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Recovery Unabated amid Uncertainty

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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 abbreviation is used:

ASEAN Association of Southeast Asian Nations

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 ¼ of 1 percentage point).
- "Billion" means a thousand million; "trillion" means a thousand billion.

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.

Executive Summary

2023 looks to be a challenging year for the global economy, with global growth decelerating as the effects of monetary tightening and Russia's war in Ukraine continue to weigh on activity. Persistent inflationary pressures, and recent financial sector problems in the United States and Europe, are injecting additional uncertainty into an already complex economic landscape.

Against this somber backdrop, Asia-Pacific remains a dynamic region. Despite weakening external demand—such as the downturn in demand for tech exports toward the end of 2022—and monetary tightening, domestic demand has so far remained strong, with China's reopening providing fresh impetus. Growth in Asia and the Pacific is projected to increase this year to 4.6 percent, from 3.8 percent in 2022, an upgrade of 0.3 percent relative to the October 2022 *World Economic Outlook*. This means the region would contribute around 70 percent of global growth. Asia's dynamism will be driven primarily by the recovery in China and resilient growth in India, while growth in the rest of Asia is expected to bottom out in 2023, in line with other regions.

However, this dynamic outlook does not imply that policymakers in the region can afford to be complacent. The pressures from diminished global demand will weigh on the outlook. Headline inflation has been easing, but remains above targets in most countries, while core inflation has proven to be sticky. Although spillovers from turmoil in the European and US banking sectors have been limited thus far, vulnerabilities to global financial tightening and volatile market conditions, especially in the corporate and household sectors, remain elevated. Growth is expected to fall to 3.9 percent five years out—the lowest medium-term forecast in recent history—thus contributing to one of the lowest medium-term global growth forecasts since 1990.

Risks to the outlook are to the downside, reflecting the possibility of stickier global and regional price pressures, the disconnect between markets' anticipation of monetary policy paths and major central banks' communications, additional turmoil in global financial markets, adverse spillovers to the region from China's medium-term growth slowdown, and deeper geoeconomic fragmentation.

Monetary policy should remain tight until inflation falls durably back within target. The exceptions are China and Japan, where output is below potential and inflation expectations have stayed muted. Unless strains in financial markets increase and financial stability is at stake, central banks should separate monetary policy objectives from financial stability goals, using available tools aimed at addressing financial stability risks to allow them to continue to tighten policy to address inflationary pressures.

Elevated public debt and rising interest costs call for continued—and, in some cases, accelerated—fiscal consolidation, which can also support the battle against inflation, while protecting the vulnerable through targeted measures. Monitoring pockets of vulnerability linked to elevated debt burdens in the corporate and household sectors, and market risks and corporate credit risk exposure in the financial sector, is essential for safeguarding financial stability. Structural reforms are needed to improve growth potential, through innovation and digitalization; accelerating the green energy transition; reducing risks from fragmentation; and ensuring food security.

Outlook for Asia and Pacific: Recovery Unabated amid Uncertainty

Resilient Growth Despite Multiple Shocks

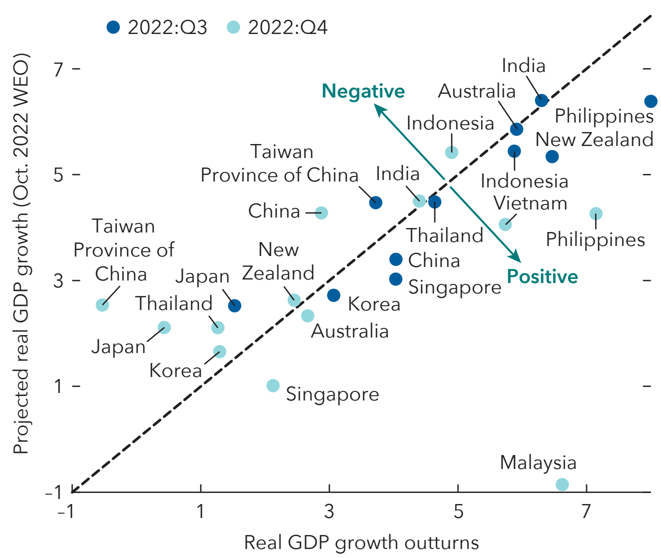
Several shocks set back the global recovery in 2022 (April 2023 *World Economic Outlook*). Russia's war in Ukraine caused severe commodity price shocks and global trade disruptions. To rein in rising inflation, global central banks acted swiftly to raise monetary policy rates, which tightened global financial conditions, especially as the US dollar surged. China's growth slowed markedly as a result of zero-COVID measures and the turmoil in the troubled property sector, falling to rates not seen in more than four decades. These global and regional pressures have affected economies in Asia and the Pacific significantly over the past year.

Nonetheless, growth in the region remained resilient in the second half of 2022, much like in the rest of the world. IMF staff estimate growth in Asia and the Pacific to have been 3.8 percent for the year as a whole—slower than the strong rebound of 6.5 percent seen in 2021—but to have exceeded previous projections in several of the region's emerging markets and in some advanced economies in the last two quarters (Figure 1). Strong performance in the third quarter was driven by a recovery in mobility after easing COVID-19 containment measures (Figure 2, panel 1) and strong pent-up demand across the region (Figure 2, panel 2), while external demand from the United States and Europe remained resilient amid fading supply chain disruptions (Figure 2, panel 3). In the fourth quarter, growth momentum continued in many of Asia's emerging market economies, underpinned by booming service sectors after the reopening (Figure 2, panel 4). Meanwhile, China's economy avoided a contraction, despite intermittent lockdowns in October and November and the bumpy reopening in December. However, growth fell short of expectations in the fourth quarter for some advanced economies—including Japan, Korea, and Taiwan Province of China—on the back of lower external demand from the United States and Europe (Figure 2, panel 5) and a downturn in the global technology cycle that affected electronics manufacturers in those economies (Figure 2, panel 6).

The impact of the aforementioned shocks continues to be felt in 2023, but less intensely. The broad decline in food and energy prices at the end of 2022 has brought some relief to consumers and commodity importers, contributing to the moderation in price pressures in the region. Global financial conditions have eased from recent peaks, reducing pressures on Asian currencies and borrowing costs. In China, COVID-19 waves subsided in January, mobility has normalized, and other high frequency indicators—such as retail sales and travel bookings—have started to pick up (Figure 3).

Growth in Asia surprised to the upside in 2022:Q3, while 2022:Q4 was mixed.

Figure 1. Growth Surprises
(Percent, year-over-year growth)

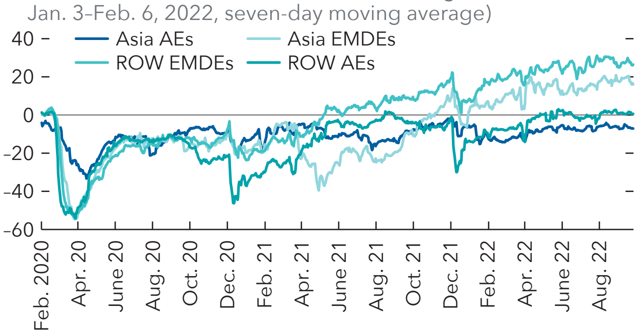


Sources: Haver Analytics; and IMF, World Economic Outlook (WEO) database.
Note: Real GDP growth rates of Malaysia and Vietnam in 2022:Q3 both exceed 10 percent and are higher than October 2022 *World Economic Outlook* projections.

Figure 2. Growth Drivers in Asia in 2022

Mobility has picked up in Asia's emerging markets since mid-2022.

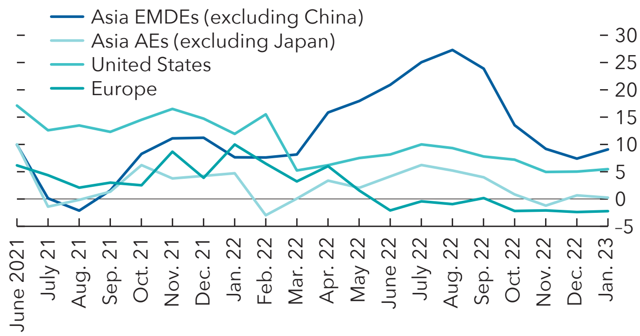
1. Mobility
(Percent from baseline, median value during Jan. 3–Feb. 6, 2022, seven-day moving average)



Sources: Google COVID-19 Community Mobility Report; and IMF staff calculations.
Note: The figure displays the seven-day moving average of the overall mobility index. Overall mobility index computed as the average of the percentage changes from pre-pandemic baseline day in retail, grocery and pharmacy, parks, transit, workplaces, and residential. Latest data as of October 15, 2022. AEs = advanced economies; EMDEs = emerging market and developing economies; ROW = rest of the world.

Asia's reopening was later than the rest of the world's and boosted domestic demand ...

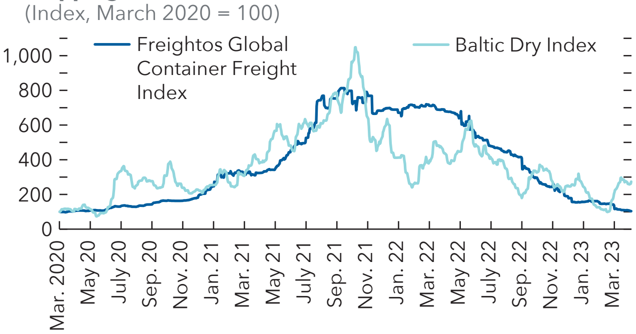
2. Retail Sales Volume
(Percent, year-over-year growth)



Sources: Haver Analytics; and IMF staff calculations.
Note: AEs = advanced economies; EMDEs = emerging market and developing economies.

... while declining logistics costs eased supply constraints.

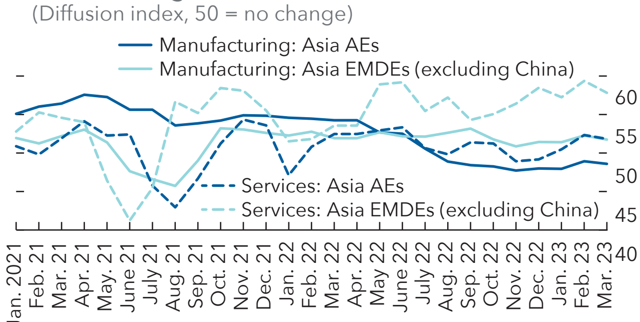
3. Shipping Costs Indexes
(Index, March 2020 = 100)



Sources: Haver Analytics; and IMF staff calculations.

Manufacturing and services also picked up ...

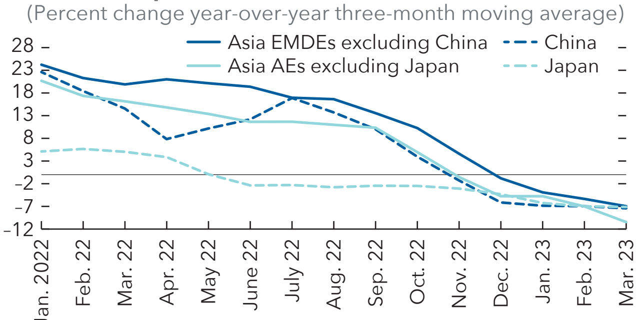
4. Manufacturing and Service Sectors PMI
(Diffusion index, 50 = no change)



Sources: Haver Analytics; and IMF staff calculations.
Note: AEs = advanced economies; EMDEs= emerging market and developing economies; PMI = purchasing managers' index.

... but exports, particularly electronics, have contracted from the end of 2022.

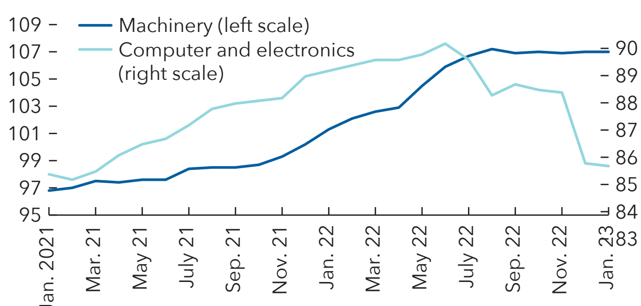
5. Asia USD Export (FOB) Growth Rates
(Percent change year-over-year three-month moving average)



Sources: Haver Analytics; and IMF staff calculations.
Note: Asia EMDEs include India, Indonesia, Korea, Malaysia, the Philippines, Thailand, and Vietnam. Asia AEs include Australia, Hong Kong SAR, New Zealand, Singapore, and Taiwan Province of China. AEs = advanced economies; EMDEs = emerging market and developing economies.

Prices for technology exports from Asia (for example, semiconductors) are down from recent peaks.

6. Price Index of US Manufacturing Imports from Asia



Source: US Bureau of Labor Statistics.

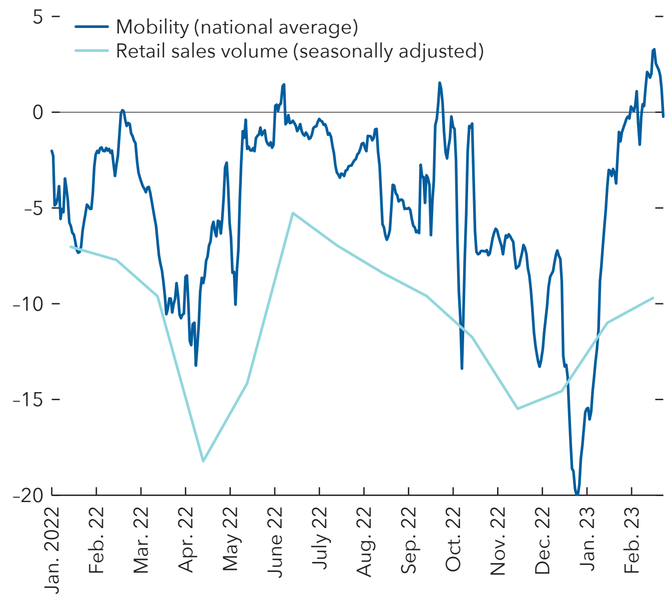
Volatile Financial Conditions and Persistent Core Inflation

Inflationary pressures in Asia and globally have shown early signs of easing, stemming from sharp and synchronized monetary tightening actions taken by central banks and declines in commodity prices and shipping costs. However, like in the rest of the world, core inflation in the region remains persistent. Financial conditions have eased from last year's peaks, in line with global trends, but remain volatile. Asia has been relatively insulated from recent banking turmoil in the United States and Europe thus far, as forceful responses by policymakers in those regions to stem systemic risks appear to have reduced market anxiety to some extent (April 2023 *Global Financial Stability Report*). Nonetheless, this recent stress has weighed on risky assets, and the region remains exposed to headwinds from fragile market sentiment.

In China, mobility and retail sales have been recovering since the end of December.

Figure 3. China Mobility and Retail Sales

(Mobility seven-day moving average, percent deviation from 2017–19 average in lunar calendar; retail sales volume, percent deviation from 2017–19 trend)



Sources: National Bureau of Statistics of China; WIND Mobility Index; and IMF staff calculations.
Note: Mobility data as of February 21, 2023; retail sales data as of February 2023.

Financial Conditions

Financial conditions in Asia have generally eased since last October, despite Asian central banks continuing their monetary tightening cycle. A bout of global volatility affected funding conditions and financial markets in Asia mid-2022; in the face of temporary disruption in foreign exchange markets, some countries in the region resorted to foreign exchange interventions to smooth volatility. After this episode, the US dollar weakened in global markets, investor appetite improved, and capital inflows to Asian economies returned (Figure 4, panel 1); funding conditions for sovereign debt issuers have become more favorable (Figure 4, panel 2), while Asian currencies stabilized. However, financial conditions in the region have not been immune to rising global volatility in recent months. Swings in currencies and capital flows have reflected shifting market expectations about US monetary policy and turbulence linked to more recent global banking stress. Given high market volatility and a disconnect between market expectations and the Federal Reserve's projected rate path, significant uncertainty remains around the evolution of financial conditions in the region.

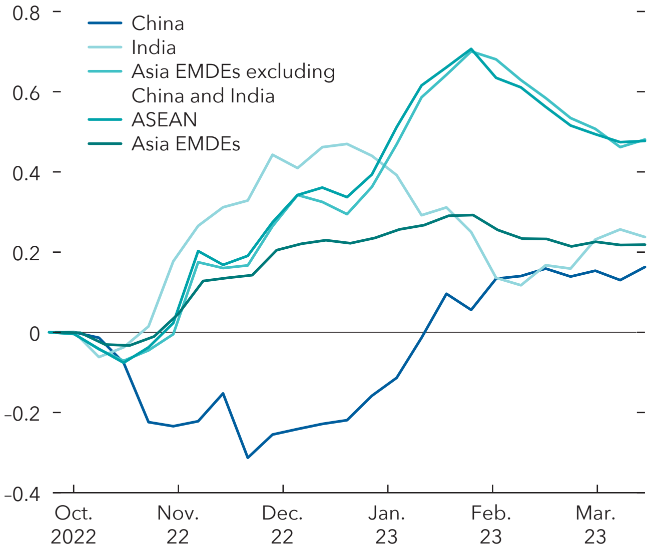
Core Inflation

Inflation in Asia has moderated since mid-2022, reflecting declines in both commodity prices and shipping costs. At the same time, the underlying driver of headline inflation in Asia has shifted toward rising core inflation, much like in the rest of the world (Figure 5, panel 1). Core inflation has remained above central bank targets across most Asian economies, although it is still moderate compared with the rest of the world (Figure 5, panel 2). The pickup in Asia's core inflation accelerated in the second half of 2022 as the region gradually phased out COVID-19 containment measures, which led to increased mobility and stronger domestic demand, particularly in emerging market economies (excluding China), thus contributing to closing output gaps. In China and Japan, where delayed reopening and softening external demand weighed on the recovery, output remains below potential, and core or headline inflation has stayed within central bank target ranges.

Figure 4. Financial Conditions

Portfolio flows remain resilient for now …

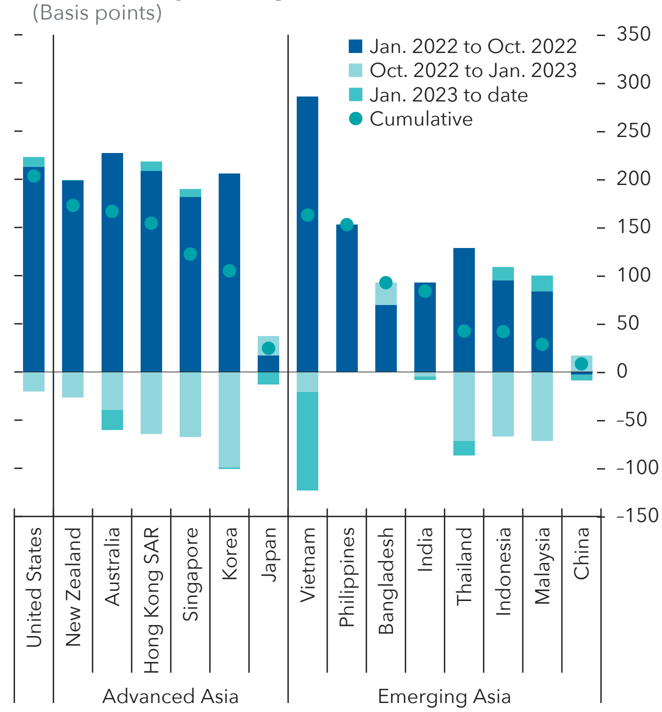
1. Cumulative Portfolio Flows
(Percent of IIP liabilities)



Sources: Institute of International Finance; and IMF staff calculations.
Note: Asia EMDEs excludes China and India, and includes Indonesia, the Philippines, Sri Lanka, and Thailand. ASEAN includes Indonesia, the Philippines, and Thailand. ASEAN = Association of Southeast Asian Nations; EMDEs = emerging market and developing economies; IIP = international investment position.

… and long-term sovereign yields have come down from their 2022 peaks.

2. Local Currency Sovereign Yields
(Basis points)



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

Outlook: Dynamic Growth and Continuing Inflation Pressures

Asia and Pacific will be the most dynamic of the world's major regions in 2023, predominantly driven by the buoyant outlook for China and India. The two largest emerging market economies of the region are expected to contribute around half of global growth this year, with the rest of Asia and Pacific contributing an additional fifth (Figure 6).

The reopening of the Chinese economy will be pivotal for the region. It is expected to result in a pickup in private consumption that will drive China's growth rebound (Figure 7, panel 1). Spillovers to the rest of Asia from higher consumption in China are estimated to be larger than spillovers from other growth drivers, such as investment (Figure 7, panel 2). The near-term impact will likely vary across countries, with those more heavily reliant on tourism likely reaping the most benefit, given that the expected rise in China's imports will be strongest for services.

As in the rest of the world, domestic demand is expected to remain the largest growth driver across Asia in 2023 (Figure 8). The rebound in private consumption supported by the drawdown of excess savings built up during the pandemic—reflecting a combination of lockdown-related spending cuts, desire for higher precautionary savings, and exceptional government transfers—is expected to continue this year as household savings ratios have not yet normalized. The pace of the rebound should moderate in the economies in which the drawdown is most advanced. Moreover, improved prospects and still accommodative financial conditions in many Asian economies are likely to support credit flows for household consumption and corporate investment.

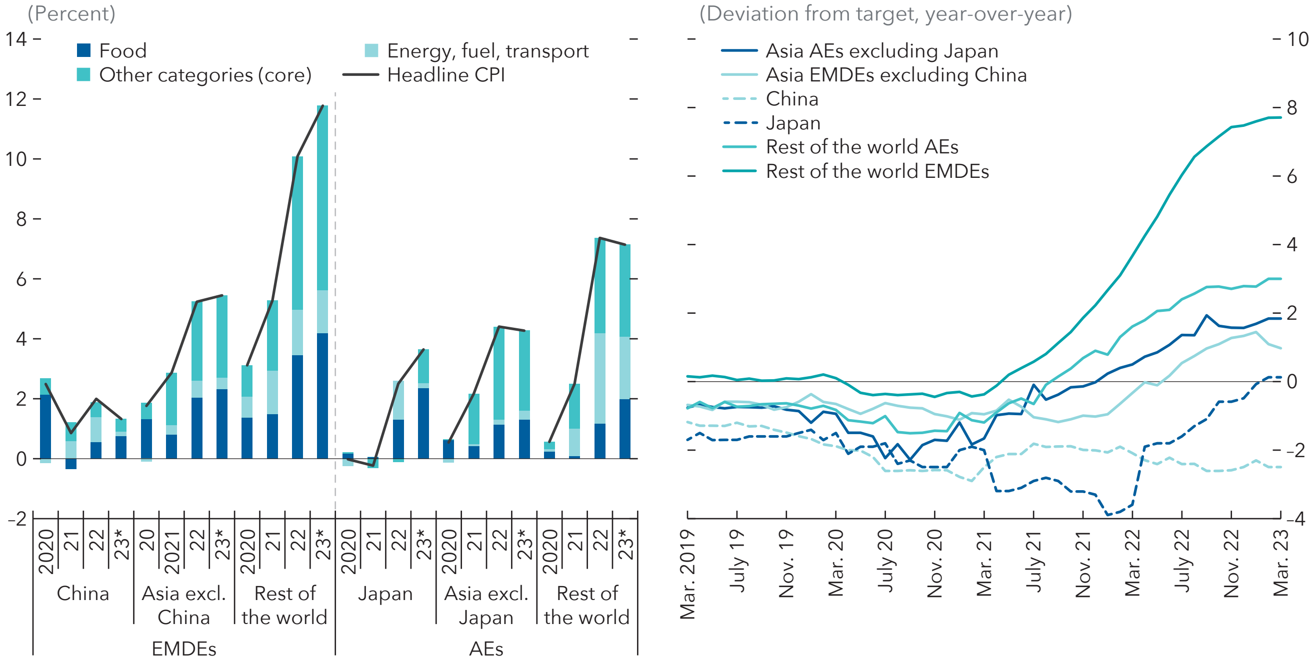
Figure 5. Inflation Developments

Core inflation remains high and is increasingly becoming the main driver of inflation.

1. Contributions to Headline Inflation
(Percent)

Core inflation remains above central bank targets in Asia, although less so than in the rest of the world.

2. Core Inflation
(Deviation from target, year-over-year)



Sources: Haver Analytics; and IMF staff calculations.
Note: 23* refers to data up to March 2023. Core refers to CPI basket excluding food and energy, fuel, and transport. The exact categories used in the decomposition of these categories varies across countries. Asia AEs include Australia, Hong Kong SAR, Korea, Macao, New Zealand, Singapore, and Taiwan Province of China. Asia EMDEs include India, Indonesia, Malaysia, the Philippines, and Thailand. Rest of the world AEs include Belgium, Canada, France, Germany, Italy, the Netherlands, Sweden, Switzerland, the United Kingdom, and the United States. Rest of the world EMDEs includes Brazil, Chile, Colombia, Hungary, Mexico, and South Africa. AEs = advanced economies; CPI = consumer price index; EMDEs = emerging market and developing economies.

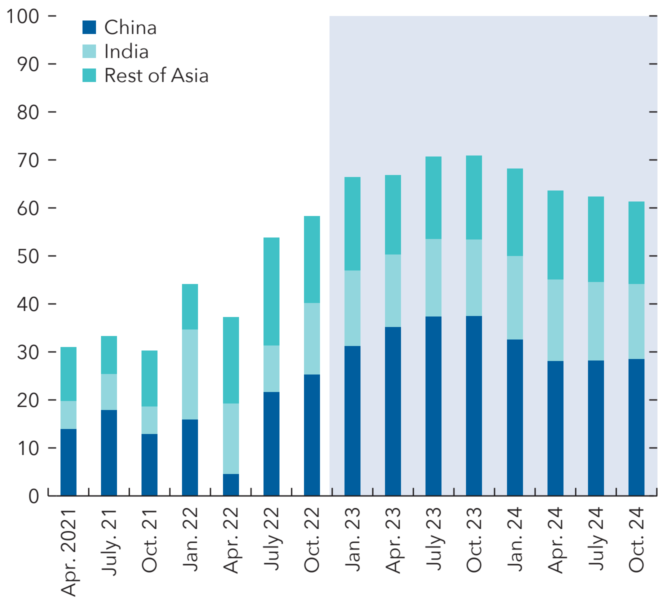
Sources: Haver Analytics; and IMF staff calculations.
Note: Core refers to CPI basket excluding food and energy, fuel, and transport. Asia AEs exclude Japan and include Australia, Hong Kong SAR, Korea, Macao, New Zealand, Singapore, and Taiwan Province of China. Asia EMDEs exclude China and include India, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam. Rest of the world AEs include Canada, Germany, France, Italy, Spain, Switzerland, the United Kingdom, and the United States. Rest of the world EMDEs include Brazil, Chile, Colombia, the Czech Republic, Hungary, Mexico, Peru, and South Africa. AEs = advanced economies; CPI = consumer price index; EMDEs = emerging market and developing economies.

However, several external and domestic factors will weigh on the outlook. Monetary conditions in the euro zone and the United States in 2022 were tighter than previously expected, which, together with the continued rotation from goods to services demand, has contributed to a downgrade in the projected import demand for Asia from outside the region. This downgrade will offset some of the benefits from higher import demand from China and weigh on growth momentum in Asia's manufacturing exporters (Figure 9, panel 1). In addition, the downturn in the technology cycle—visible in the sagging price of electronics imported by the United States from Asia and in falling book-to-bill ratios of semi-conductors—will be an additional drag on the region's tech exports (Figure 9, panel 2). Within the region, the impact of restrictive monetary policy has started to be felt, with housing markets cooling off and weakening demand for investment in residential and business construction.

Reflecting these global and regional forces, GDP growth in the region is expected to reach 4.6 percent in 2023, up from 3.8 in percent in 2022 (Table 1), and an upgrade of 0.3 percent from the October 2022 *World Economic Outlook*. Asia's dynamism will be driven primarily by the recovery in China and resilient growth in India, while growth in the rest of Asia is expected to bottom out in 2023, in line with other regions.

The largest growth contributions come from China and India.

Figure 6. Global Growth Contributions
(Percent, quarterly year-over-year growth)



Sources: IMF, April 2023 *World Economic Outlook*; and IMF staff calculations.

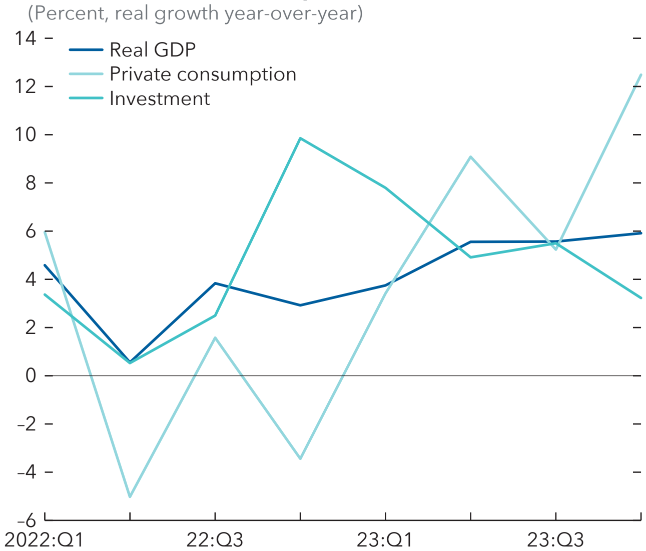
Advanced Economies

Stronger external demand from China will provide some respite to advanced economies in the region, but is expected to be largely outweighed by the drag from other domestic and external factors. In Japan, growth is expected to tick up slightly to 1.3 percent in 2023, supported by expansionary monetary and fiscal stances; this forecast represents a 0.3 percentage point downgrade relative to last October, reflecting weaker external demand and investment and carryover from disappointing growth in the last quarter of 2022. In Australia and New Zealand, weakening domestic demand linked to monetary tightening, rising mortgage payments, and lower real disposable income is expected to dampen growth prospects to 1.6 percent and 1.1 percent in 2023, respectively. The downturn in the technology cycle is expected to erode growth momentum further in Korea and Taiwan Province of China, where outturns in the last quarter of 2022 were disappointing.

Figure 7. China's Reopening

Chinese growth in 2023 is projected to be 0.8 percentage point higher than in the October 2022 World Economic Outlook.

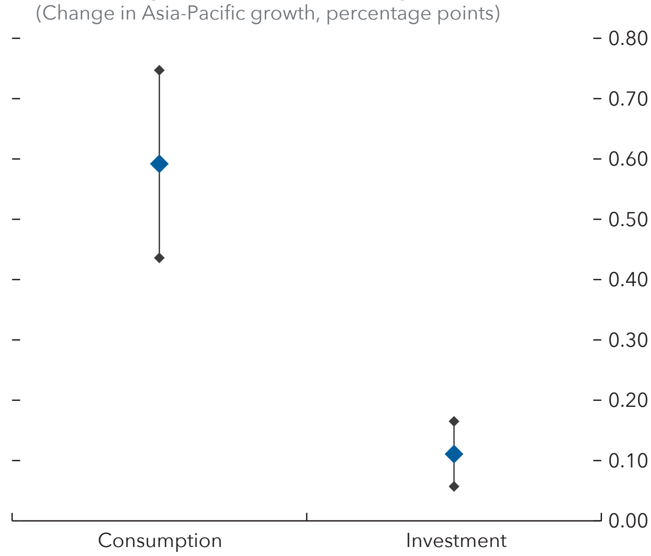
1. Growth and Private Consumption
(Percent, real growth year-over-year)



Sources: CEIC Data Company Ltd; and IMF staff calculations.

Higher growth in China will have positive spillovers for the region, mainly through consumption.

2. Estimated Spillovers from China's Projected Growth in 2023
(Change in Asia-Pacific growth, percentage points)



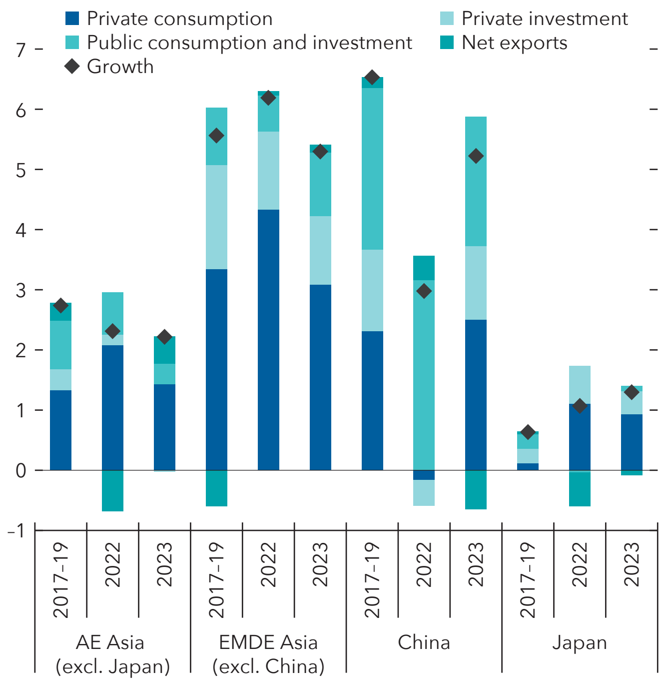
Sources: IMF, October 2022 *Regional Economic Outlook: Asia and Pacific;* IMF, October 2022 *World Economic Outlook;* and IMF staff calculations.
Note: Diamonds represent mean response in Asia-Pacific countries (excluding China), lines are 68 percent confidence intervals. Shocks are scaled to be equivalent to the revision in China private investment (1 pp) and consumption (1.5 pp) growth forecast from October 2022 *World Economic Outlook* to April 2023 *World Economic Outlook*.

Emerging Markets

In China, the economy is expected to expand by 5.2 percent in 2023, as the rapid economic reopening generates a strong recovery in private consumption. In India, growth momentum will begin to slow as softening domestic demand offsets strong external services demand; growth is expected to moderate slightly from 6.8 percent in 2022 to 5.9 percent this year. Economies belonging to the Association of Southeast Asian Nations are also expected to see growth decreasing from 5.7 percent in 2022 to 4.6 percent in 2023, due to a slight moderation in domestic demand momentum (Malaysia, Thailand), monetary tightening (Philippines), commodity prices easing (Indonesia, Malaysia), and weaker external demand from the United States and Europe. In Bangladesh, growth will slow to 5.5 percent in 2023 because of demand management measures; the recently approved Extended Fund Facility will help address economic challenges caused by Russia's war in Ukraine, while the concurrent Resilience and Sustainability Facility arrangement will help expand fiscal space to finance climate investment priorities and build resilience against long-term climate risks. In Sri Lanka, the recently approved Extended Fund Facility Arrangement will provide much needed financing and help stabilize the economy.

Domestic demand, consumption in particular, is the main driver of growth in the near term.

Figure 8. Contributions to GDP Growth
(Percentage points; year-over-year)



Sources: IMF, World Economic Outlook database; and IMF staff calculations.
Note: AE = advanced economy; EMDE = emerging market and developing economy.

Pacific Island Countries

The full reopening of borders both domestically and in China will help boost tourism across Pacific Island countries, with growth expected to accelerate to 3.9 percent this year. However, output remains below pre-pandemic levels, and policy space is shrinking as debt pressures remain elevated.

Medium-Term Prospects

Over the medium term, structural shifts in China's economic model—most notably the declining population and slowing productivity growth—will lead China's growth to fall below 4 percent, and thus well below historic averages. In addition, as a result of structural rebalancing over time, China's growth is expected to be increasingly consumption driven (IMF 2023b). This shift may reduce Asia's growth momentum significantly given strong trade and supply chain linkages within the region.

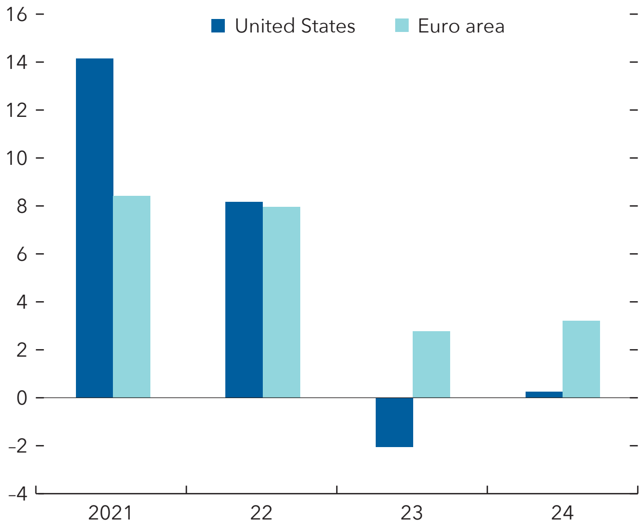
Inflation

Headline inflation is expected to decline this year at a gradual pace (Figure 10), reflecting subsiding food and energy price pressures and the effects of monetary tightening. Output is expected to return to potential in Asia's emerging market economies by 2023, somewhat behind the trend in advanced economies, suggesting continued near-term pressure on core inflation. Inflationary pressures in Asia's advanced economies are expected to be more persistent than envisioned in the October 2022 *World Economic Outlook*, as wage growth has recently become more apparent in Australia, Japan, and New Zealand.

Figure 9. External Demand and the Global Technology Cycle

Weaker demand from the United States and Europe will put pressure on Asia's export performance.

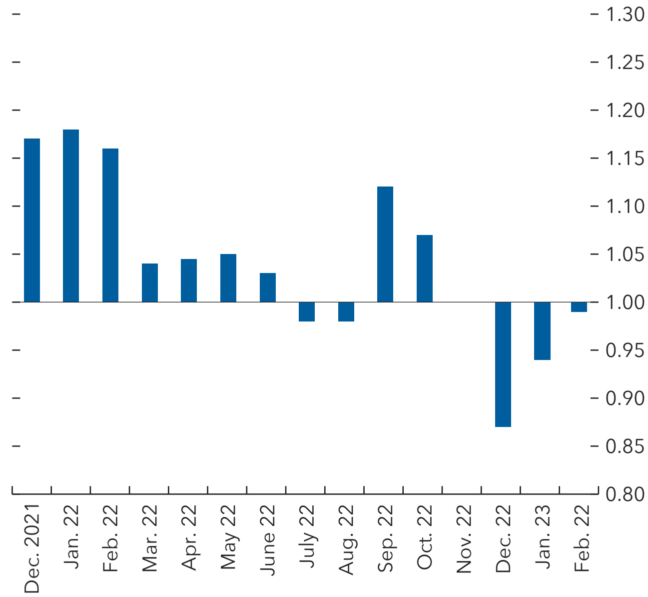
1. Goods and Service Imports
(Percent)



Sources: IMF, April 2023 *World Economic Outlook*; and IMF staff calculations.

Demand for semiconductors remains subdued.

2. North American Printed Circuit Board Book-to-Bill Ratio
(Units)



Source: IPC.
Note: The book-to-bill ratio is the ratio of orders received to units shipped and billed for the period. It is often used as a leading indicator of demand; a ratio below one means more orders were shipped than received during the month, signaling diminishing demand.

Risks to the Outlook Remain Tilted to the Downside

Uncertainty continues to cloud the outlook for Asia, and risks remain to the downside, as in the October 2022 *Regional Economic Outlook: Asia and Pacific*. Global and regional inflation could prove stickier than expected. A tightening in financial conditions due to interest rate hikes by central banks beyond what markets currently expect could pose financial stability risks via sectors with high leverage; these risks are amplified by fragile market sentiment. In the medium term, more severe geoeconomic fragmentation and spillovers from the slowdown in China could imperil Asia's growth potential. Other risks stem from continued banking sector stress and slowed economic activity in the United States and Europe, which could weaken external demand in Asia; a deepening of real estate sector turbulence in China, which could jeopardize China's recovery, with potential regional spillovers; and high debt levels in Asia's emerging markets and developing economies, which could lead to sovereign debt distress (April 2023 *World Economic Outlook*, Chapters 1 and 3). Upside risks include stronger-than-expected domestic demand, although this could complicate achieving inflation objectives.

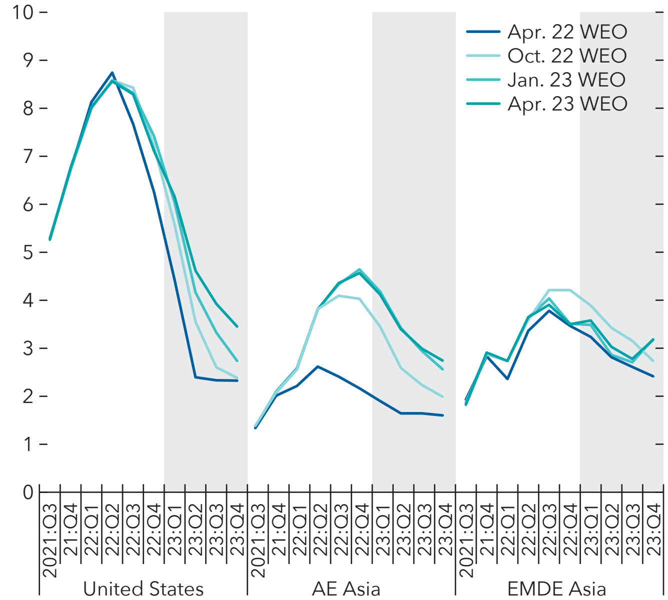
Stickier Inflation

Global and regional disinflationary trends could stall, driven by additional commodity price and shipping cost shocks or by core inflation that is more persistent than expected.

Additional shocks to commodity prices or further disruptions in supply chains could raise headline inflation and pass through into core inflation and inflation expectations (October 2022 *Regional Economic Outlook: Asia and Pacific*; Carrière-Swallow and others 2023a). Although China's reopening has not led to a noticeable increase in global energy prices thus far, commodity prices could respond strongly if the rebound in China's economic activity were larger than expected (Figure 11, panel 1). In addition, an escalation in Russia's war in Ukraine or intraregional military tensions could again disrupt vulnerable supply chains, raising the costs of global shipping and intermediate goods.

Significant uncertainty remains around the path of core inflation, which could turn out to be more persistent in advanced economies and Asia. In the United States, stronger-than-expected wage growth and tight labor markets could stall the incipient decline in inflation. In Asia, resilient domestic demand and large positive output gaps in some advanced economies (for example, Australia, Malaysia, New Zealand, and the Philippines), uncertain lags in monetary transmission (see April 2023 *World Economic Outlook*, Box 1.2), and still-narrowing negative output gaps in some emerging markets (India and Thailand) could contribute to more persistent price pressures (Figure 11, panel 2). Risks that slack may be smaller than assessed because of scarring from the pandemic could also translate into stronger inflation persistence.

Figure 10. Headline Inflation Expected to Decline
(Percent)

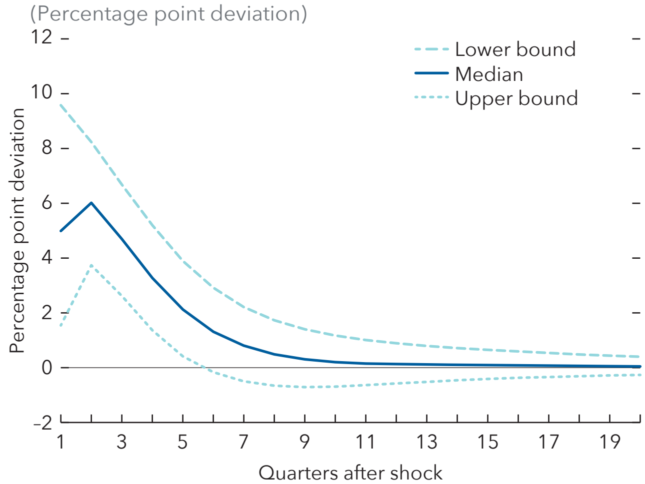


Source: IMF, World Economic Outlook (WEO) database.
Note: AE = advanced economy; EMDE = emerging market and developing economy.

Figure 11. Risk of Stickier Inflation

China's reopening could put pressure on commodity prices.

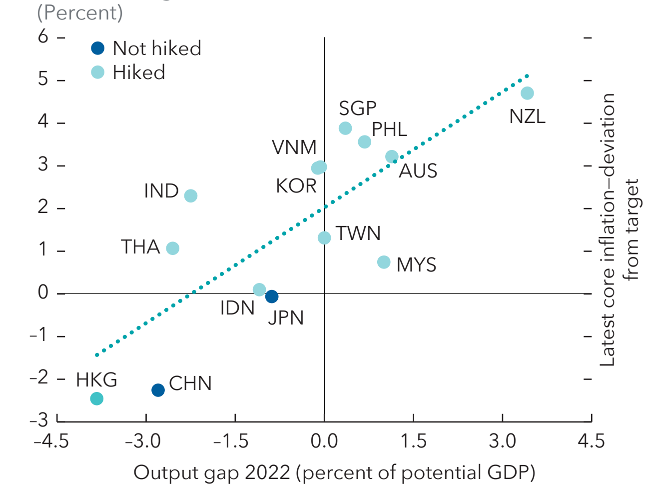
1. Response of Brent Oil Price to 1 Percentage Point Chinese Demand Shock
(Percentage point deviation)



Sources: Copestake and others (forthcoming); and IMF staff calculations.
Note: Solid line shows the median response of the Brent oil price to a positive demand shock in China based on a sign restricted Bayesian structural vector autoregressive model.

Positive output gaps could contribute to more persistent price pressures.

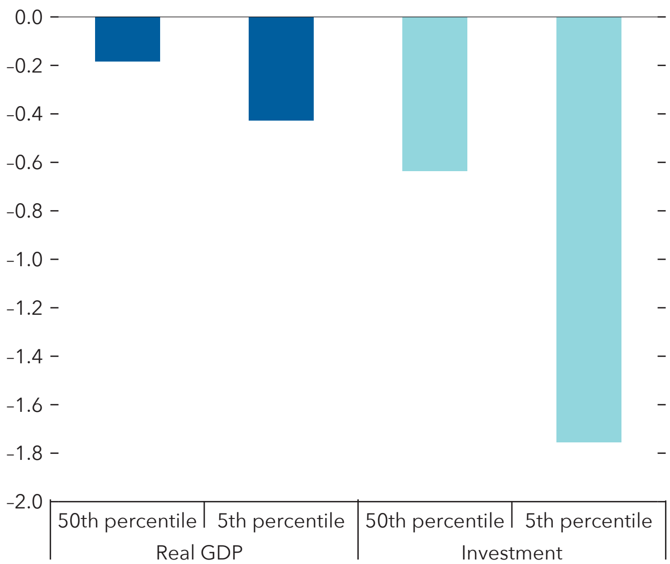
2. Output Gap and Core Inflation Deviation from Inflation Target
(Percent)



Sources: Haver Analytics; IMF, World Economic Outlook database; and IMF staff calculations.
Note: For inflation-targeting countries, deviation from target or midpoint of the inflation target range is used. For countries without an inflation target (Hong Kong SAR, Malaysia, Singapore, Taiwan Province of China), an implicit target is calculated using the long-term average inflation between 2010–19. Dotted line as linear regression line. Latest core inflation data as of March 29, 2023. Country abbreviations are International Organization for Standardization country codes.

Larger and more persistent US monetary tightening could have significant spillovers to Asia.

Figure 12. Response of Real GDP and Investment to a US Monetary Policy Shock
(Percentage change, impulse responses at four quarters)



Source: Arbatli-Saxegaard and others (2022).
Note: Estimations are based on panel quantile regressions and show the impact of a 100 basis point exegenous US monetary policy shock. Standard errors are bootstrapped using blocks of four quarters.

Abrupt Repricing of Monetary Tightening by Major Central Banks

Given the sizable disconnect between markets' expectations of monetary policy paths and central bank communications, abrupt repricing of major central banks' monetary tightening would cause adverse spillovers to Asia. US monetary shocks have been shown to have negative effects on investment and growth in the region (Figure 12; October 2021 *Regional Economic Outlook: Asia and Pacific*, Box 2.1), and could put significant pressure on Asia's borrowing costs, equity valuations, and exchange rates (Arbatli-Saxegaard and others 2022).

Amplification of Financial Vulnerabilities

Poor market conditions in recent months, combined with gyrations in interest rates, appear to have amplified market volatility. While spillovers to the region from stress in US and European financial sectors have been relatively contained thus far, Asia remains vulnerable to tightening financial conditions and to sudden and disorderly repricing of assets. Banks in Asia's advanced economies hold a relatively large share of mark-to-market securities on their balance sheets, exposing them to losses from repricing; however, spillover concerns are somewhat mitigated by their strong capital and liquidity buffers. On the other hand, the region's highly leveraged corporate and household sectors are significantly more exposed to a sharp increase in borrowing costs in a severe downside scenario (as outlined in the April 2023 *World Economic Outlook*).

Medium-Term Risks

Risks of further global trade fragmentation are becoming more salient, considering ongoing US-China trade disputes (including new restrictions on trade in high-tech products) and heightened geopolitical tensions linked to Russia's war in Ukraine. Asia remains especially vulnerable to reduced cross-border trade flows (October 2022 *Regional Economic Outlook: Asia and Pacific*, Chapter 3; IMF 2023c) and foreign direct investment (April 2023 *World Economic Outlook*, Chapter 4) that could result from the world fragmenting into multiple blocs, with Asia's exporters heavily exposed to the China, Europe, and the United States (Figure 13, panel 1). Meanwhile, the medium-term slowdown in productivity and investment in China—which could sharpen due to fragmentation pressures—may have profound and unanticipated adverse implications for the rest of the region. The impact on other Asian economies would depend on their degree of export exposure to China's domestic demand and investment, and to global value chains via China (Figure 13, panel 2).

Policies to Mitigate Risks and Support Growth

Policymakers in the region face several challenges: bringing inflation back to target, stabilizing public and private debt, safeguarding financial stability, and improving long-term growth potential. High levels of uncertainty around the depth of scarring from the pandemic (see October 2022 *Regional Economic Outlook: Asia and*

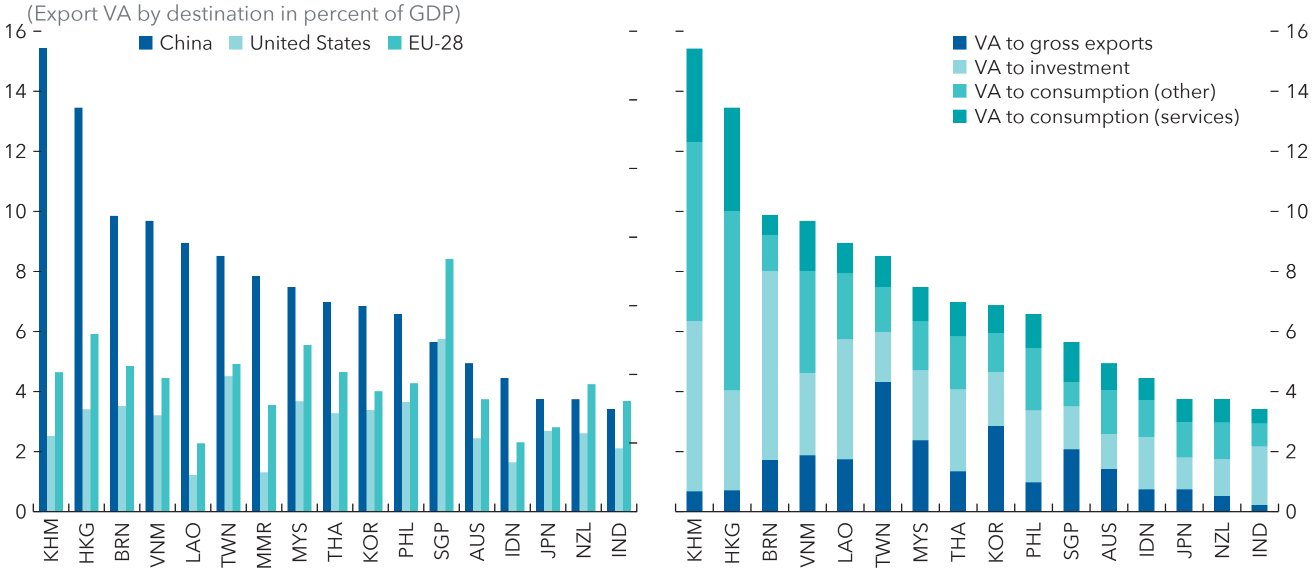
Figure 13. Exposure to Medium-term Risks

Fragmentation could have significant spillovers to the region given high exposure to the United States and China.

1. Asian Exporters' Exposure to China, Europe, and the United States
(Export VA by destination in percent of GDP)

Spillovers from structural changes in China's economy will vary with exposure to demand for consumption and investment.

2. Decomposing Exports Value Added to China
(Percent of GDP)



Sources: Trade in Value Added (TiVA); and IMF staff calculations.
Note: Data labels in the figure use International Organization for Standardization country codes. VA = value added.

Pacific, Chapter 2) and the persistence of inflation, and volatility in financial markets, amplified by recent strains in financial institutions' funding and liquidity conditions, are complicating the assessment of policy trade-offs (see April 2023 *Global Financial Stability Report*, Chapter 1).

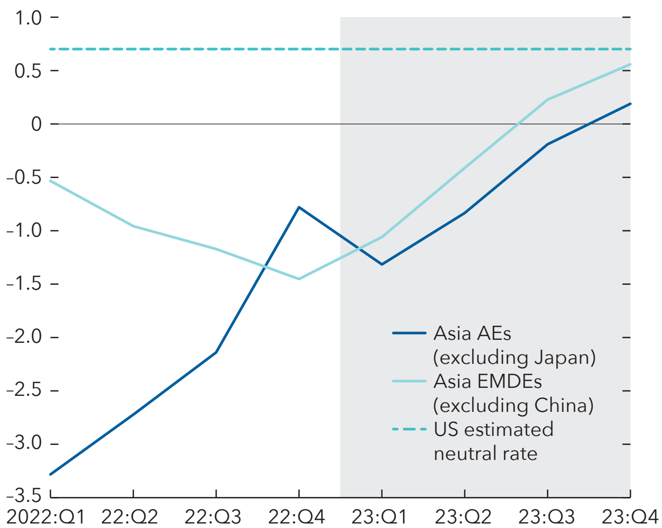
Monetary Policy

Central bankers in Asia should aim to bring inflation durably back to target, holding a tighter stance for longer to prevent de-anchoring of inflation expectations. The costs of failing to bring inflation below target are likely to outweigh any benefits from keeping monetary conditions loose—insufficient tightening in the short term would require disproportionately more monetary tightening later to avoid high inflation becoming ingrained, making a larger contraction more likely. In Asia, several factors indicate that monetary conditions may need to be tighter for longer, including compressed real interest rates, deviation from simple policy rules, additional pressures from exchange rate pass-through, and broadening price pressures.

- **Real interest rates.** Markets expect real interest rates in emerging markets in Asia (excluding China) to gradually increase and turn positive later this year, but to remain low overall, while real interest rates in advanced economies (excluding Japan) are expected to remain negative for most of 2023 (Figure 14); real rates are thus likely below neutral in many countries in the region.
- **Deviation from Taylor rule–implied policies.** Many central banks in Asia have communicated the hiking cycle to be nearing completion or already complete. The tightening thus far has been very shallow compared with the interest rate path implied by a standard Taylor rule regime (Figure 15).
- **Exchange rate pass-through.** The substantial weakening of Asian currencies through October 2022 could lead to significant price pressures, despite the partial reversal in exchange rates since (Figure 16, panel 1). IMF staff research finds that depreciation episodes have a stronger near-term impact on domestic prices than appreciation episodes (see Box 1). In a scenario that features the same exchange rate fluctuations experienced

Real interest rates remain low in both advanced and emerging market economies.

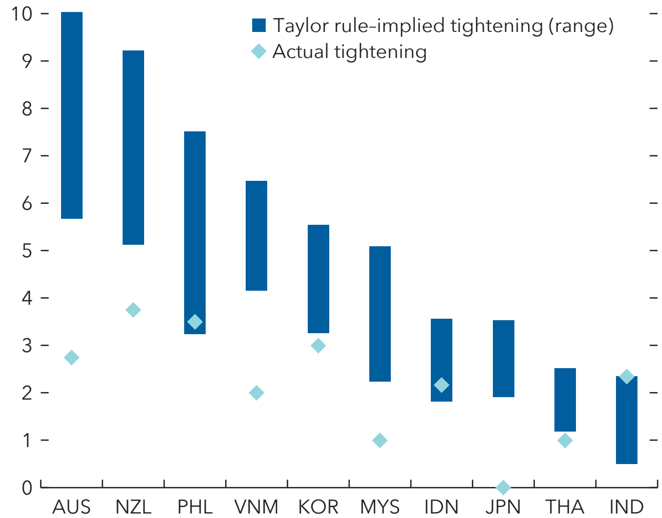
Figure 14. Real Interest Rates in Asia
(Percent)



Sources: Bloomberg Finance L.P.; and IMF, World Economic Outlook database.
Note: Simple average of real interest rates. Asia AEs includes Australia, Hong Kong SAR, and New Zealand. Asia EMDEs includes Malaysia, the Philippines, and Thailand. Shaded areas are the start of projections. Neutral rate estimated in Chapter 2 of the April 2023 *World Economic Outlook*. Forecasted policy rates based on market implied rates from Bloomberg Finance L.P. three months, six months, and one year ahead. Core inflation projections based on core inflation forecasts. AEs = advanced economies; EMDEs = emerging market and developing economies.

Monetary conditions appear accommodative.

Figure 15. Cumulative Change in Short-Term Interest Rates and Taylor Rule–Implied Interest Rates
(2021:Q1 latest, percentage points)



Sources: Haver Analytics; IMF, World Economic Outlook database; and IMF staff calculations.
Note: All countries show data up to the first quarter of 2023 except for Australia, New Zealand, and Vietnam, which show up to the fourth quarter of 2022. Calculations for Taylor Rule–implied interest rates are derived from $\Delta i_t = 1/1.5(\Delta\pi_t) + 0.1/0.5(\Delta y_t)$, where π is core inflation rate and y is the output gap. Output gaps were interpolated from yearly to quarterly frequency. Country abbreviations are International Organization for Standardization country codes.

in the region over the past year, inflationary pressures would be expected to peak in the second half of 2023, raising the price level by more than 2 percent in emerging markets and by about 0.5 percent in advanced economies (Figure 16, panel 2).

- **Broader price pressures.** Recent inflationary pressures have broadened to services, and resilient domestic consumption is expected to be a key driver of demand in Asia, including with the reopening of China and the rebound in regional tourism. Moreover, since food and energy inflation has been lower in Asia than elsewhere because of subdued prices for rice and pervasive use of administrative controls and subsidies for gasoline, electricity, and transportation, the disinflationary impact from the downturn in the global commodity cycle may be limited. Some countries may also experience additional or lagged price pressures stemming from the phasing out of subsidies (Indonesia, Korea, Malaysia). Evidence of wage-price spirals remains limited in Asia, like in the rest of the world, but these should be monitored closely.

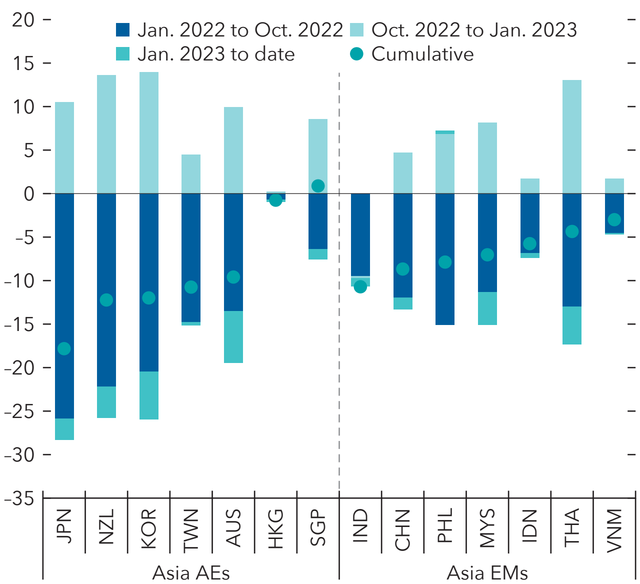
Financial Policies

Financial supervisors will need to be especially wary of the buildup of financial vulnerabilities considering fragile market sentiment, elevated economic uncertainty, high debt burdens, and rising debt service costs. Relevant macroprudential tools—especially those targeting corporate and household sectors, including limits on loan-to-value ratios and debt-service-to-income ratios—should be recalibrated as needed to tackle pockets of vulnerability, while insolvency frameworks should be strengthened to facilitate a reallocation of capital. Although the banking sector in Asia is more resilient than a decade ago, strengthening measures to mitigate

Figure 16. Recent Exchange Rate Fluctuations and Implications for Inflation

After large depreciation through the fall, Asian EM currencies appreciated against the US dollar in the last quarter of 2022, but have since depreciated.

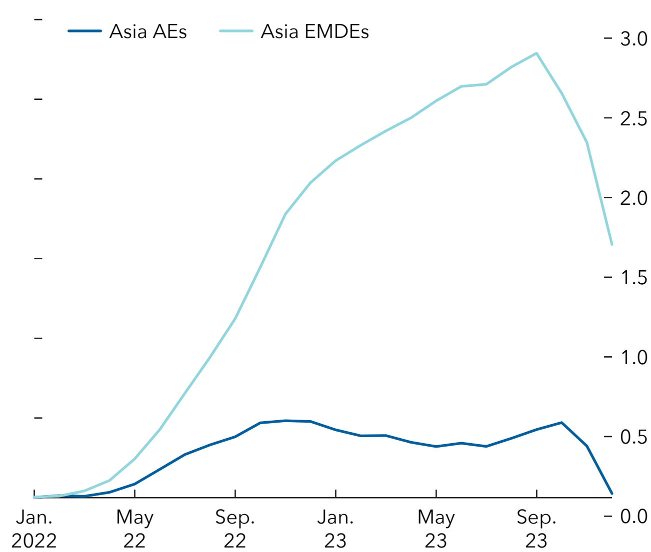
1. Exchange Movement against the US Dollar
(Percent)



Sources: Bloomberg Finance L.P.; and IMF staff calculations.
Note: Country abbreviations are International Organization for Standardization country codes. AEs = advanced economies; EMs = emerging markets.

Pass-through from last year's depreciation adds to inflation pressures in 2023, especially for EMs.

2. Estimated Contribution of the Exchange Rate to Headline CPI
(Percentage points)



Source: IMF staff calculations.
Note: The chart displays the estimated contribution of the exchange rate to headline consumer price index (CPI) through end-2023, based on pass-through estimates reported in Carrière-Swallow and others (2023b). Exchange rate developments from January 2022 to December 2022 are used in these calculations. Asia AEs include Australia, Japan, Korea, and New Zealand. Asia EMDEs include China, India, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam. AEs = advanced economies; EMDEs = emerging market and developing economies.

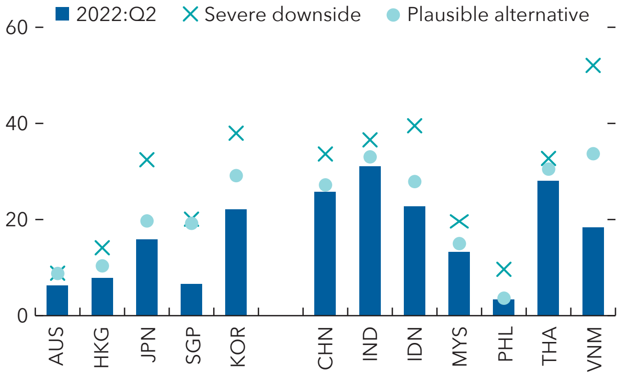
banks' exposure to credit and interest rate risk is important. Global cooperation and the full use of the global financial safety net remains essential for protecting the region against risks of external funding shocks; in this context, the recent reinstalment of global swap lines to shore up dollar liquidity is a welcome development.

- **The corporate sector.** At the start of the monetary tightening cycle, corporate debt in Asia was already concentrated in firms at risk of insolvency. Stress tests in line with the assumptions from the two scenarios in Chapter 1 of the April 2023 *World Economic Outlook* show that, even with resilient economic growth, steep increases in borrowing costs could weaken the sector's debt servicing capacity further, raising the share of debt linked to at-risk firms across the region (Figure 17, panel 1; Box 2). Recent movements in corporate spreads partly reflect these vulnerabilities but remain fairly muted (Figure 17, panel 2), potentially because of substantial corporate cash buffers or government support measures and implicit guarantees. The property and construction sector remains of major concern, including in China, where distressed developers continue to face severe funding strains and the sustainability of local government financing vehicles remains in question, with the potential for macro-financial spillovers via both banks and nonbank financial institutions; in Vietnam, where vulnerabilities are intensifying; and in Korea and Singapore, where highly indebted firms are vulnerable to rising borrowing costs (Box 2).

Figure 17. Financial Fragilities in Asia

Already-high debt concentration in vulnerable firms could worsen if downside risks materialize.

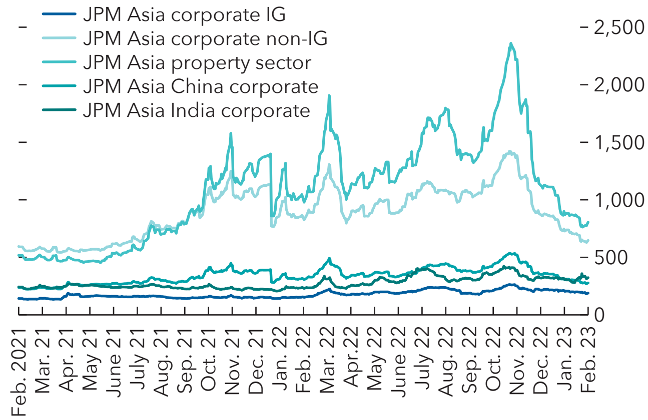
1. Share of Corporate Debt in Vulnerable Firms
(Debt in firms with ICR < 1; percent of all corporate debt)



Sources: Bloomberg; Capital IQ; and IMF staff calculations.
Note: ICR in 2022:Q2 based on the average of the latest four quarters. Country abbreviations are International Organization for Standardization country codes. ICR = interest coverage ratio.

Recent movements in corporate credit spreads remain moderate, except in a few markets

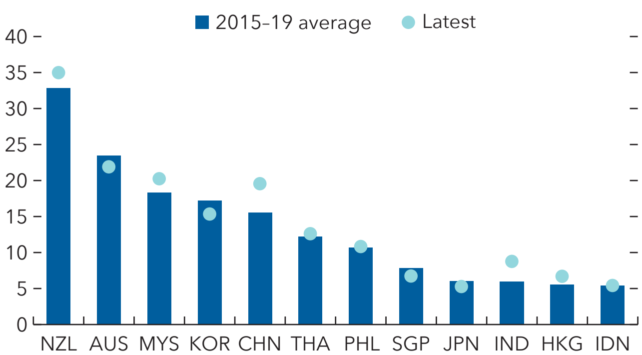
2. JP Morgan Asia Credit Index Corporate *Z*-Spreads
(Basis points)



Source: Thomson Reuters Datastream.
Note: JPM = JPMorgan; IG = investment grade.

Banking system exposures to housing loans are elevated, and in some cases higher than before the pandemic.

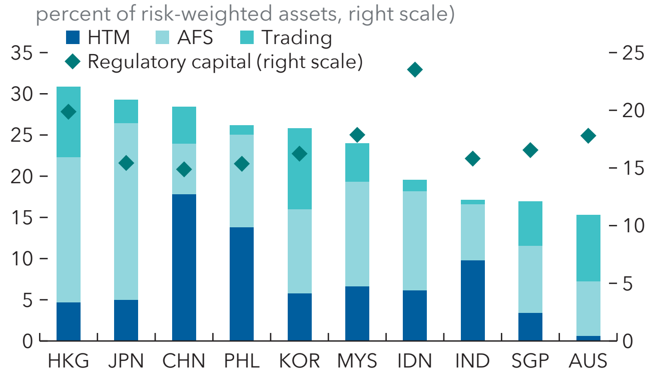
3. Bank Exposure to Housing Loans
(Percent of commercial bank assets)



Sources: Haver Analytics; and IMF staff calculations.
Note: Country abbreviations are International Organization for Standardization country codes.

Rate increases can lead to significant capital losses where banks' mark-to-market asset shares are large.

4. Bank Securities Portfolios and Regulatory Capital
(Percent of total bank assets as of December 2021; percent of risk-weighted assets, right scale)



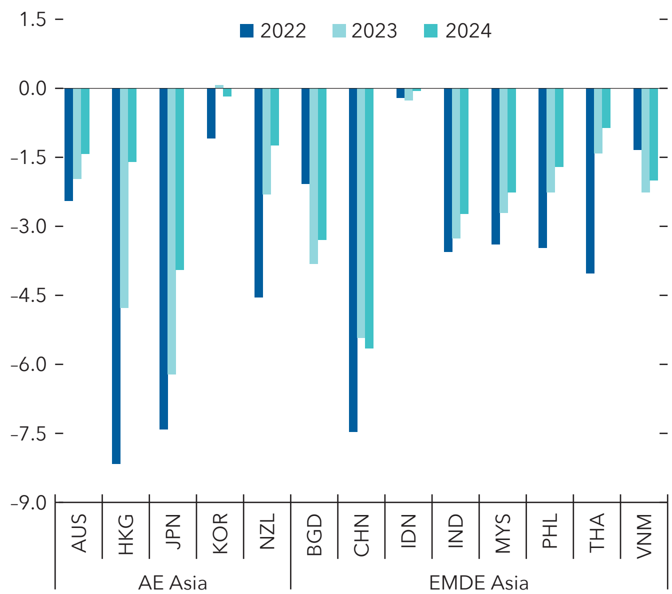
Sources: Fitch; IMF, Financial Soundness Indicators database; and IMF staff calculations.
Note: Country abbreviations are International Organization for Standardization country codes. AFS = available for sale; HTM = held to maturity.

- **The household sector.** The housing market in Asia's advanced economies is cooling amid tighter global and domestic financial conditions. However, valuations remain stretched, and downside risks to house prices are rising, increasing the risk of a sharp correction. As interest rates rise across the region, higher debt-service costs for adjustable-rate mortgages also leave housing markets more susceptible to defaults. In this context, elevated banking sector exposure to households across the region—and especially in Australia, Malaysia, and New Zealand—will require close monitoring (Figure 17, panel 3).
- **The banking sector.** The resilience of Asia's banking sectors has improved because stringent regulatory reforms introduced over the last two decades have yielded strong capital buffers and low nonperforming loans. However, several areas warrant monitoring: financial sector exposure to highly leveraged corporates and households, and long-standing concentration risks, especially for conglomerates and property firms.

Moreover, banks in the region's advanced economies and in a few emerging market economies entered the monetary tightening cycle with a substantial share of mark-to-market assets on their trading books (Figure 17, panel 4). In some of these countries, banks and nonbank financial institutions in some of these countries are holding fixed-income securities abroad that feature long portfolio durations, leaving them especially exposed to significant mark-to-market valuation losses in the event of further global tightening in monetary policy or broader financial market conditions. Measures to contain banks' risks exposures and liquidity mismatches could ringfence the system from possible market volatility.

Fiscal consolidation is expected to support monetary tightening in 2023 ...

Figure 18. Asia: Cyclically Adjusted Primary Balance
(Percent of GDP)



Source: IMF, World Economic Outlook database.
Note: Bangladesh and Vietnam use primary adjusted balance. 2020–21 = simple average. Numbers for China cover a narrower perimeter of the general government than IMF staff's estimates in China Article IV reports (see IMF 2023b for a reconciliation of the two estimates). Country abbreviations are International Organization for Standardization country codes. AE = advanced economy; EMDE = emerging market and developing economy.

Balancing Financial and Monetary Policies

Clear communication about central banks' objectives and policy functions is crucial to minimize economic and financial uncertainty. Unless financial strains intensify significantly and threaten the health of the financial system, central banks should separate monetary policy objectives from financial stability goals. Policymakers can use available tools such as liquidity and lending facilities to address liquidity and financial stability risks, which would allow them to continue to tighten monetary policy to address inflationary pressures. In case central banks need to pause the tightening of monetary policy amid high inflation to address financial stability risks, they should clearly communicate their continued resolve to bring inflation back to target as soon as possible once financial stress lessens. While emerging market economies should generally let their currencies adjust as much as possible in response to fundamentals, foreign exchange interventions may be appropriate on a temporary basis if currency movements and capital flows raise financial stability risks, per the IMF's Integrated Policy Framework. Asian countries have accumulated foreign exchange reserves since last October, providing buffers for such foreign exchange interventions if needed.

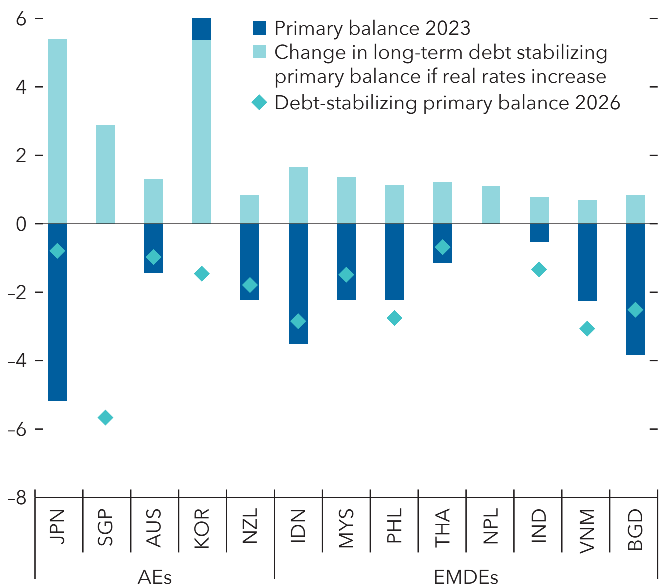
Fiscal Policies

Policymakers face the challenge of restoring public finances after a range of emergency measures over the past three years while also addressing pressing spending priorities. Steady fiscal tightening would also help contain inflationary pressures by reducing aggregate demand, thus moderating the need for monetary tightening and reducing external imbalances.

Across Asia, the increases in public debt burdens since the onset of the pandemic and the recent rise in interest rates have reduced fiscal space. Fiscal authorities are in the process of unwinding exceptional support provided over the past three years, resulting in significant near-term consolidation for advanced economies, but also some consolidation for emerging markets, except for Bangladesh and Vietnam (Figure 18). But in most emerging markets in the region, 2023 fiscal balances will remain well below medium-term debt-stabilizing

... but may need to go further to stabilize public debt.

Figure 19. Asia: Primary Balances under Different Scenarios
(Percent of GDP)



Sources: IMF, World Economic Outlook database; and IMF staff calculations.
Note: The figure shows impact on long-term debt stabilizing primary balance assuming a level shift in the yield curve of 210 basis points (difference between US 10-year real rates during the pandemic and the long-term average between 1998 and 2019). The figure assumes the entire debt stock is refinanced at higher yields–to the extent that maturity structure differs across countries, the impact on debt-stabilizing primary balance may occur over different time horizons. Debt-stabilzing primary balance reflects the fiscal balance needed to stabilize debt at 2026 levels. Country abbreviations are International Organization for Standardization country codes. AEs = advanced economies; EMDEs = emerging market and developing economies.

levels. Moreover, if borrowing costs were to rise faster than currently projected (that is, because of a tightening in financial conditions), a much steeper fiscal adjustment would be required to stabilize debt (Figure 19). At the same time, fiscal pressures linked to aging populations, rising inequality, scarring from the pandemic, and increasing climate mitigation and adaptation needs are expected to increase over the coming years. These trends underscore the need for credible and robust fiscal frameworks.

Replacing untargeted support measures with temporary and targeted assistance to the vulnerable is critical to protect fiscal space. Rising food and fuel prices in 2022 put pressure on governments to alleviate the burden on firms and households through subsidies and administered prices; these measures may have contributed to keeping food and energy inflation in Asia lower than in global peers. However, such untargeted measures are costly, subject fiscal balances to commodity price risks, and fail to preserve market signals, encouraging higher consumption (see April 2023 *Fiscal Monitor*, Chapter 1). If cost-of-living pressures continue, temporary and targeted support measures should be designed to protect the most vulnerable while maintaining appropriate market incentives and containing costs, especially in countries with limited fiscal space.

Structural Policies

Scarring from the pandemic, together with the medium-term slowdown in China, suggests that Asian economies may need to reorient toward new avenues for growth. Reforms to encourage broad-based innovation, accelerate the green transition, counter fragmentation trends, and ensure food security can help boost growth potential in a resilient, sustainable, and inclusive manner.

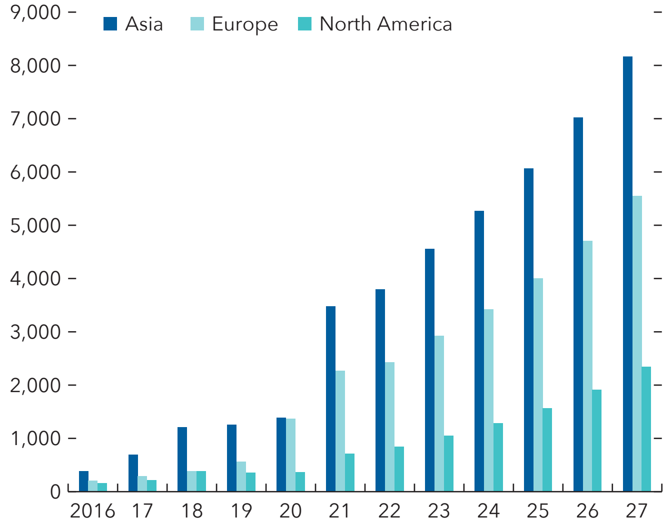
Investing in broad-based innovation and digitalization can improve aggregate productivity. Before the pandemic, Asia had emerged as a digital innovation hub, contributing to 60 percent of the world's patents in digital and computer technologies (Dabla-Norris and others 2023). However, innovation in the region has typically been concentrated in a few economies and large firms, with slow technological diffusion creating productivity gaps and reducing aggregate economic benefits. To fully reap the productivity benefits from innovation, Asia's policymakers should consider enhancing digital infrastructure, alleviating financing constraints for small and medium-sized firms, enhancing the legal environment on data and intellectual property rights protection, and upskilling the workforce (Dabla-Norris and others 2023).

Accelerating the green transition remains a priority for Asia, given that the region is highly susceptible to climate change and among the biggest contributors to global emissions. The green transition will require additional investment into energy infrastructures, energy efficiency, and clean energy sources. A rapid transition away from coal and toward cleaner sources of energy would facilitate a reduction in emissions and address the air pollution crisis which has had significant effects on health and productivity in many Asian cities. However, as policymakers weigh alternative measures to meet emissions targets, they will also need to secure public support. Recent survey results indicate that although a majority of the public in Asia considers climate change a serious problem, public knowledge about mitigation policies remains patchy (Li, Dabla-Norris, and Srinivasan 2023); as such, public information campaigns may be needed to ensure smooth implementation of any new measures. The green transition offers opportunities for innovation-led growth. The ongoing boom in electric vehicle sales in Asia suggests that some economies have already started reorienting toward opportunities for innovation (Figure 20). Further international cooperation, especially as relates to securing financial assistance for climate change adaptation for vulnerable emerging markets in the region (for example, Bangladesh and the Pacific Islands), remains essential.

The green transition is expected to create significant growth opportunities.

Figure 20. Total Electric Vehicle Sales

(Thousands of vehicles)



Sources: Statista; and IMF staff calculations.

Given that fragmentation poses significant risks to the region's outlook, especially for emerging markets, collaborative solutions are needed to ensure that trade continues to act as an engine of growth. Restoring the World Trade Organization's dispute settlement system remains essential for strengthening the multilateral trading system. Within Asia, expanding the Comprehensive and Progressive Agreement for Trans-Pacific Partnership and the Regional Comprehensive Economic Partnership can help boost growth and resilience by providing fair and predictable rules for exchange. However, it remains critical that overlapping trade agreements do not contribute to further fragmentation.

Food security is imperative for sustainable growth in Asia. The prevalence of food insecurity in the region has been rising over the last decade (Rother and others 2022). Food insecurity increased in 2022 as supply chain disruptions and Russia's war in Ukraine led to a spike in global food prices, compounded by lower production—including for rice, a key staple for the region—because of temporary increases in fuel and fertilizer costs (IMF 2023a). Natural disasters continue to create food shortages in vulnerable countries, most recently after devastating floods in Bangladesh. Reforms needed to combat food insecurity include developing robust social safety nets, maintaining open trade to allow food to flow to countries in need, and investing in climate-resilient agriculture.

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Box 1. State-Dependent Exchange Rate Pass-Through[1]

Asian currencies have fluctuated substantially since the beginning of 2022 amid elevated uncertainty and inflation. Based on Carrière-Swallow and others (2023b), this box argues that exchange rate pass-through into domestic prices is state dependent and significantly larger during periods of high inflation and economic uncertainty. This suggests that current exchange rate pass-through into prices will be larger than it has been historically.

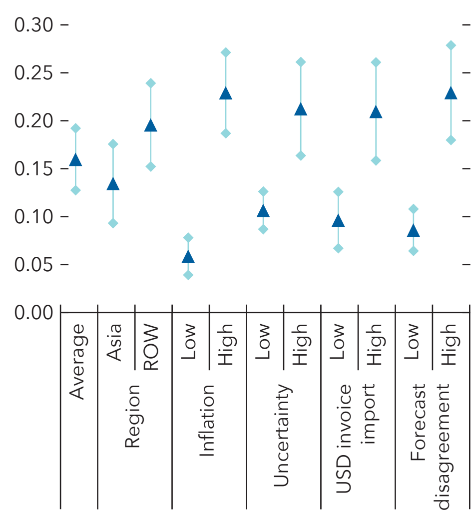
Asian currencies experienced substantial depreciation against the US dollar through much of 2022, which raised concerns about inflationary pressures from exchange rate pass-through in many countries already trying to tackle high inflation. Though most currencies have since regained some of their lost value against the US dollar, they remain broadly weaker than at the start of the monetary tightening cycle. This box examines the state-dependence of exchange rate pass-through and documents the heterogeneity in how exchange rate developments affect inflation.

Exchange rate pass-through into consumer prices is estimated using monthly data from 50 advanced and emerging market economies since 1990, using the local projections approach (Jordà 2005).[2] Results suggest that following a 10 percent depreciation in local currency against the US dollar, consumer prices rise by 1.6 percent after 12 months on average (Box Figure 1.1).[3] Inflationary effects stemming from depreciations also appear to be lower in Asia than in the rest of the world.

These average estimates, however, mask important heterogeneity in the magnitude of the exchange rate pass-through both across countries and over time. First, the analysis shows that pass-through is significantly larger in countries with a higher share of imports invoiced in US dollars, consistent with Gopinath and others (2020). Second, the inflationary effects are stronger when inflation is initially higher and inflation expectations less certain, consistent with pass-through rates being endogenous to monetary policy credibility and correlated with the level of inflation (Taylor 2000).[4] The magnitude of pass-through is larger when economic uncertainty is high, possibly because importers are more reluctant to reduce markups during periods of high uncertainty and therefore pass higher prices to domestic consumers.[5] In the context of elevated global

Box Figure 1.1. Exchange Rate Pass-Through into Inflation

(Percentage, impulse responses at one-year horizon)



Source: IMF staff calculations.
Note: Estimates show the response of headline inflation against a 1 percent increase (depreciation) in local currency/US dollars (USD). Error bars denote the confidence intervals for 90 percent significance. Standard errors are clustered at country level. ROW = rest of the world.

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1 This box was prepared by Yan Carrière-Swallow, Melih Firat, and Daniel Jiménez.

2 The local projections specification estimates the response of the log change in headline consumer price index to a change in local currency against the US dollar at different horizons, after controlling for lagged inflation, lagged bilateral exchange rate, and the trade-weighted producer price index of export partners. The sample includes 11 Asian economies.

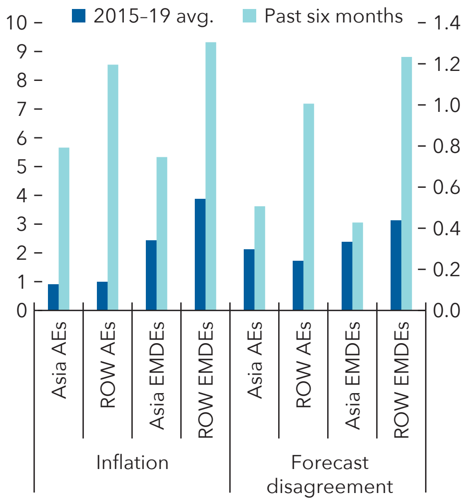
3 The magnitude of the effect is in line with previous evidence in the literature (Carrière-Swallow and others 2021).

4 Country-level inflation forecast disagreement data are from Consensus Economics and are constructed as in Brito, Carrière-Swallow, and Gruss (2018).

5 Monthly uncertainty indexes from Ahir, Bloom, and Furceri (2022) are used.

Box 1. *(continued)*

Box Figure 1.2. Pass-Through Determinants
(Percent [lhs]; standard deviation [rhs])



Sources: Consensus Forecasts; Haver Analytics; and IMF staff calculations.
Note: AEs = advanced economies; EMDEs = emerging market and developing economies; lhs = left-hand scale; rhs = right-hand scale; ROW = rest of the world.

uncertainty, and the high inflation and forecast disagreement that Asian economies have experienced since the beginning of 2022 (Box Figure 1.2), these results suggest that pass-through is likely to be stronger today than historical average.

Empirical evidence also suggests that pass-through materializes faster following depreciations than appreciations, but their impacts converge within about a year. At least in the short term, the recovery in Asian currencies observed in recent months will only partially offset the initial inflationary pressures from the depreciations observed in 2022.

Box 2. Corporate Sector Vulnerabilities amid Rising Interest Rates[1]

The corporate sector in Asia emerged from the pandemic with elevated debt and concentrated pockets of vulnerability. The ongoing monetary tightening cycle is compounding fragilities as debt-servicing costs increase. This box considers the resilience of corporate balance sheets in the region to global downside scenarios involving a deterioration in funding conditions.

Debt was already concentrated in firms with low interest coverage ratios (ICRs) and thus low ability to service debt as Asia emerged from the pandemic and entered a monetary tightening cycle. By mid-2022, more than 20 percent of corporate debt in China, India, Indonesia, Korea, and Thailand was held by firms with ICRs averaging less than one over the past four quarters (firms considered at risk of insolvency). The concentration of debt in at-risk firms was well above historical averages, particularly in the industrial and the property and construction sectors.[2] To the extent small and medium-sized enterprises, which are not captured in the data, account for a significant share of some sectors in the region, vulnerabilities could be even higher.[3]

To assess the resilience of the corporate sector in Asia to higher interest rates and volatile global financial conditions, this box considers how firms' ICRs would evolve under the two stress scenarios outlined in the April 2023 *World Economic Outlook*. The first, a *plausible alternative scenario*, assumes a moderate additional tightening in global credit conditions, leading to a slight increase (of 150 basis points) in corporate spreads relative to the baseline[4]; the impact on growth and corporate earnings is limited.[5] The second scenario, a *severe downside scenario*, entails a larger increase in corporate spreads (by around 250 basis points, depending on the extent of exposure to global financial conditions), an increase in sovereign premiums due to flight to safety and dollar appreciation, and a strong hit to growth and earnings.[6] This scenario can be interpreted as a credit crunch following the materialization of risks stemming from bank balance sheet fragilities. In either scenario, the impact on firm debt-service costs varies with the maturity structure of debt, with firms holding more short-term debt affected more strongly.[7] Both scenarios factor in country-specific developments since mid-2022, notably rising interest rates and resilient growth and corporate earnings across much of the region.

The stress tests reveal pockets of vulnerability across the region. Under a *plausible alternative scenario*, the share of debt in firms with ICRs less than one spikes in Korea, Singapore (reflecting higher shares of short-term debt), and Vietnam (reflecting a multitude of firms with ICRs just above one in 2022). In a *severe downside scenario*, the concentration of debt in vulnerable firms rises significantly across the region

[1] This box was prepared by Monica Petrescu.

[2] On average over the three years before the pandemic, the share of debt in firms with ICR less than one was 7 percent in the property sector and 16 percent in the industrial sector, compared to 18 percent and 24 percent, respectively, by the second quarter of 2022.

[3] Analysis in this box is based on firm balance sheet data from Capital IQ. The database covers only publicly listed firms, and as such, while this analysis is likely representative of systemic firms, it is not representative of small and medium-sized enterprises.

[4] The baseline in each country also reflects the impact of the recent monetary tightening cycle on borrowing costs.

[5] The downgrade to growth in the plausible alternative scenario is calibrated in line with the 2023 *World Economic Outlook*; real 2023 growth relative to baseline falls by less than half a percentage point in advanced economies, while the impact is more muted for emerging markets. The impact on inflation is minimal.

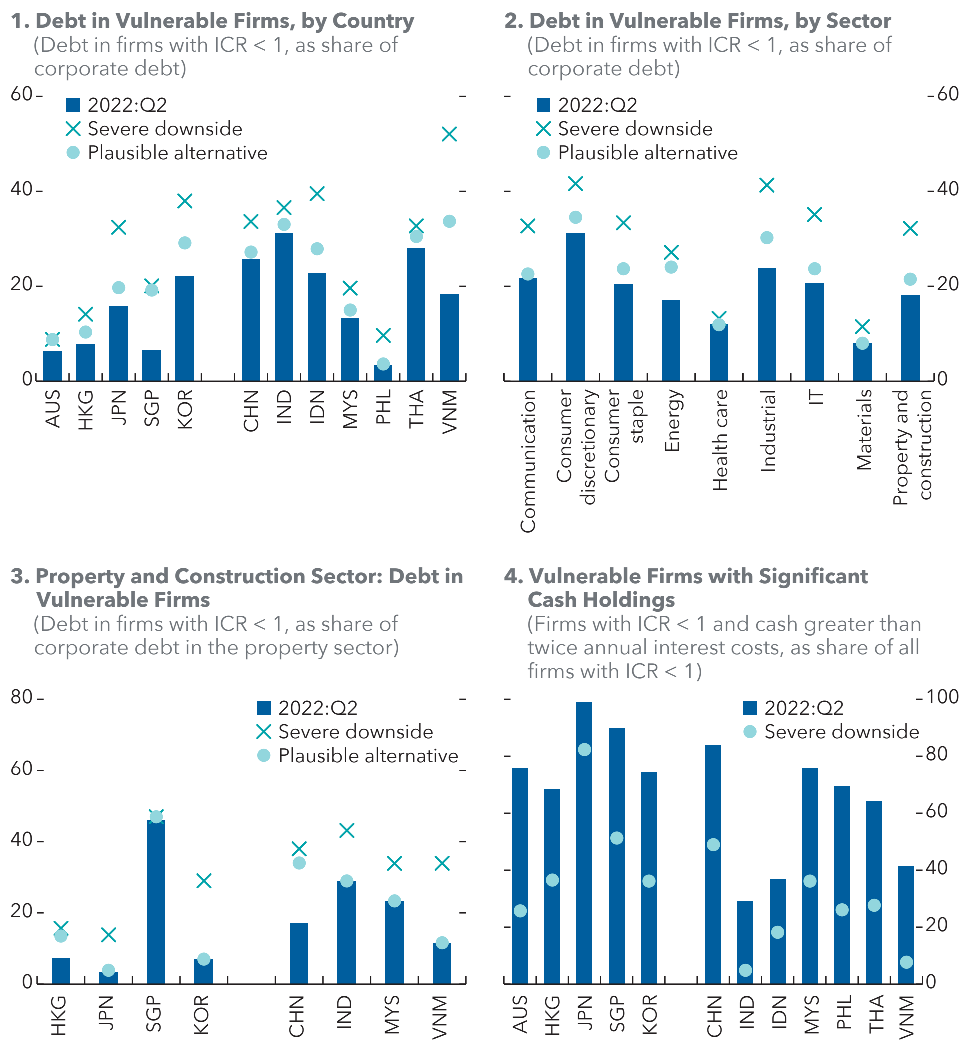
[6] The shocks to growth and inflation in the severe downside scenario for each country are calibrated in line with the results of the model outlined in the April 2023 *World Economic Outlook*, Box 1.3. The shock applied to firm earnings varies between countries in line with the variation in the total shock to nominal GDP growth.

[7] The increase in borrowing costs is assumed to be fully passed on to interest costs for short-term debt, but not for long-term debt, where only a part of debt is assumed to be rolled over.

Box 2. *(continued)*

except in Australia, which benefits from resilient balance sheets (Box Figure 2.1, panel 1). Among sectors, the property and construction sector is one of the most vulnerable to stress, with the concentration of debt in at-risk firms rising sharply under the *severe downside scenario*; vulnerabilities to stress are also visible in the consumer staples, IT, and industrial sectors (Box Figure 2.1, panel 2). Within the property sector, the concentration of debt in at-risk firms rises throughout most of the region in a *severe downside scenario*, but most notably in Korea and Vietnam (due to a high share of firms with ICRs just above one in 2022) (Box Figure 2.1, panel 3).

Box Figure 2.1. Cash and Debt in Vulnerable Firms under Stress Scenarios



Sources: Bloomberg Finance L.P.; Capital IQ database; and IMF staff calculations.
Note: ICR in the second quarter of 2022 is based on the average of the latest four quarters. The property and construction sector for Singapore covers primarily construction firms. Country abbreviations are International Organization for Standardization country codes. ICR = interest coverage ratio; IT = information technology.

Box 2. *(continued)*

Despite elevated vulnerabilities, market sentiment on firms in the region appears mixed (Figure 17, panel 2). One potential explanation is that firms built up significant cash buffers during the preceding period of low interest rates. By the second quarter of 2022, more than half of at-risk firms (with ICR less than one) in Asia held cash worth at least twice annual interest costs (except in India, Indonesia, and Vietnam). However, cash holdings are expected to be depleted over time in firms with low interest coverage ratios, unless earnings increase faster than interest costs. In a *severe downside scenario*, the share of at-risk firms that have cash buffers covering twice their annual interest costs would drop below 50 percent by the end of 2023 throughout the region, except in Japan and Singapore (Box Figure 2.1, panel 4).

Table 1. Asia: Real GDP

(Percent; year-over-year change)

	Actuals and Latest Projections					Difference from October 2022 WEO *Update*		
	2020	2021	2022	2023	2024	2022	2023	2024
Asia	**-0.9**	**6.8**	**3.8**	**4.6**	**4.4**	**-0.2**	**0.3**	**-0.2**
Advanced Economies	**-2.4**	**4.0**	**1.8**	**1.6**	**1.7**	**-0.5**	**-0.4**	**-0.2**
Australia	-1.8	5.2	3.7	1.6	1.7	-0.1	-0.3	-0.1
New Zealand	-1.5	6.1	2.4	1.1	0.8	0.1	-0.8	-1.2
Japan	-4.3	2.1	1.1	1.3	1.0	-0.6	-0.3	-0.3
Hong Kong SAR	-6.5	6.4	-3.5	3.5	3.1	-2.7	-0.4	0.1
Korea	-0.7	4.1	2.6	1.5	2.4	0.0	-0.5	-0.3
Taiwan Province of China[1]	3.4	6.5	2.5	2.1	2.6	-0.8	-0.7	0.5
Singapore	-3.9	8.9	3.6	1.5	2.1	0.6	-0.8	-0.5
Emerging Markets and Developing Economies[2]	**-0.5**	**7.5**	**4.4**	**5.3**	**5.1**	**0.0**	**0.4**	**-0.1**
Bangladesh	3.4	6.9	7.1	5.5	6.5	-0.1	-0.5	0.0
Brunei Darussalam	1.1	-1.6	-1.5	3.3	3.5	-2.7	0.0	0.3
Cambodia	-3.1	3.0	5.0	5.8	6.2	-0.1	-0.4	-0.4
China	2.2	8.4	3.0	5.2	4.5	-0.2	0.8	0.0
India[3]	-5.8	9.1	6.8	5.9	6.3	0.0	-0.2	-0.5
Indonesia	-2.1	3.7	5.3	5.0	5.1	0.0	0.0	-0.3
Lao P.D.R.	-0.4	2.1	2.3	4.0	4.0	0.1	0.9	0.3
Malaysia	-5.5	3.1	8.7	4.5	4.5	3.3	0.1	-0.4
Myanmar	3.2	-17.9	2.0	2.6	2.6	0.0	-0.7	-0.8
Mongolia	-4.6	1.6	4.8	4.5	5.5	2.3	-0.5	-1.5
Nepal	-2.4	4.2	5.8	4.4	5.1	1.6	-0.6	0.0
Philippines	-9.5	5.7	7.6	6.0	5.8	1.1	1.0	-0.2
Sri Lanka	-3.5	3.3	-8.7	-3.0	1.5	0.0	0.0	0.0
Thailand	-6.2	1.6	2.6	3.4	3.6	-0.2	-0.3	0.0
Vietnam	2.9	2.6	8.0	5.8	6.9	1.0	-0.4	0.3
Pacific Island Countries[4]	**-3.6**	**-1.3**	**1.0**	**3.9**	**3.6**	**0.2**	**-0.3**	**-0.1**
Fiji	-17.0	-5.1	14.5	7.0	5.0	2.0	0.1	-0.7
Kiribati	-1.4	7.9	1.2	2.5	2.4	0.2	0.1	-0.4
Marshall Islands	-1.6	1.7	1.3	3.0	2.0	-0.2	-0.2	0.0
Micronesia	-1.8	-3.2	-0.6	2.8	2.8	0.0	-0.1	0.0
Nauru	4.1	2.7	3.0	1.0	2.0	2.1	-1.0	-0.4
Palau	-7.5	-12.1	-2.9	8.7	9.6	-0.1	-3.6	0.5
Papua New Guinea	-3.2	0.1	4.5	3.7	4.4	0.7	-1.4	1.4
Samoa	-3.1	-7.1	-6.0	5.0	3.6	-1.0	1.0	-0.6

	Actuals and Latest Projections					Difference from October 2022 WEO *Update*		
	2020	**2021**	**2022**	**2023**	**2024**	**2022**	**2023**	**2024**
Solomon Islands	–3.4	–0.6	–4.1	2.5	2.4	0.4	–0.1	0.0
Tonga[5]	0.5	–2.7	–2.0	2.5	2.8	0.0	–0.4	0.1
Tuvalu	–4.3	1.8	0.7	4.3	3.1	–2.3	0.8	–0.9
Vanuatu	–5.0	0.6	1.9	3.5	3.6	0.2	0.4	0.1
ASEAN[6]	**-3.2**	**3.2**	**5.7**	**4.6**	**4.9**	**0.7**	**-0.1**	**-0.2**
ASEAN-5[7]	**-4.4**	**4.0**	**5.5**	**4.5**	**4.6**	**0.6**	**0.0**	**-0.3**
EMDEs excluding China and India	**-2.4**	**3.3**	**5.6**	**4.7**	**5.1**	**0.6**	**-0.1**	**-0.2**

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

Note: ASEAN = Association of Southeast Asian Nations; EMDEs = emerging market and developing economies; WEO = *World Economic Outlook*.

[1] Taiwan Province of China forecast data source is from Consensus Forecasts.

[2] EMDEs exclude Pacific Island countries and other small states.

[3] India's data are reported on a fiscal year basis. Its fiscal year starts on April 1 and ends on March 31.

[4] Pacific Island countries aggregate is calculated using simple average; all other aggregates are calculated using weighted average.

[5] Tonga's data are reported on a fiscal year basis. Its fiscal year starts on July 1 and ends June 30.

[6] ASEAN comprises Brunei Darussalam, Cambodia, Indonesia, Lao P.D.R., Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

[7] ASEAN-5 comprises Indonesia, Malaysia, the Philippines, Singapore, and Thailand.