

INTERNATIONAL MONETARY FUND

# REGIONAL ECONOMIC OUTLOOK

ASIA AND PACIFIC

Caught in Prolonged Uncertainty:  
Challenges and Opportunities for Asia

**2019**  
**OCT**



World Economic and Financial Surveys

Regional Economic Outlook

**Asia and Pacific**

**Caught in Prolonged Uncertainty:**

**Challenges and Opportunities for Asia**



**19**

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### Cataloging-in-Publication Data

Names: International Monetary Fund, publisher.

Title: Regional economic outlook. Asia and Pacific : caught in prolonged uncertainty : challenges and opportunities for Asia.

Other titles: Asia and Pacific : caught in prolonged uncertainty : challenges and opportunities for Asia. | World economic and financial surveys.

Description: Washington, DC : International Monetary Fund, 2019. | World economic and financial surveys, 0258-7440. | Oct. 19. | Includes bibliographical references.

Identifiers: ISBN 9781513513966 (paper)

Subjects: LCSH: Economic forecasting—Asia. | Economic forecasting— Pacific Area. | Asia— Economic conditions. | Pacific Area—Economic conditions. | Economic development— Asia. | Economic development— Pacific Area.

Classification: LCC HC412.R445 2019

The *Regional Economic Outlook: Asia and Pacific* is published annually in the fall to review developments in the Asia-Pacific region. Both projections and policy considerations are those of the IMF staff and do not necessarily represent the views of the IMF, its Executive Board, or IMF Management.



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## Acknowledgments

This *Regional Economic Outlook* was prepared by a team led by Harald Finger, under the overall direction of Changyong Rhee and Jonathan D. Ostry. Main authors are Manuela Goretti, Pablo Lopez Murphy, Tahsin Saadi Sedik, and Katsiaryna Svirydzenka. Alessandra Balestieri, Medha Madhu Nair, Naihan Yang, and Qianqian Zhang assisted in the preparation of the report. Cheryl Toksoz of the IMF's Communications Department edited the volume and coordinated its publication and release. Heidi Grauel provided layout services. The report is based on data available as of September 16, 2019, and includes comments from other IMF departments and Executive Directors.

The report draws on two Departmental Papers (IMF 2019a and 2019b), available online at [www.imf.org](http://www.imf.org). IMF (2019a) was prepared by a staff team led by Harald Finger and Pablo Lopez Murphy, and comprising Sean Craig, Niels-Jakob Hansen, Minsuk Kim, Sanaa Nadeem, Simon Paroutzoglou, Jay Peiris, Tahsin Saadi Sedik, Ananya Shukla, Nour Tawk, Jiae Yoo, and Qianqian Zhang, under the guidance of Jonathan D. Ostry. Alessandra Balestieri and Stephen Chukwumah supported the production of the paper. IMF (2019b) was prepared by an IMF staff team led by Manuela Goretti and comprising Faisal Ahmed, Patrick Blagrove, Pablo Morra, Katsiaryna Svirydzenka (section leads), Geert Almekinders, Andrew Hodge, Keiko Honjo, Jiri Jonas, Weicheng Lian, Fei Liu, Sudip Mohapatra, Racha Moussa, Dirk Muir, Sumiko Ogawa, Jay Peiris, Nimarjit Singh, Piyaporn Sodsriwiboon, and Biying Zhu, under the guidance of Ranil Salgado and Daisaku Kihara, with the supervision of Anne-Marie Gulde-Wolf. Kevin Rivas supported the production of the paper.



# Definitions

In this *Regional Economic Outlook: Asia and Pacific*, the following groupings are employed:

- “ASEAN” refers to Brunei Darussalam, Cambodia, Indonesia, Lao P.D.R., Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam, unless otherwise specified.
- “ASEAN-5” refers to Indonesia, Malaysia, the Philippines, Singapore, and Thailand.
- “Advanced Asia” refers to Australia, Hong Kong SAR, Japan, Korea, New Zealand, Singapore, and Taiwan Province of China.
- “Emerging Asia” refers to China, India, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam.
- “South Asia” refers to Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka.
- “Asia” refers to ASEAN, East Asia, Advanced Asia, South Asia, and other Asian economies.
- “EU” refers to the European Union.

The following abbreviations are used:

CPI	consumer price index
FCI	financial conditions index
FDI	foreign direct investment
FSI	financial soundness indicators
FX	foreign exchange
GDP	gross domestic product
GVC	global value chain
PICs	Pacific island countries
QQE	quantitative and qualitative easing
R&D	research and development
REER	real effective exchange rate
VIX	Chicago Board Options Exchange Market Volatility Index
WEO	<i>World Economic Outlook</i>

The following conventions are used:

- In figures and tables, shaded areas show IMF projections.
- “Basis points” refer to hundredths of 1 percentage point (for example, 25 basis points are equivalent to  $\frac{1}{4}$  of 1 percentage point).

As used in this report, the term “country” does not in all cases refer to a territorial entity that is a state as understood by international law and practice. As used here, the term also covers some territorial entities that are not states but for which statistical data are maintained on a separate and independent basis.



# Caught in Prolonged Uncertainty: Challenges and Opportunities

## 1. Overview

Headwinds from prolonged global policy uncertainty, distortionary trade measures, and growth deceleration in the economies of important trading partners are influencing economic growth in Asia and the Pacific. Although the region is still the world's fastest growing major region, contributing more than two-thirds to global growth, near-term prospects have deteriorated noticeably since the April 2019 *World Economic Outlook*, with risks skewed to the downside.

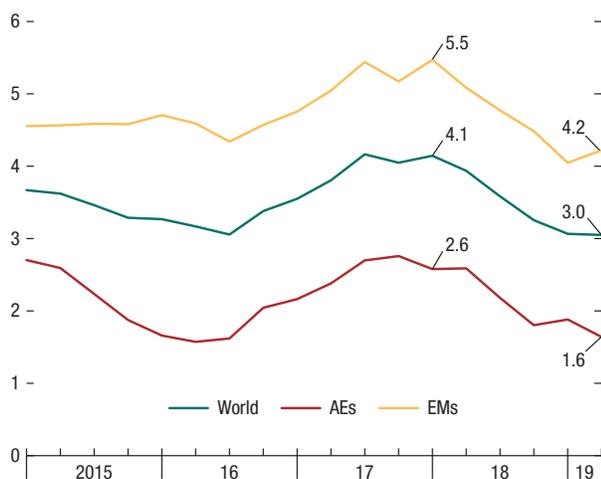
Growth in Asia is expected to moderate to 5.0 percent in 2019 and 5.1 percent in 2020 (0.4 and 0.3 percentage point lower than projected last April, respectively). A marked deceleration in merchandise trade and investment, driven by distortionary trade measures and an uncertain policy environment, is weighing on activity, particularly in the manufacturing sector. Loosening monetary policy in key advanced economies and, correspondingly, easing financial conditions, are mitigating the impact of slower growth on Asian economies, but could add to financial vulnerabilities in the region. External downside risks to the outlook stem from a possible further deepening of US-China trade tensions, weaker-than-expected growth of key trading partners, higher oil prices, and a disorderly Brexit. Risks within the region include a faster-than-expected slowdown in China, a deepening of regional tensions such as Japan's and Korea's bilateral relationship, rising geopolitical risks, and increased incidence of natural disasters.

Considering the expected deceleration in growth, macroeconomic policies should use existing fiscal and monetary policy space to smooth domestic demand where warranted. Financial sector policies should be adjusted proactively to ensure that loosening financial conditions do not fuel a further buildup of financial stability risks. Reducing firm and household leverage should be

a priority in countries where exposures in these sectors are of concern. The cyclical slowdown also highlights the urgency to pursue structural reforms to lay the foundation for high, inclusive, and environmentally sustainable economic growth in the medium term, where the imperatives include further trade liberalization, including reducing nontariff barriers to services trade, and relaxing investment restrictions; sustained investment in people, by upgrading human capital while empowering women and youth; policies to stimulate the labor supply, including higher female labor force participation; reducing infrastructure gaps and enhancing regulatory frameworks; and more ambitious measures to mitigate the drivers of climate change while building fiscal buffers to adapt to the increasing incidence of natural disasters.

This *Regional Economic Outlook* also covers two separately published thematic studies (IMF 2019a, 2019b). The first study investigates how Asian policymakers approach the management of international capital flows. While capital flows are generally beneficial, it finds that capital flows can be large, volatile, and disruptive for recipient economies. Policymakers have made extensive use of foreign exchange interventions to cushion the impact of volatile capital flows on the exchange rate, particularly where balance sheet mismatches are prevalent and where financial markets are shallow. Monetary policy has been deployed in response to inflation and growth shocks and in reaction to US interest rates, the exchange rate, and credit growth. Similarly, macroprudential and capital flow management measures have responded to a variety of external, domestic macro, and domestic financial stability considerations. Evidence thus suggests that Asian countries deploy their toolkits to achieve a multiplicity of objectives when faced with external financial shocks. This data-driven analysis can contribute to ongoing

**Figure 1. Real GDP Growth**  
(Percent, year over year)



Source: World Economic Outlook database.

Note: AEs = advanced economies; EMs = emerging market and developing economies.

reflections about how to manage volatile capital flows and exchange rates in Asia and elsewhere.

The second thematic study investigates how to further strengthen economic growth in South Asia, which accounts for one-fifth of the world's population and contributes more than 15 percent to global growth. With 150 million new labor market entrants expected through 2030, a successful, high-quality, and job-rich growth strategy is needed to harness the demographic dividend and increase potential growth. To achieve these goals, South Asia will need to strengthen agricultural productivity and promote the sustainable expansion of manufacturing and higher-skilled services. Greater focus on domestic revenue mobilization can allow for increased priority spending and fiscal consolidation, further trade and foreign direct investment (FDI) liberalization, and investment in people.

## 2. Caught in Prolonged Uncertainty

### Global Context

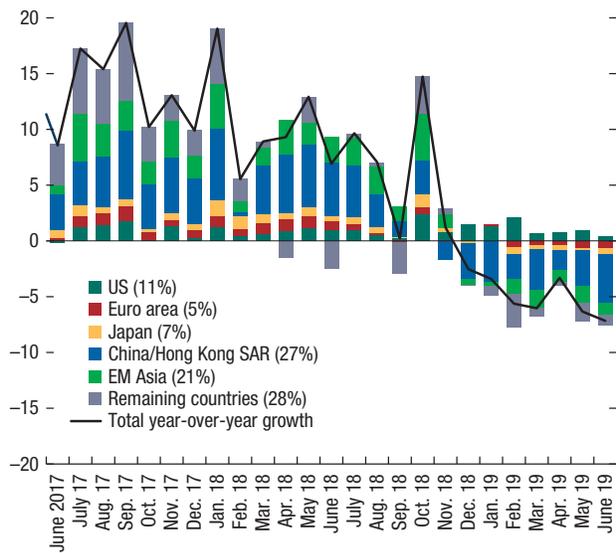
Global activity remained subdued in the first half of 2019 amid intensified trade and geopolitical tensions. Although there were positive surprises to growth in some advanced economies, activity was weaker than expected in emerging market and developing economies (Figure 1). Global manufacturing activity continued to weaken substantially amid subdued fixed investment and sluggish trade. Trade volume growth decelerated to about 1 percent in the first half of 2019, its slowest pace since 2012. The slowdown was particularly notable in Asian emerging market economies.

Global growth is projected to be 3.0 percent in 2019, improving to 3.4 percent in 2020 (0.3 percentage point lower than in the April 2019 *World Economic Outlook* forecast for 2019, and 0.2 percentage point lower for 2020). The baseline forecast assumes generally supportive policies and financial market sentiment, stabilization in some stressed emerging market economies, no further trade measures, and no disorderly Brexit. For advanced economies, growth is projected to be 1.7 percent in 2019 and 2020. The 2019 projection is 0.1 percentage point lower than in April. Emerging market and developing economies are expected to grow by 3.9 percent in 2019, rising to 4.6 percent in 2020. The forecasts for 2019 and 2020 are 0.5 and 0.2 percentage point lower, respectively, than in April, reflecting downward revisions in all major regions.

### Recent Developments in the Region

Growth in Asia continued to soften in the first half of 2019, driven by a pronounced decline in fixed investments and exports (Figure 2). Domestic demand held up, largely on consumption, while investment, trade, and manufacturing weakened significantly (Figure 3). Exports in Asian emerging markets have been shrinking since late 2018,

**Figure 2. Emerging Asia Merchandise Exports by Destination**  
(Contribution to growth; year-over-year values)

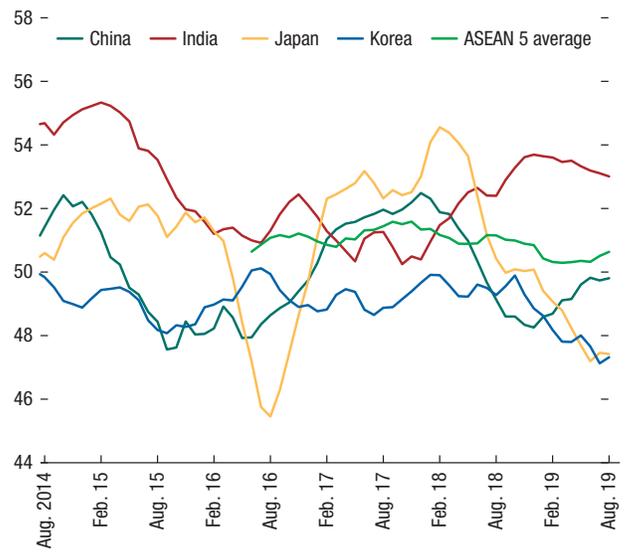


Sources: IMF Global Projection Model team estimates; national customs data; and IMF staff calculations.  
Note: Euro area is approximated by France, Germany, Italy, the Netherlands, and Spain. Emerging Asia (EM Asia) includes Indonesia, Korea, Malaysia, Philippines, Taiwan Province of China, Thailand, and Singapore. Percentages in brackets refer to share in emerging Asia exports.

largely dragged down by weak intraregional trade, especially with China. Across Asia, countries with more sophisticated export products—and thus generally more complex supply chains—have been affected more strongly than others.

In China, GDP growth slowed to 6.2 percent year over year in the second quarter, reflecting the heightened trade tensions and the lagged impact of regulatory financial tightening. High-frequency indicators point to continued weak activity in July and August, with new headwinds from higher tariffs going forward. Japan’s economy recorded strong growth in the second quarter despite cooling external demand, with robust private consumption and public spending underpinning a stronger-than-expected expansion. By contrast, private investment was subdued, owing to heightened global uncertainty and trade tensions. Exports recovered modestly from the sharp fall in the first quarter, but overall net exports contributed negatively to growth. In India, amid a sharp deceleration of investment and slowing private consumption, growth slipped to

**Figure 3. Manufacturing Purchasing Managers Index**  
(Index; >50 = expansion; seasonally adjusted)

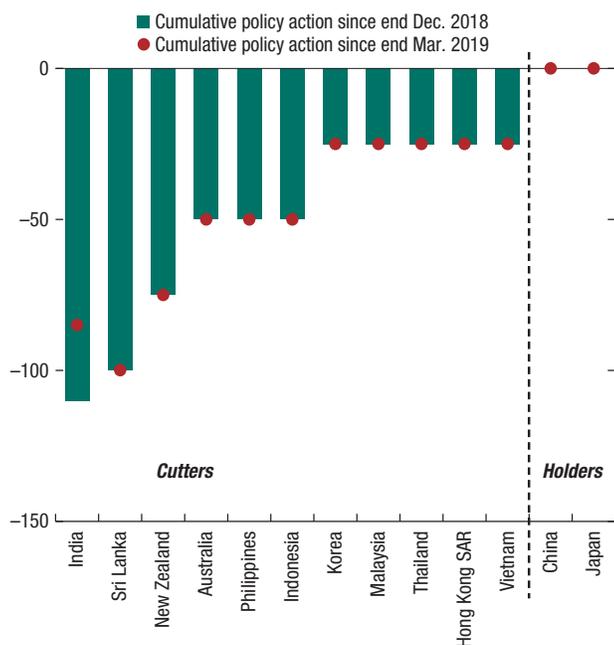


Source: Haver Analytics.  
Note: ASEAN includes Indonesia, Malaysia, the Philippines, Thailand, and Vietnam.

5.8 percent (year over year) in the first quarter of 2019. Growth decelerated further, to 5 percent, in the quarter through June 2019, weighed down by sector-specific weaknesses in autos and real estate as well as lingering uncertainty about the health of nonbank financial companies. In Korea, GDP grew by 2.1 percent year over year in the second quarter, driven lower by declining private investment. Korea’s exports have been falling on the back of lower global demand for semiconductors and the slowdown in China. In ASEAN-5 economies, growth lost momentum in the first half of 2019 amid weak exports. Headline inflation remained subdued in most economies driven by the slowdown in economic activity and lower oil prices, prompting many Asian central banks to cut policy rates (Figure 4).

Following a tightening through the first quarter of 2019, financial conditions for Asian emerging market economies have eased since April, and capital flows to the region have been generally robust. The shift toward more accommodative monetary policy by the US Federal Reserve and by the European Central Bank attracted flows to the region. The escalation of trade tensions in early

**Figure 4. Selected Asia: Policy Rate Actions**  
(Basis points)



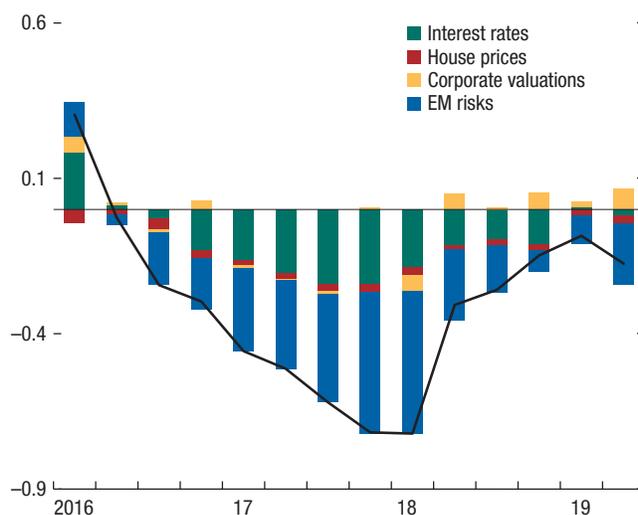
Sources: Bloomberg Finance L.P.; Haver Analytics; and IMF staff calculations.  
Note: Cutters/Hikers/ Holders are classified based on policy action since the end of December 2018; China: seven-day reverse repo rate. The new policy rate series was applied for Indonesia in April 2016.

May temporarily weighed on investor appetite for emerging market economy assets and brought turmoil to financial markets. Capital flows to the region reversed once more in August in the context of the announcement of additional trade measures. Overall though, compressed spreads, higher house prices, and lower interest rates accounted for a relaxation of financial conditions (Figure 5).

### Asia's Near-Term Outlook

The near-term outlook for Asia points to a continued deceleration of growth. Several forces are driving the outlook: protracted global policy uncertainty and slowing growth in China are weighing on trade and investment, while broadly accommodative policies, including fiscal stimulus measures in China, India, and Korea and monetary stimulus in many countries across the region, are supporting domestic demand and thus mitigating the slowdown.

**Figure 5. Financial Conditions Emerging Asia excluding China**  
(Standard deviation from mean)



Source: IMF staff calculations.  
Note: EMs = emerging market economies.

Although Asia will remain the world's fastest-growing major region, contributing more than two-thirds to global growth, projected regional growth of 5.0 percent in 2019 and 5.1 percent in 2020 (down by 0.4 and 0.3 percentage point from April, respectively; Table 1) would constitute the slowest expansion since the global financial crisis of 2008. For advanced economies, growth is projected at 1.3 percent in 2019 and 2020, 0.4 and 0.3 percentage point lower than in April, respectively, reflecting broad-based downward revisions. Emerging market and developing economies are expected to grow by 5.9 percent in 2019 and 6.0 percent in 2020, 0.4 and 0.3 percentage point lower than in April, respectively, with downward revisions in Brunei Darussalam, China, India, Indonesia, Malaysia, the Philippines, and Thailand.

In China, growth is expected to decline moderately to 6.1 and 5.8 percent in 2019 and 2020, respectively. Growth projections were revised down since April by 0.1 percentage point for 2019 and 0.3 percentage point for 2020 due to the adoption of new distortionary trade measures by the United States and China

**Table 1. Asia: Real GDP**  
(Year-over-year change; percent)

	Estimates and Latest Projections					Difference from April 2019 World Economic Outlook	
	2016	2017	2018	2019	2020	2019	2020
	<b>Asia</b>	<b>5.6</b>	<b>5.7</b>	<b>5.5</b>	<b>5.0</b>	<b>5.1</b>	<b>-0.4</b>
<b>Advanced economies (AEs)</b>	<b>1.6</b>	<b>2.5</b>	<b>1.8</b>	<b>1.3</b>	<b>1.3</b>	<b>-0.4</b>	<b>-0.3</b>
Australia	2.8	2.4	2.7	1.7	2.3	-0.4	-0.5
New Zealand	4.2	2.6	2.8	2.5	2.7	0.0	-0.2
Japan	0.6	1.9	0.8	0.9	0.5	-0.1	0.0
Hong Kong SAR	2.2	3.8	3.0	0.3	1.5	-2.4	-1.5
Korea	2.9	3.2	2.7	2.0	2.2	-0.6	-0.6
Singapore	3.0	3.7	3.1	0.5	1.0	-1.8	-1.4
<b>Emerging markets and developing economies (EMDEs)<sup>1</sup></b>	<b>6.7</b>	<b>6.6</b>	<b>6.4</b>	<b>5.9</b>	<b>6.0</b>	<b>-0.4</b>	<b>-0.3</b>
Bangladesh	7.2	7.6	7.9	7.8	7.4	0.5	0.4
Brunei Darussalam	-2.5	1.3	0.1	1.8	4.7	-3.0	-1.9
Cambodia	6.9	7.0	7.5	7.0	6.8	0.2	0.1
China	6.7	6.8	6.6	6.1	5.8	-0.2	-0.3
India	8.2	7.2	6.8	6.1	7.0	-1.2	-0.5
Indonesia	5.0	5.1	5.2	5.0	5.1	-0.2	-0.1
Lao P.D.R.	7.0	6.8	6.3	6.4	6.5	-0.3	-0.3
Malaysia	4.4	5.7	4.7	4.5	4.4	-0.2	-0.4
Myanmar	5.2	6.3	6.8	6.2	6.3	-0.2	-0.3
Mongolia	1.2	5.3	6.9	6.5	5.4	0.2	0.5
Nepal	0.6	8.2	6.7	7.1	6.3	0.6	0.0
Philippines	6.9	6.7	6.2	5.7	6.2	-0.8	-0.4
Sri Lanka	4.5	3.4	3.2	2.7	3.5	-0.8	-0.5
Thailand	3.4	4.0	4.1	2.9	3.0	-0.6	-0.5
Vietnam	6.2	6.8	7.1	6.5	6.5	0.0	0.0
<b>Pacific island countries and other small states</b>	<b>4.6</b>	<b>3.3</b>	<b>1.4</b>	<b>4.7</b>	<b>3.8</b>	<b>0.5</b>	<b>-0.2</b>
Bhutan	7.4	6.3	4.6	5.5	7.2	0.7	0.9
Fiji	2.5	5.4	3.5	2.7	3.0	-0.7	-0.3
Kiribati	5.1	0.3	2.3	2.3	2.3	0.0	0.0
Maldives	7.3	6.9	7.5	6.5	6.0	0.2	0.5
Marshall Islands	1.8	4.5	2.6	2.4	2.3	0.1	0.3
Micronesia	0.7	2.4	1.2	1.4	0.8	0.2	0.1
Nauru	3.0	-5.5	-1.5	1.5	0.7	2.5	0.6
Palau	0.8	-3.5	1.7	0.3	1.8	-1.7	-0.7
Papua New Guinea	4.1	2.7	-1.1	5.0	2.6	1.2	-0.5
Samoa	7.2	2.7	0.9	3.4	4.4	0.1	-0.2
Solomon Islands	3.2	3.7	3.9	2.7	2.9	-0.2	0.1
Timor-Leste	5.1	-3.5	-0.2	4.5	5.0	-0.5	0.2
Tonga	4.7	2.7	1.5	3.5	3.7	-1.1	-1.2
Tuvalu	3.0	3.2	4.3	4.1	4.4	0.0	0.0
Vanuatu	3.5	4.4	3.2	3.8	3.1	0.8	0.3
<b>ASEAN<sup>3</sup></b>	<b>4.9</b>	<b>5.3</b>	<b>5.2</b>	<b>4.6</b>	<b>4.8</b>	<b>-0.4</b>	<b>-0.3</b>
<b>ASEAN-5<sup>4</sup></b>	<b>4.7</b>	<b>5.1</b>	<b>4.9</b>	<b>4.3</b>	<b>4.5</b>	<b>-0.5</b>	<b>-0.3</b>
<b>EMDEs excluding China and India</b>	<b>5.1</b>	<b>5.5</b>	<b>5.5</b>	<b>5.1</b>	<b>5.2</b>	<b>-0.3</b>	<b>-0.2</b>

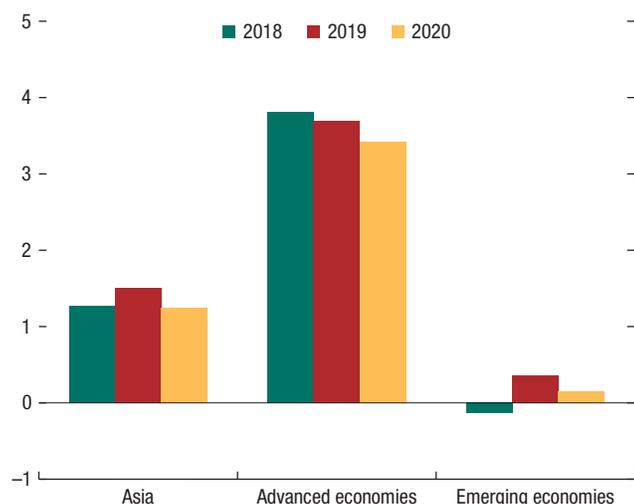
Sources: IMF, World Economic Outlook database; and IMF staff estimates and projections.

<sup>1</sup>EMDEs excluding Pacific island countries and other small states.<sup>2</sup>India's data are reported on a fiscal year basis. Its fiscal year starts April 1 and ends on March 31.<sup>3</sup>ASEAN comprises Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam.<sup>4</sup>ASEAN-5 comprises Indonesia, Malaysia, Philippines, Singapore, and Thailand.

since May. In Japan, growth is expected to be 0.9 percent in 2019 and will likely slow down to 0.5 percent in 2020. India is set to grow by 6.1 percent in 2019 and 7 percent in 2020 (down 1.2 percentage points for 2019 and

0.5 percentage point for 2020 since the April forecast), due to weaker private consumption and investment. Growth will be supported by the lagged effects of monetary policy easing, a reduction in corporate income tax rates, recent

**Figure 6. Current Account Balances**  
(Percent of GDP)



Source: World Economic Outlook database.

measures to address corporate and environmental regulatory uncertainty, and government programs to support rural consumption. South Asia will remain an important driver of regional and global growth, leveraging a young and rising labor force (see Section 4).

Inflation across Asia is projected to be subdued at about 2.4 percent in 2019 and 2.6 percent in 2020, reflecting softening demand, and will remain below target in several economies. Large current account surpluses tend to be concentrated in advanced economies (Figure 6). Intensified distortionary trade measures are weighing on trade and investment, with little material effect on imbalances to date.

## Risks

Asia's conjuncture is at a delicate moment, with the outlook clouded by a likely prolonged period of heightened global policy uncertainty. Asia's strong trade and financial integration is a manifestation of the region's economic success but can also be a source of vulnerability. Although there is certainly some potential for upside risks, for example, in case of a breakthrough in US-China trade negotiations, downside risks

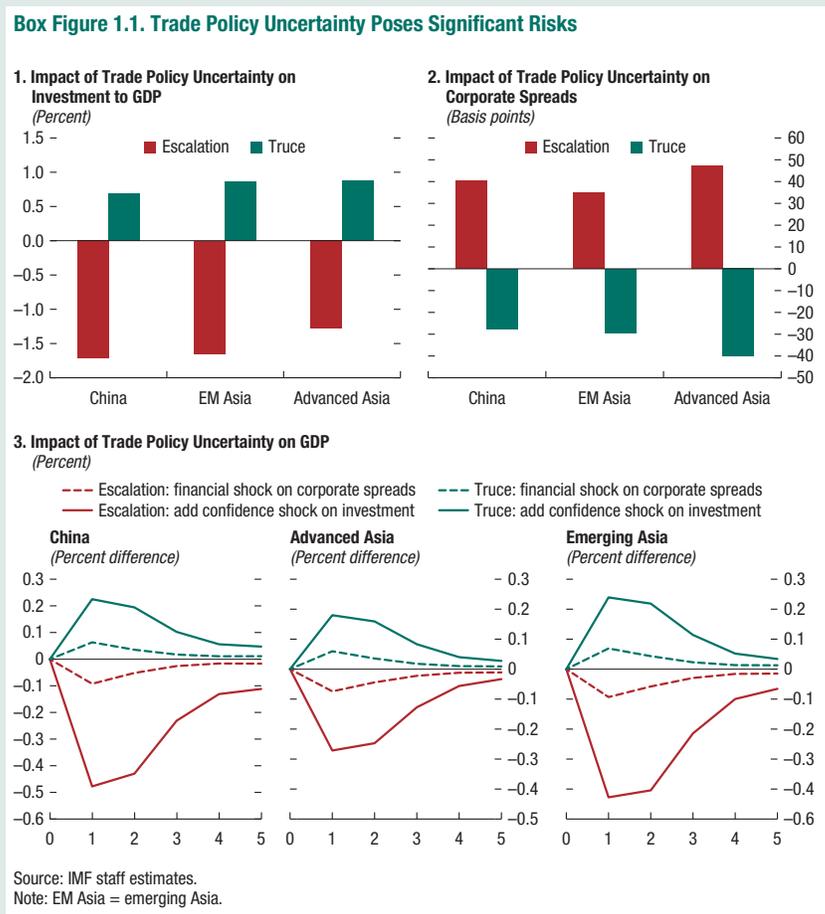
clearly dominate at this juncture, for example, with a possibility of US-China trade tensions further intensifying and potentially even broadening into other areas, such as exchange rate policy, and rising global and regional political risks. The main risks include:

- Further adoption of distortionary trade measures between the United States and China.* The baseline forecast assumes continuation of the status quo in US-China bilateral tariffs (continuation of all previously imposed or announced tariffs and retaliation, including the 10 percent tariffs, subsequently increased to 15 percent, on \$300 billion of imports from China announced in August with imposition in September and December and the announced increase in tariffs from 25 to 30 percent on the \$250 billion basket from October 15) and announced US policy vis-à-vis Chinese technology companies. That said, the path to durable agreements remains subject to protracted and difficult negotiations. New setbacks and intensification in trade measures could further weigh on confidence and financial markets, weakening trade, investment, and growth globally (October 2019 *World Economic Outlook*, Scenario Box 2) and across the region (Box 1). This could potentially generate shifts in global supply chains by increasing the number of foreign firms looking to exit China.
- Tighter financial conditions.* Net financial flows to emerging market and developing economies have picked up over the past year as the appetite for risk has recovered globally, leading to rich asset valuations in the region and beyond. However, some capital outflows were observed in August when new trade measures were announced. An abrupt change in the global appetite for risk—due, for instance, to a market reassessment of valuations or a renewed adoption of distortionary trade measures—could lead to a tightening of financial conditions and a reversal of capital flows that could slow growth in Asian emerging markets. Continued strengthening

### Box 1. Risks of Heightened Trade Policy Uncertainty

Further escalation of US–China trade tensions and ensuing policy uncertainty could exert a significant negative impact on exports, investment, and growth prospects in Asia.<sup>1</sup> Local projections based on the historical relationship between a news-based trade policy uncertainty (TPU) measure and investment/corporate spreads suggest that the investment-to-GDP ratio could be about 1½–2 percent lower for two years and corporate spreads could increase by 35–50 basis points for one year across Asia if the TPU measure were to remain at peak levels (such as those observed in May 2019) for the coming two years (see online annex). By contrast, a deescalation of trade tensions and uncertainty falling to levels seen during the “truce” observed in March 2019 could provide a significant boost (Box Figure 1.1).

Combining these shocks with the IMF’s dynamic stochastic general equilibrium and global integrated monetary and fiscal models can illustrate the projected impact on GDP, also accounting for spillovers among Asian economies. The escalation scenario would lower real GDP by about 0.5 percent in China and about 0.3–0.4 percent in countries across the region depending on their sensitivity to TPU, exposure to China, and policy credibility. Conversely, the truce scenario, while not reducing tariffs per se, would provide a boost to GDP, albeit smaller in magnitude.



This box was prepared by Sandile Hlatshwayo, Dirk Muir, and Shanaka J. Peiris.

<sup>1</sup>The October 2019 *World Economic Outlook*, Scenario Box 2, simulates the economic impact of cumulative US–China tariffs and retaliation as well as general policy uncertainty. Confidence and financial effects as part of that analysis are broadly in line with the results presented in Box 1 on the impact of trade policy uncertainty in Asia (see online annex).

of the US dollar and a higher cost of dollar financing could affect countries through balance sheet channels.

- *Faster-than-expected slowdown in China.* Further tariff increases on Chinese goods and export bans on targeted Chinese companies could weaken external demand, disrupt supply chains, and depress confidence and investment. This could be combined with a deterioration in the quality of assets at financial institutions and a downturn in the property market, exerting an additional drag on growth. Such a slowdown could generate significant negative spillovers in the region given the close trade linkages and integration of Asian economies in global value chains. In addition, there could be considerable financial spillovers from increasing volatility of the renminbi.
- *Higher oil prices.* The September 2019 supply shock from attacks on Saudi Arabian production facilities highlights the risks to oil prices from heightened geopolitical uncertainty. Higher oil prices could exert a drag on economic growth in the Asia/Pacific region, which is a net oil importer.
- *Trade tensions between Japan and Korea.* Japan's recently strengthened procedures for exports to Korea of materials critical for producing semiconductors and displays, as well as each country's removal of streamlined procedures for exports to the other, have had limited effects so far. However, an escalation of tensions could affect both economies significantly, with regional repercussions through technology sector supply chains.
- *Materialization of sociopolitical risks.* A deterioration of the sociopolitical situation, for example in Hong Kong SAR or Kashmir, could have economic spillovers to other countries in the region and beyond.
- *High household and corporate debt vulnerabilities.* Property prices have peaked after rising substantially over the last decade

in a few economies in the region. Tighter financial conditions could exacerbate the correction in property prices, weighing on consumption via a negative wealth effect with possible second-round effects on bank balance sheets. Similarly, high corporate debt constitutes a vulnerability for some countries in the region. Declines in asset prices constrain the ability of firms to obtain new loans, affecting investment and output.

- *Climate change and natural disasters* could continue to have a significant economic impact on the region, especially on small and low-income economies with fewer buffers.

## Policies to Build Resilience

The uncertain global environment and cyclical slowdown in Asia highlight the need for policies aimed at buffering the slowdown where necessary, strengthening resilience to growing downside risks, and raising inclusive medium-term growth.

Fiscal policy should support domestic demand in countries where this is needed and where there is fiscal space (Korea, Thailand). If fiscal space is at risk, then buffers should be rebuilt via fiscal consolidation over the medium term (India). In China, given the recent round of tariff increases, some stimulus could be appropriate to stabilize growth in 2019 and 2020.

Monetary policy should generally be accommodative and calibrated to local circumstances, although the policy mix should also rely on other policies. Where inflation pressures are subdued, and growth is slowing, accommodative monetary policy is desirable (India, Korea, Philippines, Thailand). Improved market communications and further strengthening of the monetary policy framework could help lift inflation expectations (Japan). Monetary policy should remain neutral as long as domestic imbalances are small (Malaysia).

Financial sector policies should be strengthened as needed to ensure that accommodative monetary

conditions do not fuel a buildup of financial stability risks (for example, Japan). They should focus on reviving bank credit by accelerating the cleanup of bank and corporate balance sheets and improving governance of public sector banks (India). In countries where high household debt entails potential macroeconomic and financial stability risks (Australia, China, Korea, Malaysia, New Zealand), real estate markets will need to be closely monitored and appropriate macroprudential measures implemented. More broadly, policies to deepen financial markets, including more liquid markets for longer-term corporate bonds and currency hedging, can help mitigate corporate vulnerabilities and ensure that the exchange rate can act as a shock absorber rather than a potential shock amplifier (see Section 3). Fiscal policies could also limit the bias toward debt finance.

Structural policies should lay the groundwork for strong, sustainable, and inclusive growth through the medium term. Further trade integration, including in services, along with product and labor market reforms, would not only help offset the demand shock from slower global trade but also facilitate adjustment to realigning global supply chains. Policies should also aim at upgrading human capital (South Asia) and stimulating labor supply (Japan, Korea, Thailand). This should include measures to broaden access to education and vocational training and promote the participation of women and the elderly in the labor force, such as expanding the number of childcare facilities and raising the retirement age. Revamping infrastructure, enhancing regulatory frameworks, and further opening the services sector to private investment can help raise potential growth (ASEAN). Countries should also focus on policies that incentivize lower greenhouse gas emissions, such as carbon taxes or emission trading systems, and on building fiscal buffers for meeting the growing financial needs to adapt to climate change and the increasing incidence of natural disasters (especially small states).

### 3. Facing the Tides: Managing Capital Flows in Asia<sup>1</sup>

Large and volatile capital flows pose a central economic challenge for Asian emerging market economies since they can trigger disruptive swings in exchange rates and financial conditions. Although floating exchange rates may provide insulation against shocks, currency fluctuations in the presence of domestic financial frictions can amplify the effect of external financial shocks, raising macro-financial risks.

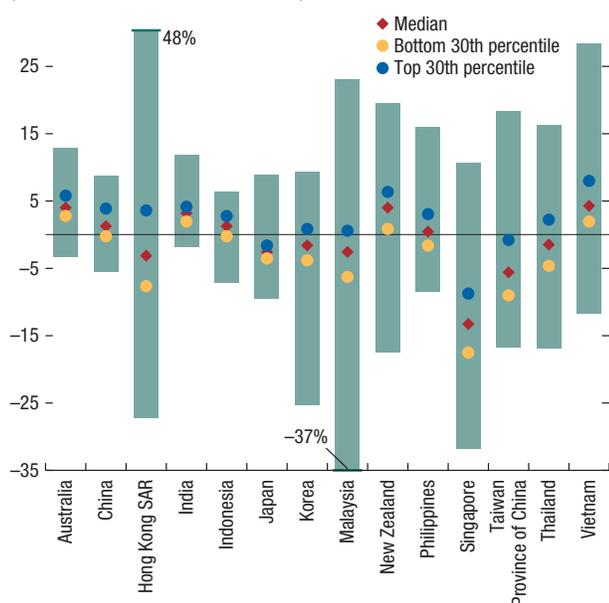
This section examines empirically the economic effects of volatile exchange rates and changing financial conditions and analyzes patterns in Asian policy approaches to manage these effects. It finds that exchange rate fluctuations can aggravate corporate vulnerabilities and discourage investment, especially in the presence of sizable foreign exchange liabilities and where financial markets are shallow. Accordingly, exchange rate shocks have a significant impact on investment and growth, including higher tail risks. Asian policymakers respond by intervening in foreign exchange markets; employing monetary policy not just in response to domestic macroeconomic conditions but also in reaction to the global financial cycle, the exchange rate, and domestic financial conditions; and using macroprudential and capital flow management measures (MPMs and CFMs) to react to a variety of external, domestic macroeconomic, and domestic financial stability considerations.

#### Capital Flows Can Raise Macro-Financial Stability Risks

The global financial crisis and its aftermath saw large gyrations in net cross-border capital flows. While supporting global growth at a critical time after the global financial crisis, unconventional monetary policies in advanced economies contributed to record amounts of liquidity in the international financial system. Ensuing large

<sup>1</sup>This section is based on IMF (2019a).

**Figure 7. Total Net Capital Flows to Asia**  
(Percent of GDP; 2000:Q1–2018:Q4)

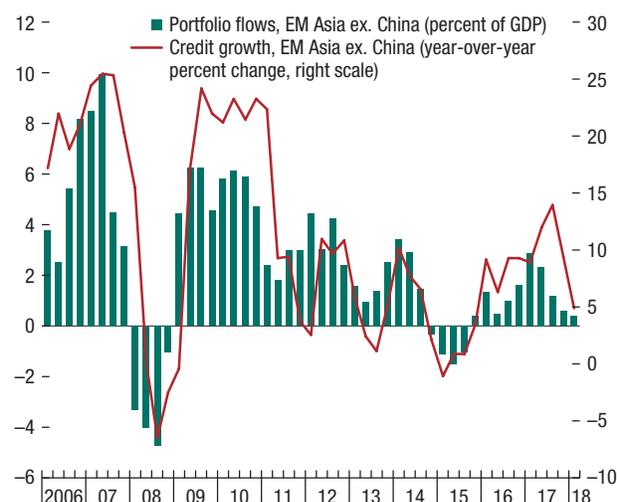


Source: IMF Balance of Payments Statistics.  
Note: Maximum value for Hong Kong SAR (48) and minimum value for Malaysia (-36.9) are not fully visible on chart scale.

capital flows to emerging market economies in Asia and other regions were periodically disrupted in global risk-off episodes, with both the magnitude of inflows and their sudden disruption posing significant policy challenges.

Although capital flows are generally beneficial for recipient economies, for many Asian countries, capital flows have been—at times—large compared to the size of domestic economies (Figure 7), creating challenges for the efficient allocation of capital. Accordingly, capital flows are typically expansionary for the domestic economy and can raise financial system vulnerabilities (Figure 8). Ensuing exchange rate appreciations and deteriorating current account balances can amplify the business cycle, often leading to more pronounced downturns when inflows reverse. Capital flows associated with the global financial cycle can also weaken the effectiveness of monetary policy as a stabilization tool (Rey 2015).

**Figure 8. Portfolio Capital Flows and Credit Growth**  
(Percent of GDP, left scale; year-over-year percent change, right scale)



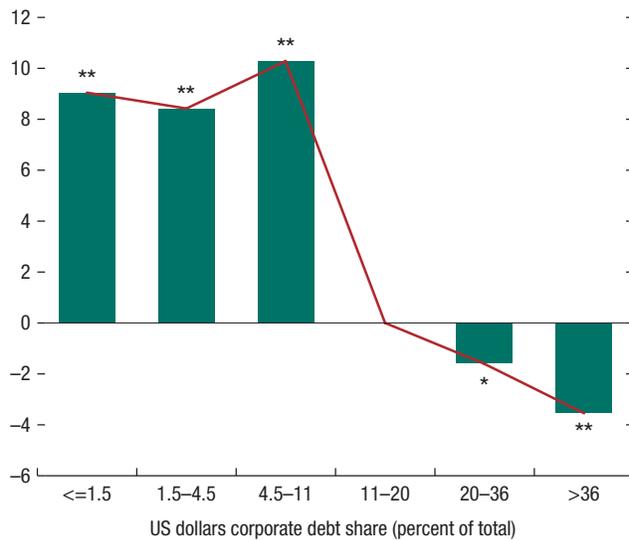
Sources: Haver Analytics; IMF, *World Economic Outlook*; and IMF staff calculations.  
Note: EM = emerging Asia.

## Exchange Rate: Shock Absorber or Shock Amplifier?

Although exchange rate fluctuations may play a shock-absorbing role, in some cases they can exacerbate corporate vulnerabilities and discourage investment, especially when corporate foreign exchange liabilities are large and financial markets shallow. Currency depreciations have two opposing effects on the domestic economy: they support activity by improving the competitiveness of exporters and import-competing industries, but they may depress activity by increasing the debt burden of firms with foreign exchange liabilities. Where such liabilities are large and unhedged, the balance sheet effect can dominate, which appears to have been the case in Asian emerging market economies subject to large and volatile capital flow shocks.

Firm-level analysis across Asia finds that a 30 percent currency depreciation shifts 7 percent of firms into a high probability of default category, with stronger effects when the share of foreign exchange debt is high. This discourages investment in firms with large foreign exchange liabilities: while depreciation increases firm-level investment on average, it contracts investment in firms with

**Figure 9. The Exchange Rate as a Shock Amplifier**  
*(Impact of 10 percent exchange rate depreciation on firm-level investment, percent)*



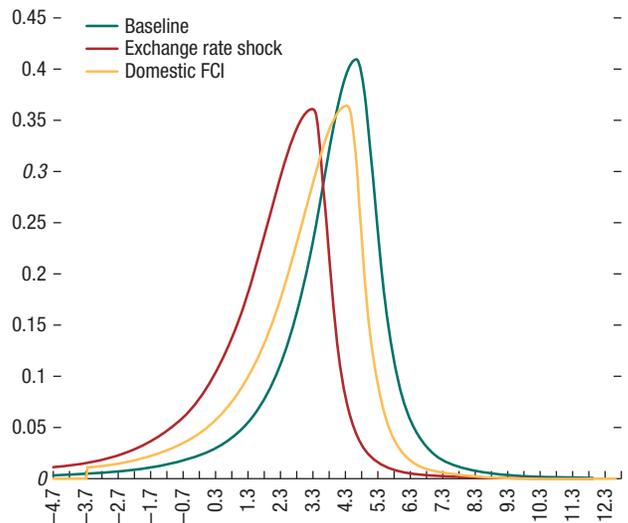
Source: IMF staff estimates.

foreign exchange liabilities that are more than 20 percent of their debt (Figure 9). The degree of financial development also influences how exchange rate shocks impact firms' investment decisions: higher foreign exchange liabilities tend to hurt the balance sheets of companies operating in countries with relatively less-developed financial markets, with fewer or costlier hedging opportunities.

The firm-level results are macroeconomically salient. Exchange rate shocks have a sizable effect on the investment ratio in Asian countries with less-developed financial markets, but not in Asian countries with well-developed markets. Specifically, a 1 percent real depreciation lowers the investment ratio by ½ percent when markets are shallow (where hedging opportunities may be less readily available), even though the effect is not statistically significant otherwise. A similar effect is observed for GDP growth, although the impact is more short-lived.

Exchange rate volatility also impacts the distribution of future GDP growth outcomes in Asian emerging market economies and growth-at-risk. Particularly in less financially

**Figure 10. Growth at Risk: Near-Term Impact of Adverse Exchange Rate Shocks in Asian EMs with Shallow Financial Markets**  
*(Growth distributions)*



Source: IMF staff estimates.

Note: Lines represent fitted growth distributions from quantile regressions under a baseline and after a one standard-deviation adverse shock to the exchange rate and domestic financial conditions. EMs = emerging market economies; FCI = financial conditions index.

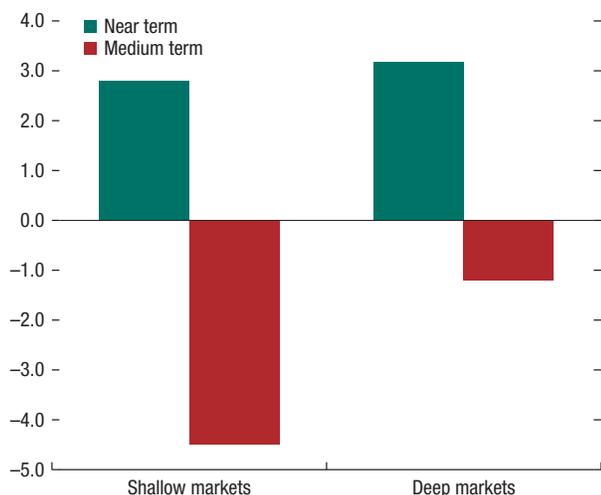
developed economies, adverse exchange rate shocks (exchange rate depreciation or an increase in exchange rate volatility) can shift the entire growth distribution to the left (even more so than changes in domestic financial conditions), with higher tail risks (Figure 10). Moreover, external shocks that are favorable in the near term (such as exchange rate appreciation, lower exchange rate volatility, or an easing of domestic financial conditions) can pose significant tail risks to growth over the medium term (Figure 11).

## Multifaceted Policy Responses

Many Asian emerging market economies are de facto flexible inflation targeters with quasi-managed floats (Ostry, Ghosh, and Chamon 2012). In the face of shifts in global market sentiment, these emerging market economies have simultaneously pursued multiple objectives of price, growth, and financial stability using a variety of instruments (Ostry and others 2011).

**Figure 11. Tail Risks in Response to Favorable Near-Term Shocks**

*(Changes in the 5th percentile of the estimated growth distribution relative to the initial baseline, percent)*



Source: IMF staff estimates.

responses of Asian emerging market economies that have deployed multiple policy instruments, often deviating from traditional policy frameworks in dealing with global capital flow cycles (Ghosh, Ostry, and Qureshi 2017b).

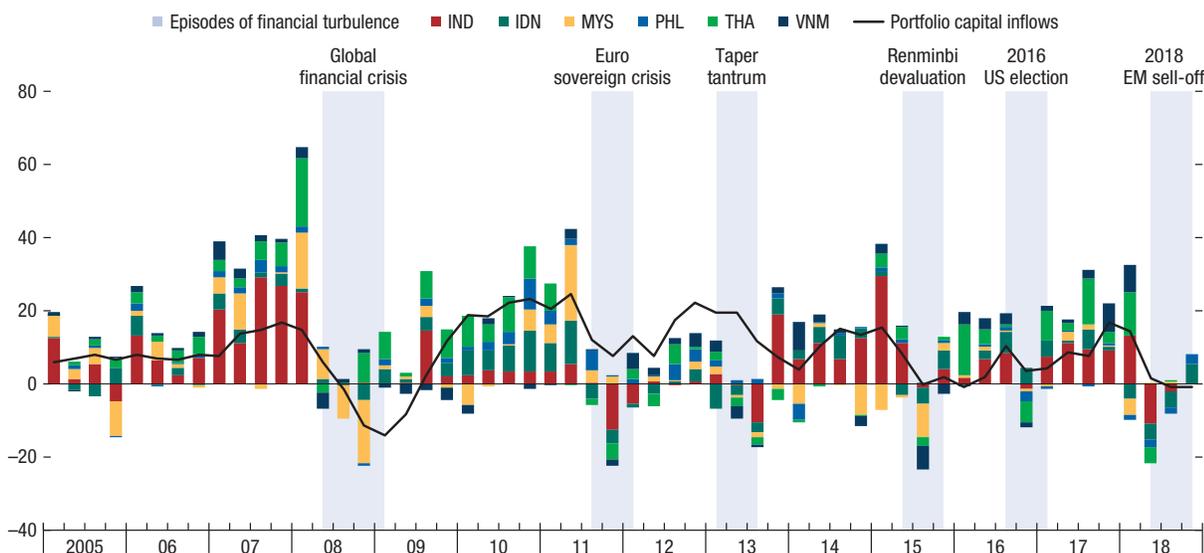
Asian emerging market economies make extensive use of FXI to moderate exchange rate fluctuations in response to volatile capital flows (Figure 12), on average absorbing about 70 percent of net capital flows. FXI is used more actively in response to volatile flows, such as portfolio flows. FXI in response to outflows, aimed at mitigating depreciation pressures, is more pronounced where corporate foreign exchange liabilities are larger, suggesting that balance sheet foreign exchange mismatches are an important driver of policy decisions to use FXI. However, Asian countries with greater financial depth rely less on FXI, reflecting better hedging opportunities which reduce the need for central bank intervention.

Following the approach in Ghosh, Ostry, and Qureshi (2017a), policy responses are assessed empirically by estimating reaction functions for policy interest rates, foreign exchange intervention (FXI) and MPMs. They can be thought of as “augmented” Taylor rules to analyze the policy

Monetary policy reaction functions suggest the presence of multiple objectives. Monetary policy in Asian emerging market economies responds to inflation as would be expected, but also reacts to other variables, notably US interest rates, reflecting the global financial cycle; the exchange

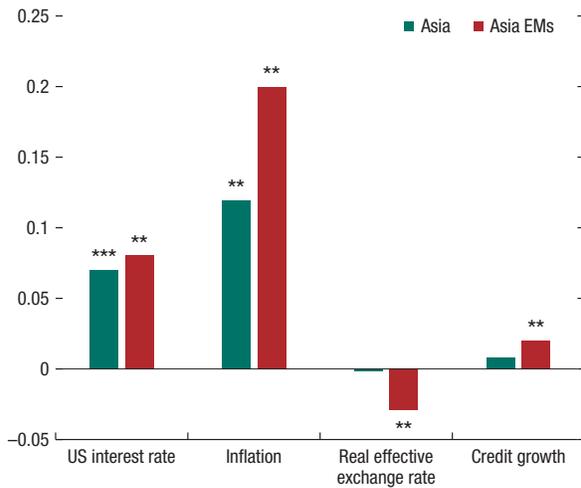
**Figure 12. Portfolio Capital Flows and Foreign Exchange Reserves Flows**

*(Emerging Asia, USD billions)*



Sources: IMF, Balance of Payments database; and IMF staff calculations .  
 Note: Country abbreviations are International Organization for Standardization (ISO) country codes.

**Figure 13. Monetary Policy Reaction Function**  
(Coefficients, percent)



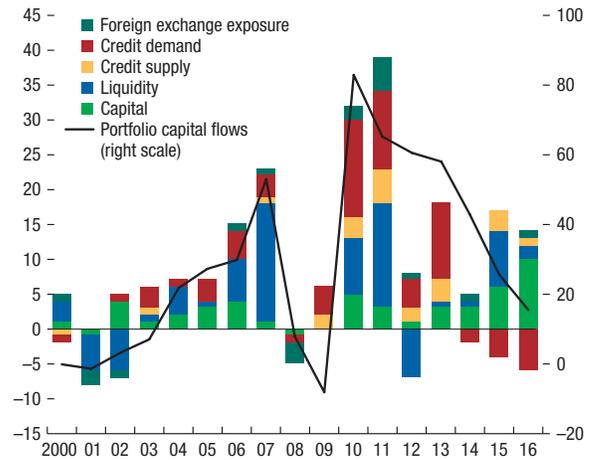
Source: IMF staff estimates.  
Note: EMs = emerging market economies. Bars represent the response of policy interest rates to domestic and global factors (regression coefficients), significant at the 1, 5, or 10 percent level (\*, \*\*, or \*\*\*, respectively).

rate, particularly when financial markets are less developed; and credit growth, reflecting financial stability considerations (Figure 13). Another interpretation is that monetary policy responds to other variables, which could affect future inflation.

Macroprudential measures (MPMs) respond to domestic macro-financial risks and global factors. Macroprudential policy appears to respond to the global financial cycle, with MPMs often tightened in periods of strong capital inflows (Figure 14). Reaction function estimates suggest that, in addition to their response to net capital inflows, MPMs also tend to be tightened in periods of lower US policy rates and higher domestic inflation and growth, which could indicate that countries use MPMs to address domestic macroeconomic risks at times when monetary policy autonomy is limited and cannot adequately respond to domestic macroeconomic conditions. Moreover, an increase in credit growth also raises the probability of MPM tightening in Asian emerging market economies, consistent with their objective of mitigating financial stability risks.

Capital flow management measures (CFMs) are less frequently used than MPMs (Ostry and others 2011). When countries do employ them,

**Figure 14. Use of MPMs in Asia over the Global Financial Cycle**  
(Net sum of MPM tightening and loosening actions by counts; USD billions)



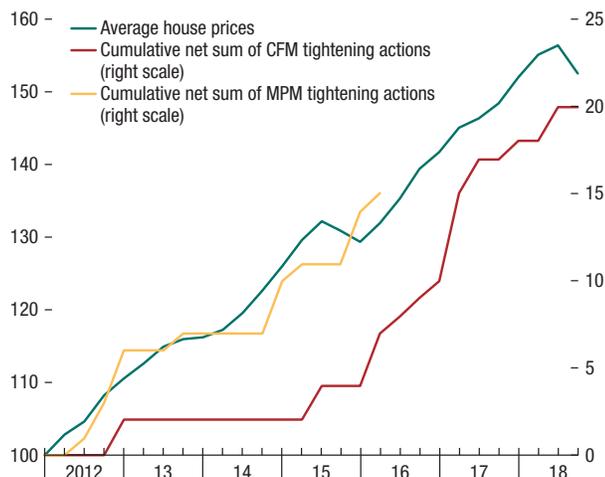
Sources: IMF MPM database; and IMF staff calculations.  
Note: Bars in the figure represent the net number of MPM tightening and loosening actions by major types of MPMs. MPMs = macroprudential policy measures.

they often do so outside of capital flow surge episodes and mostly to address risks in property markets. CFMs generally have been applied more frequently to address inflows than outflows, mostly in response to rising housing prices, including through stamp duties and taxes on nonresident property purchases. CFMs and MPMs targeting property markets have generally been tightened in combination (Figure 15).

### Potential Costs

The policy responses to capital flows revealed by the reaction functions involve potential costs. Operating and communicating a policy framework that uses all instruments jointly to achieve multiple objectives is more challenging than one in which each instrument is focused on a single objective. One concern could be that frequent use of FXI might de-anchor inflation expectations (Ostry and others 2019), leading to worse inflation outcomes (though evidence for this in Asia is weak). FXI may also give rise to significant sterilization costs and could hamper the development of foreign exchange derivative markets.

**Figure 15. House Prices, CFMs, and MPMs**  
(Index, 2012:Q1=100; sum)



Sources: Capital flow management database; Haver Analytics; and IMF staff calculations.

Note: Lines aggregate house price developments and the cumulative number of CFM and MPM tightening actions in Australia, Hong Kong SAR, New Zealand, and Singapore. CFMs = capital flow management measures; MPMs = macroprudential policy measures.

## Conclusion

Managing capital flows in a way that internalizes multiple macroeconomic and financial stability objectives is a difficult challenge in emerging market economies, including in Asia. While capital flows are generally beneficial, capital flows are large and volatile, often driven by shifts in sentiment in large advanced economies. Capital flows tend to be expansionary, fueling domestic credit growth and amplifying financial vulnerabilities. They can also induce large exchange rate swings that can amplify rather than absorb shocks, exacerbating macro-financial risks.

Asian economies use multiple instruments in response to capital flows, aiming to achieve an array of macro-financial objectives. The multifaceted policy response reflects the complexity of the policy challenges Asian emerging market economies face when confronted with large and volatile capital flows. The data-driven analysis presented in this section can hopefully contribute to ongoing reflections about how to manage volatile capital flows and exchange

rates in Asian emerging market economies, and more broadly.

## 4. A Sustainable and Inclusive Growth Agenda for South Asia<sup>2</sup>

South Asia is poised to play a key role in the global economy, in both relative and absolute terms, building on the steady economic progress and reform process over the last few decades. Despite the recent cyclical slowdown, India is among the fastest-growing large economies, and South Asia's contribution to global growth is set to increase, while more mature economies decelerate. With a population that has a median age under 27, South Asia is also the youngest region in Asia. This young and large workforce can be South Asia's strength, if supported by a successful high-quality and job-rich growth strategy.

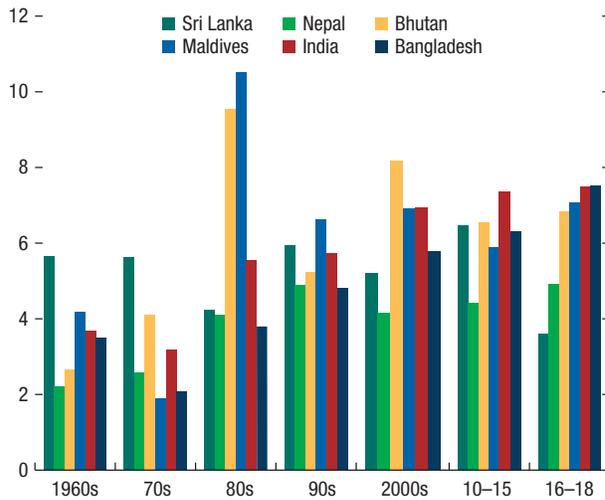
Amid a changing global economic landscape, this section argues that South Asian economies need to leverage all sectors in a balanced way and step up their policy reform agenda to allow growth to take off. Although policy recommendations remain country-specific, for many South Asian economies these should include: further progress in revenue mobilization and fiscal consolidation; greater trade and FDI liberalization; and investment in people.

### Building on Success

Since the mid-1980s, durable reforms, coupled with appropriate macroeconomic management, have brought steady progress to South Asia. From the 1950s to the 1970s, India and the rest of the region were characterized by a relatively low-growth trajectory of about 3–4 percent (Figure 16). Growth strategies tended to look inward, with a focus on self-sufficiency and import substitution, which, in turn, resulted in a large state footprint across sectors and limited private sector entrepreneurship. In the 1980s and 1990s, India and other South Asian economies

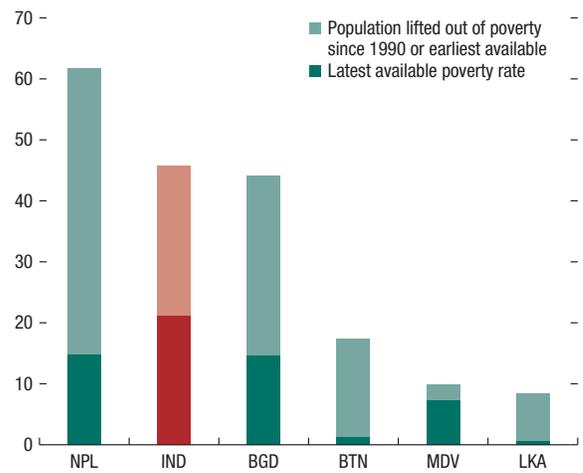
<sup>2</sup>This section is based on IMF (2019b). South Asia comprises Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka.

**Figure 16. South Asia: Average Real GDP Growth Rate (Percent)**



Source: *World Economic Outlook*.

**Figure 17. Poverty (Share of population below US\$1.90 per day (2011, PPP), percent)**

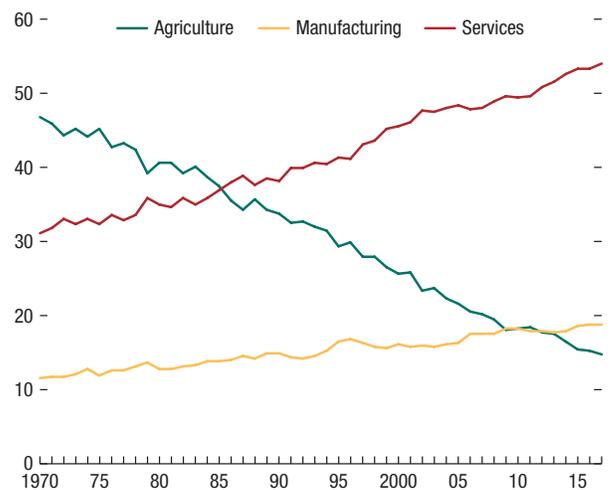


Source: World Bank World Development Indicators.  
Note: PPP = purchasing power parity.

started to implement reforms to create space for the private sector and open up to trade and FDI. This was associated with growth increasing steadily, averaging 7 percent over the last decade and making South Asia one of the world's fastest-growing regions. Higher growth and productivity reduced poverty and transformed millions of lives. Since the 1990s, more than 200 million people were lifted out of extreme poverty across the region (Figure 17), while life expectancy rose by more than 10 years to about age 70.

South Asia's liberalization path has been associated with increased diversification of exports and economic structures. Most economies in the region leapfrogged from producing raw agricultural products to services (Figure 18). India's success in the service sector has been especially remarkable as its share of the world's information and communication technologies service exports almost tripled in a decade, from 6.3 percent in 2000 to 17.8 percent in 2010, recording the largest increase globally for the sector. This performance was strongly associated with an emphasis on tertiary education and a low degree of regulation of the sector. In other South Asian economies—Maldives, Nepal, and Sri

**Figure 18. Value-Added Sectoral Shares (Percent of GDP)**

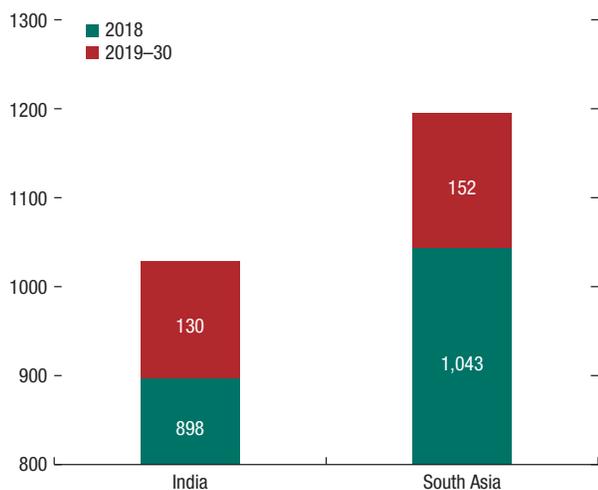


Sources: United Nations National Account database; IMF, *World Economic Outlook*; and IMF staff calculations.

Lanka—other types of services, notably tourism, account for more than 50 percent of value added. Bangladesh followed a different path, moving from exporting jute and tea to manufacturing labor-intensive garments, which currently make up about 80 percent of its exports.

Looking ahead, based on demographic trends, more than 150 million people in the region

**Figure 19. Working-Age Population by 2030**  
(Age 15–64, millions)



Sources: United Nations; and IMF staff estimates.

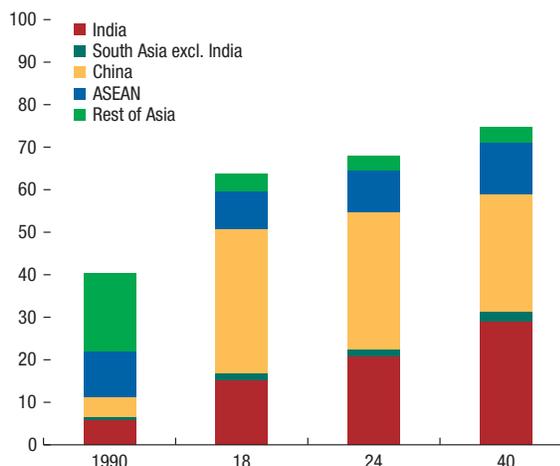
are expected to enter the labor market by 2030 (Figure 19). This is higher than the current population of Russia or Mexico. The demographic dividend will be most enduring in India and Nepal, where the working-age population is not expected to peak until 2040, compared to Sri Lanka, where it will start declining in 2020. This young and large workforce can be South Asia’s strength, if supported by a successful high-quality and job-rich growth strategy.

From a global perspective, South Asia can play an even larger role in coming years as an engine of global growth. In 2018, the region contributed about one-sixth of global growth—compared to one-tenth in 1990. India alone accounted for 15 percent of global growth in purchasing-power-parity terms (Figure 20).

### A Multipronged Approach to Deliver Job-Rich Growth

To sustain recent strong economic performance and deliver high-quality jobs to a growing workforce, a successful strategy for South Asia would need to rely on a balanced, multipronged approach. Past success stories—the Asian Tigers, Southeast Asia, and China—relied

**Figure 20. Contribution to Global Growth by Region**  
(Percent, purchasing power parity terms)



Sources: IMF, *World Economic Outlook*; and IMF staff estimates.  
Note: Regional categories based on IMF classification. ASEAN = Association of Southeast Asian Nations.

on a combination of export-oriented and manufacturing-led growth to lift and diversify their economies. The shifting global landscape is leading even these countries to rethink their approach (IMF 2018). First, advanced economies have been facing structurally weak growth of about 2 percent since the global financial crisis, from an average of 3.5 percent from 1960 to 1990. As a result, South Asia will need to further diversify its trading partners and support domestic demand. Second, increasing automation, while offering important opportunities, brings underlying risks such as labor force dislocation, making lower-skill jobs obsolete and depressing employee compensation. South Asia’s low-cost labor supply and relatively high cost of capital make the move to highly automated capital-intensive processes less pressing. Nevertheless, an approach solely focused on manufacturing will likely not be able to lift incomes in the region over the long term.

A successful growth strategy would need to leverage all sectors of the economy in a balanced way:

- *Agriculture.* Since the 1990s, the region witnessed some improvements in agricultural productivity with a reduction in agricultural employment. Still, there is significant scope

for further improvements with policy measures to support the reallocation of labor resources to other, more dynamic sectors.

- *Services.* The service sector has been a key driver of growth in most South Asian economies and should continue to play this role. That said, the service sector alone cannot create enough jobs. In India, for example, while services contributed about 60 percent of GDP growth in FY2016, their contribution to employment growth was only 0.3 percentage point.
- *Manufacturing.* If expanded sustainably, from both an economic and environmental standpoint, manufacturing could complement services in creating job-rich growth. Cross-country estimates of employment elasticities to gross exports suggest that a more substantial boost to employment could come from increasing manufacturing exports, compared to services. South Asia has a lot of room to climb up the global quality ladder, beginning with the production of more complex varieties of existing products to build on its comparative advantage.

## The Policy Agenda

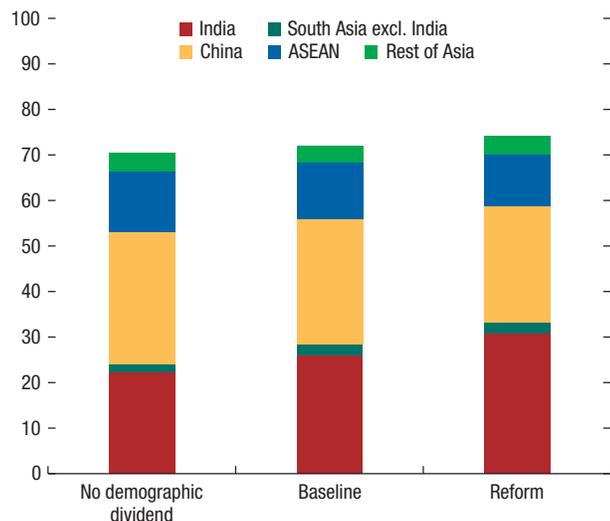
To create more and better jobs, South Asia needs to invest in people and continue to support private-sector-led investment and a more efficient allocation of resources. This process needs to be anchored in sound macroeconomic management and financial stability.

- *Secure debt sustainability.* There is a pressing need to advance fiscal consolidation given the still elevated fiscal deficits and public debt levels in most economies in the region, while making space for much-needed infrastructure investment and social spending. In India and Bangladesh, which rely on the banking system for financing, fiscal consolidation would also help reduce financial repression. Since tax revenues remain low by international standards, notably in Bangladesh and Sri

Lanka, greater revenue mobilization—through a broader tax base, greater tax efficiency, streamlined tax exemptions, and stronger tax administration—can help secure debt sustainability, while making space for critical social and investment spending to ease the adjustment process. Transparent and prudent management of contingent liabilities stemming from public investment projects, public-private partnerships, state-owned enterprises, and other off-budget expenditures is also critical for ensuring public debt sustainability.

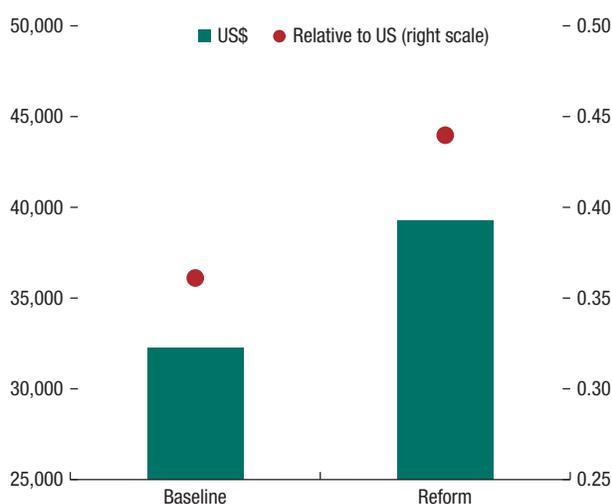
- *Guarantee efficient credit provision and safeguard financial stability.* State-owned banks play an important role in financing private and public investment in South Asia. At the same time, consistent with the empirical literature (World Bank 2013), state-owned banks tend to have weaker performance compared to private and foreign banks in India and Bangladesh. A smaller state footprint in the financial sector could strengthen the quality and efficiency of financial intermediation and resource allocation. South Asia would also stand to gain from catching up with regional peers on financial inclusion, especially through greater use of fintech.
- *Open further to trade and foreign direct investment and improve infrastructure.* The region has made important progress in trade and FDI liberalization over the last few decades. Nevertheless, the average tariff rate remains relatively high at 10 percent in 2016, with significant nontariff barriers, including cumbersome trade documentation and long processing times. Further trade liberalization would support economic activity and facilitate the integration of South Asia into global supply chains. On the investment side, caps in India, negative lists in Bhutan, and complex approval systems in Nepal tend to constrain foreign direct investment. Rapid development will also require large investments in infrastructure across the region, including in

**Figure 21. Contribution to Global Growth by Region, 2040**  
(Percent, purchasing power parity terms)



Sources: IMF, *World Economic Outlook*; and IMF staff estimates.  
Note: Regional categories based on IMF classification. ASEAN = Association of Southeast Asian Nations.

**Figure 22. India: Real GDP per Capita, 2040<sup>1</sup>**  
(Purchasing power parity terms; US dollars; ratio)



Source: IMF staff estimates.  
<sup>1</sup>Baseline assumes medium-term *World Economic Outlook* projection and reform scenario factors in the impact of trade and foreign direct investment liberalization and productivity increase.

energy, transport, water, and urban services, facilitated by land reforms.

- *Prepare the workforce for the challenges of the 21st century.* South Asia would also need to invest in human capital, while addressing the still sizable informal sector. Although spending on education in South Asia is broadly in line with peers, there is scope to improve coverage and quality. For example, even though India's investment in tertiary education supported the high-skill service sector, further efforts are needed to broaden access to quality primary education and boost literacy across the country. Greater investment in research and development by the public and private sectors could also generate high returns, given South Asia's distance from the technological frontier. South Asia's main economies would also benefit from reducing the still significant gender gaps and further empowering the role of women in the economy.

## Building the Reform Momentum

Under a substantial liberalization scenario, supported by stepped-up efforts to improve infrastructure and successfully harness South Asia's young and large workforce, the region could contribute about one-third of global growth by 2040.<sup>3</sup> This is 5 percentage points higher than the expected contribution under the current baseline scenario, based on ongoing policies and demographic trends. Under an accelerated reform scenario, real GDP growth in the region would surpass 6.5 percent, on average, over the long term, compared to nearly 6 percent under the current baseline and 5 percent in a downside scenario where the benefits of the demographic dividend cannot be secured (Figure 21). For India alone, real GDP could be boosted by 20 percent and per capita income to about 50 percent of that in the United States by 2040 (Figure 22), with important spillovers to the region.

<sup>3</sup>Based on simulations using the IMF's Global Integrated Monetary and Fiscal (GIMF) model for India and the Asia-Pacific Department module of the IMF's Flexible System of Global Models (FSGM), as discussed in IMF (2019b), Annex 4.

The region's robust economic performance and the beginning of new terms for many governments in the region offer a propitious window of opportunity to accelerate countries' reform agendas. Clear communication on reform benefits and prioritization based on their expected macro-structural impact are key to building momentum. Stronger social safety nets are especially important to support difficult structural reforms, minimizing their distributional impact on the most vulnerable segments of the population and promoting strong and inclusive growth. To ensure the region's growth path remains strong and sustainable, new policies and initiatives need to remain mindful of fiscal, financial, and environmental risks.

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## Annex 1 (Online). The Risks of Heightened Trade Policy Uncertainty<sup>1</sup>

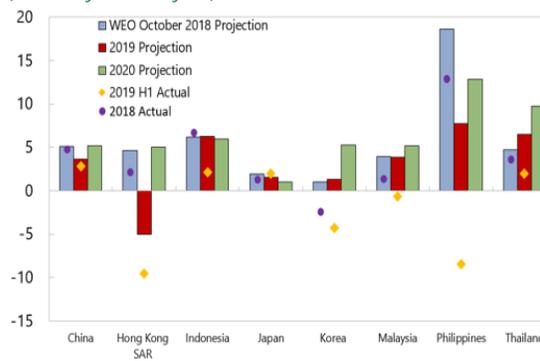
The escalation in US/China trade tensions since 2018 has ushered in a period of heightened trade policy uncertainty (Annex Figure 1). A large literature suggests that broader, more generic, uncertainty stunts investment and lowers stock market returns while increasing volatility and risk premiums (for example, Bernanke 1983; Dixit and others 1994; Bloom 2009; Baker and others 2016). A year into the trade tensions and related uncertainty, a significant slowdown in trade and investment, more so than projected a year ago, has begun to materialize (Annex Figure 2), reflecting confidence and financial market effects associated with heightened trade policy uncertainty, as first proposed in the October 2018 World Economic Outlook (WEO) Scenario Box 1 (IMF 2018a), and updated in the October 2019 WEO Scenario Box 2 (IMF 2019). Going forward, a further escalation of trade and technology tensions (with or without an additional rise in tariffs) is a downside risk to investment and real GDP in Asia, which is gauged below.

**Annex Figure 1. Trade Protectionism Policy Uncertainty (January 2000–July 2019)**



Source: IMF staff calculations

**Annex Figure 2. Real Investment in Asia (Percent year over year)**



Source: IMF World Economic Outlook database

The initial efforts in the October 2018 and 2019 WEOs (and reflected in the October 2018 APD REO, IMF 2018b) to estimate the confidence and financial impacts of an escalation in trade tensions on investment rely on two methodologies. The methodology for the confidence effects use economic policy uncertainty measures for the United States from Baker and others (2016), with effects in other countries related to their degree of trade openness. Financial market effects are based on expected increases in US corporate spreads, mapped to other economies based on their relative credit ratings (IMF 2019).

To explore whether a calibration exercise specific to trade policy uncertainty (TPU) might shed more light on trade tension effects in Asia, this analysis uses country-specific news-chatter measures of protectionism-related TPU to directly estimate empirical relationships between TPU and investment and corporate spreads. These shocks to investment and corporate spreads are used in tandem with the Asia Pacific Department's version of the IMF's DSGE model, the Global Integrated Monetary and Fiscal model (GIMF) to highlight the potential macroeconomic confidence and financial effects of the trade tensions (Anderson and others 2013; Kumhof and others 2010). It considers two scenarios: a further

<sup>1</sup> Authored by Sandile Hlatshwayo, Dirk Muir, and Jay Peiris. Research assistance by Medha Madhu and Qianqian Zhang.

escalation in the tensions and a significant de-escalation. The analysis below focuses on the impacts of trade tensions and the ensuing trade policy uncertainty on Asian economies and the spillovers between Asian economies. While it does not explicitly consider the direct effects of implemented trade actions (such as the impact of tariffs), the TPU's correlation with episodes of tariff announcement means that such direct effects are to some extent picked up as well in the empirical analysis.

The TPU measures are constructed based on the methodology outlined in Hlatshwayo (2019) and use country-specific algorithms to count the number of articles that meet defined criteria within a database of over 650 million news articles.<sup>2</sup> The design of the algorithms is: specific to different types (fiscal, monetary, and trade protectionism); includes locational restrictions and phrasing informed by journalists and professors of journalism; and avoids overlap in policy coverage across types.<sup>3</sup> This measurement method outperforms the competing method proposed by Baker and others (2016).<sup>4</sup> The sample economies include: Australia, China, Hong Kong Special Administrative Region, India, Indonesia, Korea, Malaysia, New Zealand, the Philippines, Singapore, Taiwan Province of China, Thailand, and Vietnam.

The measures of trade policy uncertainty are then mapped onto the economic variables of choice (investment and corporate spreads) using the Jordà (2005) local projections method, whereby expanding horizons of a variable of interest are regressed on standard controls, along with fiscal and monetary policy uncertainty since factors like the US Federal Reserve Board's interest rate normalization and national political cycles are also drivers of shifts in investment and corporate spreads.<sup>5</sup> Robustness checks include the use of alternative data sources; checking for non-linearity in the effects and asymmetry between increases and declines; and adding other measures of volatility as controls.<sup>6</sup>

Two local projections models are considered:

- 1) The confidence shock is derived from regressing the investment-to-GDP ratio on the TPU, fixed effects, the lagged investment-to-GDP ratio, real GDP growth, corporate spreads, trade openness (exports plus imports over GDP), the 10-year yield, and fiscal and monetary policy uncertainty.

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<sup>2</sup> The TPU measures are based on the count the number of articles that meet a 4-part metric: (1) the name or demonym of an economy must come within 8 words of a trade-protectionism related term and (2) an uncertainty-related term; (3) cannot mention declines in uncertainty, references to alternative policies, or equity-market volatility; and (4) must be over 99 words to avoid ticker articles. This algorithm includes trade-policy terms and phrases like trade war, trade barrier, and protectionism. The index is normalized by broader news coverage of the country over time and indexed between 0 and 100. Fiscal and monetary policy uncertainty are constructed similarly.

<sup>3</sup> The dictionary for the trade protectionism algorithm is sufficiently broad to also capture recent technology and currency tensions, which have been conflated with the trade tensions.

<sup>4</sup> Based on human audits of over 3,000 randomized articles of both search algorithms' results (see Hlatshwayo, 2019).

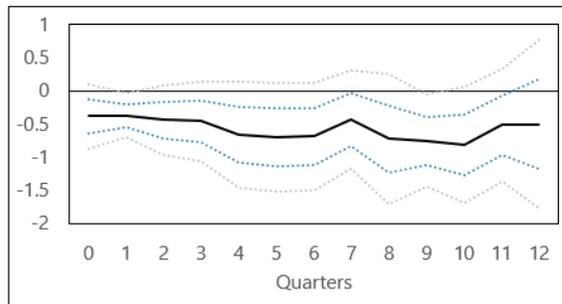
<sup>5</sup> The data are drawn from a variety of sources: IMF *International Financial Statistics*, IMF *World Economic Outlook*, Asian Development Bank, Bloomberg; Haver Analytics, and Global Financial Data.

<sup>6</sup> The estimated impacts on investment and corporate spreads may not be solely driven by TPU. They might capture some of the effects of the changes in tariffs, given that the indicator may also be capturing expected changes in "mean" tariffs which are not controlled for in the Jordà local projections.

- 2) The financial market shock is derived from regressing the corporate spreads on the TPU, fixed effects, the lagged corporate spread, industrial production, the 10-year yield, the real effective exchange rate, and fiscal and monetary policy uncertainty.

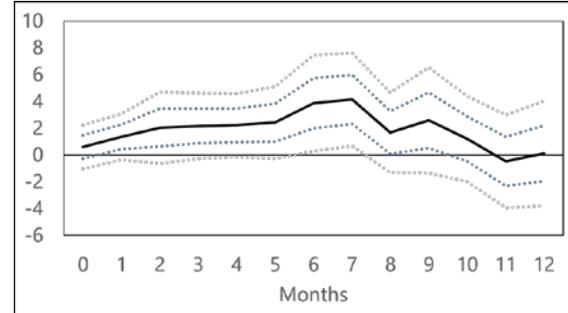
Increases in TPU are associated with declines in investment/GDP and higher borrowing costs for firms through higher corporate spreads. Annex Figure 3 shows the coefficients from Jordà local projections for TPU's impact on investment to GDP. The investment-to-GDP ratio drops and then continues falling over a two-year period before the impact starts to dissipate. Under robustness checks, the magnitudes range from -0.5 to -1.0 percent and, generally, last for about two years. Corporate spreads also rise following an increase in trade policy uncertainty (Annex Figure 4). The effect appears to be contained to one year.

**Annex Figure 3. Impact of Trade Policy Uncertainty on the Investment-to-GDP ratio (Percent)**



Note: Black line shows coefficient estimates from Jordà local projections; grey and blue lines are 90 and 95 percent confidence intervals, respectively. Sources: IMF *International Financial Statistics*; IMF *World Economic Outlook*; Asian Development Bank; Bloomberg; Haver Analytics; Global Financial Data; and IMF staff calculations.

**Annex Figure 4. Impact of Trade Policy Uncertainty on the Corporate Spread (Basis points)**



Note: Black line shows coefficient estimates from Jordà local projections; grey and blue lines are 90 and 95 percent confidence intervals, respectively. Sources: IMF *International Financial Statistics*; IMF *World Economic Outlook*; Asian Development Bank; Bloomberg; Haver Analytics; Global Financial Data; and IMF staff calculations.

Given these empirical relationships, possible shocks are calculated under a further escalation and a truce scenario. Multiplying observed changes in economy-specific TPUs by the estimated coefficients from the regressions allows for the comparison of the effects across the sample of economies under the two scenarios:

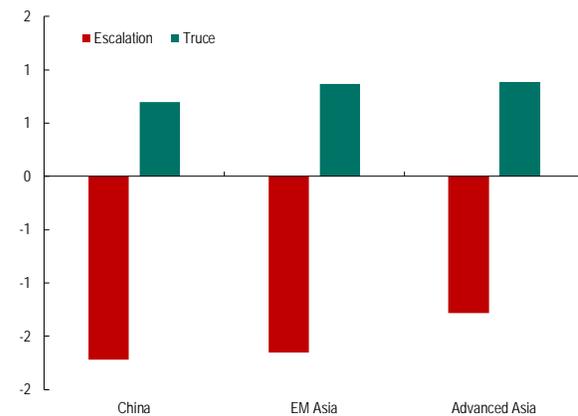
- 1) *The escalation scenario*: The difference between 2017q4 (the quarter preceding start of escalation by the US administration) and the maximum value of trade policy uncertainty between 2018q1 and 2019q2.<sup>7</sup>
- 2) *The truce scenario*: The difference between 2019q1 and the maximum value of trade policy uncertainty from 2018q1 to 2019q1. 2019q1 represented the period with the highest level of optimism for a potential deal since the start of the trade tensions.

<sup>7</sup> Alternative definitions of an escalation were also considered. Using the difference between 2016q4 and the maximum since 2017q1 produced qualitatively similar results, while using the simple post-2016 maximum did not account for the economies' pre-existing trade policy uncertainty (potentially resulting from longer-standing idiosyncratic structural factors).

The exercise suggests that TPU has significant short-term impacts on investment and corporate spreads; the investment-to-GDP ratio could be about 1½-2 percent lower for two years in advanced and emerging Asia (Annex Figure 5), while corporate spreads could increase 35-50 basis points for one year (Annex Figure 6). By contrast, a de-escalation of trade tensions and uncertainty falling to levels seen during the “truce” observed in March 2019 could provide a significant boost to the investment-to-GDP ratio, while the corporate spread would shrink. The movements in both variables under the truce scenario would have smaller magnitudes than those under the escalation scenario, as trade policy uncertainty would only be partially reduced, with further tariff increases remaining a possibility.

**Annex Figure 5. Potential Shocks to Confidence (Investment to GDP)**

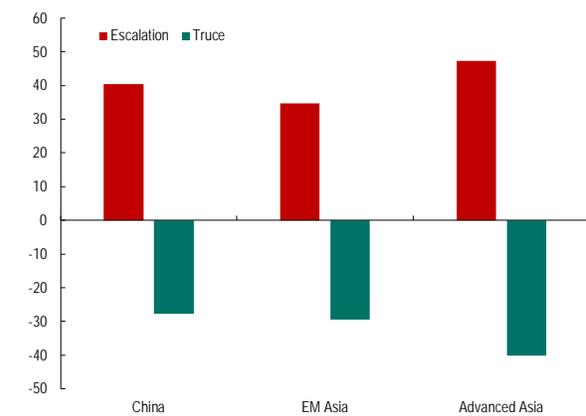
(Percent)



Source: IMF staff calculations.

**Annex Figure 6. Potential Shocks to Risk Premiums (Corporate Spreads)**

(Percent)



Source: IMF staff calculations.

Introducing these shocks to investment and corporate spreads into GIMF gives a more complete macroeconomic view based on trade policy uncertainty in Asia along with spillovers among Asian economies. The shocks are layered on one another, allowing them to interact.

Under the escalation scenario, for each Asian economy, investment would fall temporarily but with persistence because of the economies’ intrinsic dynamics in investment. This would reduce an economy’s productive capacity, thereby depressing real GDP. This leads to lower wealth and depresses consumption, reducing real GDP further. An economy’s real exchange rate would depreciate against the rest of the world, but the degree of depreciation against other Asian economies would depend on the relative size of each economy’s shocks and the degree of trade openness and spillovers from those economies. Some countries would see lesser declines in real GDP, as a larger real depreciation could help the external sector offset the fall in domestic demand to some degree.<sup>8</sup>

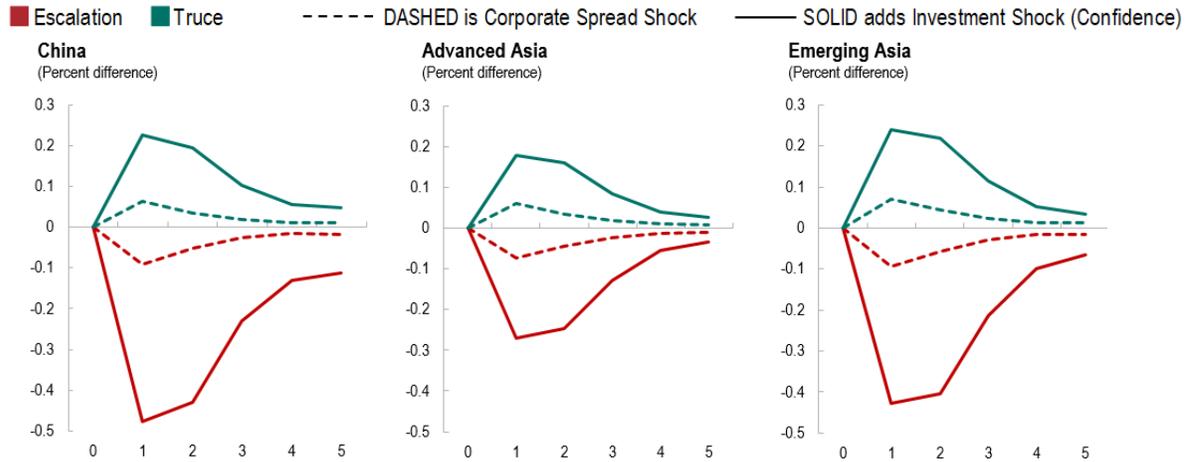
Asian economies would realize lower real GDP, with China losing about 0.5 percent (Annex Figure 7). The effects across economies would be heterogenous, with emerging Asia facing larger losses of around 0.4 percent, whereas advanced Asia would be impacted less, at close to 0.3 percent. These results are limited to projecting TPU effects on these economies based on estimated historical relationships. Actual effects of imposed tariffs and the related uncertainty may of course vary by country. Some might face

<sup>8</sup> Consistent with the standard open-economy literature without financial frictions, the model assumes that the competitiveness channel of depreciation dominates the balance sheet or financial channel.

larger losses from executed trade policy actions, while there is also scope for some other economies to gain from trade diversion in the event of a further tariff escalation.

The truce scenario has the same basic dynamics as the escalation scenario but is expansionary rather than contractionary, with smaller magnitudes.

### Annex Figure 7. Effects on Real GDP from Shocks to Investment and Corporate Spreads (Percent deviation from baseline)



Source: IMF staff calculations

Relative to the estimates found in the October 2019 WEO (IMF 2019), financial effects are smaller and confidence effects are slightly larger for the Asian economies. The combined confidence and financial effects from the TPU methodology are around 10 to 20 percent smaller than those of the October 2019 WEO. The impact of TPU on growth in Asia in the escalation scenario is broadly in line with the estimated effects on emerging markets by Caldara and others (2019).

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