The monetary-fiscal policy nexus in the wake of the pandemic

Konstantinos Tsatsaronis, Michael Chui, Tirupam Goel, Aaron Mehrotra

Abstract

The Covid-19 pandemic cast the interaction between fiscal and monetary policy in a new light. The pandemic-induced recession made greater demands on both fiscal and monetary policy, triggered the need for closer domestic policy co-ordination, and led to a greater use of central bank balance sheets. This note discusses these issues, drawing on evidence from a survey of emerging market economy (EME) central banks. It first reviews the interaction between monetary and fiscal policy during the first phase of the Covid-19. It then explores the main factors that enabled EMEs to respond in a strongly countercyclical way to the pandemic shock. Finally, it discusses medium-term policy challenges given that high private and public sector debt levels will need to gradually decline and buffers will have to be built up as the economy returns to normality.

JEL classification: E52, E58, E61, E62.

Keywords: fiscal policy; monetary policy; fiscal-monetary interaction; Covid-19; emerging market economies; banking system; central bank balance sheet.

Introduction

The Covid-19 pandemic casts the interaction between fiscal and monetary policy in a new light. The sudden and sizeable pandemic-induced recession has made greater demands on both fiscal and monetary policy, triggering the need for closer domestic policy co-ordination, and has led to a greater use of central bank balance sheets. The near-term macroeconomic challenges will likely persist, with growth expected to remain subdued even if the inflation outlook is more diverse across jurisdictions.

Going forward, a number of challenges loom large for the fiscal-monetary policy interaction in emerging market economies (EMEs). Although the inflation outlook is diverse across jurisdictions, monetary policy is expected to remain accommodative. Credibility issues and constraints on external funding are likely to limit fiscal policy space to a greater extent than in advanced economies (AEs). This can have adverse implications for financial conditions and growth. In some EMEs, large fiscal deficits, should they persist, could undermine price and financial stability. Much higher levels of public sector debt, coupled with political economy constraints, may complicate the conduct of monetary policy and the interaction between the two policies will be challenging, especially given the need to eventually raise interest rates and exit from balance sheet policies.

The note discusses these issues, drawing on evidence from a survey of EME central banks conducted for the meeting. It is organised in three sections. The first section reviews the interaction between monetary and fiscal policy during the first phase of the Covid-19. The second explores the main factors that enabled EME's to respond in a strongly countercyclical way to this shock. The third focuses on medium-term policy challenges during the period when high private and public sector debt levels will need to gradually decline and buffers to be built up as the economy returns to normality.

1. Monetary-fiscal interaction during the Covid-19 crisis

In contrast to patterns during past crisis episodes, EMEs eased both fiscal and monetary policy in response to the Covid-19 shock. Moreover, a number of central bank actions, most prominently government bond purchases, had a clear fiscal dimension.

As elsewhere, fiscal policy played a central role in EMEs' response to the pandemic, strengthening health systems and protecting livelihoods.[1] On-budget fiscal stimulus amounted to 4.9% of GDP (simple average), with the largest expansions in emerging Asia and Latin America (Graph 1). Off-budget funding support averaged 0.9%. Credit guarantees, including fiscal backing for central bank programmes, were highest in central eastern Europe (CEE), as well as in Peru and Turkey. In general, the size of fiscal packages depended on the available fiscal space as well as on external financing pressures, with smaller budgetary measures implemented in countries where pre-crisis sovereign credit default swap spreads were higher.[2]

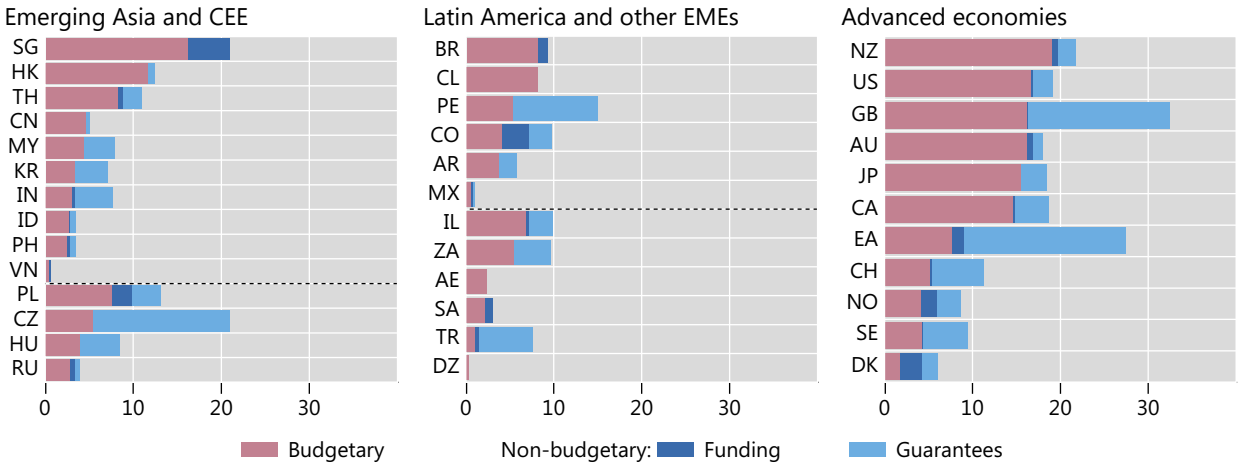
[1] See also E Alberola, Y Arslan, G Cheng and R Moessner, "The fiscal response to the Covid-19 crisis in advanced and emerging market economies", *BIS Bulletin*, no 23, 17 June 2020.

[2] See BIS, *Annual Economic Report 2020*, "A global sudden stop", Chapter I, June 2020.

EME's fiscal response to Covid-19: sizeable but smaller than that in AEs[1]

As a percentage of GDP

Graph 1



[1] 2020 response as estimated in the January 2021 IMF Fiscal Monitor update. Budgetary measures defined as any additional spending or foregone revenues. Funding measures defined as equity injections, loans, asset purchases or debt assumptions.

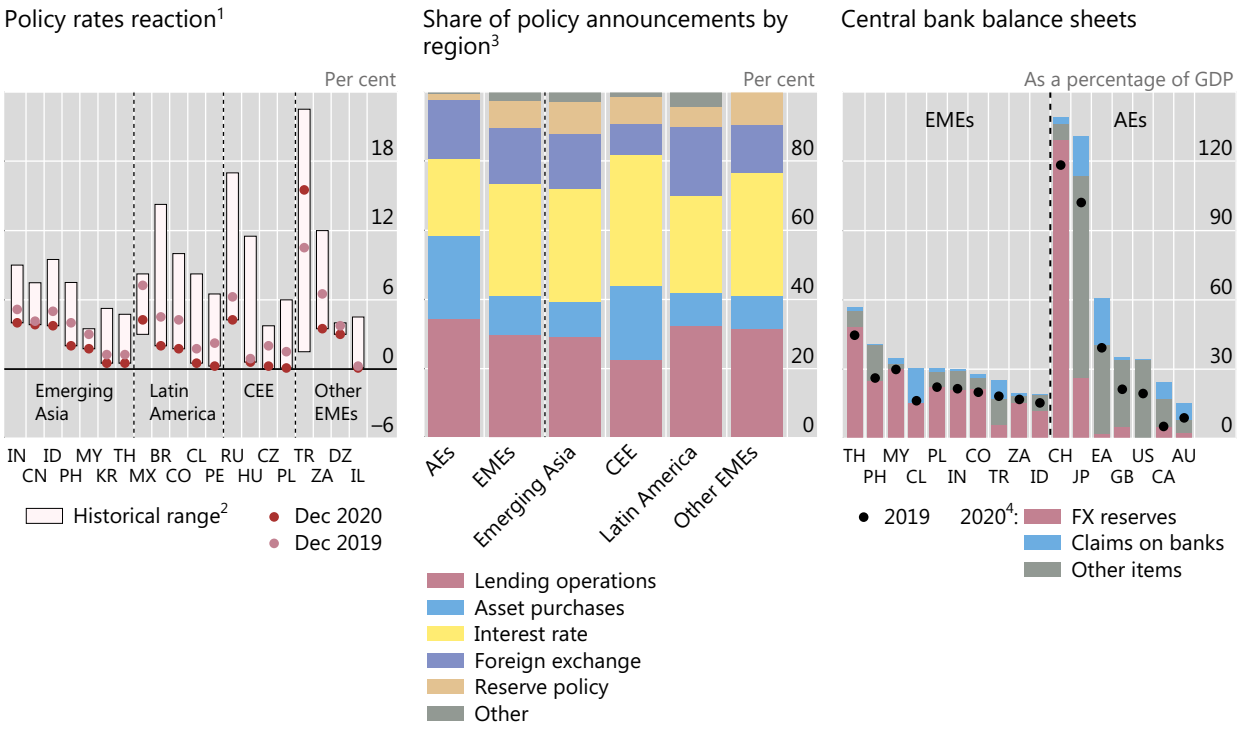
Sources: IMF, *Fiscal Monitor*, January 2021 update; BIS calculations.

Constraints on fiscal space stemmed in large part from past increases in public debt. Sovereign debt levels across EMEs had climbed by close to 10 percentage points from 2010 to an average of 48% of GDP in 2019, ranging from 39% in CEE to 57% in Latin America. Government budgets presented a mixed picture among EMEs in 2019. They were broadly balanced in CEE and parts of Asia, but deficits exceeded 4% of GDP in several economies in other regions.

The expansionary fiscal response went hand-in-hand with strong central bank actions. Most central banks had conventional policy space, with rates well above zero and limited signs of excessive inflation. This allowed them to cut rates, in most cases to historical lows or even close to zero (Graph 2, left-hand panel). Even so, interest rate-related policy announcements accounted for less than one third of the total measures taken (centre panel). Monetary authorities also implemented domestic lending operations (30% of new policy announcements), intervened in FX markets (16%), put in place asset purchase programmes (11%) and adjusted reserve requirements (8%). In a number of cases, the multi-pronged response led to a historically large expansion in central bank balance sheets (right-hand panel and Annex B).

Forceful and wide-ranging central bank response

Graph 2



[1] For China, the official 1-year lending rate is shown (from Aug 2019 onwards: 1-year Loan Prime Rate). [2] From January 2007 to present. [3] Covers all announcements between February and October 2020. "Other" category contains announcements on loan guarantee programmes, technical changes to facilities and changes to central banks' law. [4] October 2020 or latest available.

Sources: IMF, *International Financial Statistics*; Datastream; national data; C Cantú, P Cavallino, F De Fiore and J Yetman (2021), "A global database on central banks' response to Covid-19", *BIS Working Paper*, forthcoming; BIS calculations.

Many actions featured close interaction with fiscal policy. EME central banks' outright purchases of public sector securities played an important role. Thirteen of the central banks participating in this meeting report to have purchased these assets in response to Covid-19. In most cases, these purchases were implemented in order to ease impaired market functioning in local government bond markets and to avoid disruptions in the monetary transmission mechanism.[3] By preventing fire sale dynamics and increasing liquidity in the longer part of the yield curve, interventions de facto eased governments' borrowing costs and supported the fiscal expansion and the economy more generally.

Empirical evidence confirms non-negligible effects on sovereign yields from central bank asset purchases. Some estimates indicate that asset purchase announcements were associated with an average decline in yields of 20–30 basis points within two days; in the case of South Africa, high frequency data even suggest

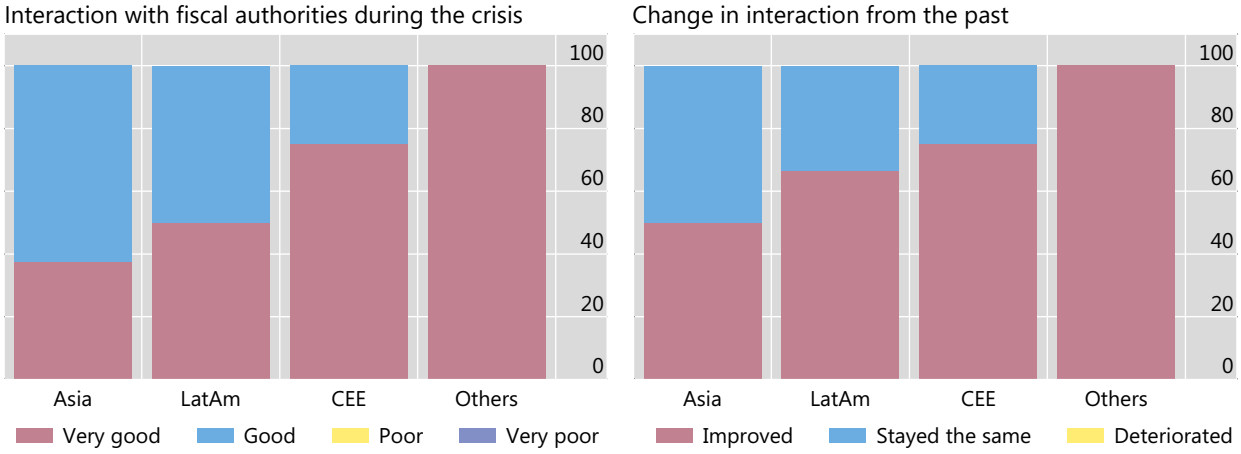
[3] Impaired market functioning may give rise to an increased role for a liquidity channel of asset purchases; see A Bailey, J Bridges, R Harrison, J Jones and A Mankodi, "The central bank balance sheet as a policy tool: past, present and future", *Paper prepared for the Jackson Hole Economic Policy Symposium*, 27–28 August 2020. This would be especially the case for many EMEs, as liquidity premia in domestic markets tend to be larger than those in AEs.

a decrease of 150 basis points in the hour after the announcement.[4] By contrast, the effects of conventional policy rate cuts on long-term yields were smaller and more transitory. International spillovers greatly helped, with the US Federal Reserve's and the ECB's bond purchases estimated to have reduced EME yields by 20 basis points within a week of the announcements. Exchange rates generally moved little, in particular in response to EME asset purchase announcements.

Another type of close interaction with fiscal policy took the form of lending operations. Monetary authorities introduced funding-for-lending schemes – direct or indirect central bank lending to support credit flows to targeted sectors – very often with explicit or implicit government guarantees. Other lending operations, such as broadening the list of eligible collateral or lengthening maturities, had less direct fiscal implications but could increase the credit risk borne by the central bank.

Improved monetary-fiscal policy interactions

In per cent of respondents — Graph 3



Asia = CN, HK, ID, IN, KR, MY, PH, SG, TH and VN; LatAm = AR, BR, CL, CO, MX and PE; CEE = CZ. PL, HU and RU; Others = AE, IL, SA, TR and ZA.

Sources: BIS survey; BIS calculations.

The balance of responses between fiscal and monetary policies differed across EMEs and AEs. Monetary policy (at least as measured in terms of interest rate cuts) played a comparatively bigger role than fiscal policy in the former. This reflected to a considerable extent the greater distance of policy rates from the zero lower bound in EMEs, but also the markets' more limited willingness to finance fiscal relief measures. Yet, in some cases, concerns with policy credibility and shallower capital markets limited the scope of unconventional central bank actions, such as public sector asset purchases.

Consistent with this discussion, EME central banks perceive that the interaction with fiscal authorities worked well during Covid-19 (Graph 3). In Israel, the central bank was closely involved in designing the fiscal response due to the Governor's role

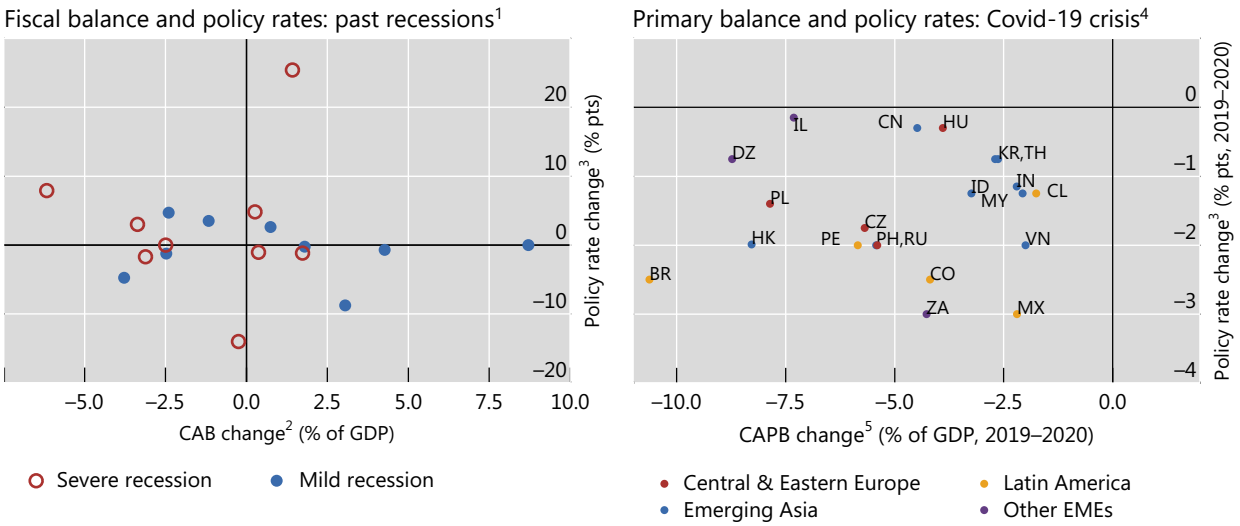
[4] See Y Arslan, M Drehmann and B Hofmann, "Central bank bond purchases in emerging market economies", *BIS Bulletin*, no 20, 2 June 2020; International Monetary Fund, "Emerging and frontier markets: A greater set of policy options to restore stability", *Global Financial Stability Report*, Chapter 2, October 2020; and World Bank, "Asset purchases in emerging markets", *Global Economic Prospects*, Chapter 4, January 2021.

as the government's economic adviser. In Malaysia, Saudi Arabia and South Africa, the frequency of interactions between the central bank and the fiscal authorities increased. Notably, in all regions except emerging Asia, most respondents report that the interactions improved compared with past crises (right-hand panel). In some countries, there were legislative changes. For instance, in Chile, the central bank's charter was modified in order to allow the purchase of government bonds for financial stability reasons.

2. Factors that facilitated policy interactions

The countercyclical policy response to the Covid-19 shock stands in contrast to policy reactions in a number of past recessions (especially before the Great Financial Crisis (GFC)). In those cases, central banks increased interest rates in order to stem capital outflows and to support the exchange rate (Graph 4, left-hand panel). In many cases, governments faced with worsening financial conditions, often had to consolidate their finances amidst deep downturns (Annex A). In sharp contrast with past recessions, fiscal and monetary policy complemented each other in addressing the economic weakness and softened the economic blow from the Covid-19 shock. Conjunctural factors have facilitated this outcome, but a number of important improvements in EME fiscal and monetary policy frameworks have provided policymakers with space to act decisively.[5] In addition, more robust financial systems have boosted policy effectiveness.

Countercyclical policy response during Covid-19 is atypical — Graph 4



[1] The crisis responses plotted in the graph are calculated as the difference between the crisis start and end dates (peaks and troughs of GDP growth) using quarterly (policy rates) or annual data (CAB) for crisis episodes in EME countries occurring between 1994 and 2016, excluding the GFC in 2008–09. The 2000–01 severe recession in Turkey (policy rate change: −124% pts; CAB change: −3.3% of GDP) and 1998–2002 severe recession in Argentina (policy rate change: 76% pts; CAB change: −0.07% of GDP) are not shown. [2] CAB = Cyclically adjusted fiscal balance to potential GDP. [3] Policy rate changes calculated based on end-of period data and have been extended with short term interest rates to increase data availability. [4] Argentina (policy rate change: −17% pts; CAPB change 5% of GDP) and Turkey (policy rate change 5% pts; CAPB change 0.7% of GDP) not shown. [5] CAPB = Cyclically adjusted primary balance to potential GDP. IMF forecasts used for 2020.

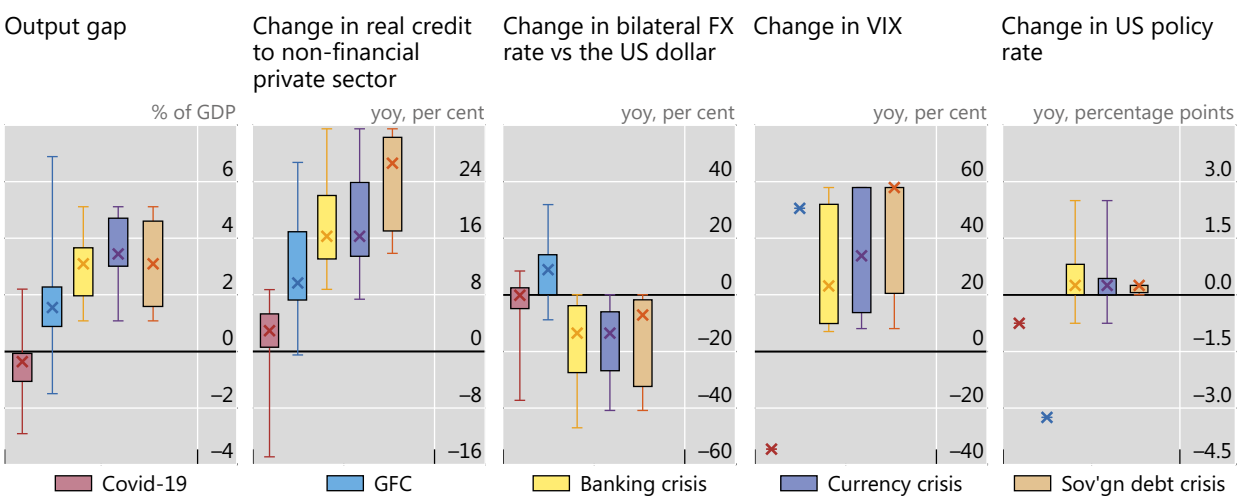
Sources: IMF, *World Economic Outlook*, October 2020; World Bank; Datastream; national data; BIS calculations.

[5] See also A Aguilar and C Cantú, "Monetary policy response in emerging market economies: why was it different this time?", *BIS Bulletin*, no 32, 12 November 2020.

Conjunctural factors

One possible factor supporting such a strong countercyclical response is that EMEs entered the pandemic recession from a somewhat weaker cyclical position than in past recessions and crises (Graph 5, first and second panels).[6] For three quarters of EMEs, output gaps were negative in 2019, in particular in Latin America. CEE is an exception, with pre-Covid output 1.5% above potential. The earlier crises generally followed much stronger cyclical positions, with median output gaps above 3% in the years preceding the start of downturns associated with banking, currency and sovereign debt crises. The weak business cycle position had pushed near-term inflation expectations lower prior to the Covid-19 recession (see below). And credit growth was relatively subdued. At the end of 2019, growth in real credit to the private non-financial sector ranged from 0.8% yoy in CEE to around 3% in the other EME regions. This compares with median growth rates of 16% prior to banking crises, reflecting the different nature of the pandemic recession.

Initial domestic position and positive external conditions[1] Graph 5



[1] The floating bars show the interquartile range, the cross represents the median and the poles mark the min-max range of the data. The summary statistics are calculated for each crisis type in the period before the crisis starts using quarterly or annual data. A particular crisis episode can be classified as more than one crisis type. The dataset only includes three sovereign debt crises.

Sources: IMF; Consensus Economics; Datastream; national data; BIS calculations.

A second possible factor concerns external conditions. Just prior to the Covid-19 shock global conditions were generally more accommodative than they had been in previous recessions and crises (Graph 5, third, fourth and fifth panels). During the year preceding earlier downturns, EME exchange rates depreciating against the dollar, global risk aversion (proxied by the VIX) had generally been rising, and US policy rates increasing. This backdrop had drastically reduced EME policymakers' room for manoeuvre.

A third possible factor relates to the nature of the shock. Its global character and intensity meant that international investors had nowhere to hide. In addition, the strong policy response in AEs cushioned the blow by boosting global liquidity. Finally, the fact that all countries followed a similar strategy eliminated the risk that made

[6] See Annex A for a more detailed description of the comparison across recessions and crisis episodes.

what would otherwise appear as unwarranted or extraordinary measures more acceptable.

Strengthened monetary and fiscal policy frameworks

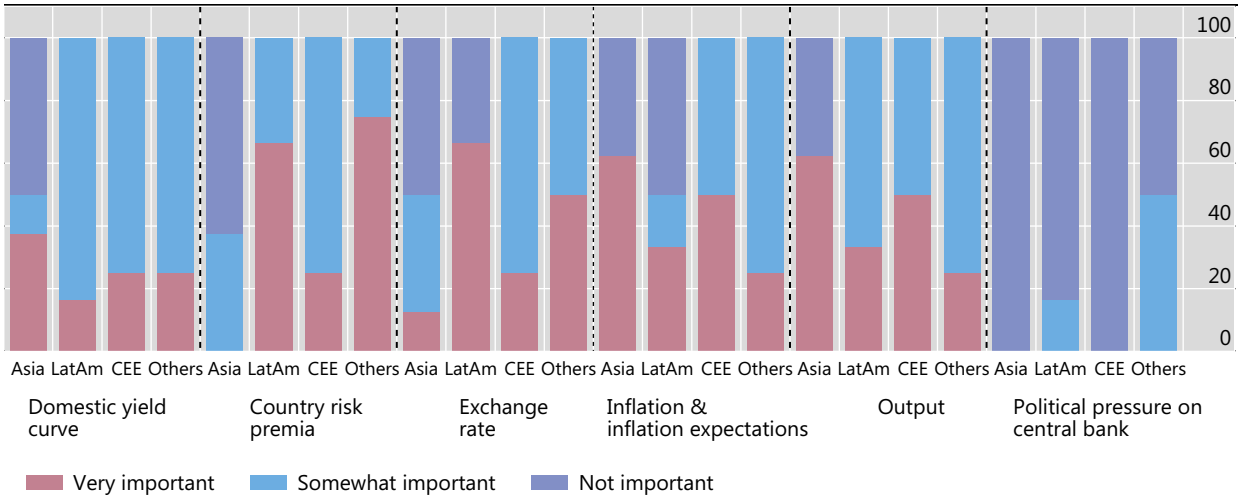
In addition to the specific conjuctural situation, a significant factor has to do with more robust, and highly complementary, monetary and fiscal policy frameworks in place in EMEs. Macroeconomic and financial stability require that both monetary and fiscal policy are conducted in a sustainable manner. The effective pursuit of low inflation by the central bank imposes discipline on public finances and reduces the risk of sharp increases in long-term interest rates that can derail government's debt service burden. Keeping public finances on a sustainable path, in turn, helps avoid surges in country risk premia or sharp exchange rate depreciations, and reduces the risk of fiscal dominance over monetary policy objectives.

Such interactions are reflected in central bank responses to the questionnaire (Graph 6). Regarding the channels through which the state of public finances affects the monetary policy room for manoeuvre, most countries in Latin America and the group of other EMEs see the risk premia and the exchange rate channels as "very important". In Asia these two channels are considered somewhat less relevant, arguably reflecting the relative fiscal strength of many economies in the region. Instead, in emerging Asia and CEE, central banks place greater emphasis on the effects of fiscal policy on output, inflation and inflation expectations. By contrast, there is little evidence in the central banks' responses – from any region – of the state of public finances giving rise to political economy pressures on the central bank.

Public finances affect monetary policy space through a number of channels[1]

Share of economies, in per cent

Graph 6



Asia: CN, HK, ID, IN, KR, MY, PH, SG, TH and VN; LatAm: AR, BR, CL, CO, MX and PE; CEE: CZ, PL, HU and RU; Others: AE, IL, SA, TR and ZA.

[1] Based on central bank responses.

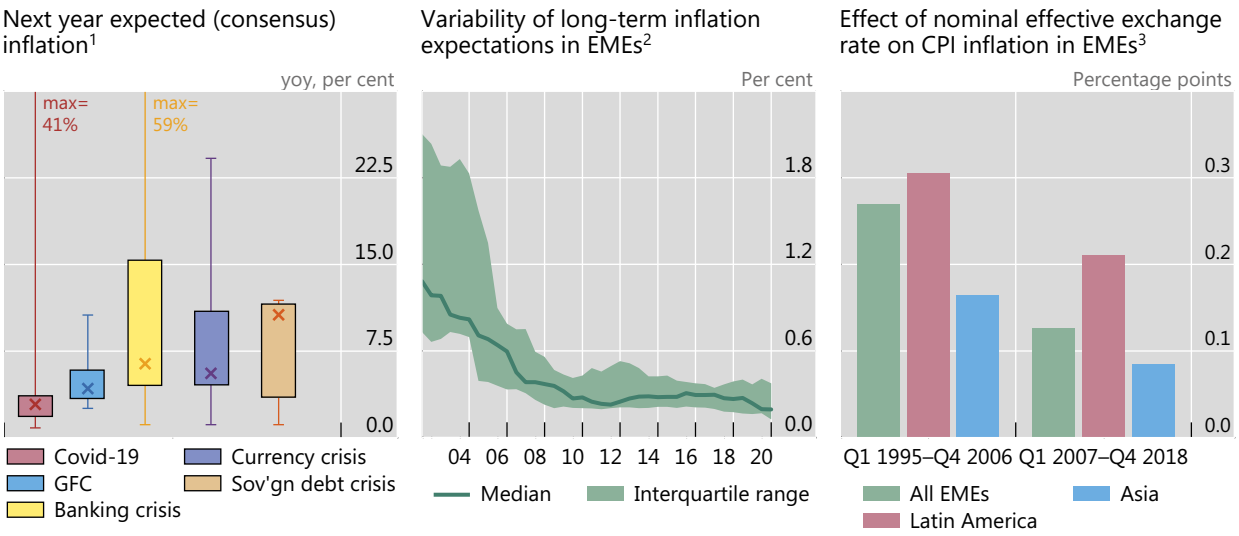
Sources: BIS survey; BIS calculations.

Considering each of the two policies in turn, improvements in monetary policy have been reflected in notable advances in inflation performance. Near-term inflation expectations were significantly lower prior to the pandemic shock than before previous downturns (Graph 7, left-hand panel). Pre-Covid 19, the median next-year

inflation expectations were at 2.2% in Asia and 3.4% in Latin America. While the subdued business cycle position played a role, long-term expectations were also significantly more stable than in the past (centre panel). Better anchoring of long-term inflation expectations has been facilitated by improvements in monetary policy transparency and independence, especially compared to the 1990s.[7] And the exchange rate pass-through was now lower, even as regional differences persist, with it being generally higher in Latin America than in emerging Asia (right-hand panel).

Large improvements in EMEs' inflation performance

Graph 7



[1] The floating bars show the interquartile range, the cross represents the median and the poles mark the min-max range of the data. The summary statistics are calculated for each crisis type in the period before the crisis starts using quarterly or annual data. A particular crisis episode can be classified as more than one crisis type. The dataset only includes three sovereign debt crises. [2] Using long-term consensus inflation expectations. Variability defined as the median standard deviation of long-term inflation expectations over six-year rolling windows. The shaded area denotes interquartile ranges. The calculation excludes South Africa and the United Arab Emirates due to a lack of data. [3] Six-year rolling window estimates from the equation $\pi_{it} = \alpha_i + \delta\,\pi_{it-1} - \sum_{j=0}^{3}\gamma_j \Delta NEER_{it-j} + \sum_{j=0}^{3}\varphi_j\, ygap_{it-j} + \sum_{j=0}^{3}\tau_j\,\Delta com_{\tau-j} + \omega\Delta REER_{it-1} + \varepsilon_{it}$. Sample starts in Q1 1995. Based on Jašová et al (2016).

Sources: M Jašová, R Moessner and E Takáts, "Exchange rate pass-through: what has changed since the crisis?", *BIS Working Papers*, no 583, September 2016; Consensus Economics; national data; BIS calculations.

A related piece of evidence is the much weaker effect of fiscal deficits on inflation. Empirical analysis shows that prior to 2000, higher budget deficits in EMEs led to a pronounced shift in the likelihood of higher inflation outcomes (Graph 8, left-hand panel).[8] By contrast, the effect of deficits on inflation outcomes has been much smaller and not statistically significant post-2000 (centre panel). Greater central bank independence appears to be playing an important role in the strength of this link as deficits lead to future inflation that is around three times higher in cases where central

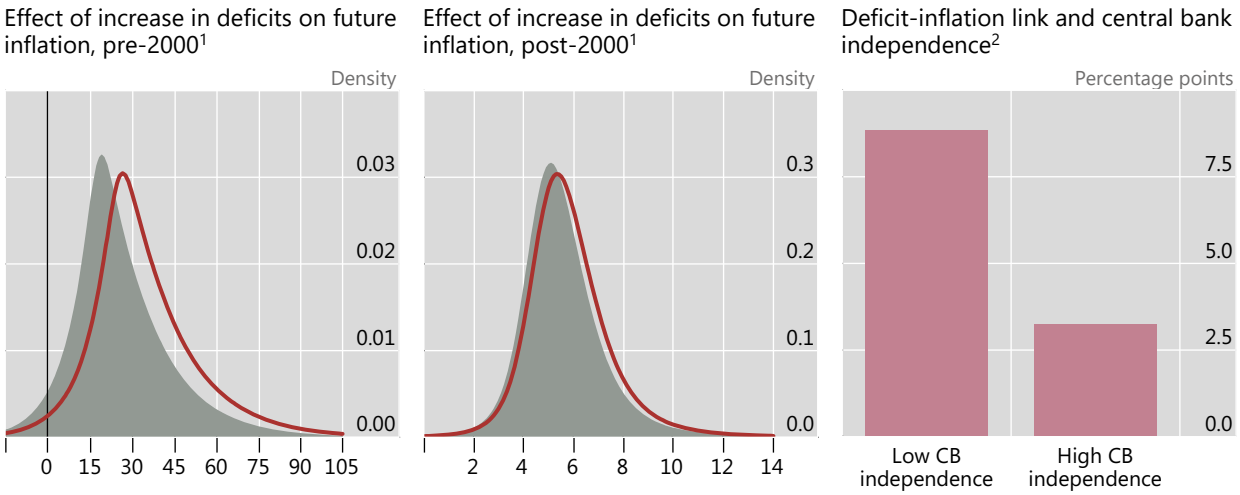
[7] See eg N Dincer and B Eichengreen, "Central bank transparency and independence: Updates and new measures", *International Journal of Central Banking*, vol 10, no 1, 2014, pp 189–253.

[8] The underlying "inflation at risk" model relates the one-year-ahead inflation distribution to a two-year-change in fiscal deficits, as well as output growth, current inflation, change in the bilateral exchange rate against the US dollar, oil price growth and a dummy variable for sovereign debt crises. The model is estimated by a flexible quantile panel regression framework using annual data for 23 EMEs and developing economies over 1960–2019, with the length of country-specific samples depending on data availability. For a description of the methodology, see R Banerjee, J Contreras, A Mehrotra and F Zampolli, "Inflation at risk in advanced and emerging market economies", *BIS Working Papers*, no 883, September 2020.

bank independence is lower than the sample average (right-hand panel).[9] Of course, the underlying fiscal policy setting is also likely to matter, notably whether primary balances are adjusted so that the level of public debt is stabilised over the long run.

Fiscal deficits, inflation and central bank independence

Graph 8



[1] Change in one-year-ahead conditional inflation forecast distribution (change from grey to red) when there is a one standard deviation increase in deficits. To compute the distributions, all other variables are set at their means. The model is estimated for a panel of 23 EMEs and developing economies over 1960-2019. The shift in the pre-2000 distribution is statistically significant at conventional levels at the 25th, 50th and the 75th percentiles; the post-2000 shift is not statistically significant. [2] The effect of a one standard deviation increase in deficits over two years on one-year-ahead inflation, computed at the 50th percentile of the future inflation distribution. The methodology follows the left and centre panels and also includes an interaction variable between the level of central bank independence and the two-year change in deficits. Low (high) CB independence correspond to below (above) average CB independence. The interaction variable is statistically significant at the 5% level.

Source: BIS calculations.

Another improvement in the monetary policy dimension relates to higher FX reserves. These can act as buffers against capital flow reversals and sharp exchange rate depreciations, providing greater monetary policy headroom and improving the resilience of the economy. Moreover, FX reserves, and FX intervention more generally, can also be used in an active macroprudential fashion to insulate domestic from external financial conditions and lean against the build-up of financial imbalances. Prior to the pandemic recession, the stock of reserves ranged from 15% of GDP in Latin America to 24% in Asia, with a median of 20% across EMEs (Graph 9, left-hand panel). By contrast, prior to past currency crises, median reserves were only 8%.

The state of public finances has also improved along a number of dimensions. EME fiscal policy has become more countercyclical over time, as evident in the policy responses during the pandemic (Graph 4).[10] Relatedly, a number of EMEs have adopted fiscal rules, constraining spending during good times and boosting investor confidence. While sovereign debt increased in some EMEs over the past decade, debt maturities have increased, reducing rollover risks, with the median residual maturity

[9] The analysis uses the "inflation at risk" model, examining the impact on future inflation at the median of the distribution, and an index for central bank independence from A Garriga, "Central bank independence in the world: A new dataset", *International Interactions*, vol 42, no 5, 2016, pp 849–68.

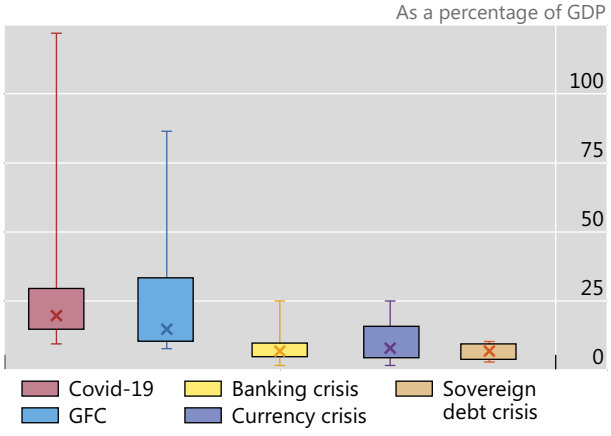
[10] See also J Frankel, C Végh and G Vuletin, "On graduation from fiscal procyclicality", *Journal of Development Economics*, vol 100, issue 1, 2013, pp 32–47.

for central government debt securities rising from 4.2 years in 2003 to 6.9 years in 2019. And, with lower shares of FX debt, governments have reduced their currency exposures and developed local currency bond markets, attracting large foreign participation in some cases (Graph 9, right-hand panel). That said, this does not provide full insulation. The currency mismatches have partly shifted from borrowers' to lenders' balance sheets. As EME currencies typically depreciate at the same time as domestic bond yields increase, EMEs could be exposed to abrupt withdrawals of funds by unhedged foreign investors, triggering tighter financial conditions.[11]

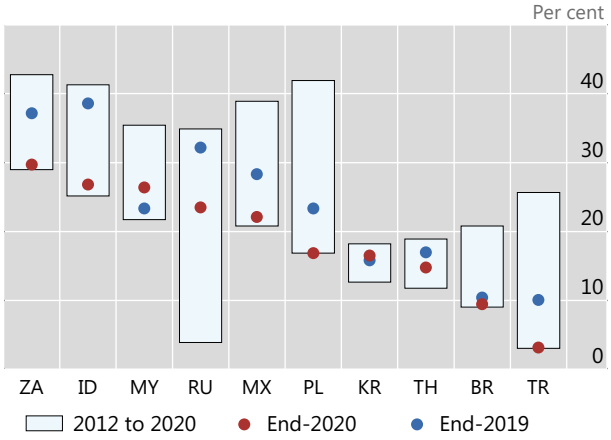
FX reserves and international investors in EME bond markets

Graph 9

FX reserves relative to past crises[1]



Share of foreign investors in local currency government bond markets



[1] The floating bars show the interquartile range, the cross represents the median and the poles mark the min-max range of the data. The summary statistics are calculated for each crisis type in the period before the crisis starts using quarterly. A particular crisis episode can be classified as more than one crisis type. The dataset only includes three sovereign debt crises.

Sources: IMF; Datastream; Dealogic; Euroclear; Refinitiv; Xtrakter Ltd; national data; BIS calculations.

These improvements in public finances have also supported monetary policy. They have likely rendered monetary policy more effective by reducing average risk premia and, importantly, their sensitivity to external conditions. In addition, longer maturities have made the government's debt service burden less sensitive to changes in the policy rate. And lower shares of FX debt, in turn, have allowed exchange rates to work as shock absorbers to a greater extent than in the past.

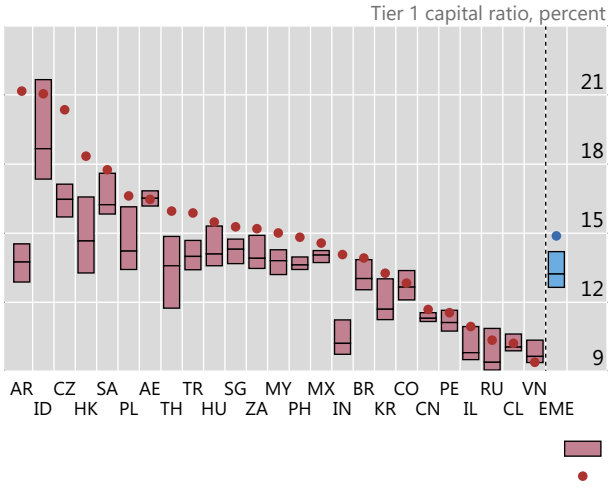
Stronger banks in EMEs

A more robust banking sector has also facilitated the strong fiscal and monetary response to the pandemic-induced recession, boosting its efficiency. In contrast to some past episodes of stress, banking sectors have been part of the solution and not of the problem. Strong banks can better support the transmission and effectiveness of policy measures. Well-capitalised banks have a healthier appetite to take risk and provide credit at a time of higher default risks and uncertainty. Such banks can also transmit rate cuts, funding-for-lending programmes, and credit-guarantees more effectively. And, by preempting banking crises, they do away with a factor that can cripple public finances.

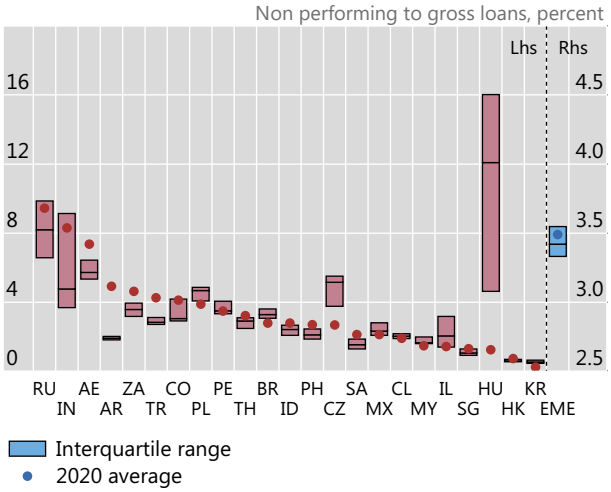
[11] See A Carstens and H S Shin, "Emerging markets aren't out of the woods yet", *Foreign Affairs*, 19 March, 2019, for the "original sin redux" hypothesis.

More capital and fewer non-performing loans for EME banks Graph 10

Banks capitalisation has increased across most EMEs[1]



Non-performing loan ratios have also declined since the peak following the GFC[1]



[1] The boxes show the interquartile ranges during 2011 to 2019, while the dots show the average during the first three quarters of 2020. In case no data is available for 2020, the latest data point available is plotted. "EME" corresponds to the simple average across EMEs.

Sources: IMF, *Financial Stability Indicators*; BIS calculations.

Indeed, EME banks had strengthened their balance sheets over the ten years since the GFC (Graph 10). In line with the global regulatory reforms, the average risk-weighted capital ratio had improved by close to 2 percentage points by the end of 2019. Non-performing loan (NPL) ratios had also generally declined from their peak immediately after the GFC, while profitability had remained stable (Graph 12, centre-panel below). And while the average return on assets of EME banks declined by close to 50 basis points between end-2019 and Q3 2020, this reflected to a considerable extent EME banks' ability to absorb large forward-looking loan loss provisions.

3. Policy interactions going forward

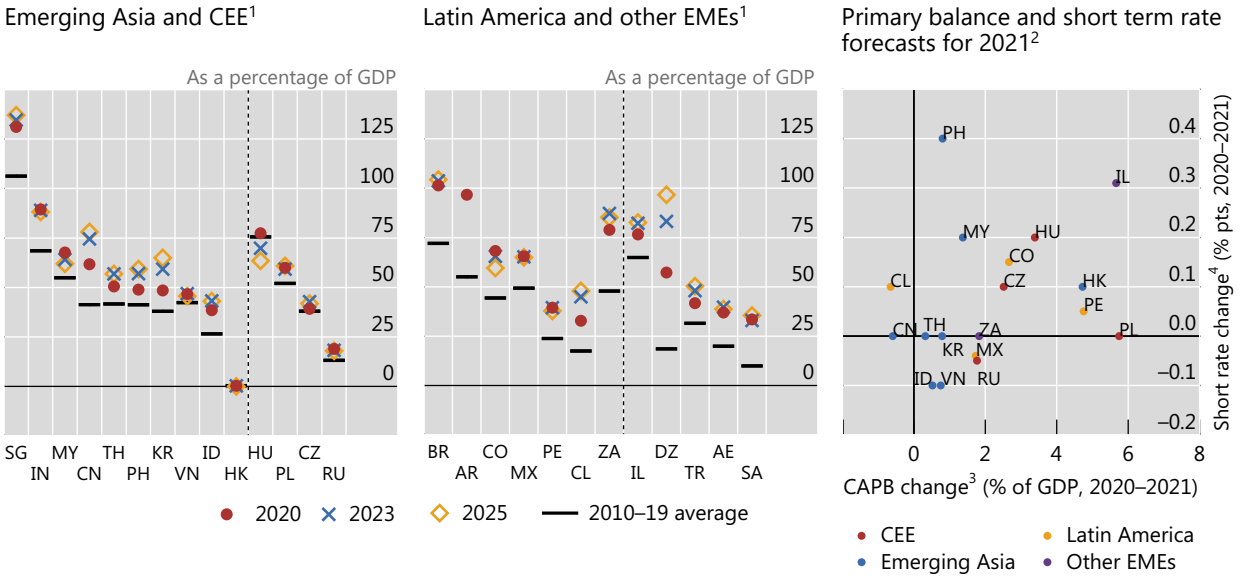
Looking forward, the interaction between fiscal and monetary policy will be influenced by the pandemic's evolution. In 2020 policy reactions were largely dictated by the size, suddenness and global breadth of the economic shock. Over the next few years, policymakers must reckon with a number of constraints that will partly depend on global developments but also, and importantly, on domestic factors. Given the depth and uncertain extent of the pandemic-induced recession, stabilisation policies will inevitably have to play close attention to the management of policy buffers.

Monetary and fiscal policies will interact against the backdrop of a gradual, uneven and uncertain recovery. While the GDP drop so far has been lower than originally feared, the global recovery appears slower than anticipated and may slow down further if the health emergency persists. In addition, the pandemic has brought about, or accelerated, structural shifts in the organisation of production and distribution of trade that will require significant adjustments in labour and product markets. For many EMEs, these changes come on the heels of a secular decline in growth. Events that derail recovery globally or a sudden change in global financial conditions could have major repercussions.

Policymakers will have to face these challenges with smaller policy buffers at a time when many private sector buffers have also shrunk. With the exception of household saving rates (which have increased as spending has contracted), private debt has risen. Banks have maintained credit flows but not without lowering their capital cushions.

High government debt

Graph 11



[1] Using IMF forecasts from the October 2020 World Economic Outlook report for 2020, 2023 and 2025. [2] Brazil (CAPB change: 8.5% of GDP; short rate change: 0.9% pts) and Turkey (CAPB change: –0.2% of GDP; short rate change: 1.15% pts) are not shown. [3] CAPB = Cyclically adjusted primary balance to potential GDP. IMF forecasts used for 2020 and 2021. [4] Consensus forecasts of short term rates (interbank, policy or government bills rates up to three months) used for end-2021, except for Israel, Saudi Arabia and South Africa where IMF forecasts are used.

Sources: IMF, *World Economic Outlook*, October 2020; Consensus Forecasts; national data; BIS calculations.

Global financial conditions have been a tailwind, but could turn sooner than expected. While the central scenario of strong and prolonged monetary policy accommodation in the core economies has not changed, recently the risk of a sharp increase in inflation in the United States, owing in part to a large fiscal package, has been noted. Combined with a surge in debt issuance, this has raised long-term yields in the core markets. It is possible that, if some of this continues, foreign investors may find EME asset classes less appealing.

Turning to domestic factors, the immediate response to the pandemic shock has consumed a sizeable portion of EME fiscal buffers, as reflected in currently high debt-to-GDP ratios for many economies (Graph 11, left-hand and centre panels). For practically all jurisdictions, ratios are now significantly higher than their past decade averages, and in many instances are expected to climb further. Arguably, the return of bond spreads and CDS premia to near their pre-Covid levels signals a greater credit risk tolerance by investors, at least compared to the past. However, the risk of a reversal in investor sentiment, or a fiscal derailment is material and so are its macroeconomic implications.

Over the next few years progress in the fiscal consolidation could be the main determinant of fiscal and monetary policy interactions. In a benign scenario, where recovery proceeds smoothly, monetary and fiscal policies could continue to operate

well in tandem. Projected fiscal policy responses so far appear consistent with such a scenario, reflecting a turn towards consolidation (Graph 11, right-hand panel). Cyclically-adjusted primary balances are expected to rise by 1.7 percentage points during 2021 (median), and by more than 5 percentage points in Brazil, Israel and Poland. Moreover, the negative effect of fiscal consolidation on growth may not be large. Previous literature suggests that the fiscal multiplier during consolidations is lower when monetary policy is accommodative (Annex Graph 2).[12] Indeed, current forecasts see short-term interest rates moving little during 2021 (Graph 11, right-hand panel).[13] A somewhat weakening currency could reduce the contractionary impact of consolidation by boosting external demand. As the overall macroeconomic situation improves, and as long as inflation remains under control, monetary policy can then gradually normalise and rebuild its buffers, provided that global liquidity conditions and monetary policy in anchor countries remain accommodative.

A question mark going forward concerns the state of the banking sector. Could banks start to suffer in a moderately adverse scenario, thus failing to support the recovery and reducing the fiscal and monetary room for manoeuvre? If stress intensifies explicit public support could not be ruled out, either granted to the banks themselves or to their borrowers. This would also force a delay in rate increases as long as inflationary pressures did not arise. Keeping rates low for too long would not only depress banks' margins, but also likely hamper monetary policy transmission.

The possibility of banking sector weakness should not be ruled out. Banks' non-performing assets are likely to rise as fiscal support to businesses and households is normalised in the near future. Historically, NPL ratios have typically peaked six to eight quarters after the onset of severe recessions in EMEs (Graph 12, left-hand panel). In addition, higher interest rates may become inevitable in EMEs where there are signs of rising inflation, weakening borrowers and generating mark-to-market losses. Forecasts suggest that by end-2021 profitability of EME banks may remain at much lower levels than before the pandemic (centre panel). Prudential policies, such as loan moratoria and/or dividend restrictions, can smooth the transition, but prolonged reliance on them can distort incentives and shift the solvency burden to the sovereign.

In particular, the sovereign-bank nexus could be yet another possible vulnerability. On the one hand, should the fiscal position deteriorate, this would weaken banking systems with large holdings of government debt. On the other hand, weakness among banks could badly sap public finances.[14] Banks' sovereign debt holdings have risen sharply in some EMEs (Graph 12, right-hand panel).[15] In such a context, the central bank may either have to tighten monetary policy – if the external

[12] See R Banerjee and F Zampolli, "What drives the short-run costs of fiscal consolidation? Evidence from OECD countries", *Economic Modelling*, vol 82, 2019, pp 420–36; J Cloyne, O Jorda and A Taylor, "Decomposing the fiscal multiplier", *NBER Working Papers*, no 26939, September 2020.

[13] For instance, as mentioned in the country note for India, the Reserve Bank of India's Monetary Policy Committee stated in December 2020 that it would continue with the accommodative stance as long as necessary to revive growth on a durable basis.

[14] See eg C Borio, J Contreras and F Zampolli. "Assessing the fiscal implications of banking crises", *BIS Working Papers*, no 893, October 2020.

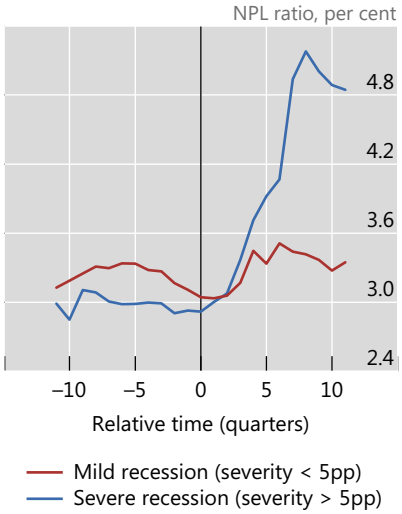
[15] It has been argued that the risk of sovereign-bank nexus generating adverse effects in EMEs on average was rising even before the pandemic hit; see E Feyen and I Zuccardi, "The sovereign-bank nexus in EMDEs: What is it, is it rising, and what are the policy implications?", *World Bank Policy Research Working Papers*, no 8950, July 2019. The Covid-19 crisis may have accelerated this trend in some EMEs.

constraint becomes seriously binding – or else come under pressure to relieve banks from their sovereign exposures.

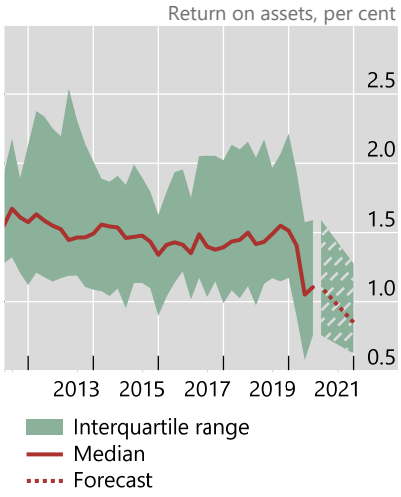
Potential drag on the banking system going forward

Graph 12

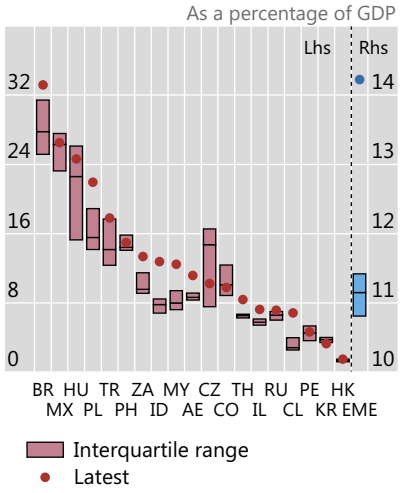
NPLs typically peak two years after the onset of severe recessions[1]



Bank profitability unlikely to recover by 2021[2]



Sharp increase in banks' sovereign debt in some EMEs, 2011-2019[3]



[1] A recession is defined as a sustained decline in GDP for at least 3 quarters, subject to the condition that the distance between subsequent business cycle peaks is at least 8 quarters. Due to lack of NPL data before 2007, recessions only after that date are considered. Among the recessions identified, those with a cumulative decline in GDP (ie severity) between the peak and the trough is more than 5pp are classified as a severe recession, while the rest are classified as mild. Simple average across EMEs for which NPL data is available and a recession is identified. [2] Bank profitability forecasts for end-2021 are based on the S&P BIRCA report. [3] The boxes show the interquartile ranges and median during 2011 to 2019, while the dots show the latest data point available, typically the third quarter of 2020. "EME" corresponds to the simple average across EMEs.

Source: IMF, Financial Stability Indicators; International Financial Statistics; S&P BIRCA; BIS calculations.

In particular, the sovereign-bank nexus could be yet another possible vulnerability. On the one hand, should the fiscal position deteriorate, this would weaken banking systems with large holdings of government debt. On the other hand, weakness among banks could badly sap public finances.[16] Banks' sovereign debt holdings have risen sharply in some EMEs (Graph 12, right-hand panel).[17] In such a context, the central bank may either have to tighten monetary policy – if the external constraint becomes seriously binding – or else come under pressure to relieve banks from their sovereign exposures.

The state of public finances

All this suggests that the state of public finances is indeed key. Not surprisingly, central banks consider it as having an important influence on monetary policy, through a variety of channels (Graph 6, above). From this perspective, the issue whether fiscal positions could weaken the sovereign's creditworthiness significantly

[16] See eg C Borio, J Contreras and F Zampolli. "Assessing the fiscal implications of banking crises", *BIS Working Papers*, no 893, October 2020.

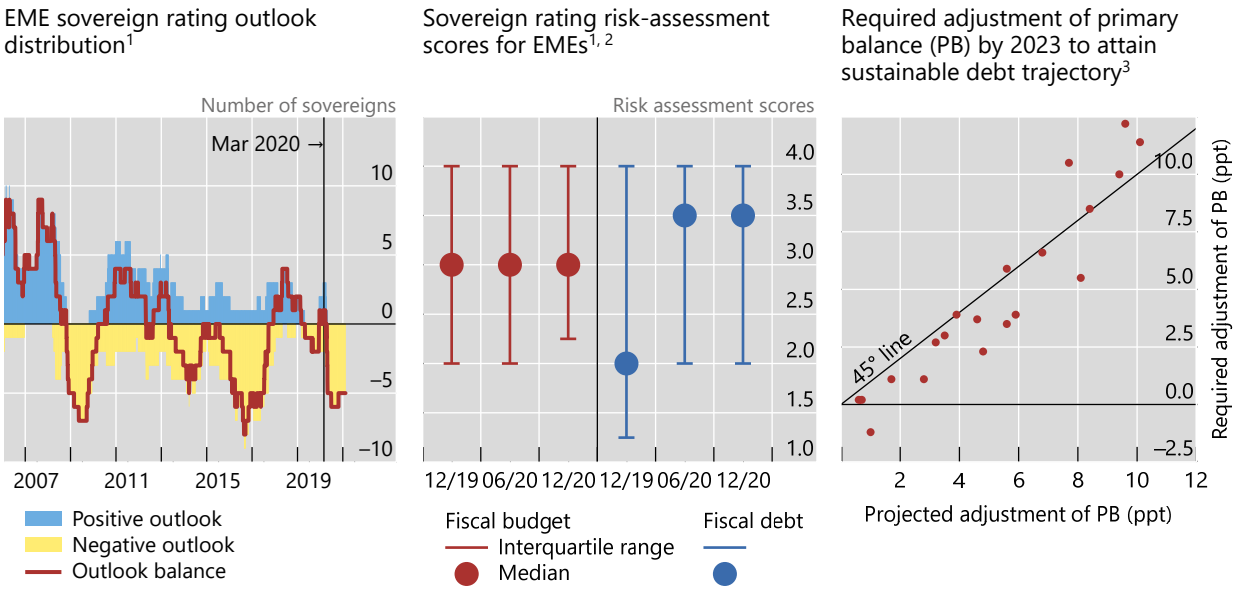
[17] It has been argued that the risk of sovereign-bank nexus generating adverse effects in EMEs on average was rising even before the pandemic hit; see E Feyen and I Zuccardi, "The sovereign-bank nexus in EMDEs: What is it, is it rising, and what are the policy implications?", *World Bank Policy Research Working Papers*, no 8950, July 2019. The Covid-19 crisis may have accelerated this trend in some EMEs.

or remain on a firm sustainable path is probably the main domestic factor influencing the monetary policy headroom.

Sovereign credit ratings have been fairly stable but ratings' outlooks have turned more negative (Graph 13, left-hand panel). This is because the positive effects of government spending on the pandemic-struck economy have been counterbalanced by the build-up of debt. S&P has assigned higher average risk scores to EMEs' sovereign debt (centre panel). Fiscal consolidation will be required to put the debt trajectory back on a sustainable path in some economies. The task would be less challenging if global interest rates remained low and population immunisation eventually released pent-up demand and boost growth. Under such circumstances, S&P expects that most EMEs would be able to stabilise government debt by 2023 (right-hand panel). However, for some EMEs, low potential growth could mean extra fiscal consolidation efforts. It is the largest fiscal adjustments that are projected to fall short (points above the 45° line). There are also downside risks to these projections. Global interest rates may rise earlier than expected, if AE growth is better-than-expected or inflation picks up sooner. In addition, debt projections do not take into account contingent public liabilities.

Outlook for fiscal risks

Graph 13



[1] EMEs include AR, BR, CL, CN, CO, CZ, HK, HU, IN, ID, IL, KR, MY, MX, PE, PH, PL, RU, SA, SG, ZA, TH, TR and VN. [2] S&P "Sovereign Rating Strengths And Weaknesses scores", range from 1 to 6, with larger value represents higher risk. [3] Debt sustainable primary balance = $(\text{debt/GDP})_{t-1} * (i - g)/\text{GDP}_t$; see S&P (2021), "Sizing sovereign debt and the great fiscal unwind", *S&P comments*.

Sources: IMF, *Fiscal Monitor*; Refinitiv; S&P Global Ratings.

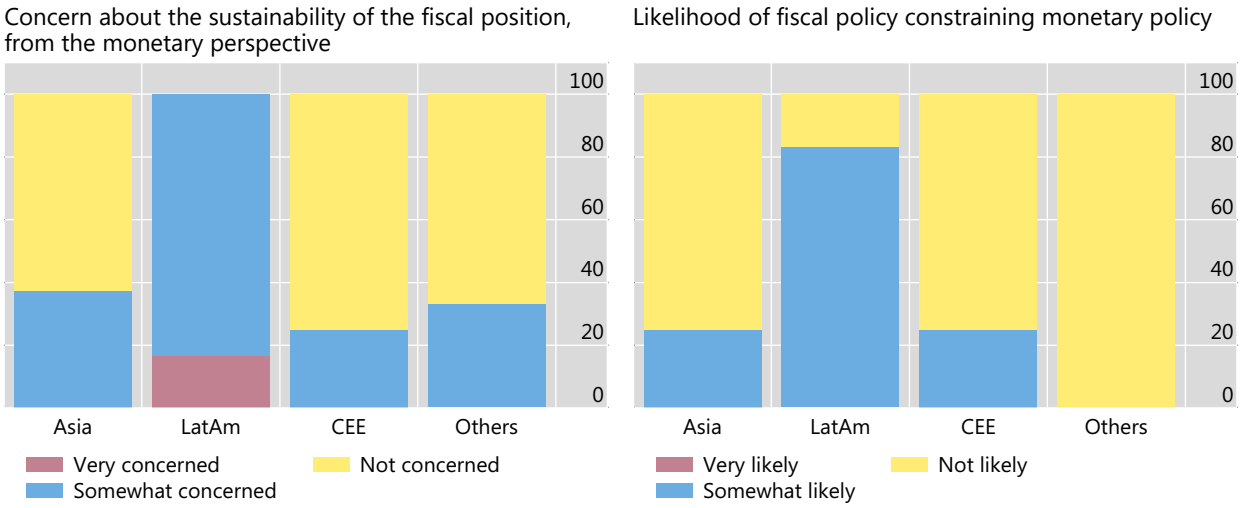
Monetary policy space

Concerns about fiscal sustainability will invariably have an impact on the room for monetary policy manoeuver. For instance, over the past year fiscal risks played out in FX markets as countries that reported the largest fiscal deficits have seen largest currency depreciations in 2020. In Asia, which generally have strong current account surpluses and lower fiscal debt, their currencies have been more resilient. Responses to the central bank survey are broadly in line with the idea that while providing some short-term headwinds, in a number of economies, less fiscal accommodation would

be welcome. That said, most central banks currently view the likelihood of fiscal policy constraining monetary policy as low (Graph 14). Only in Latin America more than half of the respondents see such an outcome as "somewhat likely".

Central bank views on fiscal risks[1]

Share of economies, in per cent — Graph 14



Asia: CN, HK, ID, IN, KR, MY, PH, SG, TH and VN; LatAm: AR, BR, CL, CO, MX and PE; CEE: CZ. PL, HU and RU; Others: AE, IL, SA, TR and ZA.

[1] Based on central bank responses.

Sources: BIS survey; BIS calculations.

The risks of headwinds, be they global or due to weakened fiscal positions, raise the question of whether monetary policy can do more, if necessary. Given that conventional policy space has become more limited, would greater use of balance sheet tools provide a credible complementary instrument?

Central bank balance sheet policies can help alleviate some of the trade-offs policymakers face. Balance sheet policies can enhance monetary policy space. And to the extent that they raise GDP and do not encourage further government borrowing, they can also improve the path of debt-to-GDP ratios.[18] While generally motivated by market functioning considerations, the previous analysis suggests that central bank purchases of government debt in EMEs have indeed kept long-term yields low.

At the same time, asset purchases, of government debt in particular, give rise to political economy challenges for central banks. The coordination between monetary and fiscal authorities was crucial to tame the turbulence. Their interests were fully aligned. But it is not prudent to count on this going forward. Indeed, easy access to central bank financing could encourage further borrowing. And this could constrain monetary policy further, either because of the induced greater vulnerability of the economy or through more direct political economy pressures – fiscal dominance. This would threaten central banks' independence and damage their credibility.

[18] See Committee on the Global Financial System, "Unconventional monetary policy tools: a cross-country analysis", *CGFS Papers*, no 63, October 2019; and B Hofmann, M Lombardi, B Mojon and A Orphanides, "Fiscal-monetary policy interactions in a low interest rate world", *mimeo*, December 2020.

The recourse to unconventional measures in EMEs implies trade-offs due to different factors. First, these measures may expose central bank balance sheets to higher credit and interest risks. Second, the institutional set up may make central banks more vulnerable to political economy pressures, fostering undue market perceptions of monetary financing and fiscal dominance. Those with relatively short track records of stable inflation are particularly vulnerable. Third, the higher vulnerability to external financial conditions reduces the ability to influence yields, which are more prone to abrupt adjustments. Finally, owing to the relatively small size of EME domestic markets, central banks can easily end up owning an overwhelming share of the stock of government bonds. This would deprive the private sector of safe and liquid assets that can be sold during distress.

More generally, an important question for central banks relates to the extent they may rely on balance sheet tools in the future, and with what specific purpose. As noted above, the majority of surveyed central banks pointed out that balance sheet policies were deployed with a more modest objective and actual implementation has been much smaller in EMEs than in AEs (Graph B2, Annex B).[19] In local currency terms, the expansion in many central banks' balance sheets during the past year reflects the increase in FX rather than domestic asset holdings (Annex B). In general, EME central banks tend to perceive less favourably the risk-benefit calculus related to the use of balance sheet instruments as a means of providing monetary stimulus than their AE peers. This is especially true when there is conventional policy space available.

[19] Only central banks in Israel, Hungary and Poland report that they purchased public sector assets to influence the stance of monetary policy.

Issues for discussion

Session 1

1. How did the Covid-19 crisis influence the interaction between monetary and fiscal policy? Did the extraordinary circumstances make the coordination between policies easier? What, if any, have been sources for tension?

2. What were the key factors that led to greater use of the central bank balance sheet and in particular to large-scale domestic asset purchases in the context of the response to Covid-19? What have been the effects on financial conditions and the macroeconomy so far? Have asset purchases affected the room for fiscal policy manoeuvre?

Session 2

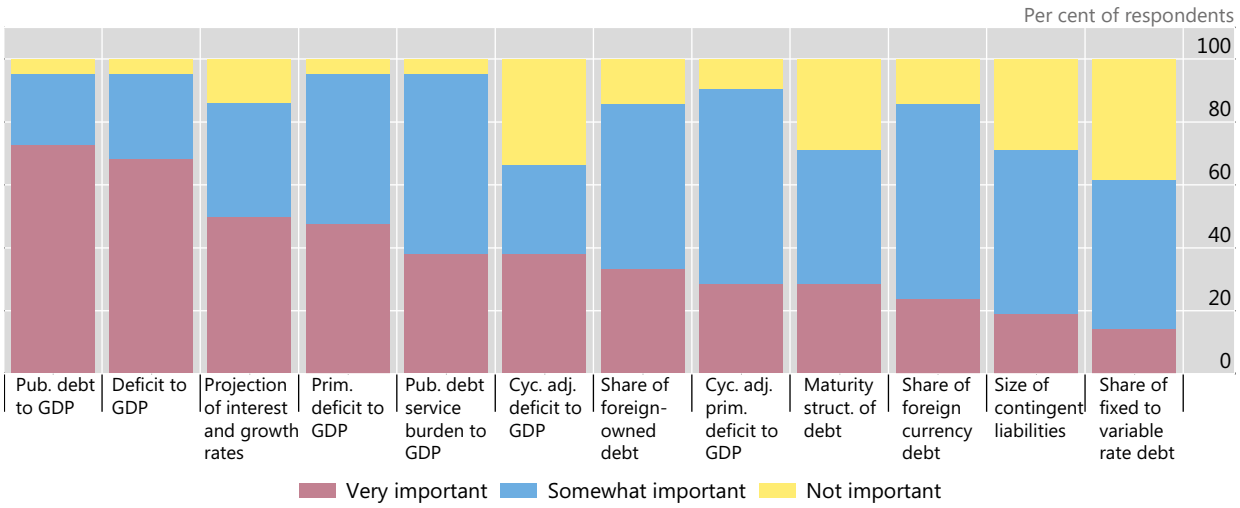
3. Do large-scale domestic asset purchases make the exchange rate more vulnerable to confidence crises? Could they increase the risk of higher inflation? Under what conditions?

4. Does the increase in fiscal deficits and public debt raise macroeconomic and financial stability risks? Is monetary policy likely to be constrained by fiscal policy going forward? Through what channels? How important is the threat of fiscal dominance, including because of political economy channels?

Annex graphs

Debt and deficit metrics considered key for debt sustainability and macro risks

Central bank responses to survey — Annex Graph 1

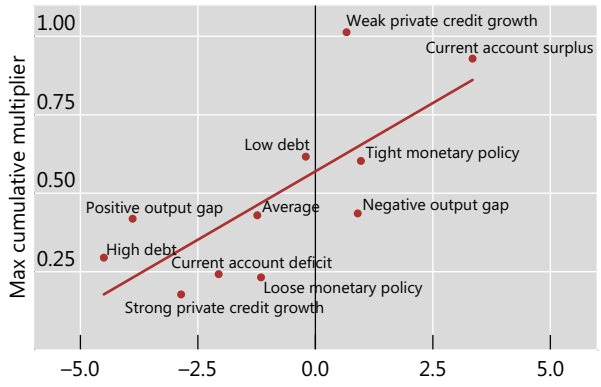


Sources: BIS survey, BIS calculations.

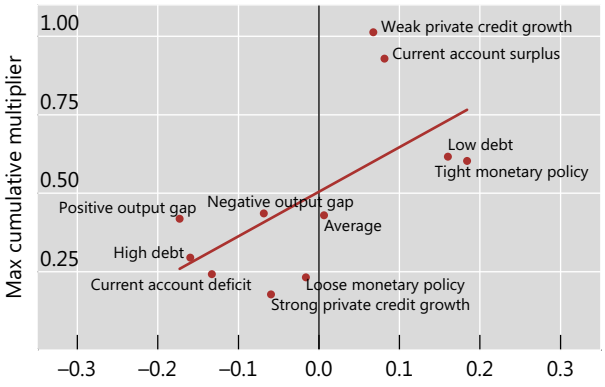
External adjustment and looser monetary policy lower fiscal multipliers

Annex Graph 2

Exchange rate offsets fiscal consolidations



Monetary policy offsets fiscal consolidations[1]



[1] Monetary policy stance measured as the deviation of nominal interest rates from an estimated Taylor rule. Higher values indicate tighter monetary policy stance, given GDP and inflation outcomes.

Source: R Banerjee and F Zampolli, "What drives the short-run costs of fiscal consolidation? Evidence from OECD countries", *Economic Modelling*, vol 82, 2019, pp 420–36.

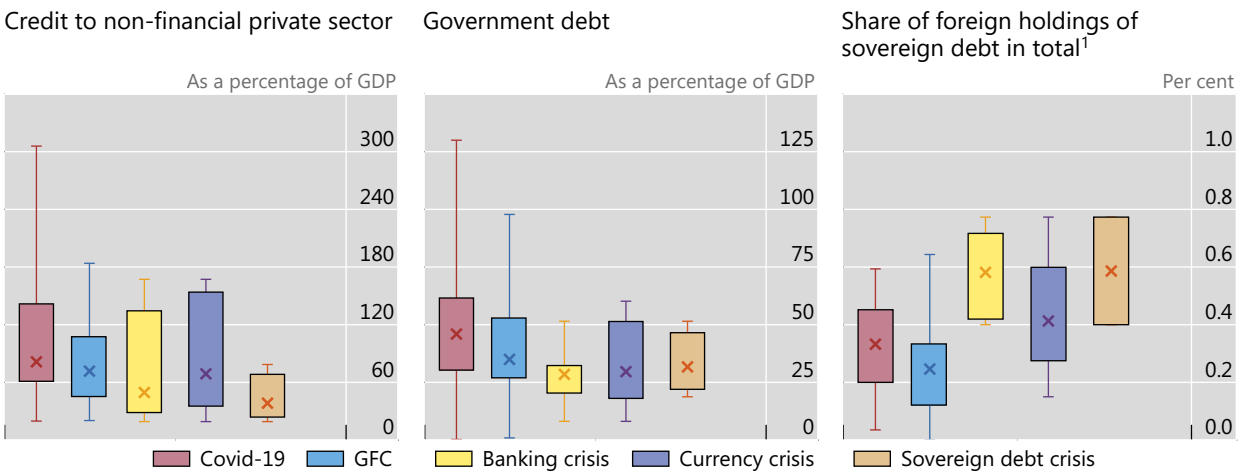
Annex A: Covid-19 vs other downturns – initial conditions and policy responses

The macro-financial conditions preceding Covid-19, as well as the fiscal and monetary policy responses to the shock, differed in a number of ways from previous crises. Below we compare the current crisis with the GFC and a number of other EME crises since 1994. Some of the panels in Graphs 5, 7 and 9 in the main text provide a similar comparison for macro-financial indicators not discussed in this Annex.

In the analysis, initial conditions and policy adjustments during crises are considered for all EMEs for the two global crises, Covid-19 and the GFC. To identify the other, more economy-specific downturns, a recession-dating algorithm is applied, setting as the downturn the time period from peak-to-trough in the level of real GDP for a given economy. All episodes where the cumulative drop in real GDP during the downturn is less than 4% are excluded. The remaining 15 more severe downturns are further identified as associated with a banking, currency or sovereign debt crises (or more than one simultaneously).[20] The graphs show the interquartile ranges (bars), the medians (crosses) and the full ranges (lines) for a number of macro-financial and policy variables.

The levels of private and public debt were generally higher prior to the pandemic recession than before previous downturns (Graph A1, left-hand and centre panels). The median levels of both private (81%) and public (46%) debt to GDP were at historical pre-crisis highs, with private debt particularly elevated in EME Asia (157%) and CEE (85%). As a comparison, before banking crises in the past, the median private debt to GDP was at 50%.

Initial private and public debt levels and foreign holdings of sovereign debt — Graph A1



The floating bars show the interquartile range, the cross represents the median and the poles mark the min-max range of the data. The summary statistics are calculated for each crisis type in the period before the crisis starts using quarterly or annual data. A particular crisis episode can be classified as more than one crisis type. The dataset only includes three sovereign debt crises.

[1] Only five banking, four currency and two sovereign debt crises are considered due to limited data availability.

Sources: IMF; Consensus Economics; Datastream; national data; BIS calculations.

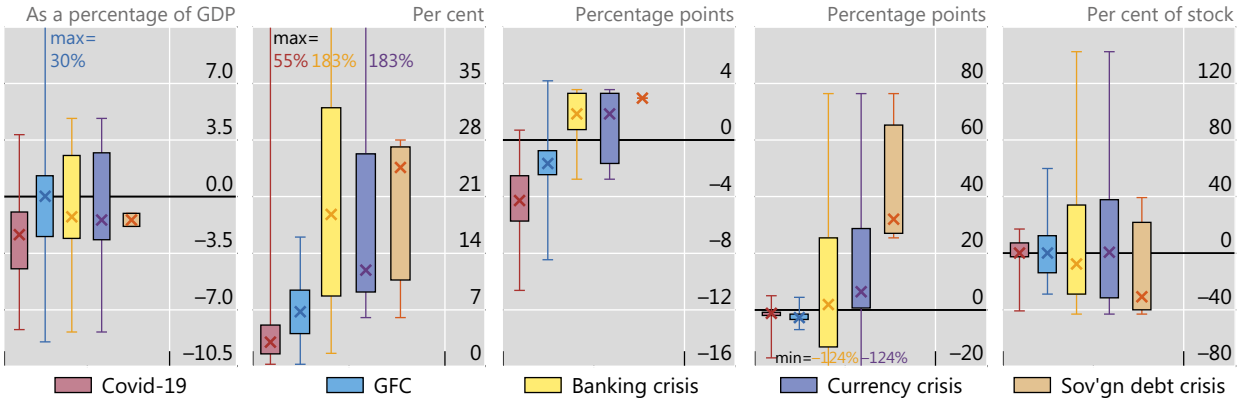
[20] Eleven downturns are associated with banking crises, 9 with currency and only 3 with sovereign debt crises, using the database in L Laeven and F Valencia, "Systemic banking crises revisited", *IMF Working Papers*, no 18/206, September 2018. There are also three EME downturns in the sample – recessions in Hong Kong SAR, Peru and Singapore – with a larger than 4% cumulative drop in GDP but that are not associated with any of the three crisis types. These are excluded from the analysis.

The picture concerning foreign holdings of sovereign debt is less clear-cut (Graph A1, right-hand panel). Pre-pandemic, median holdings were higher (about one-third of outstanding amounts) than prior to the GFC (closer to one-quarter). This was the case in particular in Latin America (47%) and in the group of other EMEs (38%). That said, in these recent cases foreign holdings of sovereign debt stood below those in more distant crisis episodes.

The weak cyclical position and accommodative external conditions – as discussed in the main text – facilitated a countercyclical fiscal and monetary policy response, in contrast to past crises (Graph A2).[21] This occurred despite more limited policy space, as measured by overall fiscal balances (which is also affected by the economy's cyclical position) and the distance of policy rates from the ZLB. For the median EME, the cyclically adjusted primary balance is estimated to have declined by 4 percentage points in 2020 and by only 1.6 points during the GFC (between 2007 and 2009) whereas it had increased during previous crises.[22] FX intervention in response to the historically large capital outflows early on in the pandemic did lead to a decline in reserves in the group of other EMEs and Latin America, but in most economies the declines were small as a share of the overall stock. By the end of Q2 2020, FX reserves had actually increased in Asia. Lengthening the window further to Q4 would result in much more prominent increases in reserves in many economies (see Annex B).

Pre-crisis policy space and policy changes during crises

Graph A2



The floating bars show the interquartile range, the cross represents the median and the poles mark the min-max range of the data. A particular crisis episode can be classified as more than one crisis type. The dataset only includes three sovereign debt crises.

[1] The summary statistics are calculated for each crisis type in the period before the crisis starts using quarterly or annual data. [2] Only two sovereign debt crises are considered due to limited data availability. [3] Policy rates data extended with short term interest rates to increase data availability. [4] The summary statistics are calculated for each crisis type as the difference at the crisis start and end dates using quarterly or annual data. [5] Only six banking and currency crises and one sovereign debt crisis are considered due to limited data availability. [6] For FX reserves the end of the Covid-19 episode is set to Q2 2020.

Sources: IMF; Datastream; national data; BIS calculations.

[21] See eg G Kaminsky, C Reinhart and C Végh, "When it rains, it pours: procyclical capital flows and macroeconomic policies", *NBER Macroeconomics Annual*, vol 19, 2004, pp 11–53; M Obstfeld, "Trilemmas and trade-offs: living with financial globalisation", *BIS Working Papers*, no 480, January 2015.

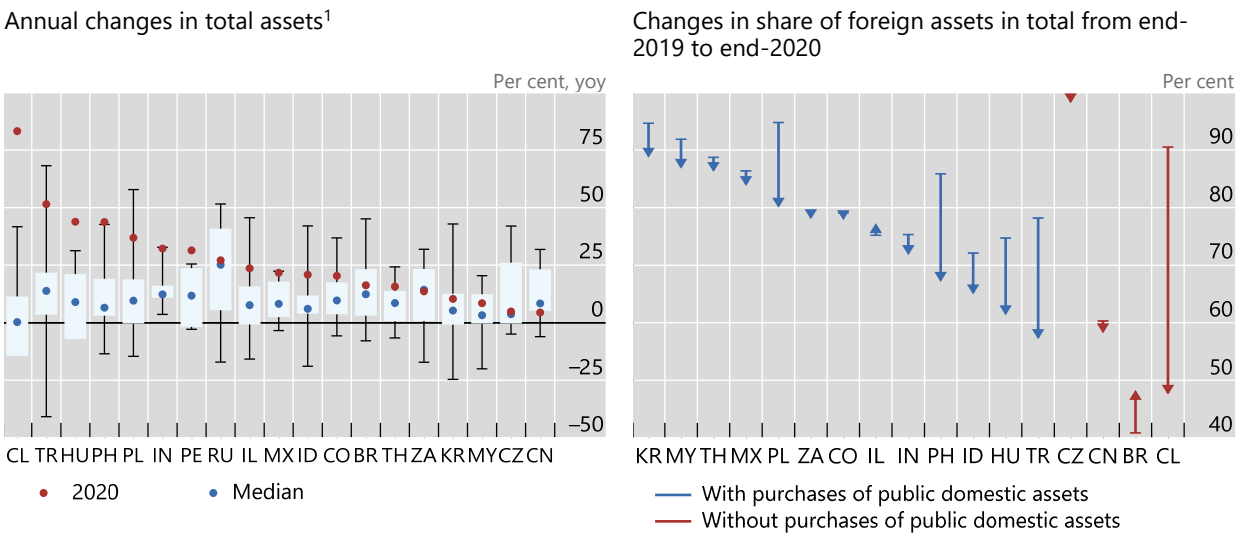
[22] As a caveat, cyclically adjusted primary balances are available only for six banking and six currency crises and one sovereign debt crisis.

Annex B: Recent EME central bank balance sheet developments

Prompt unconventional policy responses by EME central banks to the Covid-19 shock have led to significant changes in their balance sheets' size. Asset purchases, expanded lending operations and FX interventions have all played an important role.

Many EME central banks' balance sheets expanded and shifted towards domestic assets in 2020. Asset purchases and lending operations contributed to an exceptional expansion of the balance sheets. In many cases, the pace was much faster than historical averages (Graph B1, left-hand panel). These operations also led to a shift of central bank asset composition towards domestic assets, even though the shift was relatively small in most cases. FX reserves still accounted for more than 70% of total assets, apart from in Brazil, China, Chile and Turkey (right-hand panel). The significant fall in the share of foreign assets was a result of the central bank's purchases of debt securities, including bank bonds, to restore market functioning and ensure banks with abundant liquidity.

Central bank balance sheets expanded and most shifted towards domestic assets — Graph B1



[1] Box-whisker plot shows the following five parameters (minimum, maximum, first quartile, median and third quartile) over the period between January 2002 (or the earliest available) and Dec 2019.

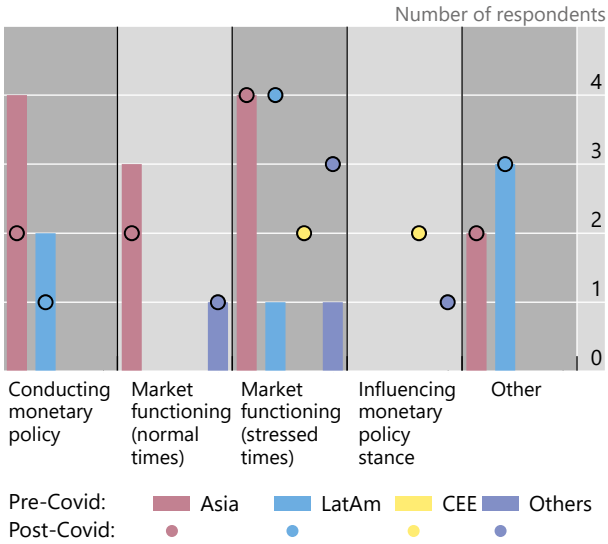
Sources: national authorities; IMF, International Financial Statistics.

The small shift towards domestic assets could reflect the "financial stability" nature of asset purchases. This is because the interventions required are generally smaller. According to central bank survey for this meeting, thirteen central banks report implementing asset purchases of public debt in response to Covid-19 (Graph B2, left-hand panel). Nearly all central banks purchasing government debt did so to improve market functioning during periods of stress. Only three central banks (Hungary, Israel and Poland) implemented asset purchases also in order to influence the monetary policy stance, whereas none reported having done so in the past. Consequently, most central banks' holdings of government securities remained within the historical range (right-hand panel).

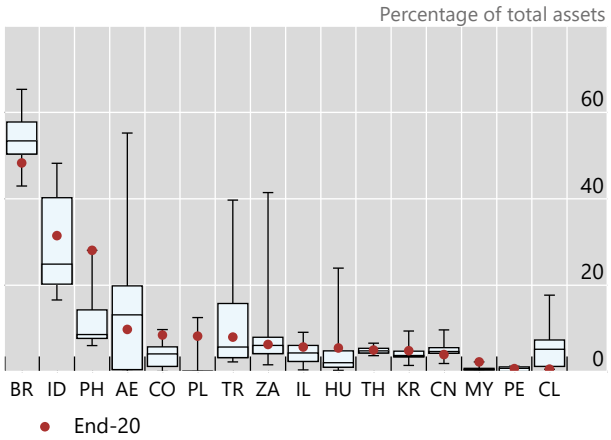
Government debt purchases mainly aimed at market functioning and thus not a main driver of balance sheet expansion

Graph B2

Number of respondents who reported implementing asset purchases for the following objectives[1]



Central bank claims on central government[2]



[1] Asia: IN, ID, KR, MY, PH, SG and TH. LatAm: AR, CO, MX and PE. CEE: HU and PL. Others: IL, SA, ZA and TR. BR, CN, CZ, HK, RU, SA and AE did not implement purchases of public securities. [2] Box and whisker plot represents the following five parameters (minimum, maximum, 1st quartile, median and third quartile).

Sources: BIS survey; IMF, *International Financial Statistics*; national authorities; BIS calculations.

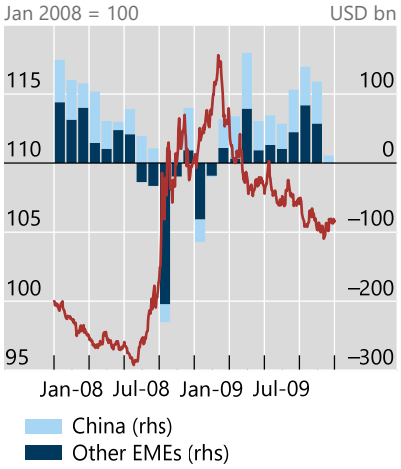
Besides asset purchases, lending operations also contributed to balance sheet expansion. These operations come in various forms. For example, in its contribution to the meeting, the Monetary Authority of Singapore (MAS) mentions the facility to support bank lending to SMEs at reduced interest rates, underpinned by the government's risk-sharing scheme. In China, the Ministry of Finance and the People's Bank of China jointly set up special purpose vehicles to provide financial incentives to banks granting access to finance for micro and small businesses. The Reserve Bank of India conducted Targeted Long-Term Repo Operations (TLTROs) to provide financing up to three years to sectors and entities experiencing liquidity constraints and/or obstacles to market access.

At the same time, most central banks have started to accumulate FX reserves after the heavy interventions in March 2020. During the initial stage of the pandemic, EME central banks sold FX reserves to provide dollar liquidity to domestic agents and to smooth out the volatile FX movements due to a global dollar shortage. While the scale of interventions in March was comparable to that during the GFC, the decline in EME FX reserves as a share of the balance sheet was much smaller in March than during the GFC (Graph B3). This reflected the resolve of many central banks to build up FX reserves as a self-insurance against external shock over the years and greater willingness to allow the exchange rate to depreciate. The ample reserves coupled with the core central banks' actions helped allay investor fears and overcome the global dollar shortage. Since then, EME central banks have started to replenish their FX reserves. By end-2020, excluding China, total EME FX reserves were up by more than $400 billion from the previous year.

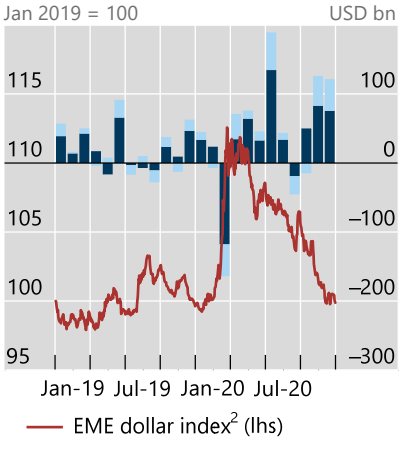
Ample FX reserves helped smooth out volatile exchange rate movements[1]

Graph B3

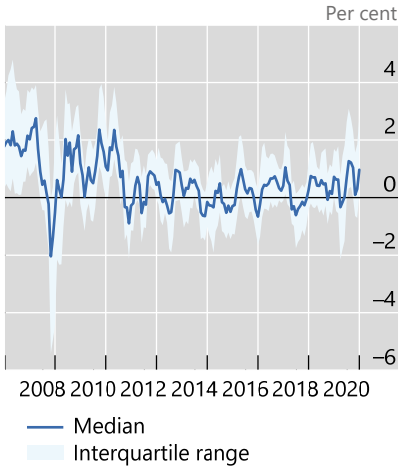
Changes in FX reserves during GFC



Changes in FX reserves during Covid



Changes in EME FX reserves as a percentage of total[3]



China (rhs)
Other EMEs (rhs)
EME dollar index[2] (lhs)
Median
Interquartile range

[1] Argentina, Brazil, Chile, China, Colombia, the Czech Republic, Hong Kong SAR, Hungary, India, Indonesia, Israel, Korea, Malaysia, Mexico, the Philippines, Poland, Russia, Saudi Arabia, Singapore, South Africa, Thailand and Turkey. [2] Higher value represents a stronger dollar. [3] 3-month moving average.

Sources: IMF; Federal Reserve Board of Governors.