock Exchange (China), Bombay Stock Exchange (India), Indonesia Stock Exchange, Bursa Malaysia, Yangon Stock Exchange (Myanmar), Philippine Stock Exchange, Singapore Exchange, the Stock Exchange of Thailand, and the Ho Chi Minh City Stock Exchange (Viet Nam).

Source: Authors' calculations based on data from CEIC and national sources.

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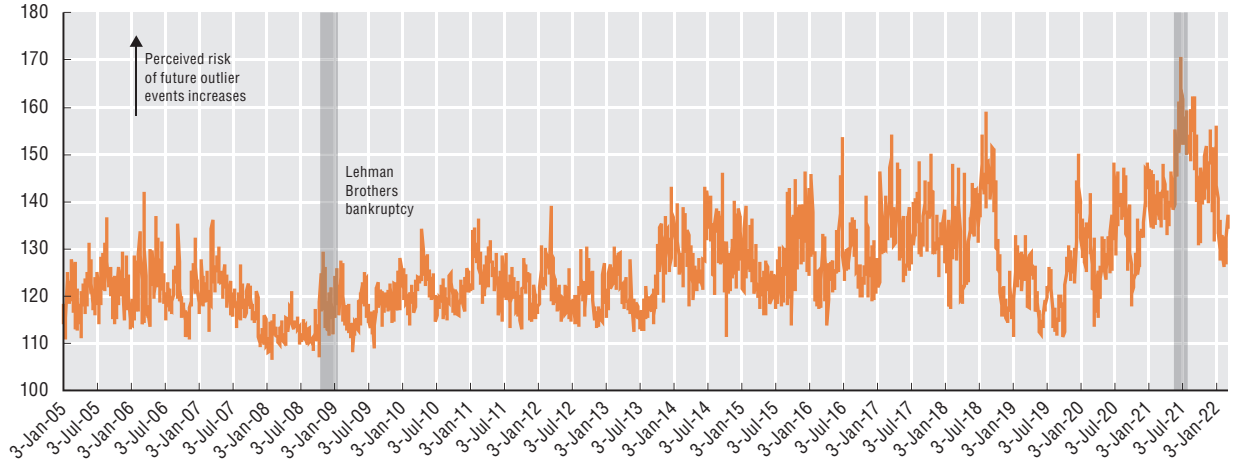
Figure 1.18. **Skew Index for the S&P 500 stock market index, January 2005 to March 2022**



Note: Data are as of 3 March 2022. The Skew Index is a measure of potential risk in financial markets and measures perceived tail risk in the S&P 500 stock market index. It can be interpreted as a proxy for investor sentiment and volatility. A Skew value of 100 means the perceived distribution of the S&P 500 index is normal and, therefore, that the probability of an outlier return is small. Values of the Skew index above 100 are associated with higher perceived tail risk.

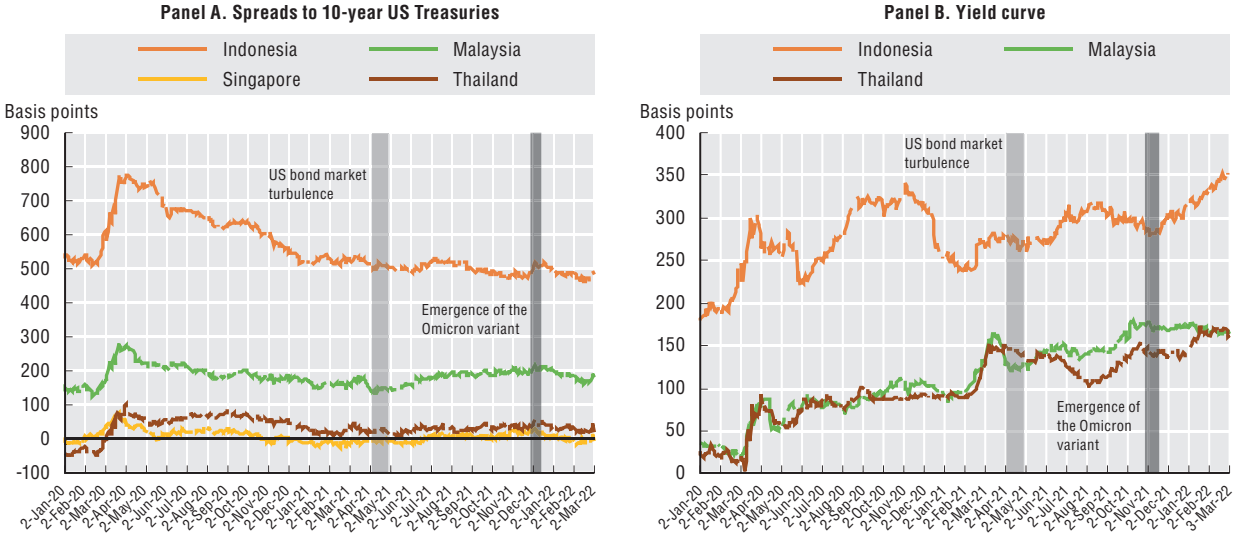
Source: Cboe Exchange (n.d.), https://www.cboe.com/us/indices/dashboard/skew/ (accessed multiple times between November 2021 and March 2022).

StatLink https://doi.org/10.1787/888934304229

As for bond markets, the increase in yields in the United States and other advanced economies could be challenging for Emerging Asian economies, potentially leading to higher borrowing costs and reducing investors' interest in emerging-market investments as opposed to safe assets. Furthermore, rising yields on US Treasuries in the second half of 2021 reflected the combination of a substantial fiscal stimulus package and optimism around the evolution of the pandemic. By early January 2022, the US five-year Treasury yield had returned to its pre-pandemic level, while in the euro area the benchmark 10-year German Bund yield reached its highest level since June 2019. Still, the impact of rising US yields spilled over only mildly to Emerging Asian economies. The increase in spreads between local bonds and 10-year US Treasuries was contained and rather temporary in Indonesia, Malaysia, Singapore and Thailand (Figure 1.19, Panel A). On the other hand, the yield curve widened to some extent in recent weeks, in particular in Indonesia and Thailand (Figure 1.19, Panel B), due to a combination of rising long-term yields and declining short-term yields.

Figure 1.19. **Spreads to 10-year US Treasuries and yield curve of selected ASEAN economies, January 2020 to March 2022**

Basis points



Note: Data are as of 3 March 2022. The yield curve is computed as the difference between yields on 10-year government bonds and yields on one-year government bonds.

Source: Authors' calculations based on data from CEIC and national sources.

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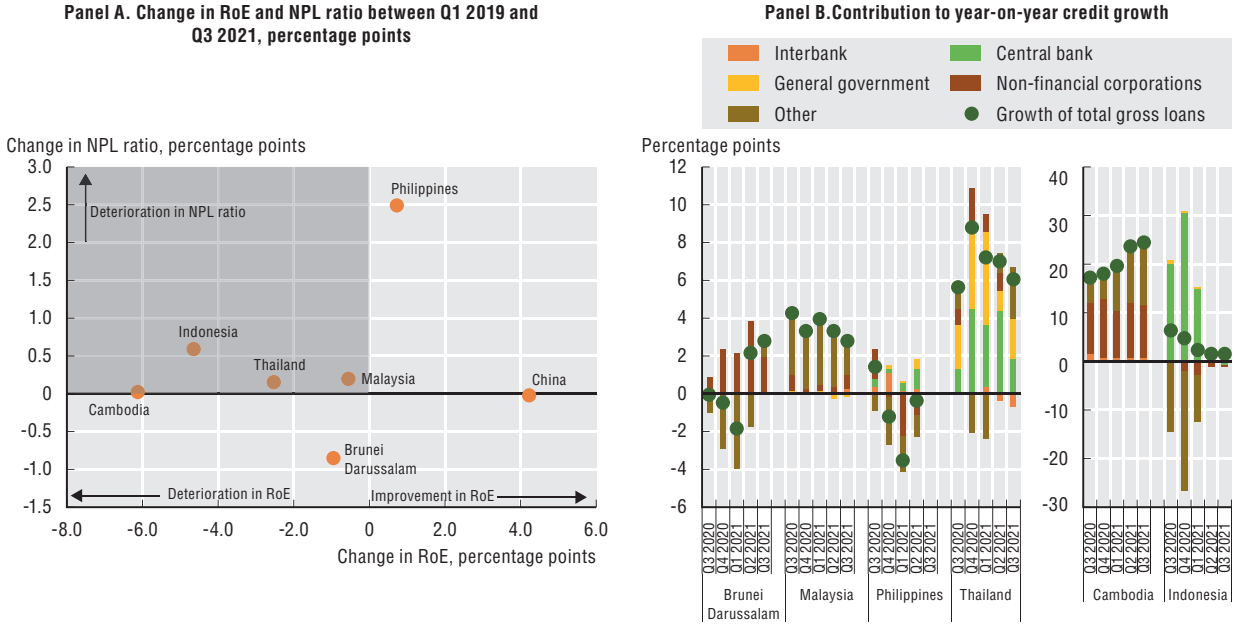
Looking ahead, financial-market developments in Emerging Asia will be shaped by various factors through 2022. One major factor remains the evolution of the pandemic, as the fast-spreading Omicron variant is likely to keep COVID-19 case counts elevated during the first quarter of 2022 in most countries in the region and potential new variants cannot be ruled out. In parallel, the war in Ukraine is likely to translate into higher stock-market volatility, and the risk of a correction in stock market prices remains high. Furthermore, the March 2022 policy rate hike by the US Federal Reserve will have important implications for Emerging Asian countries. Excessive increases in yields that

are not motivated by domestic fundamentals threaten to tighten financial conditions. Sustained rises in interest rates would also have a large impact on the value of investors' debt holdings.

The knock-on effects of the pandemic have an impact on the banking sector

Overall, banking sectors in Emerging Asia were resilient to the global economic fallout, notwithstanding significant differences among countries. For instance, profitability levels, as captured by return on equity, deteriorated in tandem with the ratio of non-performing loans in Indonesia, Malaysia and Thailand between the first quarter of 2019 and the third quarter of 2021 (Figure 1.20, Panel A). By contrast, Chinese banks managed to improve their profitability during the same period, while their ratio of non-performing loans was broadly stable. However, a number of supply- and demand-side factors negatively affected bank lending in 2021, in particular in Indonesia, the Philippines and Thailand, where credit growth decelerated in each quarter of the year. In Indonesia and the Philippines, these developments were mainly the result of a contraction in lending to non-financial corporations (Figure 1.20, Panel B). By contrast, credit growth accelerated in Cambodia, spurred by lending to non-financial corporations. Authorities in several countries in Emerging Asia have implemented loan-guarantee schemes to encourage banks to lend to ailing businesses (Box 1.3).

Figure 1.20. **Return on equity (RoE), non-performing loan (NPL) ratio, and growth in bank credit in selected Emerging Asian economies**



Note: Data are as of 24 February 2022. The non-performing loans ratio is defined as the value of non-performing loans divided by total gross loans. In Panel B, "Other" refers to gross bank loans to non-resident borrowers, other financial corporations and domestic sectors other than banks, central banks, general government and non-financial corporations. Credit-growth data for the third quarter of 2021 were unavailable for the Philippines.

Source: Authors' calculations based on data from CEIC and IMF (n.d. a), *Financial Soundness Indicators* database, https://data.imf.org/?sk=51B096FA-2CD2-40C2-8D09-0699CC1764DA (accessed multiple times between November 2021 and February 2022).

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Box 1.3. **Loan guarantee schemes in Emerging Asia during the COVID-19 pandemic**

In March 2021, the Cambodian government launched the Business Recovery Guarantee Scheme in order to help businesses to stay afloat, and to enhance economic recovery from the effects of the COVID-19 pandemic. It is a credit-guarantee scheme worth USD 200 million, which aims to support micro, small and medium-sized enterprises (MSMEs) as well as large firms by enhancing their access to formal loans both for working capital and for investment or business expansion. The scheme acts as collateral for 70%-80% of the loan amount borrowed by businesses from participating financial institutions, thus reducing the amount of collateral that borrowers need to pledge. In September 2021, the Credit Guarantee Corporation of Cambodia announced the launch of the Co-Financing Guarantee Scheme, whose specific purpose is to improve access to finance for MSMEs. This scheme will act as collateral or security for 70%-80% of the loan amount, thus reducing the amount of physical collateral that borrowers must pledge.

In July 2020, the Indonesian government announced a loan guarantee scheme worth 100 trillion Indonesian rupiah (IDR), in order to help companies to manage their cash flows during the COVID-19 outbreak. The scheme targets firms that operate in priority sectors, such as tourism, automotive, textiles and garments, and electronics, and that employ at least 300 staff. The programme offers guarantees for up to 80% of working capital loans totalling between IDR 10 billion and IDR 1 trillion, and for a period of up to one year. In April 2021, moreover, the government eased its rules for offering guarantees for companies' bank loans. The new rules allow firms that employ a minimum of 100 staff, or 50 employees in some sectors, to benefit from government guarantees. The relaxation also allowed guarantees for loans of up to three years, and it reduced the minimum loan size to IDR 5 billion.

Elsewhere, Malaysia's government launched a fund worth MYR 50 billion for working capital loan guarantees for all businesses affected by COVID-19 mitigation measures. The guarantee scheme covers up to 80% of the loan amount for financing working capital requirements. The minimum guaranteed loan size is MYR 20 million per company. In January 2021 the government enhanced the guarantee scheme. This included increasing the maximum financing amount to MYR 1 billion. Moreover, the scope of financing was expanded to cover working capital with a guarantee period of up to 10 years. Furthermore, foreign-owned companies operating in Malaysia were deemed to be eligible to benefit from the guarantee, provided that they met certain conditions. In January 2022, Bank Negara Malaysia, the country's central bank, announced two new facilities for MSMEs totalling MYR 1.5 billion. These facilities were due to open on 3 February 2022, and to last until the funds are fully utilised. They will provide guarantees on loans to help MSMEs to recover and grow post-pandemic, while also supporting recipient firms in adopting sustainable practices for business resilience.

In the Philippines, meanwhile, the government announced a credit guarantee worth PHP 120 billion for small businesses affected by the economic fallout from the pandemic. In September 2020, a capital injection of PHP 5 billion was given to the Philippine Guarantee Corporation (PhilGuarantee), allowing it to support loan guarantees of PHP 100 billion (around 0.6% of 2020 GDP). In February 2021, it was announced that PhilGuarantee had broadened its scope to include support for micro, small and medium enterprises in manufacturing, housing, agriculture, and other key sectors of the economy, in order to help to keep businesses afloat. In July 2021, moreover, PhilGuarantee signed a Memorandum of Understanding with the Philippine Constructors Association for the provision of credit guarantees, in order to support their working capital requirements throughout the pandemic period.

In March 2021, Thailand's government announced a series of financial rehabilitation measures to support businesses in their recovery from the COVID-19 pandemic. They included a facility to offer soft loans for businesses, for a total amount of 500 billion Thai baht (THB). This facility aims to support viable small and medium-sized enterprises (SMEs) that have been affected by the crisis. The soft loan scheme was

Box 1.3. **Loan guarantee schemes in Emerging Asia during the COVID-19 pandemic** *(cont.)*

complemented by a credit guarantee scheme through the Thai Credit Guarantee Corporation (TCG). Under this scheme, the government covers the first six months of interest payments, and guarantees up to 60%-70% of the loans from the financing pool of THB 500 billion. In September 2021, the TCG expanded its guarantees for the Bank of Thailand's soft loan scheme by an additional THB 100 billion. The TCG charges MSMEs a guarantee fee of 1% of the guaranteed loan value for the first four years, which is below the normal rate of 1.75% per annum.

In May 2020, India's government launched the Emergency Credit Line Guarantee Scheme (ECLGS), aiming to provide 4.5 trillion Indian rupees (INR) in unsecured loans to MSMEs in order to mitigate the financial impact of pandemic restrictions. The guarantee coverage rate is 100%, and the maximum tenure of the loan is four years from the moment of disbursement. In June 2021, it was announced that the ECLGS would be supplemented with an additional INR 1.5 trillion. The scheme is applicable to all eligible loans sanctioned up to 30 September 2021, or until an amount of INR 4.5 trillion has been reached. In September 2021, it was decided that the timeline of the ECLGS would be extended until 31 March 2022, or until guarantees for an amount of INR 4.5 trillion have been issued. In February 2022, the ECLGS was extended until March 2023.

Source: Authors' elaboration, based on the Asian Development Bank's *COVID-19 Policy Database* (ADB, n.d.), plus various national sources. Data are as of 24 February 2022.

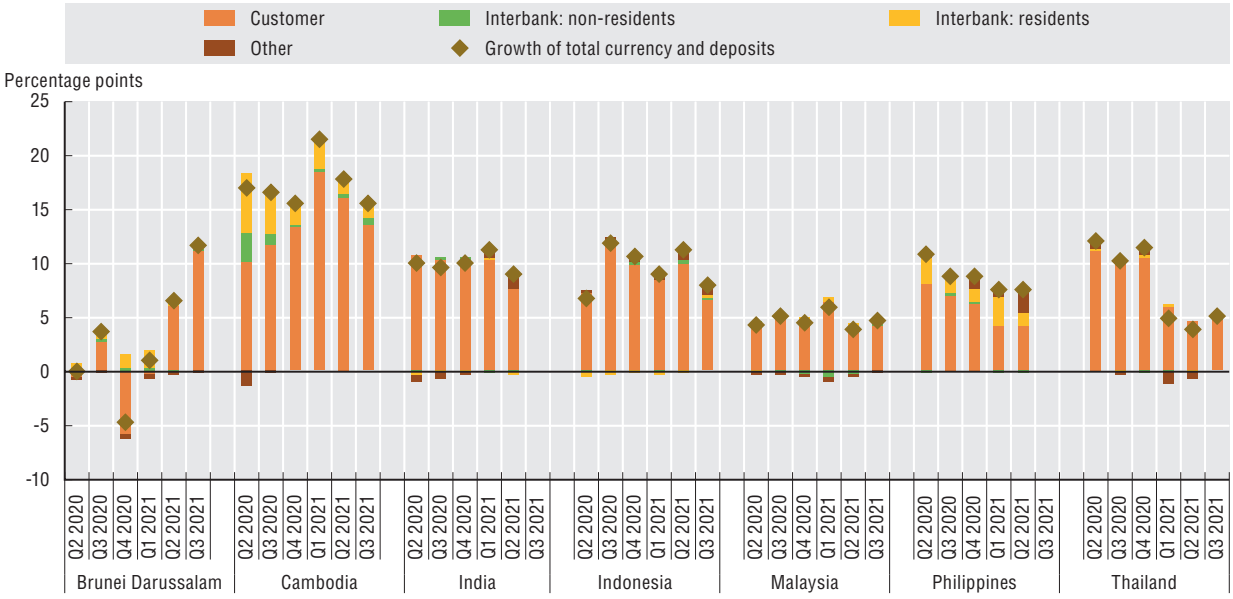
Deposit growth in bank accounts also fell back to more moderate levels in recent quarters, most notably in Cambodia, India, Indonesia, the Philippines and Thailand (Figure 1.21). This can be largely attributed to worsening conditions in the labour market, a more moderate pace of wage growth, and the related need for a reduction in consumption. While customer deposits held steady in most countries, except for Brunei Darussalam in the last quarter of 2020, the growth in interbank deposits decelerated significantly, especially in India, Malaysia and the Philippines (Figure 1.21). The observed deceleration in interbank deposits in these countries can be attributed to increased counterparty credit risk, as well as to declining trust among banks during the COVID-19 crisis.

On a positive note, banking sector stability remained relatively robust and above pre-pandemic levels in most Emerging Asian countries. This could be explained by the fact that financing by capital and reserves plays a more prominent role in Emerging Asia compared to advanced economies, reflecting in particular higher capital adequacy requirements in many countries against the background of presumably riskier business environments. Capital adequacy in the second and third quarters of 2021 remained stable at fairly high levels above 15% in most Emerging Asian countries for which data are available (Figure 1.22), which is well above the internationally recommended 8% and national requirements. In Indonesia, Malaysia and Thailand, banks' latest capital adequacy reading is at or approaching the maximum levels observed since 2012 (Figure 1.22).

Looking ahead, negative effects on the banking sector from deteriorating real economic conditions may become more visible throughout 2022, also depending on the impact of the fast-spreading Omicron variant on the real economy. Given the time lags involved, a deterioration of key banking performance indicators for Emerging Asian countries cannot be ruled out in the near to medium term. Continued sound capitalisation levels are therefore important to support a high overall degree of banking sector stability.

Figure 1.21. **Contribution to banks' currency and deposit growth in selected Emerging Asian economies, Q2 2020 to Q3 2021**

Percentage points



Note: Data as of 24 February 2022. Data for Q3 2021 are unavailable for India and the Philippines. "Other" captures deposits by counterparties other than customers and resident and non-resident banks.

Source: Authors' calculations based on data from CEIC and IMF (n.d. a), *Financial Soundness Indicators* database, https://data.imf.org/?sk=51B096FA-2CD2-40C2-8D09-0699CC1764DA (accessed multiple times between November 2021 and February 2022).

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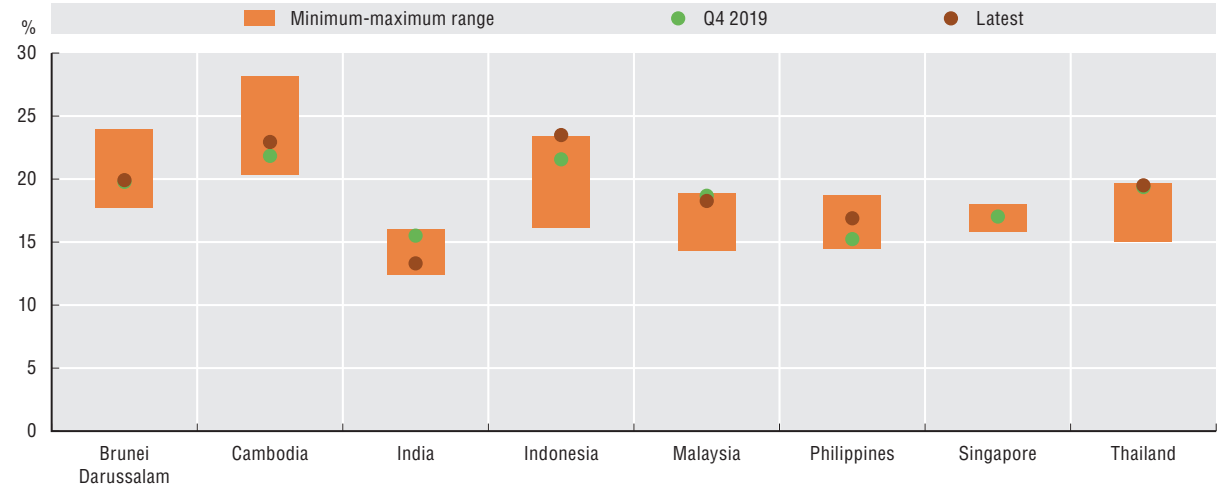
Figure 1.22. **Capital adequacy ratio of banks in selected Emerging Asian economies, Q1 2012 to Q3 2021**

Percentage



Note: Data as of 24 February 2022. The capital adequacy ratio is defined as total regulatory capital divided by risk-weighted assets. Latest data as of Q3 2021, except for India (Q2 2021) and the Philippines (Q2 2021). Country-specific minimum-maximum ranges are defined over the period running from Q1 2012 to Q3 2021.

Source: Authors' calculations based on data from CEIC and IMF (n.d. a), *Financial Soundness Indicators* database, https://data.imf.org/?sk=51B096FA-2CD2-40C2-8D09-0699CC1764DA (accessed multiple times between November 2021 and February 2022).

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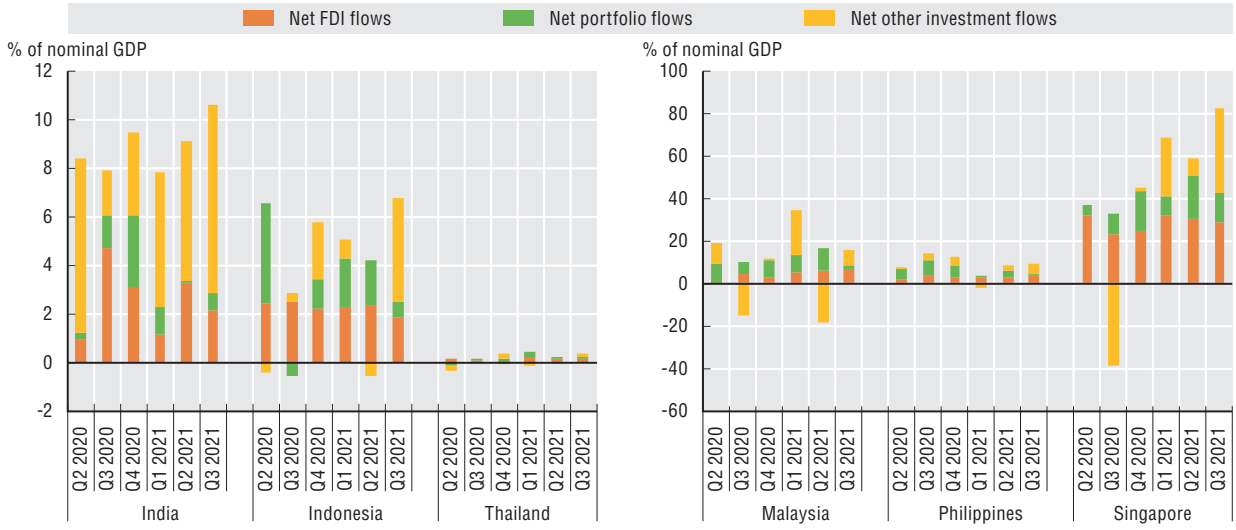
The impact of the pandemic on capital flows is asymmetric among Emerging Asian economies

Emerging Asian economies have also been affected by the economic turmoil via the tightening of global credit conditions, resulting in a slowdown or even temporary reversal of capital inflows into the region. According to balance of payments data, other investment flows were more affected than foreign direct investment (hereafter "FDI") or portfolio flows since the beginning of the COVID-19 crisis. This is visible in Indonesia, Malaysia, the Philippines, Thailand and Singapore, where net flows of other investment turned negative at various moments between the second quarter of 2020 and the third quarter of 2021 (Figure 1.23). Outflows of other investment were particularly acute in Singapore in Q3 2020, reflecting movements in the banking sector with smaller net inflows to resident deposit-taking corporations (MTI, 2021).

Figure 1.23. **Direct investment, portfolio investment and other investment net flows in selected Emerging Asian economies, Q2 2020 to Q3 2021**

Percentage of GDP



Note: Data as of 24 February 2022.

Source: Authors' calculations based on data from CEIC and national sources.

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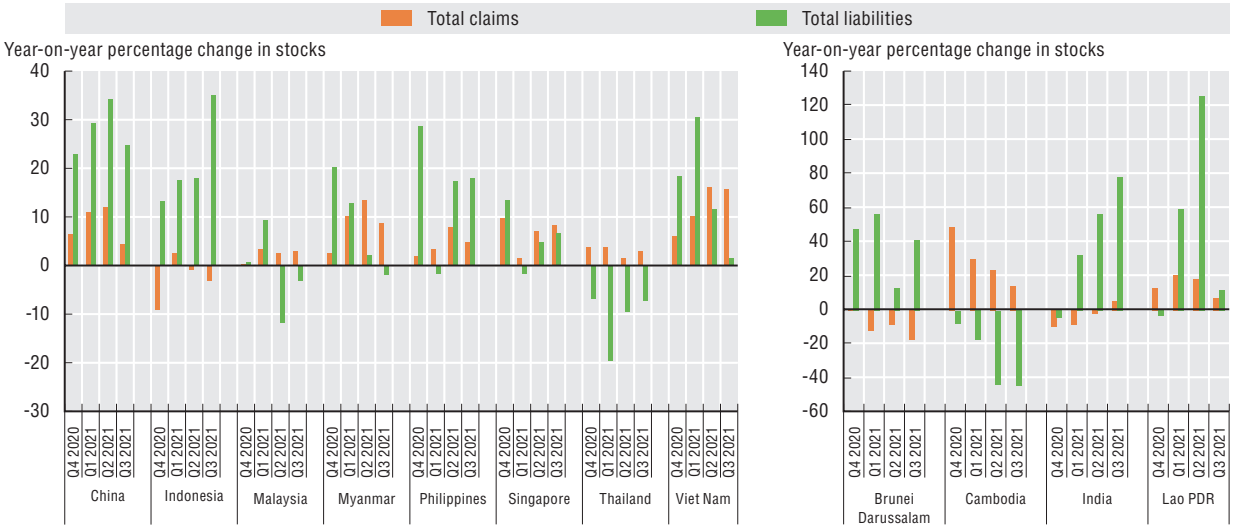
Looking at the claims and liabilities of Bank for International Settlements (BIS) reporting banks, capital inflows started to slow down in early 2020. Claims on some Emerging Asian economies even decreased in the second half of 2020, for instance India, Indonesia, Malaysia and the Philippines (Figure 1.24). In the first two quarters of 2021, claims on Brunei Darussalam and India have declined. A potential explanation is that parent banks may have temporarily withdrawn liquidity from these markets to meet their liquidity needs at home. The liabilities of BIS reporting banks, corresponding to the foreign assets of counterparts in Emerging Asia (i.e. banks, non-bank financial institutions and the non-financial sector) turned (remained) negative in the second and third quarters of 2020 in India, the Philippines and Thailand, as well as in Lao PDR in the second quarter. In the first three quarters of 2021, liabilities with respect to Cambodia, Malaysia and Thailand all dropped in annual terms (Figure 1.24). With the stabilisation of global financial markets and easing liquidity pressures, foreign banks in some Emerging Asian countries again started to rebuild assets, for instance in Brunei Darussalam, India, Indonesia, Lao PDR and the Philippines (Figure 1.24).

Figure 1.24. **Total cross-border claims and liabilities of BIS reporting banks on Emerging Asian economies, Q4 2020 to Q3 2021**

Year-on-year percentage change in stocks



Note: Total claims and liabilities of banking institutions vis-à-vis all sectors of the economy.

Source: Authors' calculations based on data from the BIS (n.d. a), *BIS locational banking*, https://stats.bis.org/#df=BIS:WEBSTATS_LBS_D_PUB_DATAFLOW(1.0);dq=all%3FlastNObservations=6 (accessed multiple times between November 2021 and February 2022).

StatLink https://doi.org/10.1787/888934304324

Overall, the global economic fallout from the pandemic has had a major impact on capital flows to Emerging Asian economies, although the magnitude of the impact has differed depending on the type of capital inflows and the country receiving them. In a few countries in Emerging Asia, external financing problems increased in late 2020 and early 2021. On the other hand, available data suggest that capital outflows were temporary, and that inflows of foreign direct investment have, in particular, played a positive role since the outbreak of the crisis. Still, policy makers should devote particular attention to the issue of volatile capital flows, because the narrowing differential between the growth of Emerging Asian economies and advanced economies as the health crisis unfolds may render the former less attractive from a foreign-investment perspective.

Trade activity remains robust, but concerns linger over further supply-chain disruptions

The recovery of global trade following the severe contraction of early 2020 has been remarkable. The upturn that started to take hold in the final quarter of 2020 continued into 2021, and again into early 2022. Importantly, trade activity has been plateauing at high levels in recent months, rather than declining. While the downturn in early 2020 was highly synchronised, the recovery has so far thrown up some striking differences across countries in Emerging Asia. While merchandise exports in nearly all countries in the region have exceeded their pre-pandemic levels in recent months, for example, exports from Brunei Darussalam were relatively less resilient (Figure 1.25). While part of this divergence may to a certain extent reflect the geographical orientation of an individual country's exports, relative product specialisation may also have played an important role. Since the fall in demand from the pandemic was particularly pronounced for intermediate and capital goods, countries that mainly specialise in these products, such as Brunei Darussalam, were hit harder by the global downturn.

Figure 1.25. **Evolution of exports and imports of goods for selected Emerging Asian economies, January 2020 to January 2022**

December 2019 = 100

Note: Latest data are as of January 2022, except for Brunei Darussalam (October 2021), Cambodia (October 2021), China (December 2021), Lao PDR (October 2021), the Philippines (December 2021), and Thailand (December 2021).

Source: Authors' calculations based on data from CEIC and national sources.

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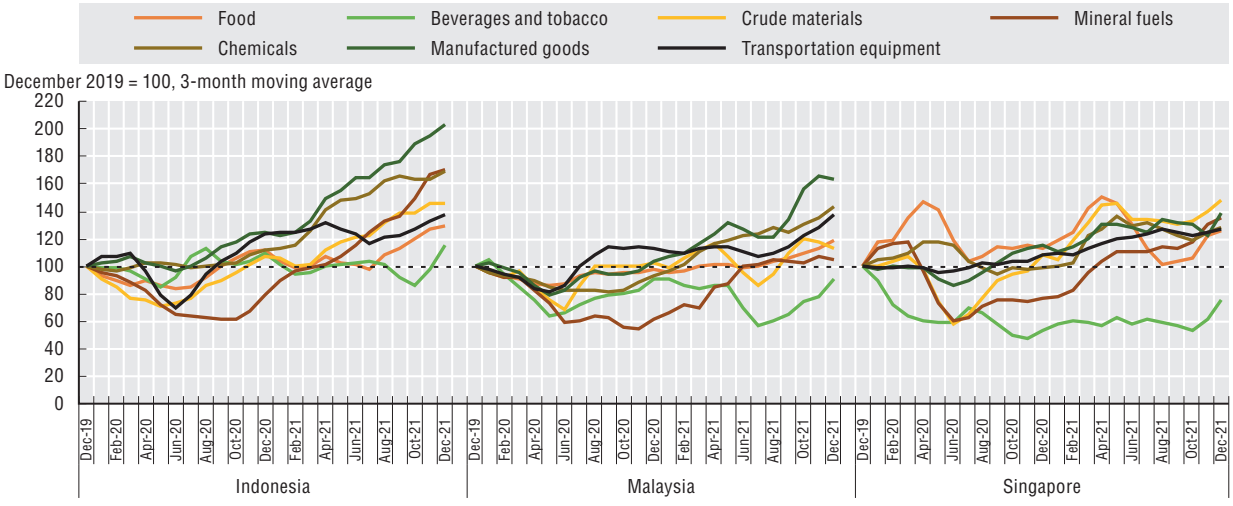
Emerging Asia witnessed notable changes in the composition of trade flows. For Indonesia and Malaysia, for example, the recovery in exports of manufactured goods, chemicals, and transportation equipment was more pronounced than the recovery for trade in other categories of goods. In Singapore, meanwhile, exports of crude materials outperformed other types of exports (Figure 1.26). On the other hand, trade in food, beverages and tobacco, which reflects a lacklustre performance in the hospitality industry, was hit particularly hard by the restrictions on movement imposed around the world in order to stem the resurgence of the pandemic. Although they have been on the rise in recent months, exports of such items are still below their pre-pandemic levels in Malaysia and Singapore. In Indonesia, however, in December 2021 they edged above the level that they had registered two years earlier (Figure 1.26). These different developments across sectors and categories of goods may also explain the differences in the evolution of international trade across Emerging Asian countries.

Figure 1.26. **Exports of goods by selected sectors in selected ASEAN economies, December 2019 to December 2021**

December 2019 = 100 (3-month moving average)



Note: Data as of 24 February 2022.

Source: Authors' calculations based on data from CEIC and national sources.

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The strength of the recent recovery in trade flows may indicate that at least part of the pandemic's impact did not cause severe long-term damage to trade and production processes. Looking further ahead, however, the recovery in world trade will hinge significantly on the extent to which demand recovers worldwide, and on its composition. Overall, global economic activity seems poised to recover at varying speeds across and within regions, with more robust growth anticipated in advanced economies than in emerging ones. Furthermore, as advanced economies reopen, consumers in these countries are more likely to spend more on services, which tend to be provided locally. Therefore, the medium-term outlook for Emerging Asian trade is likely to remain closely tied to the future growth profile of advanced economies. Nonetheless, intra-regional trade will continue to benefit from robust demand from China. Moreover, the outlook is subject to a high degree of uncertainty, as the highly contagious Omicron variant is likely to keep case counts elevated in the first quarter of 2022, while the war in Ukraine could also have an impact.

In addition, the trade outlook will be shaped by the impact of the supply-chain disruptions that have resulted from a combination of structural changes on the demand side, and pandemic-related restrictions that have limited production and labour mobility. These factors have resulted in shortages of energy and agricultural products, and in goods ranging from processed food to semiconductors and construction materials. These disruptions had a significant impact on industrial production in several economies in ASEAN in the second half of 2021 (Box 1.4). Supply bottlenecks are anticipated to ease eventually, but the risk of extended demand-supply dislocations around the globe will remain high in light of the Omicron variant, as case counts increase in the production and shipping hubs of Asia.

Box 1.4. **Pandemic-related restrictions triggered industrial production disruptions in ASEAN**

The COVID-19 pandemic has disrupted industrial production across the member countries of ASEAN. The main reason for supply bottlenecks is that demand has exceeded supply, reflecting key structural changes on the demand side. In particular, the rise in remote work has led to higher demand for computers and technological goods. In addition, relocation from cities to suburbs has boosted the demand for cars, which are big users of technological products. Another key structural change has been a changing approach to inventory management at firms, which have broadly shifted from just-in-time practices to holding higher levels of inventories.

These demand pressures have been compounded by production disruptions due to localised outbreaks of COVID-19. As containment measures implemented in the second quarter of 2021 have resulted in numerous businesses halting their activity, many firms reported logistical issues and shortages of both products and labour. The disruptions have been particularly acute in Malaysia, Thailand and Viet Nam. Malaysia's manufacturing PMI fell to 39.9 in June, from 51.3 in May, pointing to a sharp decline in business conditions in the manufacturing sector. Despite a slight improvement as of June, manufacturing activity in Malaysia continued to lack momentum in July and August, with PMIs of 40.1 and 43.4, respectively. At the same time, employment at Malaysian manufacturing firms fell for four months in a row between May and August, with producers often citing a lack of foreign work permits being issued due to COVID-19-related restrictions. Firms were also confronted with an increase in backlogs of work, as lower production capacity and difficulty in sourcing inputs placed additional strain on manufacturers (IHS Markit, 2021).

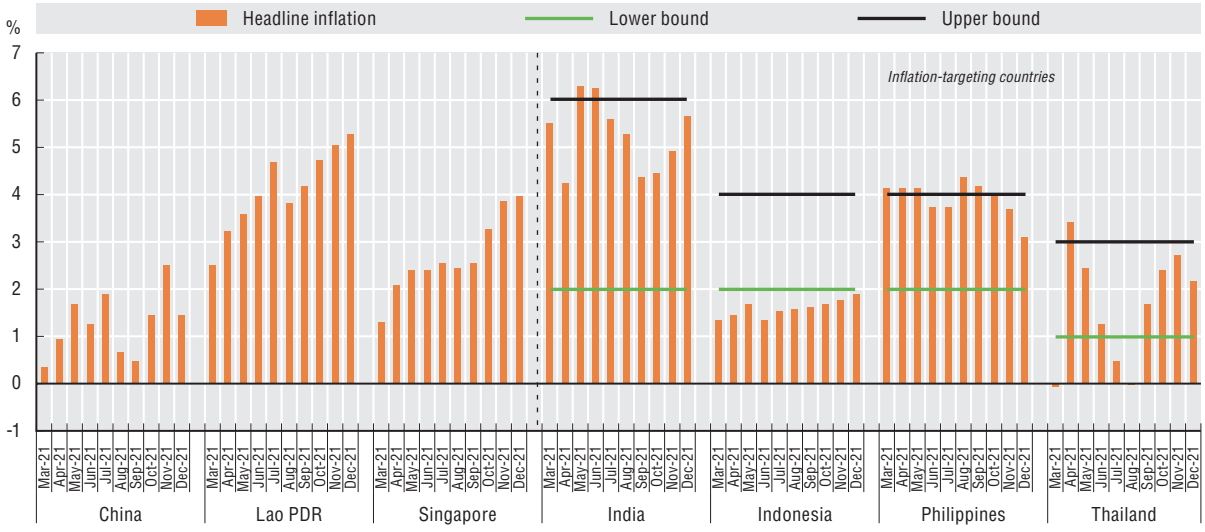
In parallel, Viet Nam saw its industrial production shrink by 7.8% in year-on-year terms in August 2021. Moreover, similar disruptions occurred in Thailand. Although the Thai government has implemented so-called "bubble and seal" measures, which require people who have COVID-19 or have been in contact with someone who has to isolate, in order to avoid complete closures, several firms have had to interrupt their operations temporarily for a deep cleaning of their factories after recording several cases. In July 2021, moreover, a large car manufacturer in Thailand halted production at three of its factories due to shortages of spare parts, which were the result of disrupted supply chains. The lack of foreign workers, resulting from strict border control regimes, has also affected agricultural and rubber production in Thailand. According to official estimates, more than 400 000 jobs have been left vacant by migrant workers due to the COVID-19 restrictions (NNT, 2021).

Inflation has surprised to the upside amid rising energy prices

Inflation has surprised to the upside in major advanced and emerging economies, with a combination of rising energy prices, a swift rebound in demand, persistent supply-chain bottlenecks, and the comparison with weak figures from a year earlier all adding to the uptick. Particularly as of the first half of 2021, concerns about inflation intensified in Emerging Asia, amid rising commodity prices and as most economies started to reopen. Higher commodity prices have led to an increase in energy prices, adding acute cost pressures in a range of industries. Furthermore, headline inflation has come in above expectations for inflation-targeting countries in the region. Indeed, India, the Philippines and Thailand have all experienced headline inflation above the upper limit of their tolerance bands at various points between April and November 2021. Although it was within the countries' tolerance bands, moreover, inflation data for December 2021 pointed to rising inflation in India and Indonesia (Figure 1.27). Inflationary pressures remain elevated in Lao PDR and Singapore. In the case of the former, this is mainly due to the weakening of the local currency, the kip (World Bank, 2021). They remain relatively muted in China.

Figure 1.27. **Headline inflation in selected Emerging Asian economies, March to December 2021**

Percentage



Note: Data as of 24 February 2022.

Source: Authors' calculations based on data from CEIC and national sources.

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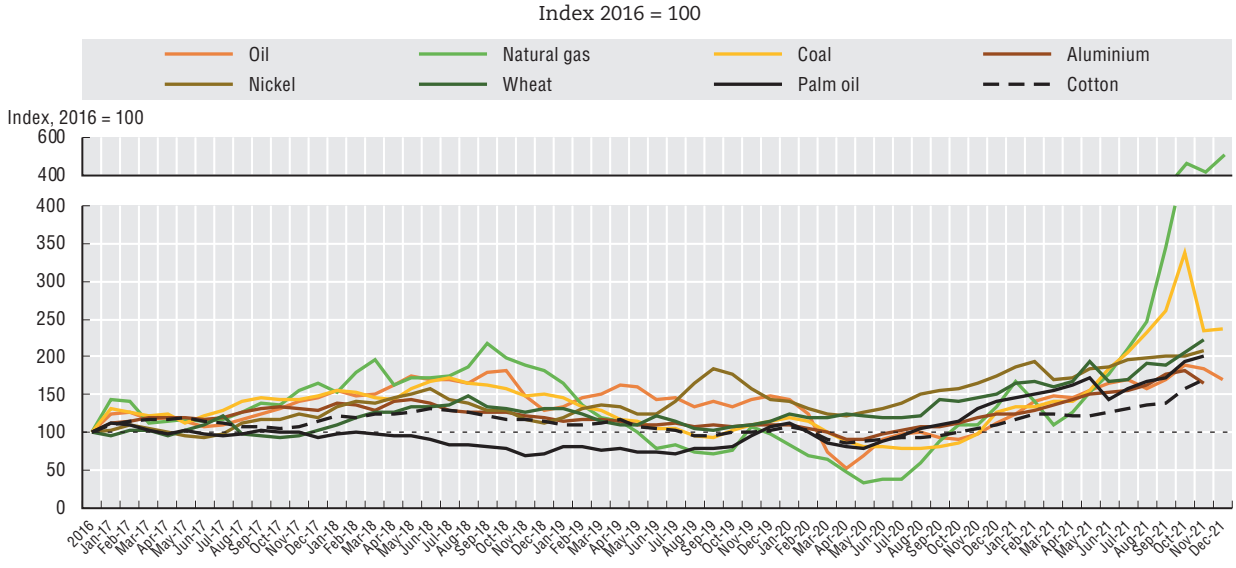
Energy prices were a key driver of inflation dynamics in 2021. Indeed, there was a steep rise in the prices of energy commodities such as natural gas, oil and coal as of August 2021. Food and energy prices are the most prominent drivers of higher inflation in emerging markets, where households spend a much larger share of their incomes on these items compared with advanced economies. Brent crude, the global benchmark for oil prices, traded at more than USD 90 per barrel in February 2022, an increase of nearly 20% since the start of the year. Rising oil prices could be the result of various factors, including rising demand, declining inventories (EIA, 2022), but also increased geopolitical risks in the Middle East and Eastern Europe. In parallel, natural gas prices were still trading at multi-year highs in the final quarter of 2021.

Meanwhile, coal prices reached record highs amid supply constraints and rebounding demand for electricity. Prices for agricultural commodities such as wheat and palm oil, and for metals such as aluminium and nickel, have also risen in recent months (Figure 1.28).

Figure 1.28. **Evolution of selected commodity prices, January 2017 to December 2021**



Note: Data are as of 24 February 2022. Data for December 2021 were unavailable for aluminium, nickel, wheat, palm oil and cotton prices. Indices reflect market prices. "Oil" refers to benchmark Brent crude prices. "Natural gas" refers to prices for natural gas traded in the Netherlands. "Coal" refers specifically to prices on Australian export markets.

Source: IMF (n.d. b), *Primary Commodity Price System* database, https://data.imf.org/?sk=471DDDF8-D8A7-499A-81BA-5B332C01F8B9&sId=1547558078595 (accessed multiple times between November 2021 and February 2022).

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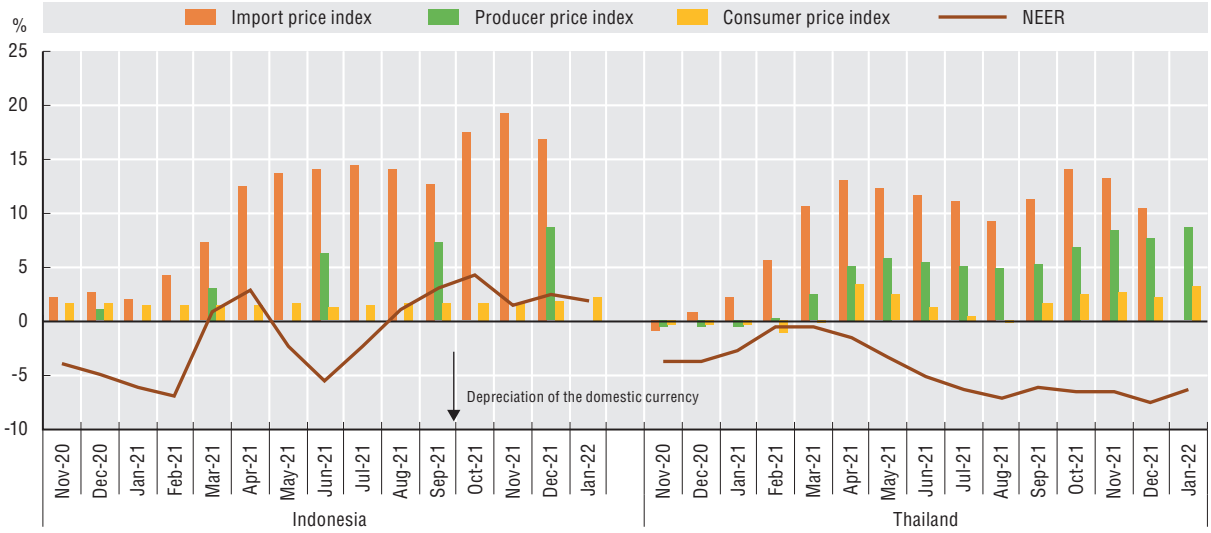
In the countries of Emerging Asia, another factor contributing to headline inflation is the pass-through from currency depreciation. Movements in exchange rates are passed on directly to consumer prices through the impact that they have on import prices for final consumer goods. In parallel, indirect effects make themselves felt via production costs. The depreciation of a country's domestic currency translates into higher production costs, as imported inputs become more expensive. In turn, these feed through the different stages of the domestic production process for intermediate and final goods. Furthermore, the depreciation of a country's currency decreases export prices denominated in foreign currency, and increases import prices denominated in domestic currency. As illustrated in Figure 1.29 below, changes in the nominal effective exchange rate have tended to correlate strongly with import-price inflation in Indonesia and Thailand.

Despite rising commodity prices, a broad-based inflation surge remains unlikely in Emerging Asian countries. This is due to a remaining degree of slack in labour markets, as many firms, in particular in the services sector, are still operating below capacity. On the other hand, oil and gas prices are expected to remain volatile throughout 2022, against a background of low levels of global inventories and declining spare production capacity. Further escalation of the war in Ukraine, could also push up oil prices still further. As with other aspects of the economic outlook for Emerging Asia, meanwhile, the emergence of the Omicron variant is another factor adding to the uncertain outlook for inflation in the near term, with the number of infections expected to remain high throughout the first quarter of 2022 (See Chapter 2 for a detailed discussion).

Figure 1.29. **Prices and nominal effective exchange rates of selected ASEAN economies, November 2020 to December 2021**

Year-on-year changes (%)



Note: Data are as of 24 February 2022. "NEER" stands for nominal effective exchange rate. Monthly data on producer prices were unavailable for Indonesia.

Source: Authors' calculations based on data from CEIC, national sources and BIS (n.d. b), *Exchange rates*, https://stats.bis.org/statx/toc/XR.html (accessed multiple times between November 2021 and February 2022).

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Against this background of rising prices, insights from behavioural economics could play an increasingly significant role in improving inflation forecasts in Emerging Asian countries, as discussed in Box 1.5.

Box 1.5. **Applying behavioural economics to inflation forecasting**

The COVID-19 pandemic, and the restrictions that have ensued in order to contain its spread, have caused a severe global recession, triggered substantial interventions in the economy via fiscal and monetary policy, and forced a change in the socio-economic behaviour of economic agents. In turn, this raises many questions about the economic trajectory of Emerging Asian countries and the long-term impact of the pandemic. The expectations of economic agents will play a key role in determining macroeconomic outcomes, such as growth, unemployment and inflation (An, Liu and Wu, 2021). Currently, moreover, global inflationary pressures are increasing. Meanwhile, a lasting "J-curve effect" is likely to materialise after the COVID-19 crisis, whereby countries initially experience a worsening of their trade balances following the depreciation of their domestic currencies, followed by a gradual recovery that stabilises at a higher level than before the decline. Such developments were already visible in Emerging Asian economies in 2021 (ADB, 2021).

Under these circumstances, the forecasting of inflation will present considerable challenges. Currently, economists and policy makers use a variety of approaches to forecast inflation. In addition, behavioural economics has the potential to provide a new and broader perspective compared to conventional methods, potentially improving the accuracy of inflation forecasts in the aftermath of the pandemic. Furthermore, monitoring economic agents' expectations of inflation can provide useful information for the analysis of risk, or of a specific scenario, in projection exercises performed using structural models. Expectations about inflation can lead to changes in behaviour and, at the aggregate level, may influence prices, therefore becoming self-fulfilling. Understanding inflation expectations can help policy makers to improve their

Box 1.5. **Applying behavioural economics to inflation forecasting** *(cont.)*

forecasts, to communicate the intent of their monetary policy decisions better, and to strengthen the effectiveness of their monetary policy.

In the euro area, for instance, the European Central Bank's (ECB) main semi-structural projection models include a behavioural equation for agents' long-term expectations. This equation allows for interaction both with the ECB's inflation objective, and with the actual level of inflation. It is calibrated on the historical behaviour of various survey-based, longer-term inflation expectations. Scenarios can use observed measures of inflation expectations. Indeed, they can assume a shock that would shift the central tendency to specific (lower) percentiles of the aggregate probability distribution or the cross-sectional distribution. Alternatively, longer-term inflation expectations can be included as an endogenous variable in a dedicated satellite model that uses the main macroeconomic variables featuring in the workhorse forecasting models. The satellite model, meanwhile, can be used to derive conditional forecasts of longer-term expectations of inflation, which can subsequently be fed into the main forecasting models as a scenario path (ECB, 2021).

Another example is an approach used at the Bank of Canada to study how firms form their expectations of inflation. In the literature on this approach, Richards and Verstraete (2016) rely on a proprietary dataset from the Bank of Canada, the Business Outlook Survey. They use firms' answers to this survey to build an aggregate measure of inflation expectations for each quarter - the inflation expectations index. They then study its behavioural properties with reference to the rationality hypothesis. The authors conclude that the inflation expectations index is not consistent with the assumption of rationality. Although firms' expectations have an adaptive component, they systematically refer to their own personal experience in forming their expectations. The experiences to which they refer relate to factors such as wages and input prices. Furthermore, the study finds that firms' inflation expectations also appear to be significantly and positively influenced by movements in oil prices.

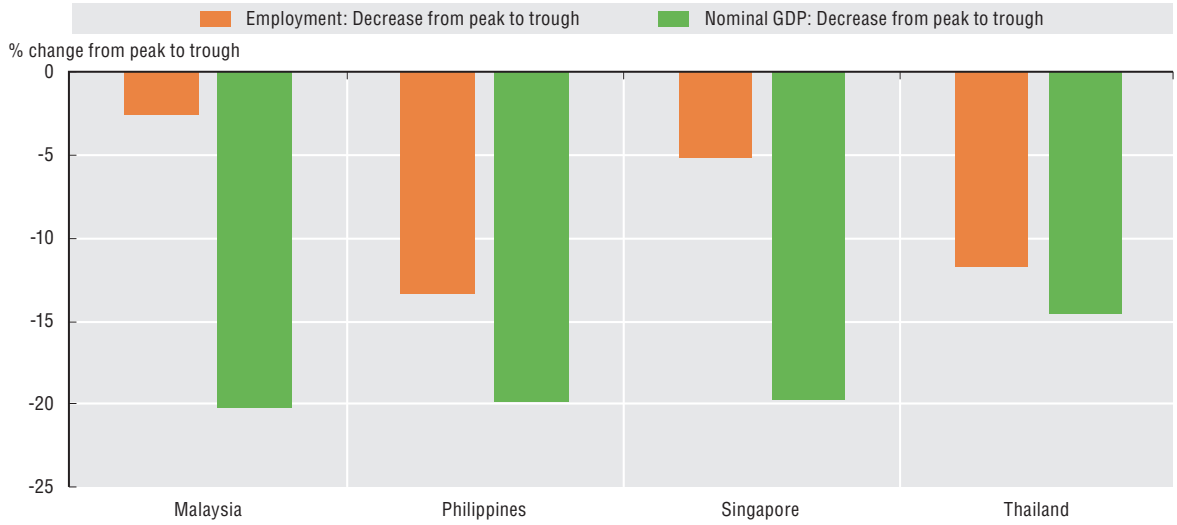
In Emerging Asia, research conducted for the Monetary Authority of Singapore explored how behavioural biases could affect reported inflation expectations in the Singapore Index of Inflation Expectations. More specifically, Clark, Ghosh and Hanes (2018) applied insights from behavioural economics to an existing survey on inflation expectations. They concluded that changing the format of questions can lead to significantly different answers. The key bias that influences the formation of inflation expectations is anchoring, whereby consumers are influenced by information that is immediately available.

The pandemic has inflicted lasting damage to labour markets

The COVID-19 pandemic has inflicted lasting damage to labour markets in Emerging Asia. However, its impact on national labour markets in the region has differed substantially. From its peak level during the pandemic period to its trough during the same period, the number of people in employment declined by less than 5% in Malaysia. By contrast, it fell by more than 5% in Singapore, and more than 10% in the Philippines and Thailand (Figure 1.30). In all of the countries for which data were available, the fall in employment was less severe compared to the drop from peak to trough in quarterly output. In part, this has reflected government support through various job-retention schemes. However, it may also mean that there is potential for further negative adjustments in the months to come, given the time lags involved. In addition, several other factors may lie behind the differences in which national labour markets in Emerging Asia have reacted to the pandemic-induced crisis. Specialisation in particular sectors, conditions influencing firms' willingness and ability to retain workers, and the institutional and policy environment may all help to explain the differences.

Figure 1.30. **Adjustment of employment to the COVID-19 crisis in selected ASEAN economies**

Change from peak to trough (%)



Note: Data are as of 24 February 2022. Country-specific peaks and troughs are considered in the period running from Q1 2020 to Q3 2021.

Source: Authors' calculations based on data from CEIC and national sources.

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Data on the rate of employment have confirmed the persistent weakness in labour-market conditions in the Philippines and Viet Nam. In September 2021, for instance, unemployment in the Philippines rose to 8.9%, the highest level since January 2021 (Philippine Statistics Authority, 2021). In Viet Nam, the COVID-19 outbreak that started at the end of April 2021 caused severe disruption to production and business operations across the country. Data published by Viet Nam's General Statistics Office show that more than 28.2 million people aged 15 and above were negatively affected in the third quarter of 2021, either through job losses, furloughs, alternate working shifts, reduced working hours, or reduced income. Out of the 28.2 million people affected, 4.7 million lost their jobs. Moreover, the number of workers adversely affected by the pandemic increased by 15.4 million people in the third quarter of 2021 from the previous quarter. As a result, the unemployment rate in Viet Nam climbed to 3.98% in September, the highest increase in the past ten years (General Statistics Office, 2021). In addition, the crisis has hit SMEs particularly badly, as they represent an outsized share of firms in the sectors that have been worst affected by the crisis (Box 1.6).

Box 1.6. **Small and medium-sized enterprises struggle to stay afloat**

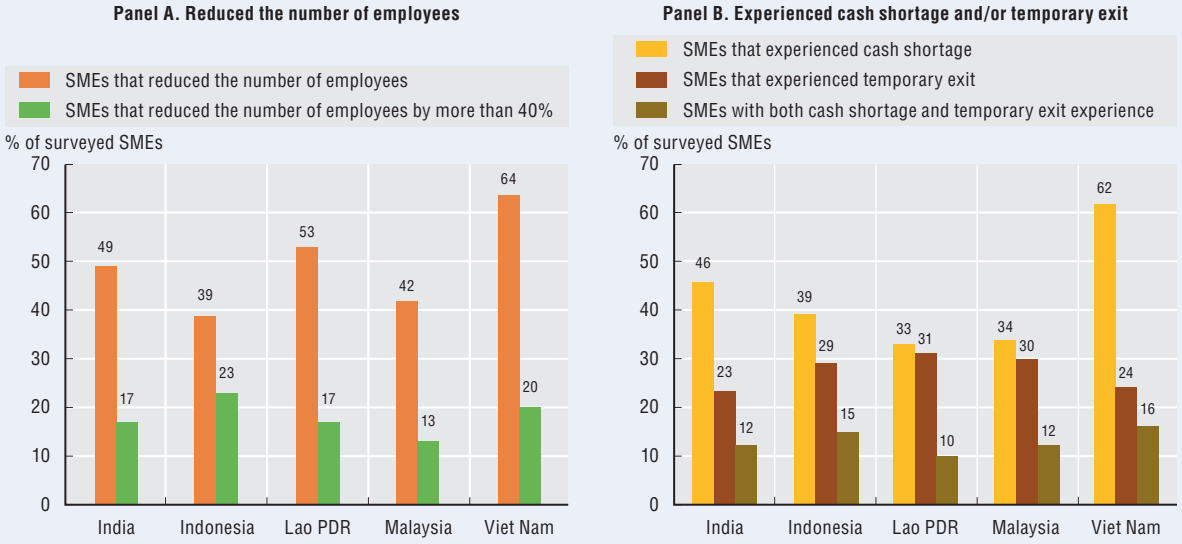
The fallout from the COVID-19 pandemic on earnings, employment, and the viability of firms has been particularly visible for SMEs. Indeed, the impact has been all the more acute for SMEs as they tend to be less well endowed with technology, while also being more labour-intensive. A survey of SMEs in India, Indonesia, Lao PDR, Malaysia and Viet Nam illustrates the extent of the damage. For instance, more than half of SMEs in Viet Nam and Lao PDR have trimmed their labour force. In Viet Nam, 64% of respondents declared that they had reduced the number of permanent employees after the outbreak of the pandemic, with 53% saying the same thing in Lao PDR (Figure 1.31, Panel A). Firms also encountered major difficulties in managing their cash flows, and some of them left the market temporarily. As evidenced by the same

Box 1.6. **Small and medium-sized enterprises struggle to stay afloat** *(cont.)*

survey, meanwhile, SMEs in India and Viet Nam were the most affected by cash shortages, with 62% and 46% of respondents respectively pointing to such issues in 2020. Around 30% of SMEs surveyed in both Lao PDR and Malaysia experienced a temporary exit from the market, while between 10% and 16% of SMEs in all countries experienced both a cash shortage and a temporary exit (Figure 1.31, Panel B).

Figure 1.31. **SMEs that reduced their number of employees, or experienced either a cash shortage or a temporary exit from the market, in selected Emerging Asian economies**

Surveyed SMEs (%)



Note: Figures depict answers to a survey conducted during the following periods: 18 to 29 May 2020 in Viet Nam, 18 May to 6 June 2020 in Malaysia, 17 August to 11 September 2020 in India and Indonesia, and 8 September to 13 October 2020 in Lao PDR.

Source: Sonobe et al. (2021).

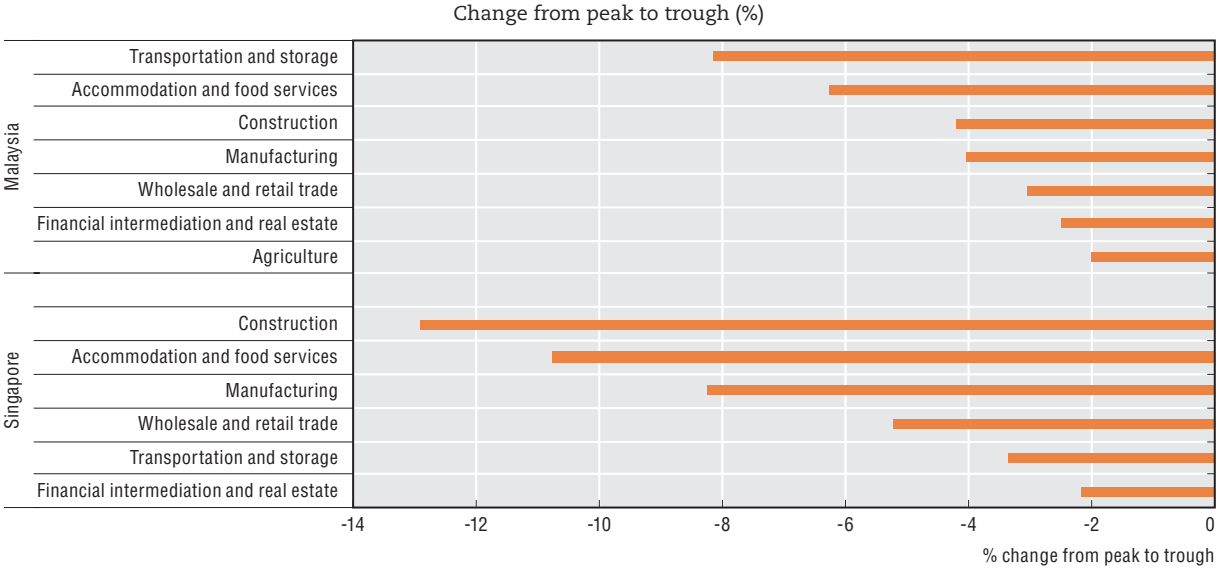
StatLink https://doi.org/10.1787/888934304419

Most importantly, the firms that have been hit the hardest are in the services sector, in particular tourism and hospitality. Looking ahead, SMEs in the tourism industry will continue to face challenges, as the resumption in international tourism flows will be very gradual in most Emerging Asian countries. Although there are large enterprises in the accommodation and airline sectors, the tourism industry tends to be characterised by a large share of SMEs, often individually or family owned. The continued drop in tourist arrivals could place more than 100 million direct tourism jobs at risk, many of them in the SME sector (UNWTO, 2020). In Thailand, for example, SMEs comprise more than 90% of firms in the hospitality sector (Goretti et al., 2021). In Cambodia, the pandemic initially affected larger, registered SMEs in the tourism sector. Since February 2021, however, the effect of the crisis has been equally severe for smaller, non-registered SMEs. The impact was felt primarily by tourism businesses in areas that rely on international tourists and travellers, like Siem Reap. Official estimates by the Cambodian Ministry of Tourism indicate that at least 50 000 employees in the tourism sector were laid off in 2020 (The Asia Foundation, 2021).

The pandemic has had an asymmetric impact on labour markets, depending on the economic sector. In Malaysia and Singapore, for instance, employment losses were heavily concentrated in construction, hospitality and transportation. This reflects the restrictions on movement that were still in place in Emerging Asia in the second half of 2021. The adjustment

in employment in the transport and storage industry was particularly significant in Malaysia, where employment declined by 8.2% from its peak during the pandemic period to its trough during the same period. The construction sector accounted for the bulk of the decline in employment in Singapore, recording a fall of 12.9% from peak to trough (Figure 1.32). By contrast, the employment decline was more moderate in financial intermediation and real estate in both countries, while the agricultural sector also held steady in Malaysia. Official data for Viet Nam also show that the brunt of job losses in the third quarter of 2021 took place in the manufacturing and construction sectors, while workers in the agriculture, forestry and fisheries sector were relatively less affected (General Statistics Office, 2021).

Figure 1.32. **Adjustment of employment to the COVID-19 crisis by sector in Malaysia and Singapore**



Note: Data are as of 24 February 2022. Country-specific peaks and troughs are considered in the period from Q1 2020 to Q3 2021.

Source: Authors' calculations based on data from CEIC and national sources.

StatLink https://doi.org/10.1787/888934304438

The COVID-19 pandemic, and the losses in employment hours that have resulted from it, have often shifted the focus to jobs in the so-called "gig economy[3]", as workers from the sectors most affected by restrictions have turned to food-delivery and other app-based jobs in order to boost their incomes. This phenomenon has been especially notable in India. Indeed, the Associated Chambers of Commerce and Industry of India has projected that the country's gig economy will grow at a compound annual rate of 17%, to reach USD 455 billion by 2023 (Bala, 2021). Many gig-economy businesses have proven to be valuable network enablers during the COVID-19 crisis, facilitating the delivery of food and other essential items in areas placed under lockdown and other strict containment measures. However, the pandemic has also highlighted the precarious nature of worker-company contractual relationships in the gig economy. Indeed, gig-economy workers who have fallen ill or needed to isolate during the pandemic have lost their income either entirely or partially. App-based drivers in Indonesia, for instance, are believed to have lost over 60% of their earnings because of decreasing demand and safety concerns during the pandemic outbreak (Rachmawati et al., 2021).

In the aftermath of the pandemic-induced crisis in 2020, government policies focused on supporting aggregate demand (Table 1.14). In order to mitigate the impact on employment, meanwhile, governments also sought to encourage flexible working time arrangements, although significant differences can be observed among Emerging Asian countries in the measures they took to manage the pandemic's impact on employment. In order to increase the chances of unemployed people finding a job, countries in the region implemented various policies to improve the supply side of the labour market. These measures have aimed mostly at providing in-work benefits, such as temporary reductions in employees' social security contributions. In addition, however, some countries adopted training programmes for the unemployed. For instance, Cambodia allocated USD 123 million for wage subsidies and training programmes for suspended workers in the garment and tourism industries. Malaysian authorities also implemented hiring and training subsidies as part of the country's second stimulus package, unveiled in March 2020.

Table 1.14. **Examples of measures taken by authorities in Emerging Asia to mitigate the impact of the crisis on labour markets, 2020-22**

Country	Supply side				Demand side			
	Training	In-work benefits	Job search assistance	Extension of unemployment benefits	Short-time working schemes	Subsidies for wage payments	Reduction in non-wage labour costs	Credit guarantees and other lending facilities
Brunei Darussalam							●	
Cambodia	●					●	●	
Indonesia				●			●	
Lao PDR		●		●			●	
Malaysia	●			●		●	●	●
Myanmar							●	●
Philippines		●					●	●
Singapore	●	●	●		●	●	●	
Thailand		●					●	●
Viet Nam		●					●	
China		●		●			●	
India		●					●	

Note: Information as of 24 February 2022.

Source: Authors' compilation based on national sources and IMF (n.d. c), *Policy Responses to COVID-19*, https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19.

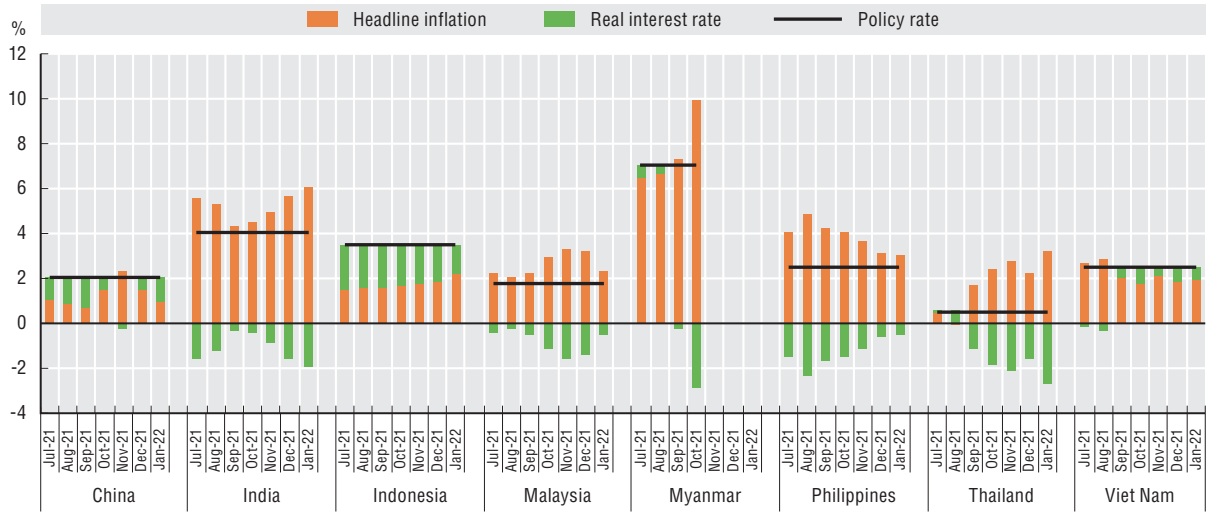
Looking ahead, delays to economic recovery due to the fast-spreading Omicron wave of COVID-19 increase the potential for lasting damage to Emerging Asia's labour markets. This is particularly relevant for sectors that rely on face-to-face contacts, and for cyclical sectors such as construction, in which further restrictions could weigh heavily on revenues, increasing insolvency risks and unemployment. Furthermore, the pandemic will continue to highlight the fragility of informal workers and people in the gig economy. To be sure, emergency policy measures in Emerging Asia have continued to cushion the shock, and have so far largely kept firms in the region afloat by preventing or delaying bankruptcy. Still, the labour market also appears likely to suffer from so-called hysteresis effects, aftershocks that can persist even after the underlying causes have dissipated, which could have negative implications for inequality and the effectiveness of monetary and fiscal policies.

Monetary policy remains accommodative in response to recoveries

In Emerging Asia, with COVID-19 caseloads up again due to the Omicron variant, monetary policy makers have been holding rates steady until economic prospects improve durably. Notwithstanding the spike in headline inflation in the second quarter of 2021, meanwhile, inflationary pressures have been muted in much of the region, notably in light of renewed restrictions on mobility and the ensuing weakness in domestic demand. Given the aggressive easing of respective countries' monetary-policy stances, real interest rates have fallen in China, Indonesia and Viet Nam, and have turned negative in India, Malaysia, Myanmar, the Philippines and Thailand (Figure 1.33). This should keep financing conditions accommodative, and should be supportive of credit growth, as negative real interest rates render the cost of debt sustainable.

Figure 1.33. **Headline inflation, policy rate, and real interest rate in selected Emerging Asian economies, July 2021 to January 2022**

Percentage



Note: Data are as of 24 February 2022. Data on consumer prices for Myanmar were unavailable for the period running from November 2021 to January 2022. The real interest rate is calculated as the difference between the policy rate and headline inflation.

Source: Authors' calculations based on data from CEIC.

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Most central banks in Emerging Asia have decided to maintain an accommodative monetary stance. In its latest monetary policy meeting in February 2022, for example, the Reserve Bank of India held its policy rate unchanged at 4%, maintaining an accommodative stance because of the uncertain near-term outlook due to rising commodity prices, increased volatility in global financial markets, and tight bottlenecks in global supply chains. At its February 2022 meeting, the Bank of Indonesia likewise kept its key policy rate, the seven-day reverse repurchase rate, at a record-low level of 3.5%. It also reiterated its intention to optimise the policy mix in order to support economic growth amid a build-up of external pressures. Furthermore, Bank Negara Malaysia also decided to keep the overnight policy rate unchanged at 1.75% at its meeting in January 2022, citing downside risks to the growth outlook, such as a weaker-than-anticipated global growth, worsening supply-chain disruptions, and the still high level of uncertainty around the evolution of the pandemic. The central bank of the Philippines, Bangko Sentral ng Pilipinas, announced a similar decision after its February 2022 meeting,

committing to providing continued support for economic growth in light of the downside risks to the recovery both from the ongoing pandemic, and from high global oil and food prices. In a similar vein, the Bank of Thailand kept its policy rate unchanged at 0.5% in February 2022, as the recovery remained fragile due to uncertainties around the Omicron variant.

Some central banks in the region even announced further easing measures. In early July 2021, for instance, the People's Bank of China (PBOC) cut the reserve requirement ratio by 50 basis points. It is likely that the purpose of this measure was to support liquidity. This includes offsetting the negative liquidity effect of expiring medium-term lending facilities. It also includes lowering costs for banks and, by extension, for businesses too. In early December 2021, the PBOC announced a second cut to its reserve requirement ratio, of 0.5%, releasing RMB 1.2 trillion (USD 188 billion) of liquidity (Bloomberg, 2021b). In January 2022, moreover, the PBOC decided to reduce the open market operations rate and the one-year policy loan rate by 10 basis points, to 2.1% and 2.85%, respectively. Furthermore, the PBOC also lowered its one-year loan prime rate by 10 basis points to 3.7%, and reduced the five-year loan prime rate by five basis points, to 4.6%. These measures are part of its pledge to use more monetary tools to support the economy and drive credit expansion (Bloomberg, 2022).

On the other hand, the Monetary Authority of Singapore tightened its policy stance in January 2022, in an off-cycle policy meeting. At this meeting, the central bank slightly increased the slope of the Singapore dollar's nominal effective exchange rate policy band. At the same time, it left unchanged the width and level at which this policy band is centred. Over the past few months, headline inflation in Singapore has been driven upwards by rising car prices and, more recently, by an increase in airfare prices. The decision to tighten the policy stance, however, was triggered by the uptick in food and energy prices caused by supply-chain disruptions, as well as by extreme weather conditions in countries that are major trading partners for Singapore. Moreover, domestic conditions are likely to fuel inflation growth even further, with the resident unemployment rate in Singapore close to pre-pandemic levels, and wage pressures rising (MAS, 2022).

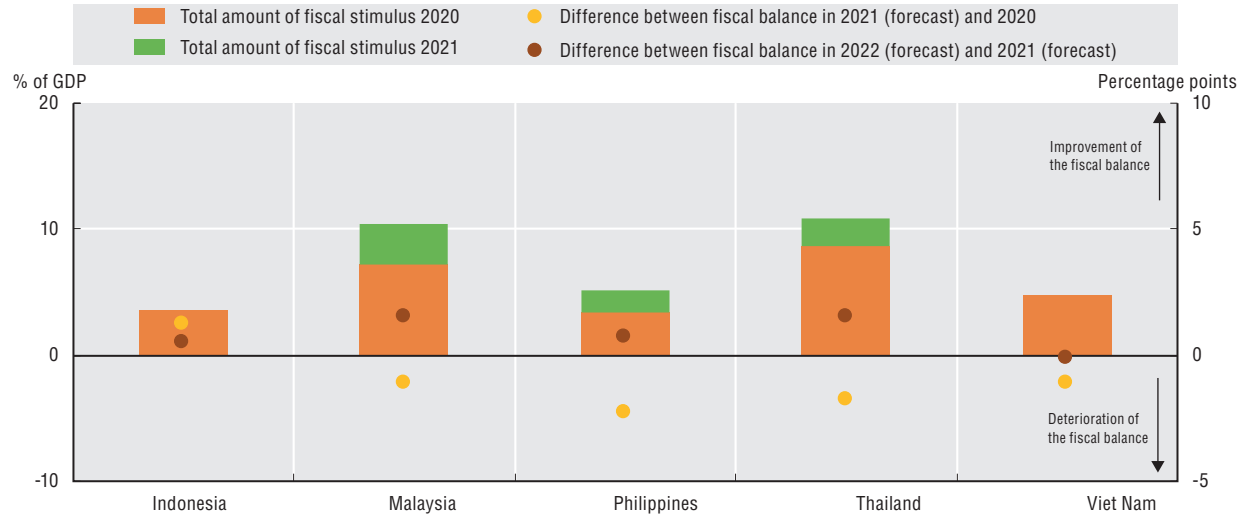
Price dynamics will remain the critical guideline for central banks as they take further policy decisions. Unless inflation expectations become unanchored, however, inflation in Emerging Asian economies is likely to moderate in 2022. Against this background, central banks in the region are expected to maintain an accommodative monetary stance over the course of the year. However, policy makers are likely to be wary of tapering asset purchases and higher policy rates in the United States and other advanced economies. Indeed, the March 2022 policy rate hike by the US Federal Reserve, and uncertainty around the Omicron variant, will pose downside risks that could prompt capital outflows from Emerging Asian markets. This could lead to a depreciation in local currencies, and to heightened financial volatility, in economies that have not yet recovered fully from the pandemic.

Fiscal support has continued into 2021, but the outlook for public finances is slowly improving

The sharp economic downturn in 2020, and the forceful fiscal-policy response that it elicited, led to an unprecedented deterioration in the public finances of countries in Emerging Asia. Throughout 2021, Malaysia, the Philippines, Singapore and Thailand rolled out extra fiscal stimulus, adding to the large amounts already deployed in 2020 (Figure 1.34). Indeed, the 2021 fiscal deficit is still projected to exceed 5% of GDP in most countries in

ASEAN. As economies slowly recover, however, and notwithstanding the continuation of discretionary fiscal measures to shelter households, workers and firms from the impact of renewed COVID-19 outbreaks, fiscal deficits are forecast to narrow marginally in 2022, instead of increasing further.

Figure 1.34. **Total size of fiscal packages and estimated impact on the fiscal balance in selected ASEAN economies, 2020-21**



Note: The cut-off date for the fiscal stimulus data is 15 November 2021. Data on fiscal balances refer to the general government.

Source: OECD Development Centre and OECD (2021a), *OECD Economic Outlook No. 110*; and ADB (n.d.), *COVID-19 Policy Database*, https://covid19policy.adb.org/ (accessed multiple times between June 2021 and March 2022).

StatLink https://doi.org/10.1787/888934303773

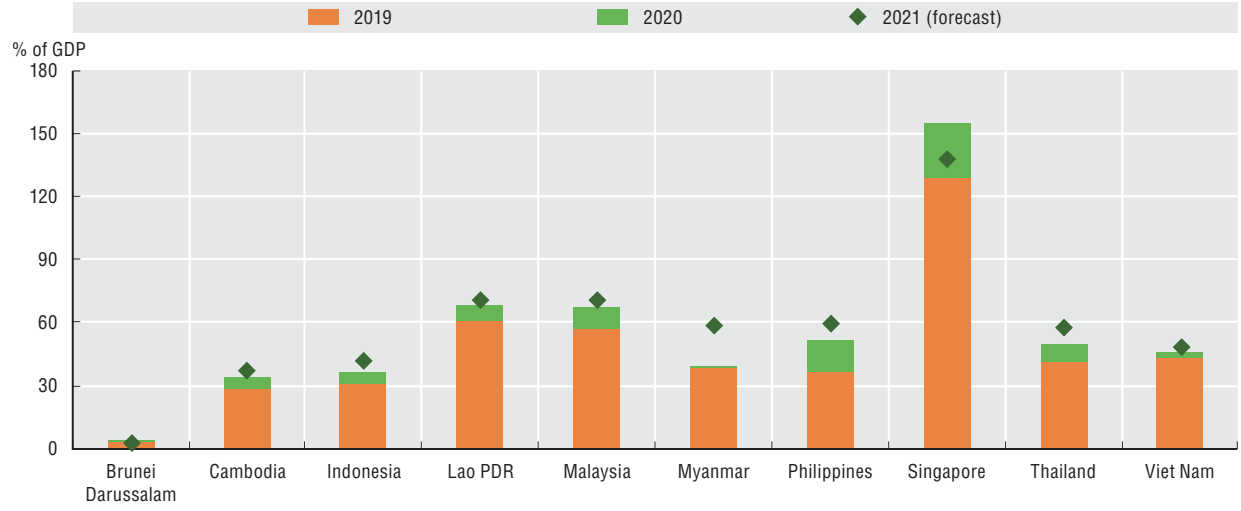
Malaysia's fiscal stimulus in 2021 amounted to around 3.1% of GDP. It included cash aid to households, a six-month moratorium on loan repayments, service tax breaks to hotel operators, electricity discounts for affected economic sectors, wage subsidies, and funds for micro-entrepreneurs. Meanwhile, the fiscal stimulus that the Philippines rolled out in 2021 was equal to approximately 1.8% of GDP. It sought mainly to support the workers and businesses that had been most affected by the pandemic-related restrictions, and to fund improved health protocols, including digitally assisted contact tracing and vaccinations. In Singapore, the 2021 fiscal stimulus was equal to around 2.8% of GDP. Its main areas of focus included enhancing a job-support scheme to help enterprises to retain their local workers. They also included rental relief for small and medium-sized enterprises, and subsidies for merchandise peddlers, market stallholders and drivers of taxis and private hire cars. Singapore's fiscal package also extended the temporary COVID-19 Recovery Grant scheme's coverage period for lost income for eligible workers. For its part, the government of Thailand provided fiscal support amounting to around 2.2% of GDP in 2021. The Thai fiscal package included cash aid for workers, reductions on water and electricity bills, arrangements for debt repayments, and reductions in tuition fees at educational institutions.

The debt-to-GDP ratios of general governments in the block are expected to continue rising in 2021, although at a much slower pace compared to 2020 (Figure 1.35). The exception is Singapore, whose general government debt ratio is projected to improve in 2021. Since

the costs of servicing debt are rising in developing and emerging-market economies, the challenges associated with rising debt levels are more pressing than for advanced economies (see Chapter 2 for further discussion). Indeed, the cost of emerging-market sovereign borrowing surged at the very beginning of the pandemic, in March and April 2020, due to sharp increases in emerging-market risk premiums (OECD, 2021b). Although interest rates are currently low, and the availability of financing is ample, policy makers in Emerging Asia need to manage rising debt-service burdens carefully. Indeed, the rapid build-up of general government debt at a period of low economic growth during the COVID-19 crisis has increased the need for an assessment of the sustainability of government debt (Box 1.7).

Figure 1.35. **General government debt in ASEAN countries, 2019-21**

Percentage of GDP



Note: Data refer to the gross debt of general governments. For Cambodia, the 2020 debt-to-GDP ratio is an estimate.

Source: National sources and IMF (2021), *World Economic Outlook Database October 2021*, https://www.imf.org/en/Publications/WEO/weo-database/2021/October (accessed multiple times between October and February 2022).

StatLink https://doi.org/10.1787/888934304476

Box 1.7. **The sustainability of general government debt in Emerging Asia**

Coinciding as it has with low economic growth during the COVID-19 crisis, the rapid build-up of general government debt has increased the need for an assessment of its sustainability in the countries of Emerging Asia. The level of general government debt that is deemed to be sustainable is a matter of judgement, however, and varies from country to country, in function of the level of economic development and the underlying strength of the financial system. As posited by Domar (1944), debt sustainability can only be achieved when the real growth rate of the economy is higher than the real interest rate. The other condition is that the primary balance be positive, and indeed large. However, the Domar condition was revisited in the context of the COVID-19 crisis by Krugman (2020), who advocates that governments should "undertake large, deficit-financed public investment on a continuing basis". With regard to optimal fiscal policy, Barro (1979) discusses the role of inflation, pointing to a one-to-one effect of expected inflation on the rate of growth in nominal debt. Finally, other studies propose models for monetary policy and public-debt sustainability. For instance, Arellano, Bai and Mihalache (2020) find that default risk amplifies monetary frictions and generates a tension for monetary policy. In turn, these monetary frictions tend to discipline sovereign borrowing, slowing down debt accumulation and lowering sovereign spreads.

Box 1.7. **The sustainability of general government debt in Emerging Asia** *(cont.)*

Using empirical approaches, several researchers have attempted to derive a threshold level for general government debt, beyond which economic activity would be compromised. While most studies conclude that the upper limit for general government debt-to-GDP is around 90% (Reinhart and Rogoff, 2010), other authors find even lower thresholds, ranging from 51.65% (Law et al., 2021) to 64% (Caner, Grennes and Koehler-Geib, 2010). Country-specific estimations for Emerging Asia are relatively scarce. Campos and Cysne (2021) estimate public debt limits for a panel of 18 emerging economies, and obtain a debt-to-GDP limit for the Philippines that ranges between 58.09% to 65.04%, depending on the method of estimation that they deployed. In a similar vein, Baharumshah, Soon and Lau (2017) posit a public debt-to-GDP limit of 55% for Malaysia, above which economic activity is likely to be negatively impacted.

Another indicator that plays a key role in assessing the sustainability of a country's debt is the primary budget balance. As already noted, the fiscal response to COVID-19 has been significant in many Emerging Asian economies, with fiscal balances deteriorating across the board in 2020, and only a slight improvement expected to materialise in the figures for 2021. The economic literature offers an array of tools to assess fiscal sustainability in terms of the fiscal balance. The basic requirement is that a government stays within the so-called intertemporal budget constraint, which captures a stable long-run association between government revenue and expenditure (Croce and Juan-Ramon, 2003). Studies on the impact of the COVID-19 pandemic on the sustainability of fiscal balances in Emerging Asia are currently in short supply. However, a paper focusing on the period immediately prior to the pandemic concludes that Malaysia's fiscal imbalances were already inconsistent with strong sustainability before the emergence of COVID-19 (Lau and Lee, 2021).

In addition, the COVID-19 crisis has shown that, apart from assessing medium-term risks to debt sustainability, there is also a need to account for short-term refinancing risks. Indeed, a country that faces increasing difficulties in accessing financial markets in the short term could go on to face debt-sustainability issues in the medium term. This is because higher bond yields will gradually increase the cost of servicing the debt. Increases in government bond yields due to unfavourable assessments by financial markets could trigger a vicious circle of an increasing cost of refinancing government debt, thus adding to debt-sustainability risks. Several empirical studies for emerging-market economies have found that high government debt ratios may contribute to rising sovereign-bond yield spreads. Table 1.15 summarises the results of selected studies that also focus on Emerging Asian economies.

Table 1.15. **Selected empirical evidence on the impact of government debt on sovereign yield spreads and access to credit in Emerging Asia**

Title	Emerging Asian countries included in the sample	Reference period	Main result(s)
Min (1999)	China, Indonesia, Malaysia, the Philippines.	1990-95.	A percentage point increase in the government debt-to-GDP ratio is associated with an increase in the yield spread of 1.005 percentage points.
Akitoby and Stratmann (2006)	China, Malaysia, the Philippines and Thailand.	1994-2003.	A percentage point increase in the ratio of public debt to gross national income is associated with an increase in the yield spread of between 1.253 and 1.596 percentage points, depending on the estimation method and model specification used.
Bellas, Papaioannou and Petrova (2010)	Malaysia and the Philippines.	Q1 1997 to Q2 2009.	A percentage point increase in the ratio of public external debt-to-GDP is associated with an increase in the yield spread of 2.655 percentage points.
Presbitero et al. (2016)	Cambodia, India, Lao PDR and Viet Nam.	1995 to 2014.	A 10% increase in the external debt-to-GDP ratio is associated with a 10-12 basis-point increase in the primary spread.
Campos and Cysne (2021)	China, Malaysia and the Philippines.	Q4 2001 to Q2 2016.	Countries whose debt-to-GDP ratio exceeded their limits had difficulties in obtaining new loans.

Note: The yield spread is defined as the difference between the yield on 10-year government securities of each country included in the sample and the yield on 10-year US Treasuries.

Source: Authors' summary of cited papers.

Box 1.7. **The sustainability of general government debt in Emerging Asia** *(cont.)*

In order to provide a complete picture, the analysis of the sustainability of general government debt should also include contingent and implicit liabilities. Contingent liabilities are future government liabilities that arise only if a particular event materialises. As indicated in Box 1.3, the accumulated contingent liabilities from guarantees provided to the non-financial corporate sector during the COVID-19 crisis are sizeable in many Emerging Asian countries. Implicit liabilities are mostly related to entitlements whose payments fall due in the future. This includes public spending on pensions, and other expenses related to ageing populations. In the medium term, the pressures that these items may add to countries' public finances could have a negative impact on any assessment of their sustainability. Although the bulk of cost increases will only materialise in many Emerging Asian countries around 2050 (Andersson, 2021), gradual cost increases due to an ageing population could still render debt trajectories unsustainable before this point. In light of this, accounting systematically for contingent and implicit liabilities in any analysis of the medium-term sustainability of debt for Emerging Asian countries would provide a valuable broadening of the assessment process.

Conclusion

Maintaining a strong degree of complementarity between fiscal and monetary policies remains an essential condition for countries in Emerging Asia to keep traction in their economic recoveries in the medium term. In 2022, however, further economic recovery will allow some of them to dial back the support measures that they have implemented as a response to the COVID-19 pandemic. Meanwhile, increases in government revenue as economies recover should translate into a slight reduction in fiscal deficits. Nevertheless, the economic recovery remains very uncertain, notably as the Omicron wave of the pandemic is set to continue to unfold during the first quarter of 2022. The war in Ukraine will also add some uncertainty to the near-term outlook. In addition, calls from throughout society for measures to address longer-term challenges such as climate change will lead to continued demands on government spending. The longer it takes Emerging Asian governments to restore their scope for fiscal flexibility, the more susceptible they will be to a negative shock.

Notes

1. "Restricted default" ratings designate an issuer that has, in the opinion of Fitch Ratings, experienced an uncured payment default or an exchange of distressed debt on a bond, loan or other material financial obligation, but has not entered into bankruptcy filings, administration receivership, liquidation, or other formal winding-up procedure, and has not otherwise ceased operating.
2. An escrow account is an account where funds are held in trust while two or more parties involved in a transaction complete the respective transaction.
3. The World Economic Forum defines the "gig economy" as a system that "uses digital platforms to connect freelancers with customers to provide short-term services or asset-sharing". Examples of the gig economy include ride-hailing applications, food delivery applications, and holiday-rental applications.

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Chapter 2

Risks to the economic outlook amidst the COVID-19 pandemic and policy responses in Emerging Asia

The economic growth outlook is clouded by several risks. This chapter explores major health and non-health risks. The evolution of the pandemic remains key, as the Omicron variant has led to a sharp rise in caseloads in early 2022. Several challenges need to be addressed as regards the supply and distribution of vaccines, as well as vaccine hesitancy. Despite the rollout of vaccines, some non-pharmaceutical interventions should be maintained for the time being. Digital tools should continue to be developed, together with telehealth and telemedicine. The chapter also discusses several non-health risks. First, the gradual rise in inflation is raising concern, as economies strengthen and food prices rebound. Second, supply-chain disruptions are another downside risk due to their potential impact on economic growth and consumer prices. Finally, disparities within and across countries in Emerging Asia constitute another risk to the outlook.

Introduction

This chapter examines key risks to the economic outlook set out in Chapter 1. The risks explored include the evolution of the pandemic; rising inflation; and the potential for further supply chain disruptions.

Overall, economic recovery is expected to continue in Emerging Asia, but uncertainty remains, as the COVID-19 pandemic continues to evolve (see Chapter 1). In the near term, the effectiveness of healthcare responses and vaccination programmes will have a strong role to play in determining economic developments. Indeed, an appropriate combination of health policy responses, vaccination, and a comprehensive exit strategy will be critical for coping with the pandemic as it continues to unfold.

Domestic inflation has been gradually increasing across the region, in tandem with rising commodity prices across the globe. This notwithstanding, the rise in inflation has been more moderate in Emerging Asia compared with the United States and other OECD member countries.

Another risk stems from the imbalances between supply and demand that have resulted from the irregular closing and re-opening of individual economies, and which have affected a number of key industries, have led to longer-than-anticipated disruptions to supply chains, and have contributed to growing price pressures. Although there are signs the recent supply-chain bottlenecks are starting to somewhat ease, the outlook will depend to a large extent on China's pandemic management policies. A continuation of the zero-COVID-19 policy in China could lead to further production slowdowns around the country's manufacturing and shipping hubs, which could have broader implications for other countries in Emerging Asia.

In addition to disparities within countries in Emerging Asia, the pandemic also threatens to exacerbate existing cross-country differences. A slowdown in China partly related to weak consumption and negative spillovers from the property sector could have broader impact on economies in the region, in particular for ASEAN countries.

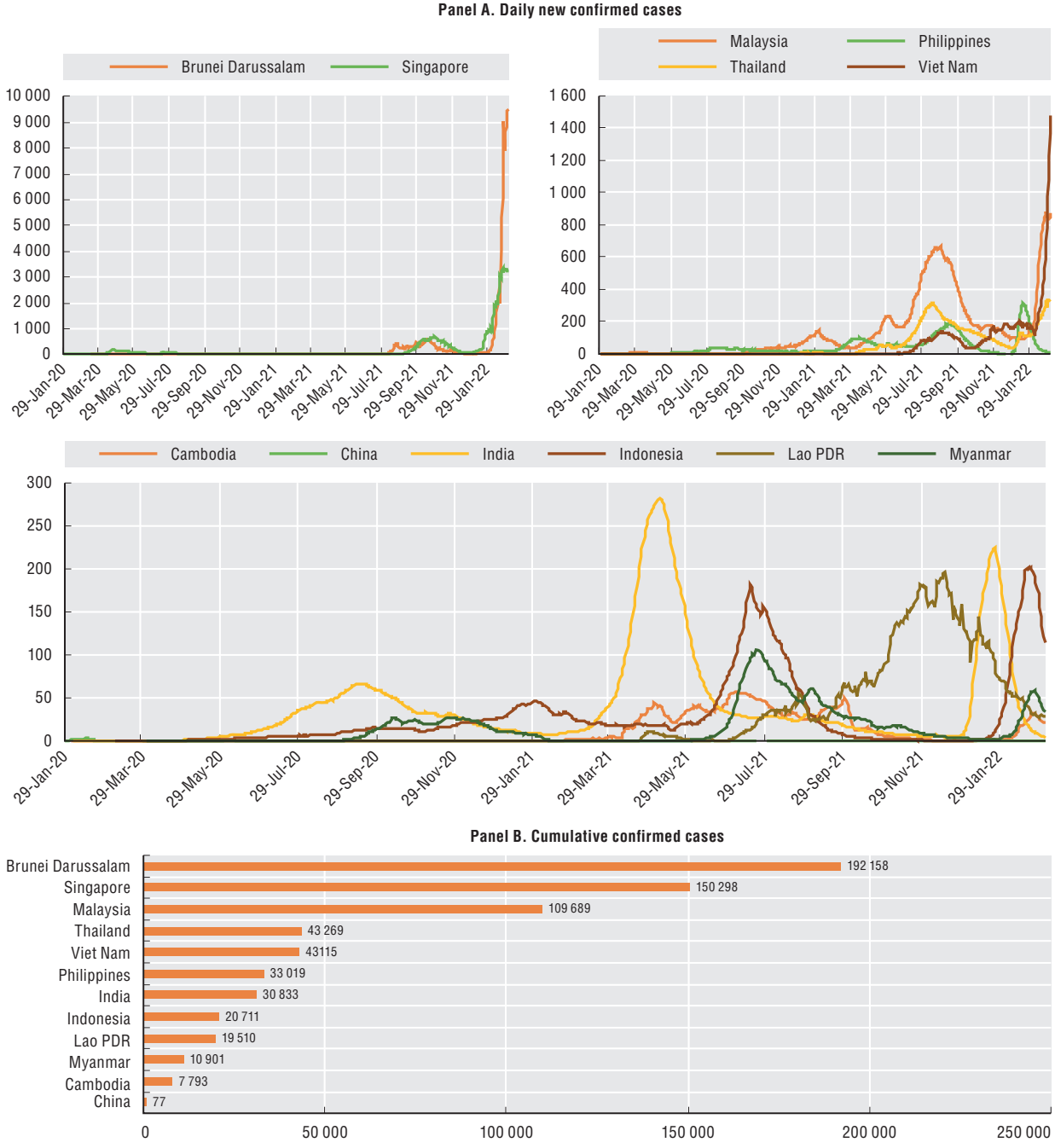
Healthcare and vaccine responses against COVID-19

Although the numbers of daily new confirmed COVID-19 cases in some countries in Emerging Asia have decreased from the peak that they reached in the second half of 2021, recent data show increases in cases in some countries at the beginning of 2022 (Figure 2.1, Panel A). As of 5 March 2022, Brunei Darussalam had more than 190 000 cumulative confirmed cases per million people, Singapore and Malaysia saw more than 150 000 and 100 000 cases per million people respectively, Thailand and Viet Nam had reached more than 40 000 cases per million people, and India and the Philippines both reached more than 30 000 cases (Figure 2.1, Panel B).

Indeed, the emergence of new variants has increasingly been putting extra pressure on the countries of Emerging Asia. As of 27 January 2022, the World Health Organisation (WHO) had identified four variants of concern. These are the variants that are known to spread more easily, and can in some cases cause more serious illness. They include the Beta, Gamma, and Delta variants, as well as the most recent addition, Omicron, which was added to the list in November 2021. The Omicron variant has been spreading rapidly in Emerging Asia, and all countries in the region had reported cases of it as of 10 January 2022. An

appropriate combination of policy responses, including speeding up vaccination programmes, implementing other effective health measures, and also further developments in digital health – as discussed in this section – are crucial factors for coping with the pandemic.

Figure 2.1. **COVID-19 cases per million people**



Note: Data as of 5 March 2022.

Source: Authors' compilation based on Our World in Data (2022), Coronavirus Pandemic (COVID-19) database, https://ourworldindata.org/coronavirus.

StatLink https://doi.org/10.1787/888934303792

Accelerating vaccination programmes

Vaccination has so far been considered to be effective in helping to protect people against severe disease. For instance, various studies found that COVID-19 vaccines have been highly effective in preventing deaths from the widely spread Delta variant (Christie, 2021; Sheikh, Robertson and Taylor, 2021). Therefore, effective vaccination programmes are seen as a critical tool in the transition towards a return to normality. However, the rollout of vaccine programmes across Emerging Asia has been uneven. Some countries such as China and Singapore started distributing vaccines as early as December 2020, while others did not start until March or April 2021 (Table 2.1).

Table 2.1. **Vaccine rollout in Emerging Asia**

Country	Vaccine rollout started
Brunei Darussalam	April 2021
Cambodia	February 2021
China	December 2020
India	January 2021
Indonesia	January 2021
Lao PDR	January 2021
Malaysia	February 2021
Myanmar	January 2021
Philippines	March 2021
Singapore	December 2020
Thailand	February 2021
Viet Nam	March 2021

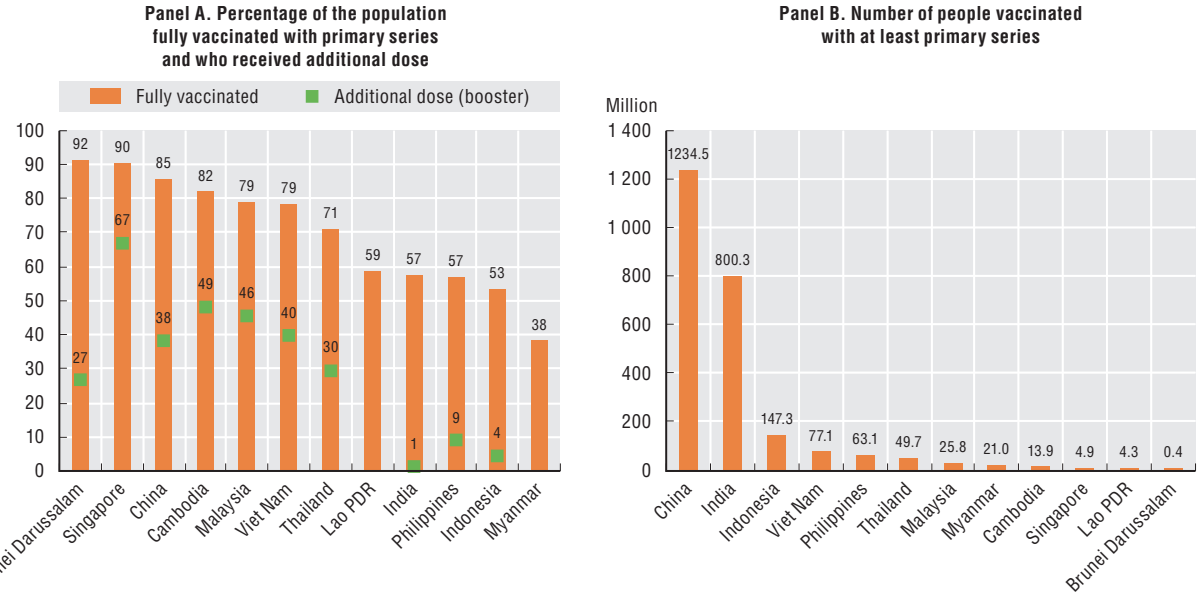
Source: Authors' compilation based on various national sources.

Although billions of doses of vaccine have been distributed in the region, and billions of people have been fully vaccinated with the primary series (Figure 2.2, Panel B), vaccine distribution programmes are uneven across Emerging Asian countries and still face challenges in some countries. As of 5 March 2022, Brunei Darussalam, Singapore and China led the region, and are also among the highest in the world, in vaccine distribution, with 92%, 90% and 85% of the population respectively having received a complete schedule of the primary series of vaccine doses (Figure 2.2, Panel A). Elsewhere, Cambodia had reached around 82%, Malaysia and Viet Nam had both reached around 79%, and Thailand had reached more than 71% of full vaccination. However, the number of fully vaccinated individuals in Myanmar, Indonesia, Philippines, India and Lao PDR still accounted for less than 60% of the population.

The WHO has set a global target for 70% of the world's population to be vaccinated against COVID-19 by mid-2022, in a bid to considerably increase the immunity of the global population, to protect people everywhere from disease, to protect health systems, to restart economies fully, to restore the overall health of society, and to reduce the risk of new variants (WHO, 2021b). In order to reach this goal, it is necessary to ensure access to vaccines, and notably to make sure that they are both affordable and equitably distributed. However, administering vaccines equitably around the world has thus far proven to be a significant challenge. Indeed, according to the Global Dashboard for Vaccine Equity, vaccination rollout has been slower in low- and middle-income countries (UNDP, 2021). In high-income countries, more than 68% of people had been vaccinated with at least one dose as of 2 March 2022, while in low-income countries

the rate stood at only around 13%. A slower or delayed process of administering vaccines could make countries more vulnerable to new surges of the virus, and lead to a slower recovery from the crisis. There is also evidence that vaccines represent a more significant financial burden for lower-income countries than for higher-income ones. High income countries would have to increase their healthcare spending by 0.8% on average to cover the cost of vaccinating 70% of the population, while low-income countries have to increase their healthcare spending by 56% (UNDP, 2021). In Emerging Asia, countries for which vaccination represents a higher financial burden have lower vaccination rates (Figure 2.3). As many countries begin to provide additional doses of vaccine, meanwhile, accelerating the distribution of the primary series of vaccines in those that are lagging behind will be even more important in order to address uneven global vaccination rates.

Figure 2.2. **Vaccination rate in Emerging Asia**



Note: Data as of 5 March 2022 (or latest data available). People fully vaccinated with primary series are defined as people who received all doses prescribed by the initial vaccination protocol.

Source: Authors' compilation based on Our World in Data (2022), Coronavirus Pandemic (COVID-19) database, https://ourworldindata.org/coronavirus.

StatLink https://doi.org/10.1787/888934303811

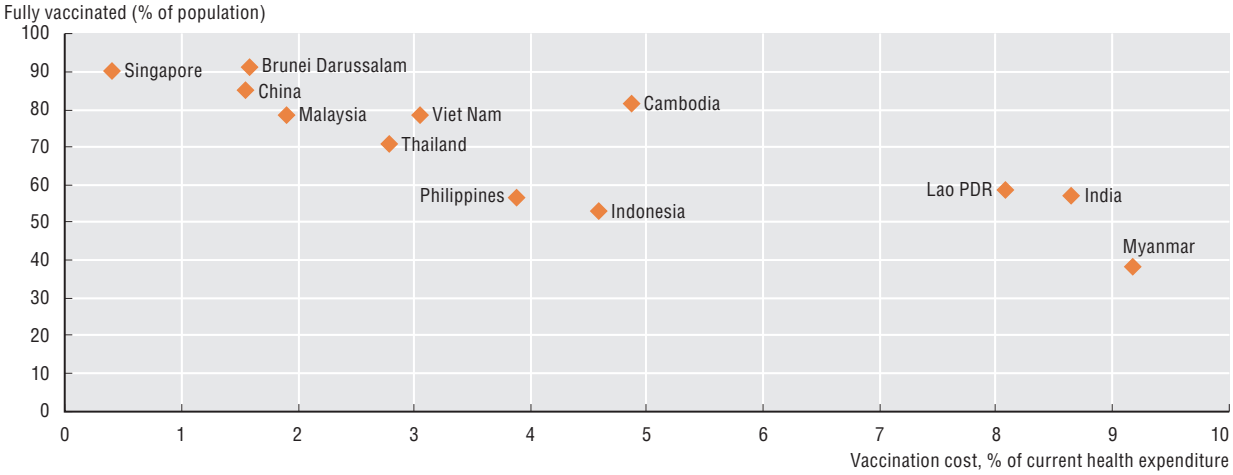
A range of challenges have hindered the distribution of vaccines in many countries in the world, including those in Emerging Asia. Indeed, in order to accelerate the distribution of vaccines and ensure their safe and timely delivery, it is necessary to address these challenges. In this connection, a report from the WHO set out some of the major logistical challenges in the delivery of vaccines. These include issues regarding the vaccine supply chain, vaccine storage infrastructure and power requirements, healthcare waste management, and human resources (WHO, 2021a).

The importance of scaling up capacity in manufacturing and logistics

Issues regarding the vaccine supply chain range from upstream manufacturing issues to vaccine distribution, and together they constitute one of the major challenges that countries face in improving their performance. As in other regions of the world, there is a

need in Emerging Asia to expand manufacturing capacity for vaccines. A survey of vaccine manufacturers in Africa, Latin America and the Caribbean, Southeast Asia, the Western Pacific and the Middle East by the Coalition for Epidemic Preparedness Innovations (CEPI) found that although manufacturing capacity varies across regions, experience with messenger ribonucleic acid (mRNA) vaccine technology and mRNA vaccine capacity, for example, remains limited across all of the regions (CEPI, 2021). Moreover, some vaccines that the WHO has authorised and that are widely used need ultra-low temperature for storage and transportation (Table 2.2). These vaccines have also been approved in many countries in the region (Table 2.3), for instance the Pfizer vaccine requires a temperature of between -90 to -60 degrees Celsius, while the Moderna and Janssen vaccines both need -25°C to -15°C, while other types of vaccines have a more favourable storage temperature of 2°C to 8°C.

Figure 2.3. **Vaccination cost and percentage of the population fully vaccinated in Emerging Asia**



Note: Data as of 5 March 2022 (or latest data available) for fully vaccinated people, and as of 2 March 2022 for vaccination cost. "Vaccination cost" is the cost of vaccinating 40% of the population as a percentage of current health expenditure. Both of these figures are in US dollars (USD).

Source: Authors' calculation based on Our World in Data (2022), Coronavirus Pandemic (COVID-19) database, https://ourworldindata.org/coronavirus and UNDP (2021), Global Dashboard for Vaccine Equity, https://data.undp.org/vaccine-equity/.

StatLink https://doi.org/10.1787/888934304495

Table 2.2. **Examples of vaccines authorised by WHO under Emergency Use Listings**

Vaccine	Manufacturer	Country	Storage temperature requirements
AstraZeneca/Oxford (Vaxzevria)	AstraZeneca	Sweden	2°C to 8°C
Covishield	Serum Institute of India	India	2°C to 8°C
Pfizer/BioNTech (Comirnaty)	BioNTech	Germany	-90°C to -60°C
Moderna	Moderna Biotech	Spain	-25°C to -15°C
Janssen (Johnson & Johnson)	Cilag International	Belgium	-25°C to -15°C
Sinopharm	Beijing Institute of Biological Products	China	2°C to 8°C
Sinovac - CoronaVac	Sinovac	China	2°C to 8°C
Covaxin	Bharat Biotech	India	2°C to 8°C

Source: Authors' compilation based on information from WHO (https://extranet.who.int/pqweb/vaccines/vaccinescovid-19-vaccine-eul-issued).

Table 2.3. **Vaccines approved in Emerging Asia**

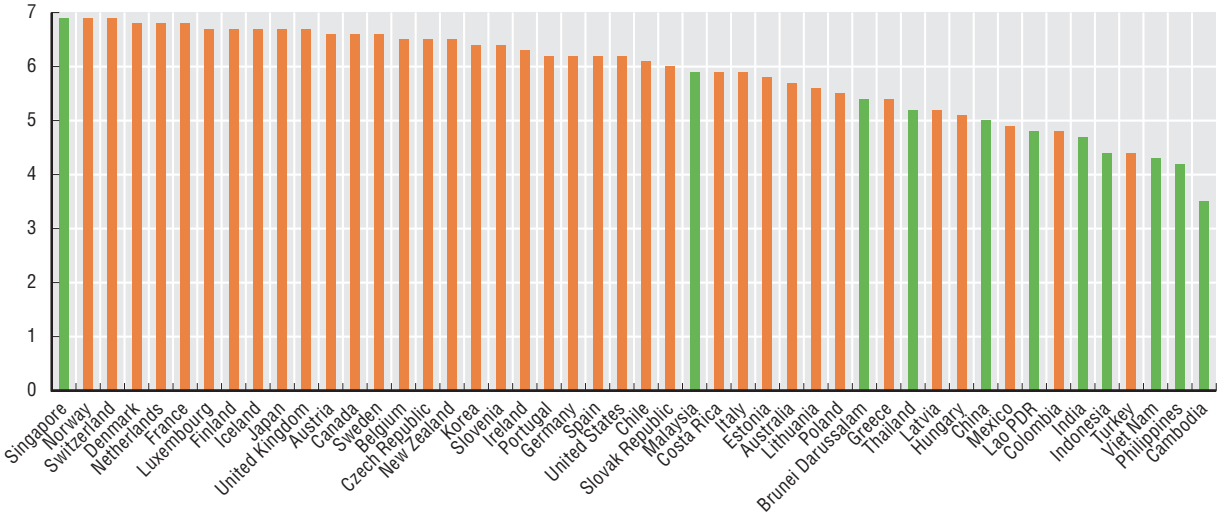
Country	Number of vaccines approved	Astra Zeneca/ Oxford (Vaxzevria)	Covishield	Pfizer/ BioNTech (Comirnaty)	Moderna	Janssen (Johnson & Johnson)	Sinopharm (Beijing)	Sinovac CoronaVac	Bharat Biotech Covaxin	Gamaleya Sputnik V	Others
Brunei Darussalam	4	√		√	√		√				
Cambodia	8	√				√	√	√		√	√
China	6						√	√			√
India	10	√	√		√	√			√	√	√
Indonesia	11	√		√	√	√	√	√		√	√
Lao PDR	6			√		√	√	√		√	√
Malaysia	7	√		√	√	√	√	√			√
Myanmar	3		√				√			√	√
Philippines	11	√		√	√	√	√	√	√	√	√
Singapore	3			√	√			√			
Thailand	6	√		√	√	√	√	√			
Viet Nam	8	√		√	√	√	√		√	√	√

Note: Data as of 11 February 2022. A vaccine that is approved in a given country may not be in use in said country.

Source: Authors' compilation based on information from the COVID-19 Vaccine Tracker website, https://covid19.trackvaccines.org/.

Limitations with regard to infrastructure remain a challenge in some countries in the region. One notable limitation in this regard is the lack of a stable and reliable electricity supply, which is necessary to power cold storage facilities for vaccines. Indeed, electricity supply is considered less reliable in Emerging Asian countries than in most OECD countries, with the exception of Singapore (Figure 2.4). Countries in Emerging Asia will need to improve vaccine facilities, including through the provision of a stable electricity supply and the availability of cold storage, in order to be able to receive and safely distribute a fuller range of vaccines, including those that require storage at an ultra-low temperature. They also need to ensure smooth distribution and last-mile delivery of the vaccines, especially in remote and rural areas.

Figure 2.4. **Quality of electricity supply, 2017**



Note: The numbers on the horizontal axis range from 1, which signifies "extremely unreliable" to 7, or "extremely reliable". This is based on the World Economic Forum's, Executive Opinion Survey, in which respondents answered the following question: "In your country, how reliable is the electricity supply (lack of interruptions and lack of voltage fluctuations)?".

Source: Authors' compilation based on World Economic Forum (2017), *The Global Competitiveness Index 2017-18*, https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018.

StatLink https://doi.org/10.1787/888934304514

The need to address vaccine hesitancy

Even when vaccines are available, fear and hesitancy still may influence people's decisions over whether or not to get vaccinated. Vaccine hesitancy refers to a refusal or reluctance to accept a vaccination, despite one being available, and it is an increasingly important issue in global health. Indeed, even before the COVID-19 pandemic, the WHO had declared vaccine hesitancy to be among the top ten threats to global health (WHO, 2019). While the reasons why people choose not to get vaccinated are multifaceted, the WHO identified complacency, inconvenience in accessing vaccines, and a lack of confidence as some of the key reasons for vaccine hesitancy.

Similarly, a study by Dabla-Norris et al. (2021) also identified several reasons that influence vaccine acceptance. These include perceptions both of the severity of COVID-19 and of the side effects that vaccines may provoke. They also include how easy to access vaccination sites are, levels of compliance with protective behaviours, overall levels of trust in government, and the manner in which information is shared among peers. Further reasons include demographic factors such as age and gender. Elsewhere in the literature, Lau et al. (2021) studied various factors influencing acceptance of COVID-19 vaccines in Malaysia. They found that the degree to which vaccines are adequately tested, as well as considerations of their effectiveness and side effects are the main reasons for refusing vaccines. Furthermore, Kanozia and Arya (2021) highlighted that false information, lack of transparent information, lack of trust in government, and also religious factors, are among the factors responsible for COVID-19 vaccine hesitancy in India, Pakistan and Bangladesh.

In order to address the fears and doubts of people who are hesitant about taking a vaccine, it is necessary to ensure a high degree of transparency, to strengthen vaccine outreach efforts and campaigns, and to continuously provide clear and accurate information about the virus and vaccines through various channels and means of communication. Information should address questions of safety and the potential side effects of each type of vaccine, as well as the risks of contracting COVID-19, and the specific consequences of not getting a vaccine. As regards the former, any potential adverse reactions following vaccination should be reported in due time. The information should be communicated by health professionals in order to build trust and confidence.

Since a rich stream of new research and studies is continuously emerging regarding COVID-19 vaccines, providing training for healthcare workers is also important. Such training can strengthen the skills of healthcare professionals, updating their knowledge so that they can then help to increase awareness and reduce misinformation about vaccines, and to promote vaccination programmes more generally. Information and promotion materials should also be available in various local languages and dialects, so as to reach all communities.

International co-operation helps to speed up the distribution of vaccines

It is clear that international co-operation helps to accelerate the worldwide development, manufacturing and distribution of vaccines. Notably, the COVID-19 Vaccines Global Access facility (COVAX) and the Asia Pacific Vaccine Access facility (APVAX) are two examples of co-operation that include Emerging Asian countries. The COVAX initiative was launched in April 2020, and by mid-January 2022 the facility had reached its milestone of delivering a billion doses of COVID-19 vaccines to 144 participant countries, including some in Emerging Asia.

A number of bilateral vaccine donations to the region have also been distributed through COVAX, and private-sector actors and philanthropic foundations have also been mobilising significant resources through the facility. As for the APVAX initiative, it was launched in December 2020 with a fund of USD 9 billion in order to provide grants and loans for the supply of COVID-19 vaccines. In mid-March 2021, the first APVAX project was approved, to support the Philippines in procuring COVID-19 vaccines. Another APVAX project, this time for Indonesia, was approved later in March. Bilateral relations also play a major role in vaccine procurement for Emerging Asian countries. In addition, ASEAN has implemented regional initiatives, including the allocation of USD 10.5 million from the COVID-19 ASEAN Response Fund for vaccine procurement.

However, there is still room for further enhancement of international co-operation, particularly at the regional level. Indeed, regional initiatives have the potential to further address the large gaps that remain between countries in terms of vaccination. More recently, some ASEAN member countries have called for an increase in support, and for the specific allocation of more resources from the COVID-19 Response Fund for vaccine procurement due to the urgent need to accelerate vaccination programmes.

Box 2.1. **Cambodia's vaccination programme**

In Emerging Asia, Cambodia has been among the countries with the highest vaccination rates. Its capital city, Phnom Penh, was ranked as one of the most vaccinated capital cities in the world, with around 99% of its adult population fully vaccinated (Mekong Strategic Partner, 2021). In addition to being the first country in the region that is eligible to receive vaccines from the COVAX facility, the country has been benefitting from various kinds of bilateral co-operation in vaccine provision. Moreover, the Cambodian government has ring-fenced vaccine distribution based on geographical location. This has meant prioritising areas and cities with high risk of transmission and high economic and health impact. Such an approach is often considered clearer and simpler than an age-tiering or other categorisation of the population. Cambodia has also introduced vaccine mandates for certain segments of its workforce, including members of the armed forces and civil servants. The government's efforts in vaccine distribution have benefitted from the relatively low level of vaccine hesitancy in Cambodia, compared to many other countries (United Nations, 2021).

In order to increase vaccine production capacity and vaccination coverage, countries in Emerging Asia have started to create vaccines domestically. Indeed, Indonesia, Malaysia, Singapore, Thailand and Viet Nam have been producing their own vaccines. Most of them are still at an exploratory or pre-clinical stage, but some are already in the second or third phases of clinical trials.[1] As of December 2021, Viet Nam's home-grown vaccine candidate, Nanocovax, for instance, was in a phase three trial, while Thailand's vaccine candidate, ChulaCov19, and Singapore's candidate, ARCT-021, were both in phase two trials.

Omicron-specific vaccines could change immunisation programmes

Some pharmaceutical companies, such as Novavax, are responding to the emergence of the Omicron variant by developing Omicron-specific vaccines (Dolgin, 2021 and Novavax, 2021). As such developments unfold, the speed at which these vaccines can emerge, and the degree to which they will be effective, may have implications for the types of extra doses that healthcare systems may wish to offer people who have already completed their primary vaccination regimens. Novavax (Novavax, 2021), Moderna and Pfizer are all currently developing vaccines tailored to the Omicron variant. If these were to be developed quickly, they could conceivably replace a third dose of the vaccines that are currently in circulation, and which were designed for the wild-type virus. However, early indications from several vaccine producers, such as Pfizer and Oxford/AstraZeneca, suggest that a third dose of their current vaccine would provide sufficient protection against Omicron. Indeed, research has found that a booster dose of a COVID-19 vaccine could produce sufficient antibodies to neutralise the Omicron variant (Planas et al., 2021). Another study (Garcia-Beltran et al., 2022) found that a booster dose of an mRNA vaccine, such as Moderna or Pfizer, is necessary in order to provide immunity against the Omicron variant.

Implementing effective health measures, beyond vaccination programmes

Notwithstanding the merits of vaccination, vaccination alone is not sufficient, as fully vaccinated people can still test positive, especially with the emergence of new variants. Even as vaccination rates increase, preventive measures and non-pharmaceutical interventions (NPIs) are still an important part of governmental responses to COVID-19. These include wearing masks, physical distancing measures, restrictions on movement, hygiene measures, proper ventilation, and robust testing and contact tracing. In addition, medical systems and facilities also need to be improved.

Non-pharmaceutical interventions (NPIs)

While some countries in Emerging Asia started to relax foreign and domestic travel restrictions in the second half of 2021, prior to the emergence of the Omicron variant (Box 2.2), many behavioural restrictions remain in place, such as capacity limits on public or private gatherings, requirements for people to register their presence in public places, and the mandatory wearing of masks – either solely in indoor settings, or at all times once people have stepped outside of their homes (Table 2.4). Emerging Asian countries have enforced physical distancing and mask-wearing, and many have incentivised vaccination. An example of a vaccination incentive is the draw programme launched by the Hong Kong Airport Authority to give away 60 000 airline tickets to people who were fully vaccinated by September 2021 in response to slow vaccine uptake in Hong Kong, China (Hong Kong International Airport, 2021). With the exception of international travel and borders, meanwhile, enforcement and monitoring responsibilities have been increasingly delegated to subnational governments as the pandemic has continued to unfold.

Measures to restrict movement in response to COVID-19

Another type of measure that has often been implemented to limit the spread of COVID-19 within countries is placing restrictions on movement, such as quarantines and lockdowns. Mandatory quarantine is often applied for those who test positive for the virus, or who are considered to be a close contact of other people who have tested positive. Lockdown

measures tend to be implemented as a response to a surge in cases of COVID-19, which can jeopardise the capacity of healthcare facilities. Most countries in Emerging Asia have enforced some level of domestic movement restrictions at some point.

Table 2.4. **Examples of public health measures related to COVID-19**

Country	Capacity restrictions	Mask requirements	QR-code tracing
Brunei Darussalam	Mass gatherings, government offices and business premises: 200 people or 50% capacity, whichever is smaller.	Indoors.	The BruHealth app is mandatory.
Cambodia		In shops, restaurants, cafeterias, supermarkets, banks and other commercial areas (locally applied at provincial level).	
Indonesia	Applied locally.	Indoors and outdoors.	
Lao PDR		Offices and large social gatherings.	
Malaysia	Public or private gatherings: 50% in phase 2 or 3 of National Recovery Plan (NRP), 100% in phase 4 (vaccinated or negative test required in all phases).	Public transport.	
Myanmar		Indoors.	
Philippines	Dependent on the stringency level in each locality.	Masks indoors and outdoors. Face shields mandatory in high-risk activities under the 3C's framework (closed, crowded and close contact), and recommended for voluntary use in areas under Alert levels 3, 4 and 5.	The TRAZE app is the nationwide and unified contact tracing app for travel to the country.
Singapore	Workplaces: 50% (fully vaccinated); tourist attractions: 50% (fully vaccinated); social gatherings: maximum of five people (from 27 September 2021); 1 000 (fully vaccinated) for worship, wedding ceremonies, meetings, incentives, conferences and exhibitions activities, and entertainment.	Indoors and outdoors (age 6+).	The TraceTogether app is mandatory.
Thailand	Restaurants, entertainment, sports events, athletic facilities and fairs: dependent on the stringency level in each province or district.	Applied locally.	
Viet Nam	In Ho Chi Minh City, restaurants can run at 50% of capacity.	Public transport and public venues.	
China	Applied locally.	Applied locally.	Mandatory (must have green health code to access public venues).
India		Indoors and outdoors.	

Notes: Information as of 1 February 2022 or 5 November 2021. Full vaccination is as per national definitions.
Source: Authors' compilation based on media reports, national sources and AMRO (2021).

In Indonesia, domestic travellers to and from Bali or Java must show proof of vaccination (at least one dose), in addition to a negative PCR or rapid antigen test (Government of Indonesia, 2021). Elsewhere, Malaysia implemented a nationwide lockdown on 1 June 2021 following a surge in new cases. Moreover, Malaysians must be fully vaccinated for interstate travel, while Myanmar requires quarantine for certain kinds of interstate travel (Ministry of Hotels and Tourism Myanmar, 2021 and 2022). In Lao PDR, meanwhile, a number of provinces have gone in and out of lockdown frequently since the start of the COVID-19 pandemic. In addition to those provinces, travel between districts in the Bokeo province was prohibited from 27 October to 8 November 2021 (AMRO, 2021). Furthermore, China moved in August 2021 to impose inter-provincial travel restrictions in response to localised COVID-19 outbreaks.

Box 2.2. **Travel started to reopen in 2021, but some restrictions remain in place**

In the second half of 2021, international travel for both business and leisure was resuming slowly worldwide, including in Emerging Asian countries, although the emergence of the new Omicron variant subsequently introduced a fresh wave of uncertainty, heralding the risk of a re-tightening of travel rules. Travel restrictions have generally shifted from having a basis in geography to a basis in vaccination status, with fully vaccinated individuals often now subject to less stringent quarantine or testing requirements than their unvaccinated counterparts. As regards international arrivals for tourism purposes, countries where tourism receipts represent a larger amount of total export have started to ease entry restrictions, like Cambodia for instance (Table 2.5).

Table 2.5. **Overview of restrictions on international arrivals in Emerging Asian countries**

Country	International tourism receipts as % of total exports in 2019	Borders open for international tourism	Quarantine requirements for foreign visitors
Brunei Darussalam	2.70	No	Not applicable, as cross-border travel for tourism purposes is still suspended
Cambodia	25.21	Yes	No quarantine for fully vaccinated visitors; 14 days for visitors who are partially vaccinated or unvaccinated
Indonesia	9.20	Yes	5 days for fully vaccinated visitors and 7 days for partially vaccinated visitors; not applicable for visitors who are not fully vaccinated, as travel not allowed for this category
Lao PDR	13.94	Yes	24 hours for fully vaccinated visitors; not applicable for visitors who are not fully vaccinated, as travel not allowed for this category
Malaysia	9.33	Yes, to visitors from certain countries	5 days for visitors who have received a booster dose; 7 days for fully vaccinated visitors who have not received a booster dose; 10 days for partially vaccinated or unvaccinated visitors
Myanmar	14.27	No	Not applicable, as cross-border travel for tourism purposes is still suspended
Philippines	12.12	Yes	No quarantine for fully vaccinated visitors; not applicable for visitors who are not fully vaccinated, as travel not allowed for this category
Singapore	3.07	Yes, to visitors from certain countries	No quarantine for fully vaccinated visitors under the Vaccinated Travel Lane; not applicable for visitors who are not fully vaccinated, as travel not allowed for this category
Thailand	20.09	Yes	7 days for fully vaccinated visitors; 10 days for partially vaccinated or unvaccinated visitors
Viet Nam	4.21	Yes, to visitors from certain countries	3 days for fully vaccinated visitors; 14 days for partially vaccinated or vaccinated visitors, that could be prolonged by Vietnamese authorities to 21 days
China	1.52	No	Not applicable, as cross-border travel for tourism purposes is still suspended
India	5.80	Yes	No quarantine required

Note: Information as of 1 March 2022. Data for Brunei Darussalam, Singapore and China are as of 2018. "Fully vaccinated" means vaccinated with both doses for the two-dose vaccines and one dose for the mono-dose ones; "partially vaccinated" means vaccinated with one dose for the two-dose vaccines.

Source: OECD Development Centre based on various national sources and World Bank (n.d.), *International tourism receipts (% of total exports)*, https://data.worldbank.org/indicator/ST.INT.RCPT.XP.ZS (accessed on 11 February 2022).

Some Emerging Asian countries are allowing for a partial return of tourism, either by permitting nationals of certain countries to enter, or allowing tourism in designated regions. Indonesia and Viet Nam have tourism programmes where fully-vaccinated travellers from low risk countries can travel to certain regions, but they must stay there. In contrast, Thailand began a "Test & Go" programme on 1 November 2021, under which fully-vaccinated travellers arriving from countries deemed low-risk would be able to move about freely after a negative RT-PCR test on arrival with results delivered in no more than six hours.

In the Philippines, as the COVID-19 pandemic has come under a greater degree of control, however, blanket lockdowns and "community quarantines" (the term used in the country) have been scaled back. Despite this, there is still a need to quarantine people who test positive. As of 8 September 2021, the government of Brunei Darussalam transferred all people who tested positive for the virus in the country to designated isolation facilities. In contrast, officials in Viet Nam permit home quarantine in the Nam Tu Liem district of Hanoi on a trial basis as of 16 November 2021 for so-called "F1 contacts", which refers to people who have been in contact with somebody who tested positive. However, this option is only available for the elderly, people suffering from chronic diseases, children, or pregnant women (Phuong, 2021). In some countries, restrictive measures also include the introduction of vaccine passports, whereby only vaccinated people (or those who are ineligible to be vaccinated) may access certain kinds of places. This is currently the case in Indonesia and Singapore (Government of Indonesia, 2021; Government of Singapore, 2022).

Adjustments to healthcare policy due to the Omicron variant

Most countries have made policy adjustments in response to the emergence of the Omicron variant, and Emerging Asian countries are no exception. Brunei Darussalam, Cambodia, Lao PDR, Malaysia and Viet Nam, at certain times, issued travel bans from countries where the variant was first identified. Countries have also extended, strengthened or reintroduced non-pharmaceutical interventions. Most of the measures in response to Omicron have taken the form either of capacity limits, or of vaccination requirements for certain settings. Mask mandates of some form were already widely in place.

With the exceptions of Indonesia's introduction of capacity limits, and Singapore's expansion of vaccination requirements, non-travel reactions to the emergence of the Omicron variant have been rather muted (Table 2.6). This is likely to be because stringent measures, such as requirements to wear face masks, were already in place beforehand, and also due to the apparent rarity of severe disease and death from Omicron as compared to other variants of the virus.

The rarer incidence of severe outcomes with Omicron should generally be seen as positive, but the variant's higher rate of transmissibility does provide a caveat. For the fragile healthcare systems that are common among Emerging Asian countries, an increasing proportion of the population requiring hospitalisation could place these systems under significant stress. In addition, a scaling up of genomic screening facilities for the identification of variants from viral samples from positive tests is also important, across Emerging Asia.

Medical facilities and supplies

In addition to preventive and restrictive measures, improving medical facilities and supplies is crucial as countries seek to cope with large increases in COVID-19 cases. For instance, the Cambodian government announced in 2021 that it would implement a project to improve medical infrastructure and medical waste management, in order to curb the spread of COVID-19. In Indonesia, meanwhile, an athletes' village in Jakarta was turned into an emergency facility to house COVID-19 patients. Furthermore, an indoor stadium in Lao PDR was converted into a temporary hospital in order to accommodate an increase in the number of COVID-19 patients. Moreover, regional co-operation initiatives, such as ASEAN's COVID-19 Response Fund, and also bilateral co-operation initiatives, can play a

role – not only in the provision and distribution of vaccines, but also in helping to close gaps in medical supplies and Personal Protective Equipment (PPE).

Table 2.6. **Examples of measures in response to the emergence of the Omicron variant**

Country	Travel restrictions	NPIs and vaccine requirements
Brunei Darussalam	Suspension and revocation of entry and exit travel approvals for people coming from South Africa, Botswana, Eswatini, Lesotho, Malawi, Mozambique, Namibia and Zimbabwe. **Prohibition rescinded 1 January 2022.**	None.
Cambodia	Travel from Angola, Botswana, Eswatini, Lesotho, Malawi, Mozambique, Namibia, South Africa, Zambia and Zimbabwe prohibited. **Prohibition rescinded 7 December 2021.**	None.
Indonesia	Travel from countries with Omicron cases prohibited, except for Indonesian citizens. **Prohibition rescinded 1 February 2022**. Quarantine periods from 1 February 2022: 5 days for fully vaccinated, 7 days for partially vaccinated.	From 7 February 2022: supermarkets, markets, malls and restaurants: 60% capacity; places of worship: 50% capacity; public facilities, art and cultural performances: 25% capacity. Group of Twenty (G20) events to use a bubble system, with daily rapid antigen testing, and compulsory use of Indonesia's *PeduliLindungi* application.
Lao PDR	From 2 December 2021: prohibition of travel from Botswana, Eswatini, Lesotho, Malawi, Mozambique, Namibia, the Seychelles, South Africa and Zimbabwe. All incoming travellers must take a PCR test upon arrival, and quarantine pending results and (from 3 February 2022) must wear a medical monitoring device for seven days.	None.
Malaysia	As of 6 December 2021, travel from Botswana, Eswatini, Lesotho, Malawi, Mozambique, Namibia, South Africa and Zimbabwe was prohibited (except Malaysian citizens and long-term pass holders). **Prohibition rescinded 28 December 2021**. Quarantine periods: 5 days for fully vaccinated with additional dose beyond base series, 7 days for fully vaccinated with only base series, 10 ays for all others. Special regional programmes for business and leisure travel. Malaysia-Singapore vaccinated travel lane (VTL): vaccinated travellers only, testing requirements based on means of transport.	None.
Singapore	None.	As of 1 January 2022: vaccine exemption period for recovered persons reduced from 270 to 180 days from the day of an initial positive test in Singapore. People whose exemption periods were shortened by the change had until 31 January 2022 to receive one dose of an mRNA vaccine, or two doses of Sinovac. As of 1 February 2022: vaccination required to be a guest at hotels, hostels or serviced apartments and to access indoor sports facilities or institutions of higher learning (degree-seeking students exempt).
Thailand	None.	Patrols increased at Thai-Myanmar border.
Viet Nam	As of 1 December 2021: Suspension of flights from Botswana, Eswatini, Lesotho, Mozambique, Namibia, South Africa and Zimbabwe. People with recent travel records from the listed countries also were prohibited from entering.	None.
China	None.	Lockdowns applied locally.
Hong Kong, China	As of 8 January 2022: implementation of a place-specific flight-suspension mechanism for Australia, Canada, France, India, Pakistan, the Philippines, the United Kingdom and the United States. Also from 8 January: Cabo Verde, Niger, and South Sudan designated as Group A specified places (tighter boarding and quarantine requirements). From 12 February 2022: Nepal added to place-specific flight-suspension mechanism.	None.
India	None.	Local vaccination drives.

Note: Information as of 13 February 2022 or latest available. Measures outlined in this table are in response to the emergence of the Omicron variant only; pre-existing measures that were not changed in response to Omicron are not included.

Source: Authors' compilation, based on national sources.

In addition to short-term responses to COVID-19 outbreaks, some countries have unveiled strategies aimed at enhancing healthcare capacity that will yield benefits in the longer term. In the Philippines, for instance, around PHP 17 billion (approximately USD 330 million) of the 2022 budget will be used to hire 26 035 health professionals for deployment to "underserved" hospitals or areas (DoH, 2021). In a similar vein, Malaysia announced as part of its budget for 2022 that it would extend the contracts of more than 10 000 medical practitioners and pharmacists to four years from the initial two years. Additionally, the Malaysian government has allocated MYR 100 million (Malaysian ringgit, the equivalent of around USD 23.9 million) as sponsorship of specialisation programmes for 3 000 medical practitioners. It has also been decided to allocate MYR 200 million (around USD 47.8 million) for increasing Teaching Hospital and Field Hospital Intensive Care Unit (ICU) capacity (Ministry of Finance Malaysia, 2021).

Developments in therapeutic medicine are a promising sign for living with COVID-19

Some pharmaceutical companies have developed COVID-19 therapeutics in pill form, which may shorten or reduce the severity of illness if taken early enough in the course of the disease. In turn, this could help to keep patients out of hospitals, preserving the capacity of hospitals and other medical facilities. These medications are beginning to gain emergency approval in some countries, and could become a valuable tool globally for minimising the negative health effects of COVID-19. Global or regional programmes may be needed to help developing countries to access them, in a similar way to how COVAX and APVAX have helped with vaccines.

One example is Pfizer's candidate, Paxlovid. In a press release on 14 December 2021, Pfizer announced that Paxlovid reduced the likelihood of hospitalisation and death by 88% compared to a placebo, when administered within five days of the onset of symptoms (Pfizer, 2021). Merck Sharp & Dohme has also developed an oral therapeutic called Molnupiravir, in collaboration with Ridgeback Biotherapeutics. In October 2021, MSD partnered with the United Nations Medicines Patent Pool to allow the drug to be sold royalty-free in 105 low- and middle-income countries, including Cambodia, Indonesia, Lao PDR, Myanmar, Viet Nam and India (Medicines Patent Pool, 2021). On 20 January 2022, the UN's Medicines Patent Pool announced that 27 drug-manufacturing firms had been licensed to produce either the raw ingredients for Molnupiravir, the finished drug, or both. Ten of these companies are located in India, five in China, and one each in Indonesia and Viet Nam (Medicines Patent Pool, 2022).

Testing and tracing

Testing and tracing is also an important part of countries' measures to cope with COVID-19. In particular, when at some point, with the increase in global vaccination rates and the development of therapeutic medicines, COVID-19 transitions from pandemic to endemic phase and becomes part of everyday life, testing could be more accessible and affordable. This includes not only the testing administered by laboratories, but also testing tools that could be easily and quickly performed at home. In Singapore, for instance, all workers, regardless of their vaccination status, who work in settings with unmasked clients, or who have close contact with clients when performing services – such as food and beverage enterprises, retail malls, supermarkets, last-mile delivery personnel and personal care services – are required to perform regular Fast and Easy Testing (FET). In addition, self-testing kits are available in pharmacies.

On the other hand, China is employing a "Zero-COVID" strategy that involves mass testing of city populations in response to as little as a single case. While this approach may keep COVID-19 cases to a minimum, the large amount of human and physical resources it requires, as well as its invasive and disruptive nature, may make it difficult to implement elsewhere.

In developing a manner of living with COVID-19, a multi-stakeholder approach is necessary in order to provide guidance and information on how to react to positive tests that is both widely available and easily accessible. This should include guidance on positive tests among fully vaccinated people, information on coping with general social frustration with restrictions (i.e. "pandemic fatigue").

Developing digital health initiatives further

Emerging Asian countries have been developing digital health tools during the pandemic

The COVID-19 pandemic has led to an acceleration in digitalisation. Indeed, digital health tools have played a key role in helping to manage the COVID-19 pandemic (Table 2.7), especially as restrictions on human contact have been employed in order to stop the spread of the virus. These tools have been developed by both public and private actors, and fall into two main categories: surveillance and telemedicine. However, some tools possess functions that overlap these two categories. Broadly speaking, surveillance tools are used to track the spread of the virus in the community. Some of these tools inform people if they have been exposed to a person who has tested positive for the virus.

Moreover, some digital health tools are used to enforce restriction orders on the movement of individuals. The digital tools make use of the geolocation and Bluetooth features of mobile phones in order to function. Some digital health applications may also provide health information related to the pandemic, including updates about public health requirements. Yet despite the upsurge in digital health tools during the course of the COVID-19 pandemic, telemedicine tools preceded it in many cases, and can offer healthcare support that goes beyond COVID-19.

Table 2.7. **Examples of digital applications related to COVID-19 in Emerging Asia**

Country	Check-in	Exposure monitoring	Quarantine enforcement	Health advice	Health records	Medical appointments	Book vaccine
Brunei Darussalam	Yes	Yes	No	Yes	Yes	Book/attend	Yes
Cambodia	Yes	No	No	No	COVID-19 (web-based)	No	Yes
Indonesia	No	Yes	No	No	COVID-19	Book/attend	Yes
Lao PDR	Yes	Yes	No	Yes	No	Book virological tests	Yes
Malaysia	Yes	Yes	Yes	Yes	COVID-19	Book/attend	Yes
Myanmar	Yes	No	Maybe	No	COVID-19	No	No
Philippines	Web-based	Yes	No	Yes	COVID-19	No	No
Singapore	Yes	Yes	Yes	Yes*	Yes*	Book*	Yes
Thailand	Yes	Yes	No	No	COVID-19	No	No
Viet Nam	No	Yes	No	Yes	COVID-19	No	Yes
China	Yes	Yes	Yes	No	Yes	No	No
India	No	Yes	No	Yes	COVID-19	No	Yes

Notes: Information as of 20 November 2021. A function marked with * refers to a function on a digital health tool that existed prior to the COVID-19 pandemic. **Yes** means at least one government-issued digital health tool possesses the given feature. A value of **Yes** for health records includes proof of COVID-19 vaccination, unless otherwise indicated.

Source: Authors' compilation, based on various sources.

Governments in Emerging Asia have taken two main approaches to developing digital health applications. Some have released several applications with few specific functions, while others have released a single, multi-function application. Malaysia is an example of the first group, having released three tools: the eCOVID19 application, *MySejahtera*, and MyTrace Malaysia. The latter of these tools, MyTrace Malaysia, uses Bluetooth communication from mobile devices to inform users if they have been in contact with a person who has tested positive for COVID-19 within a particular timeframe (MyGovernment, 2021). In addition, *MySejahtera* now provides QR code-based contact tracing and quarantine enforcement for all people entering Malaysia. It also provides health information, such as where COVID-19 testing and treatment can be accessed. Furthermore, it also offers access to telemedicine services through Virtual Health Advisory, which links to the platform DoctorOnCall (Government of Malaysia, 2021). The application also notifies users of their eligibility to receive a vaccine, and provides an option to book an appointment, although the appointment time is assigned, rather than selected by the user (Wong, 2021). Moreover, *MySejahtera* also holds a COVID-19 vaccine certificate.

Cambodia, Lao PDR, Myanmar, Singapore, Thailand, Viet Nam and India are taking similar approaches. Yet in the case of India in particular, several applications have been developed at the state level that may or may not be integrated with national ones. In contrast, Brunei Darussalam (*BruHealth*), Indonesia (*PeduliLindungi*), the Philippines (*StaySafe*), and China (*HealthCode*), are centralising digital health tools on a single application with a wide array of functions. While these applications may ultimately be more complex to develop and maintain, they remove some of the burden from users, who then only need to download a single application, rather than several. It can also help user-facing support staff to be trained more efficiently, as they only need to familiarise themselves with a single application.

Owing to the urgency of the pandemic, many of these applications were developed very quickly, and there may not have been time for them to undergo robust testing. Indeed user comments on download pages such as the Google Play Store (Android store) or Apple App Store indicate that some of the applications have experienced frequent and wide-ranging technical issues, and that they may be difficult for foreigners to use if they only provide service in local languages. Many of the applications have been updated several times already in order to add new features or correct these issues. However, many enhancements are required if these applications are to be used on a longer-term basis than foreseen initially. At the same time, developers must be aware of the digital tools that the population of each country or region tends to possess, and must design their applications accordingly. Many people in Emerging Asia have digital devices that are obsolete by several generations, precisely because these are more affordable for them to own. They also may not have strong enough Internet connections or large enough mobile data packages to support applications that are large in size, or heavy on graphics.

Surveillance tools pose challenges

The major challenges that surveillance tools throw up are quality and privacy. Since most of the tools were developed extremely quickly in response to the COVID-19 pandemic, they often have limitations, such as major bugs, as well as a lack of support for non-local languages, such as English. Application reviews on the Google Play Store, or Apple's App Store are rife with these two complaints, especially regarding the recovery of login information.

Contact-tracing apps must also be open in the background in order to work, and often require Bluetooth or Global Positioning System (GPS) technology to be running too. This has led many users to report increased battery drain on their devices. In addition to the technical issues, privacy concerns about how the data are being stored and used may also make people hesitant to download the tools. Despite most governments indicating that the data are secure, not distributed elsewhere, and deleted after a period of time, many people remain sceptical of these claims. Governments will need to work with citizens to wind down the tracing and quarantine enforcement aspects of these applications as the COVID-19 pandemic subsides, especially following a successful vaccination campaign.

China's health app was developed in a public-private partnership involving Alibaba & Tencent, and the end user has no information about what generates the code that they are assigned, even though it controls their ability to access public spaces and services (Li, Ma and Wu, 2022; Cong, 2021).

Telehealth and telemedicine could be further enhanced

Telehealth and telemedicine[2] have played a key role in providing medical care throughout the COVID-19 pandemic. Indeed, these services have allowed non-urgent medical care to continue without patients needing to be physically present at medical facilities. In turn, this has allowed healthcare providers to reserve hospital services for people who are the most in need. Still, expanding telehealth faces several barriers. While cost is often the primary barrier, poor digital infrastructure, poor digital literacy, and a lack of legal frameworks are other common issues.

Telemedicine services operate primarily on a fee-paying structure. Users pay either a set amount for each telemedicine encounter, or a subscription fee to cover a particular period. Subscription fees may include caps on the amount of services (i.e. the number of consultations) that subscribers can access in that period of time. Whatever the scheme, these services normally require out-of-pocket expenditure by users, though some governments and insurance providers have subsidised fees in whole or in part during the COVID-19 pandemic. For instance, West China Hospital in China's Sichuan Province has integrated telemedicine into its service, waiving all consultation fees. Elsewhere, some private insurance providers in the United States have added telemedicine to their coverage at no additional cost, and some states have added telemedicine to the scope of services that are covered under Medicare (AHIP, 2021). However, as the threat of the pandemic recedes in the United States, many of these temporary benefits are being cancelled (AHIP, 2021). Australia, meanwhile, is integrating telemedicine into its social healthcare systems. After bringing in telemedicine for remote communities under its public health programme, which is also called Medicare, Australia's health ministry expanded this move nationwide as part of its response to COVID-19. This initiative was welcomed, with millions of consultations in the service's first month, a trend that has continued (OECD, 2021). Considering the benefits, countries in Emerging Asia should strive to make some degree of telemedicine service available through their universal healthcare systems. The settings for eligibility and the degree of service that is available via telemedicine (e.g. national eligibility versus remote regions only, or a focus on specific services) can be defined to suit the needs of each country.

The expansion of telemedicine will require improvements to infrastructure, such as fast and affordable wireless Internet connections. In order to reap the gains from this

infrastructure, meanwhile, digital skills in the medical sector and general population must improve. Education on how to use telemedicine applications will need to be widespread, and developers must make them as user-friendly as possible, without compromising their functionality. Care providers will need to learn how to operate the applications to collaborate with medical professionals and patients and demonstrate to patients how to use the applications effectively, providing troubleshooting support as needed. They will need training on how to make assessments via teleconference, a setting in which current patient data are often absent. In this regard, even monitoring basic vital signs such as a patient's heart rate or blood pressure, or relying on still or video images of a patient rather than being able to examine him or her physically, present further challenges for the smooth operation of telemedicine. Crucially, care providers must learn to identify when a patient's condition as assessed in a telemedicine consultation requires an in-person consultation, or tests that can only be performed at a medical facility. Becker et al. (2019) propose that training in telemedicine becomes a standard component of medical and nursing school curricula, and possibly an area of specialisation. In addition, legal frameworks will need to be created or updated. Some countries in Emerging Asia have existing legal frameworks for telemedicine, while others do not (OECD, 2021). Where telemedicine is included in legal frameworks, moreover, it is rarely seen as a standalone entity.

Many telemedicine programmes in Emerging Asia are ad hoc responses to the COVID-19 pandemic. Indonesia has offered telemedicine services for isolating COVID-19 patients since July 2021 (Cabinet Secretariat of the Republic of Indonesia, 2021). Under the service, patients who are self-isolating as the result of a positive test and experiencing mild or no symptoms of COVID-19 can receive teleconsultations with medical professionals during the isolation period. They can also receive electronic prescriptions for treatment packs. The Lao PDR Ministry of Health is also using telemedicine to provide reproductive and maternal care to women in isolation centres in border regions. This initiative began in August 2021 and grew out of a successful pilot programme in Luang Prabang during the nationwide lockdown in 2020 (UNFPA Lao People's Democratic Republic, 2021). While these endeavours have been successful, they appear to be ad hoc and time-bound; an emergency measure to cope with the pandemic and associated policies. This stands in contrast to Singapore, where telemedicine is being made a permanent option for care. Singapore's *Healthcare Services Act* was initially scheduled to begin regulating telemedicine in 2022, but this has been deferred to 2023 and existing laws will remain in force (Ministry of Health of Singapore, 2021 and Ministry of Health of Singapore, 2022).

Laws relating to data privacy as well as standards of care, ethics, and liability in telemedicine are necessary to allow for its conversion to a permanent measure in places where this has not yet occurred. This is particularly important where telehealth services are provided across jurisdictional lines such as national or subnational borders. Defining the jurisdiction of a cross-border telemedicine transaction and authorising practitioners to work with a patient from outside the jurisdiction in which the practitioner is physically located will remove a barrier for those who may benefit most from the service (i.e. those in rural areas, remote areas, or islands). Furthermore, as professionals providing telemedicine services often do so through a centralised service on contract, the terms of a doctor-patient relationship must be well defined as well as the division of liability of individual professionals and the service in case of malpractice. John et al. (2022) identify privacy, security and confidentiality as concerns for users in India and Malaysia, while noting the quality of care over telemedicine in India

is inconsistent. India's Personal Data Protection (PDP) bill is currently tabled in parliament and should ameliorate digital security concerns there. The *Malaysian Medical Council Advisory on Virtual Consultation* defined clinical, ethical, legal, technical and operational aspects of telemedicine in 2020, though it is unclear from John et al. (2022) if the advisory has addressed all key concerns despite telemedicine laws existing in Malaysia since 1997.

The importance of developing a cautious but firm exit plan from the COVID-19 pandemic

As governments look beyond the Omicron variant to craft plans to emerge from the long COVID-19 pandemic, they should give careful consideration to the relative benefits and risks of the various measures that they could apply. Moreover, measures should also acknowledge that epidemiological conditions and health threats are constantly changing. Still, as vaccine uptake increases, cases requiring hospitalisation or leading to death should decrease, and the justification for restrictive public health measures on the grounds of not overwhelming hospitals will decrease at the same time. Indeed, well-structured reopening is crucial once restrictive measures come to an end.

Most Emerging Asian countries have seen restrictions ease somewhat, and few lines of business remain completely closed. However, some countries have paused or reversed some of their re-opening policies in response to the Omicron variant. For instance, several countries enacted enhanced travel restrictions or travel bans from certain destinations, some of which are still in place.

Further policy challenges and risks: Dealing with the risk of inflation amid an uneasy economic recovery

Turning now to the other policy challenges and risks to the economic outlook against the backdrop of the long-running COVID-19 pandemic, it is important to note that a gradual rise in inflation in Emerging Asia is raising some concerns. As of now, inflation seems to be more contained in Emerging Asia compared to advanced economies, in part owing to the effectiveness of monetary policy in managing inflationary pressures. This notwithstanding, the region could see a rise in inflation as 2022 progresses, as the economy strengthens and food prices rebound.

Although inflation paths at present may not seem to be similar to those of previous major crises, it is worth noting that the pandemic is not over, and that the way in which it has impacted real economies is not quite the same as the effects of previous crises. Notably, rising prices in global commodities markets are raising some concerns. In addition, supply-chain issues at international and local levels also constitute a potential driver of higher domestic inflation in Emerging Asia over the coming months. Overall, with supply-side factors playing a non-negligible role in the uptick in inflation, there is potential for the trend to become more protracted in some countries in the region.

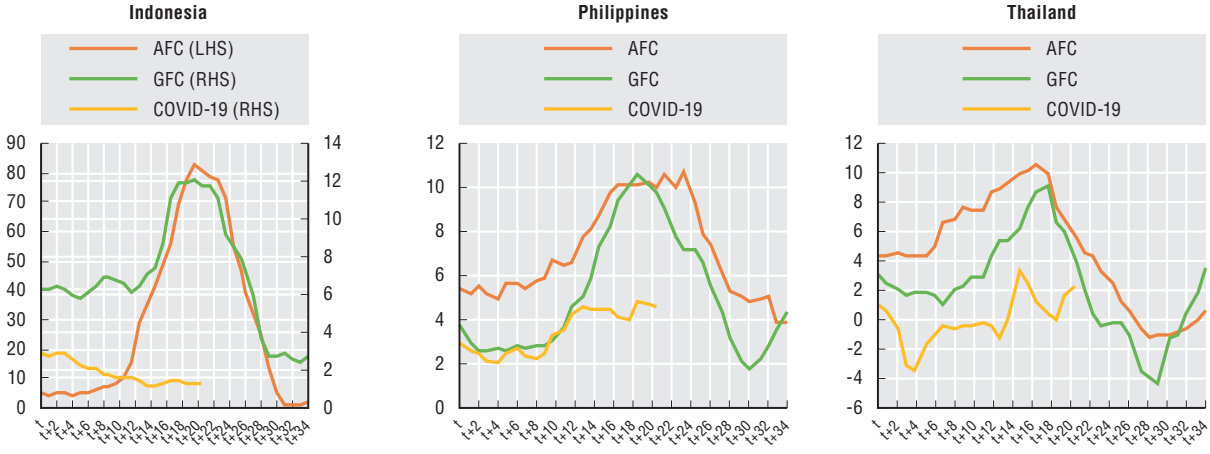
The steep uptick in inflation in advanced economies also poses a threat to countries in Emerging Asia. Indeed, while monetary authorities in advanced economies are very much aware of the importance of clear communication, a stronger response on their part to inflationary pressures has the potential to instigate capital flight away from Emerging Asia. In turn, this could mean that policy makers in the region will face a choice between, on the one hand, running the risk of volatile capital flows as interest-rate differentials narrow, and, on the other hand, increasing the interest rate cost burden at a time of high debt load in the public and private sectors alike.

Meanwhile, and although they acknowledge that external conditions are changing, monetary authorities in the region need to strike a fine balancing act between maintaining an accommodative stance long enough for sectors across the real economy to recover fully and achieving sufficient stability.

Inflation rates seem not to be tracking the paths seen in prior crises

The headline inflation trend is pointing upwards in some Emerging Asian economies, and this does not augur well for economic prospects and social stability in the region. Although still fairly modest, the prevailing rates of price increases in Malaysia, the Philippines, and Thailand as of October 2021 are already higher than their respective 10-year monthly averages. This has been causing concerns, against the backdrop of an already uneasy economic recovery. However, if benchmarked against the price movements during the global financial crisis (GFC) and the Asian financial crisis (AFC), the prevailing rates of increase in consumer price indices in the region have, thus far, arguably been more benign. Additionally, and as noted above, the inflation path during the COVID-19 pandemic does not seem entirely analogous to those of the two financial crises episodes – or at least not yet (Figure 2.5).

Figure 2.5. **Headline inflation in selected Emerging Asian economies during the AFC, GFC, and COVID-19 (%)**



Notes: RHS means right hand scale. Time "t" pertains to January 1997, January 2007, and January 2020. The data frequency is monthly, and the data are as of October 2021. The national source data for India, Indonesia, and Malaysia were extended backwards using the data from the IMF with the same base year. For Viet Nam, the IMF data with base year 2010 are used for consistency. The national CPI series has several series breaks.

Source: Authors' calculations based on CEIC, IMF, and national sources.

StatLink https://doi.org/10.1787/888934304533

As can be observed in Figure 2.5, the curves of the inflation path during the AFC and the GFC appear to match closely in the cases of a number of Southeast Asian economies, notwithstanding differences of magnitudes. In both periods, inflation remained subdued at the start of the cycle, before gaining significant momentum that lasted somewhere between two and six quarters during the AFC, and one and four quarters during the GFC.

By way of comparison, the emergence of COVID-19 two years ago saw inflation in Thailand dip into negative territory for close to a year, suggesting a sharper impact of the

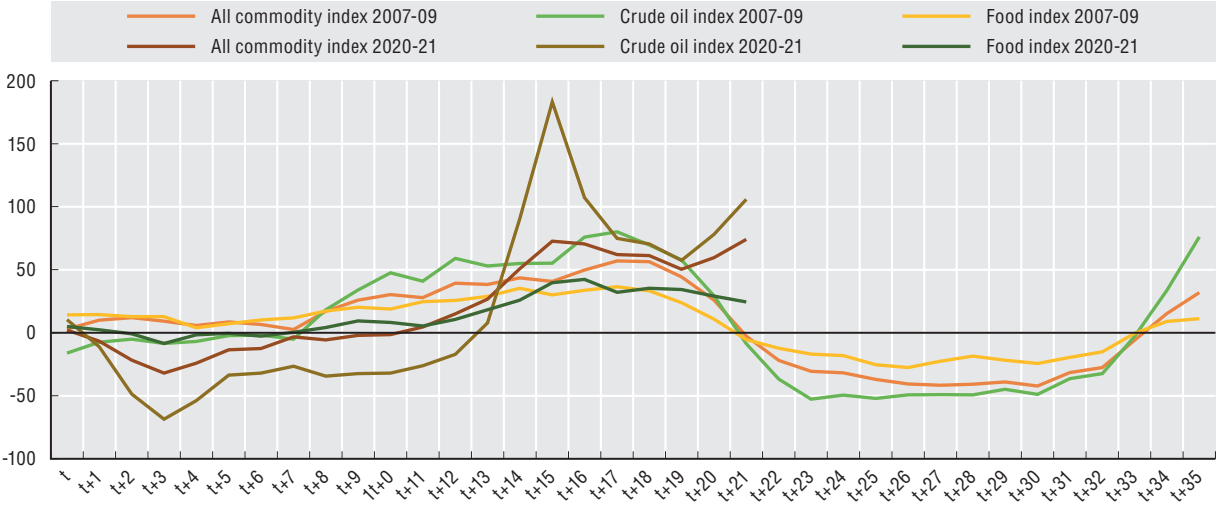
pullback in aggregate demand – stimulus measures notwithstanding. In recent months, the rates in the country have appeared to be on the rise, but the pace has been relatively moderate compared to the previous two financial crises, even with very low bases (following the deflation that occurred in 2020). While inflation has remained subdued in Indonesia, the current inflation rate in the Philippines is flatter.

One possible explanation for the difference in trends is that the COVID-19 cycle is still unfinished, making it difficult to assess how the current situation stacks up against the timelines of the AFC and GFC. Unlike the AFC and GFC, the pandemic also has multiple peaks in terms of economic impact, and has affected economies more broadly (not just on the financial front) than previous financial calamities. In late-2021 and the beginning of 2022, the spread of the Omicron variant has led countries to impose new rounds of lockdowns and border restrictions. These can have profound implications on consumption and the investment decisions of firms and households, which in turn underpin inflation patterns.

A sustained rise in global prices for food and fuel could alter the course of inflation

Concern about inflation risks is partly anchored in developments in global markets. For instance, Forbes (2019) underlines the impact of global factors through integrated global supply chains. In particular, the focus is on food and fuel prices. Notably, food accounts for the largest weight in the consumer price index (CPI) for many economies, including those in Emerging Asia. Fuel, which appears in the CPI under the rubrics of utilities or electricity, gas, and other fuels, also accounts for a modest share of the baskets that are used to calculate the CPI. Moreover, apart from their direct impact on headline inflation, food and fuel also have indirect effects, as their prices tend to affect the cost of other goods and services. These are also referred to as second round effects. Furthermore, food and fuel inflation are felt more strongly by households in lower income brackets.

Figure 2.6. **Changes in global commodity prices, year-on-year (%)**



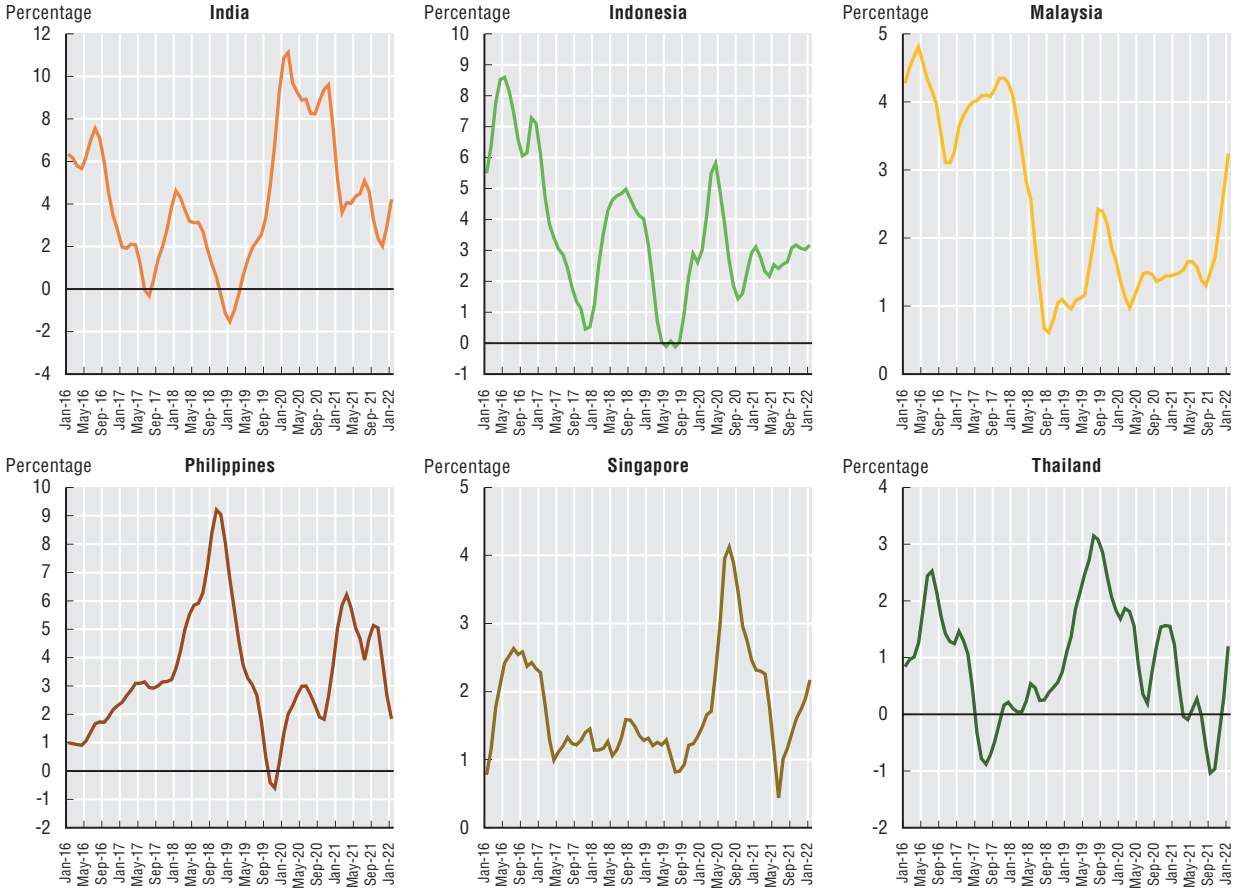
Notes: Time "t" pertains to January 2007 and January 2020. The data frequency is monthly, and the data are as of October 2021, accessed in December 2021. The price index for all commodities combined includes both fuel and non-fuel price indices. Crude oil index refers to the average petroleum spot price crude oil index (USD/barrel), or the simple average of three spot prices, namely, Dated Brent, West Texas Intermediate, and the Dubai Fateh. The Food Price Index includes cereal, vegetable oils, meat, seafood, sugar, and other food price indices.

Source: Authors' calculations, based on IMF Primary Commodity Price System database.

StatLink https://doi.org/10.1787/888934304552

Having lost substantial ground in 2020, global fuel prices soared to multi-year highs in 2021, on the back of sharp supply cuts by the oil-producing countries, and the anticipation of a recovery in demand, notably as restrictions began to ease before the Omicron variant instigated a fresh round of restrictions (Figure 2.6). Likewise, food prices have been picking up some steam. The global food price index increased by an average of 29% per month year-on-year between January and October 2021, compared to an average of 1.7% posted for the whole of 2020. Driven by the rise in the global cost of inputs such as energy, feeds and fertilisers (FAO, 2021a), the 12-month moving average of the IMF food price index in October 2021 stood at its highest level since November 2011. The same story is conveyed by the 12-month moving average food price index of the Food and Agriculture Organization of the United Nations (FAO), whose reading in November 2021 is already close to the peak that it reached ten years ago.

Figure 2.7. **Food-price inflation for selected Emerging Asian countries, January 2016 to January 2022, 3-month moving average (%)**



Note: The data are as of March 2022.

Source: Authors' calculations based on FAO Stat and CEIC.

StatLink https://doi.org/10.1787/888934304571

In Emerging Asia, food prices were in general fairly contained as of the first half of 2021 (Figure 2.7).[3] Indeed, the bumper harvest of key staples in parts of the region (FAO, 2021b), particularly rice, has helped to shield domestic consumers from rising global food prices.

Moreover, Asian countries' relatively low dependence on imports of fertilisers (FAO, 2021a) may also have helped to temper food-price inflation. Governments have also maintained support measures in aid of their local economies, helping to protect local consumers and producers. Assistance mechanisms that were employed in the region in 2021 included stock releases from government reserves, the roll-out of food subsidies and other kinds of consumption and marketing support, adjustments in the minimum purchasing price via government procurement, and a calibration of trade rules.[4] Nevertheless, the upward price pressure in global markets is likely to catch up with domestic prices if it is sustained. Indeed, the latest print for January 2022 points to rising food prices in India, Malaysia, Singapore and Thailand (Figure 2.7).

If unaddressed, supply chain disruptions will also contribute to upward pressure on prices

Disruptions to global supply chains, exacerbated by rising shipping costs, could also underpin faster inflation. As such, it is critical for economies and key stakeholders to persevere in co-ordinating the adjustments that they make in order to respond to supply-chain bottlenecks. They should also work continuously to improve basic infrastructure and connectivity, as well as improving procedural systems. Moreover, keeping domestic supply chains fluid is just as crucial in containing inflationary pressure, and in averting large-scale wastage of perishable goods.

Shortages in equipment and containers, together with port congestion and shipping delays, remain a problem globally (Cook, 2021; Kamali and Wang, 2021; UNCTAD, 2021), and have continued to hamper the global supply chain, even as the profits of the leading container carriers increased considerably in 2021 (Global Maritime Hub, 2021). Consequently, it is noted that "unreliable schedules, and port congestion have led to a surge in surcharges and fees, including demurrage and detention fees", which consequently have shone a spotlight on uncompetitive business practices, leading to calls for regulators to intervene, and to apply closer oversight (UNCTAD, 2021).

As per data from Drewry Supply Chain Advisors (2022), the cost of shipping declined somewhat from September to December 2021, yet it remains elevated. Indeed, the current world container price index is about five times higher than it was in December 2019. Notably, UNCTAD (2021) estimates that global import prices and consumer prices will respectively be about 10.6% and 1.5% higher by December 2023 (assuming the rates in August 2021 are sustained), than they would have been in a scenario without the freight-rate surge. These developments are discussed in greater detail below in the sub-section dedicated to supply chain disruptions.

In light of these difficulties faced by the international traders, UNCTAD (2021) underscores the importance of appropriate infrastructure and efficient processing systems. Some Asian economies are well regarded in this respect, and this may have helped to mute inflation spillovers to the region. Furthermore, UNCTAD (2021) argues that, because they have "the latest port technologies and infrastructure and can accommodate the largest container vessels", economies like Japan, Chinese Taipei, and Hong Kong, China managed to ensure faster turnarounds at a time when many major ports faced some difficulties, even while attracting a high number of port calls.

It is also important not to overlook the persistent threat COVID-19 may yet pose to domestic supply chains. Indeed, this domestic aspect is an area of policy that is relatively under-studied compared to the global supply chain. As evidenced by experience at the peak of restrictions on movement in response to COVID-19, transporting and distributing goods to various parts of a country became very challenging, especially in an archipelago like the Philippines, or in a large country like India. This led to higher prices, at least temporarily, as well as to substantial waste, especially when the goods involved were perishable, as was the case with agricultural products.[5]

One notable difficulty with inflation driven by the supply side – which can be due, among other factors, to supply-chain disruptions, supply cuts in the global oil market, and weather-induced reduction in food supply – is that it renders the monetary-policy tools that are designed to influence the demand side significantly less effective. As supply-side constraints have become more acute, and as hinted by the US Federal Reserve in a conference in October 2021, the risks are "clearly now to longer and more-persistent bottlenecks, and thus to higher inflation" (Ioanes, 2021). In addition, Reading (2021) also notes the potential for cost-push inflation to feed back into unemployment. Among non-monetary measures employed to temper supply-side pressures, fiscal solutions such as subsidies and tax reduction are typically used. However, given the impact of the pandemic on governments' coffers, such policies will now be more challenging to roll out and sustain than they were in previous years.

A reversal in monetary-policy stance in advanced economies poses another risk to recovery in Emerging Asia

As already noted, the inflation path in advanced economies and its possible implications for international capital flows is also a source of apprehension. As shown in Figure 2.8, the headline inflation rates in the euro area, the United Kingdom and the United States have risen sharply to multi-year highs since the start of 2021 in an almost synchronous fashion.[6] The possibility of inflation overshooting expectations, which was observed during previous financial crises, also cannot be discounted over the coming quarters.

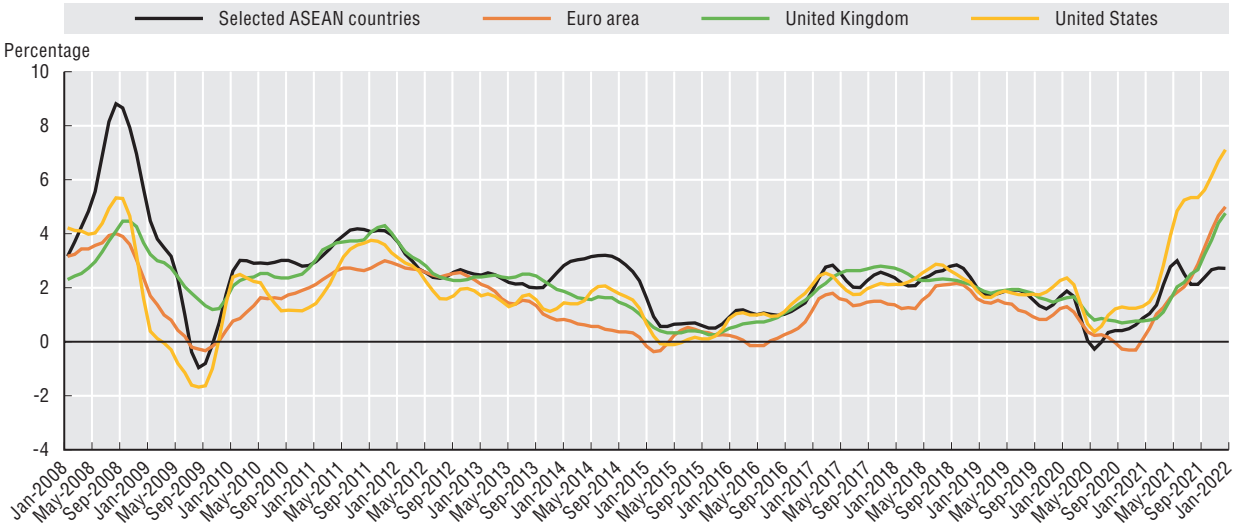
In turn, these developments have jump-started discussions on a tightening of monetary conditions, including rises in policy rates (Adrian and Gopinath, 2021). Looking ahead, the degree to which the major central banks provide clear signals about policy, and the receptiveness of the market to their communications, will therefore be critical for managing the impact of interest-rate changes on capital flows. Sharp swings in capital flows as seen in 2013 during the so-called taper tantrum, could disrupt the recovery in emerging markets, by inducing exchange rate volatility and contributing to inflation-push factors.

To avert a scenario similar to the taper tantrum, the US Federal Reserve conveyed its intent as early as July 2021 to cut back its asset purchases before the end of 2021 (Federal Reserve Bank of St. Louis, 2021). In line with this pronouncement, the US Federal Reserve did indeed lower its target amount for the purchase of US Treasuries to USD 70 billion for the monthly period from 15 November to 13 December, from USD 80 billion previously.[7] In comparison, the European Central Bank (ECB), following its monetary policy decision in October 2021, kept its net asset purchase target of EUR 20 billion under the Asset Purchase Programme, and maintained its key policy rates (ECB, 2021). The ECB's view on inflation, however, has changed,

with the bank noting at its February 2022 meeting that the "current phase of higher inflation will last longer than originally expected, but to decline in the course of this year" (ECB, 2022).

Figure 2.8. **Headline inflation in selected ASEAN countries, the euro area, the United Kingdom and the United States, January 2008 to January 2022**

3-month moving average (%)



Note: The data are as of March 2022. The average headline inflation for selected ASEAN countries represents the average of monthly headline inflation in Indonesia, Malaysia, the Philippines and Thailand.

Source: Authors' calculations based on OECD (2022).

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The marked depreciation of regional currencies such as the Lao kip, Myanmar kyat, and Thai baht against the US dollar since the start of year, due to COVID-19 and other domestic factors, do not bode well for these economies' resilience against potential capital-flow volatility when monetary support in advanced economies ends up being scaled back considerably. By the end of November 2021, the Lao kip, Myanmar kyat, and Thai baht respectively had depreciated by 34%, 17%, and 12% against the US dollar in the year to that date.[8]

Moving forward, responding to the stronger tapering actions from advanced economies at a time when the economic recovery is fragile will require a delicate balancing act for many developing economies, even if these actions are communicated well to the market. In Emerging Asia, for instance, it will herald a choice between, on the one hand, running the risk of capital flight as interest-rate differentials narrow, and, on the other hand, of increasing the interest rate burden when the debt load is still being managed carefully in both the public and private sectors.

In essence, such circumstances will require deft calibration of monetary-policy levers in order to contain the risks of inflation and capital flight, without unintentionally increasing risks to financial stability, such as making debt repayment more difficult as interest rates rise, and also without harming the recovery of the real economy. In addition, fiscal policy could complement monetary policy in addressing these challenges, by subsidising households and viable firms.

This also calls for an appropriate mix of macroprudential policies in order to manage credit flow in the system (see Chapter 4 for further discussion). Along this train of thought, it is worth noting that Shin (2019) observes that, in a sample of Asian economies, "contractionary macroprudential policy has significant negative effects on credit and output; and that these effects are qualitatively similar to those of monetary policy, which suggests that policy authorities may experience potential policy conflicts when credit conditions are excessive and the economy is in recession". The sample used in the study includes Indonesia, Malaysia, the Philippines, Singapore, Thailand, China and India.

Incidentally, and despite signals from advanced economies that tighter monetary policy is on the cards, the prevailing policy rates in a number of Emerging Asian economies currently remain at historic lows.[9] Against this backdrop, the differentials in benchmark bond yields between the US and Emerging Asia have, as expected, narrowed on the short-tenor bonds, albeit they have remained relatively stable on the longer tenors. For one-year benchmark bond yields, the mean spread stood at about 2.1% by the end of November 2021, or roughly 110 basis points lower than the mean spread by the end of 2019. For 10-year benchmark bond yields, the mean spread is 2.3% by end-November 2021, or about 10 basis points higher than the mean spread by the end of 2019.[10]

Emerging Asia's central banks are inclined to stay accommodative in the near term to support growth, even as global conditions seem to have inflected

Monetary authorities in the countries of Emerging Asia recognise the risks that current economic conditions pose. Nonetheless, and as of early 2022, recent public statements on monetary policy indicate that a number of the central banks in the region intend to remain accommodative. Their aim in so doing is to aid the real economy, particularly the labour market, in finding its footing. Policy views are generally anchored on the expectation that domestic inflation trends will stay stable or stabilise within the target bands in the near term.

In its monetary decision in January 2022, Bank Indonesia said that it expects inflation in 2022 to fall within its target range (Bank Indonesia, 2022). The central bank of the Philippines also conveyed a message following its meeting in December 2021 that inflation in the country is set to remain within the inflation target band of 2%-4% during the 2022-23 horizon (BSP, 2021).

Similarly, Malaysia's central bank said in its monetary policy statement in January 2022 that average headline inflation is likely to remain moderate in 2022 as the base effect from fuel inflation dissipates (Bank Negara Malaysia, 2022). Along the same lines, the central bank of Thailand, as per the decision of its monetary policy committee in February 2022, noted that headline inflation in 2022 would be higher than previously assessed and could exceed the target range in the early part of the year, but the average inflation rate for the full year 2022 would remain within the target range (Bank of Thailand, 2022).

The central bank of India took a similar stance on domestic inflation in the country, following its monetary policy committee meeting in February 2022. It posited that headline inflation is anticipated to peak in the final quarter of the fiscal year 2021-22 within the tolerance band and then moderate closer to target in the second half of the fiscal year 2022-23 (Reserve Bank of India, 2022).

Vulnerable households are likely to feel the inflation pinch, as labour markets continue to adjust and housing becomes less affordable

Anchoring inflation well is critical at a time when labour markets are still reeling from the impact of the pandemic. This impact has included income losses, a fall in work hours for those in employment, and a fall in labour income in 2020, before income-support measures (ILO, 2021). The ILO (2021) report notes that workers in the Americas are estimated to have lost 10.3% of labour income while in Asia and the Pacific, the labour income losses amount to about 6.6%. The job destruction has also been found to have disproportionately affected low-paid and low-skilled jobs. Furthermore, data published in 2021 indicate that the picture for wages and earnings in the region remains grim (Elder and Huynh, 2021; General Statistics Office, 2021).[11] Although wage pressures appear to be currently low in Emerging Asia, policy makers need to remain mindful of the interactions between wage developments and inflation (Box 2.3).

Box 2.3. Wage developments could also contribute to the pick-up in inflation

Although wage pressure appears to be currently low in Emerging Asian countries, policy makers need to remain mindful of the interactions between wage developments and inflation. The source of the shock will have important implications for the transmission of wage developments to prices. In some Emerging Asian countries, large numbers of workers left the labour force at the height of the COVID-19 pandemic, partly reflecting a shift into the informal sector (ADB, 2021a). The decline in labour force participation rates may not reverse as completely or as rapidly as anticipated. A negative supply shock in the labour market may lead to more persistent upward pressure on wages, which could eventually feed through to consumer prices. The economic literature agrees that labour shortages that arise from a decline in workers' willingness to work would lower the job filling rate and would trigger wage growth (Crump et al., 2022). On the other hand, the impact of higher wages on prices could therefore be partially offset by decreasing profit margins or by weak bargaining power on workers' side (Lombardi, Riggi and Viviano, 2020).

Several Emerging Asian countries have been confronted with labour-supply challenges, which started in the second half of 2021 and have continued into the first quarter of 2022. Viet Nam, for example, has struggled with labour shortages in recent months, as the pandemic-related restrictions have led many workers to relocate to the countryside. A shortage of more than 100 000 workers has been reported in Ho Chi Minh City alone (Hoang, 2021). Acute labour shortages have also been reported in Malaysia's palm oil sector (Chu, 2021), as well as in Thailand's labour-intensive food processing industry (Phoonphongphiphat, 2021). In another example, stronger wage cost pressures due to labour shortages in Singapore were one of the key drivers causing food services inflation to increase to 1.5% in annual terms in the third quarter of 2021 (MAS, 2021).

On the demand side, demand for resident and non-resident workers is anticipated to rise in 2022, as Emerging Asian economies gradually recover, putting upward pressure on wages. In particular, demand for labour is likely to continue to rise at a steady pace in sectors that posted strong performance during the pandemic, such as information and communication technology, health and social services, as well as financial and insurance services. In Singapore, for instance, employment and job vacancies in these sectors have both exceeded pre-pandemic levels, signalling a tightening of job market conditions (MAS, 2021).

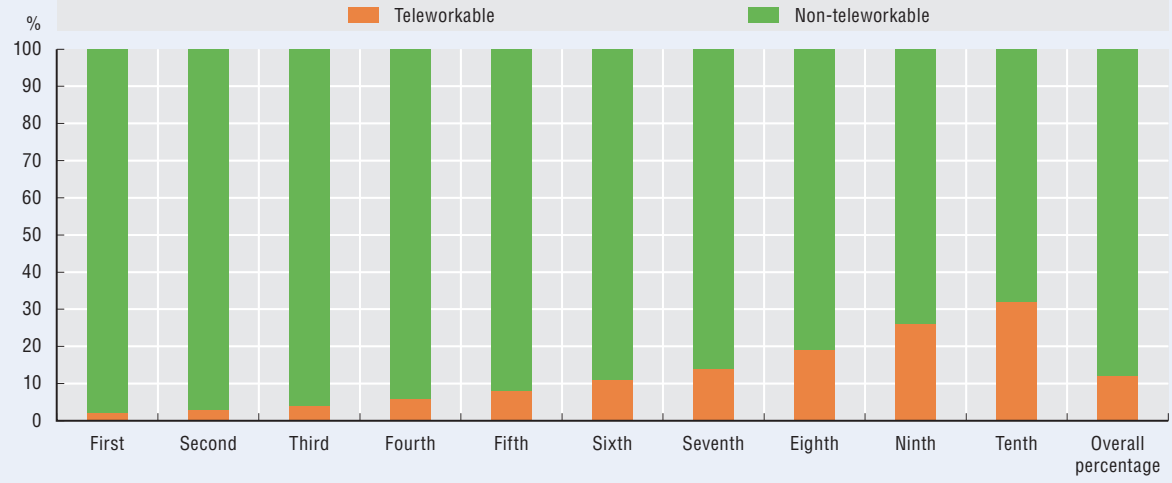
Moreover, there is evidence of growing wage inequality in some countries in the region (Huynh, 2021). These observations indicate that the behaviour of nominal prices and real prices (e.g. real wages) tend to differ and could mean greater financial difficulties in future for workers who are at the bottom of the income ladder. There are, indeed, strong indications that pre-existing inequalities within countries are also being reinforced by the COVID-19 crisis (Box 2.4).

Box 2.4. **The pandemic threatens to reinforce pre-existing inequalities**

The COVID-19 pandemic is a global shock that hit Emerging Asian countries almost simultaneously in early 2020. Since then, however, it has become increasingly clear that the health crisis is having very different impacts on different countries. Those countries that already exhibited low growth and limited fiscal space prior to the crisis have been more severely affected. Consequently, the pandemic threatens to exacerbate existing cross-country differences. Differences are not only appearing among Emerging Asian countries. Indeed, there are also strong indications that pre-existing inequalities within countries are also being reinforced by the crisis.

Lower-income individuals, those with lower levels of education, and also the young, are the people who have been most affected by the economic fallout and inequality from COVID-19. Based on empirical data, some recent studies consider the social consequences of the pandemic at the individual level. The findings of these studies suggest that the lockdown measures had a particularly marked impact on sectors in which work under physical distancing rules became difficult or nearly impossible, like for instance sector related to hospitality and recreation services (Gaduena, Caboverde and Flaminiano, 2020). Data for the Philippines show that the percentage of employees working in the sectors most affected by restrictive measures, and where teleworking is not possible, is notably higher in lower income brackets as compared to higher ones. For example, only 2% of Filipino employees in the first income decile were able to telework, compared to 32% in the highest income decile (Figure 2.9).

Figure 2.9. **Distribution of workers in jobs that are suitable for teleworking, by income decile in the Philippines, 2020 (%)**



Source: Gaduena, Caboverde and Flaminiano (2020).

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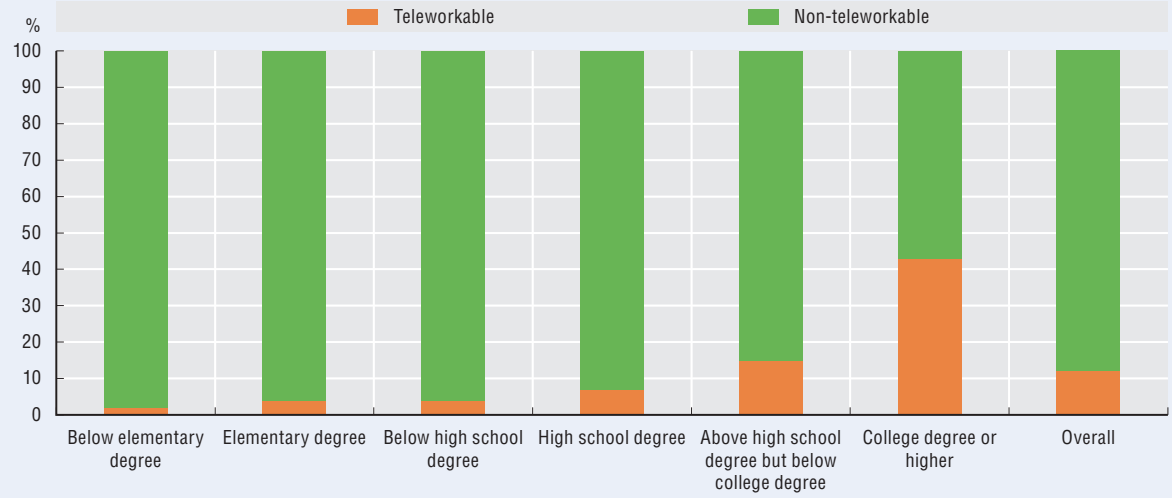
Box 2.4. **The pandemic threatens to reinforce pre-existing inequalities** *(cont.)*

Furthermore, there is also a correlation between the impact of lockdown measures and an individual's level of education. In the Philippines, for example, sectors where teleworking was feasible during the crisis tend to have a higher proportion of employees with a university degree or higher (Figure 2.10). Employees with tertiary education or higher are also presumably less affected by short-time work schemes and income shortfalls than people with lower levels of formal education, given the relative likelihood that they would be able to continue working from home during the pandemic period.

Figure 2.10. **Distribution of workers in jobs that are suitable for teleworking, by level of educational attainment in the Philippines, 2020**



Source: Gaduena, Caboverde and Flaminiano (2020).

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The effects of lockdown measures can also be differentiated with respect to an individual's age. For example, restrictions on mobility may exacerbate inequality for individuals who are still in school. For instance, the World Bank anticipates that the COVID-19 pandemic will leave more than 80% of 15-year-old students in Indonesia below the minimum level of reading proficiency, as defined by the OECD. The World Bank also estimates that learning losses during the pandemic will cost Indonesian students at least USD 253 billion in lifetime earnings (Afkar and Yarrow, 2021). The dispersion of learning outcomes that has been observed between people of greater and lesser economic prosperity is particularly problematic, because it could lead to lasting differences in the development of human capital, thus causing inequality to increase in the long term.

Finally, the COVID-19 crisis has also revealed the existence of substantive health inequalities in Emerging Asia. Moreover, and as already discussed, there is a consensus that the pandemic has had a disproportionate impact on the most vulnerable populations. According to a joint OECD-WHO (2020) report, most countries in the Asia-Pacific region have high out-of-pocket expenditures for healthcare, which has led to unmet needs. As stated in the same report, moreover, Asia-Pacific also accounts for around 65% of the global slum population, which typically has limited access to healthcare services.

The robustness of property prices in Emerging Asia, buoyed by rising input costs such as for base metals (PwC and the Urban Land Institute, 2021), is another point of concern, particularly from the perspective of those who are at the fringes of the economy. A study by Li et al (2021) shows that of the 24 cities in the Asia-Pacific region that it tracks,

"18 have experienced positive price growth, with nine even growing at double digits since the beginning of COVID-19". While this indicates rosy prospects for the sector, it will also fuel inflation, further tightening the budgets of households that are already experiencing economic difficulty and contending with lower real earnings. These developments are also likely to exacerbate the overall unaffordability of housing in the region, which has been a problem since long before the pandemic (Helble, 2019).

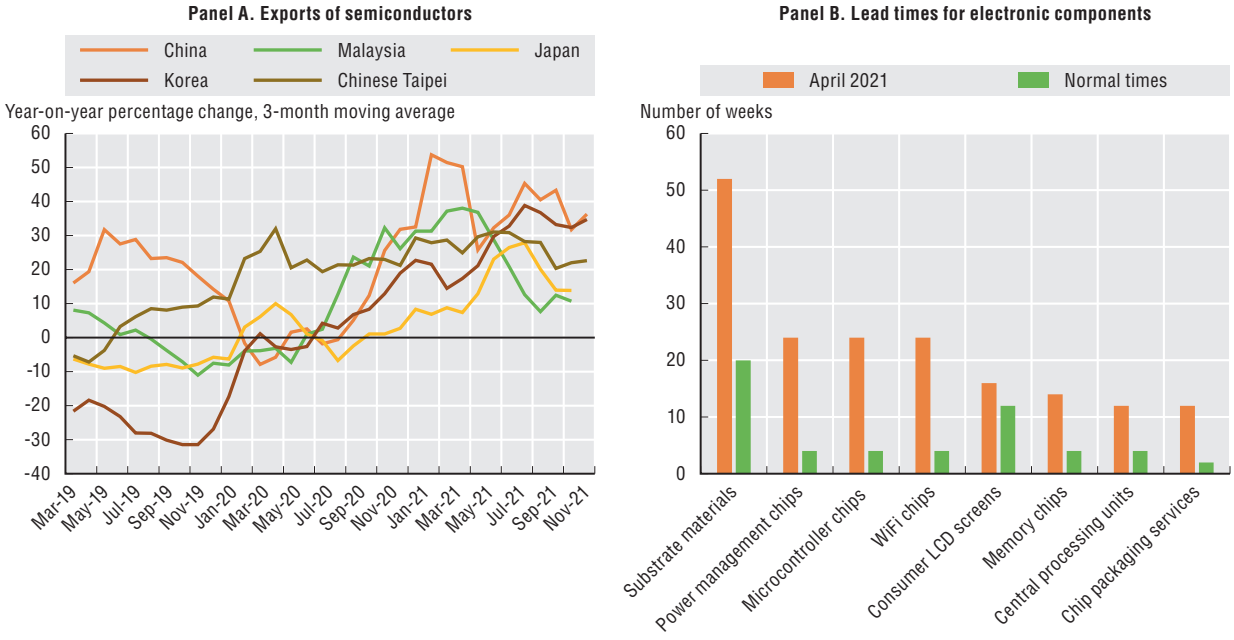
Supply chain disruptions continue to pose challenges

Supply chain disruptions have been a major feature of the COVID-19 pandemic, and they continue to pose challenges to economic recovery in Emerging Asia. A key reason for bottlenecks is the imbalance between supply and demand, amid intermittent shuttering and re-opening of individual economies. For instance, China's economy shuttered in the first half of 2020, while economies in the rest of the world continued to function unabated. The situation was reversed in the second quarter of 2020, when other major economies were brought to a halt, while China began to re-open. Consequently, demand surged in the second half of 2020, as consumption in China and other major economies was propelled by the fiscal and monetary support provided by governments to households and businesses. At the same time, supply has not been able to keep up with the revival in demand.

This imbalance between supply and demand has affected several key industries, including the global logistics sector and the production of raw materials and semiconductors. Throughout 2021, meanwhile, persistent localised pandemic-related restrictions, as well as labour-market shortages in several Emerging Asian countries, continued to add new bottlenecks. As a result, various disruptions emerged, affecting the smooth operation of global supply chains and weighing on economic growth in 2021. One of the major factors behind these bottlenecks is the rise in demand for semiconductors driven by structural changes triggered by the shift to remote work. The increase in commodity prices, in particular energy and metals, to above their pre-pandemic levels represents another triggering factor. Finally, logistical disruptions have emerged in the transport sector, and in container shipping in particular, with the sector struggling to cater for rising trade in merchandise as economies reopened.

Major manufacturers such as China, Malaysia, Japan, Korea and Chinese Taipei saw their semiconductor exports surge in the first half of 2021 (Figure 2.11, Panel A). In parallel, automotive producers lowered their semiconductor orders in 2020 on the back of faltering demand for cars during the pandemic. As producers re-directed production away from automotive to other sectors, the former was left with reduced access to semiconductors when demand for cars rebounded at the end of 2020 (Burkacky, Lingemann and Pototzky, 2021). Furthermore, restrictions implemented by the US administration in 2018 and 2019 on exports of chip software and chip-manufacturing equipment have weakened chip production in China, thus weakening the supply of such products (ADB, 2021b). Meanwhile, measures to contain COVID-19 disrupted production in other major chip-manufacturing hubs, as well as in packaging sites such as Korea, Malaysia and Viet Nam. Due to imbalances between supply and demand, lead times lengthened considerably in 2021 for various electronic components. For instance, lead times for power management and microcontroller chips lengthened to a minimum of 24 weeks in April 2021, compared to four weeks in normal times (Figure 2.11, Panel B).

Figure 2.11. **Exports of semiconductors from selected Asian economies, and minimum lead times for electronic components**



Note: Latest data on exports of semiconductors as of December 2021, except for Malaysia (November 2021) and Japan (November 2021). "Lead time" is defined as the period between the ordering and delivery of an electronic component. LCD stands for liquid-crystal display.

Source: Authors' calculations, based on data from CEIC and Ting-Fang and Li (2021).

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The rise in commodity prices also contributed to disruptions to supply chains. For example, iron ore prices surged through the summer of 2021 amid booming construction and industrial output in China. However, they subsequently fell sharply until November 2021, as the prospects for these sectors weakened, and started to rise again afterwards. Prices of other base metals, in particular aluminium and nickel, have continued to inch higher in recent months. This reflects their scarcity, but also their crucial role as inputs in the manufacturing of electronic products. Meanwhile, lower production in China has helped to push up aluminium prices in particular. China is a major producer of aluminium, but the country's recently announced emission-cut targets have contributed to lower aluminium production since July 2021. Chinese authorities have committed themselves to reducing the country's reliance on fossil fuels to below 20% by 2060, while pledging to strictly oversee investments in coal power, steel, electrolytic aluminium, cement, and petrochemicals (State Council of the People's Republic of China, 2021). In addition, the rationing of electricity in key manufacturing areas in China has also aggravated global shortages of industrial inputs and final goods. These electricity shortages have been caused by a variety of factors, including high coal prices, unpredictable weather patterns, and goals for tackling climate change (Maersk, 2021).

Finally, the brisk rebound in merchandise trade in the second half of 2020 and the first half of 2021 coincided with a shortage of shipping containers, as the spread of the Delta variant to many Southeast Asian countries exacerbated bottlenecks in the supply chain. On top of that, waiting times at ports increased due to high import volumes, containment measures at port facilities, and labour shortages, as containment measures affected the mobility of migrant

workers. Events such as a container ship running aground in the Suez Canal in March 2021 exacerbated the backlogs, while several ports in Emerging Asian countries experienced temporary disruptions due to abnormally high congestion rates (Box 2.5).

Box 2.5. **Several ports in Emerging Asia have experienced increases in congestion rates**

Major shipping hubs in Emerging Asia, including Singapore and Port Klang, have experienced elevated levels of congestion as containers have piled up at ports in the region. Similar disruptions have occurred at the dual ports of Los Angeles and Long Beach in the United States, as well as at Jebel Ali, a major container hub in the Middle East (Table 2.8). Conversely, backlogs appeared as of early November 2021 to have eased at the ports of Laem Chabang, Busan and Rotterdam, among others.

Table 2.8. **Congestion rates at selected ports in Emerging Asia and around the world, November 2021**

Port	Location	Total number of ships	Number of waiting ships	Number of ships in port	Congestion rate	Net change
Singapore	Singapore	101	53	37	58.9%	+22.2%
Port Klang	Malaysia	38	15	19	44.1%	+14.5%
Hong Kong/Shenzhen	Hong Kong, China; Shenzhen, China	229	82	69	54.3%	+10.4%
Jebel Ali	United Arab Emirates	53	10	31	24.4%	+7.7%
Savannah	United States	34	26	5	83.9%	+7.7%
Tanjung Priok	Jakarta, Indonesia	39	12	11	52.2%	+6.7%
Los Angeles/Long Beach	United States	106	33	27	55.0%	+1.6%
Qingdao	China	39	4	15	21.1%	-2.9%
Ningbo-Zhoushan	Shanghai, China	271	73	89	45.1%	-6.0%
Rotterdam	Netherlands	47	3	22	12.0%	-7.4%
Busan	Korea	50	4	35	10.3%	-7.7%
Laem Chabang	Thailand	44	2	13	13.3%	-9.4%

Note: Data as of 1 November 2021. The congestion rate is calculated as the number of anchored container ships that are waiting, divided by the sum of anchored container ships and container ships in port. Net change illustrates the congestion rate as of 1 November 2021, minus the April-October 2021 median.

Source: Varley (2021).

Meanwhile, severe backlogs were recorded at the Yantian International Container Terminal, one of China's busiest container ports. The disruptions came as the port imposed stringent disinfection and quarantine measures as of May 2021, when COVID-19 clusters were identified among its staff. In late May, Yantian port suspended the acceptance of export-laden container ships, leading to a severe backlog in the container yard, and to congestion outside the port, with more than 23 000 containers waiting to be exported (Reuters, 2021).

Increased congestion rates were also seen in several other ports in Emerging Asia. In Malaysia, Port Klang reported congestion rates 14.5% above normal in November 2021, while congestion rates at Tanjung Pelepas were 29.9% higher compared to normal times. Similarly, containers continued to pile up near Singapore. On 1 November 2021, the backlog was 22% above normal, with 53 container ships anchored off the coast of Singapore. In Indonesia, Jakarta's container hub of Tanjung Pelepas reported congestion rates 6.7% above normal (Varley, 2021).

Meanwhile, the ports corporation of Viet Nam suspended some operations at Ho Chi Minh's largest international terminal, citing severe labour shortages triggered by pandemic containment measures. Indeed, the workforce of the Saigon Newport Corporation was reduced by half at Ho Chi Minh's Cat Lai Terminal. The outbreak of COVID-19 led to a shortage of port officers and forklift truck drivers, as well as truck drivers. As a result, vessels were forced to wait on berth due to a lack of workers. The terminal stopped handling refer boxes and trans-shipments at the beginning of August 2021, while oversized and overloaded cargoes were also suspended around the same time (The Maritime Executive, 2021).

Developments affecting China's trade with advanced economies further complicated the normal functioning of supply chains. For example, backlogs at the Ningbo and Shanghai ports, stemming first from COVID-19-related closures and then from Typhoon Chanthu, jeopardised the smooth movement of merchandise across major ports in China. As such, shipping containers had to be returned empty to China from various parts of the world in order to be available for additional exports (State Council Information Office, 2021). Furthermore, the reduction in passenger flights due to the COVID-19 pandemic reduced air cargo capacity, putting extra pressure on maritime transport. As a result, shipping transit times lengthened, and transport costs from China to ports in the United States and Europe skyrocketed. For example, freight rates on the route from Shanghai to Rotterdam were nearly five times higher in mid-November 2021 compared to the same period in 2020, while prices on the Shanghai to Genoa route almost quadrupled over the same period (Drewry Supply Chain Advisors, 2022). As of late-February 2022, the composite index was still 81% higher compared to the same period in 2021, while freight rates on the Shanghai to Los Angeles route were more than double their value at the same point a year earlier (Table 2.9).

Table 2.9. **Spot freight rates by major route for selected dates in October 2021-February 2022**

(USD per 40-foot container)

Route	28 October 2021	4 November 2021	11 November 2021	24 February 2022	Year-on-year change
Composite index	9 669	9 195	9 193	9 477	+81%
Shanghai to Rotterdam	14 062	13 798	13 801	13 625	+61%
Rotterdam to Shanghai	1 591	1 585	1 580	1 439	+1%
Shanghai to Genoa	13 123	12 693	12 438	12 759	+48%
Shanghai to Los Angeles	10 976	9 857	9 947	11 030	+151%
Los Angeles to Shanghai	1 302	1 288	1 303	1 247	+125%
Shanghai to New York	13 554	12 667	12 718	13 160	+99%
New York to Rotterdam	1 189	1 189	1 189	1 198	+59%
Rotterdam to New York	6 161	6 123	6 255	6 518	+179%

Note: Year-on-year percentage changes as of 24 February 2022.

Source: Drewry Supply Chain Advisors (2022).

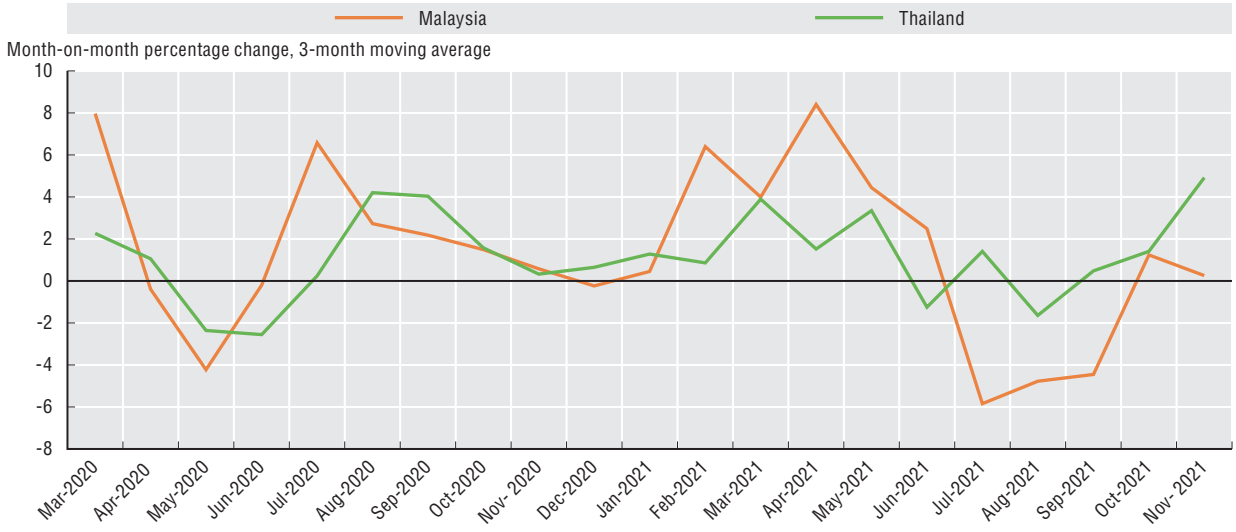
In the coming months, supply-chain disruptions could reverberate through Emerging Asian economies and weaken output growth. Indeed, manufacturing sectors affected by severe shortages appear to have been reporting weaker output dynamics since May 2021. For instance, the total production output for integrated circuits declined substantially in Thailand, in June, and in Malaysia, in July (Figure 2.12). Other sectors that rely on electronic equipment, such as the production of passenger cars, also reported lower output. In Malaysia, for example, the production of passenger cars declined by nearly 17.8% in April 2021 compared to the previous month, and posted another sharp fall in May (down by 15.9% month-on-month).

At the consumer level, shortages of certain products have triggered rationing and cost-push increases to prices, as discussed in the previous section. These shortages may be partially responsible for the recent spike in inflation for consumer durables in some countries in the region. Prices of oil, natural gas and commodities had already firmed up since the second half of 2020, while higher transport costs have added further to price pressures. Prices of household durable goods rose in November 2021 in some countries in Emerging Asia, most notably in India, Lao PDR, Malaysia and Singapore. Meanwhile, prices

of consumer goods in India, Lao PDR, Malaysia and Singapore edged 6.4%, 4.9% and 2.6% and 2.1% higher, respectively (Figure 2.13). In India, the most recent inflation print for this class of goods represents the highest reading since January 2019.

Figure 2.12. **Total production output for integrated circuits in Malaysia and Thailand, March 2020 to November 2021**

Month-on-month percentage change, three-month moving average



Source: Authors' calculations based on data from CEIC and national sources.

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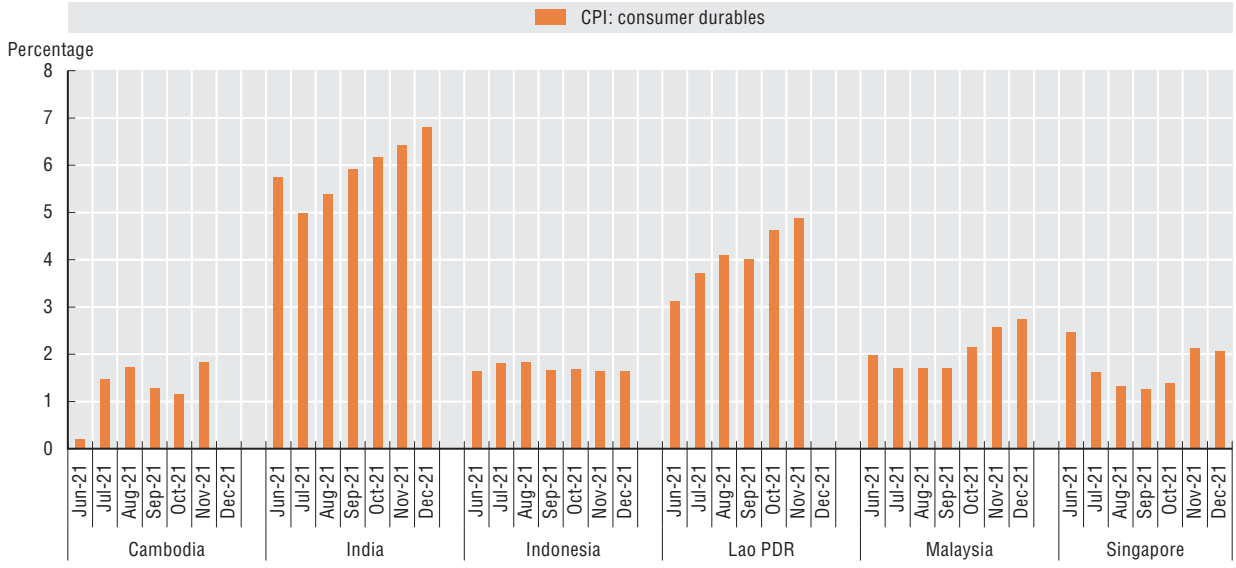
Figure 2.13. **Prices of consumer durables in selected Emerging Asian economies, June to December 2021**

Year-on-year percentage change



Source: Authors' calculations based on data from CEIC and national sources.

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As of early 2022, there were some signs that stresses in supply chains were easing to a certain extent, but the balance of risks is mostly tilted to the downside. The concern is that the Omicron variant of COVID-19 could delay further improvements to the situation. Indeed, additional supply-chain disruptions and slowdowns may occur in the near term, as cases of the fast-spreading Omicron variant are reported across production and shipping hubs in Asia. In particular, potential lockdowns, amidst China's zero-COVID-19 strategy, in areas of the country that are home to concentrations of large production activities, could imply higher producer prices in the coming months. Furthermore, the war in Ukraine could add further upside pressure on oil and metal prices. On the other hand, the imbalance between supply and demand for semiconductors is likely to gradually ease in 2022, as pandemic-related risks recede and investment in semiconductor facilities increases.

Conclusion

A number of factors will determine the economic outlook in Emerging Asia as the COVID-19 pandemic continues to unfold. For a start, the emergence of new variants, like Omicron in recent months, increases the uncertainty surrounding the economic recovery. Against this backdrop, an acceleration of vaccination programmes, and effective health measures and exit strategies, are crucial areas for governments to focus on. Meanwhile, digital health tools also have the potential for further development, and can help authorities to mitigate damage from COVID-19. Furthermore, coping with inflation risks is also crucial. The headline inflation trend is pointing upwards in some Emerging Asian economies, clouding the outlook for economic growth and social stability in the region. Inflationary pressures are mostly the result of rising commodity prices on global markets, but supply chain bottlenecks have also contributed. Despite rising inflationary pressures, monetary policy remained accommodative in response to still fragile recoveries and uncertain prospects for the labour market. In addition, fiscal policy could also play an important role in overcoming the challenges related to higher inflation, by subsidising households and viable firms. This is all the more important, as the health crisis threatens to aggravate existing inequalities within countries in the region.

Disruptions to supply chains have, as discussed above, been a major feature of the COVID-19 pandemic. These disruptions have the effect of weakening the momentum of economic recovery in Emerging Asian countries. Moreover, additional supply-chain disruptions and slowdowns may occur in the near term, as cases of the fast-spreading Omicron variant are reported across production and shipping hubs in Asia.

Notes

1. The general stages of the development cycle of a vaccine are: exploratory stage, pre-clinical stage, clinical development (three-phase trial processes), regulatory review and approval, manufacturing, and quality control.
2. The terms "telemedicine" and "telehealth" are often used interchangeably, as the distinctions between them are not entirely clear. However, the United States Federal Communications Commission (FCC) does offer a definition of these terms (FCC, n.d.). According to the FCC's definition, telemedicine is "using telecommunications technologies to support the delivery of all kinds of medical, diagnostic and treatment-related services usually by doctors". The FCC definition goes on to say that "this includes conducting diagnostic tests, closely monitoring a patient's progress after treatment or therapy and facilitating access to specialists that are not located in the same place as the patient". Meanwhile, the FCC states that while telehealth is "similar to telemedicine", it "includes a wider

variety of remote healthcare services beyond the doctor-patient relationship". Moreover, "it often involves services provided by nurses, pharmacists or social workers, for example, who help with patient health education, social support and medication adherence, and troubleshooting health issues for patients and their caregivers". For the purposes of this report, both terms will refer to patient-facing activities, unless otherwise noted.

3. Myanmar is an exception. The country's situation in terms of national security and the state of the economy, compounded by COVID-19, is resulting in food shortages and substantially higher food prices locally, according to the FAO (2021b).

4. For more detailed information, please refer to FAO (2021a), and to the FAO Commodity Policy Developments database.

5. In India, Cariappa et al. (2021) demonstrated that the pandemic-induced lockdown restricted access to food markets, and that the majority of consumers experienced a price increase across COVID zones. The circumstances led to food loss along the supply chain and to waste on the side of the consumers, who stockpiled perishable goods, with the lack of storage facilities. The authors also posited that prices post-lockdown rose immediately, notably for chickpeas, mung beans, and tomatoes. In addition, Ochave (2020) provides ground-level evidence of farm-produce wastage in the Philippines. Meanwhile, Alam and Khatun (2021) also note that, in Bangladesh, "lockdown has impeded vegetable farmers' access to markets, thus limiting their productive and sales capacities".

6. Bernanke (2010) attributes the phenomenon of higher-than-anticipated inflation (i.e. inflation overshooting) after a recession to the increased anchoring of expectations by a credible monetary policy. Daly and Hobijn (2014) emphasise the increased downward wage rigidities in a recession, which bend the wage Phillips curve. Following the results of their simulation of the US economy, the authors argue that (i) "during recessions the rigidities become more binding and the labour market adjustment disproportionately happens through the unemployment margin rather than through wages;" (ii) "downward nominal wage rigidities cause recessions to result in substantial pent up wage deflation, [which] leads to a simultaneous deceleration of wage inflation and a decline in the unemployment rate during the ensuing recovery period"; and (iii) "this bending of the Phillips curve is especially pronounced in a low inflationary environment." Meanwhile, Christiano, Eichenbaum and Trabandt (2015) explain the "missing disinflation" by a fall in total factor productivity and increased costs of working capital.

7. For the data, refer to Treasury Securities Operational Details, https://www.newyorkfed.org/markets/domestic-market-operations/monetary-policy-implementation/treasury-securities/treasury-securities-operational-details#monthly-details.

8. The calculations are based on the daily data obtained from Fusion Media Ltd, https://www.investing.com/ (accessed 6 December 2021).

9. The current repo rate in India of 4% is the lowest in over two decades. The seven-day reverse repo rate of 3.5% set by Indonesia's central bank is at its lowest since data were first made public in June 2015. In Malaysia, meanwhile, the central bank's overnight policy rate of 1.75% is at its lowest point since it was first released in April 2004. The same can be said of the overnight reverse repurchase rate in the Philippines (2%), and the one-day bilateral repurchase rate in Thailand (0.5%), which were first published in June 2016, and May 2000 respectively, based on the current definitions. If extended backwards by adjusting roughly for series breaks, the current policy rate in the Philippines is going to be the lowest since the mid-1980s, when it was first released.

10. The calculations are based on the daily data obtained from Fusion Media Ltd, https://www.investing.com/ (accessed 6 December 2021). In this case, Emerging Asia is composed of China, India, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam. The data are as of 30 November 2021 except for the 1-year benchmark bond yield series for Thailand, which is updated only until 18 November 2021.

11. Comparable wage data for 2021 are not readily available yet, especially for many developing economies. Caution should also be exercised in interpreting average economy-wide wages in 2021, even for countries for which data are available. This is because the profile of the workers covered by surveys could have changed substantially, with millions of low-earning workers eased out of the labour market, resulting in a higher proportion of high-earning workers in the data (Rouse and Gimbel, 2021).

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Chapter 3

Financing a sustainable recovery from the COVID-19 pandemic

The fiscal and monetary environment in Emerging Asia remains challenging. The current context calls for innovative financing solutions to finance the recovery post-pandemic. The chapter explores these solutions at length. First, policy makers should consider options for managing the stock of public debt, including participation in multilateral initiatives, swap arrangements, or debt buybacks. Alternative financing sources such as green, social and sustainability bonds can enable a sustainable and equitable recovery. The development of this market segment requires resolute policies, including robust regulatory frameworks, higher supply of sovereign bonds, and incentives to increase investor participation. In addition, insurance-linked securities could provide an extra layer of financial coverage against extreme events such as pandemics. There is also scope for regional co-operation in financing the recovery. For instance, sovereign catastrophe risk pools could provide a mechanism for Emerging Asian governments to enhance their financial preparedness against pandemics and other large external shocks.

Introduction

All around the world, the COVID-19 pandemic has exposed gaps in healthcare systems, disrupted businesses and public services, derailed supply chains, and shattered job markets (see Chapters 1 and 2). Although conditions have improved in many countries as vaccination rates have increased, recovering from one of the biggest global socio-economic crises in decades will involve many challenges, particularly for Emerging Asian economies.

Ensuring the availability of suitable financing in a way that does not put the stability of financial markets and fiscal policy at risk is a critical consideration as governments address the challenges of the pandemic. As it stands, Emerging Asian governments do have some room for manoeuvre, yet they are also dealing with rising levels of fiscal stress. Against this backdrop, this chapter aims to contribute to policy making by discussing financing options for the public sector in detail. In so doing, it presents options for financing policies in a more sustainable manner.

Firstly, the chapter sets out a number of ways in which governments can manage their current stock of debt. It then looks at how they can narrow financing gaps by harnessing bond markets, and at policies that can deepen the markets for government debt. More specifically, it looks at how green, social and sustainability bonds can be used to finance a sustainable and equitable recovery from the pandemic. The chapter then discusses insurance-linked securities, and the role of multilateral institutions in lowering the cost of credit. Finally, it reviews regional risk-pooling mechanisms to hedge potential losses from catastrophic events.

The current economic environment calls for innovative financing options

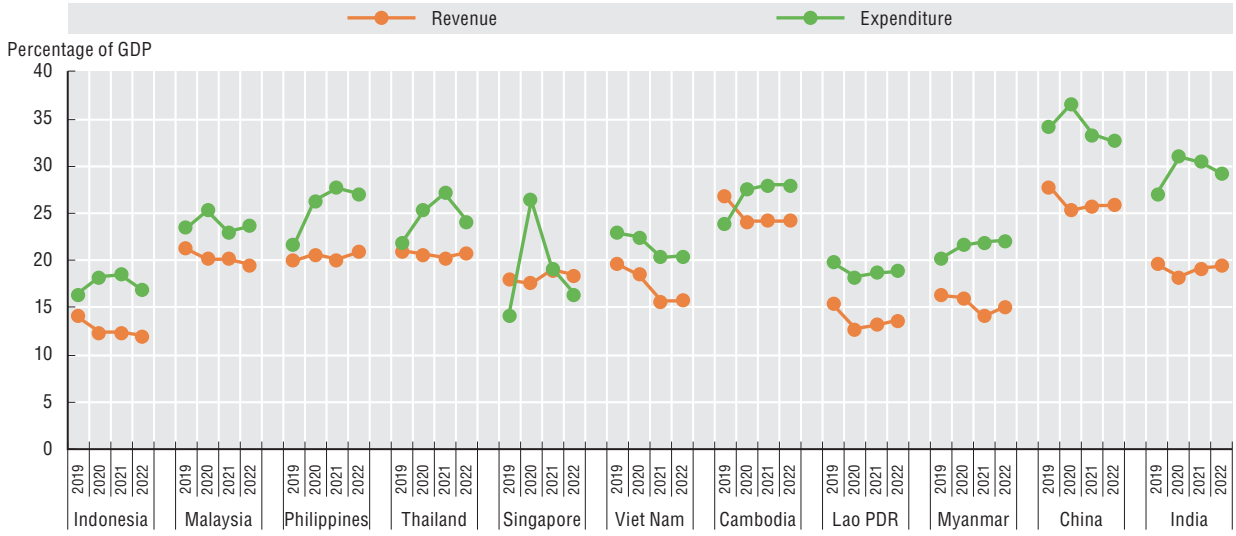
As the pandemic drags on, the economic environment remains challenging, and designing fiscal and monetary interventions is increasingly complex. Considering the tightness of their fiscal headroom, policy makers face a trade-off between maintaining policy support in the near term, and preserving financial stability in the medium term. At this juncture, there is still arguably some space for governments in the region to intervene in many Emerging Asian economies; although constraints could harden if a new wave of COVID-19 cases were to stress healthcare systems, or if monetary policies began to tighten in response to increasing inflationary pressure.

The current fiscal environment – the pandemic has already stretched public finances

The COVID-19 pandemic has significantly increased the pressure on public finances due to supportive measures such as cash-transfer packages and higher healthcare budgets. In certain cases, governments in the region have already had to reduce or suspend some expenditure items in favour of the pressing need to lessen fiscal burdens. The ratio of general government spending to gross domestic product (GDP) in the region has risen markedly, increasing to a range of 18-37% in 2020, from 14-34% in 2019 (Figure 3.1). The uptick in spending to manage the response to the pandemic coincided with a drop in revenues as economic activity fell back. Still, the spending-to-GDP ratio is expected to stabilise by the end of 2021, and decline in 2022, as governments rein in their budgets.

Figure 3.1. **General government revenues and expenditures in selected Emerging Asian economies, 2019-22**

(Percentage of GDP)



Source: IMF (2021a).

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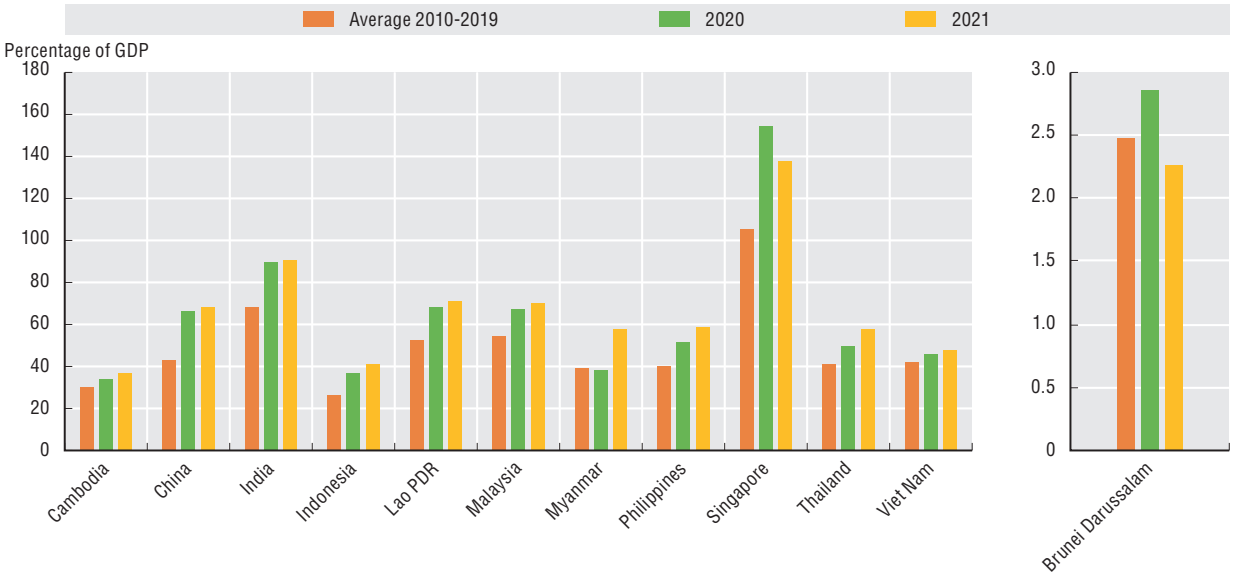
Near-term fiscal concerns mostly revolve around the debt-service burden of an economy, and data on this seem to provide some grounds for reassurance. Still, the rather muted changes in interest payments thus far have been against a backdrop of persistently low interest rates across Emerging Asia, a trend that will be discussed in detail in the subsequent section. Meanwhile, general government borrowing as a proportion of output jumped sharply across Emerging Asian economies in 2020. Moreover, it is anticipated to continue to inch upwards in some of the countries in 2021, albeit at a slower pace. Indonesia, Malaysia, Myanmar, the Philippines, Thailand, and Viet Nam are projected to record higher net borrowing ratios by the end of 2021 compared to 2020, before these ratios begin to recede.

The levels and sustainability of public debt in Emerging Asia are cause for concern

The widening deficits expectedly led to a significant rise in governments' stock of debt (Figure 3.2, Panel A) after the outbreak of the pandemic. The public debt of Emerging Asia (excluding Brunei Darussalam) increased by an average of 15.5 percentage points from 2019 to 2020. Moreover, debt levels are forecast to have risen by the end of 2021. With GDP levels generally declining in 2020, debt-to-GDP ratios have surged by an average of about 9 percentage points since 2019 across the 12 economies of Emerging Asia. Public debt ratios at the end of 2020 ranged from roughly 2.9% in Brunei Darussalam, to 154.9% in Singapore (Figure 3.2, Panel A). Notably, the general government gross debt ratios of Singapore, the People's Republic of China (hereafter "China"), India, Cambodia and Thailand hit all-time highs in 2020. In parallel, fiscal deficits have widened sharply in 2020 in all countries in Emerging Asia and are anticipated to have deteriorated further in 2021 in Indonesia, Malaysia, Myanmar, the Philippines, Thailand and Viet Nam (Figure 3.2, Panel B). Furthermore, a comparison with the pre-pandemic period 2010-2019 shows that both debt levels and fiscal deficits have deteriorated markedly in 2020 and 2021 compared to that period.

Figure 3.2. **General government gross debt in Emerging Asia**



Note: The data for 2021 are estimates. Fiscal balance data are unavailable for Singapore.

Source: IMF (2021b), *World Economic Outlook Database*, https://www.imf.org/en/Publications/WEO/weo-database/2021/October.

StatLink https://doi.org/10.1787/888934304685

As sovereign debt has increased sharply worldwide, the question of its sustainability has come to the fore. The standard framework of analysis suggests that four main factors determine debt sustainability: the initial level of debt, economic growth, the degree of fiscal balance, and the burden of debt-service (Bohn, 1998). Box 3.1 provides a brief overview of the general considerations and features of the fiscal frameworks that governments adhere to. Fiscal frameworks are indeed an important tool for supporting fiscal sustainability and increasing the predictability of public policies. Another important attribute of fiscal frameworks is that they facilitate communication with – and accountability to – the public.

Box 3.1. **Fiscal frameworks: General considerations and features**

Fiscal frameworks – which comprise fiscal rules, fiscal institutions and budgetary procedures – are an important tool for supporting fiscal sustainability and increasing the predictability of public policies. Most countries rely on a combination of numerical and procedural rules. The design of fiscal frameworks should achieve three main goals. The first of these is to ensure the sustainability of the public finances. The second is to support the stabilisation of the economy through counter-cyclical fiscal policy whenever this is appropriate. Finally, the third main goal is to facilitate communication with, and accountability to, the public (IMF, 2021b).

On the other hand, and as noted by Debrun and Jonung (2019), meeting these three objectives simultaneously can be challenging and can lead to the so-called policy trilemma. For instance, long-term fiscal targets that are based on numerical rules, such as the debt-to-GDP ratio, may in fact take an excessively narrow view of sustainability.

Additional features that are desirable in fiscal frameworks include resilience, ease of monitoring, operational guidance, and enforcement (IMF, 2021b). Furthermore, Ardanaz et al. (2021) argue that fiscal rules should include features to accommodate exogenous shocks.

Box 3.1. **Fiscal frameworks: General considerations and features** *(cont.)*

The literature on the impact of numerical fiscal rules has grown in recent decades. Most studies suggest that the implementation of numerical fiscal rules has been effective in achieving both fiscal sustainability and macroeconomic stability (Gomez-Gonzalez, Valencia and Sanchez, 2021; Bergman and Hutchison, 2015; Frankel, Vegh and Vuletin, 2013; Neyapti, 2013). Strong fiscal rules are likewise associated with an improvement in the current account balance (Afonso et al., 2021) as well as with an improvement in access to markets, due to lower bond spreads and higher sovereign ratings (Sawadogo, 2020). Another strand of literature explores the advantages and drawbacks associated with different types of numerical and non-numerical fiscal rules. Table 3.1 summarises some of these findings.

Table 3.1. **Advantages and limitations of different types of fiscal rules**

Type of fiscal rule	Advantages	Limitations
Expenditure rule	• Clear operational guidance in the budget-planning process. • Relatively easy to monitor and communicate. • Permits the conduct of counter-cyclical fiscal policy by constraining spending during booms.	• Could lead to unintended changes in the distribution of spending if governments shift spending to categories that are not subject to the ceiling. • May leave too much scope to increase debt.
Revenue rule	• Can improve revenue management. • Permits the conduct of counter-cyclical fiscal policy.	• No direct link to the control of public debt.
Budget balance rule	• Clear operational guidance in the budget-planning process. • Easy to monitor and communicate. • Close link to debt sustainability.	• Budget balance can be affected by unexpected shocks, which are outside the control of the government (e.g. pandemic shock).
Structural budget balance rule	• Corrects for the economic cycle, and for one-off events. • May improve the overall sophistication of public debates about fiscal policy.	• The estimation of the structural balance is challenging. • Difficult to communicate to the general public.
Debt rule	• The debt-to-GDP ratio is a simple, easy-to-monitor statistic, and has predictive power for crises.	• No clear operational guidance in the short-run, as the impact of policy on the debt ratio is not immediate. • The debt ratio may not capture well the cost of debt if interest rates trend downward. • Where the debt anchor is combined with a deficit limit, the long-term stable debt ratio consistent with a given deficit limit will be higher if the long-term economic growth rate has declined. • Rule could be met via measures that are temporary in character (e.g. below-the-line transactions).
Procedural rules	• Provide more flexibility than numerical rules.	• May be harder to communicate and monitor without numerical targets.

Note: Expenditure rules limit the amount of government spending or the rate of growth in government spending. Revenue rules place constraints on the tax-to-GDP ratio, and impose restrictions on government revenues raised in excess of projected amounts. Budget-balance rules include requirements to run a balanced position, not to exceed a defined deficit limit, or to attain a defined minimum surplus. The structural fiscal balance is the difference between government revenues and expenditures, which is then corrected for effects that could be attributed to the economic cycle and one-off events. Debt rules limit the amount of debt that governments can accumulate. Procedural rules comprise various non-numerical rules, such as fiscal institutions and budget procedures.

Source: Authors' elaboration based on IMF (2021b), Schaechter et al. (2012).

In practice, however, markets' tolerance of debt levels necessitates a case-by-case analysis. The precise thresholds are a matter of market judgement and can be dynamic or change over time.

The OECD countries implemented various policies in terms of securing long-term fiscal sustainability. Medium-term expenditure frameworks, for example, are an important tool for overcoming the limitations of the annual budget cycle by adopting a medium-term perspective (i.e. at least three years from the current budget) for achieving fiscal objectives (OECD/ADB, 2019). Another tool is performance budgeting, which has been widely adopted by OECD countries

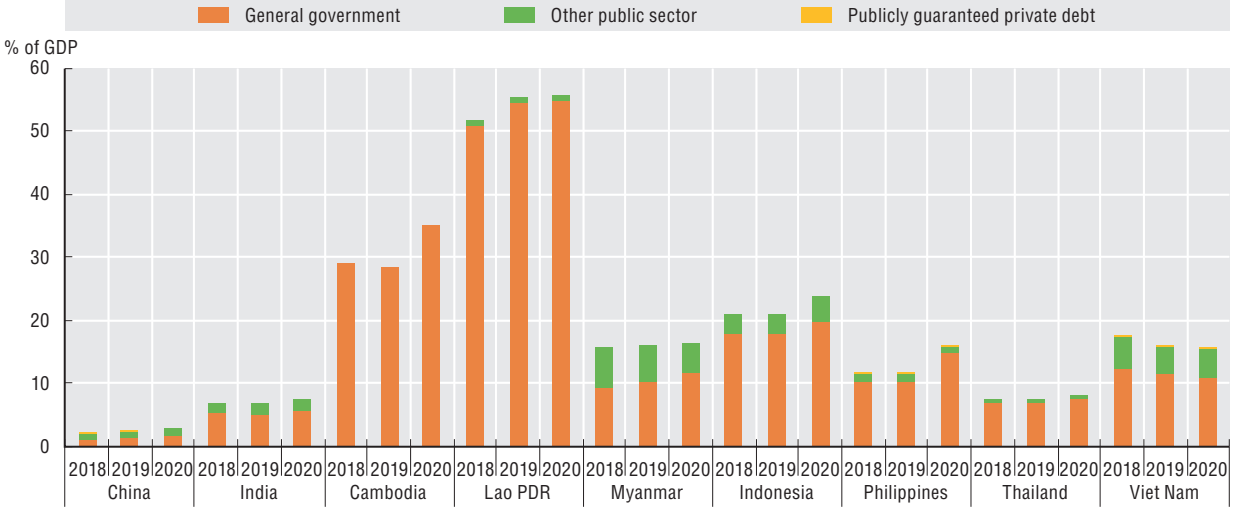
starting from the 1990s. Performance budgeting is defined by the OECD as "the systematic use of performance information to inform budget decisions, either as a direct input to budget allocation decisions or as contextual information to inform budget planning, and to instil greater transparency and accountability throughout the budget process, by providing information to legislators and the public on the purposes of spending and the results achieved" (OECD, 2019).

Spending reviews represent an additional tool for streamlining fiscal management. They entail an assessment of the implementation efficiency and effectiveness of existing government policies and have proven to be an important tool for governments to control total expenditure, to align spending allocations with government priorities and to improve the effectiveness of policies and programmes (OECD, 2021a). In addition, independent fiscal institutions (i.e. independent parliamentary budget offices and fiscal councils) have been established across OECD countries to "provide independent analysis of fiscal policy and performance, thus promoting fiscal transparency, sound fiscal policy and sustainable public finances" (OECD, 2020a). Finally, green budgeting frameworks could support the achievement of environmental and climate-related objectives by providing policy makers with a clearer understanding of the environmental and climate impact of budget choices. Green budgeting relies on four key mutually reinforcing building blocks, namely: a strong strategic framework; tools for evidence generation and policy coherence; reporting to facilitate accountability and transparency; and an enabling budgetary governance framework (OECD, 2020b).

Drawing on the lessons of the Asian financial crisis of 1997-98, and in order to mitigate risks related to exchange rates, governments in Emerging Asian economies have favoured domestic sources of credit over external ones. Since the crisis, Emerging Asian economies have been especially keen to keep their external public debt-to-GDP ratios in check. In 2020, public and publicly-guaranteed external debt did rise, however, driven by spending on support measures to ride out the pandemic (Figure 3.3).

Figure 3.3. **Public and publicly-guaranteed long-term external debt of selected Emerging Asian economies, 2018-20**

(Percentage of GDP)



Note: A separate item of IMF credit is included in the calculation of the general governments' external debt.

Source: Authors' calculations based on data from World Bank (2021a), *International Debt Statistics 2022 Database*, https://data.worldbank.org/products/ids and IMF (2021b), *World Economic Outlook Database*, https://www.imf.org/en/Publications/WEO/weo-database/2021/October.

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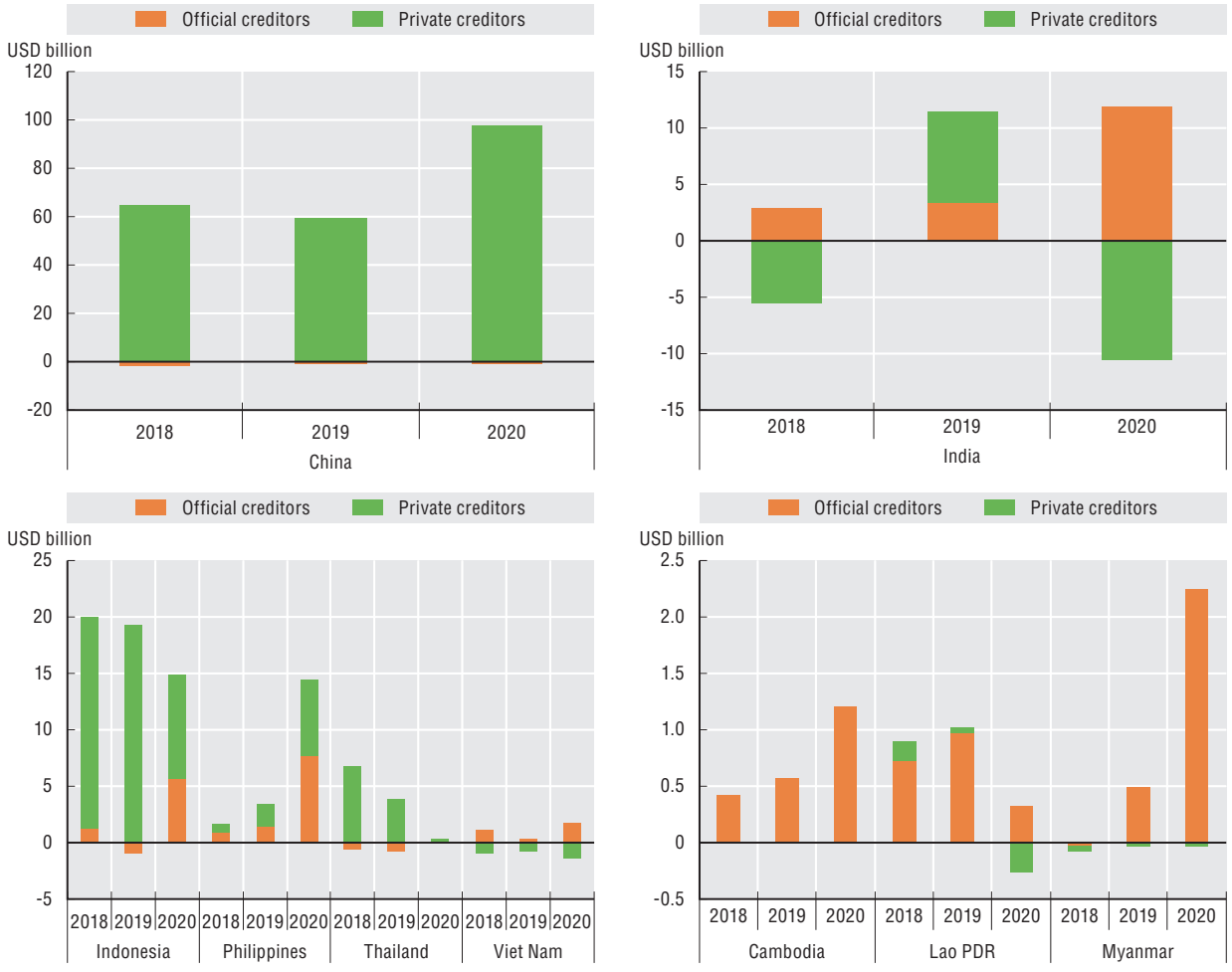
For many countries in the region, multilateral development banks and official bilateral sources have stepped in to meet a substantial chunk of long-term foreign currency financing demands of their public sectors (Figure 3.4). The exceptions are China, which relied more on private creditors, and to some extent, Thailand.

Figure 3.4. **Annual change in public and publicly-guaranteed long-term external debt of selected Emerging Asian economies, by creditor, 2018-20**

(USD billion)



Note: Official creditors include multilateral institutions and bilateral partners. The separate item of IMF credit is included in the calculation.

Source: Authors' calculations, based on World Bank (2021a), *International Debt Statistics 2022 Database*, https://data.worldbank.org/products/ids.

StatLink https://doi.org/10.1787/888934304723

Thus far, credit rating agencies have arguably been more flexible than in previous years in applying their ratings frameworks in their assessments of credit risk despite the marked rise in the gross sovereign debt stock. In Emerging Asia, save for the four rating downgrades outlined in Table 3.2 (i.e. dark orange cells), credit rating agencies have mainly adjusted their outlooks downwards. The changes were also not unanimously on the downside, with Viet Nam receiving outlook upgrades in the first half of 2021 from all three of the major credit rating agencies.

Table 3.2. **Latest credit rating by selected credit rating agencies, plus changes in sovereign credit ratings of Emerging Asian economies, 2020-21**

	Standard & Poor's	Remarks	Moody's	Remarks	Fitch	Remarks
Cambodia	N/A	N/A	B2	Rating and outlook unchanged since March 2014.	N/A	N/A
China	A+	Rating and outlook unchanged since September 2017.	A1	Rating and outlook unchanged since May 2017.	A+	Rating and outlook unchanged since March 2019.
India	BBB-	Rating and outlook unchanged since September 2014.	Baa3	Rating downgraded in June 2020, from Baa2.	BBB-	Outlook downgraded in June 2020; rating maintained.
Indonesia	BBB	Outlook downgraded in April 2020; rating maintained.	Baa2	Rating and outlook unchanged since April 2018.	BBB	Rating and outlook unchanged since December 2017.
Lao PDR	N/A	N/A	Caa2	Rating downgraded in August 2020 from B3; outlook changed to negative in August 2020.	CCC	Rating downgraded in September 2020 from B-.
Malaysia	A-	Outlook downgraded in June 2020; rating maintained.	A3	Rating and outlook unchanged since January 2016.	BBB+	Rating downgraded in December 2020 from A-.
Philippines	BBB+	Rating and outlook unchanged since April 2019.	Baa2	Rating and outlook unchanged since December 2014.	BBB	Outlook downgraded in July 2021; rating maintained.
Singapore	AAA	Rating and outlook unchanged since March 1995.	Aaa	Rating and outlook unchanged since June 2002.	AAA	Rating and outlook unchanged since May 2003.
Thailand	BBB+	Outlook downgraded in April 2020; rating maintained.	Baa1	Outlook downgraded in April 2020; rating maintained.	BBB+	Outlook downgraded in March 2020; rating maintained.
Viet Nam	BB	Outlook upgraded in May 2021; rating maintained.	Ba3	Outlook upgraded in March 2021; rating maintained.	BB	Outlook upgraded in April 2021; rating maintained.

Note: Light orange indicates outlook downgrade, dark orange indicates rating downgrade, and light green indicates outlook upgrade. "N/A" stands for not applicable. The three credit rating agencies were selected based on their market share in the market for sovereign credit ratings. Data are as of 1 March 2022.

Source: Authors' compilation, based on World Government Bonds, http://www.worldgovernmentbonds.com/world-credit-ratings/; Moody's, Rating actions for Asia-Pacific, https://www.moodys.com/researchandratings/region/asia-pacific/-/004000?tb=0&ol=-1&lang=en; and Fitch Ratings, Rating actions, https://www.fitchratings.com/search/?expanded=racs&filter.language=English&filter.reportType=Rating%20Action%20Commentary&viewType=data.

Apart from containing expenditure and targeting it more effectively, there is also scope for governments to improve revenue collection through specific policies. For instance, the digital economy, which has grown rapidly in Emerging Asia in the past few years, is a potential avenue to expand the tax base. At the same time, governments can also leverage digital tools more than they already do, in order to facilitate compliance and improve tax administration (Box 3.2). However, it should be acknowledged that tax increases may be difficult to implement in the post-pandemic recovery phase and are thus not the first option of choice.

Box 3.2. **Expanding the tax base and improving tax administration amid rapid digitalisation**

As an alternative to taking on additional debt, and in light of structural changes such as digitalisation, it is important for governments to explore income streams that they have not yet tapped. Higher tax rates are not necessarily a good strategy in periods of crisis, as they may stifle recovery and overburden pandemic-weary firms and workers. However, in economies in which compliance is weaker, and where the informal sector is large, it is an opportune time to find solutions in order to expand the tax base.

In this respect, many governments are now looking to broaden the tax base through wider regulatory coverage in the digital space. As the OECD (2021b) has argued, fiscal policy must adapt in order to take account of a digitalised environment that imposes "new constraints on social protection systems and income tax bases". The OECD report also underlines that digitalisation provides opportunities for fiscal policy, in that it can enable efficient public administration and enhanced tax compliance given the appropriate infrastructure and systems. As the Asian Development Bank (ADB) has observed (ADB, 2021c), a number of Asia's developing economies have responded to the fiscal challenges of the pandemic by setting forth tax rules for the domestic e-commerce businesses.

The OECD's framework recommends a two-pillar approach to managing the tax challenges of a digitalised economy. The first pillar concerns governments' rights to levy taxes that go beyond a company's physical presence of establishment. Pillar two, meanwhile, seeks to create a global minimum tax on multinational enterprises, in order to address remaining questions of tax-base erosion, as well as issues of profit shifting (OECD, 2021c). Another relevant recommendation in the OECD's framework, given the importance of the value added tax (VAT) as a source of revenue in Emerging Asia, is to strengthen the integrity and performance of VAT regimes.

On tax administration, Kochanova and Larson (2016), who utilised a cross-country dataset on e-government systems, found that "e-filing systems reduce tax compliance costs in general, while e-procurement has an observable impact in countries with higher levels of development and better-quality institutions". Separately, the OECD (2021d) argues that it was clear from the outset that the digitalisation of tax administrations could significantly help in blunting the impact of the COVID-19 crisis on operations. And the governments have responded accordingly. According to the OECD report, the experience of the pandemic has convinced about 60% of the governments surveyed to consider changing their previous strategy on the digitalisation of tax administration processes, while about three quarters of them plan to continue moving audit work from operations in the field to the virtual or digital space.

Finally, co-operation between tax administrations in Emerging Asia is essential in the fight against tax evasion and to protect the integrity of domestic tax systems. The exchange of information for tax purposes is a key pillar of this co-operation. There have been calls for increased attention to this matter within Southeast Asia. For instance, ASEAN draws attention to tax co-operation as one of the key elements for supporting regional competitiveness and expresses commitment to improving the implementation of exchange of information processes in line with international standards (ASEAN Secretariat, 2015).

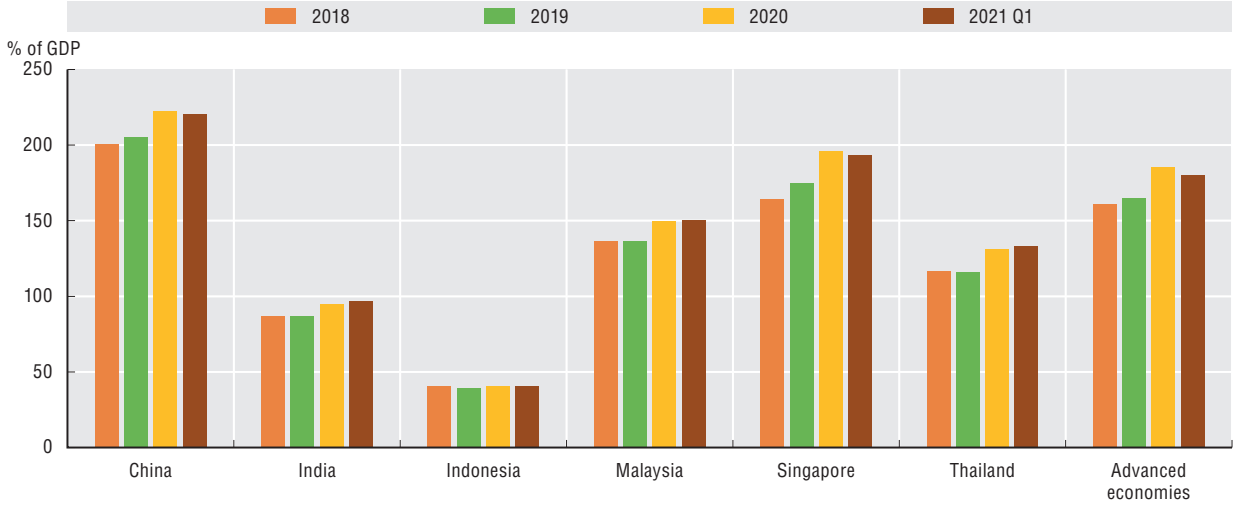
The private sector is also struggling to stay afloat

The financial standing of the private sector has also been badly hit by the pandemic in Emerging Asia. Notwithstanding the support measures that governments have implemented, many firms – particularly micro, small and medium enterprises (MSMEs) – have closed down. Interestingly, Vandenberg (2021) provides evidence that bankruptcies have actually fallen in some relatively high-income economies in Asia over the course of the pandemic, but also notes that enterprises may fail or close permanently without actually undergoing an insolvency or bankruptcy procedure. The author posits that the lower number of bankruptcies could be associated with the speed and "unreservedness" of government stimulus measures. If enterprises that have so far managed to avoid bankruptcy thanks to government support measures are to continue surviving, the author contends that "measures need to continue until economic recovery takes hold".

In some countries in the region, private sector debt-to-GDP ratios are already well-over 100% of GDP (Figure 3.5). In China, the ratio even exceeds the average levels of emerging and advanced economies alike. This is a critical metric because the pandemic has placed enormous pressure on corporate earnings and ultimately on the serviceability of private debt. Meanwhile, as anticipated, the share of non-performing loans to gross loans in some Emerging Asian countries went up in 2020 and 2021 (Figure 3.6). While the absolute ratios remain arguably generally benign, the large share of big firms in the aggregate borrowing figures, and the significant degree of regulatory forbearance in facilitating the restructuring of loans, may have masked the severity of the situation.[1,2] Indeed, the impact on MSMEs, which already were underfinanced by formal credit channels even before the pandemic, may only be partially captured.

Figure 3.5. **Private sector debt**

(Percentage of GDP)

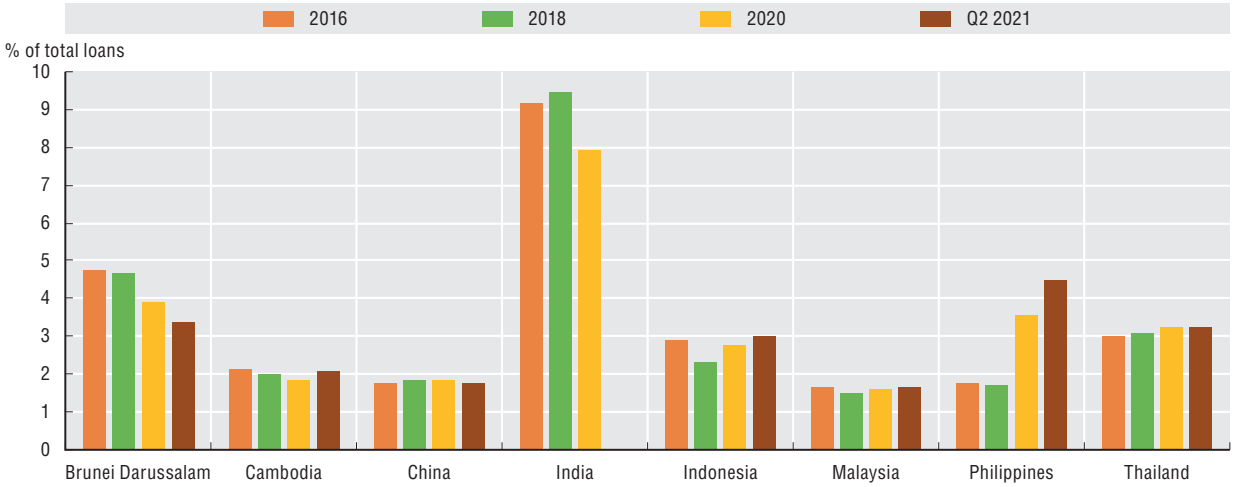


Note: The data refer to the total credit to the private non-financial sector (core debt). Advanced economies comprise: Australia, Canada, Denmark, the euro area, Japan, New Zealand, Norway, Sweden, Switzerland, the United Kingdom and the United States.

Source: BIS (2021), *Credit to the Non-financial Sector database*, https://www.bis.org/statistics/totcredit.htm.

StatLink https://doi.org/10.1787/888934304742

Figure 3.6. **Non-performing loans**
(Percentage of total loans)



Source: IMF (2021c), *Financial Soundness Indicators database*, https://data.imf.org/?sk=51B096FA-2CD2-40C2-8D09-0699CC1764DA.
StatLink https://doi.org/10.1787/888934304761

The recovery from the COVID-19 pandemic will be shallow and highly exclusive if the financing needs of MSMEs, which the pandemic has hit especially hard, are not addressed appropriately. MSMEs' fundamental importance in economic and social welfare cannot be overemphasised. They are a critical component both of well-functioning domestic marketplaces and of external trade. In Asia, they comprise over 95% of firms, accounting for 30-60% of output, and providing 50-70% of employment (Yoshino and Taghizadeh-Hesary, 2018). Beyond their economic contribution, MSMEs are also immensely important in maintaining and strengthening the domestic supply chains. Ensuring that they flourish is a critical factor in bolstering the social fabric of an economy.

Banks are the primary source of formal credit of MSMEs in Emerging Asia, and few of them have access to equity and bond markets. Since banks generally see MSMEs as riskier clients, however, many of them are unable to obtain the loans that they need. Channelling funds into MSMEs to help them meet their needs has, therefore, long been an important public policy issue. Even before the COVID-19 pandemic, financing for MSMEs was a challenge in many countries, including those in Emerging Asia, even though some governments were already providing support. Such measures include mandated credit programmes in countries like Indonesia and the Philippines.

With the global economy and international trading conditions facing considerable uncertainties, banking sectors have become more risk-averse, and some of the services they provide have become more costly.[3] In the recent period of tighter credit conditions, smaller firms appear to have been affected disproportionately compared to the larger ones. The findings of Kim et al. (2021) indicate that while small and medium enterprises account for only around 23% of the demand for trade finance at the banks featured in the survey, they account for 40% of trade-finance rejections.

Box 3.3. **Supporting MSMEs' access to finance during the COVID-19**

Against a backdrop of tight credit conditions, governments are under pressure to mobilise alternative financing solutions for MSMEs, as they navigate the challenges of the COVID-19 pandemic. Alleviating the liquidity constraints that MSMEs face, regardless of whether they are involved in trade, has to involve the banks one way or the other. However, banks themselves also need help at this time, even if only temporarily.

The results of a 2020 survey by the International Financial Corporation that covers banks involved in trade finance show that, although they have crisis response strategies in place, 91% of the banks in the survey said they need some form of additional support from development finance institutions (Starnes et al., 2021). Furthermore, 96% of banks' detailed requests in this regard related to the need to expand their financial capacity.

The International Chamber of Commerce (ICC, 2020) has outlined some specific interventions that governments and other stakeholders have undertaken, also listing other actions that could help to alleviate the credit tightness. While mainly focusing on trade finance, some of these measures are also applicable to, and supportive of, MSMEs as a whole. The suggested ways forward tend to cover multiple fronts, and several of them are potentially applicable to Emerging Asian economies.

One such suggestion is transitioning to paperless trading by voiding all legal requirements for trade documents to be in paper format, and fast-tracking the adoption of the United Nations Commission on International Trade Law's Model Law on Electronic Transferable Records.

Revisiting the application of the Basel III macroprudential rules is another relevant suggestion, in an effort to limit the capital constraints that may hinder the deployment of essential finance, particularly to MSMEs, and for governments also to consider reducing the risk weights for banks' exposures to MSMEs.

The other potentially practicable suggestions for the region include expanding the guarantees on banks' trade exposures, in order to free up their balance sheets and, in turn, to free up funding resources; ensuring that export-credit agencies are equipped to provide adequate support for short-term trade transactions, with appropriate coverage limits and geographical scope; and enlarging the scale of development bank schemes, in order to provide liquidity for trade-finance transactions and mitigate the corresponding risks.

Financial technology (FinTech) solutions, including digital banks, can also be leveraged to meet the financing needs of MSMEs. In a study that analysed the lending behaviour of digital banks towards micro and small enterprises in China, Sun (2021) found that digital banks managed to evaluate these borrowers remotely, and to sustain lending during the COVID-19 pandemic. In sub-Saharan Africa, IFC (2021) likewise observes that, among financial institutions, "FinTech and mobile money companies saw their businesses grow while more traditional institutions such as banks, savings, and credit co-operatives and microfinance institutions, experienced downturns".

However, building on these encouraging developments in future will require a digital infrastructure that is stable, affordable, and secure. It will also require enterprise managers with sufficient understanding of the process, and the capacity to access financing through these channels. Finally, it will require regulations that cover micro- and macroprudential risks appropriately, while supporting the development of innovative tools.

Source: Authors' elaboration.

The current monetary environment: Prolonged monetary accommodation has kept borrowing costs low

Emerging Asian economies have implemented a mixture of monetary policies to keep the system as liquid and accommodative as possible, and to avert a significant loss in market confidence. These policies include, among others, direct lending and forbearance, loan guarantees, loan reclassification and restructuring, and adjustments to interest rates and reserve requirements.[4] Taken together, these measures exert a downward pressure on the already-low cost of borrowing.

As things stand, the policy interest rates of many Emerging Asian economies are at multiple-year, if not historic, lows. In India, the prevailing central-bank repurchase agreement, or repo, rate of 4% is the lowest in over two decades. Bank Indonesia's seven-day reverse repo rate of 3.5%, which it adopted as its key rate in August 2016, is at its lowest since the publicly available time series was first released in June 2015. The same can be said of Bank Negara Malaysia's overnight policy rate (1.75%), Bangko Sentral ng Pilipinas's overnight reverse repurchase rate (2%), and Bank of Thailand's policy rate or 1-day bilateral repurchase rate (0.5%), all of which are at record lows since the respective data series based on the current definitions were published in April 2004, June 2016, and May 2000[5] (see Chapter 1).

Natural rates of interest have generally declined, and are hovering around historic lows in some countries

The natural rate of interest is a key variable for analysing debt dynamics and the sustainability of sovereign debt. For instance, a lower natural rate of interest may also imply lower potential growth, as many of the factors that affect the natural rate of interest also influence potential growth. Lower potential growth is likely to weigh on governments' ability to deal with rising debt stocks. In theory, it is the real (inflation-adjusted) interest rate that would prevail when actual output equals potential output (Borio, Disyatat and Rungcharoenkitkul, 2019). Meanwhile, the drivers of the natural interest rate can include demographic profiles, productivity, the extent of risk aversion, efficiency of financial intermediation, and investment-specific technology (Brand, Bielecki and Penalver, 2018; Sudo, Okazaki and Takizuka, 2018).

Despite the challenges inherent in measuring them, there seems to be a consensus that natural interest rates are trending downwards in developed and developing economies alike (see Box 3.4). Emerging Asian economies are no exception, although there are also cases in the region where the trend is on the rise. As Figure 3.7 shows, every one of the five Emerging Asian economies selected for the sample experienced a decline in their real natural rate of interest over the period under analysis. This finding concurs with the results of previous analyses, which showed a decline in the natural interest rate in Emerging Asian countries (Zhu, 2016; Maybank, 2018). This decline was already in progress for these countries in the early 1990s, but then the Asian financial crisis halted the trend (Tanaka, Ibrahim, Brekelmans, 2021). During the crisis, Thailand, Indonesia, Malaysia and the Philippines experienced sharper spikes in natural interest rates, reflecting how deeply the crisis affected their economies. Following the crisis, the decline in natural real interest rates resumed at the start of the 2000s in all countries in the sample. In Singapore and Thailand, the trend turned in

an upward direction once again from 2013 onwards, after a tightening of monetary policy in the United States. In Indonesia and Malaysia, meanwhile, the real natural interest rate appears to have stabilised since the global financial crisis.

Box 3.4. **Globally declining natural interest rates**

There is broad consensus that the natural rate of interest has been declining globally over recent decades, although the magnitude of the decline varies among studies. Those based on US data show that the natural rate of interest has declined since the 1980s, particularly since the Great Recession (Williams, 2015). Another estimate showed that the natural rate of interest in the United States dropped to close to zero during the global financial crisis, and stayed there until 2016 (Holston, Laubach and Williams, 2017).

Elsewhere in the literature, Lubik and Matthes (2015) find a secular decline in the US natural rate over the last few decades. Furthermore, Del Negro et al. (2017) observe a decline in the natural rate of interest in the United States since the 1990s, attributing most of this decline to investors' increased preference for safe and liquid short-term assets. However, estimates of the decline differ, ranging between 0% and 2%, depending on the concept used in the study (Fiedler et al., 2018).

A declining natural rate of interest trend has likewise been observed in other advanced economies, including Canada, the euro area, and the United Kingdom, over the 55 years from 1961 to 2016 (Holston, Laubach, and Williams, 2017; Hong and Shell, 2019). Similar results were found by other studies focusing on Canada (Mendes, 2014), the euro area (Constâncio, 2016; Bonam, et al. 2018), and Japan (Fujiwara et al., 2016). In addition, Haavio, Juillard and Matheron (2017) have shown that the natural rate of interest in the euro area was negative during the Great Recession, and has remained so ever since. Furthermore, Galesi, Nuño and Thomas (2017) have also found support for the observation that the natural rate of interest has dropped over the past few decades, and has even turned negative in some advanced economies.

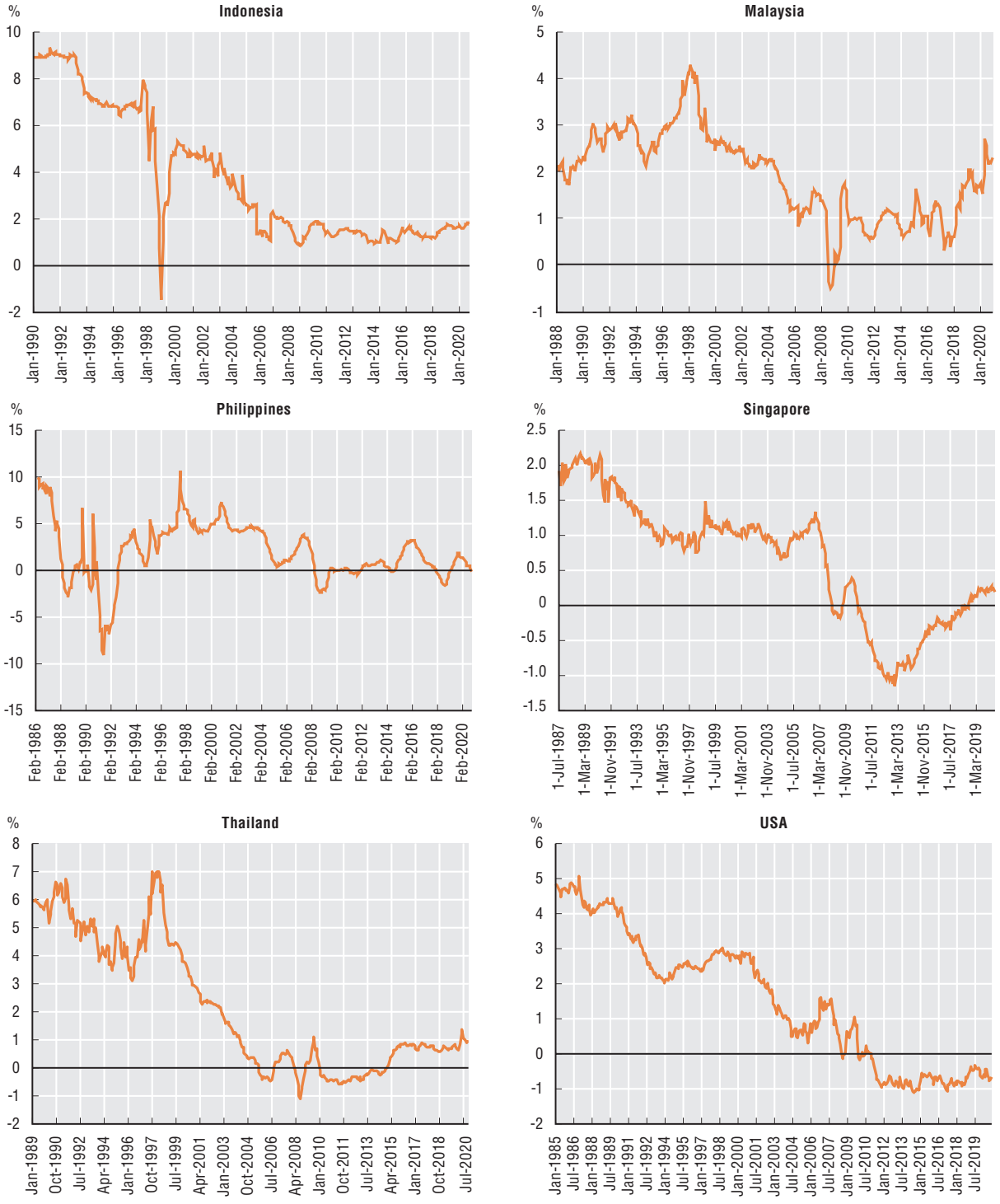
In general, estimating the natural rate of interest in emerging economies is more challenging, due to the limited length of data series and ongoing structural changes (Goyal and Arora, 2013). However, some studies have tried to provide estimations for Asian economies. For instance, Perrelli and Roache (2014) document the sizeable decline in the natural rate of interest in 24 emerging economies, including in Asia. In emerging economies, the authors reveal, the likely ranges for the natural rate of interest fell by more than 200 basis points between 2002 and 2013.

Similarly, Zhu (2016) shows that, apart from in China, the natural rate of interest in Emerging Asian economies has fallen by more than 4% in recent decades. Other estimates show that the natural rate in ASEAN countries has been declining for two decades. Global factors that are also likely to have contributed to the decline include lower global interest rates, lower public debt, reduced sovereign risk, and an increased supply of savings that have translated into a deepening of financial markets (Maybank, 2018).

Source: Tanaka, Ibrahim and Brekelmans (2021).

Figure 3.7. **Real natural rate of interest in selected ASEAN economies**

(Percentage)



Source: Authors' calculations.

StatLink https://doi.org/10.1787/888934304780

Overall, the Southeast Asian countries, especially Singapore and Thailand, show a similar overall trend with regard to real natural rates of interest to that of the United States. Still, all of them display idiosyncrasies that cannot purely be associated with shifts in the US interest rate. For instance, in the Southeast Asian countries, the shock of the Asian financial crisis had a much larger impact on the natural rate of interest than in the United States. In addition, while the natural rate of interest remained stable after 2010 in the United States, there were slight increases in some Southeast Asian countries after 2013.

Managing the current stock of debt is crucial to a robust recovery

In the current fiscal and monetary environments as described above, policy makers in Emerging Asia should consider a range of options for managing public debt. In this regard, this chapter discusses various options for managing the current stock of debt, including multilateral initiatives, swap arrangements, debt buybacks, and debt cancellations and write-downs.

As governments may need to take continuous supportive measures in 2022, this chapter also reviews a range of financing sources. These include capital market solutions, such as Environmental, Social and Governance (ESG)-themed bonds, and innovative tools such as insurance-linked securities. This chapter also emphasises how regional co-operation could play in bringing the various financing options fully into operation, through means such as regional risk pools.

Multilateral initiatives are critical in keeping highly indebted economies afloat

With the encouragement of the International Monetary Fund and the World Bank, the Group of Twenty (G20) countries launched the Debt Service Suspension Initiative (DSSI), which aims to lessen the debt burden of low-income and least-developed countries, as they recover from the impact of the COVID-19 pandemic. The DSSI suspends debt service payments (both principal and interest), and provides emergency relief for 73 eligible countries (World Bank, 2021c). In Emerging Asia, Cambodia, Lao PDR and Myanmar are eligible for the DSSI, although only Myanmar is currently participating as of 5 November 2021 (World Bank, 2021c). Cambodia and Myanmar are classified as low-risk countries both for external and overall debt distress. By contrast, Lao PDR is classified as high-risk on both metrics. Myanmar's participation stands to save the country about USD 379.9 million (0.6% of GDP) from May-December 2020, and USD 793.7 million (1.0% of GDP) from January-December 2021 (World Bank, 2021c).

The DSSI comes with a number of conditions, the purpose of which is to balance the needs of debtors with the needs and rights of creditors. The conditions require that savings be channelled into social, health, or economic spending, for the purposes of navigating the COVID-19 crisis. Under the terms of the initiative, debt restructuring must also be neutral in net present value (NPV), and countries must not take on new non-concessional debt while still participating in the initiative.[6] The NPV neutrality is a critical feature of the programme, serving to mitigate moral hazard. The repayment period is five years, with a one-year grace period for a maximum term of six years. All the Paris Club creditors have agreed to these conditions, and the IMF and World Bank also strongly encourage other creditors to adopt similar terms, whether the debt is sovereign or private.

Swap arrangements are a valuable tool for restructuring debt

Depending on the national context, swap agreements can also be used in renegotiating the terms of debt. In the process of renegotiation, payments can be earmarked for a particular objective. The debt-for-policy swap is an umbrella term for a type of financial swap where a sovereign issuer accepts debt relief in exchange for participation in a mandated policy action. Under such a scheme, the creditor buys the debt of a participating debtor country in exchange for a commitment to channel payments directly into achieving policy goals selected by the creditor. This is instead of directing the payments into servicing debt. Debt-for-environment swaps (also called "debt-for-climate" swaps) are perhaps the most common instruments of this kind.

Debt-for-climate swaps have the potential to provide debt relief for Emerging Asian economies while simultaneously promoting projects and policies to advance climate change mitigation or disaster prevention goals. These may be particularly useful for Asian island nations which are some of the most exposed to climate and natural disaster risks worldwide. This approach would not be entirely novel to Emerging Asia. For instance, the United States Tropical Forest and Coral Reef Conservation Act (TFCA) is a "debt-for-nature" swap that allows eligible countries to redirect payments of concessional debt owed to the United States to approved grant-making programmes if they meet certain economic and political criteria. From 1998 to 2020, USD 233.4 million were used to restructure loan agreements in 14 countries, providing USD 339.4 million to 20 projects. TFCA agreements saved more than 67 million acres of tropical forest over this period including in the Philippines and Indonesia (Nature, 2020). Cassimon, Essers and Renard (2009) find that a series of debt-for-education swaps between Germany and Indonesia in the 2000s did not open much fiscal space for Indonesia, but the earmarking required in the agreement may have contributed to the construction and equipment of 511 learning resource centres for advanced teacher training (teacher upskilling), and the construction of 100 junior high schools in the eastern provinces. Notably, these objectives were not unilaterally imposed by Germany, but rather consistent with education goals of the Indonesian government at that time. The desires of the country receiving relief must be taken into account in any of these arrangements; therefore setting up debt-for-policy swaps may be difficult in countries with weaker medium- or long-term sectoral plans.

Debt-for-equity swaps are another variation on this arrangement, and they are utilised in both the public and private sectors. In this type of deal, a share in a public or private company is exchanged for an equivalent amount of debt. This provides a mutual benefit, both to the debtor (debt-relief and investments), and also to the creditors (partial recovery of debt beyond what would be expected otherwise) (World Bank, 1993).

Debt buybacks can be a strategy for lowering the cost of debt service over time

In the same way, a debt buyback, wherein debtors offer a lump-sum payment in exchange for the cancellation of the remainder of the outstanding debt, can also be an option for some countries. Creditors are more likely to accept these terms when it appears that the lump-sum payment is the best possible outcome for them with respect to the debt in question.

Diwan and Spiegel (1991) examine this approach to debt management, by exploring its implementation in the Philippines in 1989. In September of that year, the Philippines reached an agreement with creditors whereby the government would purchase USD 1.3 billion in debt at the rate of 50 cents per dollar, and banks would provide USD 715 million in new money

at a rate 0.675% above the London Interbank Offered Rate (LIBOR), with a 15-year maturity and 7.5 years of grace (total duration of 22.5 years). The new money was disbursed in three tranches, and the buyback was executed on 3 January 1990, with the Philippines ultimately paying a net price of 24 cents on the dollar (Diwan and Spiegel, 1991).

Stiglitz and Rashid (2020) suggest that voluntary buybacks could provide savings for governments if the debt to be bought back is trading at a discount. "'Agree[ments] to spend the savings on creating and promoting global public goods', [such as] public health expenditures and climate change mitigation and adaptation (but not loss-and-damage)" will create future climate financing space at the expense of present reserves.

Debt cancellations and write-downs are an option under extreme conditions

Under extreme conditions, and when it becomes apparent both to debtors and creditors that a full and timely repayment of debt is highly unlikely (e.g. Haiti's earthquake), the parties involved may conclude agreements to cancel and write down debt.

Although debt cancellations and write-downs could provide some relief to governments struggling to manage their stock of debt, recourse to these options is currently not considered in the Emerging Asia region. This is due to the fact that these options may have some harmful long-term effects. Debt cancellations and write-downs present potential moral hazards. Governments may engage in more profligate spending and debt accumulation in anticipation of some of the debt being cancelled or written down, or they may respond to a successful negotiation of a debt cancellation or write-down by assuming more debt in the space opened by the cancellation or write-down. As such, debt cancellations and write-downs must be an absolute last resort available only in cases of clearly-defined emergencies and be accompanied by strict legislative prohibitions against taking on new debt for a period of time with similarly extremely narrow and clearly-defined exceptions.

As with debt cancellations, elaborating the terms of a debt write-down can be a protracted and costly endeavour if it requires the conclusion of several individual bilateral arrangements. The development of common term sheets to which parties agree through a joint initiative can reduce administrative costs for debtors, and may allow creditors to start accessing repayments more quickly (UNESCAP, 2020).

Examples of debt cancellations or write-downs by Paris Club creditors include three-year payment deferrals for Honduras and Nicaragua after Hurricane Mitch in 1998, one-year payment deferrals for Sri Lanka and Indonesia after the Indian Ocean tsunami in 2004, and a three-year deferral of payments for Liberia in 2008 amid significant long-term political upheaval in the country (Club de Paris, n.d.). While the debt stocks were not reduced, creditors absorbed a loss in terms of net present value by accepting deferred payments.

Broadening financial options for the recovery from COVID 19 – harnessing ESG bond markets and other tools

Prevailing conditions present significant opportunities for policy makers. First, there is an opportunity to increase the efficiency of how the financial resources that are available in the system are put to use. Second, there is an opportunity to harness other financing modalities in order to facilitate recovery from the pandemic. Against this backdrop, this section discusses the financing options for the public and private sectors in Emerging Asia, with the aim of laying a robust foundation for a sustainable and equitable economic recovery.

In particular, this section examines four key topics. The first of these is the viability of themed bonds, or of bonds that are in accordance with environmental, social and governance (ESG) principles. The second key area of focus is to look at considerations for issuing offshore bonds. The third key area to examine is the role that multilateral institutions can play in harnessing innovative tools. A fourth key area to look at, meanwhile, is ex-ante financial measures and, in particular, insurance-linked securities.

Given the significant differences between Emerging Asian countries, however, it is important to underline that certain options that are viable for one country may not be viable for another, or may simply not be appropriate at present. Similarly, financing needs and challenges can vary depending on what the money is needed for, and in which sector. Needs may also vary depending on the level of development of financial markets, including the infrastructure of these markets in the country in question. The preparedness of regulatory architecture to accommodate different types of market participants on both the demand side and the supply side also matters.[7]

ESG-themed bonds have a lot to offer to enable a sustainable recovery

Issuing debt securities as interest rates hit rock bottom is a reasonable option as governments seek to fund their recovery from the COVID-19 pandemic. Nevertheless, considering the other pressing challenges at present, and in particular those that relate to climate change, it is important to tailor financing in a manner that takes ESG factors into account. Indeed, sustainable finance has arguably become a premium investment class in recent years. Moreover, the fixed income securities market is a critical space in the drive towards sustainable finance, and there is growing momentum for this market to develop in the direction of ESG-themed debt securities.

In this respect, two key areas require discussion. The first of these is green bonds, and the barriers to overcome in order to develop this market. Then there is the question of social and sustainability bonds, either those relating specifically to managing the COVID-19 pandemic, or to other social outcomes.

Green bonds herald a number of advantages for governments seeking finance

One potential upside of bond and security instruments that are in line with ESG principles is that they help guide how the funding is used. Green bonds that focus on environmentally responsible projects are used widely, and are one of the most promising financial instruments for financing the transition to a low-carbon economy (OECD, 2017). Another advantage of green bonds is their feature to spread the cost of funding the mitigation of climate change across several human generations. This characteristic makes green bonds particularly suitable for raising funding for green investments, both public and private (Sachs, 2015; Monasterolo and Raberto, 2018). Green bonds are also a good option for attracting a broad spectrum of institutional investors (OECD, 2017).

Due to their explicit link with tangible policies, green bonds may also represent a way for governments in Emerging Asia to increase the credibility of their sustainability objectives. In combination with the attractive risk-return profile of green bonds from the perspective of investors, these factors strengthen the argument for further broadening and diversifying the investor base by opening up the market to new types of institutional investors, as well as to retail investors. Depending on what the proceeds are to be used for, several types of

green bonds exist on the market, including standard green bonds, green revenue bonds, green project bonds, green securitised bonds, and green certificates. The characteristics of these instruments are summarised in Box 3.5, and will be discussed in detail in the paragraphs below.

Box 3.5. **Types of green instruments**

The most common type of green debt securities are the standard, so-called "use-of-proceeds", green bonds. These can be defined as debt securities used to fund projects that have a positive environmental impact, or that deliver climate-related benefits (Table 3.3). Proceeds are clearly earmarked for climate-friendly investments, and yet green bonds are backed by the issuer's entire balance sheet. Issuing green bonds does entail additional transaction costs, however, to the extent that issuers must track, monitor and report on the use of the proceeds.

Table 3.3. **Types of green bonds by debt recourse**

Type of green bond	Recourse to the issuer
Standard ("use-of-proceeds") green bonds	Backed by the full balance sheet of the issuer.
Green revenue bonds	Backed by the pledged cash flows of the revenue streams, fees and taxes.
Green project bonds	Risks are borne entirely by the underwriter.
Green securitised bonds	Backed only by the underlying assets.
Green certificates	Backed by the full balance sheet of the issuer.

Source: Authors' elaboration.

Green revenue bonds are non-recourse-to-the-issuer debt obligations, for which the credit exposure is to the pledged cash flows of the relevant revenue streams, fees and taxes (ICMA, 2017). Meanwhile, green project bonds are bonds issued for a single project, or for a number of pooled green projects, for which risks are borne entirely by the underwriter –with or without potential recourse to the issuer (ICMA, 2017).

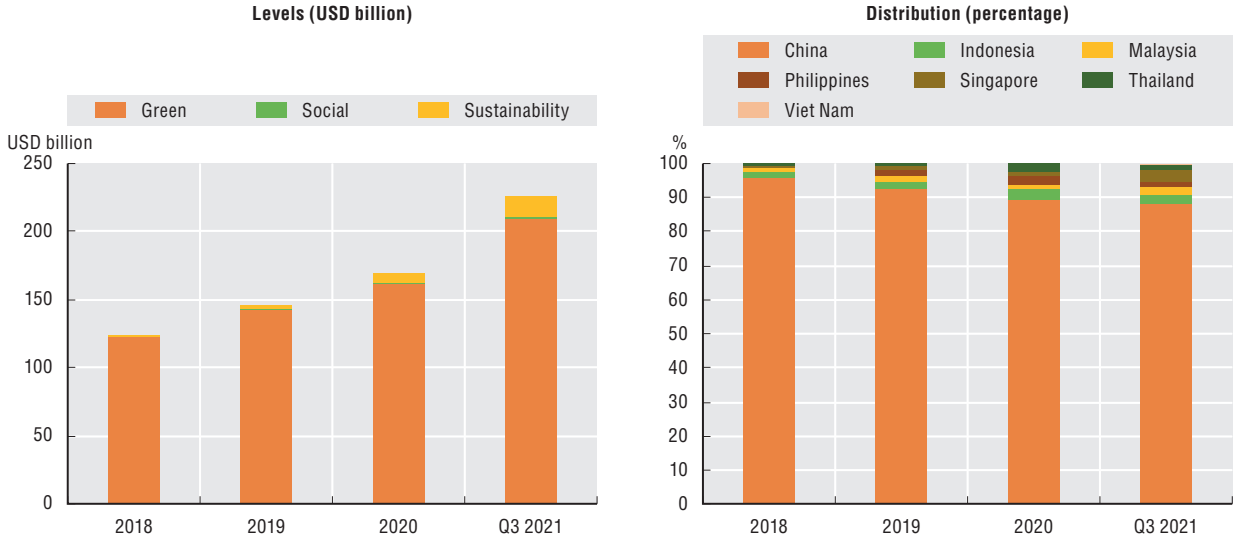
As regards green securitised bonds, they are collateralised by one or more specific green projects. This category includes, but is not limited to, covered bonds and asset-backed securities. In the event of default, green securitised bonds could provide recourse to the issuer, but only to the underlying assets. The repayment of green securitised bonds usually depends on the cash flows that are generated by these assets. For instance, cash flows could take the form of charges paid by consumers to use infrastructure that has been built using the proceeds of a green bond (Kaminker and Stewart, 2012).

Another option is to attach a green certificate to a standard government bond, as a pledge for equivalent green spending rather than specifically earmarking funds for green projects. According to some researchers, green certificates have lower costs and are more liquid than standard green bonds. This design would also make market prices more informative about environmental performance (Bongaerts and Schoenmaker, 2020).

In terms of market size, data as of the third quarter of 2021 show that the combined value of outstanding green, social, and sustainability bonds in the seven economies in Emerging Asian for which data are available is more than USD 225 billion (Figure 3.8), which is still fairly small. In 2020, these bonds accounted for nearly 0.9% of the total for all

outstanding bonds (i.e. local and foreign currency bonds). Nevertheless, the debt stock has grown at an encouraging pace of about 24% annually in compounded annual growth terms between 2018 and the first three quarters of 2021, even when pandemic bonds are excluded. China still accounts for the highest share in outstanding bonds, but the other economies in the region are gradually catching up.

Figure 3.8. **Outstanding green, social and sustainability bonds in selected Emerging Asian economies, 2018-Q3 2021**



Note: The countries included in the calculation are China, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam. The data exclude pandemic bonds.

Source: Authors' calculations based on ADB (n.d.).

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With regard to the currency profile of these assets, while over 70% of outstanding green bonds in ASEAN are denominated in the local currency, social and sustainability bonds are mostly denominated in foreign currency (ADB, n.d.). However, local currency issuances are expected to expand further in the coming years, as domestic markets for these themed bonds develop. The interest in these instruments in Islamic financial markets (e.g. Indonesia and Malaysia) is also likely to result in more local currency issuances.

Challenges to the further development of green bond markets in Emerging Asia

Setting out clear parameters for the classification of green bonds, and establishing a credible system of certification, are critical elements in erecting a robust architecture for the ESG financial market to build upon. In this regard, the current debate revolves around the complexity of the existing evaluation process. This is especially the case for green bonds. Meanwhile, the appropriateness and clarity of national regulatory frameworks are also important considerations.

The issuance of a green bond involves a series of specific steps, and is more complex compared to plain-vanilla bonds. As a result, the entire process requires staff with knowledge of climate-related issues and environmental accounting and communication processes. Among other recommendations, the International Capital Markets Association's

(ICMA) Green Bond Principles encourage green bond issuers to seek out external reviews in order to evaluate both the alignment of green bonds with the Principles themselves, and to make a qualitative assessment of the overall "greenness" of the bonds. These reviews can in themselves be complicated and lengthy. The salient features of Green Bond Principles are explained in Box 3.6.

Box 3.6. **The salient features of Green Bond Principles**

The Green Bond Principles developed by ICMA are voluntary guidelines that encompass four core criteria. The first of these is the use of the proceeds, the second considers the selection and evaluation of projects, the third criterion relates to fund management, and the fourth is about reporting. For as long as a green bond is outstanding, the Green Bond Principles recommend that the issuer should disclose both a reconciliation of the green account (i.e. the total amount of proceeds from the green bond issuance) against project expenditures, and information on how the unallocated balance (i.e. the difference between the green account and total project expenditures) is placed. Furthermore, the Green Bond Principles identify four types of external reviews, namely: second-party opinion, verification, certification by the Climate Bonds Initiative (CBI), and green credit ratings (Dorfleitner et al., 2021).

Second-party opinions are the most popular external reviews for green bonds. They contain a thorough and detailed description of the issuer's green bond framework, and of the rules and procedures for climate-related activities. Verification reports are less lengthy and detailed compared to second-party opinions, and are typically issued by auditing firms. The CBI certification scheme is based on scientific criteria that ensure consistency with the goal of the Paris Agreement to keep global warming well below 2 degrees Celsius. Finally, green credit ratings are more quantitative in their nature, and focus on an issuer's environmental performance data. They are issued by traditional credit rating agencies.

The reporting of specific information is likely to pose similar challenges from an issuer's perspective. The issuers of green bonds must prepare, keep and make available an information file on the use of the proceeds. This information needs to be updated each year, until all of the funds have been allocated, and as necessary thereafter. This information file must include the list of projects in which the funds have been invested, the amounts invested, and the impact that these investments are expected to have. When confidentiality clauses, or the multiplicity of underlying projects, make it difficult to disclose sufficiently detailed information, the Green Bond Principles recommend presenting the file in generic terms, or on the basis of aggregated portfolios (i.e. the percentages allocated to certain categories of projects).

Transparency is a key factor in communicating about the expected impact of projects. The Green Bond Principles recommend using qualitative and, where possible, quantitative performance indicators. Examples of quantitative indicators in this regard include energy capacity, power generation, the degree of reduction or elimination of greenhouse gas emissions, the number of people who have gained access to clean energy, the size of the reduction in the volume of water consumed, and the reduction in the number of vehicles needed. The Green Bond Principles also outline the main underlying methodology or assumptions that should be used in providing quantitative assessments. Issuers that are able to quantify the ultimate impact are encouraged to include it in their regular reporting.

The importance of dedicated regulatory frameworks

Most developing economies, including those in Emerging Asia, lack a dedicated legal framework for the issuance of green bonds (ADB, 2018b). This means that they lack clear definitions, that there is a risk of "greenwashing", and also that they lack a common framework for the classification of green bonds. This lack of an adequate over-arching framework tends, in turn, to curtail the supply of green bonds, while also fuelling investors' apprehensions. As pointed out by Shishlov et al. (2016), one of the major challenges for the green bond market is guaranteeing its environmental integrity in order to tackle the greenwashing risks that could hamper its success. Investors are fully aware of the existence of a greenwashing risk. An investor survey carried out by the Climate Bonds Initiative showed that green credentials and transparency on the part of issuers are the most important factors for green bond investors making investment decisions (CBI, 2019).

Nevertheless, there are a number of reasons to be optimistic for the future as far as market infrastructure is concerned. As mentioned above, groups such as ICMA and CBI have put together voluntary guidelines. ICMA has separate guidelines for green, social, sustainability and sustainability-linked bonds that also cover traditional and sukuk bonds. Meanwhile, the CBI has developed its own standard for the certification of green bonds.

Apart from these two umbrella groups, government institutions in countries including China, India, Indonesia, Malaysia, the Philippines, and Thailand have started developing their own frameworks and guidelines, although the scope and depth of these do vary. In 2015, China published a set of guidelines on green bonds, as well as a catalogue of endorsed projects (Yu, 2016; WRI, 2016). For its part, India released an official set of requirements for green bonds in 2016, closely mirroring the general architecture of the Green Bond Principles (SEBI, 2017). In addition, Indonesia rolled out a framework on green bonds and sukuks in 2018 (Government of Indonesia, 2021). Malaysia published a framework for "sustainable and responsible" sukuks in 2014 (Government of Malaysia, 2019). Furthermore, the Philippines released a set of guidelines on issuing green bonds in line with ASEAN's Green Bonds Standards in 2018 (Government of the Philippines, 2018). Even more recently, Thailand published a sustainable financing framework in 2020 (Government of Thailand, 2020).

Multilateral organisations have also adopted green bond guidelines, and established various taskforces and working groups for greening the financial system. Examples of such initiatives include the joint roadmap for a sustainable financial system from the United Nations and the World Bank (UN Environment and World Bank, 2017), and also the work of the Taskforce for Climate-related Financial Disclosures (TCFD, 2017). At the same time, ASEAN is developing a common taxonomy for sustainable finance, which will provide the bloc with a common language in this domain, while also complementing initiatives at the national level (ASEAN, 2021).

In addition to the regional approaches, developing frameworks that are coherent at the global level could yield various benefits. Indeed, a global taxonomy could attract institutional investors and reduce the cost of cross-border capital flow transactions. An important initiative in this respect is the G20 Sustainable Finance Working Group (hereafter "SFWG"), established by the G20 member countries.[8] In 2021, the SFWG has been tasked with developing a multi-year G20 Sustainable Finance Roadmap (hereafter "Roadmap"), which identifies the G20's priorities in the area of sustainable finance. The Roadmap also sets

out the work to be carried out by the SFWG on three specific priority areas: improving the comparability and interoperability of approaches to align investments to sustainability goals; overcoming information challenges by improving sustainability reporting and disclosure; and enhancing the role of International Financial Institutions in supporting the goals of the Paris Agreement and 2030 Agenda (SFWG, 2021).

The supply of sovereign green bonds remains rather limited

Demand for green bonds tends to outweigh supply. Furthermore, leading issuers such as the World Bank and the European Investment Bank have so far carried out part of their issuance through private placements, a type of transaction that does not bring any real additional liquidity to the market. A generalisation of public green bond issuances, however, could achieve this kind of desirable liquidity.

In Emerging Asia, the supply of sovereign green bonds is relatively sparse outside the core markets of China and India. In ASEAN, meanwhile, only Indonesia and Thailand have so far issued sovereign green bonds. Indonesia is leading the way, with four green bond and sukuk issuances between 2018 and 2020, for a total of USD 2.8 billion (Table 3.4). Meanwhile, the Thai government issued the country's first sovereign sustainability bond in August 2020. It was for USD 2.06 billion, and the government allocated the proceeds to transport and land use. Relative to domestic GDP, however, the amounts that Indonesia and Thailand have issued do appear very low. In Indonesia, each issuance was below 0.5% of GDP, while Thailand's issuance was equivalent to 1.82% of GDP. These low levels show that there is significant potential for stepping up sovereign issuance in these two countries alone.

Table 3.4. **Sovereign issuance of green bonds or sukuks in Indonesia and Thailand, 2018-20**

Sovereign issuer	Issue date	Amount issued	Amount issued relative to domestic GDP	Use of proceeds
Indonesia	March 2018	USD 1.25 billion	0.49%	Energy, buildings, transport, waste, land use
Indonesia	February 2019	USD 0.75 billion	0.29%	Energy, waste, water
Indonesia	June 2020	USD 0.75 billion	0.30%	Energy, waste, water
Indonesia	December 2020	USD 0.39 billion	0.10%	Energy, buildings, transport, water, waste, land use
Thailand	August 2020	USD 2.06 billion	1.82%	Transport, land use

Note: The Indonesian figures capture both standard green bonds and Islamic-labelled bonds (sukuk).
Source: Authors' elaboration based on CBI (2021).

It is important for issuers to reassure investors with regard to risk

For any investment product, the risk-return ratio remains the first criterion of choice for investors. Thus, the profile of the issuer is a critical factor for investors. This is also true for green bonds, most of which continue to be issued by entities with elevated credit ratings, such as the World Bank. This reasoning is all the more true as prudential rules, such as the internationally-applied Basel III measures, have a tendency to get stricter. In turn, these strict regulations have the effect of encouraging investments in the least risky assets.

Investing in green bonds presents a range of specific risks for investors, such as reputational risk if the project that the bonds are financing fails to meet its stated green objectives. This risk notwithstanding, investors with reasonable doubts that a bond will actually meet the required environmental expectations only have limited opportunities

for legal enforcement of the asset's green integrity. Looking ahead, investors' confidence may increase if they can seek penalties if the bonds fail to achieve the anticipated impacts.

Policy options for addressing challenges and developing a green bond ecosystem

In order to develop sustainable finance, it is important to address barriers both for issuers and investors. In particular, a broad pool of investors is crucial to ensuring the successful development of sovereign green bond markets, and to make sure yields respond accurately to fundamentals. The following sub-section of this chapter seeks to bring several options to the attention of policy makers in Emerging Asia. Table 3.5 summarises these options, both on the supply side and on the demand side.

Table 3.5. **Summary of existing challenges, and policy options to support the development of sovereign green bond markets in Emerging Asia**

Stakeholder	Challenges	Policy options
Sovereign issuer	The complexity and cost of external review and reporting procedures.	• Seek support from international financial institutions (i.e. ADB, IMF, World Bank), in order to reduce the cost and complexity of external review and reporting procedures. • Envisage private placements of green bonds in order to reduce costs (although this can be detrimental to liquidity).
	Regulatory barriers relating to the management of proceeds from green bond issuance.	• Develop sound processes for managing the proceeds of green bonds. • Remove any regulatory barriers that could hinder the effective allocation of proceeds from the issuance of green bonds.
Investor	The lack of clear definitions, and the risk of greenwashing.	• Endorse internationally-agreed standards. • Agree on a standardised framework at the regional level.
	Limited supply of sovereign green bonds.	• Increase issuance by national governments and subnational entities, in particular cities. • Establish public green banks.
	Reduced incentives for domestic institutional and retail investors to participate in green bond markets.	• Hold investor roadshows in order to boost awareness of green bonds. • Encourage the participation of institutional investors, in particular pension funds. • Encourage the participation of retail investors. • Provide tax incentives to investors. • Tackle reputational risk through penalty mechanisms (e.g. bond buyback obligations).

Source: Authors' elaboration.

Leveraging external support and private placements to overcome complexity and cost

In order to reduce the cost of external reviews and streamline the reporting process, governments in Emerging Asia should take advantage of the support they can get from organisations and experts such as development banks, structuring advisors, and stock exchanges. In particular, public development banks could play a multifaceted role in the green, social and sustainability bond market. For instance, public development banks have the potential to mobilise private investors by issuing guarantees or by providing first loss tranches to enhance the risk/return profiles of projects in developing economies. In addition, public development banks can provide technical support to prepare sovereign issuances (OECD, 2021e).

As an example from Emerging Asia, the ADB assisted Thailand's government in designing and issuing the country's first sustainability bond in 2020. The ADB has provided its technical assistance within the framework of ASEAN's Catalytic Green Finance Facility. Its assistance includes help with external reviews, the development of internal systems to monitor the use

of bond proceeds, and the preparation of post-issuance reports. Thailand's sustainability bond raised 30 billion Thai baht (THB), or approximately USD 964 million, and was oversubscribed three times. The country's government will use the proceeds of the bond to finance green infrastructure, namely the eastern section of the Orange Line of Bangkok's MRT mass rapid transit system. The Thai sustainability bond will also fund social impact projects to support the country's recovery from the COVID-19 pandemic, such as public health measures, job creation through small and medium-sized enterprises, and the development of local public infrastructure with social and environmental benefits (ADB, 2020a).

Notwithstanding the longer-term desirability of a generalisation of public issuance in order to foster liquid markets, governments could also potentially cut costs by envisaging private placements of green bonds, selling them directly to a limited number of investors. In addition to cutting costs, private placements can also speed up the issuance of a bond.

To date, private placements of green bonds have largely been used in emerging market economies as a market-development tool by multilateral development banks. However, private placements could also fulfil a niche role in the sovereign green bond market in Emerging Asia, in particular when multilateral development banks are supporting the issuance. The types of investors that may participate in private issuances, such as state-owned enterprises, mutual funds, pension funds, and other asset managers, have ample endowments, and typically turn to government securities to minimise investment risk. The Indonesian government, for example, turned to these types of investors in April 2020 when it placed debt privately in order to finance its response to the COVID-19 pandemic (Box 3.7).

Box 3.7. **Indonesia's use of private placements to finance its response to COVID-19**

In April 2020, the country's government raised 62.6 trillion Indonesian rupiah (IDR), or around USD 4.05 billion, by selling three series of bonds through private placements. The buyers in the private placement sale were domestic banks that were looking to meet the central bank's new requirement of higher reserves in the form of government bonds.

In addition, the government of Indonesia and Bank Indonesia agreed on a burden sharing scheme in July 2020, in light of the government's increased financing needs triggered by the pandemic. A new law has been issued in March 2020, authorising Bank Indonesia to purchase long-term government bonds in the primary market. To ensure a transparent market mechanism, Bank Indonesia's purchase of government bonds in the primary market is conducted in line with the following priority order: a regular auction; an additional auction, known as greenshoe option; and a private placement. In this respect, a private placement is to be held when the issuance target has not been fulfilled even with the green shoe option.

In order to finance the public goods package – comprised of health spending, social protection, as well as support of key economic sectors and local governments – Bank Indonesia has committed to purchase bonds through private placements and bear the full interest expense until their maturity dates. These bonds had maturities between five and eight years and coupons equivalent to the weighted average of the 3-month reverse repo rate. As of early November 2020, Bank Indonesia had purchased IDR 253 trillion (equivalent to approximately USD 18 billion) of government bonds via private placements to finance the public goods package, and absorbed the full interest cost of these bonds.

Source: Authors' elaboration based on AMRO (2021), Diela and Suroyo (2020) and national sources.

Developing sound procedures to manage the proceeds of green bonds

The Green Bond Principles require issuers to disclose how they will use the proceeds, and to prove that all of the money will flow into green projects throughout the life of the bond. In addition, it is essential to make sure that the amount of capital raised matches up with the cost of the projects that it will finance, and that there are enough green projects in progress or in the pipeline to account for the proceeds. As such, sovereign issuers should plan in advance for how they will manage the proceeds if they do not expect to invest them immediately and there have to be safeguards to track the allocation of proceeds, and to make sure that the same eligible green project does not get listed more than once. In Malaysia and Thailand, for example, the countries' green bond frameworks mention explicitly that they will maintain a register to record the allocation of proceeds, and that they will manage and invest any unallocated proceeds in short-term liquid instruments (Box 3.8).

Box 3.8. **Examples of how sovereign issuers in ASEAN manage the proceeds of green bonds**

In **Indonesia**, the proceeds of each green bond or sukuk are managed within the government's general account, in accordance with prudent treasury-management policies. Upon request from specific ministries, this general fund then credits proceeds from green bonds and sukuks to a designated account at the ministry in question in order to fund projects that fit the definitions set out in Indonesia's green bond framework.

Malaysia has also developed a specific framework for a Sustainable Development Goal (SDG) sukuk. Under the terms of this framework, the net proceeds of the sukuk will be transferred to the government's specific development fund. In turn, the finance ministry will maintain an SDG Sukuk register to track and manage the allocation process. The register will contain information on the parameters of each sukuk issuance, such as the pricing date, the maturity date, and a list of eligible expenditures. The Malaysian government plans to fully allocate the net proceeds to eligible projects within the first year of issuance. Unallocated proceeds will be held in cash and cash equivalent.

In the case of **Thailand,** the net proceeds of any green, social and sustainability financing instrument will be transferred to the government's treasury reserve account. Safeguards are in place to ensure that the allocation of proceeds does not allow any double listing of the same eligible green or social project. The balance of the net proceeds will be adjusted on a regular basis to match allocations for eligible green and social projects made during the life of the financing instruments. In addition, a register will be maintained in order to record the allocation of the proceeds. Pending the full allocation of the net proceeds to eligible green or social projects, any unallocated funds will be managed and invested in temporary liquid instruments (i.e. cash or cash equivalents).

Source: Authors' elaboration based on World Bank (2018) and national sources.

In making sure that net proceeds from a green bond flow into a suitable form of allocation, an important question is whether governments should open a special account to manage the funds that they raise from green bonds. Practice differs among the ASEAN countries that have already adopted specific frameworks for sovereign green bonds (Box 3.8). In Indonesia and Thailand, the net proceeds are held in the government's general treasury account, while

in Malaysia they are transferred to the government's development fund. Although there is currently no consensus on the best practice in this regard, setting up a special account for the management of net proceeds may streamline the allocation process and enhance investor confidence. In Fiji, for example, the economy ministry opened a designated, ring-fenced sub-account in order to store the proceeds from the issuance of green bonds (RBF, 2017).

Developing clear and standardised definitions to reduce the risk of greenwashing, and facilitate cross-border transactions

For green sovereign bond markets to thrive in Emerging Asia, they need to attract institutional and retail investors alike. Policies aimed at diversifying and increasing the participation of both institutional and retail investors in the sovereign green bond market are, therefore, of the utmost importance for policy makers across the region.

One of the biggest bottlenecks for the development of green bond markets in the countries of Emerging Asia is the lack of an overarching framework to define and classify green bonds. In most countries across the region, the market for green bonds is generally not subject to government regulation. And in countries that lack a clear regulatory framework for green bonds, the risk of greenwashing is arguably higher.

Yet despite the limited development locally of comprehensive frameworks of this kind, the ICMA Green Bond Principles are, at the current juncture, considered to be the most widely accepted standards to promote transparency and disclosure in the green bond market, and to reduce the risk of greenwashing. Issuers of sovereign bonds in Emerging Asia need to adhere to the ICMA principles in order to enhance the integrity of the green bond market, and thus to send a signal of reassurance to investors.

Indonesia, for example, has integrated the ICMA Green Bond Principles into its framework for green bonds and sukuks. Under the terms of the framework, the proceeds of each green bond and sukuk will be used exclusively to finance or re-finance expenditure that relates directly to eligible green projects. These are defined as projects that promote the transition to a low-carbon economy and to climate-resilient growth. They must fall into at least one of the several sectors that the framework sets out (Government of Indonesia, n.d.). These include renewable energy, energy efficiency, resilience to climate change for highly vulnerable areas and sectors. They also encompass projects to reduce disaster risk, sustainable transport, and facilities that convert waste into energy. Furthermore, they also include waste management, the sustainable management of natural resources, green tourism, and sustainable buildings and agriculture.

Other examples in this respect are the various initiatives undertaken by public authorities in China and India towards ensuring clear and standardised definitions of green bonds, in line with international standards.

As mentioned above, China's central bank published a set of guidelines for green financial bonds in 2015, including criteria for the management of proceeds, and requirements on disclosure (Yu, 2016). It also took decisive steps towards the standardisation of green bonds, by publishing a catalogue of endorsed projects (WRI, 2016). The catalogue describes the types of projects that are eligible for green bonds, and is based on Chinese environmental policies and international environmental standards. As regards the specific types of endorsed green projects, the latest version of the catalogue contains a four-level classification, which grades green projects into several categories. These encompass saving energy and protecting

the environment, cleaning up industrial production and the energy sector, developing the so-called eco-environment industry, upgrading infrastructure in an environmentally sustainable manner, and green services. The 2020 catalogue contains more sectoral standards and regulations than previous editions, thus increasing the requirements for third-party verification of green bonds (CBI, 2020).

In India, there is a set of official requirements for green bonds from the country's Securities and Exchange Board, which follows the general architecture of the Green Bond Principles, turning some of their recommendations into firm requirements. These requirements cover the definition of green bonds, plus external review, the tracking of the proceeds, and disclosure (SEBI, 2017).

In order to facilitate cross-border transactions in Emerging Asia, the standardisation of definitions for green bonds is essential, but without resorting to a heavy-handed approach. Imposing overly detailed standards has the potential to increase issuance costs, so standards should allow enough room for flexibility to respond to the different constraints that issuers may face. As noted above, there has already been some movement in Emerging Asia to create regional standards for green bonds, notably in the form of the joint statement from ASEAN's seventh meeting of finance ministers and central bank governors, affirming that action is underway to develop a sustainable finance taxonomy (ASEAN, 2021).

Increasing the supply of sovereign green bonds, in particular from sub-national entities

More sovereign issuers in Emerging Asia could launch green bonds. In so doing, they would signal support for the market, and would contribute to its deepening by increasing the supply of green bonds in the medium term. Arguably, the issuance of sovereign green bonds could send a strong signal that governments are committed to supporting the market, by providing opportunities to invest in a broad range of projects and at relatively low yields. A deeper market would create favourable conditions for a decline in yields.

Furthermore, increasing the supply of sovereign green bonds will attract more investors. In turn, this will then also incentivise more private actors to issue green bonds. Aside from national governments, the relevant public actors that could issue green bonds are sub-national entities, such as regional or provincial governments, and municipalities. Looking ahead, public green banks (Box 3.9) are relatively new financial institutions that could also potentially play a role in expanding the offering of green bonds in Emerging Asia.

Box 3.9. **The policy design of the state-backed infrastructure bank in the United Kingdom**

In November 2020, the UK's national infrastructure strategy set out the government's intention to establish a new infrastructure bank. The new bank will pursue two central policy objectives through its interventions in the infrastructure market. The first of these is to tackle climate change, in line with the UK's target of bring greenhouse gas emissions to net zero by 2050. The second main objective is to support regional and local economic growth through better connectivity, opportunities for new jobs, and higher levels of productivity. Although the new infrastructure bank's initial focus will be climate change, the government will review the case for expanding it to include other areas, such as strengthening the country's natural capital.

Box 3.9. **The policy design of the state-backed infrastructure bank in the United Kingdom** *(cont.)*

In terms of capital and financial management, the Bank will start with 22 billion pounds (GBP) of financial capacity. This will consist of GBP 12 billion to enable lending and investment, plus GBP 10 billion in the form of guarantees. The bank will be able to borrow up to GBP 7 billion from a government credit facility administered by the Debt Management Office, and also from private markets, including through the issuance of green debt instruments.

The Bank was officially launched in June 2021 and made its first private sector transaction in early December 2021. The transaction will help capitalise a new GBP 500 million fund with NextEnergy Capital, a leading investment manager in the solar infrastructure sector. The fund, NextPower UK ESG, is a private 10-year solar infrastructure fund that aims to raise GBP 500 million to invest into subsidy-free solar power plants in the United Kingdom. The Bank is providing financing to the initial seed assets of the fund, comprising two major subsidy-free solar farms in the United Kingdom, and plans to invest up to GBP 250 million on a match-funding basis with the private sector.

Source: HM Treasury (2021) and UKIB (n.d.).

Just as national governments can issue government bonds to finance green investments in areas like clean energy or energy efficiency, cities, regions, provinces and public utilities could issue green bonds to finance investments in green public infrastructure. And since a large share of greenhouse emissions originates in cities, and with cities across Emerging Asia expected to grow further, green bonds can be a means for cities to secure funding for green investments. Aside from cities issuing green bonds directly, another option is to issue them through municipal bond agencies. Such agencies can act on behalf of several municipalities or other sub-national actors. One example of this is the Municipal Bond Agency in the United Kingdom (CIPFA, n.d.). While green bond issuance by municipalities is not new in OECD countries (Box 3.10), no cities in Emerging Asia have so far issued this type of debt.

Box 3.10. **The city of Gothenburg's green bond framework**

In 2013, the Swedish city of Gothenburg was the first municipality in the world to issue green bonds. The net proceeds have been allocated to finance or refinance, in whole or in part, the city's investment in building a low-carbon, climate-change resilient, and ecologically-sustainable society. By contrast, none of the proceeds can be allocated to projects with links to producing energy from fossil or nuclear fuels, to the weapons and defence industry, to resource extraction that may harm the environment, or to gambling and tobacco.

Green project evaluation and selection process is the first stage in the decision-making process. The process to evaluate, select and allocate green bond proceeds to eligible green projects comprises three steps. As a first step, the relevant project manager evaluates potential green projects and presents them to the Green Bond Committee. Second, the Green Bond Committee approves the potential green projects based on adherence to the Green Bond Framework and approved green projects are subsequently included in the City of Gothenburg's pool of approved green projects. Finally, decisions regarding the approved green projects are documented and filed.

Box 3.10. **The city of Gothenburg's green bond framework** *(cont.)*

As regards the management of proceeds, the net proceeds are credited to a special green account. For as long as the bonds are outstanding and the green account has a positive balance, funds may be deducted from it for disbursements made over the year towards eligible green projects. While any green bond net proceeds remain unallocated, the City of Gothenburg will temporarily place funds in the liquidity reserve and manage them accordingly. The maximum period that net proceeds may be unallocated is 12 months. Unallocated proceeds may not be invested in fossil fuel-related assets.

To ensure transparency, the city of Gothenburg provides annual reports to investors until the bonds reach maturity. These reports contain information about the allocation of proceeds and the environmental impact of the green projects. Allocation reporting will include the following information: a summary of green bond developments; the outstanding amount of green bonds issued; the balance of the green account; the total proportion of green bond net proceeds used to finance new green projects and the proportion of green bond net proceeds used to refinance green projects completed earlier; and the total aggregated proportion of green bond net proceeds used per green project category.

Source: City of Gothenburg (2019).

In many countries in Emerging Asia, sub-national entities do not necessarily issue green bonds, and they could benefit from support measures from the national government in areas such as financial management and accounting practices, credit enhancements, and temporary tax incentives. The World Bank's City Creditworthiness Initiative is one example of such efforts. Another is the various green city bond coalitions that have been emerging around the world. Such coalitions aim to build up cities' capacity to issue green bonds, through training programmes and toolkits such as how-to-issue guides, through the provision of strategic support through development banks, through the sharing of best practices among cities' treasuries, and also through investor awareness campaigns. In 2015, a Green City Bond Coalition was established in the United States, while similar coalitions are currently in the pipeline for India, China and Asia-Pacific (CBI, 2015).

Increasing the participation of domestic institutional and retail investors in green bond markets

Institutional investors may have specific constraints that can limit their investment options. According to a CBI survey of European green bond investors carried out in 2019, investors have to work within restrictions regarding currency and deal size, and these can affect their capacity to invest in green bonds (CBI, 2019). As they seek to make their offerings as attractive as possible, sovereign issuers of green bonds need to carefully balance the duration of the projects that they wish to finance with the appetite of investors. For instance, longer tenors tend to attract insurance companies and pension funds that seek to match their long-term liabilities with long-term assets.

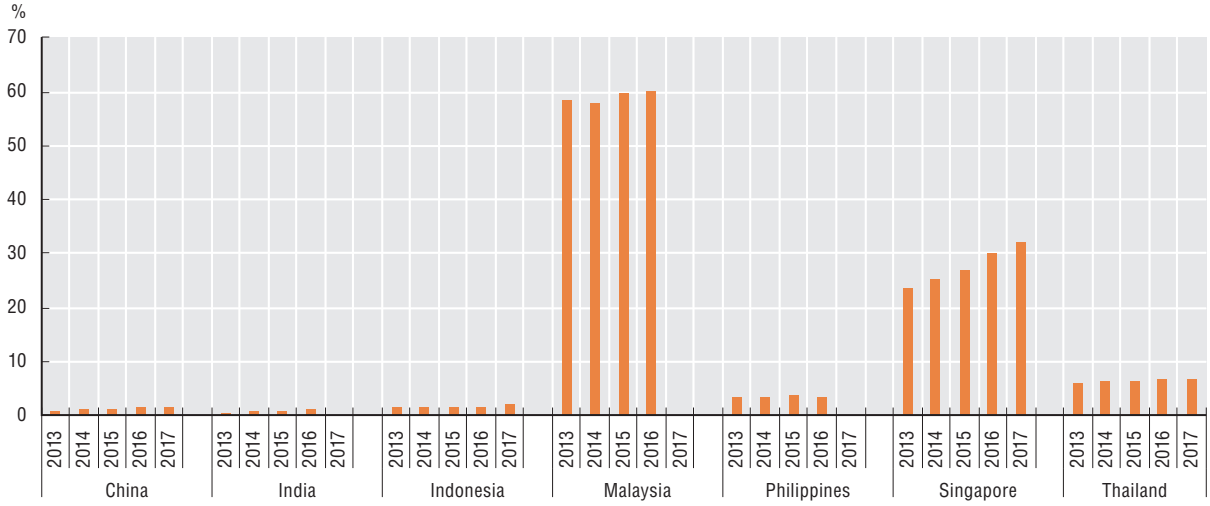
In order to put investors' minds at ease about the potential for reputational risk, meanwhile, one solution is to introduce penalty mechanisms into the terms of a green bond. Such penalty mechanisms could take the form of bond buyback obligations on the side of the issuer. This would mean that the issuer would repurchase its green bonds from

bondholders if it does not fulfil its obligations. This could be because of a failure to achieve the desired green impact, or a loss of green ratings for the respective bond.

In addition, governments may apply tax incentives to green bonds. One example of this is exempting investors from having to pay income tax on the interest they earn on a green bond. Evidently, investors' demand for green bonds tends to be higher in jurisdictions where such tax incentives are in place. There have been tax incentives of this kind in the United States for bonds financing renewable energy and green buildings. Tax incentives have also been proposed for green bonds in some countries in Emerging Asia, such as India and Malaysia. In India, some tax exemptions were introduced to stimulate domestic demand for green bonds and the market responded favourably. For example, the tax-free bond issued by the Indian Renewable Energy Development Agency in 2016 was more than five times oversubscribed (Agliardi and Agliardi, 2019).

Authorities in Emerging Asia could consider launching regular investor roadshows both within the region and beyond, in order to promote participation in green bond markets. The focus should be on attracting institutional and retail investors for both private and public sectors, including some public pension funds. The size of the sector is particularly large in Malaysia, where pension fund assets relative to GDP amounted to 59.9% in 2016, and also in Singapore, where they amounted to 32.2% of GDP in 2017 (Figure 3.9).

Figure 3.9. **Pension fund assets in selected Emerging Asian economies, 2013-17**
(Percentage of GDP)



Note: Data for 2017 are unavailable for India, Malaysia and the Philippines. Data capture both public and private pension funds.

Source: World Bank (n.d. a), *Global Financial Development Database*, https://databank.worldbank.org/reports.aspx?source=global-financial-development.

StatLink https://doi.org/10.1787/888934304799

If the participation of domestic investors remains low, tapping international markets might be a more attractive option for some governments in Emerging Asia. This may allow for a further diversification of the existing investor base and open opportunities to governments to issue larger volumes at longer maturities. However, issuing bonds on international markets entails specific risks, such as foreign-exchange fluctuations, and the higher transaction costs that can stem from additional regulatory and documentation requirements.

According to a report by the Climate Bonds Initiative, local currencies have dominated the ASEAN social and sustainability bond markets to date. In 2020, the combined share of bonds denominated in local currencies stood at 60%, while issuance in hard currency (mainly US dollars) accounted for the remaining 40% (CBI, 2021). Many Emerging Asian sovereigns have a history of issuing in US dollars, most notably Singapore and Indonesia. This practice could be extended to include green bonds. For instance, sovereign issuers in the region could sell green bonds denominated in the world's most heavily-traded currencies, in order to attract cross-border investment. Indonesia's sovereign green bond issuance, for example, met with a positive reception from investors (Box 3.11).

Box 3.11. **Sovereign green issuance from Indonesia saw increased investor interest**

Investors' interest in sovereign green bonds and sukuks from Indonesia increased between 2019 and 2020. Interest from the retail sector also increased over this period. The green sovereign sukuk issued in December 2020 for USD 383.7 million attracted 16 992 retail investors, up from the 7 735 retail investors involved in the 2019 issuance.

In addition, the five-year green sukuk that the Indonesian finance ministry issued in June 2020 amounting to USD 0.75 billion to accommodate the state budget's deficit in response to the pandemic was oversubscribed 7.73 times. Green investors accounted for 33.74% of the pool of investors, an increase from 29% in the 2018 and 2019 issuances. The proceeds were allocated to the financing and refinancing of green projects. This signals a growing interest from investors, including retail investors, in supporting the government's actions in the area of sustainability.

In June 2021, the government of Indonesia launched a three-tranche sukuk for a total of USD 3 billion. The issuance comprised a USD 1.25 billion five-year tranche maturing in June 2026; a USD 1 billion 10-year tranche maturing in June 2031; and a USD 750 million 30-year tranche due in June 2051, which is the first 30-year sukuk in the world. Despite a difficult international environment due to the COVID-19 crisis, investor demand was steady. The initial price guidance compressed by 40 basis points on the five-year tranche and by 45 basis points on both the 10-year and 30-year tranches. Furthermore, the final order size amounted to USD 10.3 billion, corresponding to an oversubscription rate of more than 3.43 times the target of USD 3 billion issuance.

Source: DDCAP Group (2021); Ministry of Finance of the Republic of Indonesia (2021); and CBI (2021).

Different kinds of social and sustainability bonds currently exist on the market for ESG-themed investments

Social and sustainability bonds are similar to green bonds. Social bonds finance projects that directly aim to address or mitigate a specific social issue, or seek to achieve positive social outcomes. Meanwhile, sustainability bonds refer to bonds that raise funds for undertakings that have green or social aspects. A related, but relatively new, debt instrument is the key performance indicator (KPI) bond. These bonds are target-based instruments that tend to incentivise the issuer to obtain higher ESG standards across the full gamut of its activities, as opposed to on a per-project basis. They give issuers considerable flexibility in their scope

to raise capital on ESG-linked grounds (Lamdouar and Wong, 2021). However, a firm that issues KPI bonds can be penalised with a coupon step-up if it fails to achieve its targets in a given time frame. Thus, as well as the prospect of reputational risk, the firm may also lose an enforceable monetary stake.

Different kinds of ESG thematic bonds have been issued by private and sovereign entities around the world, according to needs and feasibility. Table 3.6 presents a succinct comparison of these debt options.

Table 3.6. **General characteristics of ESG bonds**

	Project-based structures			Target-based structures
	Green bonds	**Social bonds**	**Sustainability bonds**	**KPI-linked bonds**
Short description	Funds dedicated to green projects Follow the ICMA GBPs framework	Funds dedicated to social projects Follow the ICMA SBPs framework	Funds dedicated to both green and social projects Follow the ICMA GBPs and SBPs frameworks	No requirements for the use-of-proceeds The issuer is committed to mean green target(s); coupon/return increases otherwise ICMA guidelines for this structure are recent
Subject to a framework	●	●	●	●
Project based	●	●	●	
Funds committed	●	●	●	
Issuer retains flexibility	●	●	●	●
Direct impact if KPI not met				●
Included in green indices	●			
Impact report	●	●	●	

Notes: Data are as of 17 May 2021. KPI denotes key performance indicators; ICMA denotes International Capital Market Association; GBP denotes Green Bond Principles; SBP denotes Social Bond Principles.

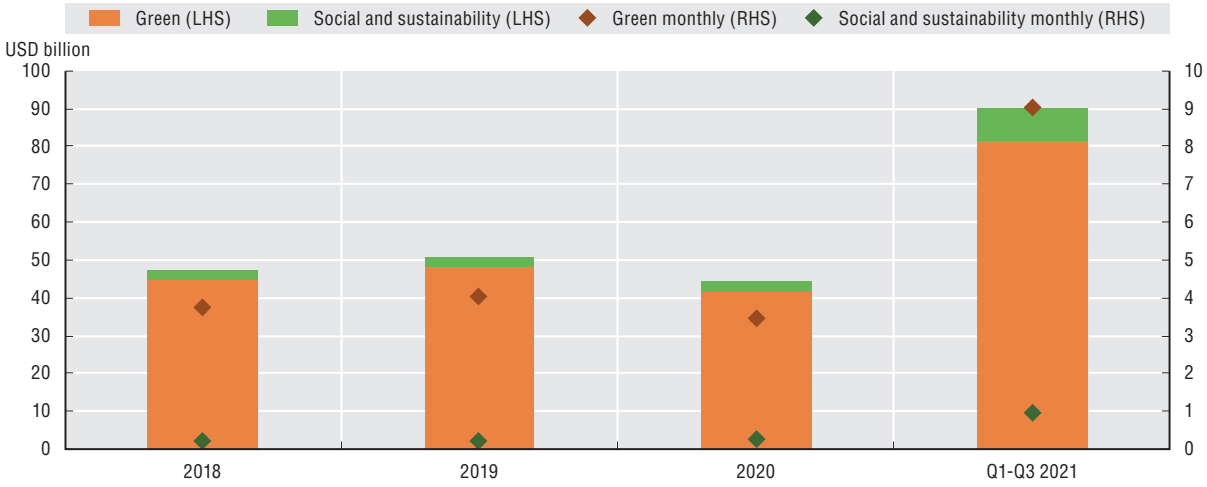
Source: Lamdouar and Wong (2021), citing AllianceBernstein, https://www.alliancebernstein.com/library/making-sense-of-esg-bond-structures.htm.

As shown in Figure 3.8, the outstanding value of social and sustainability bonds is still marginal by comparison with green bonds. However, available data show a rising tide of interest in these bonds in Asia following the COVID-19 outbreak in early 2020. For instance, Mehta et al. (2021) note that, in the immediate aftermath of the initial outbreak of the pandemic, green bonds were "overshadowed by social and sustainability bonds, driven by an increasing need for financing inclusive and poverty alleviation projects, as well as to meet the approaching United Nations Sustainable Development Goals (SDGs)."

Even if pandemic bonds are excluded, the average monthly issuance of social and sustainability bonds in Emerging Asian economies for which data are available rose more than fivefold from 2019 through to the third quarter of 2021, reaching nearly USD 1 billion (Figure 3.10). The outstanding amounts accordingly increased roughly fourfold, from about USD 2.2 billion in 2019, to USD 8.9 billion by end of September 2021. Among the economies of Emerging Asia, China, Malaysia, and Singapore are leading the way.

Figure 3.10. **Total and average monthly issuance of green, social, and sustainability bonds in selected Emerging Asian economies, 2018 to Q1-Q3 2021**

(USD billion)



Note: "Monthly" means monthly average. LHS means left hand scale. RHS means right hand scale. The countries included in the calculation are China, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam. The data exclude pandemic bonds.

Source: Authors' calculation based on ADB (n.d.).

StatLink https://doi.org/10.1787/888934304818

The emerging asset class of COVID-19 pandemic-related social bonds

Social and sustainability bonds come in different shapes and sizes, and pandemic-oriented bonds are now increasingly a type of social bond among others, whose proceeds can finance the fight against the COVID-19 pandemic and help mitigate its economic and social repercussions. It is now very much the case that goals relating to recovery from the COVID-19 pandemic can be the underlying objectives of social and sustainability bonds. In this regard, the ICMA broadened its framework for social bonds in June 2020 to include COVID-19 themed bonds. Under the framework, the illustrative examples for eligible projects encompass three main categories. Firstly, projects can be eligible if they increase capacity and efficiency in healthcare services and the equipment that these require. The second type of project that qualifies is loans to small and medium-sized enterprises (SMEs) that support employment in small businesses that have been affected by the pandemic. The third kind of qualifying projects are those that are specifically designed to prevent or alleviate unemployment stemming from the pandemic (ICMA, 2020).

One early example was the African Development Bank's "Fight COVID-19" social bond, which it issued in March 2020 for USD 3 billion with a three-year maturity. It was the largest social bond in the world at the time of issuance. Its proceeds will be used to alleviate the impact of the pandemic on livelihoods and economies across Africa (AfDB, 2020).

Governments in Emerging Asia have also begun to explore the potential of social bonds to finance COVID-19-related public spending. In April 2020, the Government of Indonesia issued its first pandemic bond, raising more than USD 4.3 billion. The issue included a USD 1 billion fifty-year tranche, which constitutes the longest-dated dollar-denominated debt tranche ever issued in Asia. The Indonesian government indicated that part of the proceeds would be deployed to fund its COVID-19 relief and recovery efforts, while the bulk would cover the country's widening fiscal deficit (ADB, 2020b).

Further broadening the scope: Education, gender, and health bonds

Other types of social or sustainability bonds include education bonds, health bonds and gender bonds (ADB, 2021a). As their names suggest, the proceeds of such bonds support education and health sector projects, or further the empowerment of women and gender equality. Water bonds, meanwhile, fund improvements to the quality and scope of water infrastructure.

In Asia, multilateral institutions such as the Asian Development Bank (ADB), are some of the most active issuers of these bonds. There are, however, promising signs that other stakeholders are willing to participate in this market. In the case of gender bonds, for example, a number of non-sovereign, non-multilateral issuances followed in the wake of the gender bond that the ADB issued in 2017 for 10 billion Japanese yen (JPY), and which was purchased in its entirety by Japan-based Dai-ichi Life Insurance Company. Elsewhere, Thailand-based Bank of Ayudhya issued a gender bond in 2019, which was bought by the International Finance Corporation (IFC) and the Deutsche Investitions und Entwicklungsgesellschaft (DEG) (Table 3.7). Furthermore, Indonesia-based Bank OCBC NISP, and Singapore-based Impact Investment Exchange (IIX), have also sold gender bonds.

Table 3.7. **Prominent issuances of gender bonds in ASEAN**

Issue/issuer	Purpose	Issuance date	Size	Key performance indicators and metrics
ADB gender bond	To finance projects promoting gender equality and women's empowerment, such as ADB's support of financial inclusion for women.	November 2017	JPY 10 billion (≈ USD 90 million)	Not specific. Part of ADB's wider operations and support of ADB's Strategy 2030 which includes accelerating progress in gender equality.
Bank of Ayudhya Krungsri women SME bond	To boost lending to women-led small and medium-sized enterprises in Thailand.	October 2019	USD 220 million	Loans outstanding to women-led small and medium-sized enterprises in Thailand.
Bank OCBC NISP Gender Program	To enable the Bank to increase lending to women entrepreneurs and women-owned small and medium-sized enterprises.	March 2020	IDR 275 trillion (≈ USD 200 million)	Not disclosed.
IIX Women's Livelihood Series	To create sustainable livelihoods for over 250 000 underserved women in the Asia-Pacific region.	December 2020 (third issue)	USD 150 million	Social return on investment, which tabulates the total net impact generated (monetised) per dollar of investment across the life of the bond. Number and percentage of female beneficiaries. Number of households positively impacted.

Source: Authors' adaptation from Gouett (2021).

In fact, the IIX's Women's Livelihood Bond (WLB) series, which was first issued in 2017, was the world's first impact investing instrument to be listed on a stock exchange (on the Singapore Exchange). It also had the distinction of being Asia's first multi-country listed gender bond. Following on from the success of this first issuance worth USD 8 million,

IIX issued the WLB2 in January 2020, for USD 12 million, and the WLB3 in December 2020, for USD 150 million. The proceeds of these bonds are earmarked to support women-focused enterprises in India, Indonesia, Cambodia, and the Philippines in their efforts to rebuild livelihoods that have been affected by the COVID-19 pandemic.

The challenges of social and sustainability bonds

As with green bonds, some Emerging Asian countries have already developed frameworks for social and sustainability bonds. However, the adoption of common standards like those espoused by the ICMA has been relatively slow, and the lack of a standardised set of metrics to measure their impact has led to concerns about "social washing", or so-called "pink washing". As is the case for green bonds, ADB (2021b) notes that many Asian sovereign and corporate issuers that would like to participate in the social bond market are currently discouraged in doing so by the lack of dedicated social bond frameworks. Understandably, it takes time, money, and skilled human resources to develop ICMA-compliant issuance procedures, and these constitute limited resources in many developing Asian economies. The due diligence requirements of ICMA-compliant securities, for instance, can be a significant hurdle for many potential issuers, thus throwing up an obstacle to participation in this market.

For the social and sustainability bond market to grow further, more issuance by sovereign and sub-sovereign entities is essential since these actors have a wider mandate to provide social services than do private institutions. Some emerging structural changes could also support long-term growth in the public sector's issuance of social and sustainability bonds in Emerging Asia. These include aging populations, as well as increased concerns over food security and public health. As for green bonds, governments in Emerging Asia could consider getting support from multilateral organisations, such as the ADB or the World Bank, in order to streamline the issuance of social and sustainability bonds, and to lower the costs associated with the issuance.

As discussed above in the section about green bonds, social and sustainability bonds would benefit from a broadening of the investor base. However policy and strategy adjustments may be needed to attract a wide range of investors to this asset class. It is for one crucial to improve the transparency and reporting practices to mitigate apprehensions relating to "social washing". Information campaigns can also be made more targeted. Social and sustainability bonds can be marketed as good diversification options for institutional investors. Similarly, the collective investment schemes that invest in social and sustainability bonds can be leveraged to encourage more retail investors to participate in this market.

If the conditions are appropriate, offshore debt issuance can be an option

When choosing the geographical market in which to base a bond, domestic debt issuances are typically preferred on the grounds that they mitigate risks with regard to exchange rates and liquidity. Currently, most emerging economies are still not able to tap the offshore market using their local currencies. This difficulty in accessing the offshore market using the home currency is commonly referred to as the "original sin" that affects this asset class (Eichengreen, Hausmann and Panizza, 2007).

Relatively low sovereign credit ratings, which partly determine the cost of borrowing, pose another issue in a number of Emerging Asian economies. Incidentally, the ratings of private sector firms are capped somewhat in offshore markets by the ratings of the sovereign, even if they are top-rated in the domestic market. As posited by Mohapatra, Nose and Ratha (2016), the "sovereign rating often acts as a 'ceiling' for the sub-sovereign ratings in most instances, although the ratings of the sub-sovereign entities have sometimes exceeded the sovereign rating".

Nevertheless, the offshore bond market has potential to close funding gaps. This is notably a function of historic low interest rates in advanced economies, whose currencies are commonly used to denominate emerging-market foreign bonds. It is also due to the amount of liquidity that is available in the wake of aggressive monetary accommodation. Against this backdrop, there is scope for Emerging Asia's policy makers to take advantage of the much bigger offshore investor base, which contains many investors who are keen to invest in ESG-linked instruments. In addition, ESG instruments can provide an additional dimension to the efforts to recycle the sizeable savings pool in Asia within the region.

In order to capitalise on this opportunity whilst also mitigating debt-servicing risks, Emerging Asia can bolster the capacity of the cross-country systems that are already in place. One important facility in this respect is the Multi-Currency Bond Issuance Framework (AMBIF), which the ASEAN+3 grouping (including China, Japan and Korea) put together in order to make the recycling of the region's savings more efficient and inclusive, but without overlooking individual countries' peculiarities (ADB, 2015). Its framework, whose implementation guidelines were first released in 2015, aims to "enable issuers in ASEAN+3 to issue bonds, notes, or sukuk (Islamic bonds) in the professional market or market segment of any participating economy in a comparable manner, using the same or similar practices and a standardised approach to disclosure" (ADB, 2020c).[9] Recent published data show that there have been 12 issuances under the AMBIF, and that these are denominated in seven different local currencies.[10]

Together with other regional initiatives, such as the ADB's Credit Guarantee and Investment Facility (CGIF), which dates from 2010, the AMBIF framework can be leveraged further by Emerging Asian economies in accessing the offshore market as they pursue their sustainable recovery agenda. The CGIF's performance, in terms of its profitability and the guarantees that it has executed (CGIF, 2021), suggests substantial upsides to scaling up operations. Its coverage, which includes both sovereign and non-sovereign issuers, also makes it broadly inclusive. Thus far, 10 of the 12 aforementioned issuances under AMBIF are guaranteed by the CGIF facility.

Smaller Emerging Asian economies can also leverage strong bilateral relations in order to gain access to offshore markets, as exemplified by Lao PDR's issuances denominated in Thai baht. The government of Lao PDR issued up to THB 46.7 billion worth of baht-denominated bonds in a variety of tenors through the Ministry of Finance from 2013 to 2018. Thailand's relaxation of restrictions on unrated bonds, its cancellation of regulations governing the issuance of baht-denominated bonds by foreign entities, and the widespread use of the Thai baht in Lao PDR created an optimal environment for Lao PDR to issue the bonds in Thailand.

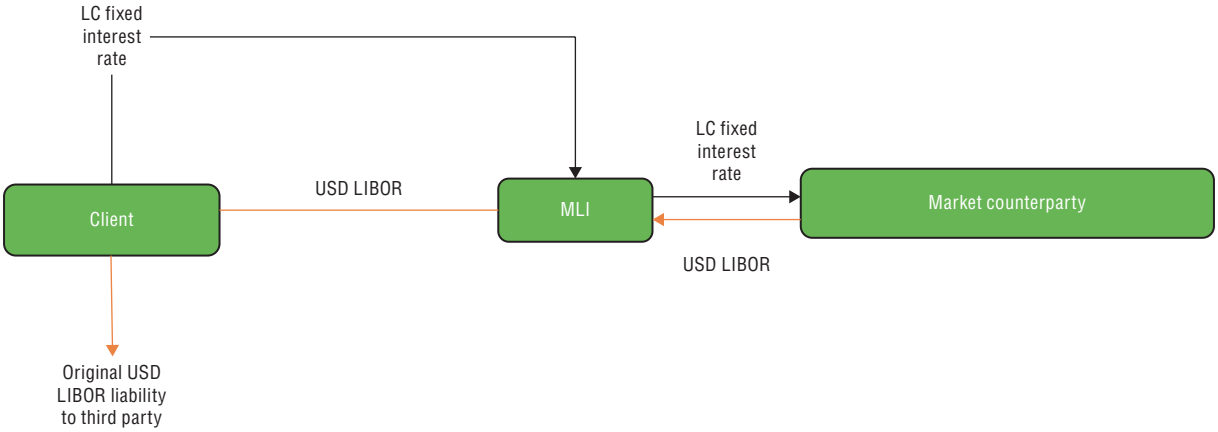
Multilateral lending institutions play a pivotal role in bringing innovative instruments into the mainstream

Multilateral institutions and development banks will continue to have a big role to play in helping emerging economies, both to raise funds, and to ensure the sustainability of their debt as they recover from the impact of the COVID-19 pandemic. Their assistance is particularly critical for low-income economies with very tight fiscal situations, and highly under-developed domestic capital markets.

Aside from direct commitments, there is also scope to scale up swaps for third-party liabilities in order to hedge risks related to interest and exchange rates. Products of this kind include interest rate swaps, cross-currency swaps, and local currency swaps, which transform a foreign currency liability into a local currency liability (ADB, 2020d; World Bank, 2021d).[11] Aside from risk management, meanwhile, multilateral institutions can also leverage their high credit ratings to reduce the cost of borrowing for their clients, both sovereign and private.

Figure 3.11 shows a basic schematic diagram of a local currency swap arrangement, whereby the foreign currency obligation (in this case in US dollars) can be transformed into a local currency obligation, with the multilateral lending institution acting as an intermediary.[12] Although it can be challenging to find counterparties to swap loans that are denominated in foreign currency (e.g. US dollar loans) for local-currency ones, there are indications that, with innovative solutions and the right mix of capital from investing institutions, it can work, and that "currency risk can be hedged even in frontier markets – at a reasonable price and with a decent return" (Giugale, 2021).

Figure 3.11. **Schematic diagram of a local currency swap for third-party liability**



Note: LC = local currency. LIBOR = London Interbank Offered Rate (The use of the LIBOR rate is only for illustration purposes, as the LIBOR is currently being phased out). MLI = multilateral lending institution. The diagram is a slightly modified version of Figure 3 in ADB (2020d).
Source: ADB (2020d).

Multilateral institutions can also intermediate syndicated loans. Their role can be particularly important in securing large funding for private-sector financing in economies where domestic capital markets are still nascent (Box 3.12). On the credit supply side, they can provide market access to global banks and major global financial institutions. On the credit demand side, meanwhile, they can lower the cost of lending.

Generally, a perception of high risk raises the cost of borrowing and tends to limit long-term flows of capital to developing countries. In light of this, Gurara, Presbitero and Sarmiento (2018) contend, citing previous studies, that: "multilateral development banks (MDBs) can (i) help reduce the high risk perception by signalling the profitability of projects through allocation of their own money in projects and loan syndicates and taking a subordinate loan position and extending their de facto preferred creditor status; and (ii) leverage their informational and monitoring capacity advantages – without which private lenders would be reluctant to invest in projects that are considered to be too risky". The authors also provide empirical evidence of MDBs' greater willingness to fund high-risk projects that the private sector would not agree to finance, as well as of the role that they can play in reducing spreads and lengthening loan maturities.

Box 3.12. **Emerging Asian governments could resort to syndicated loans for urgent financing needs**

Syndicated loans can be defined as credits extended to a borrower by a group of lenders. Loan syndication typically occurs when a single borrower requires a large loan, usually above USD 1 million, which a single lender may be unable to provide. Overall, syndicated loans combine characteristics both of relationship loans and of public debt, whereby the lead bank may have some form of relationship with the borrower (Altunbas, Kara and Marques-Ibanez, 2009). Global syndicated lending activity totalled USD 3.5 trillion in 2020. With a total syndicated lending volume of USD 460.5 billion, Asia-Pacific accounted for approximately 13% of the total volume extended in 2020 (Refinitiv, 2020).

In addition to allowing borrowers to access larger loans, a major advantage of syndicated loans is that they require less time and effort on the part of the borrower. Since they are negotiated, syndicated loans also require fewer disclosures compared to bonds or bilateral loans. It is worth noting that the lead arranger is responsible not just for due diligence, but also for the allocation of the loan to other syndicate members, and for subsequent monitoring. As a result, the other financial institutions in the syndicate typically rely on the lead arranger's reputation in making lending decisions (Ross, 2010), thus speeding up the overall lending process.

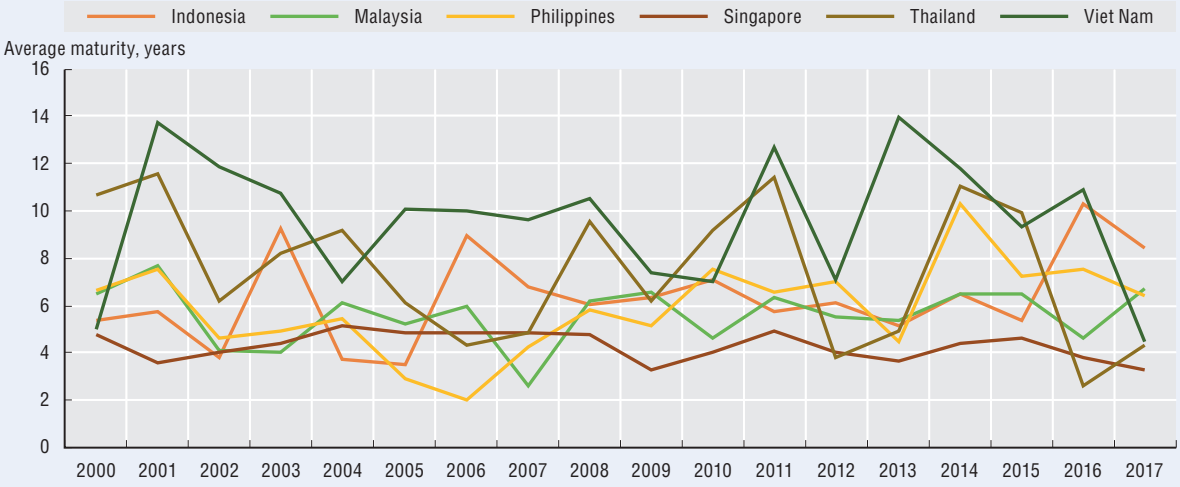
Another advantage of syndicated borrowing is the possibility for the borrower to diversify the loan terms. Since multiple lenders contribute to a syndicated loan, the loan can be structured to encompass different types of loans and terms. This renders syndicated lending more flexible for the borrower. In addition, the syndicate can be composed of both domestic and international banks. As Gopalakrishnan and Mohapatra (2019) have shown, a diversified syndicate structure is associated with lower loan spreads for riskier borrowers compared to loans made by non-diversified syndicates.

One of the shortcomings of syndicated loans, however, is that they have shorter tenures compared to bonds and bilateral loans. As shown in Figure 3.12, below, the average maturity of a syndicated loan in a group of selected ASEAN countries did not exceed 14 years between 2000 and 2017. In 2017, the average maturity of a syndicated loan ranged from 3.3 years in Singapore to 8.4 years in Indonesia. In the two most recent years for which such data are available, the average maturity tended to fall, in particular in the Philippines, Singapore and Viet Nam.

In addition, syndicated loans tend to be more expensive compared to other debt instruments. Hence, some governments have resorted to debt management operations in order to replace syndicated loans with other instruments that provide more favourable financing conditions. One way of doing this is to re-finance relatively expensive syndicated loans with long-dated debt instruments (IMF, 2021a).

Box 3.12. **Emerging Asian governments could resort to syndicated loans for urgent financing needs** *(cont.)*

Figure 3.12. **Syndicated loan maturity in selected ASEAN economies, 2000-17**
(Average maturity, years)



Note: The data capture the average maturity of syndicated loans granted during the respective year to both sovereign and non-sovereign borrowers.

Source: World Bank (n.d.), *Global Financial Development Database*, https://databank.worldbank.org/reports.aspx?source=global-financial-development.

StatLink https://doi.org/10.1787/888934304837

Insurance-linked securities can enhance resilience

It is impossible to rule out the recurrence of pandemics or of other similar catastrophes. Considering their potential impact, hedging the associated risks is, therefore, critically important. Insurance-linked securities (ILS), which emerged at the beginning of the 1990s, can offer insurance companies and governments some respite in challenging situations, by transferring risks to investors. In a typical ILS scheme, a reinsurance company transfers part of its risk exposure to a single-purpose vehicle (SPV). In exchange for agreeing to bear the risk, the SPV receives a premium paid by the cedant insurer/reinsurer, which is then invested in short-term, fixed-coupon bonds. The SPV then issues bonds with a maturity of less than three years, and pays a variable-rate coupon. If the underlying event, such as a natural disaster or a pandemic, does not occur, the SPV pays the coupon and returns the principal when the bond reaches maturity. On the other hand, if the event does occur, and if the pre-established trigger conditions are met, the SPV returns the principal to the re-insurer. Table 3.8 lists various ILS instruments that could be used to cope with pandemic-related risks.

Turning to further potential sources of funding, pandemic bonds are an ILS mechanism worthy of consideration in the coming years. They are similar to catastrophe bonds in structure, and are distinct from pandemic social bonds. A prominent example of pandemic bonds is the Pandemic Emergency Financing Facility (PEF) bond that raised USD 325 million when it was issued in 2017 (World Bank, 2017a). That issuance, which took place under the aegis of the World Bank's "capital at risk" programme, was supplemented

by USD 105 million in swaps, and about USD 190 million in donations (World Bank, 2017a; Jonas, 2019).

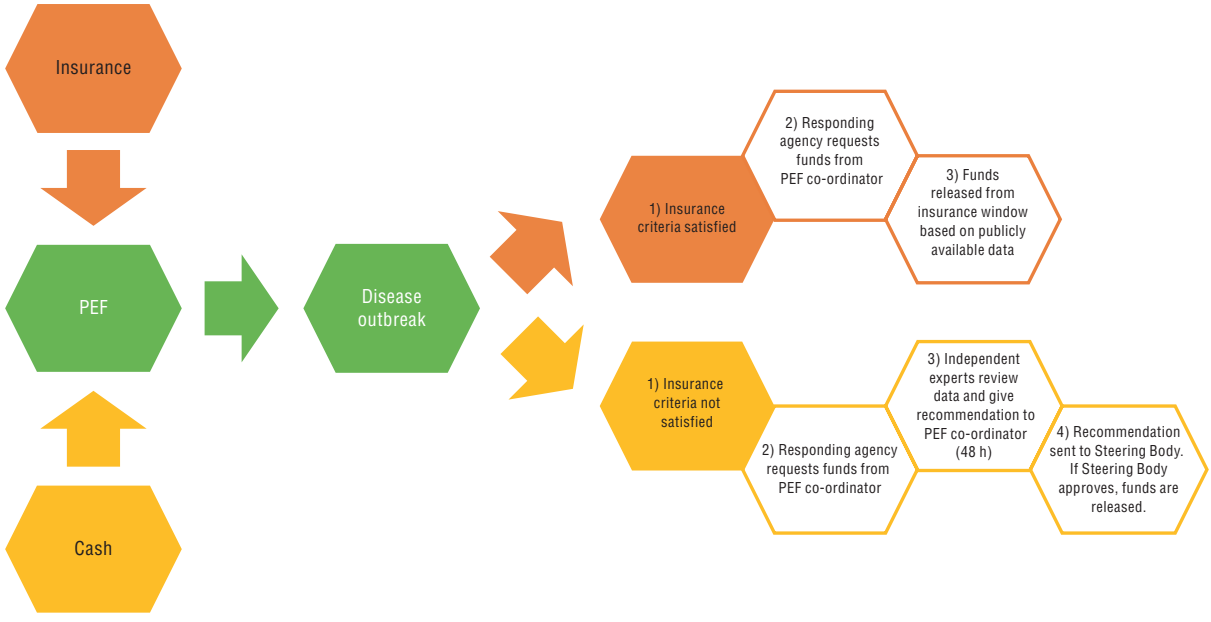
Table 3.8. **Overview of ILS that could be used to cope with pandemic-related risks**

Type of ILS	Description
Pandemic/COVID-19 bonds	Securities whose proceeds could be used to mitigate the economic and social repercussions of the COVID-19 pandemic.
Extreme mortality bonds	Short-term securities, whose pay-out is linked to a mortality index.
Pandemic futures and options	Exchange-traded futures, or options linked to widely followed COVID-19 metrics (e.g. case fatality rate).
Mortality swaps	Agreements to exchange one or more cash flows in the future based on the outcome of at least one (random) survivor or mortality index.
Pandemic risk pools, partly financed through the issuance of pandemic bonds	Mechanisms for the sharing of pandemic-related risks between public and private insurance companies and the government.

Source: Authors' elaboration.

The PEF tender marked the first attempt to transfer pandemic risk in low-income countries to the financial markets. It covers six viruses that were seen as being most likely to cause a pandemic. Financing for eligible countries is activated when an outbreak reaches predetermined levels of contagion. The parameters include the number of deaths, the rate of spread of the disease, and the degree of cross-border transmission (World Bank, 2017a). The PEF mechanism is succinctly described in Figure 3.13.

Figure 3.13. **How the Pandemic Emergency Financing Facility (PEF) works**



Source: Authors' elaboration, based on World Bank (2021f).

The COVID-19 pandemic has recently triggered the fund to pay out. And while the mechanism has not been without its share of criticisms, the PEF Fact Sheet divulges that "by 30 September 2020, the entire USD 195.84 million COVID-19 insurance pay-out had been transferred to the beneficiary countries, providing additional financial support to

their COVID-19 response, including essential and critical lifesaving medical equipment and personal protective equipment" (World Bank, 2021e).

Another relevant and related initiative is risk pooling. In this mechanism, different stakeholders contribute to a fund. The list of contributors typically includes insurance companies and, sometimes, government entities as well. Instruments like catastrophe bonds or pandemic bonds are issued in order to generate revenues. Coupon payments are then paid on a regular basis, as long as the underlying event does not occur.

One example is the Indian insurance regulator's proposal in 2020 to create an Indian Pandemic Risk Pool (Evans, 2020). Pandemic bonds would back up this pool, and it would have a multiple-trigger mechanism, in order to respond both to epidemics and pandemics. It would cover immediate losses to income caused by business interruption resulting from a pandemic, and from the restrictions that may ensue in order to curb its spread in the first phase. Cover may not extend to losses sustained in a second phase, as the priority is to cover aspects related to business interruption, especially in the context of India's informal labour sector (IRDAI, 2020).

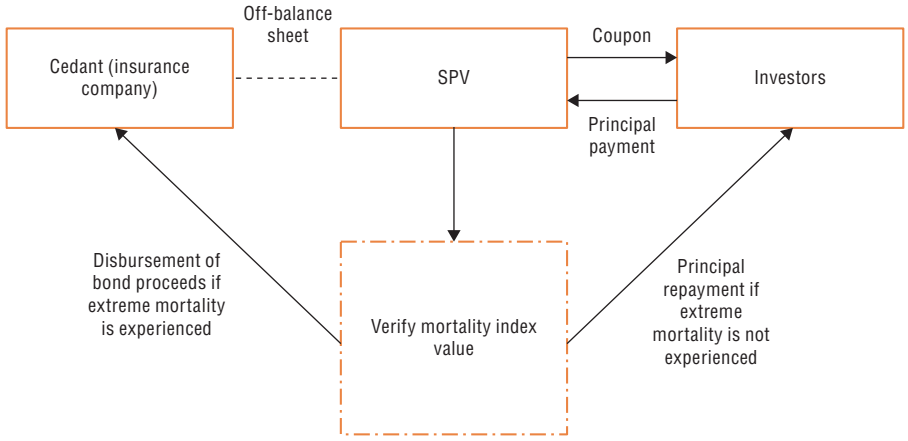
Another ILS option is the mortality swap, which is an agreement to exchange one or more cash flows in the future, based on the outcome of at least one index measuring survival rates or mortality, chosen at random. Mortality swaps bear considerable similarity to re-insurance contracts, as both often involve swaps of anticipated payments for actual payments (or claims), and both may be used for similar purposes. Mortality swaps are not insurance contracts in the legal sense of the term, and therefore are not affected by some of the distinctive legal features of insurance contracts. They can typically be arranged at a lower transaction cost than a bond issue, and can be cancelled more easily. They are also more flexible, and they can be tailor-made to suit diverse circumstances.

Mortality swaps are still relatively new financial instruments. The European Investment Bank (EIB) forged such an arrangement as early as 2004, in order to assist life insurance companies and pension funds in addressing the challenges of ageing populations (Blake et al., 2006b). Although the EIB was the issuer of the proposed bond, the ultimate recipient of the longevity risk embedded in the bond was a Bermuda-based re-insurance company. The EIB undertook a swap with BNP Paribas, with the EIB receiving floating-rate funding in pounds sterling (GBP). In turn, BNP Paribas took out re-insurance for the longevity risk, retaining the interest rate exposure but with the re-insurance company insuring the longevity risk. The total value of the issuance came to GBP 540 million, and it was primarily intended for purchase by pension funds in the United Kingdom. However, pension funds and life insurers were reluctant to subscribe to this bond for various reasons, and this was withdrawn in late 2005, without ever being issued (ECB, 2006).

A further variation on this theme is extreme mortality bonds, which hedge against an insurer or re-insurer becoming insolvent. It works on the premise that a jump in mortality rates would adversely impact the amount and timing of the death benefits that an insurer or re-insurer would have to pay out. Extreme mortality bonds are short-term tradeable securities, with a pay-out structure that is explicitly linked to a mortality index. The main focus of extreme mortality bonds is pandemic outbreaks. As such, extreme mortality bonds are designed to cover the risk of mortality or the specific risk of premature death. They have

similar characteristics to catastrophe bonds for natural disasters such as earthquakes or storms. Figure 3.14 illustrates the typical structure of an extreme mortality bond.

Figure 3.14. **The typical structure of an extreme mortality bond**



Note: "SPV" stands for Special Purpose Vehicle.
Source: Authors' elaboration, based on Blake et al. (2006a).

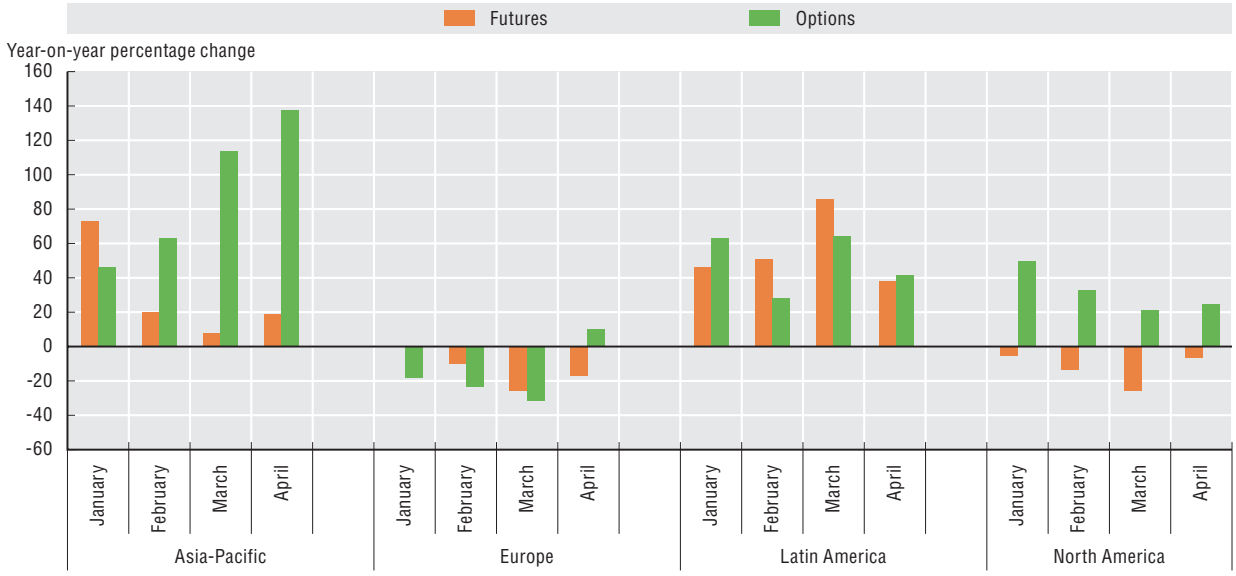
The first extreme mortality bond was issued by Swiss Re in 2003. Specifically, Swiss Re launched its first insurance-linked security relating to life insurance risk in December 2003, obtaining USD 400 million of coverage from institutional investors. The structure of the bond's risk coverage is based on a combined mortality index. This mortality index measures annual general population mortality in five countries (i.e. France, Italy, Switzerland, the United Kingdom and the United States). It does this by applying pre-determined weights to publicly reported mortality data from each country. The principal of the bonds was at risk if, during any single calendar year in the risk-coverage period, the combined mortality index exceeded 130% of its baseline level, which corresponded to data for 2002. In exchange for their risk-taking, investors received a quarterly coupon equal to the 3-month USD London Interbank Offered Rate (LIBOR), plus an additional 135 basis points. The maturity of the bond was three years (Klein, 2006).

Another option for hedging the losses that can emanate from financially costly pandemics presents itself in the form of pandemic futures and options. In a related field, and by way of background, the emergence of markets for weather-related derivatives (i.e. weather futures and options), is a remarkable development, because these instruments target risks that are not market risks, but which, on the contrary, are relatively uncorrelated with the fluctuations of the stock market. Pandemic derivatives could be envisaged along similar lines to exchange-traded weather derivatives, which are usually linked to widely followed measures such as temperature and rainfall. Bilateral deals traded over the counter could be tailor-made for specific pandemic-related risks. Nevertheless, it is important to note also that, while the use of such instruments by insurance companies increases the scope for risk spreading, it can also present potential new risks for financial stability.

Just as there are weather-related futures and options focusing on several cities in the United States, the United Kingdom, Canada, France, Germany, Japan and Australia (CME Group, n.d.), similar tailor-made products could be designed to cover pandemic risks in

Emerging Asian cities, taking advantage of the rising importance of derivatives trading in the region. According to the Futures Industry Association, Asia-Pacific accounted in 2019 for the largest volume of derivatives trading of any region in the world, with a combined share of 42% of global trading volumes (FIA, 2020). Furthermore, the volume of exchange-traded options in Asia-Pacific rose by more than 137% year-on-year in April 2021, after an increase of 114% in March (Figure 3.15).

Figure 3.15. **Volume of exchange-traded derivatives by selected region, January-April 2021**
(Year-on-year percentage change)



Source: Authors' compilation based on data from FIA (2021), *ETD Volume – March 2021*, https://www.fia.org/resources/etd-volume-march-2021.

StatLink https://doi.org/10.1787/888934304856

Nevertheless, the development of derivatives markets necessitates considerable policy support. It also requires markets with sufficiently large pools of funds to cover the size of the eventual pay-outs when they are triggered. China and Singapore can provide some key lessons in terms of market development. China has five domestic derivatives exchanges, offering futures and options on agricultural products, energy, metals, chemicals, equities, and bonds. The trading volumes on these exchanges have been on an upward trajectory in recent years (Fix, 2021). Singapore, which is the largest derivatives trading centre in Emerging Asia, and one of the largest centres globally, is also a viable candidate to launch pandemic derivatives.[13]

There is scope for regional co-operation in hedging risks

Regional and international co-operation has a big role to play in enabling the region's markets to catch up with others in terms of their absorptive capacity. Multilateralism is a critical element for increasing the mobility of funds across borders within the region, particularly when it comes to institutional investors. There is also scope, through regional co-operation, to develop mechanisms to mitigate financial risk.

Sovereign catastrophe risk pools could provide governments with rapid post-disaster funds

Exploring potential options still further, sovereign catastrophe risk pools could provide a mechanism for Emerging Asian governments to enhance their financial preparedness against pandemic risks, by pooling risks into a single, more diversified, and less risky portfolio. Catastrophe risk pools also allow participating countries to partially retain risk through joint reserves or capital, and to transfer excess risk to the re-insurance and capital markets. Another advantageous feature of a risk pool is that profits that accrue to the pool during years with fewer disaster events can be retained within the pool, rather than being distributed to various stakeholders.

Four sovereign catastrophe risk pools exist currently, including one in Southeast Asia (Table 3.9). The four pools are the Caribbean Catastrophe Risk Insurance Facility (CCRIF), the African Risk Capacity (ARC), the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), and the Southeast Asia Disaster Risk Insurance Facility (SEADRIF).

The SEADRIF was established in December 2018 by Cambodia, Indonesia, Lao PDR, Myanmar, Singapore and Japan, and membership is open to all ASEAN members plus China, Japan and Korea. The SEADRIF is a regional platform through which participating countries can propose, assess and implement options for managing the financial impacts of natural disasters. The first initiative within the SEADRIF framework was the establishment of a regional catastrophe risk pool, especially for flood risks in Lao PDR and Myanmar. The SEADRIF is also planning to provide financial solutions to Cambodia, and also to middle-income ASEAN countries such as Indonesia (World Bank, 2019).

Table 3.9. **Selected characteristics of existing regional sovereign catastrophe risk pools**

Scheme	ARC	CCRIF (Caribbean)	CCRIF (Central America)	PCRAFI	SEADRIF
Form of insurance	Modelled loss parametric.	Modelled loss parametric.	Modelled loss parametric.	Modelled loss parametric.	Modelled loss parametric.
Number of countries	32 countries have signed the ARC Treaty; eight others have participated.	20 countries are eligible for coverage, of which 16 have participated.	Of the 6 countries that are eligible, one has purchased a policy.	15 are countries are eligible, of which 6 have participated.	Two countries are eligible for coverage.
Perils covered	Drought, tropical cyclone, flood.	Earthquake, tropical cyclone, extreme rainfall.	Earthquake, tropical cyclone, extreme rainfall.	Earthquake, tropical cyclone.	Flood.
Date of first policies	2014	2007	2015	2013	2018
Cumulative pay-outs since inception	USD 34 million	USD 67.3 million	USD 0.7 million	USD 3.2 million	Not available
Average aggregate coverage	USD 150 million	USD 622 million	USD 28 million	USD 45 million	Not available
Source of premiums	National budgets, grants.	IDA credits, CDB credits, grants.	IDA credits.	Grants, national budgets, IDA credits.	Grants, national budgets.
Pay-out process	Pay-out calculated within 10 days of the end of the risk period for drought, and 7 days for tropical cyclones and floods. Self-certification of loss required. Certified contingency plan required.	Initial estimate in 3-5 days, pay-out made after 14 days. Self-certification of loss required.	Initial estimate in 3-5 days, pay-out made after 14 days. Self-certification of loss required.	Pay-out made within 10 business days.	Pay-out made within up to 30 days of the occurrence of an insured event.

Note: "ARC" stands for African Risk Capacity; "CCRIF" stands for Caribbean Catastrophe Risk Insurance Facility; "PCRAFI" stands for Pacific Catastrophe Risk Assessment and Financing Initiative; and "SEADRIF" stands for Southeast Asia Disaster Risk Insurance Facility. "IDA" stands for International Development Association. "CDB" stands for Caribbean Development Bank.

Source: Authors' elaboration based on World Bank (2017b), SEADRIF (2020) and World Bank (2020b).

Another example of financial co-operation among countries in Emerging Asia is the COVID-19 ASEAN Response Fund, which is different from the catastrophe risk pools outlined above. It was established in 2020 in order to address both the short-term and long-term needs of ASEAN member countries arising from the pandemic. The Fund will serve as a pool of financial resources to provide support to ASEAN member countries in the detection, management and prevention of COVID-19 transmission. It will be made equally accessible to all countries for, among other things, the procurement of medical supplies and equipment. The Fund will also be available to support co-operation in research and development relating to COVID-19. An initial contribution to the Fund, of 10%, came from the ASEAN Development Fund, and it then became open to voluntary contributions from ASEAN Member States and external partners (ASEAN, n.d.).

A regional pandemic risk pool for Emerging Asia should accommodate heterogeneous risk profiles and economies

Disaster insurance schemes exist in one form or another in several developing economies in Asia. The vast majority of schemes (71%) deliver micro-insurance, while sovereign risk schemes represent approximately 14%. India, the Philippines and China are the top three countries in terms of number of operational disaster insurance schemes, and they are also among the most mature markets for disaster risk insurance across Asia (Surminski, Panda and Lambert, 2019).

In Emerging Asia, governments now have an opportunity to build on the extensive work to manage natural disaster risks that they have already done at the national level, and also on the recent experience that they have garnered through the SEADRIF initiative. In the light of this work and experience, and of the challenges of the COVID-19 pandemic, it is possible now to envisage a regional catastrophe risk pool to mitigate the impact of pandemic outbreaks. A risk pool of this kind could improve Emerging Asian countries' resilience to pandemics, provided it is structured to accommodate the particular conditions of the region. Along these lines, it is important to bear in mind that differences in risk and economic profiles may constitute hurdles for policy makers seeking to establish a sovereign pandemic risk pool at the regional level.

In order for a regional pandemic risk pool to deliver on its promise, it will be necessary to take account of several key factors and parameters. For example, it will be important to recognise that, as the World Bank has pointed out, a regional approach for a joint disaster insurance fund would best suit smaller economies with uncorrelated but similar risk exposures (World Bank, 2017b).

A model could be envisaged whereby countries enter into an insurance contract with the over-arching facility, and pay a premium to gain access to rapid liquidity in the aftermath of a pandemic in the form of bridge financing. In addition, the risk-transfer platform could function as a clearing house for transferring pandemic risk in Emerging Asia to the international capital markets. This approach would allow large economies in the region to tap the market directly, and smaller economies to access markets as a group (World Bank, 2017b). Furthermore, and in order to avoid cross-subsidisation of premiums among countries, the premiums that each participating country would pay should have a basis in the level of risk that it brings to the regional risk pool.

The participation of sub-national entities (i.e. municipalities) in this platform could also be considered (World Bank, 2017b). For instance, a risk pool to cover municipalities against the risk of typhoons and earthquakes already operates in the Philippines (Box 3.13). Cities from multiple countries in Emerging Asia could participate in a single regional risk pool.

Box 3.13. **Characteristics of the Philippine City Disaster Insurance Pool (PCDIP)**

Philippine cities face a particularly high risk of natural disasters. As a result of this, a group of cities in the country established the PCDIP in order to provide rapid access to financing in the early stages of disaster recovery. Ten cities participated in the design of the insurance pool, and their selection to take part was based on an array of factors. These included their exposure to disaster risk, their demographic and economic size, their geographic location, the availability of data, and also their governance of disaster-risk management. An additional element that was considered was the relative scale of government and public facilities, in order to gauge the likely extent of post-disaster expenditure. To support the optimal design of the PCDIP, the cities took part in a number of activities, including the collection of data on their exposure to disaster risk, an assessment of their needs, and capacity building exercises.

The PCDIP aims to provide rapid post-disaster financing for early recovery in a cost-efficient manner. The scheme's framers decided that a parametric insurance pool would be the best solution. In this kind of pool, pay-outs are determined based on the physical features of a catastrophic event, such as wind speed, or earthquake intensity, rather than on the actual losses suffered by the policyholder. The PCDIP offered parametric insurance coverage against typhoons and earthquakes in its first phase, with flood coverage added at a later stage. Pay-outs will be made within 15 business days of the occurrence of an event.

Participating cities can purchase insurance cover based on the types of hazard they want to insure against, the frequency and scale of pay-outs that they would like to receive, and the funding that is available for premium payments. The premiums paid by each city are based on the level of risk that it brings to the pool. Still, the PCDIP has been structured to make sure that city governments can afford premiums. One way of achieving this has been to offer them flexibility in choosing the features of their coverage. Another aspect of the scheme's structure is that the pool is able to honour pay-outs in a timely manner. The pool's design sets it up to be financially sustainable over the long term. Pay-outs are funded by a combination of capital from the pool, and re-insurance protection purchased from domestic and international markets. The government provided the initial capital for the pool, which will be supplemented by retained profits in years of low disaster-related losses.

Source: ADB (2018a).

Conclusion

The COVID-19 pandemic is proving to be extremely costly, both economically and socially. It continues to test the limits of regulatory policy toolkits all around the world. Its protracted nature is depleting the resources of public and private sectors alike, which in turn curtails governments' room for policy manoeuvre, and makes policy prioritisation more complicated. The substantial drag that it creates ultimately calls into question the fiscal stability of many countries, especially emerging economies.

Against a difficult backdrop, in which a range of other socio-economic risks compound the impact of the COVID-19 pandemic, bringing sustainable financing solutions into the mainstream, and scaling them up, is a crucial opportunity for Emerging Asian economies as they seek to ride out the storm, and to recover in a more equitable and inclusive manner. In the spirit of setting out a comprehensive array of policy options, this chapter has highlighted the importance of creating a conducive setting for ESG-themed bonds, in order to bring the capital-raising activities of public and private entities more into line with key social and environmental objectives that are becoming ever more urgent around the world. Furthermore, the chapter also addressed other issues, such as the constructive role that multilateral lending institutions can play in supporting innovative financing tools.

With the pandemic hitting economies hard, multilateral institutions have been pivotal in averting serious financial difficulties in many countries. The G20's Debt Service Suspension Initiative, for example, has provided welcome respite for many highly indebted countries. While financial tools such as debt buybacks and derivatives are also available to lessen the debt burden, they may not be viable to some countries.

Looking to the future, strengthening ex-ante measures has a vital role to play in enhancing countries' economic resilience to future events of a similar nature to the COVID-19 pandemic. Considering the complexities of some of the hedging and reinsurance products, putting them in place will require a concerted effort from large stakeholders, as well as access to capital markets deep enough to cover the sizeable pay-outs that an adverse event may trigger. As this chapter has also argued, strengthening regional co-operation in risk pooling is increasingly important.

Notes

1. According to Vandenberg (2021), "in Singapore, a debtor normally has 21 days to pay a debt, but this was extended to 6 months under a COVID-19 economic stimulus law", while "the threshold above which a creditor could move against a delinquent debtor was raised from 15 000 Singapore dollars (SGD) to SGD 60 000". Similarly, in India, "the threshold for initiating insolvency was raised from 100 000 Indian rupees (INR) to INR 10 million, mostly to help MSMEs". This was implemented at the start of the pandemic but could become permanent. The Solvency and Bankruptcy Code was notably suspended for a year from March 2020.
2. The World Bank (2021b) also underscores the role that moratoria and temporary relief measures for borrowers have played in Asia in minimising the effects of the pandemic. Accordingly, banking sectors' portfolios are being restructured to varying degrees across individual banking institutions and economic sectors. The World Bank report estimates that, in China, restructured loans accounted for 4% of total loans by the end of 2020, and constituted 17% of loans to MSMEs. In Indonesia, more than 31% of loans to large corporations have been restructured. Meanwhile, in Malaysia, 11% of household loans, and 17% of business loans, have been placed under repayment assistance, including 52.8% of loans in the hotel and restaurants sector.
3. According to Starnes et al. (2021), with COVID-19 reducing the scale of transactions, emerging market banks face increased correspondent banking relationship challenges as earnings from low-yield trade finance services get squeezed. In their survey, these authors show that 39% of the global respondents (59% in South Asia and 20% in East Asia and the Pacific) indicated some form of correspondent banking relationship stress. The underlying factors cited in the report, among others, include fewer lines of credit, increased pricing or cost, line-limit restrictions, and increased compliance requirements.
4. The Asian Development Bank's COVID-19 Policy Database provides a detailed, country-by-country breakdown of actions in Emerging Asia.

5. The Bangko Sentral ng Pilipinas adopted the interest rate corridor in June 2016, thus resulting in a break in the time series of the policy rate. If extended backwards by roughly adjusting for the series breaks, the current rate will be the lowest since the data were compiled and reported in the mid-1980s.
6. For debt restructuring to be NPV-neutral, the "NPV of the new debt service cashflows after the moratorium will be equal to the NPV of the suspended debt service cashflows" (Hernández, Egesa, and Pérez, 2020). Concessional debt is defined by the World Bank as loans with a grant element of 25% or more (World Bank, n.d. b).
7. In many cases, relatively smaller borrowers, as well as smaller or retail investors, are constrained from participating in traditional formal capital market channels. Some institutional investors, including public pension institutions, also face charter-related limitations that affect their ability to diversify their investment portfolio (see, for instance, OECD 2021f).
8. The members of the G20 are: Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States, and the European Union.
9. The ASEAN+3 is composed of the ASEAN economies, plus China, Japan, and Korea. The country implementation guidelines are published on the website of AsianBondsOnline, https://asianbondsonline.adb.org/abmf/ambif.html.
10. For the data, please refer to the ASEAN+3 Multi-Currency Bond Issuance Framework Bond Issuance page at AsianBondsOnline, https://asianbondsonline.adb.org/ambif.php#bond-issuance (accessed November 2021).
11. These examples are not exhaustive.
12. For reference, ADB (2020c) also presents schematic diagrams for interest rate swaps and cross currency swaps.
13. According to the Bank for International Settlements' *Triennial Central Bank Survey of Foreign Exchange and Over-the-counter (OTC) Derivatives Markets*, Singapore ranked seventh globally for interest rate derivatives in 2019 in terms of turnover, with a daily average turnover of USD 116 billion (BIS, 2019).

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Chapter 4

Developing market-based financing to fund recovery from the COVID-19 pandemic

There are several barriers to the development of bond markets in Emerging Asia. This chapter discusses these barriers and presents policy options for overcoming them. First, in countries with less-developed markets, institutional and legal frameworks are still limited. In these markets, levels of investor protection, and of transparency around tax processes, remain insufficient. In countries with more advanced capital markets, there is scope to further diversify the investor base and improve secondary-market liquidity. In parallel, regional initiatives continue to support bond market development. Second, increasing financial literacy could promote more participation in the market. The digital component should be integrated into the relevant frameworks to enhance financial literacy. Finally, a strong macroprudential framework is another enabling factor for bond market development. Policy makers need to give special attention to the interactions between the financial sector and the real economy. Furthermore, macroprudential policy will be key for the stabilisation of cross-border capital flows post-pandemic.

Introduction

Emerging Asia's economies need to persevere in developing their domestic capital markets in order to pave the way for a robust and inclusive recovery from the COVID-19 pandemic (see Chapter 3). The region's bond markets have grown substantially in the last two decades. However, gaps remain in terms of access and depth. In many cases, the diversity of the investor pool is limited. In light of prevailing conditions, this chapter examines the underlying challenges that hamper the development of the bond market in the region, and offers potential policy solutions.

The discussion in this chapter begins by providing a general overview of trends in the development of the bond market in Emerging Asia. It then analyses issues relating to barriers to entry and market infrastructure. In so doing, it takes account of the plight of the small firms that are typically left out of the picture. Then, issues regarding investor participation, including with regard to retail investors, are discussed in detail, along with a review of specific policy areas for intervention, in line with the goal of boosting the supply of credit. Next, the chapter presents a range of options for strengthening financial literacy, both in the spirit of nurturing a well-informed investor base, and in light of the growing digitalisation of financial markets. Finally, the chapter looks at the stability of financial markets, with a view to encouraging the sustainable development of capital markets, and with due consideration to the risks that hover on the horizon.

Developing bond markets to foster capital market-based solutions

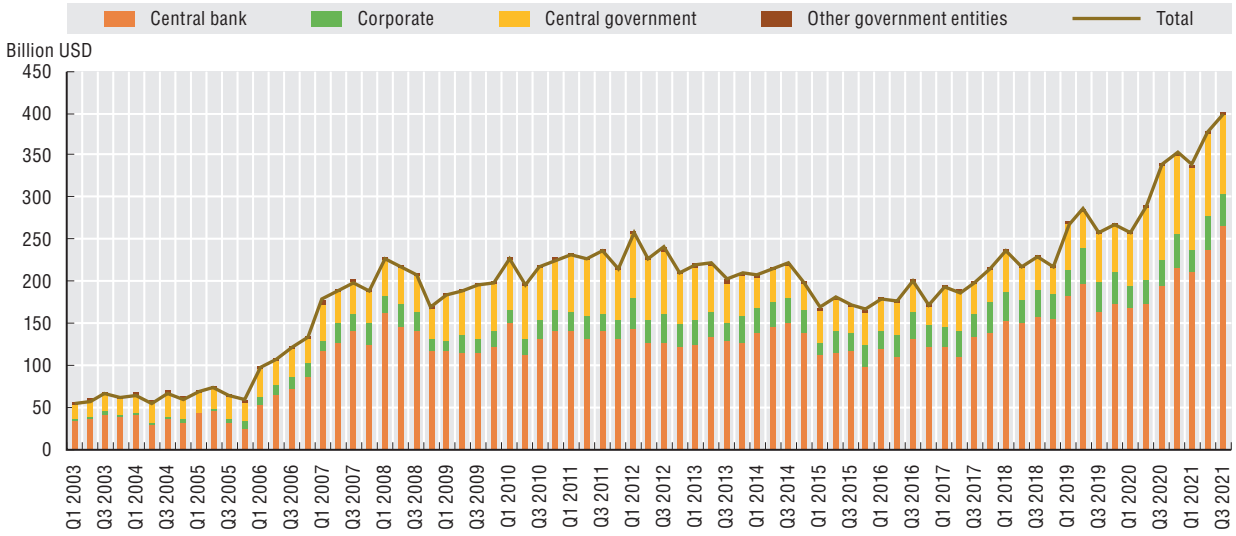
Emerging Asia's bond markets have deepened substantially, but remain uneven and restrictive

Bond issuance in Emerging Asia has grown significantly over the past two decades. The amount of local-currency bonds issued in the member countries of the Association of Southeast Asian Nations (ASEAN) for which data are available increased to approximately USD 399 billion at the end of the third quarter of 2021, from around USD 55 billion in early 2003 (Figure 4.1). As the bond market has grown, issuance by governments, government-affiliated entities and corporations has also progressed.

Various policy initiatives have supported the growth of bond markets. These include significant improvements to market infrastructure, notably to clearing and settlement systems, and also to legal frameworks. At the same time, some aspects of Emerging Asia's bond markets remain relatively underdeveloped. In particular, a small number of domestic institutional investors with similar investment strategies accounts for a largely dominant combined share of the overall investor base, thereby constraining liquidity (see below for an overview of the main barriers to the further development of bond markets in Emerging Asia).

Aggregate data that depict a growing bond market do, however, mask considerable disparity across economies. Bond markets account for a larger share of gross domestic product (GDP) in countries with more advanced capital markets such as Malaysia and Singapore, amounting to 125.2% and 115% of GDP, respectively, in Q3 2021 (Figure 4.2). Bond markets are also relatively large in Thailand, at around 86% of GDP. In contrast, bond markets in Indonesia and Viet Nam remain very small, equating to less than 30% of these countries' GDP as of Q3 2021 (Figure 4.2).

Figure 4.1. **Local-currency bond issuance in selected ASEAN countries by issuer type, Q1 2003 to Q3 2021**

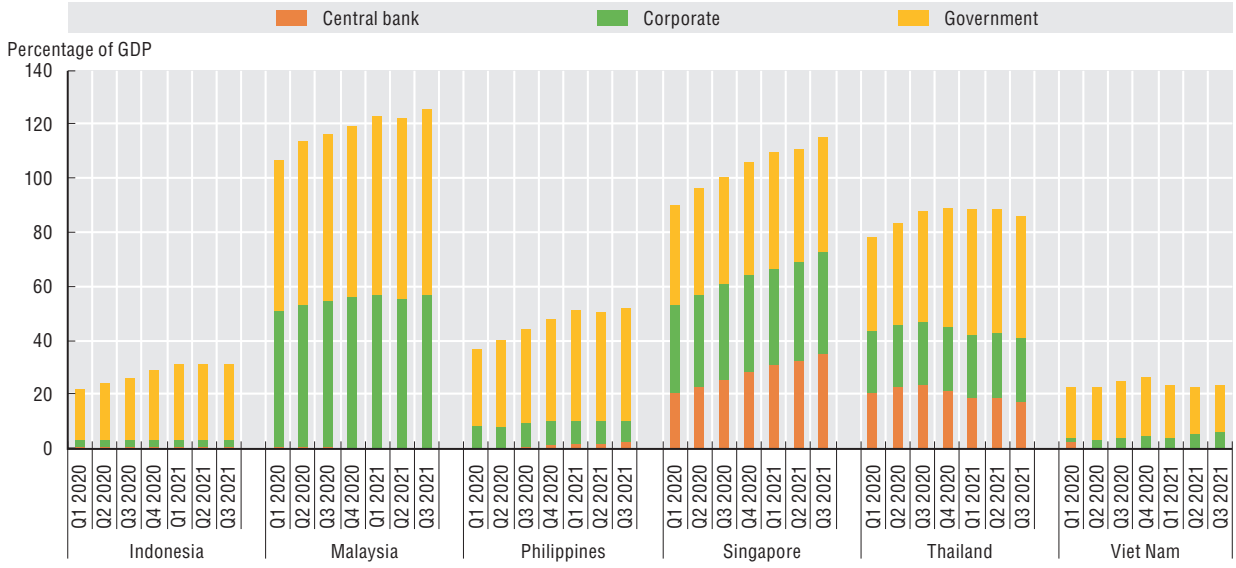


Note: The ASEAN total is the sum of local-currency bond issuance volumes in Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam.

Source: Authors' elaboration based on data from ADB (n.d. a).

StatLink https://doi.org/10.1787/888934303887

Figure 4.2. **Outstanding amount of local-currency bonds by issuer type in selected Emerging Asian economies, Q1 2020 to Q3 2021 (% of GDP)**



Note: Government bonds include treasury bonds and bills, savings bonds, local government bonds, central government bonds, and policy bank bonds. Corporate bonds are mainly those of state-owned and private corporate entities, and also include medium-term notes, commercial paper, and bonds issued by financial institutions.

Source: Authors' elaboration based on data from ADB (n.d. a).

StatLink https://doi.org/10.1787/888934304875

In Korea and Malaysia, which have relatively well developed bond markets, Shimizu (2018) notes that laws, regulations and market infrastructure have built up as a result of ongoing market-development efforts since before the Asian financial crisis of 1997, and there are many bond issuers and investors. Malaysia's bond market benefited from public and private initiatives in the 1990s and early 2000s. These included the establishment of credit rating agencies in the early 1990s. Among other initiatives, there was also the introduction of real-time gross settlements in 1999, and of a disclosure-based regulatory framework in 2000 (bin Ibrahim and Wong, 2006). Meanwhile, in the Philippines and Indonesia, the issuance of corporate bonds started in earnest only in the mid-2000s. Policy measures to develop the market have not been implemented to a sufficient extent, issuers and investors remain limited in number and scope, and the countries' financial systems continue to face structural problems (Shimizu, 2018).

There is scope to reduce barriers to participating in bond markets in Emerging Asia

At present, the goal of broadening the participation of issuers and investors in Emerging Asia's bond markets faces a range of different barriers, and these differ substantially among Emerging Asian countries (Table 4.1). For instance, in countries like Cambodia, Lao PDR and Myanmar, whose bond markets are at an early stage of development, basic institutional and legal frameworks are still in the process of being established. In these markets, levels of investor protection, and of transparency with regard to tax processes, remain insufficient. In other countries with more advanced capital markets, meanwhile, there is still scope to diversify the investor base. Among other areas in which there is room for improvement in these more advanced markets is the level of liquidity in secondary markets, which has scope for further enhancement.

Table 4.1. **Summary of main obstacles to bond-market development in selected Emerging Asian economies**

Country	Main obstacles identified
Brunei Darussalam	Limited investor base; limited development of financial infrastructure
Cambodia	Absence of benchmark government bonds; limited investor base; financial reporting standards not fully aligned with international standards; limited development of financial infrastructure; limited capital market expertise; insufficient clarity around tax processes
Indonesia	Limited investor base; insufficient regulatory framework for private placements; listing only for publicly offered debt securities
Lao PDR	Absence of benchmark government bonds; limited investor base; insufficient liquidity in the secondary market; lack of a market-making function; financial reporting standards not fully aligned with international standards; limited capital market expertise
Malaysia	Limited investor base; financial reporting standards not fully aligned with international standards
Myanmar	Limited investor base; limited capital market expertise; insufficient clarity around tax processes; insufficient investor protection
Philippines	Limited investor base; insufficient liquidity in the secondary market
Singapore	Limited investor base; financial reporting standards not fully aligned with international standards
Thailand	Limited investor base; limited hedging opportunities; financial reporting standards not fully aligned with international standards
Viet Nam	Limited investor base; insufficient liquidity in the secondary market; limited regulatory capacity; insufficient disclosure requirements; lack of credit rating agency services; insufficient regulatory framework for private placements
People's Republic of China	Insufficient liquidity in the secondary market; insufficient regulatory framework for private placements; inconsistencies between regulatory mechanisms applicable to various trading venues
India	Limited investor base; insufficient liquidity in the secondary market

Note: The severity of each issue listed as a barrier may depend on the level of development of bond markets in each country.

Source: Authors' elaboration based on ADB (n.d. b).

The scope for policy to help develop and improve bond markets in the region includes increasing sovereign bond issuance, promoting a diverse range of investors, and easing trading and post-trading processes. Equally important is the consistent implementation of information disclosure and transparency requirements, and the agility of institutional and regulatory frameworks in keeping abreast of market developments.

Strengthening benchmarking and improving the price-discovery process

Benchmark securities, which are typically sovereign bonds, provide a yardstick for fixed-income assets. They are important in reducing adverse selection costs in the market, which are costs arising from buyers and sellers not having the same information, and in facilitating liquidity flows by acting as hedging instruments. Making sure that benchmarking works well is an important consideration for financial markets in emerging economies, especially those that are at an early stage of development, as it renders conditions more attractive to investors (Nagano, 2018; Mizen and Tsoukas, 2013).

Against this backdrop, Emerging Asian countries such as Indonesia and Thailand continue to strengthen benchmarking by establishing supportive price discovery mechanisms in their bond markets (Box 4.1). Moreover, the significance of benchmarks holds true for foreign-currency denominated securities as much as it does for ones that are denominated in local currency. For instance, the Ministry of Finance of the People's Republic of China (hereafter "China") announced in June 2017 that it would issue USD 2 billion in dollar-denominated sovereign bonds, split equally into five-year and ten-year maturities. Among the reasons for issuing USD-denominated bonds in this instance, the Chinese finance ministry cited its intention to provide a pricing benchmark for other bonds from Chinese issuers (Zhang and Desai, 2017).

Box 4.1. Initiatives to support the price discovery process in Indonesia and Thailand

In 2018, Indonesia's central bank introduced overnight index swap and interest rate swap instruments to provide further support both to banks and non-financial corporations in managing their liquidity and market risk. Another part of the rationale for this initiative is to support the formation of the yield curve, and improve the effectiveness of the price discovery process in the money and bond markets. Since the overnight index swap has a reputation for being a nearly risk-free asset, the further development of this market segment should provide a benchmark yield curve based on real transactions rather than on price quotations.

In Thailand, meanwhile, policy makers have also sought to improve the price discovery process in the bond market. Measures in this regard have included making advance issuance schedules available to the public in order to ensure certainty of funding for the government, as well as efficient fund management. As a result, the government issues securities in regular amounts and across maturities, ranging from 1 to 20 years. Furthermore, using bidding yields that are quoted daily by 14 primary dealers, and at a minimum value of 20 million Thai baht (THB), has facilitated the development of a Government Bond Yield Curve. Additionally, the Thai Bond Market Association publishes reference yields of state-owned enterprises, Financial Institutions Development Fund bonds, and treasury bills. Since 1999, yield curve information has been available to the public on a daily basis. In addition to developing the yield curve, the Thai Bond Market Association has also built a bond index as a tool to track market performance, and to serve as a better benchmark.

Box 4.1. **Initiatives to support the price discovery process in Indonesia and Thailand** *(cont.)*

In addition, a system of primary dealers now supports government bond auctions and government bond trading activities, both for private and public securities, and to facilitate Bank of Thailand's own conduct of open market operations. Primary dealers are responsible for acting as market-makers for government securities, participating in government securities auctions. In addition, primary dealers also have an obligation to submit reference yields on government securities to the Thai Bond Market Association at the end of each trading day.

Source: Authors' elaboration based on Damayanti et al. (2020) and ThaiBMA (n.d.).

At the other end of the spectrum, sovereign bond issuance remains relatively limited in Lao PDR, Myanmar, and particularly Cambodia. In Cambodia corporate bonds are currently the only type of debt securities listed on the Cambodia Securities Exchange, as no government bonds have been so far issued by the Cambodian government (CSE, n.d.). There are reports, however, that the government of Cambodia is planning to issue USD 300 million worth of sovereign bonds, after the Law on Government Securities was adopted in December 2020 (White, 2021).

Broadening the investor base is crucial to ensuring the success of sovereign bond markets

Furthering the development of bond markets in Emerging Asia requires less cumbersome tax procedures, and fostering a stable domestic investor base. This includes streamlining the regulatory environment for institutional investors such as insurance corporations and pension funds. Moreover, there is scope to facilitate more direct participation on the part of retail investors to increase market liquidity and diversify the investor pool.

Improving and clarifying tax processes

Clarity of the taxation concepts and practices that apply to the capital market is important to potential investors. This is especially the case when it comes to capital gains and withholding taxes. In some Emerging Asian countries, the transparency of tax processes still needs to improve. In Cambodia, for instance, provisions regarding tax incentives in the securities sector only apply to listed equities. The applicability of these concessions to debt securities has yet to be confirmed or tested, leading to a "wait-and-see" approach among institutional investors (ADB, 2018a). In Myanmar, meanwhile, the tax treatment of new financial instruments, and of the activities of market participants, is in the early stages of development. Market participants, including regulatory authorities, may therefore only have limited expertise in this field (ADB, 2018b).

In addition, tax incentives could also play a major role in the continuous growth of bond markets. For example, Malaysian authorities have granted stamp-duty waivers and tax exemptions for income earned on securities, in order to broaden the investor base. Furthermore, Malaysia has implemented a tax-neutral framework, which treats asset-backed and Islamic securities like conventional securities for taxation purposes (bin Ibrahim and Wong, 2006).

Encouraging more investor participation, in particular from retail investors

Most countries in Emerging Asia have a relatively well-developed institutional investor base. On the other hand, some countries in the region still lack a sound and diversified base of institutional investors. In Cambodia, for instance, pension funds and insurance companies continue to keep cash in bank accounts rather than invest in the bond market. As the majority of pension and insurance premium receipts in Cambodia are denominated in United States dollars, the development of a local-currency bond market is more challenging in this country (Kosintr, Shu and Benita, 2022).

Broadening the investor base to include more retail investors could further diversify and deepen the demand for bonds. For retail investors, holding bonds facilitates both a diversified investment strategy and an optimisation of a portfolio's risk-return profile. One option for improving retail participation is to make available the kinds of financial instruments that provide this class of investors with easy access. For example, regulated bond funds could be a simple and cost-effective way for retail investors to gain exposure to a diversified portfolio of bonds.

Additionally, FinTech solutions such as blockchain-based and digital crowdfunding platforms may have a useful role to play when it comes to mobilising domestic savings for investment in the bond market. For instance, FinTech solutions could allow small-scale retail investors to purchase bonds using their mobile phones, thus providing investment opportunities to people who would typically have neither the means nor the expertise to invest in bonds (ADB, 2021).

Interestingly, even large globally established firms have started to capitalise on these emerging technologies. For example, the European Investment Bank issued its first digital bond using blockchain technology in April 2021, raising 100 million euros (EUR) on the Ethereum platform (Knight, 2021).

Improving market infrastructure and the post-trading environment

Robust market infrastructure is crucial for the efficient functioning of capital markets. In order for bond markets to function properly, reliable and efficient financial sub-structures, including clearing and settlement systems, need to be developed and supported by a sound legal and regulatory system. A real-time and high-value gross settlement system is a vital building block, particularly for bond markets, in which transactions typically have very large sizes. In addition, an internationally compatible clearing and settlement system is needed in order to facilitate cross-border transactions of bonds among Emerging Asian countries (Park and Rhee, 2006).

This is particularly important in the countries in Emerging Asia whose bond markets are still nascent. For instance, no real-time gross settlement system exists in Cambodia as of 2018, and payments are typically made via cheque (ADB, 2018a). In Lao PDR, a gross settlement system was launched in 2011, but it only became real-time in 2019. However, more progress needs to be achieved with respect to the clearing of cheques. This operation is currently manual in Lao PDR, with clearing meetings being held at provincial levels, which render the clearing of an interbank and interprovincial cheque a rather complicated process (UNESCAP, 2021).

On the other hand, countries such as Malaysia, the Philippines and Thailand established sound market infrastructures as far back as in the late 1990s and early 2000s (Box 4.2). Under the auspices of the Cross-Border Settlement Infrastructure Forum, the ASEAN+3 economies have also been working on a regional cross-border settlement infrastructure, in order "to ensure the safety of settlement-connecting financial market infrastructures" (ADB, 2020).

Box 4.2. **Initiatives to develop market infrastructure in Malaysia, the Philippines and Thailand**

In order to enhance cost-effectiveness and efficiency, Malaysia's central bank, Bank Negara Malaysia, set up a number of computerised processes, making them available online. This included the launch, in September 1996, of the Fully Automated System for Tendering, in order to expedite securities tendering and deliver a real-time gross settlement system. In 1999, it also launched the Real-Time Electronic Transfer for Funds and Securities System in a bid to reduce settlement risk. Another important milestone was the introduction, in October 1997, of the Bond Information and Dissemination System to facilitate efficient trading and promote transparency of information with regard to domestic debt securities. For the Islamic sukuk market, meanwhile, an Internet-based platform – the Islamic Interbank Money Market – was set up in September 2004, in order to enhance transparency on Islamic financial products.

For its part, the central bank of the Philippines (Bangko Sentral ng Pilipinas) has provided strong support for the efforts of the Banking Association of the Philippines and other industry associations to establish the country's Fixed Income Exchange (FIE). The FIE commenced operations as an inter-dealer platform in March 2005, and it has three main objectives. The first of these is to ensure that securities are properly delivered to the purchaser, or to the designated third-party custodian. The second goal is to institutionalise this system of third-party custodians, which dates from 2004, and which protects investors by separating the functions of dealing and custodianship of securities. Third, the FIE aims to facilitate the migration from over-the-counter trading to a formal trading arrangement that enhances transparency and price discovery.

Working together with various government agencies such as the Securities and Exchange Commission and finance ministry, the Bank of Thailand implemented several measures to establish sound market infrastructures in the country. One such initiative was to develop an efficient clearing and settlement system to support the execution of trades at front offices. The Bank of Thailand is responsible for the settlement of public debt securities, acting as both depository and registrar. The majority of government bonds are issued in bearer form, and are settled by physical delivery at the central bank. Meanwhile, corporate bonds are cleared and settled at the Thailand Securities Depository, and are transferred on a book entry basis. The Bank of Thailand has also developed a delivery-versus-payment system, with the aim of reducing settlement risk. Known as BAHTNET II, this system commenced operations at the end of 2001.

Source: Authors' elaboration based on World Bank (2020), Espenilla (2006) and Chabchitrchaidol and Permpoon (2002).

Regional initiatives to develop bond markets in Emerging Asia

In order to enhance the development of local financial markets across the region, a number of multilateral initiatives were established in the aftermath of the Asian financial crisis of 1997-98 (Table 4.2). As early as September 2001, ASEAN+3 policy makers worked together with domestic credit rating agencies within the region to form the Association of Credit Rating Agencies in Asia (ACRAA) in 2001. With support from ASEAN+3, ACRAA assisted its members in adopting best practices and common standards to improve members' rating quality and the comparability of ratings throughout the region. ACRAA members also met on a regular basis to exchange ideas, experiences, and information on new developments with regard to rating practices and standards (ADB, 2017b).

Table 4.2. **Key multilateral initiatives to support the development of bond markets in Emerging Asia**

Date	Description of initiative
September 2001	Establishment of the Association of Credit Rating Agencies in Asia to assist the member countries of ASEAN+3 in adopting best practices and common standards in order to improve members' rating quality, and the comparability of ratings throughout the region.
December 2002	Launch of the Asian Bond Market Initiative by ASEAN+3 countries in order to develop local-currency bond markets, to promote regional financial co-operation and integration, to strengthen financial stability, and to reduce the region's vulnerability to a sudden reversal of capital flows.
July 2003	Launch of the first Asian Bond Fund, ABF 1. This fund invested USD 1 billion in USD-denominated bonds issued by sovereign and quasi-sovereign entities in eight of the eleven EMEAP economies (excluding Australia, Japan and New Zealand).
December 2004	Launch of ABF 2, which invested USD 2 billion in local-currency denominated bonds issued by sovereign and quasi-sovereign entities in eight of the eleven EMEAP economies (excluding Australia, Japan and New Zealand).
2008	Launch of a new medium-term roadmap under the auspices of ABMI, and focusing on activities in four areas. The first of these was to promote the issuance (supply) of local-currency bonds. The second was to facilitate demand for local-currency bonds. The roadmap's third goal was strengthening the regulatory framework. The fourth was to improve bond-market infrastructure.
May 2010	Establishment of the Asian Bond Market Forum (ABMF) as a common platform to foster a standardisation of market practices, and a harmonisation of regulations relating to cross-border bond transactions in the region.
2012	Launch of a subsequent roadmap under the auspices of ABMI, taking further aim at the four main areas of focus in the 2008 roadmap.
2015	Establishment of the ASEAN+3 Multi-Currency Bond Issuance Framework (AMBIF), again under the auspices of the ABMI. Its aim was to create a nexus among domestic professional local-currency bond markets in the region, in order to help facilitate intra-regional transactions through a standardisation both of the issuance of bonds and notes, and of investment processes more generally.
May 2016	Launch of the ABMI's Medium-Term Roadmap 2016-18.
May 2019	Launch of the ABMI's Medium-Term Roadmap 2019-22.
May 2021	The 24th ASEAN+3 Finance Ministers' and Central Bank Governors' Meeting acknowledged the continuing progress of the ABMI under the ABMI Medium-Term Roadmap 2019-2022.

Note: This list is not exhaustive.

Source: Authors' elaboration based on ADB (2017b) and various national sources.

In 2003 and 2004, EMEAP[1] established the Asian Bond Funds 1 and 2, as noted above. The aim of these funds was to support the development of regional bond markets, and to retain some of the region's foreign currency reserves in local investments. A further aim of these funds was to promote the private sector's participation in local-currency bond markets by enhancing information disclosure and governance standards, with ongoing monitoring undertaken by the EMEAP's Working Group on Financial Markets. Other objectives of the initiative were to provide a low-cost product in the form of passively managed index bond

funds, to broaden investor participation, and to act as a catalyst for regulatory reforms and improvements to market infrastructure (ADB, 2017b).

In launching the Asian Bond Market Initiative at the end of 2002, the ASEAN+3 countries sought to develop local-currency bond markets, and to promote regional financial co-operation and integration. The initiative aimed, as noted above, to strengthen financial stability, and to reduce the region's vulnerability to any sudden reversal of capital flows. The scope of the ABMI's work has continued to expand since its launch, with the release of a new roadmap in May 2008, and the establishment of the Asian Bond Market Forum in 2010 to foster a standardisation of market practices, and a harmonisation of regulations relating to regional cross-border transactions. As also noted above, the 2008 roadmap focused on four areas of activity. These were to promote the issuance, and thus the supply, of local-currency bonds, to facilitate demand for local-currency bonds, to strengthen the regulatory framework, and to improve the infrastructure of the bond market (ADB, 2017b).

In 2012, a subsequent roadmap was launched under the auspices of the ABMI, targeting the same four objectives as the 2008 roadmap. With bond markets developing rapidly in some ASEAN+3 member countries, policy makers also shifted their attention to activities that produce more tangible outcomes. These included the provision of guarantee operations under the Credit Guarantee and Investment Facility, and the development of infrastructure-financing schemes. They also included an enhancement of activities under the aegis of the Asian Bond Market Forum, introducing a common programme of bond issuance to foster a harmonisation and standardisation of regulations. Other goals were to facilitate the establishment of a regional settlement intermediary to reduce the cost of cross-border bond transactions and settlement, and to strengthen the foundation for a regional credit rating system (ADB, 2017b). Subsequently, further multi-year roadmaps were launched for 2016-18 and 2019-22 (ASEAN+3, 2019).

Other initiatives include the establishment of the ASEAN+3 Multi-Currency Bond Issuance Framework, again within the context of the ABMI. The purpose of this framework was to support intra-regional transactions through standardised processes for the issuance of bonds and notes, and for investments more generally. It did this by creating common market practices, by instituting a common document for submission, and by setting out transparent issuance procedures in the implementation guidelines for each participating market (ADB, 2015a). In May 2021, the 24th ASEAN+3 Finance Ministers' and Central Bank Governors' Meeting acknowledged the continuing progress of the ABMI under the ABMI Medium-Term Roadmap 2019-22 (ASEAN+3, 2021).

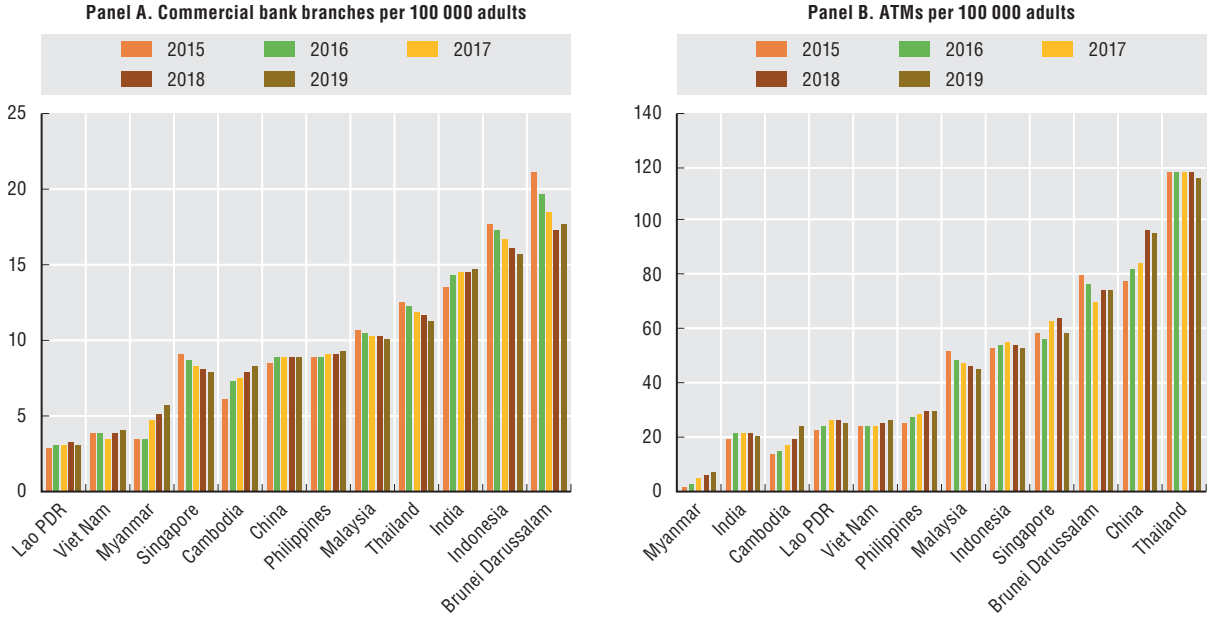
An enabling environment requires robust market infrastructure, and a financially literate potential investor base

A higher degree of participation by individual investors in Emerging Asian countries is essential for bolstering the competitiveness of bond markets, and to support financial stability more generally. Since some debt instruments are complex and difficult to grasp, especially for financially unsophisticated investors, policies that improve the overall level of financial literacy could promote more participation in the market. The majority of Emerging Asian countries currently display lower levels of financial literacy than the average for the OECD. Still, policy makers in the region are aware of the challenges at hand, and financial literacy has been pursued vigorously. The digital component has slowly been integrated into the relevant frameworks, resulting in an increasingly comprehensive strategy for achieving digital financial literacy.

Broadening access to finance requires stronger infrastructure

Broad access to financial markets and services relies on robust and widespread infrastructure. In this connection, the IMF's Financial Access Survey identifies two metrics that describe the state of financial access in a country, in a manner that is consistent with the United Nations Sustainable Development Goals. The first of these is the number of bank branches per 100 000 people, and the second is the amount of automated teller machines (ATMs) for every 100 000 people. Among Emerging Asian economies, the prevalence of bank branches is highest in Brunei Darussalam and Indonesia, while Lao PDR, Viet Nam and Myanmar form a clearly distinct bottom tier when applying this metric (Figure 4.3, Panel A). With regard to the second metric, Emerging Asia has an average of 48 ATMs per 100 000 people. Thailand is a clear outlier in its widespread access to cash machines, with nearly 120 ATMs per 100 000 adults, while China became the second country in Emerging Asia to surpass 80 ATMs per 100 000 adults in 2018. At the bottom of the table for access to cash machines lies Myanmar, where there are fewer than 10 ATMs per 100 000 adults (Figure 4.3).

Figure 4.3. **Number of commercial bank branches and number of ATMs per 100 000 adults in Emerging Asia, 2015-19**



Source: IMF (2021), *Financial Access Survey* database, https://data.imf.org/?sk=E5DCAB7E-A5CA-4892-A6EA-598B5463A34C.
StatLink https://doi.org/10.1787/888934304894

According to Fitch Ratings (2020), there are about 290 million people in Southeast Asia who do not have a bank account, which corresponds to 43% of the region's population. Since bond investing relies on people having bank accounts, regions with larger numbers of people who do not have one may find issuing domestic bonds difficult and may need to pursue offshore bond issuances instead. Yet while offshore bond issuances may provide an alternative source of funding, they do require close regional, cultural, or economic ties with the host country's capital market. An offshore bond issuance must also be limited in such a way that it does not harm the domestic bond market in the host country, by competing with it to an excessive degree. As a result of limitations such as these, it may remain difficult for countries to realise the full potential of offshore bonds.

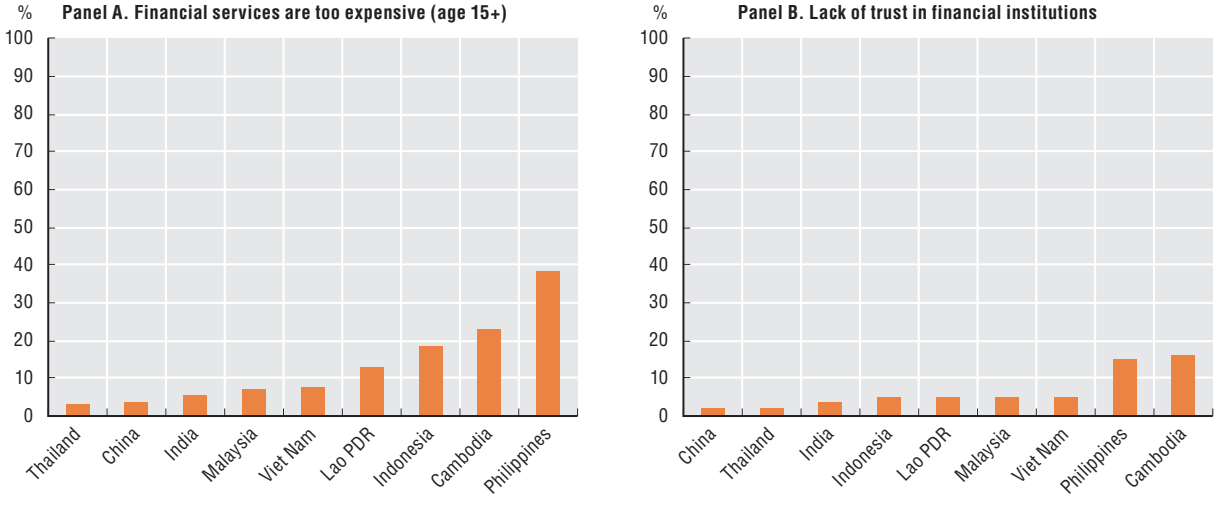
Financial services usage is a term that refers to the behavioural patterns of consumers regarding financial services. This includes the regularity and frequency of their transactions, or the length of time for which they maintain a bank account. In most Emerging Asian countries, less than 50% of the population of 15 years of age or older holds a transaction account at a financial institution. Meanwhile, access to digital financial services is becoming an increasingly important factor for increasing financial inclusion, as the Sustainable Development Goals also recognise.

Enhancing the quality of financial services will spur on their adoption, and bolster sustainable growth

The quality of financial services is a measure that refers both to their inherent design, and to the ease and effectiveness with which customers can use them. The indicators for this measure include not having an account because financial services are too expensive, and not having an account due to a lack of trust in financial institutions. They also include the ability to use financial services to get hold of emergency funds.

According to the World Bank's 2017 Findex survey, the cost of financial services has proven to be a significant barrier for consumers in Cambodia, Indonesia, Lao PDR and the Philippines (Figure 4.4, Panel A). The association between this measurement and the proportion of the adult population (age 15+) in these countries holding a financial services account is noticeable, with Cambodia, Indonesia, and the Philippines ranking well below the global median (Figures 4.4 and 4.6). Still, these countries have an opportunity to drive down the cost of financial services, and at the same time to boost financial inclusion. Areas for improvement, among others, include access cost in traditional financial institutions (e.g. account opening fees and maintenance fees), which remains prohibitive in some countries in the region, and information campaigns, which can be made more regular and systematic. It also helps that the trust in financial institutions appears strong in Emerging Asia, with only Cambodia (16%) and the Philippines (15%) reporting that more than 5% of the adult population lacks trust in financial institutions (Figure 4.4, Panel B).

Figure 4.4. **Respondents' main reasons for not having a financial account, from the World Bank's 2017 Findex survey**



Source: World Bank (2017), *The Global Findex Database 2017*, https://globalfindex.worldbank.org/.

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Financial literacy supports economic development

Broadening the investor base in capital markets requires a thorough information campaign to raise financial literacy. In general terms, financial literacy refers to individuals' awareness of the financial products that are available, and the corresponding risks that these products may involve. Enabling informed participation in financial market activities by boosting financial literacy can play a critical role in facilitating financial inclusion, promoting consumer protection, and enhancing the management of macro- and microprudential risks.

On the other hand, a number of empirical studies have shown financial illiteracy to be costly to consumers, not just due to the indirect cost of missed opportunity, but also due to the direct cost of the financial blunders that people can make as a result of their insufficient knowledge. For example, Lusardi and Tufano (2015) find that consumers who do not understand compound interest spend more money on transaction fees, carry larger debt burdens, and incur higher interest rates on loans. Furthermore, Stango and Zinman (2009) find that such people tend to borrow more, save less, and are less likely to diversify risk.

Using survey data from Viet Nam, Nguyen and Nguyen (2020) find that having a basic level of financial literacy reduces the likelihood of a person participating in financial markets, and that he or she is more likely to do so as his or her level of financial literacy progresses. The study also observes a peer effect that correlates positively with participation in financial markets, suggesting that respondents discuss financial matters with their peers, and take account of their opinions. Moreover, Yeh (2020) finds that financial literacy has a positive and significant effect on a person's awareness of his or her post-retirement financial needs, enabling him or her to compare alternatives when purchasing financial products, as well as reducing his or her tendency to experience present-time bias, and boosting the likelihood of planning for his or her retirement in a well-informed manner. The results of the latter study are relevant not only in terms of expanding the base of the capital market, but also in the context of managing the region's ageing demographics.

One obstacle in assessing financial literacy in Emerging Asia is the lack of up-to-date and comparable data across countries over time. The OECD's International Network on Financial Education survey is one of the few undertakings that attempt to provide a picture of financial literacy in Asia that allows for such comparisons. The results of the 2016 study (OECD, 2016), augmented by the work of Morgan and Trinh (2019), reveal that Emerging Asian economies for which data are available fall mostly below the average score for the OECD. Only China exceeded the OECD average score of 13.7, whereas Cambodia, India, Indonesia, Lao PDR, Malaysia, Thailand, and Viet Nam scored below the OECD average (Figure 4.5).[2]

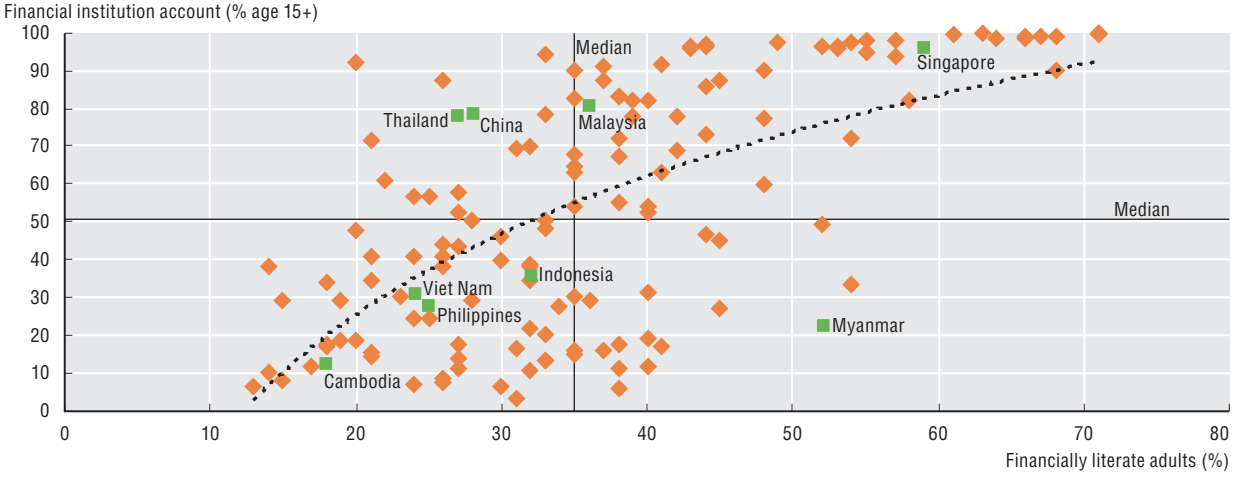
Another useful dataset, albeit an older one, is the Standard & Poor's Ratings Services Global Financial Literacy Survey in 2014, which drew on interviews with more than 150 000 adults in over 140 countries (Klapper, Lusardi and Oudheusden, 2015). The message that emerges from this data is, by and large, the same conclusion that other studies have shown. As Figure 4.5 illustrates, financial literacy in many Emerging Asian economies lags behind the global median. The figure also shows that, in general, financial literacy correlates positively with people's likelihood of holding accounts with financial institutions. In Emerging Asia, the exceptions to this trend are China and Thailand, where the rates of participation in financial markets are above the median level despite a relatively low overall rate of financial literacy (Figure 4.6).

Figure 4.5. **Total scores for financial literacy in selected economies, 2016**

Sources: Morgan and Trinh (2019) and OECD (2016).

StatLink https://doi.org/10.1787/888934304932

Figure 4.6. **Adult financial literacy and ownership of accounts with financial institutions in selected economies, 2014**



Note: The total number of countries is 141. The trend line is logarithmic.

Sources: Authors' elaboration based on Klapper, Lusardi and Oudheusden (2015) and World Bank (2021), *World Bank Global Financial Development Database*, November 2021, https://www.worldbank.org/en/publication/gfdr/data/global-financial-development-database.

StatLink https://doi.org/10.1787/888934304951

Examining changes in literacy rates in individual economies over time is also difficult because, even at the national level, data that are comparable over time are sparse. However, for countries where data are available for multiple periods, the trends are somewhat encouraging. For instance, basing their conclusions on data from Indonesia's Financial Services Authority, Hidayatinnisa et al. (2021) note that Indonesia's level of financial literacy rose to 38.03% in 2019, up from just 21.84% in 2013, and 29.66% in 2016. Similarly, recent data from the Chinese central bank show that the overall index of financial literacy for Chinese consumers increased by 2.04 points between 2019 and 2021, to reach a score of 66.81 (People's Bank of China, 2021).

A further challenge lies in understanding the links between individuals' more general cognitive abilities, and their participation in financial markets. For instance, people with lower cognitive ability may also be likely to display lower financial literacy (Box 4.3). As a result, policies that aim to improve financial literacy may not yield the results that policy makers intended when it comes to individuals with lower cognitive abilities. One option for assisting individuals with lower cognitive abilities and increasing their rate of participation in financial markets is to render financial advice more accessible and trustworthy.

Box 4.3. **Links between cognitive ability and level of participation in financial markets**

At first glance, the links between financial literacy and cognitive ability may not appear to be very straightforward. However, empirical literature on this subject has provided compelling evidence pointing to interlinkages between the two concepts, in the sense that individuals with lower cognitive capacity are also likely to display lower levels of financial literacy. For example, Andersen and Meisner Nielsen (2011), conclude that participation in the stock market by individual investors in Denmark seems to be influenced by factors like cognitive abilities and behavioural biases, in addition to the costs of financial participation. This accords with other studies that observe that individuals with lower financial knowledge and lower cognitive abilities are especially less likely to participate in financial markets (Wang, Su and Duxbury, 2021; Vaarmets, Liivamagi and Talpsepp, 2019; Grinblatt, Keloharju and Linnainmaa, 2011; Guiso and Jappelli, 2005). This tends to be the case both for direct participation in finance, and also for indirect participation through mutual funds, retirement accounts and other collective investment schemes (Christelis, Jappelli and Padula, 2010).

In particular, Grinblatt, Keloharju and Linnainmaa (2011) provide evidence that, even among the most affluent individuals, a higher intelligence quotient (IQ) increases the likelihood that a person will participate in financial markets. The authors put these findings down to the fact that individuals with high financial literacy, and high cognitive abilities, face lower costs in acquiring information, and thus encounter lower costs to financial participation than individuals with little knowledge about financial markets, and with lower cognitive abilities. Furthermore, McArdle, Smith and Willis (2009) propose several alternative mechanisms through which cognitive abilities and financial literacy could relate to participation in financial markets. For example, people's preferences with regard to spending money immediately after earning it, or at a later point in time, influence both their levels of investment in education and their saving behaviour. In addition, there is evidence that so-called self-efficacy – which has to do with people's perceptions of their ability to accomplish tasks – is a secondary source of cognitive influence on individuals' participation in financial markets. As shown by Tang (2021) in a recent study focusing on older adults in the United States, lower cognitive abilities decrease individuals' sense of self-efficacy. In turn, this considerably decreases their efficiency when it comes to financial management.

These findings have important implications for policy. Specifically, they demonstrate the need for greater effort in assisting individuals with lower cognitive abilities. The default option in these cases would be for individuals to rely on specialised entities to provide them with financial advice. The trustworthiness of financial advice is crucial: in order to invest in financial instruments, retail investors must trust their financial advisors. Policy makers in Emerging Asia need to ensure, therefore, that financial advisors act in

Box 4.3. **Links between cognitive ability and level of participation in financial markets** *(cont.)*

accordance with investors' best interests, and that they adhere to the highest standards of integrity. Using a large sample of households in the Netherlands, Lourenco, Dellaert and Donkers (2020) find that consumers' perception of trust, and of the expertise of the firm providing the financial advice, are important drivers of their accepting this advice. Other findings from this study that could have important policy implications are that people tend to trust not-for-profit firms more than for-profit ones, while computer-based advice (or "robo advice") also tends to enjoy higher levels of trust compared to person-to-person interactions.

Digital and financial literacy is an increasingly relevant policy area at the national and regional levels

In recent years, given the rapid digitalisation of financial services, financial literacy is becoming increasingly intertwined with digital literacy. Labelled as digital financial literacy, it is arguably now a critical ingredient for maximising opportunities to scale up traditional and alternative financing platforms. This is notably the case considering the need to balance key objectives such as the overall development of financial markets, the need for a greater degree of financial inclusion, and the mitigation of risk when it comes to digital finance.

While technology can certainly broaden the reach of financial services, it also tends to increase the scale of the risk that users need to understand. Although there is evidence that financial literacy does reinforce an individual's awareness and use of FinTech products (Morgan and Trinh, 2020), illicit activities involving financial technology, plus the sheer extent of cyber and financial risks, remain a considerable concern in many countries. In the absence of regulations and oversight mechanisms capable of providing reassurance, these risks can potentially erode trust in the digital infrastructure of capital markets.

As with other forms of literacy, there are notable "divides" in this aspect, such as between men and women, urban and rural residents, and small and large firms (Morgan, Trinh and Huang, 2020). This is largely due to disparities in access to digital tools, and in the abilities of people to use these tools. As Quimba, Rosellon and Calizo (2020) have noted, it is possible to look at the digital divide in terms of three key categories: motivational aspects, material considerations, and skills. The authors provide a detailed scoping of these categories based on available data in the context of Asia.

National authorities in Emerging Asia are aware of the challenges at hand, and improvement of financial literacy has been pursued vigorously in the region, with authorities gradually integrating the digital component into their frameworks.[3] Indonesia, Malaysia, and Singapore are already implementing strategies for financial education, all of which are stand-alone projects (OECD, 2019). In Malaysia and Singapore, the base frameworks for this work have been in place since the early 2000s. The OECD (2019) also indicated that, as of 2019, China, the Philippines, and Thailand have been in the process of designing their own strategies, and Brunei Darussalam is planning one too.

The strategies to enhance digital financial literacy in Emerging Asia are generally multi-pronged, and they tend to take effect through various media platforms (Box 4.4). Deducing from the accounts of Yoshino, Morgan, and Wignaraja (2015), specific interventions in countries such as China, India, Indonesia, the Philippines, and Thailand have involved multiple public institutions, as well as private and civic-society groups.

Box 4.4. **Closing gaps in financial education**

Proper financial literacy training must go beyond the basic concepts of opening and using a bank account, budgeting, saving (i.e. compound interest) and credit. Existing financial literacy training initiatives may mention investing, but some must be further enhanced to include clear explanations of how financial instruments such as stocks or bonds work and practical instruction on how to access them. How to open an investment account and make financial transactions with it are examples of these practical skills. Basic information on handling taxes on investments and finding a tax preparer is important so investors can reduce their tax burden and avoid costly penalties arising from tax mistakes. Furthermore, the transition to digital financial services adds yet another layer of complexity as a set of unrelated entry-level digital skills such as how to type, use the basic functions of a computer, or access the Internet is also required. As of 2019, every Emerging Asian country in APEC had or was planning a national financial education strategy including lessons during compulsory education with the exception of Viet Nam (OECD, 2019). However, programmes to reach adults who have left or graduated from the compulsory education system are generally lacking in part because finding the appropriate setting to deliver these programmes may be difficult.

India has released two editions of its *National Strategy for Financial Education* (NSFE) (RBI, 2012 and RBI, 2021). The first NSFE covers the period 2013-2018 and primarily deals with financial concepts including how to establish and operate a bank account, responsible spending, saving, credit, investment, financial instruments and markets, risk and fraud. The first NSFE also acknowledges the need to reach adults, and the need to adapt financial education curriculum for those who are illiterate. The second NSFE (2020-2025) builds on the first, and identifies "process education", such as how to use a debit card, or conduct transactions in securities markets, as a separate learning focus from the related theoretical concepts. The second NSFE also acknowledges the need to regulate financial advisers somewhat, in order to provide a minimum quality to advice given.

India also launched the *Financial Education Programme for Adults* (FEPA) in 2019. The programme covers much of the same material as the school curriculum and is available free of charge and resources are available in a variety of languages spoken in the country. Instruction takes place in a variety of contexts, for instance at the community level or within other adult education programmes or workplaces (National Centre for Financial Education, n.d.). The second NSFE also mentions the value of having financial education messages shown in high traffic areas such as on electronic billboards in transit stations.

Financial services institutions are also becoming involved in financial literacy efforts. Prudential Life Assurance Lao Company Limited ("Prudential Laos") donated ten televisions to schools in **Lao PDR** so students can view the *Cha Ching Programme*, age-appropriate animated videos on basic financial concepts. The programme was originally produced in English, but voice-overs are available for Lao and nine other languages from the Emerging Asia region (Prudential Laos, 2021 and Prudential Corporation Asia, n.d.). However, with the target audience being relatively young children, the idea of investment is not discussed. Visa and the National Bank of **Cambodia** partnered from 2017 to 2020 to provide robust financial literacy training on par with India's programmes in terms of topical breadth and depth, and in line with the NBC's goal of "building [a] sustainable banking system" (Visa, 2017).

Programmes tailored to specific needs may help people who are less likely to be financially literate access training. Commonwealth Bank in **Indonesia** provides WISE (Womenpreneur Indonesia for Sustainability & Empowerment) targeting female entrepreneurs of MSMEs. The WISE programme is conducted through a blend of face-to-face and digital sessions; it is unclear if there is overlap between the face-to-face and digital sessions, but this is something that should be considered for any of these initiatives targeting adults, so they are accessible to as many people as possible. The FEPA in India also has a variety of adapted training courses and materials for many types of special needs.

Looking ahead, and considering the complexity of the issues and the interlinkages between them, integrating the pursuit of digital financial literacy into existing frameworks brings with it some upsides. According to joint analysis from the Alliance for Financial Inclusion and ASEAN, including digital financial literacy in the countries' national strategies for financial inclusion and education can help in a number of ways (AFI and ASEAN WC-FINC, 2021). Firstly, they argue, such an approach can "guide the systematic and harmonised implementation of digital financial literacy with centralised oversight of implementation, stakeholder collaboration and resource allocation", in countries with existing national strategies for financial inclusion and education. Secondly, it can "guarantee the participation of relevant stakeholders at the pre-formulation and formulation phases", in countries that are still developing such strategies. In the case of the latter, they underline the importance of developing national platforms on digital financial literacy to ensure effective collaboration, and to allow individual stakeholders to participate in nationwide interventions. Table 4.3 shows AFI's proposed compartmentalisation of actions, in line with the aforementioned objectives in the context of ASEAN economies.

Table 4.3. **Recommendations for integrating digital financial literacy into national strategies for financial literacy and education**

Phase 1: Pre-formulation	Phase 2: Formulation	Phase 3: Implementation
1. Conduct diagnostics and collect relevant data to inform the development of DFL strategies and/or programmes	1. Engage with relevant stakeholders and design strategic partnerships	1. Co-ordinate the stakeholders and secure regular feedback within the governance/ oversight structure
2. Undertake a review of existing national strategies and relevant policy instruments, and conduct mapping exercises	2. Establish DFL within governance structures	2. Design relevant and well-defined interventions/programmes
3. Identify DFL objectives and competencies to be addressed	3. Integrate DFL objectives into the national strategy	3. Use appropriate, innovative, and effective delivery channels for DFL outreach
	4. Determine target groups and their needs	4. Conduct monitoring and evaluation
	5. Resource planning and budget	
	6. Establish monitoring and evaluation mechanisms	
MONITORING and EVALUATION		

Note: DFL means digital financial literacy.
Source: Adapted from AFI and ASEAN WC-FINC (2021).

In order to make policy interventions more inclusive, it is crucial for national authorities to identify gaps in them by systematically collecting data, and by incorporating this information into the design and execution of their programmes. Furthermore, as Morgan, Trinh and Huang (2020) have suggested, citing OECD (2019), a national co-ordinating council can have a range of substantial merits, beyond simply involving a wide range of stakeholders. These include establishing a roadmap to support the achievement of specific and pre-determined objectives, providing guidance on the implementation of individual programmes under the national strategy, and incorporating monitoring and evaluation processes for progress assessment.

At the regional level, recent co-operation efforts have also put more of a premium on financial literacy. As noted by the UNICEF East Asia and Pacific Regional Office (2021), ASEAN education ministers recently agreed in principle to pursue a stronger development of digital literacy skills for young people, and there is also plan to integrate digital literacy into ASEAN's education work plan for 2021-25. In August 2021, meanwhile, ASEAN's Business Advisory Council hosted a round table event on FinTech and financial literacy, a further sign of the increasing emphasis that the region is placing on financial literacy (ASEAN-BAC Secretariat, 2021).

Effective macroprudential policy stabilises financial markets

The stability of financial markets is critical for the sustainable development of capital markets and the use of market-based instruments. Indeed, the global financial crisis of 2007-08 and its aftermath led to a new emphasis on macroprudential policy as a means of addressing systemic risk. Indeed, it became clear after that crisis that microprudential policy alone could not cope with system-wide financial distress. In light of adverse developments in the build-up to both the Asian and the global financial crises, authorities in Emerging Asia enacted a range of macroprudential measures to ensure the stability of the financial system as a whole, to increase banks' resilience to shocks, and to reduce the accumulation of systemic risk.

Table 4.4. **Overview of current macroprudential measures in selected economies in Emerging Asia**

	Brunei Darussalam	Cambodia	China	India	Indonesia	Lao PDR	Malaysia	Philippines	Singapore	Thailand	Viet Nam
Capital buffers and other capital requirements											
Basel III counter-cyclical capital buffer			●	●	●		●	●	●	●	
Basel III capital conservation buffer			●	●	●		●		●	●	
Other capital requirements[1]			●	●			●	●		●	
Measures targeting the leverage of banks											
Basel III leverage ratio			●	●	●		●	●	●		
Requirements on loan-loss provisioning											
Dynamic provisioning			●	●				●			
Measures targeting liquidity, foreign exchange exposures, and currency mismatches											
Liquidity ratios[2]		●	●	●	●		●	●	●		
Limits to the loan-to-deposit ratio					●						
Limits on foreign exchange positions[3]		●		●	●	●					
Limits on credit growth and volume, and other restrictions on loan characteristics											
Limits on the growth and volume of credit[4]	●		●	●							●
Other restrictions on loan characteristics[5]	●	●	●		●		●	●	●		
Borrower-based measures											
Limits to loan-to-value ratios[6]	●		●	●	●		●	●	●	●	
Limits to debt-service-to-income ratio or loan-to-income ratio[7]	●		●	●			●		●	●	
Other measures with a macroprudential character											
Taxes applied to transactions, assets or liabilities			●				●		●		
Reserve requirements for macroprudential purposes	●	●	●	●	●		●	●			
Other measures[8]	●								●		

Notes: Data are as of 14 October 2021. Data for Myanmar are not available.

1. Including risk weights, systemic risk buffers and minimum capital requirements.
2. Including liquidity coverage ratios, liquid assets ratios, net stable funding ratios, core funding ratios and external debt ratios that do not distinguish between currencies.
3. Including limits on net or gross open foreign exchange positions, limits on foreign exchange exposures and foreign exchange funding, and restrictions on currency mismatches.
4. Including limits on the growth and volume of aggregate credit, credit to the household sector, credit to the corporate sector, and penalties for high credit growth.
5. Including limits on loan maturity, size and type of interest rate, or restrictions depending on bank characteristics (e.g. mortgage banks).
6. Including loan-to-value ratios targeted at housing loans, consumer loans, and commercial real estate loans.
7. Including debt service-to-income and loan-to-income limits targeted at housing loans, consumer loans, and commercial real estate loans.
8. Including limits on single-client exposures, or other restrictions on housing loans.

Source: OECD (2021b).

Several macroprudential policy instruments are currently embedded in various pieces of national legislation across the region, transposing the Basel III reform package. Several changes in macroprudential regulation have occurred, in particular in the aftermath of the global financial crisis. As part of this global trend, policy makers in Asian countries have come under considerable pressure to raise prudential standards, and a wide range of macroprudential measures is now in place in Emerging Asian countries (Table 4.4).

The macroprudential policy toolkit is comprised of a wide variety of instruments, most notably in China, India, Malaysia, the Philippines and Singapore. By contrast, policy makers in Lao PDR have focused mostly on tackling risks that stem from foreign-exchange exposures, while in Viet Nam they have focused mostly on credit growth. On an aggregate level, the macroprudential stance in Emerging Asia has, for the most part, undergone a tightening in recent years (OECD, 2021b).

Several challenges to the effective conduct of macroprudential policy continue to confront Emerging Asian countries, and these have received a more detailed treatment in OECD (2021b). The conduct of macroprudential policy, and the extent to which these challenges are more significant in one country than in another, is likely to be influenced by the structure of each country's financial system, and by the institutional set-up as regards macroprudential policy. First, there are very significant differences among Emerging Asian countries in terms of the size and structure of the financial sector. In 2016, the size of the overall financial sector, which is defined in this case as the ratio of total financial assets to gross domestic product (GDP), stood at almost 900% of GDP in Singapore. Other countries with a financial sector greater than domestic GDP are Malaysia (2.4 times) and Thailand (2.6 times). At the other end of the spectrum, the size of the financial sector in Indonesia stood at 51% at the end of 2016 (OECD, 2021b). Second, the institutional setup also differs among countries in Emerging Asia. The dominant kind of macroprudential institutional setup in the region is the central bank-based model. However, in Indonesia, the Philippines and Thailand, the responsibility for conducting macroprudential policy is shared between the central bank and other designated authorities (OECD, 2021b).

A first and major challenge pertains to measuring the macroprudential stance and calls for the development of a well-defined and stable framework. Second, macroprudential and monetary policy are inter-related, which renders complex any assessment of the effectiveness of the former. Third, macroprudential policy frameworks require further strengthening in order to account better for increased inter connections between bank and non-bank intermediaries. Fourth, macroprudential policy makers must give due consideration to the cross-border effects of domestic macroprudential policy, and should envisage greater co-operation in order to limit these spillovers. Fifth, macroprudential policy must be optimally targeted to avoid an issue of moral hazard. Finally, the conduct of macroprudential policy must give due consideration to the legacy of the COVID-19 crisis.

Capital requirements are typically considered an effective regulatory option to address some of these challenges, by increasing banks' capacity to absorb losses during an economic downturn and maintaining the financial system's resilience. It is also commonly agreed that improving supervisory regimes is paramount for reducing the probability of default for banks overall and systemically important institutions in particular. Emerging Asian countries are, however, noticeably absent from the Basel Committee, which could lead to

lax and unenforceable bank regulation for underdeveloped banking systems. In addition, stress tests could provide key insights for the implementation of ex ante measures, aimed at reducing the probability and impact of a default.

Macroprudential policy has improved financial stability in Emerging Asia, and must preserve it in the wake of the COVID-19 crisis

The over-arching goal of macroprudential policy is to contain the build-up of vulnerabilities in the financial sector that could generate crises, or that could exacerbate the impact of an initial shock and then lead to more widespread financial stress. Prior to implementing new macroprudential measures or amending existing ones, it is always crucial for policy makers to conduct a thorough impact assessment. The academic literature has devoted ample attention to the effects of macroprudential policies on financial stability. There is consensus in both the theoretical and empirical literature that macroprudential policy improves financial stability. Table 4.5 provides examples of empirical evidence on the effectiveness of macroprudential policies in Emerging Asia. A more detailed discussion is provided in the following paragraphs and in OECD (2021b).

Some studies have tried to answer the question of whether capital requirements affect credit supply and risk-taking behaviour at banks in Emerging Asia. With respect to the impact on credit growth, Lee, Asuncion and Kim (2015) provide compelling empirical evidence to support the view that capital-related policies targeting credit expansion in India had the desired effect of moderating a credit boom there. In a study of Viet Nam's experience with the Basel II capital requirements, meanwhile, Phi et al. (2019) find that, at the bank level, a tightening of regulatory capital requirements does not induce a higher lending rate in the long term. This notwithstanding, Kim, Kim, and Mehrotra (2019) show in a cross-country study of 11 Asian economies over the period 2000-14 that contractionary macroprudential policy shocks have negative effects on credit.

As regards risk-taking behaviour by Asian banks, Chalermchatvichien, Jumreornvong, and Jiraporn (2014) studied the association between the Basel III capital standards and risk-taking, drawing on a sample of East Asian banks for 2005-09. The results show that an improvement in capital stability by one standard deviation diminishes the extent of banks' risk-taking by 5.37%. Elsewhere in the literature, Lee and Hsieh (2013) apply the Generalised Method of Moments technique for dynamic panels, using bank-level data for 42 Asian countries over the period 1994-2008, in order to assess the impact of bank capital requirements on profitability and risk. In so doing, they find that the impacts on profitability and risk are heterogeneous among different types of banks. Investment banks display the lowest and most positive capital effect on profitability, while commercial banks reveal the largest reverse capital effect on risk. Furthermore, the distinction between banks in low-income countries and those in lower-middle income countries shows that the former show a higher capital effect on profitability, while the latter exhibit the highest reverse capital effect on risk.

Although they are less numerous, some studies have focused in particular on exploring the impact of macroprudential tools other than capital requirements on the behaviour of Emerging Asian banks. For example, Zhang and Zoli (2016) compiled various macroprudential policy indices for 13 Asian economies (including China, India, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam), plus 33 economies in other regions, over

the period of 2000-13. They evaluated the effects of macroprudential policy through several methods, namely an event study, cross-country macro- panel regressions, and bank-level micro panel regressions. The results indicate that housing-related macroprudential measures, and in particular loan-to-value caps and housing-tax measures, have helped to curb housing price growth, credit growth, and bank leverage in Asia (Zhang and Zoli, 2016). Similar results emerged as regards the effectiveness of loan-to-value and debt-to-income caps in Korea (Jung, Kim and Yang, 2017; Igan and Kang, 2011).

Table 4.5. **Selected empirical evidence on the impact of macroprudential policies on financial stability in Emerging Asia**

Study title	Sample economies	Types of macroprudential tools considered	Main conclusion(s)
Igan and Kang (2011)	Korea.	Loan-to-value (LTV) caps; debt-to-income DTI caps.	LTV and DTI caps are associated with a decline in house price growth; LTV and DTI caps alter expectations, which play a key role in bubble dynamics.
Lee and Hsieh (2013)	42 Asian economies, including Cambodia, China, India, Indonesia, Lao PDR, Malaysia, the Philippines, Singapore, Thailand and Viet Nam.	Capital requirements.	The impacts of capital requirements are heterogeneous among different types of banks. Investment banks display the lowest and most positive capital effect on profitability, while commercial banks reveal the largest reverse capital effect on risk.
Chalermchatvichien, Jumreornvong and Jiraporn (2014)	China, Hong Kong, China, Japan, Korea, India, Indonesia, Malaysia, the Philippines, Singapore, Sri Lanka, and Thailand.	Capital requirements.	An improvement in capital stability diminishes the extent of banks' risk-taking behaviour.
Lee, Asuncion and Kim (2015)	India.	Capital requirements.	Capital-related policies targeting bank credit expansion have achieved the desired effect of moderating a credit boom.
Zhang and Zoli (2016)	46 Asian and non-Asian economies, including China, India, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam.	Various housing-related and non-housing-related macroprudential tools.	Housing-related macroprudential policies – in particular LTV caps and housing tax measures – have helped to curb housing-price growth, credit growth and leverage in Asia.
Jung, Kim and Yang (2017)	Korea.	LTV caps; DTI caps.	LTV and DTI caps have a significant and persistent effect on real household credit and real house prices.
Cantu, Gambacorta and Shim (2019)	Five Asia-Pacific economies, including Indonesia, the Philippines and Thailand.	Various housing-related and non-housing-related macroprudential tools.	Macroprudential policies are effective in reducing excessive household credit growth. Moreover, macroprudential policy tightening has a stronger effect than an easing. In addition, banks' size and liquidity influence the effect of macroprudential policy on credit growth. Finally, macroprudential policy is effective in reducing bank risk, as proxied by the non-performing loan ratio.
Kim, Kim and Mehrotra (2019)	China, India, Indonesia, Hong Kong, China, Japan, Korea, Malaysia, the Philippines, Singapore, Chinese Taipei, and Thailand.	Various housing-related and non-housing-related macroprudential tools.	Macroprudential tightening shocks have a significant negative effect on credit growth and output.
Phi et al. (2019)	Viet Nam.	Capital requirements.	A tightening of capital requirements does not lead to higher lending rates in the long-run.

Source: Authors' elaboration based on OECD (2021b) and the papers cited above.

Rather than focusing on individual macroprudential policy tools, meanwhile, Cantu, Gambacorta and Shim (2019) used quarterly bank-level data combined with a macroprudential policy index to assess the effectiveness of various macroprudential policies in five countries in the Asia-Pacific region (Australia, Indonesia, New Zealand, the Philippines and Thailand). They distinguished between tightening and loosening policies, differentiating between macroprudential measures depending on whether they were implemented to respond to cyclical conditions, or to enhance resilience. Several important results emerge from the study. First, macroprudential policies are shown to be effective in reducing the growth of household credit. Second, the study demonstrates that bank characteristics play an important role in the transmission of macroprudential policies, with larger banks and those with higher liquidity buffers less sensitive to a policy change. Third, the authors report asymmetric effects in the implementation of macroprudential policies, in the sense that a tightening action has a stronger effect on credit growth than a loosening one. Another important result is that macroprudential policies are effective in reducing bank risk, for which the share that non-performing loans represent of total loans is the proxy (Cantu, Gambacorta and Shim, 2019).

The COVID-19 crisis has important implications for the conduct of macroprudential policy

As Bergant and Forbes (2021) have argued in a recent study, the COVID-19 outbreak has been the first test for many countries of how changes in their macroprudential framework would perform during a severe, negative shock. Elsewhere in the recent literature, Le Quang and Scialom (2021) have argued that current macroprudential regulation is not adequate to deal with risks whose origin lies outside financial markets, such as pandemic risk. Macroprudential authorities in Emerging Asia responded differently during the COVID-19 shock compared to two other recent shocks, namely the taper tantrum and the commodity price shock (Table 4.6). During the first half of 2020, which corresponded to the height of the COVID-19 shock, a number of Emerging Asian countries temporarily eased some macroprudential constraints that could have impeded the provision of credit to the economy. For instance, Malaysia and India temporarily relaxed liquidity requirements, while Indonesia, Malaysia, the Philippines, Singapore and Thailand loosened other types of measures that have a macroprudential character (OECD, 2021b). At the same time, macroprudential authorities maintained capital buffer requirements unchanged during the COVID-19 shock, in an effort to preserve the strength of the banking sector (Table 4.6).

Notwithstanding its potential benefits, an easing of macroprudential policy during periods of stress does involve trade-offs. In the context of the COVID-19 crisis, it is mostly uncertainty surrounding the outlook, in particular with regard to measures to curb the spread of the disease, but also with regard to policy support measures, that has shaped these trade-offs. Yet despite trade-offs and uncertainties, swift and decisive action in the form of relaxing certain macroprudential requirements is seen as more appropriate than a wait-and-see strategy when the provision of credit to the real economy begins to falter (Nier and Olafsson, 2020). However, under certain circumstances, early macroprudential policy easing may yield lesser benefits. This is the case, for example, when the persistence of public health measures, or of other, exogenous, factors that have a negative impact on demand, offset the full impact on the real economy from additional credit. Under such a scenario, a later policy easing may help to forestall a more costly cutback in credit (Nier and Olafsson, 2020).

Table 4.6. **Macroprudential policy loosening in Emerging Asia during the economic shocks of the taper tantrum, commodity prices, and COVID-19**

Country	Taper tantrum shock		Commodity price shock		COVID-19 shock	
	Capital buffers	Other types of tools	Capital buffers	Other types of tools	Capital buffers	Other types of tools
Brunei Darussalam						
Cambodia						
Indonesia				Loosening		Loosening
Lao PDR						
Malaysia						
Philippines						Loosening
Singapore						Loosening
Thailand						Loosening
Viet Nam						
China				Loosening		Loosening
India		Loosening		Loosening		Loosening

Note: Data are as of 1 March 2022. Data for Myanmar are not available. The taper tantrum shock is defined as the period comprised between Q2 2013 and Q4 2013, during which the yield on 10-year US Treasuries rose from around 2% to around 3%. The commodity price shock is defined as the period between Q2 2014 and Q1 2015, when oil prices nearly halved. The COVID-19 shock is defined as the first six months of 2020. Cells with a green background indicate that at least one macroprudential policy loosening took place during the reference period; cells with an orange background indicate that no macroprudential policy loosening took place during the reference period.

Source: Authors' elaboration based on Bergant and Forbes (2021), OECD (2021b), Alam et al. (2019) and national sources.

Macroprudential authorities also face a trade-off between providing banks further capacity so that they can engage in additional lending, and preserving the stability of the financial sector. In this respect, it is crucial for policy makers to give special attention to the interactions between the financial sector and the real economy (OECD, 2021b). The importance of these interactions has resurfaced during the COVID-19 crisis. A protracted decline in economic activity, in particular in the sectors that the pandemic-related restrictions have impacted the most, risks magnifying the probability that households and firms that are involved in those sectors will default on their debts. In turn, this could weaken the balance sheets of banks and other financial intermediaries, and thus undermine financial stability (Didier et al., 2021; Mirza et al., 2020).

The amount of room for manoeuvre that policy makers have to adjust or expand policy can also shape trade-offs when it comes to macroprudential policy. During the COVID-19 crisis, macroprudential tools have been used counter-cyclically, in order to help stabilise economies and financial markets. As Bergant and Forbes (2021) have argued, policy headroom, as determined by the level of policy tightening prior to COVID-19, was a significant constraint on countries' ability to use macroprudential policy as part of their overall policy-support toolkit during the outbreak of the pandemic. However, and as the same study showed, the amount of room for manoeuvre that policy makers had to use other tools such as fiscal and monetary policy, foreign-exchange interventions, or capital-flow management measures, did not significantly affect their scope to use macroprudential tools. At the same time, the available macroprudential policy space did not have a significant impact on public authorities' recourse to other policy tools. As a result, Bergant and Forbes (2021) suggest that macroprudential tools should be better integrated with other policies going forward. Elsewhere, Padhan and Prabheesh (2021) draw similar conclusions. They argue in favour of a co-ordination of macroprudential, monetary, and fiscal policies, in order to mitigate the effects of COVID-19.

Additionally, the stabilisation of cross-border capital flows may gain a new dimension in the aftermath of the COVID-19 crisis. The divergence in economic performance between advanced and emerging economies in the aftermath of the COVID-19 crisis is likely to lead to an increase in the volatility of capital flows for most Emerging Asian countries. In a recent paper, Ferriani (2021) uses the event study methodology to assess fund flows to emerging-market economies during major crisis episodes that occurred between 2012 and 2020. Namely, these are the so-called taper tantrum in 2013, the Chinese stock-market turbulence and sell-off in 2015, the 2016 presidential election in the United States, the 2018 emerging-market sell-off, and the COVID-19 crisis. This paper concludes that emerging-market economies remain highly exposed to an abrupt increase in global risk aversion, with investors triggering larger-than-anticipated abnormal flows in the aftermath of each event. The results are shown to be particularly economically significant for the taper tantrum and the COVID-19 pandemic. Therefore, the question arises as to how effective macroprudential policies can be in safeguarding countries from volatile capital flows that are triggered by global factors.

Macroprudential measures can affect the nature and volume of cross-border capital flows by influencing the composition of banking-system balance sheets, both on the assets and the liabilities sides. On the asset side, macroprudential regulations that guard against high concentration in banks' bond portfolios would reduce the risk of excessive exposures to individual issuers or sectors. For instance, regulators could mandate that the bond holdings of banks be sufficiently diversified, including by placing limits on the exposure to any individual sovereign issuer. On the liability side of banks' balance sheets, meanwhile, a regulatory approach that discourages excessive wholesale funding would effectively reduce the scale of cross-border debt inflows during boom periods, given that cross-border debt flows are mostly inter-bank flows. However, there is some risk of regulatory arbitrage to the extent that direct cross-border lending may partially offset this. Such regulatory arbitrage could be tackled through co-operation between home-country supervisors of foreign banks, as facilitated by the Basel III reform package (Borio, McCauley, and McGuire, 2011).

While large and volatile capital inflows can be a source of systemic risk, the academic literature in this field does not provide widespread evidence that macroprudential policy is effective in reducing foreign capital inflows. Nonetheless, some studies suggest that macroprudential policy can affect capital flows. Bruno, Shim and Shin (2017) provide some evidence that targeted macroprudential policies are effective in moderating banking and bond inflows to the Asia-Pacific region. Elsewhere, and drawing on a sample of 38 emerging markets, including China, India, Indonesia, Malaysia, the Philippines and Thailand, Bergant et al. (2020) also show that a tighter level of macroprudential regulation reduces the sensitivity of GDP growth to capital-flow shocks. Relatedly, Beirne and Friedrich (2014) conclude that macroprudential policy can, depending on the structure of the domestic banking sector, effectively reduce capital flows. Meanwhile Devereux and Yu (2019) suggest that macroprudential policies are essential in a pegged exchange rate regime. Conversely, Lepers and Mehigan (2019) find no evidence that macroprudential measures alter capital inflows, while currency-based measures (in particular foreign-exchange reserve requirements and foreign-exchange lending regulations) may reduce both inflows and credit growth.

Finally, the COVID-19 crisis highlights the importance of regional and international co-operation in the area of macroprudential policy. Policy makers in Emerging Asia and around the world intervened in a relatively synchronised way to mitigate the impact of the economic fallout from COVID-19, by exploiting the flexibility of existing regulatory frameworks. By contrast, when determining the extent and the timing of policy normalisation, different countries' future macroprudential actions may be out of step with each other. Future decisions must take into account disparities among banking sectors, the severity of the recession, and the nature of policy support programmes implemented via the banking sector. Macroprudential policy decisions will be even more complex in economies where the recovery is slower. Given the cross-border spillover effects of domestic macroprudential measures, which are potentially amplified by frictions in the banking sector, regional or international co-ordination of macroprudential policy may be all the more necessary (OECD, 2021b).

Conclusion

In order to facilitate the development of market-based financing tools for their recovery from the COVID-19 pandemic, Emerging Asian economies need to address several challenges. Developing the bond market is a vital part of the equation. As things stand, however, while Emerging Asia's bond markets have deepened substantially over the years, they remain uneven and, in some cases, restrictive.

In developing bond markets further, identifying and addressing the prevailing structural constraints is of paramount importance. Meanwhile, continuously ensuring robust market infrastructures and post-trading mechanisms is equally important. Furthermore, increasing sovereign issuance across the entire maturity spectrum can improve the price-discovery process, and thus increase both liquidity and investor participation in the market for sovereign bonds.

In addition, countries in Emerging Asia have substantial scope to improve financial literacy. Notably, financial literacy has also become more intertwined with digital literacy. As such, coming up with consistent, comprehensive, and evidence-based national frameworks for digital financial education and inclusion cannot be over-emphasised in its importance. It is also important to identify and close the gaps between segments of society in terms of their access to information and digital tools.

In order to support the development of capital markets in an appropriate manner, macroprudential policy frameworks should be in step with prevailing conditions. In the two decades and more since the Asian financial crisis, it is true that countries in Emerging Asia have implemented various measures that have contributed to their stability during the crises that have ensued, including the ongoing COVID-19 pandemic. Nevertheless, it is crucial for policy makers to remain vigilant in monitoring potential sources of systemic risk, and to stand ready to act in the event of a threat to financial and economic stability. At the same time, a constant exploration of avenues for potential cross-border financial co-operation is critical to strengthening the buffers against risks.

Notes

1. The Executives' Meeting of East Asia-Pacific Central Banks (EMEAP) includes central banks from the following countries: Australia, China, Hong Kong (China), Indonesia, Japan, Korea, Malaysia, New Zealand, the Philippines, Singapore and Thailand.
2. The OECD Adult Financial Literacy Survey separates financial literacy into three components: knowledge, behaviour, and attitude. Adequate financial literacy benefits individuals by helping them to achieve financial well-being. A maximum score of 21 indicates that the respondent has achieved a basic understanding of financial concepts, and that the person applies this knowledge to their financial dealings. The 2020 survey results have already been released, but among Emerging Asia economies only Indonesia, Malaysia, and Thailand were included. Furthermore, the 2020 results are not comparable to the 2016 results.
3. Moenjak, Kongprajya and Monchaitrakul (2020), for instance, discuss the ways in which Thailand's approach to improve financial literacy in the country incorporates FinTech.

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Annex A. Statistical annex

Table A.1. **Real GDP growth in ASEAN, China and India, 2020-23**

Annual percentage change

	2020	2021	2022	2023
ASEAN-5				
Indonesia	-2.1	3.7	5.2	5.1
Malaysia	-5.7	3.1	6.0	5.5
Philippines	-9.6	5.6	7.0	6.1
Thailand	-6.2	1.6	3.8	4.4
Viet Nam	2.9	2.6	6.5	6.9
Brunei Darussalam and Singapore				
Brunei Darussalam	1.1	0.5	3.5	3.0
Singapore	-4.1	7.6	4.0	3.0
CLM countries				
Cambodia	-3.2	2.8	5.6	6.3
Lao PDR	3.3	2.5	4.6	4.9
Myanmar	3.2	-18.6	-0.3	3.3
China and India				
China	2.4	8.1	5.1	5.1
India	-7.3	9.4	8.1	5.5
Average of ASEAN-10	**-3.2**	**3.0**	**5.2**	**5.2**
Average of Emerging Asia	**-0.8**	**7.4**	**5.8**	**5.2**

Note: Data are as of 7 March 2022. Data for India and Myanmar relate to fiscal years. The 2021 actual figures for China, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam are based on national sources. The 2022 and 2023 projections for China, Indonesia, and India, as well as the 2021 projections for India, are based on the *OECD Economic Outlook No. 110*.

Source: OECD Development Centre and OECD (2021), *Economic Outlook No. 110*, *December 2021*, OECD, Paris, https://stats.oecd.org/index.aspx?DataSetCode=EO (accessed on 4 March 2022).

Table A.2. **Current account balances of ASEAN, China and India, 2020-23**

Percentage of GDP

	2020	2021	2022	2023
ASEAN-5				
Indonesia	-0.4	1.2	1.2	0.5
Malaysia	4.2	3.7	3.5	3.5
Philippines	3.6	-0.2	-2.0	-1.8
Thailand	3.5	-1.1	1.5	2.4
Viet Nam	3.7	1.6	2.8	2.8
Brunei Darussalam and Singapore				
Brunei Darussalam	4.5	4.0	5.7	6.2
Singapore	17.6	18.1	14.1	13.9
CLM countries				
Cambodia	-12.1	-20.1	-14.6	-9.9
Lao PDR	-4.5	-6.1	-6.8	-6.1
Myanmar	-3.4	-1.0	-0.9	-0.9
China and India				
China	1.9	2.2	1.5	1.5
India	0.9	-0.6	-1.6	-2.1
Average of ASEAN-10	**2.6**	**1.9**	**2.0**	**1.9**
Average of Emerging Asia	**1.8**	**1.5**	**0.9**	**0.8**

Note: Data are as of 7 March 2022. Weighted averages are used for the ASEAN and Emerging Asia averages. Data for India and Myanmar relate to fiscal years. The 2020 actual figures are based on national sources and the IMF *World Economic Outlook* database. The 2021, 2022 and 2023 projections for China, India and Indonesia are based on the *OECD Economic Outlook No. 110*.

Source: OECD Development Centre and OECD (2021), *Economic Outlook No. 110*, *December 2021*, OECD, Paris, https://stats.oecd.org/index.aspx?DataSetCode=EO (accessed on 4 March 2022).

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