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Monetary and Capital Markets Department

Asset Purchases and Direct Financing

Guiding Principles for Emerging
Markets and Developing Economies
during COVID-19 and Beyond

*Prepared by Tobias Adrian, Christopher Erceg,
Simon Gray, and Ratna Sahay*

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Executive Summary

Many central banks in emerging market and developing economies (EMDEs) have used asset purchases to reduce financial stresses during the COVID-19 crisis, and some are doing so to provide macroeconomic stimulus. While such programs may be beneficial, they also raise concerns about heightened risks of fiscal dominance and debt monetization. A key question is whether these programs are appropriate for EMDEs and, if so, how to design them to minimize risks to central bank independence and price stability.

Drawing on lessons from past episodes of fiscal dominance, asset purchase programs should be based on several key principles. First, the central bank must have operational independence to adjust its policy rate as needed to achieve its objectives. Second, it should make asset purchases on its own initiative, and at market prices. And third, it must be able to adjust the scale of purchases (or sales) as warranted for achieving its objectives. There should also be a strong preference toward purchases in the secondary market to avoid the many risks associated with direct financing.

EMDEs may benefit from using temporary and small-scale asset purchases (SSAPs) to improve market functioning, as proved instrumental during the COVID-19 crisis. EMDE asset purchases in the early months of COVID lowered domestic bond yields considerably without weakening exchange rates (October 2020 GFSR). Keeping the duration of these actions limited and the scale modest reduces risks to central bank balance sheets and price stability. Even so, EMDE experience with asset purchase programs remains limited, and exit from these programs may pose challenges.

Some EMDE central banks—if facing very low inflation and limited conventional policy space—can also use larger-scale asset purchases (LSAPs) to boost output and inflation, though considerable caution is required. LSAP programs involve significant maturity risk and should be undertaken only

by central banks with a high degree of operational independence and policy credibility. A strong and sustainable fiscal position is a key prerequisite for LSAPs to be an effective tool. Conversely, deploying LSAPs against the backdrop of weak public finances could fuel investor concerns about fiscal dominance, increase vulnerability to capital outflow and exchange rate pressures, and run the risk of being counterproductive.

While the authors' analysis points to a clear preference for any central bank asset purchases to be made in the secondary market, some direct financing may be justified under limited circumstances (that is, a poorly developed secondary market or serious market dysfunction). In that event, price and financial stability is best protected if any direct financing is time-bound, very modest in size, disclosed in a transparent way, and pays at a minimum the central bank policy rate.

Introduction

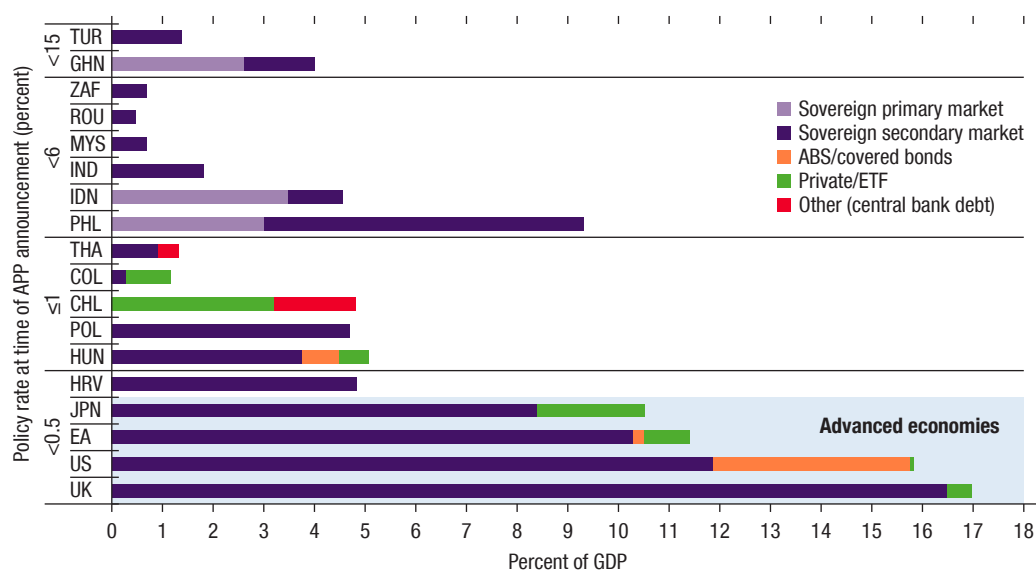
Many central banks in emerging market and developing economies (EMDEs) have used asset purchases to reduce financial stresses in the context of the COVID-19 crisis. As shown in Figure 1, EMDE asset purchase programs have been generally modest in size and implemented in the early months of the COVID crisis mainly to support a return to more normal market functioning. The aim of these programs was typically somewhat narrower than that of the major advanced economy (AE) central banks, which have engaged in much larger balance sheet expansions both to mitigate market stresses, and to boost output and inflation given the effective lower bound (ELB) constraint on policy rates. Even so, a few EMDE central banks are also utilizing asset purchases to provide macroeconomic stimulus and to boost inflation (October 2020 GFSR).

Both the experiences of AEs since the global financial crisis (GFC) and of EMDEs during COVID suggest that asset purchase programs may be beneficial for EMDEs under some conditions. Notably, during the COVID-19 crisis, asset purchases by EMDE central banks helped mitigate the sharp stresses and liquidity pressures that emerged in local currency bond markets. Regression analysis based on event studies using high frequency data indicates that these actions lowered bond yields significantly without exerting downward pressure on exchange rates (GFSR 2020, Fratto and others 2021, Arena and others 2021).

Even so, history suggests some grounds for concern that balance sheet expansion by EMDE central banks could pose serious risks to both price and financial stability. Large government financing needs, as in the wake of COVID,¹ have often been a catalyst for governments to seek cheap and

¹The COVID-19 pandemic has led to substantial new spending needs (health sector, economic and social support) while government revenues have weakened. This has inevitably increased financing pressures.

Figure 1. Central Bank Asset Purchases



Sources: Central banks; national sources; and IMF staff estimates.

Note: Data are March 2020–March 2021. Primary market purchases for the Philippines refer to the repurchase operation with the central government. Advanced economies asset purchase figures are calculated using the change in holdings, where applicable. Ghana's secondary market purchases refer to a one off operation with a state-owned bank, rather than a regular purchase operation. ABS = asset-backed securities; APP = asset purchase program; ETF = exchange-traded funds.

easy financing from central banks, including by pressuring them to expand their balance sheets. Such fiscal dominance has often resulted in high inflation, particularly when fiscal deficits rise to high levels and the relationship between inflation and fiscal deficits may become highly nonlinear.² Such risks are also relevant for AEs, but are mitigated by their long-established policy credibility and (for some) their ability to issue reserve currencies.³

In this paper, the authors outline several broad principles that should underpin the design of asset purchase programs to ensure that they can achieve central bank objectives while containing risks that may threaten both central bank independence and price stability. While this paper's focus is on EMDE central banks—for whom asset purchase programs are quite new—the authors draw heavily on the experiences of both AEs and emerging market economies. The authors then explore the appropriate scope and structure of asset purchase programs for EMDEs, including to assess whether using

²There are strong theoretical grounds for why weak public finances may limit the ability of central banks to achieve their price stability mandate, including in work by Sargent and Wallace (1981), Woodford (1996), Blanchard (2004), and Sims (2016).

³Hall and Reis (2015) provide an insightful analytical framework for assessing the balance sheet risks arising from various components of central bank asset purchase programs—including from maturity mismatch, credit risk, and exchange rate risk—with applications focused on the US Federal Reserve and European Central Bank.

large-scale asset purchase programs to provide macroeconomic stimulus should be considered.

The paper begins by considering key ways in which governments have exerted fiscal dominance in the past, where “fiscal dominance” is interpreted as various forms of pressure on the central bank to subordinate its objectives to those of the government. This analysis is insightful in deriving principles for the design and scope of asset purchase programs.

Most critically, governments have often limited the central bank’s ability to adjust its policy rate to ensure cheap and easy financing. This may occur through formal interest rate caps, as were implemented in the United States and many other countries during and after WWII, or through simply pressuring central bank officials not to raise rates.⁴ Reinhart (2015) argued that such financial repression played a major role in reducing high levels of government debt in the decades following WWII through generating inflation and keeping interest rates low in real terms. While such incursions on central bank independence do not invariably translate into price instability, they may cause major problems when the objectives of the fiscal authority conflict with the central bank’s need to raise interest rates to control inflationary pressures.⁵ Government pressure on the US Federal Reserve and Bank of England during the 1960s along these lines sparked the Great Inflation. Fischer, Sahay, and Vegh (2002) use a large cross-country panel of EMDEs to show that that large fiscal deficits often fuel high inflation and are associated with poor macroeconomic performance.

A second way in which governments have exerted fiscal dominance involves forcing central banks to finance them directly. Such *direct financing* may take the form of pressuring the central bank to buy government bonds in the primary market at a subsidized rate, or to maintain an overdraft facility, and is in sharp contrast to central bank purchases made in the secondary market to support central bank objectives.

Direct financing, even if involving subsidized credit, may be consistent with price stability provided that the central bank has the latitude and balance sheet strength to implement policy rate decisions consistent with its mandate. Thus, the US Federal Reserve engaged in direct financing through much of its early history (Garbade 2014)—including during long periods of price

⁴Financial repression can also take the form of statutory restrictions on financial institutions that reduce the government’s cost of financing its deficit. These forms of financial repression act as a tax on the financial system and hence crowd out private demand.

⁵Alexander Hamilton, the first US Secretary of the Treasury, warned against printing money to finance budget deficits in his report on public credit (1790): “The stamping of paper is an operation so much easier than the laying of taxes that a government in the practice of paper emissions would rarely fail in any such emergency to indulge itself too far.”

stability—and the Bank of England has provided an overdraft facility to the government since its founding in 1694.

However, many problems can arise especially when the government demands direct central bank credit in substantial volumes, for a sustained period, and at a subsidized rate, as often occurs following major crises. A material weakening of the central bank's balance sheet may force it to take its balance sheet into account when making policy decisions, thus undermining independence and potentially compromising price stability (Stella 2002). The risks to price stability escalate further if investors interpret direct financing as a signal that the government will also tie the hands of the central bank and keep it from raising policy rates or selling its holdings of government securities (or other assets) at a later date. With the central bank unable to sterilize the balance sheet expansion, this can result in exchange rate collapse and galloping inflation—as familiar from experiences ranging from the Weimar Republic a century ago to Zimbabwe in the early years of this century.

The strong association among direct financing, debt monetization and high inflation has led many governments to prohibit direct financing, including through constitutional provisions and treaties. It also helps account for why the term “direct financing” is often used almost interchangeably with “debt monetization” or “monetary financing” in policy discussions. Even so, it is important to underscore that direct financing does not necessarily translate into debt monetization, where the latter is interpreted as central bank financing of the government that results in a permanent increase in the noninterest-bearing liabilities of the central bank (that is akin to “printing money,” which invariably means a jump in the price level and higher inflation).⁶

However, even asset purchase programs conducted only in the secondary market could potentially result in debt monetization and high inflation. Indeed, AE central banks have recognized the risk that their asset purchases could be monetized if they didn't have full latitude to eventually sterilize the reserves by adjusting their policy rate (that is, paying interest on reserves), or by selling the assets. Thus, legislation—and subsequent interpretation by the courts—oriented at minimizing the risk of debt monetization takes aim not only at direct financing, but on other pressures (including political) that may

⁶This interpretation of debt monetization is consistent with that of Bernanke (2012), who noted “Monetizing the debt means using money creation as a permanent source of financing for government spending,” and similarly of Turner (2015) in his Mundell-Fleming lecture: “Monetary financing is defined as running a fiscal deficit ... by an increase in the monetary base—that is, of the irredeemable fiat non-interest-bearing monetary liabilities of the government/central bank.” Even so, the use of these terms is far from uniform. A bit more loosely, monetary financing can be regarded as the acquisition of claims by the central bank on the government that—in concert with fiscal dominance that restrains policy rate adjustment—results in excessive money growth and inflationary pressure (that is, relative to levels consistent with price stability).

weaken the ability of central banks to use their full range of tools to achieve their mandated objectives.

These considerations are helpful in framing guiding principles for asset purchases, including by EMDE central banks. These include:

- First, the central bank must have latitude to adjust its policy rate as needed to achieve central bank objectives. A strong governance framework is required to ensure that the central bank (and its key officials) have the requisite degree of operational independence.
- Second, the central bank should make asset purchases only on its own initiative and to help achieve its mandated policy objectives.
- Third, the scale of purchases (or, upon exit, sales) should be appropriate for achieving those objectives, and the purchases should be at market prices.⁷ Thus, there should be a strong preference toward purchases in the secondary market.
- Fourth, the central bank should aim to ensure that it has fiscal support to cover any losses associated with its asset purchase programs to preserve its financial autonomy and reduce risks to monetary independence.
- Fifth, clarity should be established between short-term asset purchases and longer-term asset purchases. The former are usually deployed on a smaller scale to address dysfunction in specific markets in near-crisis or crisis situations (small-scale asset purchases, or SSAPs), whereas the latter are used as a tool for monetary policy accommodation and are usually on a larger scale (large-scale asset purchases, or LSAPs).

Moving to practical implementation, EMDEs may benefit from using small-scale asset purchases to support market functioning during periods of substantial financial market stress, consistent with the generally favorable experiences during the COVID crisis. In line with the principles articulated above, keeping the duration of these actions limited and the scale modest should reduce the risk to central bank balance sheets and price stability. However, experience with these tools remains limited.

Some EMDEs with very low inflation and limited conventional monetary policy space may also consider larger-scale asset purchases to boost output and inflation, though considerable caution is required. LSAP programs differ from interventions to support market functioning insofar as they involve a longer-term commitment to maintain a large balance sheet (which is critical for reducing term premiums) and because they typically target longer-maturity government bonds. Hence, these programs expose central

⁷Some qualifications are required if markets are highly illiquid (see the discussion in Chapter 6).

banks to considerable maturity risk and should be undertaken only by central banks with a high degree of operational independence and policy credibility.^{8,9} Such programs may lead to problems if the central bank initiates the program to boost inflation when inflation is running low, but then is unable to “get a pass” from the Ministry of Finance or Treasury to raise interest rates as appropriate when inflation subsequently rises. Moreover, it is important for purchases to occur in the secondary market both to reduce risks to the central bank balance sheet and to avoid raising market concerns about fiscal dominance.

A strong and sustainable fiscal position is a key prerequisite for LSAPs to be a viable policy option. A weak fiscal position would likely weaken investor confidence that the LSAP program was aimed at achieving central bank rather than fiscal objectives and that the central bank would have latitude to raise interest rates or sell assets if needed for price stability. Thus, the exit could be difficult. While LSAPs expose the central bank to more balance sheet risk—including maturity and possibly credit risk—the government would be less poised to recapitalize the central bank in the event of significant losses, heightening risks to monetary independence and price stability.

Moreover, a weak fiscal position increases vulnerability to capital outflow and exchange rate depreciation pressures, thus making LSAP programs less likely to be effective. The risk of exchange rate weakness feeding through to excessively high inflation, and potentially damaging financial sector stability, tends to be more significant in EMDEs. These problems are exacerbated in countries with substantial unhedged foreign currency debt or a significant level of dollarization.¹⁰ LSAPs may well even be counterproductive in economies in which weak fiscal positions are coupled with other vulnerabilities such as poorly anchored inflation expectations, large unhedged foreign currency debt, and high external debt.¹¹

While the authors’ analysis points to a clear preference to restrict any central bank asset purchases to the secondary market, the secondary market may be very thin or non-existent in some countries. Moreover, even in countries with better-developed secondary markets, securing market-based financing may become very challenging during periods of market stress. Accordingly, while some direct financing may be justified under these circumstances, price

⁸The authors’ analysis of the benefits and risks of EMDE asset purchases aimed at providing macroeconomic stimulus draws on Hofman and Kamber (2020).

⁹Of course, to the extent that EMDE central banks purchase private assets as well as government bonds, they would also be exposed to credit risk (and potentially heightened political economy challenges).

¹⁰In countries in which there is a high level of dollarization, pressures may arise if residents seek to switch from domestic currency holdings to assets denominated in dollars (or other foreign currencies).

¹¹Celasun, Gelos, and Prati (2004) draw upon disinflation episodes across a range of EMDEs to highlight how expectations about the fiscal stance play a key role in influencing inflation expectations.

and financial stability is best protected if it meets several conditions: it is time-bound, very limited in size, disclosed in a transparent way, and pays at a minimum the central bank policy rate. In addition, any securities purchased by the central bank should be marketable.¹²

The remainder of the paper is organized as follows. Chapter 2 considers fiscal dominance, the key ways in which it may arise, and its effects on price stability. Chapter 3 draws on this discussion to outline general principles that should underpin any central bank asset purchases. Chapters 4 and 5 consider the various motivations for asset purchases and how they should be structured to harness potential benefits while minimizing risks to price and financial stability and to central bank independence. Chapter 6 provides a more detailed treatment of direct financing, while Chapter 7 offers concluding remarks.

¹²Long-term zero-coupon securities clearly would not meet this definition, even if notionally marketable.

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Fiscal Dominance

When governments face rising deficits or high debt levels, they may put substantial pressure on central banks to keep their financing costs unduly low, either by impeding the central bank from raising its policy rate, or by acquiring credit directly from the central bank on concessional terms. The tendency for fiscal dominance pressures to become acute following large runups in government debt, often leading to monetary financing and high inflation, has long been recognized.¹

To guide our discussion, it is helpful to distinguish several ways in which fiscal dominance may materialize. First, the fiscal authority may push the central bank to keep the policy rate below the level consistent with price stability to reduce the cost of government borrowing (and possibly support other objectives such as high employment or affordable housing). Second, the government may force the central bank to provide it with direct credit at below-market interest rates, and also specify the amount it wishes to borrow.² Finally, the government may in effect confiscate some of the central bank's capital, including by forcing it to transfer foreign exchange reserves or to distribute unrealized profits.³

While this paper only touches briefly on governance issues, there are a number of ways in which governance weaknesses may increase the risk of fiscal dominance. These may include involving politicians or government officials in monetary policy decision-making; removing protections provided to the

¹Bordo and Levy (2020) recount how the first central bank, Sweden's Riksbank, came under pressure to finance large wartime expenditures by printing money in the mid-18th century, leading to a rapid runup in prices. Also see Fischer, Sahay, and Vegh (2002).

²Alternatively, the central bank may be compelled to lend to state-owned banks or nongovernment entities at subsidized interest rates.

³This contrasts with the remittance of part of realized profits, which is standard practice.

central bank governor and other officials; or adding goals to the central bank's remit that detract from its monetary and financial stability priorities.

Limiting Adjustment of Policy Rates (and Other Instruments)

Central banks have often been precluded from raising interest rates as needed to ensure price stability because the government regarded the budgetary or macroeconomic implications as unacceptable. As noted, concern about the budgetary implications is often heightened in wartime or crisis environments when fiscal deficits or government debt is high, and when raising interest rates may require sharp expenditure cuts or even more borrowing. The government's objectives in these circumstances may be very different than the central bank's, and the operational independence of the latter may be compromised.⁴

This form of fiscal dominance has led to large runups in inflation—eventually causing inflation expectations to become unanchored—even in countries with a long track record of price stability and high degree of central bank credibility. For instance, the pressure put by the Johnson Administration on the US Federal Reserve to keep interest rates low during the mid-1960s helped launch the Great Inflation (Meltzer 2003). Administration pressure reflected the desire to maintain strong growth in domestic spending while financing both the Vietnam War and Great Society programs. Central banks in the United Kingdom and many other European countries experienced similar pressures in the 1960s and 1970s that often resulted in similar macroeconomic outcomes.

These historical episodes also underscore how constraining policy rate adjustment can result in substantial inflationary pressure even if central bank balance sheets are quite lean—as was the case in the 1960s for the US Federal Reserve.⁵ By extension, they highlight how strong institutional safeguards ensuring central bank independence are crucial for price stability, especially in circumstances in which central bank objectives conflict with those of the fiscal authority.

While the low inflation environment facing many countries following the COVID shock made low interest rates desirable to both fiscal authorities and central banks, it is possible that tensions may emerge. In particular,

⁴Sargent and Wallace (1981) and Catao and Terrones (2005) discuss how persistent large budget deficits tend to lead eventually to monetary financing and inflation. The risks of monetary financing and inflation appear particularly high for countries with a significant level of dollarization (and consequently relatively small domestic-currency monetary base) and high real interest rates.

⁵The high inflation monetized a substantial amount of government debt (Reinhart 2015), as well as generated seigniorage revenues from a much faster rise in the monetary base than consistent with price stability.

some countries may experience a persistent rise in inflationary pressures, and markets may become unsettled if they perceive that government is tying the hands of the central bank to keep it from reacting to control emerging or latent inflationary pressures.

Direct Financing

A second key way in which fiscal dominance often materializes is through direct financing of the government by the central bank. Direct financing may take the form of a government overdraft facility at the central bank, or purchases of government securities by the central bank in the primary market: either approach involves a loan to the government and corresponding credit to the government's account at the central bank.^{6,7}

From a historical perspective, direct financing has been a longstanding feature of central bank operations. As noted in the introduction, the Bank of England has had an overdraft facility for the government in place since its founding in 1694. Most emerging market central banks allow direct financing in some form, especially for short-term borrowing (Jacome and others 2012), and some utilize it extensively, including as a cash management tool. In addition, direct financing has been used to reduce volatility in government borrowing costs during episodes of market stress (including COVID), especially by EMDEs.⁸

Nevertheless, direct financing opens the door to broad-based fiscal dominance that can potentially lead to severe macroeconomic instability. Accordingly, many governments have ratified treaties or passed constitutional prohibitions against providing direct central bank credit to the government—for instance, the European Union's Maastricht Treaty.⁹ By tying its own hands, the government seeks to solidify the central bank's operational independence. Some governments have sought to circumvent, or even undo, such legislative constraints; but legal limits or prohibitions do at least act as a 'speed bump' that reduce the risks of abuse.

⁶The IMF MCM Special Series on COVID-19 note "Debt Management Responses to the Pandemic" discusses the importance of institutional coordination between the government and central bank.

⁷A foreign exchange (FX) loan or grant to the government, followed by sale of the FX to the central bank, would involve a central bank asset (FX) matched by a credit to the government's account at the central bank, but is not considered direct financing.

⁸As we discuss subsequently, some direct financing may be appropriate in periods of serious financial distress to support market functioning, but with an aim to achieving price and financial stability objectives rather than to lower the cost of government borrowing.

⁹Maastricht Treaty clause 104 (subsequently re-numbered). The wording is kept simple as it simply defines (and prohibits) direct credit, without discussing the consequences.

The risk of direct financing—to central bank independence and monetary stability—depends on two key factors. First, it matters whether the central bank’s claim on the government is initiated at the central bank’s discretion, and in pursuit of its own mandate, leaving it in control of its balance sheet and of monetary policy implementation. Second, it depends on whether the motivation for direct financing is driven by the government’s desire to reduce, even if temporarily, the cost of its borrowing in a way that directly or indirectly interferes with monetary policy.

The latter case in which the government initiates the loan from the central bank with the aim of securing “cheap financing” often means that the government dictates how much credit it will get as well as the price (that is, the subsidy relative to the market rate). This contrasts sharply with central bank asset purchases in the secondary market. Secondary market purchases are undertaken at the central bank’s initiative and at market prices. Critically, the central bank decides how much to buy, and when, with the aim of achieving its mandated objectives. The government does not receive new funds from the central bank in this case, as the central bank simply credits the counterparty to the purchase (typically paying interest on the excess reserves held by commercial banks).

Even if the central bank is forced to provide direct financing to the government, such an action may not necessarily lead to debt monetization and high inflation (that is, “monetary financing”).¹⁰ If the central bank retains latitude to freely adjust its policy rate, it could in principle move interest rates enough to achieve its mandated objectives—thus sterilizing any excess creation of reserve money through paying interest on excess reserves or adjusting the interest rate on liquidity-draining open market operations. There are a number of economies, including among EMDEs, in which the central bank has provided limited amounts of direct financing to the government while also maintaining low inflation.

However, such direct financing does present conditions that are ripe for abuse and is often associated with monetary financing and high inflation. Even if the central bank retains latitude to adjust its policy rate, persistent direct financing tends to weaken the central bank balance sheet, especially if the financing is large in scale, at longer maturities, and at concessional interest rates (for example, below market rates if there is a reasonably liquid market). The weaker balance sheet may make the central bank less willing or able to take actions needed to ensure price stability—such as raising interest rates sharply—because this would lead to further balance sheet losses. A prolonged

¹⁰Here “monetary financing” can be regarded as the acquisition of claims by the central bank on the government that—in concert with fiscal dominance that restrains policy rate adjustment—results in excessive money growth and inflationary pressure (i.e., relative to levels consistent with price stability).

period in which the central bank receives a lower return on its assets than it pays on its liabilities clearly intensifies the risk to central bank operational independence. Good governance would suggest that the central bank balance sheet needs to be strong.¹¹

Thus, while direct financing does not necessarily preclude the central bank from achieving its mandated objectives, it tends to undermine central bank performance. This is because it saddles the central bank with additional objectives by making the central bank weigh the consequences of policy decisions on its own financial health.

The risks to price stability are greatly compounded if direct financing is coupled with strong-armed restrictions on the central bank's ability to raise its policy rate (and, more broadly, limitations on its ability to use other instruments such as central bank bills). Under such circumstances, the central bank's balance sheet expansion is (at least partly) financed by the expansion of (non-interest bearing) money, with potentially very adverse effects for price and macroeconomic stability. This has been exemplified in recent years by Sudan, South Sudan, Venezuela, and Zimbabwe, where central bank credit to the government has resulted in triple-digit inflation and a collapse in the exchange rate,¹² although there are also many examples of monetary financing even for AEs following major wars (for example, including hyperinflation in Germany in the early 1920s and in Hungary following World War II).¹³ Moreover, even the perception that direct financing will be accompanied by limitations on how the central bank can adjust its tools can weaken the anchoring of inflation expectations and undermine price stability.

Forced Remittances

In addition to seeking loans from central banks at below-market rates, cash-strapped governments often force the central bank to pay remittances in various ways. This may involve, for instance, the government compelling the central bank to pay out unrealized profits (beyond the legally agreed

¹¹Legislation may provide for central bank recapitalization at a certain threshold, but may not determine the quality of capital sufficiently well, or may simply be ignored by the government.

¹²It is clear that direct credit to government is only one aspect of a weak policy framework adopted by the authorities. In Zimbabwe, an earlier episode of monetary financing led to the domestic currency being temporarily abandoned in 2008, as inflation reached several million percent.

¹³A number of emerging market economies have experienced extremely high bouts of inflation, including Argentina (1979–81 and other periods in the 1980s); Bolivia 1983–85; Peru 1988–90; Yugoslavia 1988–89; Angola (1990s); and many less extreme cases, for example, Iraq (1993–94). See Fischer, Sahay, and Vegh (2002).

profit-sharing arrangement), or to sell foreign exchange to the government at concessional rates.¹⁴

Such forced remittances create similar “agency problems” for the central bank as direct financing on non-market terms. In particular, by causing the central bank’s balance sheet to deteriorate, forced remittances may undermine the central bank’s focus on achieving its mandated objectives.

Government arrears may also weigh on central banks to the extent that they are viewed as a contingent liability of the latter. In this case, there is the expectation that the central bank will ultimately be called upon to clear them and may have to print money to do so. Moreover, government arrears may be especially problematic, even relative to direct financing, because of its ad hoc and non-transparent nature. In practical terms, it is very difficult to estimate the scale of the problem, and even more cumbersome when the time comes to clear these arrears as they are often incurred by different departments in the government and there is no central body that keeps account of the arrears as they arise.¹⁵

¹⁴Annex 1 provides additional illustrations of fiscal dominance over central bank balance sheet policies (for example, directed lending and guarantees) that tend to weaken both the financial position and independence of central banks.

¹⁵IMF October 2019 *Regional Economic Outlook: Sub-Saharan Africa* explores the problem of government arrears. A few countries have recently used central bank overdraft financing to pay down arrears.

Asset Purchases and Monetary Policy Independence: Some General Principles

While central bank balance sheet actions can play a pivotal role in alleviating financial stress and providing monetary stimulus, a strong, carefully designed institutional framework is essential to minimize the risks to central bank independence and price stability. The authors' discussion of fiscal dominance is helpful in identifying several core principles that apply to asset purchase programs to help minimize these risks. While the focus in this paper is on asset purchases, similar considerations apply to other balance sheet policies such as long-term lending programs (for example, the ECB's targeted longer-term refinancing operations, or TLTROs).

First, the central bank must retain the ability to set and adjust its effective policy rate as required to achieve its mandated objectives.¹ Any provision of credit to government—whether direct or indirect—should not interfere with this ability.

Second, asset purchases should be made voluntarily at the initiative of the central bank, and clearly aligned with the central bank's price and financial stability objectives. Central bank communication about how the purchases serve central bank objectives—and will only continue if this is the case—is crucial to allay perceptions of fiscal dominance. Similarly, the central bank must be free at a later date to sell the purchased assets if required to achieve its objectives. Asset purchases should also be well-aligned with the overall implementation and stance of policy, including the setting of the policy rate and use of other tools.

¹An “effective policy rate” means a policy rate that the central bank is willing and able to implement in its monetary operations. A rate that is labelled as the “policy rate” but is not used in such a way as to impact the market is not an *effective* rate.

Third, asset purchases should be at market prices.² Such an approach avoids the need to pay costly subsidies to the government (as would typically occur under administered pricing), which would hurt the balance sheet and potentially weaken the central bank's focus on achieving its price stability objectives. Importantly, this approach should help mitigate perceptions of fiscal dominance. The second and third considerations taken together strongly favor central bank purchases in the secondary market rather than direct lending to the government.

Fourth, it is also critical that the government's own financial position be on a stable footing, even if it is temporarily stressed. In particular, it is important that the central bank retain the latitude to hike interest rates as needed (to meet price stability objectives) without jeopardizing the government's solvency (a point emphasized by Woodford (1999) and Del Negro and Sims (2015), among others). Moreover, a strong fiscal position is needed to backstop potential losses arising from asset purchase programs. If the government's debt is viewed as unsustainable, the risks of central bank financing—inflation, exchange rate weakness, financial instability—will likely outweigh any benefits.

²In a dysfunctional market, prices may be unusually low (and yields correspondingly high), and in a thin market there may not be a clearly observable market price. The central bank may need to determine an appropriate price taking into account its policy rate and yields during recent periods in which markets were relatively stable.

4 Objectives of Asset Purchases

Purchases of government securities may be used by central banks to achieve several goals. These are discussed in the following text.

Improving Market Functioning

A key rationale for central bank asset purchases is to tackle stressed market conditions. In times of crisis, when the government's borrowing need is expected to increase substantially and for an uncertain duration, the market may lose confidence in investing even in relatively safe assets such as government bonds. Key market intermediaries may be reluctant to take more government debt onto their portfolios, especially if they have limited capital. Given investor flight to more liquid and highly rated assets (including of AEs), the pressures on longer-maturity government bonds and private assets are typically even more intense.

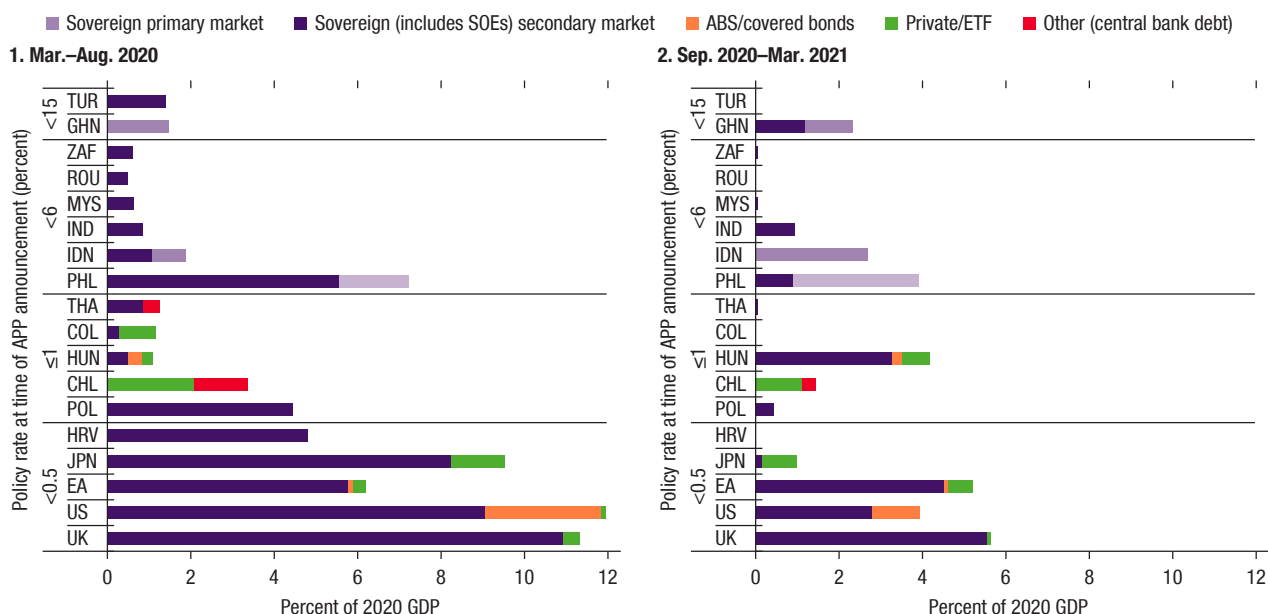
Asset purchases to improve market functioning during periods of substantial stress are targeted to support critical markets and are limited in duration and scale.¹ The limited duration and scale helps reduce risks to central bank balance sheets and supports the communication of the intervention as addressing short-term market dysfunction.^{2,3} Indeed, as can be seen by comparing

¹This paper does not explore central bank purchases of private sector securities, as the focus is on the risks of central bank financing of the government. The purchase of private securities would typically entail additional risks, including credit risk and heightened political economy pressures (though it is worth noting that many EMDEs do not have significant private sector securities markets).

²While central bank asset purchases may improve market functioning in stressed environments, there are longer-term risks, including of moral hazard and of impeding market development (for example, of hedging markets).

³The asset purchases must be made in the domestic bond market to address market dysfunction. Central banks should not attempt to support international bond markets, and doing so could risk significant losses of their (limited) FX reserves. The domestic government funding market is typically denominated in the domestic currency, though some securities may be FX-linked.

Figure 2. Central Bank Asset Purchases, March 2020 to March 2021



Sources: Central banks; national sources; and IMF staff estimates.

Note: Data are March 2020–March 2021. Primary market purchases for the Philippines refer to the outstanding repurchase operations with the central government. Advanced economies asset purchase figures are calculated using the change in holdings, where applicable. Sovereign purchases include state-owned enterprise (SOE) or government guaranteed debt, notably for Hungary and Poland. For several EMDEs, sizeable declines in central bank bond holdings in the latter time period were not subtracted from total purchases. India purchases are net of sales in the twist operation.

the panels of Figure 2, and in keeping with the purpose of the SSAPs, the bulk of these EMDE central bank operations were undertaken in the early months of the COVID crisis: most asset purchases ended after the initial market stresses had been addressed.

In the context of the COVID crisis, the objectives of the EMDEs' smaller-scale interventions were on the whole somewhat narrower than the AEs insofar as they were mainly oriented at improving market functioning, rather than macroeconomic stimulus. In particular, they aimed to provide a back-stop to the market, to support orderly market conditions and to mitigate risks to financial stability. In addition to the generally smaller scale of EMDE interventions relative to AEs (as seen in Figure 2), EMDE interventions were mainly focused on purchases of government securities rather than private sector assets.

Evidence thus far suggests that these “small-scale asset purchase programs” (SSAPs) were successful in a range of markets (IMF October 2020 GFSR, Fratto and others 2021).⁴ Notably, longer-term bond yields that had spiked

⁴See IMF October 2020 GFSR, Chapter 2.

initially in response to COVID have come down substantially, and market functioning has been restored.⁵ However, experience with these programs remains limited, and the success during the COVID crisis was likely facilitated by the massive policy easing of AE central banks. Exit from asset purchase programs may pose challenges, especially if financial stresses persist.

The asset purchase programs of EMDEs have mostly been relatively small and have often been partly offset by other operations, so that central bank balance sheets have not expanded significantly. For instance, EMDEs that expanded their purchases of government securities in some cases sold FX reserves or engaged in “operation twist” strategies (Brazil, India, Mexico). The latter resemble maturity extension programs undertaken by the US Federal Reserve (dating to the early 1960s). In particular, they have involved buying longer-term government securities from the market and selling short-term securities: this approach takes duration risk from the market without requiring a corresponding increase in central bank liabilities.

While EMDEs have mainly focused on making asset purchases in the secondary market during COVID, they can also be used to address dysfunction in the primary market. The case would seem most compelling for countries in which the secondary market lacks depth and liquidity even during normal times. Such interventions can improve monetary transmission and support continued functioning of the primary market, thus easing government funding pressures. Even so, drawing on our earlier discussion, there are significant risks associated with funding the government in the primary market, and we will consider ways of limiting these risks in Chapter 6.

Monetary Easing Through LSAPs

Major central banks have used large-scale asset purchases (LSAPs, sometimes referred to as quantitative easing, or QE) extensively to provide monetary stimulus when the short-term policy rate has reached the effective lower bound (ELB). These programs typically involve the commitment by the central bank to engage in ongoing purchases of government bonds (and often private assets as well) to lower the yields on longer-term government bonds, as well as on risky assets.⁶ These purchases are undertaken in secondary markets at market prices. A large literature has shown that asset purchases have been effective in depressing the yields on longer-term government bonds as well as on risky assets, and in boosting output and inflation.

⁵See, for instance, BIS *Annual Economic Report* Box II.C (2020) and Sever and others (2020).

⁶As in Japan since 2001, and in the United States and some European countries since 2008.

Aside from the scale of purchases, these programs differ notably from interventions to improve market functioning in several respects. First, LSAPs involve a longer-term commitment to keep the assets on the central bank's balance sheet, based on the view that their effectiveness depends on the duration of this commitment. Thus, rather than rolling off when crisis conditions abate, the assets remain on the balance sheet at least until the central bank has met its macroeconomic objectives, or even well beyond. Second, LSAPs typically involve the purchase of longer maturity government (and private) debt than interventions to support market functioning. Third, major central banks have typically financed asset purchases through expanding reserve money, often remunerated at zero or even negative interest rates, as this supports the goal of monetary easing (though the central bank may later pay interest on these reserves—at levels close to its policy rate—as needed to achieve its macroeconomic stabilization goals).

LSAPs should operate through the same basic channels in EMDEs as AEs, including through reducing term premiums on government bonds and through signaling the intention to pursue accommodative monetary policy for a longer period, if needed. As in AEs, portfolio rebalancing could potentially generate substantial positive spillovers to asset classes beyond those directly purchased, that is, lowering borrowing costs for firms.⁷ The attractiveness of LSAPs is clearly high for those EMDEs struggling with problems similar to AEs, including a low equilibrium real interest rate that seriously limits conventional policy space, as well as low inflationary pressure. The goal of economic stimulus from LSAPs might also be reinforced to the extent that a reduction in interest costs not only benefits private sector borrowers but also frees up government funding for other types of temporary expenditure, for example, vaccination programs during a pandemic or supporting hard-hit low-income households and small- and medium-sized enterprises during the COVID-19 crisis.

All told, some EMDE central banks might consider LSAPs to provide additional macroeconomic stimulus, to the extent that they have exhausted conventional policy space and require additional monetary easing but should do so only with caution. Where inflation is very low and output gaps negative and sizeable, LSAPs could arguably help achieve central bank objectives. However, the benefits of LSAPs in providing stimulus are probably dimin-

⁷As a first step, the nonbank investors selling government securities will receive a credit on their current account balance at a commercial bank, instead of holding a longer-maturity claim on the government—a maturity and credit-risk transformation. These investors are then likely to shift into other assets in search of yield (riskier than domestic government debt, though not necessarily risky), providing term funding to the real economy. Depending on the global situation, this shift may provide term funding to other economies, if investors move overseas, and so impact the exchange rate. This was arguably a side effect of the US QE in 2009, when some Asian central banks said they faced “a wall of US money” hitting their markets.

ished in many EMDEs relative to AEs. In particular, aggregate demand is likely less sensitive to longer-term yields, and forward guidance also probably less effective, reflecting less scope for EMDE central banks to make credible (conditional) commitments that policy rates will remain low (Hofman and Kamber 2020). The passthrough to household and corporate borrowing costs is also likely to be lower in EMDEs. Moreover, LSAPs can weaken market functioning as well as entail substantial risks and hence should only be considered by central banks in countries with very solid fiscal fundamentals, with strong governance in which central bank independence is deeply entrenched, and in which inflation expectations are anchored at or below target levels. Given that only a few EMDEs have policy rates close to the ELB, as suggested by Figure 2, most would not appear to have a sufficient rationale for using LSAPs at this juncture (and very few have deployed them in practice).

A key risk of LSAPs for central banks: they shorten the effective maturity structure of the consolidated public debt (that is, the government and central bank combined) with the central bank bearing the increased maturity risk. This reflects that the central bank buys longer-term government bonds and finances the acquisition with reserve money. Even if the reserves are remunerated at a zero or even negative interest rate at the onset of the program, the interest rate on reserves will eventually be adjusted upward as the economy and inflation recover.

Accordingly, a central bank can experience a substantial deterioration in its earnings if it purchases long-term bonds at low yields and then needs to raise interest rates sharply. This may occur, for example, because inflation rises more quickly than anticipated, particularly if there is substantial passthrough from exchange rate depreciation. Timely action is essential to keep inflation at bay and inflation expectations well-anchored but may be impeded if the central bank is worried about the implications of tightening for its own balance sheet (which will be more adverse given large asset purchases). Moreover, the fiscal authorities are more likely to resist monetary policy tightening if the government's fiscal position remains weak.

These considerations highlight the need both for the government to have a strong initial fiscal position—so that interest rate hikes don't threaten fiscal solvency—and the central bank to have a high degree of independence for LSAPs to be a viable option. Critically, the central bank must be perceived as having latitude to raise interest rates sufficiently—sharply if required—to achieve price stability, even if the implication were a significant deterioration in the finances of both the central bank and government. Confining purchases to the secondary market is helpful to allay perceptions of fiscal dominance and to reduce the potentially large hit to central bank balance sheets that could occur if long-term assets were purchased at below-market yields.

With these features in place, some EMDEs could arguably conduct LSAPs in a manner consistent with price stability, even if the optimal scale were smaller than for reserve-currency economies.

Transparency can play a critical role in improving the effectiveness of EMDEs asset purchase programs as well as in mitigating perceptions of fiscal dominance. Even if the central bank follows the principles outlined in the previous section, the public is likely to have difficulty ascertaining whether the program is driven more by fiscal than monetary policy objectives, especially if these coincide when the program is initiated (say because the economy is in deep recession). Clear communication can underscore that the design of the program and eventual exit are conditioned on progress in achieving monetary policy objectives. A growing number of EMDE central banks have indeed provided regular and detailed communications about their policies, targeting both specialized financial markets and economic agents more broadly.⁸

It does not seem advisable for EMDEs with policy rates well above zero to use LSAPs to provide macroeconomic stimulus. AE central banks have relied on conventional tools until the policy rate has fallen to zero (or even lower) out of recognition that LSAPs are a less agile tool that may entail significant costs and risks (Stein 2012). Notably, a large and highly persistent balance sheet expansion is required to achieve the same stimulus as a modest-sized policy rate cut, with the ultimate stimulus to aggregate demand less certain and exit more difficult. Moreover, as noted previously, LSAPs could pose significant additional costs, including to market functioning. Given that LSAPs are likely to be less effective in EMDEs than AEs, it is hard to see a compelling case for why EMDE central banks should use LSAPs for macroeconomic stimulus if they still have scope to cut policy rates.⁹ The reason why countries in these circumstances might not want to cut policy rates further is that they could be concerned about a backlash in the form of exchange rate depreciation and persistent inflationary pressure. But LSAPs could also unleash this very dynamic, and they are more problematic as they expand the balance sheet and may constrain the central bank's ability to tighten policy quickly.

For EMDE central banks in which policy rates are well above zero, there may be benefits of combining conventional monetary policy tools with addi-

⁸To illustrate, the Bank of Thailand's published minutes of a special Monetary Policy Committee meeting in March 2020 explained the linkages between global risk-off sentiment and the selling of Thai government bonds by mutual funds to raise cash for redemptions, which led to a spike in yields and damage to market liquidity and functioning. The Banco de Mexico's monetary policy statement in April 2020 explained the rationale for monetary easing (via a rate cut) coupled with other measures to address financial market distress while the Banco Central de Chile's June 2020 monetary policy statement explained the reasons for a program of nongovernment securities purchases. (The monetary policy statements can be found on the central bank websites.)

⁹As we have emphasized, EMDE central banks can potentially benefit from asset purchases aimed at reducing severe market stresses even if policy rates are well above zero.

tional policy tools such as foreign exchange intervention. These additional tools, which may also include capital flow management tools in some circumstances, can help improve monetary policy and monetary autonomy, as discussed in the October 2020 IMF Policy Paper, which presents a detailed overview of the integrated policy framework.¹⁰

Easing Government Financing Pressures

It is important to distinguish asset purchases that are fiscal in nature from other purchases pursued by the central bank to support an economy during a recession. A number of EMDEs have used asset purchase to temporarily ease government financing pressures in the face of the COVID-19 shock. These interventions may be conducted in either the secondary market or the primary market (for example, to roll-over maturing government obligations). They may also serve useful objectives associated with improving market functioning and monetary transmission. However, asset purchases motivated by fiscal objectives pose significant risks to monetary policy independence and may result in broad-based fiscal dominance over time.

¹⁰See also Adrian and others (2020) and Basu and others (2020) for related modeling analysis.

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Minimizing Risks to Price Stability from Asset Purchase Programs

The experience of AE central banks over the past two decades has substantially allayed concerns that LSAPs necessarily lead to high inflation. Indeed, AE central banks typically struggled with low inflation despite very large central bank balance sheet expansions through most of the last decade.¹

While EMDEs can take some encouragement from this experience, it is important to recognize that AE central banks that have engaged in the largest balance sheet expansions have benefited not only from long-standing credibility but also as issuers of reserve currencies.² The reserve currency status reduces the risk that a large balance sheet would make the central bank more vulnerable to capital outflow and exchange rate pressures during episodes of financial stress that might require a perverse tightening of policy. Indeed, the reserve currency central banks typically experienced large capital inflows during such periods. Moreover, strong policy credibility has helped anchor inflation expectations and flatten the Phillips Curve, thus reducing the risk that a sharp tightening of policy rates would be needed to achieve central bank objectives.

While expanded balance sheets constitute important risks even for AEs, EMDEs face heightened risks from asset purchase programs that are critical to consider in designing these programs. EMDEs are more likely to expe-

¹The balance sheet of the US Federal Reserve expanded from about \$1 trillion in September 2008 to \$7 trillion by September 2020 and \$8.2 trillion by mid-2021, some 38 percent of GDP; the Bank of Japan's balance sheet is now more than 100 percent of GDP.

²In a similar vein, Brooks and Fortun (2020) argued: "What makes [the Fed's] aggressive policy response possible is the US dollar, which tends to rise in 'risk-off' shocks, giving policy makers confidence that demand for US assets will remain healthy, even with big increases in the supply of government paper. In effect, the Dollar is at the root of the 'exorbitant privilege' the United States enjoys. Unfortunately, the picture is different in emerging markets, where depreciating currencies and rising bond yields severely limit governments' policy space."

rience capital outflow and exchange rate pressures that may cause inflation to rise even when the economy is weak and require policy tightening.³ A greater risk that policy will eventually have to be tightened diminishes the prospective stimulus from LSAPs (since the benefits of a reduction in term premiums is more likely to be offset by a higher policy rate path). Moreover, if the perception of economic agents is that the central bank will not be able to maintain monetary policy independence when an asset purchase program is undertaken, then inflationary pressures may build, and inflation expectations may become de-anchored. This is clearly an important issue for a number of EMDEs, especially where there are questions about fiscal and external sustainability and helps explain why they are reluctant to undertake LSAPs.⁴ While some countries are exploring the use of capital flow measures to restrict capital outflows, such measures may make it more difficult for the government to secure term financing in the market and are unlikely to anchor expectations.

Given that most EMDEs face larger risks than AEs as noted above, they should typically adopt a smaller scale for their asset purchase programs than AEs. The larger the central bank's holdings and the longer the maturity, the greater its exposure to maturity risk. The central bank may be reluctant to raise interest rates in the future because of the potential impact on its own balance sheet or on the government's budget; in addition, the government may be reluctant to see an unwinding of asset purchase programs because it would tend to push up market yields. Given that weaker public finances augment the risks of balance sheet losses and make exit more challenging, strong public finances are an important prerequisite to pursuing larger-size asset purchase programs.

A second implication is that it would generally be advisable for EMDEs to structure asset purchase programs as "quantity-based" programs to move interest rates in the desired direction, rather than as a "price-based" program involving interest rate caps. A price-based approach requires identifying the appropriate level of the entire yield curve, while implementation means that the central bank would be compelled to buy any securities that the market does not take up, so that it is unable to control the size of its balance sheet. A price-based program would be more likely to engender macroeconomic instability if tensions emerged between the objectives of the fiscal and monetary

³Governor Kganyago, South African Reserve Bank, observed in a June 2020 speech that: "There is a limit to central bank purchases, especially if you are an emerging market. The likes of Japan, the United Kingdom, and the United States can embark on quantitative easing with the knowledge that their currencies are reserve currencies and because they are reserve currencies, people will continue to hold them."

⁴"The trouble is that liquidity problems are not the only factor affecting the domestic bond market. There are also problems of fiscal sustainability in the mix, which requires us to act, and to communicate, with caution." Governor Kganyago, South African Reserve Bank.

authority, with the former wanting low interest rates below the cap and the central bank requiring much higher rates to ensure price stability.

Further analysis will be needed to assess both the benefits and costs of asset purchases (including LSAPs) in EMDEs, and their multilateral implications arising through effects on exchange rates, capital flows, and global asset prices. The experience of EMDEs with asset purchases is quite new and mainly focused on targeted programs to improve market functioning. Accordingly, more analytical work—and country experiences with these programs—will be required to understand both key transmission channels and the benefits and risks. Even so, the extensive analysis of LSAPs in AEs suggests that open economy transmission channels and spillovers to other countries are likely to be consequential (for example, Curcuru and others 2018, and Cecchetti and others 2020). Accordingly, it will be important to be attentive to the multilateral implications of asset purchases by larger EMDEs (or groups of EMDEs) in addition to those by AEs and to consider how tools highlighted in the integrated policy framework (IMF 2020d) may help recipient countries address potential spillovers.

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Primary Purchases and Overdrafts

An important part of good governance is not only to do the “right thing,” but to be seen as doing the right thing. Accordingly, central banks need to communicate clearly the context and purpose of any asset purchase program and to underscore that asset purchases are undertaken at their own initiative to serve central bank objectives. As this paper argues, these considerations militate strongly in favor of conducting any asset purchases in the secondary market.

Even so, it may be infeasible to make sizeable secondary market purchases of government securities if the market is insufficiently developed. Under some conditions, such as during periods of significant financial stress, there may be a case for making a limited amount of primary market purchases for a short period.

The yield curve does not extend beyond a few years in many EMDEs, and the depth of the market even beyond a year may be quite limited (possibly dominated by a captive market). Thus, it may be difficult to determine an appropriate secondary market price for central bank purchases of longer-dated securities. Well-targeted participation in the primary market might help address the risk of dysfunction and keep the door open for (predominantly) market financing of the government deficit. Provided the scale of the asset purchases is modest, sterilization costs—via the central bank’s interest rate on excess reserves or liquidity-draining open market operations—should be manageable. The central bank should purchase only marketable government debt to minimize risks to its balance sheet.

If the maturity of primary market purchases is kept short, for example, 3–12 months, then the central bank’s policy rate may provide a reasonable basis for determining the appropriate discount rate in the absence of a robust market rate. A short maturity is also appropriate insofar as the goal is to address

short-term market dysfunction. The purchase of short-term securities has a clear advantage to an overdraft facility to the extent that there is a fixed near-term maturity, and one that can be easily communicated.¹ Focusing purchases on marketable instruments of shorter maturity should facilitate exit, as the short maturities should in principle allow the securities to be "self-liquidating." However, exit may still be complicated if the government's ability to finance itself in the market remains impaired.

While a number of central banks have initiated or appear to be contemplating primary market purchases in response to COVID, many appear keen to avoid providing direct credit to the government. A quick end to current COVID-related pressures is not expected, and there is a desire to avoid taking actions now that could cause significant problems a few months down the road.

Overdraft Finance

If direct credit is instead in the form of an overdraft account at the central bank, day-to-day usage would clearly be at the discretion of government. Thus, overdraft finance provides an even more direct path to fiscal dominance than primary market purchases, at least absent strong limitations on how it is used and priced.

There are a number of complementary steps that may be taken to minimize the macroeconomic stability risks associated with overdraft facilities:^{2,3}

- First, remuneration should be at or above the central bank's monetary policy rate.⁴
- Second, any overdraft should be modest in size. In many countries, central bank legislation sets a maximum amount of any permitted overdraft. This is normally set as a percentage of the government's actual revenue over a specified window in the recent past, for example, "10 percent of the aver-

¹One benefit of buying government securities in the primary market, that is, in an auction in which banks and other private sector agents can participate, as opposed to central bank financing through an overdraft facility (or the creation of special securities to be placed directly with the central bank) is that the securities are in a marketable form, allowing the central bank to sell them into the market at a later stage. The primary market purchase of long-term securities, by contrast, may have no advantages compared to an overdraft: even if notionally tradable, in practice it would be very difficult for the market to price such securities.

²Annex 2 provides examples of how a range of central banks limit the use of overdraft facilities.

³Jacome and others (2012) provide an insightful discussion of policies that can help contain the risks of direct financing.

⁴In principle, the rate used should be the standing credit facility rate, that is, somewhat above the monetary policy rate—underlining the purpose of the overdraft as providing a short-term cash management buffer rather than long-term financing. In practice, the deposit rate, or policy rate, is more often used.

age annual government revenue in the previous three fiscal years.”⁵ Weaker versions might specify the maximum as a percentage of projected government revenue during the current year, but this is more prone to abuse as the government could adopt an unrealistically optimistic forecast.

- Third, repayment should be made within a short time frame. Legislation often mandates that drawings on the overdraft account must be repaid by the end of the current fiscal year, implying that it is a cash management smoothing tool, rather than an alternative to term financing from the market. But in other cases, there may be no formally specified maturity dates, which is more problematic.
- Fourth, repayment should be in reserve money obtained from current revenues or raised by selling securities to the market at market-determined rates. In practice, such a requirement is not always specified, with potentially adverse implications for central bank balance sheets. For example, in some cases governments have “repaid” an overdraft by placing securities with the central bank, including long-term securities with a low nominal yield, where the net present value of the securities is much lower than the nominal value of the outstanding overdraft. Such practices de-capitalize the central bank, with the risk that its weaker balance sheet may impair its ability to achieve its mandated objectives.
- Fifth, transparency is critical, in that information on use of the overdraft, and on the rate of remuneration, should be published promptly. This will tend to limit abuse of an overdraft, since it will become clear to the market how it is being used.

While these limitations help mitigate the risks of fiscal dominance, the context is also crucial. If there is a history of fiscal dominance, particularly if associated with inflation and exchange rate weakness, the formal (legal) terms governing an overdraft account may not be sufficient to assuage market concerns. Some central banks are appropriately reluctant to provide overdraft finance to the government even when legally permissible, for fear that this will open the door to more substantial and uncontrolled direct credit (a risk that materialized in Egypt in 2011, for instance).

The absence of formal limits on the overdraft may be less important if other factors suggest to the market that the overdraft will not be abused. In the latter vein, the UK Treasury and Bank of England announced in April 2020 that use might be made of the government’s overdraft (Ways & Means) account at the Bank of England. The government pledged transparency about use of the facility—weekly publication of data on any usage, and clarity on remuneration rate—and no change to the remit of the Treasury’s Debt Man-

⁵Of course, this does contribute to some procyclicality in the funding available from the overdraft.

agement Office, which is still expected to meet all the government's financing needs by market-based issuance.⁶

⁶Bank of England press release. See also Bank of England speech, where Andrew Hauser notes (June 2, 2020) that the “Ways & Means (W&M) account sits at the very bottom of the hierarchy of tools used to meet the Government's borrowing needs. The primary tool is gilt issuance—for many years used by the DMO to ‘fully fund’ those needs over the medium term (usually a fiscal year). Because government cash flows are not perfectly predictable, ‘rough tuning’ is achieved through the issuance of marketable Treasury Bills. And ‘fine-tuning’ is done through the money markets. The W&M exists purely as a back-up to those fine-tuning operations . . . But clearly the period of dysfunction in gilt and money markets in March and early April raised the possibility that it might be needed if all of the other alternatives were rendered ineffective.”

Conclusions

The budgetary, economic, and financial sector stresses arising from the COVID-19 pandemic have led many central banks in EMDEs to initiate asset purchase programs. A key goal of this paper has been to provide general principles that should underpin sound asset purchase programs and help mitigate the risks of fiscal dominance. These include ensuring that asset purchases are taken at the initiative of the central bank and are oriented to achieving its goals of price and financial stability; and that the central bank has latitude to adjust its instruments, including the policy rate, as appropriate.

Our paper distinguishes between (1) large-scale asset purchases (LSAPs) undertaken as part of monetary policy easing and that are only appropriate for a small number of EMDEs, and (2) small-scale asset purchases (SSAPs) undertaken to address short-term market dysfunction. From an implementation standpoint, the COVID crisis has highlighted how many EMDEs can benefit from SSAPs to ease market stresses. These purchases can be wound down as stresses ease, reducing risks to central banks.

In general, secondary market purchases of government securities offer advantages over the provision of direct credit. However, primary market purchases could be considered in exceptional circumstances, though—as noted earlier—in a way that maintains central bank independence and involves greater transparency and communication. An overdraft facility should ideally be used by the government only for short-term cash-management purposes in the face of market dysfunction, not for longer-term debt management.

Creating fiscal space may be an expected and appropriate result of central bank asset purchases, but it is crucial that they are driven by the central bank's price and financial stability objectives. For some—particularly EMDEs with weak fiscal positions and central bank credibility—limited policy space

may significantly constrain the scope to expand central bank balance sheets without posing undue risks to price and financial stability.

Annex 1. Fiscal Dominance over Central Bank Financial Resources

Governments have often used a variety of ways to exert fiscal dominance over central banks that may weaken the central bank's financial position as well as undermine independence. In addition to requiring the central bank to sell foreign exchange at a subsidized price (to the government or government agency), some common ways include:

Requiring the central bank to make unusually large profit remittances to the government or remitting profits earlier than normal. In some cases, profits may have been generated artificially. For example, the central bank may be required to sell part of its FX reserves (such as long-term gold holdings) and then buy them back immediately, so that technically a revaluation reserve becomes a realized profit that can be distributed.

Directing the central bank to lend to state-owned banks, which then on-lend to loss-making state-owned enterprises, or use the funding to buy government securities; such lending can hurt the central bank balance sheet if at below-market rates that do not adequately compensate for the riskiness of the loans.

Pressuring the central bank to take on credit risk by providing credit, or guarantees for lending, to nonfinancial corporates, without an adequate fiscal guarantee or backstop. This is occasionally done with the ostensible aim of supporting the export sector or selected sectors of the economy and in crisis times to support SMEs in particular.

Creating an SPV so that the central bank can provide funding to nonfinancial firms (whether lending directly or buying bills or commercial paper) which has a first-loss guarantee from the government but is predominantly funded by the central bank. The government relies on funding from the

central bank that is provided on concessional terms rather than seeking more costly market funding.

Annex 2. Central Bank Overdraft Facilities

Legal Basis for Central Bank Financing: Requirements for Access and for Transparency		
Group 1	Strict prohibitions on central bank financing within the constitution, central bank law, or other law	Examples of CBs to which this provision applies: European Central Bank and national central banks in the European Monetary Union, People's Bank of China, Bank of Russia, Central Bank of Turkey
Group 2	Provisions in the constitution, central bank law, or other law that specify context, amount, tenor and interest rate for central bank financing.	
Examples of specific provisions on central bank financing for select central banks		
Setting the limit on CB financing	<p>Financing is limited to a proportion of estimated revenue for the fiscal year/ average revenue for three immediately preceding fiscal years. Limit is usually between 5 and 12 percent of the revenue base.</p> <p>Fixed nominal amount</p> <p>Securities purchased in primary issues are included as part of the overall limit set for CB financing</p>	<p>Banco de México, Bank of Canada, Bank of Malaysia, Central Bank of Kenya, Central Bank of Morocco, Bank of Albania, Bank of Botswana, Bank of Japan</p> <p>Bank of Israel</p> <p>Bank of Malaysia, Bank of Albania (includes securities purchased through open market operations)</p>
Maximum allowable tenor for loans/advances	91 days, 120 days, 150 days, 6 months	Banco de México, Central Bank of Morocco, Bank of Israel, Bank of Canada
Maximum repayment period and Interest Rate	<p>Loans must be repaid before the end of the first quarter in the fiscal year after the loan/advance is contracted</p> <p>Loans are collateralized by debt securities that have a maximum maturity and bear interest at market rates</p> <p>Interest rate on loans are set by the monetary policy committee/or interest rate applicable is the rate for banks' refinancing</p>	<p>Bank of Canada, Bank of Brazil, Bank of Malaysia</p> <p>Bank of Albania, Bank of Canada, Central Bank of Kenya</p> <p>Bank of Korea, Central Bank of Morocco</p>
Provisions on the context and the process for approvals, currency, and disclosure requirements	The government has to declare that the country is in an emergency situation based on security (war or threat of war) or natural disasters for the central bank to finance budgetary expenditures.	Central Bank of Dominican Republic, Central Bank of Chile

(continued)

ASSET PURCHASES AND DIRECT FINANCING

Loans require approval of the central bank board/loans carry a written loan agreement executed between the central bank and the government/loans require Parliamentary approval.	Bank of Albania, Central Bank of Brazil, Banco de México, Bank of Korea
Granting of loans (or waivers for amounts above the legal limit) should not conflict with monetary policy objectives / the central bank endeavors in periods of monetary expansion to restrict credit to government and to contract the outstanding amount, as warranted.	Bank of Albania, Bank of Korea, Central Bank of Morocco
Where the legal limit is breached the central bank submits to the Parliament a report outlining the causes and remedies/ any use of CB financing above the legal limit is subject to agreement between central bank and Minister of Finance, and such agreement is published in gazette within 15 days of the agreement.	Bank of Albania, Bank of Botswana
The central bank publishes information on investments in securities issued or guaranteed by the government in its monthly balance sheet.	Bank of Canada
Loans are made only in domestic currency.	Bank of Albania

Source: IMF, Central Bank Legislation Database.

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