

Online Box 2.1. Inflation developments in China

Inflation in China has been noticeably subdued compared with the rest of the region. Different experiences of external price pressures and repercussions from the pandemic account for some of these differences, but idiosyncratic factors also play a role.

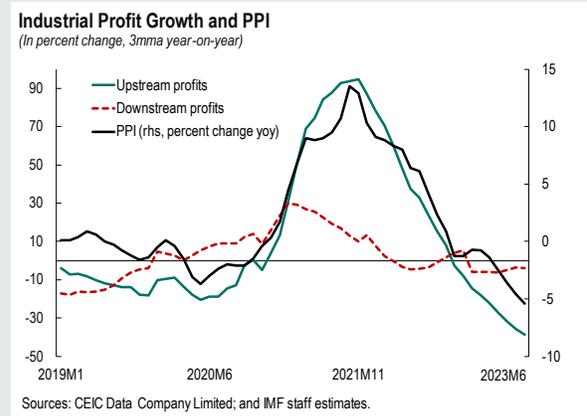
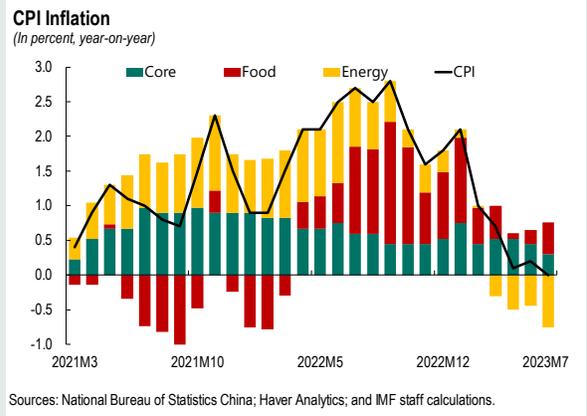
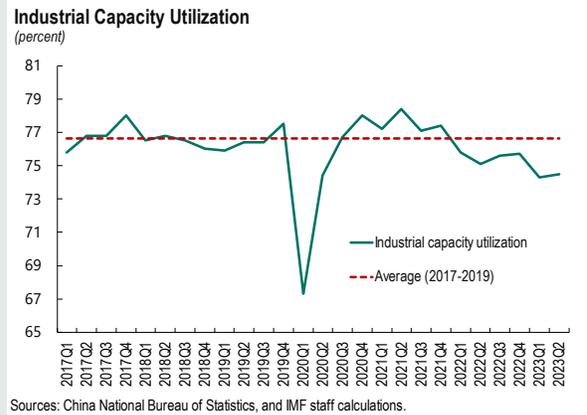
Inflation in China has remained low, in sharp contrast to its peers. Indeed, as noted in section 2.1 of this Regional Economic Outlook, average inflation has been lower than before the pandemic.

Inflation outcomes can be framed in terms of the same sets of shocks—external price pressures and pandemic repercussions—as for other countries in the October 2023 *Regional Economic Outlook*. In this case, inflation has fallen amid the economic weakness and slack and lower commodity and food prices.

Core inflation has remained subdued throughout 2023, amid a still-negative output gap, spare capacity in the industrial sector, and labor market weakness (high youth unemployment, weak PMI employment sub-indices). External pressures have not passed through to inflation as in other countries. In particular, increases in food and energy prices have been noticeably less than in the rest of the Asia-Pacific region and the world, in part because of administered prices. Combined, economic slack and lower commodity and food prices resulted in negative inflation in July, temporarily, and have kept inflation at just above zero in August.

Other factors have also played a role. One is differences in real estate cycles. Static or falling rents have made a negative contribution to CPI inflation, whereas rents have increased significantly in some advanced economies. The real estate cycle could also have mitigated inflation in services components of CPI.

Together, the effects of lockdowns, low pass-through of external inflation pressures to domestic prices, and, likely, additional effects from the real estate cycle have kept inflation low.



Online Box 2.2. Phillips curve estimates

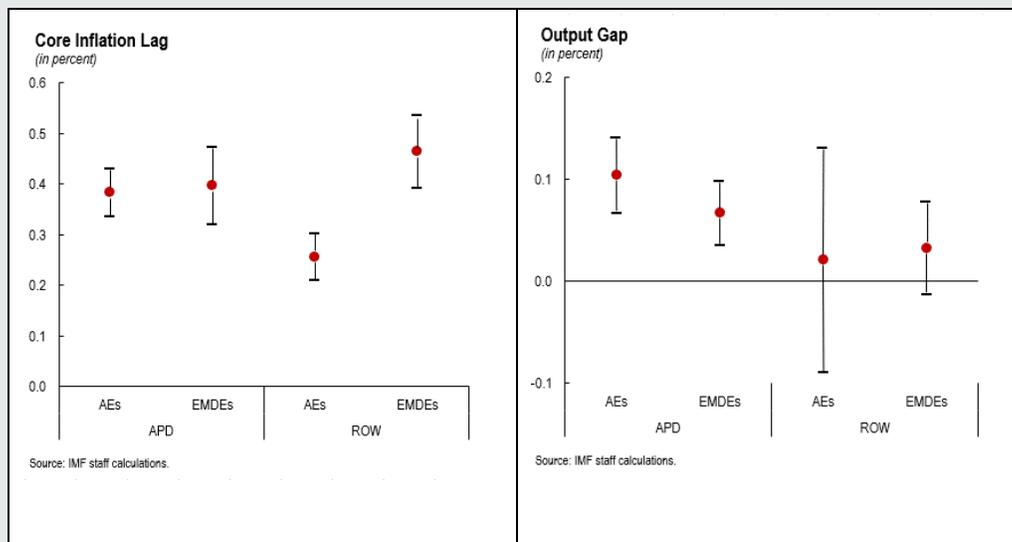
Following IMF (2016) and Baba et al (2023), the following Phillips Curve equation for core inflation is estimated:

$$\pi_t^c = \gamma + \rho\pi_{t-1}^c + (1 - \rho)\pi_t^e + \theta\tilde{y}_t + \sum_{j=0}^4 \partial_j \pi_{t-j}^I + \sum_{j=0}^4 \alpha_j \pi_{t-j}^F + \sum_{j=0}^4 \delta \pi_{t-j}^E + \varepsilon_t$$

where π_t^c is the annualized growth rate of the core CPI index; π_t^e denotes inflation expectations (measured by 3-year-ahead inflation expectations reported in Consensus Forecasts); \tilde{y}_t is the output gap (computed as the cyclical deviation from trend estimated by HP-filtered quarterly real output); π_t^I is the annualized growth rate of the import price index; π_t^F is the annualized growth rate of the food consumer price index; and π_t^E is the annualized growth rate of the energy consumer price index. All three price indices are in local currencies. The specification allows for contemporaneous and up to four lags of the price indices. Following other papers, and for theoretical consistency, the estimation imposes the constraint that the coefficients on past and expected inflation rates sum to one. The specification is estimated as a panel regression, with country and time fixed effects, for 9 advanced and emerging Asian and Pacific and 12 advanced and emerging economies in the rest of the world from 1995Q1 (or when the first data are available) to 2023Q2. All observations are taken at quarterly frequency.

Structural estimates

Estimates indicate that the persistence of core inflation is higher in Asia-Pacific advanced economies than in advanced economies in the rest of the world. The point estimates of persistence for Asia-Pacific emerging economies are slightly lower than those for peer economies in the rest of the world, but not significantly so.

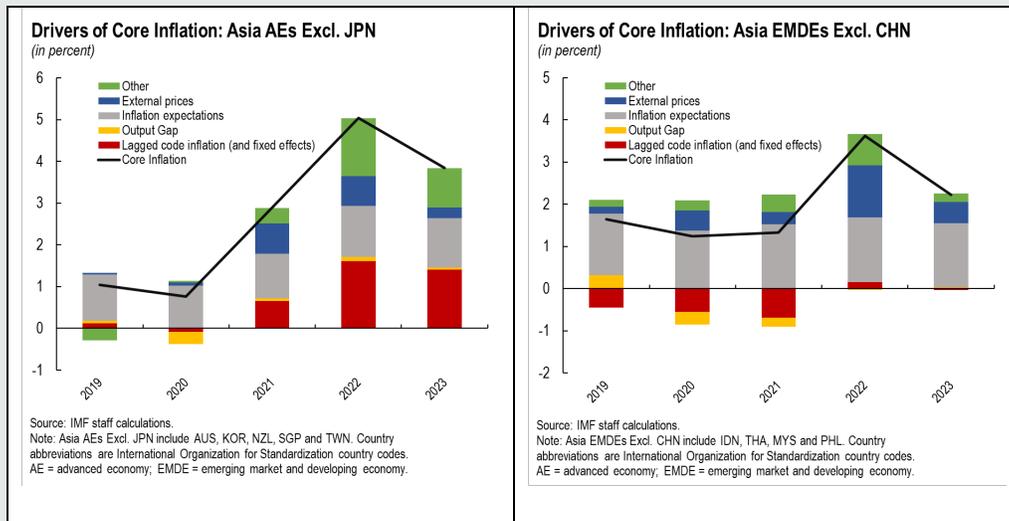


The slope of the Phillips Curve—that is, the coefficient of the output gap—is higher in Asia’s advanced and emerging economies than it is for peers in other regions. The Phillips Curve is estimated to be particularly flat in advanced economies outside Asia, which has been extensively discussed as an important factor behind the inability of standard models to forecast the increase in inflation over the period 2021-22 (Gopinath, 2022). This analysis therefore indicates that the propagation of shocks—that is, how much inflation is affected by changes in output gaps, import prices, and inflation expectations—in Asia and Pacific economies is quite

similar to that in advanced and emerging market peers, and does not explain the on-average lower inflation of the region.

Inflation accounting

Significant fitted values and historical data are used to calculate contribution of each component to core inflation in each country. The figures below show average contributions for the five advanced and four emerging Asia-Pacific economies. The calculations show notable effects from external prices to core inflation in 2021 to 2023, especially in emerging economies. The contributions from external prices are generally less than those seen in the rest of the world, however.¹ By contrast, the contributions from the estimated output gaps are generally small. And there are substantial residuals, particularly during 2022.



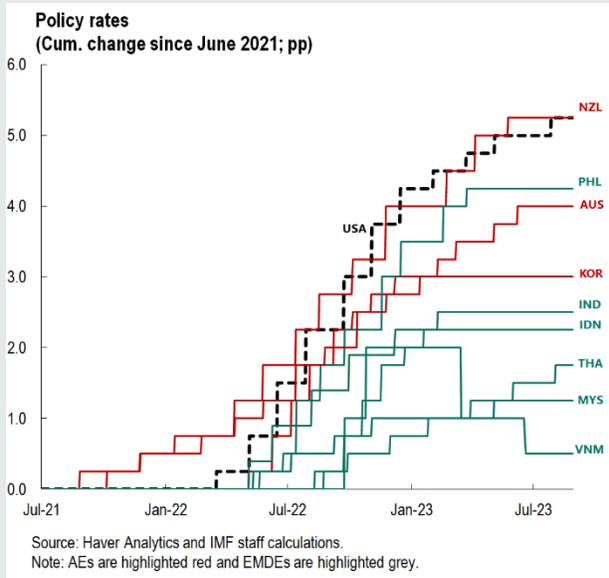
¹ See, for example, Baba et al. 2023, who show substantial contributions to core inflation from external prices in European economies.

Online Box 2.3. Policy measures

Monetary Policy

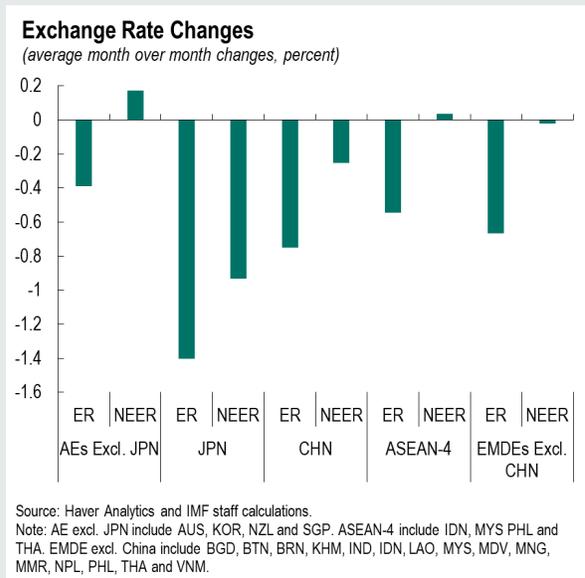
Central banks across the Asia and Pacific region resorted to accommodative monetary policy soon after the onset of the COVID-19 pandemic. Some countries were constrained by the zero lower bound, as they entered the pandemic (Australia, Korea, New Zealand, Thailand), which limited how much they could decrease their policy rates. Several countries also reduced reserve requirements (Bangladesh, China, India, Indonesia, Malaysia, Philippines).

Some Asia-Pacific central banks (Korea and New Zealand) started raising policy rates prior to the Federal Reserve’s initiating its tightening cycle, while other central banks started raising policy rates only after the Federal Reserve started raising the Fed Funds rate. In general, the size of the cumulative policy rate hikes in the region has been less than the policy rate hikes implemented by the Federal Reserve, with Vietnam even lowering its policy rate, after raising them for a short period in 2022, due to a slowdown in the economy.



In addition to conventional monetary policy tools, countries in the region also deployed unconventional monetary policy tools. This included large scale asset purchases (Australia, Japan) and open market operation in the secondary market in some countries (Korea, Philippines) and open market operation in the primary market in others (Indonesia and Philippines). In Indonesia, mechanisms were designed to allow the central bank to participate in budget financing on a temporary basis during the pandemic, including through transfers to budget to reduce effective interest costs of the budget. All these mechanisms were discontinued in 2022. In some countries the accommodative monetary stance was also aided by forward guidance. India used both state- and time-contingent forward guidance on policy rates and asset purchases to anchor market expectations. The Reserve Bank of New Zealand indicated that it will keep monetary policy stimulatory for a considerable time, while also noting that New Zealand’s banking system was operationally ready for negative interest rates. Reserve Bank of Australia provided forward guidance that the cash rate would remain low until durable progress was made towards full employment.

Several EM central banks intervened in their FX markets, with the direction of intervention depending on the direction of capital flows and external pressures. For instance, countries that witnessed inflow surge and an exceptional strengthening of the BOP purchased FX, while others intervened to support their currencies. The pace and scale of monetary tightening by the US led to strong external pressures in the region in 2022, with many EMDEs intervening to support their local



currencies against the US dollar, even as their NEERs witnessed a greater degree of stability.

Fiscal Policy

All countries in the region responded with strong fiscal support measures, which were directed towards tackling the health-related spending needs and providing support to households and to firms. The size of the fiscal stimulus largely depended upon the fiscal space available. In AEs, the fiscal stimulus was large. In Singapore, the size of the fiscal stimulus was about 21 percent of 2020 GDP, with about two-thirds of it in above-the-line measures. Most of this spending was directed towards providing support for jobs, workers, and businesses. In Australia, fiscal stimulus amounted to 20 percent of GDP (60 percent of this stimulus expired by end-FY20/21 and the remaining is projected to be disbursed by FY24/25). In Japan, total above-the-line fiscal measures in 2020-2021 amounted to 18.5 percent of GDP, with about 13 percent of GDP on public investment. Similarly, China implemented discretionary fiscal measures amounting to 4.7 percent of 2020 GDP centered on an increase in infrastructure investment, providing an estimated boost to GDP growth of 2.2 percentage points. Governments also gave cash handouts or consumption vouchers to households (Hong Kong SAR, India, Japan, Malaysia, Singapore).

Governments have steadily tightened fiscal policy. Most of the COVID-19 related policy measures have largely expired, as they primarily provided support measures during 2020 and 2021. This is also reflected in the tightening fiscal stance in most of the Asia-Pacific countries in 2022 relative to 2020. The pandemic helped strengthen mechanisms for providing targeted support to households.

Price Controls

In the wake of rising commodity prices, most ASEAN-4 countries provided subsidized fuel and energy, which helped suppress overall prices, but also raised the subsidy bill amidst rising commodity prices. In Indonesia and Malaysia, such subsidies have been longstanding, while in Thailand energy subsidies were provided starting in 2022. While Singapore does not subsidize energy prices, the government continues to provide support to low-income households in the form of rebates for their utility bills. Food and agriculture subsidies were primarily used by governments in lower-income countries such as Bangladesh and India.

Financial Sector Policies

Financial and credit policies were also used extensively by countries in the region. Counter-cyclical capital buffers (CCyB) were lowered (Australia, Hong Kong SAR) and allowance was made for banks to use capital conservation buffers (Indonesia). Several policies were implemented to avoid disruptions in access to credit and in some cases credit growth was used to mitigate the fallout of the pandemic. In Bangladesh, the bulk of COVID-19 stimulus support was designed in the form of an interest subsidy for working capital loans and loans to cottage, micro, small and medium enterprises at subsidized interest rates. In China, countercyclical credit dynamics have been one of the salient characteristics of recent crisis episodes and the government increased its bank lending targets, subsidized local banks' loan repayment moratoria, and deployed a wide range of non-interest rate instruments to support smaller firms. Hong Kong SAR introduced a US Dollar Liquidity Facility and encouraged banks to use their liquidity buffers, while also introducing measures to provide government guarantees for low-interest loans for SMEs, personal loans for unemployed and self-employed individuals, and loan moratoria on principal payments for affected SMEs, sectors, and households. Korea introduced a broad support package for credit and financial markets, including SME lending and guarantee programs, stabilization funds for bond markets and key industries, and various regulatory measures. Loan moratoria was also implemented by some governments (Malaysia, Singapore) to support vulnerable households and sectors.

References

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Baba, Chikako, Romain Duval, Ting Lan and Petia Topalova (2023), “The 2020-2022 Inflation Surge Across Europe: A Phillips-Curve-Based Dissection”, IMF Working Paper WP/23/30, International Monetary Fund, Washington, DC.