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NOTE FOR THE G20 INTERNATIONAL FINANCIAL ARCHITECTURE WORKING GROUP—FISCAL POLICY IN THE INTEGRATED POLICY FRAMEWORK

EXECUTIVE SUMMARY

New analysis for the Integrated Policy Framework (IPF) incorporates fiscal policy into IPF models. The original models did not include fiscal policy as they focused on a set of tools that were considered more agile and had more direct impact on capital flows. However, important questions have been raised about the interaction of "IPF tools" with fiscal policies. To be able to answer these questions, staff has extended the models. This work has been proceeding in parallel with efforts to operationalize the IPF by extending the analysis of intertemporal tradeoffs and other relevant considerations that are not currently captured in the models, developing a set of metrics that would help map the framework's prescriptions into country-specific circumstances, and devising safeguards against inappropriate use of IPF tools.

The analysis suggests that fiscal policy should be used alongside rather than in place of IPF tools. A combination of contractionary fiscal policy with foreign exchange intervention (FXI) or capital flow management measures (CFMs) works better than a single tool in preventing excessive accumulation of external debt in foreign currency—which may lead to a sudden stop. While fiscal policy can play a constructive role in reducing the likelihood of risk-off shocks, other tools including FXI may be more effective in containing macroeconomic fallout in risk-off episodes. At the same time, FXI or CFMs are no substitute for sound fiscal policy. As a separate point, fiscal policy and FXI can have very different international spillovers even when they are equally well-suited to domestic objectives.

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BACKGROUND

1. The ongoing work by Fund staff toward an Integrated Policy Framework (IPF) aims to provide a systematic analytical approach to selecting an appropriate policy mix for managing large and volatile capital flows and more generally preserving macroeconomic and financial stability in the face of domestic and external shocks. It jointly considers the role of monetary, exchange rate, macroprudential policies (MPMs) and capital flow management measures (CFMs and CFM/MPMs[1])—sometimes referred to as "IPF tools"—and their interactions with each other and other policies, accounting for country circumstances.

2. This work addresses the potential tradeoffs faced by policymakers in pursuit of domestic and external stability. Cross-border capital flows provide significant benefits but may also generate or amplify shocks. The challenges are particularly pronounced in emerging market and developing economies, although they are also relevant for small open advanced economies. Responses to domestic and external shocks, including financial and commodity price shocks, have varied across countries and over time, with notable differences in underlying approaches. Many countries use multiple tools in pursuit of multiple objectives without the benefit of a systematic, transparent, and well-communicated framework.

3. IPF analysis suggests that volatile capital flows can pose challenging tradeoffs, which warrant the use of multiple tools under certain conditions. Optimal policy combinations depend on the nature of shocks, country characteristics, and initial conditions. They do not take the form of complete reliance on exchange rate flexibility under all circumstances for all countries. Neither do they take the form of "anything goes." To elaborate, in countries with flexible exchange rates, deep foreign exchange markets and continuous market access, allowing full exchange rate adjustment to economic and financial shocks is typically optimal. On the other hand, in the presence of frictions and vulnerabilities common in emerging market and developing countries, while flexible exchange rates continue to provide significant benefits, other tools can play a useful role for certain shocks. In particular, in countries susceptible to sudden stops in capital flows, precautionary CFM/MPMs on capital inflows can lower risks to financial stability.

4. The stabilization benefits of using IPF tools need to be balanced against potential costs in terms of market development, communication challenges, and other undesirable consequences. Reliance on such tools is not a substitute for deep markets, healthy balance sheets, and strong institutions, and their persistent use may perpetuate the very vulnerabilities that rationalize their deployment. Importantly, the IPF tools should not be used to support a misaligned exchange rate.

[1] CFM/MPMs are tools that qualify as both CFMs (because they affect capital flows) and MPMs (because they help mitigate systemic financial risks).

5. The IMF's Executive Board agreed that the IPF offers valuable insights but also requested further work, including to better understand the role of fiscal policy. The Board requested further work on operationalizing the IPF (Box 1) and a number of extensions of the analytical framework—including a fuller integration of fiscal policy into the analysis.[2] The next section reports progress achieved on the latter. The Board also affirmed that Fund policy advice remains guided by the Institutional View (IV) on the Liberalization and Management of Capital Flows (IMF, 2012a) and other existing policies.[3] The IPF's informed the review of the IV—which the Executive Board discussed on March 21, 2022.

Box 1. Work on the Operationalization of the IPF

Operationalizing the IPF's analytical findings requires several additional steps. These steps include (i) extending the analysis of intertemporal tradeoffs and other relevant considerations that are not currently captured in the models, (ii) developing a set of metrics that would help map the framework's prescriptions into country-specific circumstances, and (iii) devising safeguards against inappropriate use of CFMs or foreign exchange intervention (FXI).

Work on the operationalization of the IPF is proceeding apace, including in the context of the ongoing review of the IV. Staff has sifted through the voluminous literature on the long-term impact of FXI and CFMs and separated more robust findings from less robust ones. It noted complementary policies (directed, for example, at market development) that could mitigate some of the negative effects of IPF tools or reduce frictions and vulnerabilities that provide a rationale for their deployment. Staff has identified additional frictions and other factors outside the models that can influence the appropriate mix of IPF tools and is developing a systematic approach to incorporating these factors into IPF recommendations. Staff has established key metrics for country characteristics that feature prominently in the IPF models and is close to assembling a comprehensive dataset. Finally, considerations will be proposed to minimize the risk of unintended effects or inappropriate use of IPF policies, including to gain an unfair competitiveness advantage

[2] Progress on these extensions was presented at the IPF informal Board briefing in May 2021, and staff has continued to work on them since then.

[3] Relevant policies are spelled out in the IMF's Articles of Agreement, the Integrated Surveillance Decision (IMF, 2012b), and guidance notes on surveillance (IMF, 2015), on macroprudential policy (IMF, 2014) and on assessment of reserve adequacy (IMF, 2016), among others.

OVERVIEW OF THE FISCAL POLICY EXTENSION OF THE IPF MODELS

6. The IPF models that served as inputs into the September 2020 IPF Board paper did not incorporate fiscal policies.[4] This modeling decision was made for several reasons. First, fiscal policies tend to be less agile than IPF tools in managing vulnerabilities arising from foreign exchange (FX) debt and in capital flows. Second, they are less well-targeted than IPF tools in managing capital flow shocks. Finally, fiscal policies have other medium-term objectives (such as public goods provision and redistribution), which may be distorted if they are used to manage capital flow volatility.[5]

7. At the Board meeting, Executive Directors raised several questions related to the interactions of IPF tools with fiscal policies. In light of these questions, staff identified three key questions in the context of financial stability risks:

- If fiscal policy could be used flexibly, should it be used instead of FXI and CFMs?
- Would the IPF-recommended use of FXI and CFMs inadvertently facilitate the inappropriate use of fiscal policy?
- Does fiscal policy have different spillovers than those of FXI and CFMs?

8. To answer these questions, staff extended the IPF models to incorporate fiscal policy. The main finding are as follows:

- Conceptual framework. If FX mismatch is high, restraint in fiscal expenditure during inflow periods can help mitigate sudden stop risks alongside precautionary inflow CFM/MPMs, but it is not appropriate to use only fiscal policy instead of CFM/MPMs. Fiscal policy should not be adjusted in response to risk-off shocks generated by foreigners' portfolio constraints. Finally, if fiscal policy is at an inappropriate setting for its domestic public policy objectives, i.e., it is too contractionary or too expansionary, fiscal policy should be adjusted instead of keeping fiscal policy unchanged and using FXI and CFMs more to compensate.
- Quantitative framework. In plausible calibrations, changes in government spending affect both inflation and output, with the relative effect on the former being larger in Emerging Markets (EMs) than in Advanced Economies (AEs). A countercyclical fiscal policy can partially substitute for the use of FXI in managing sudden stop risks, and these tools are likely best used together. Finally, fiscal policy and FXI can have very different international spillovers even when they are equally well-suited to domestic objectives.

[4] For the IPF Board paper from September 2020, see IMF (2020). The IPF conceptual and quantitative models, which served as inputs into the Board paper, are Basu et al. (2020) and Adrian et al. (2020).

[5] For empirical evidence on the role of fiscal policies versus IPF tools in cushioning capital flow shocks in emerging markets, see Ghosh et al. (2017). For a survey of public finance objectives, see Auerbach et al. (2013).

9. The following two sections explain in more detail the extension of the IPF conceptual and quantitative models. Each section begins with a summary of the model framework and the transmission of fiscal policy. Then it explains how the models can be used to answer the questions above.

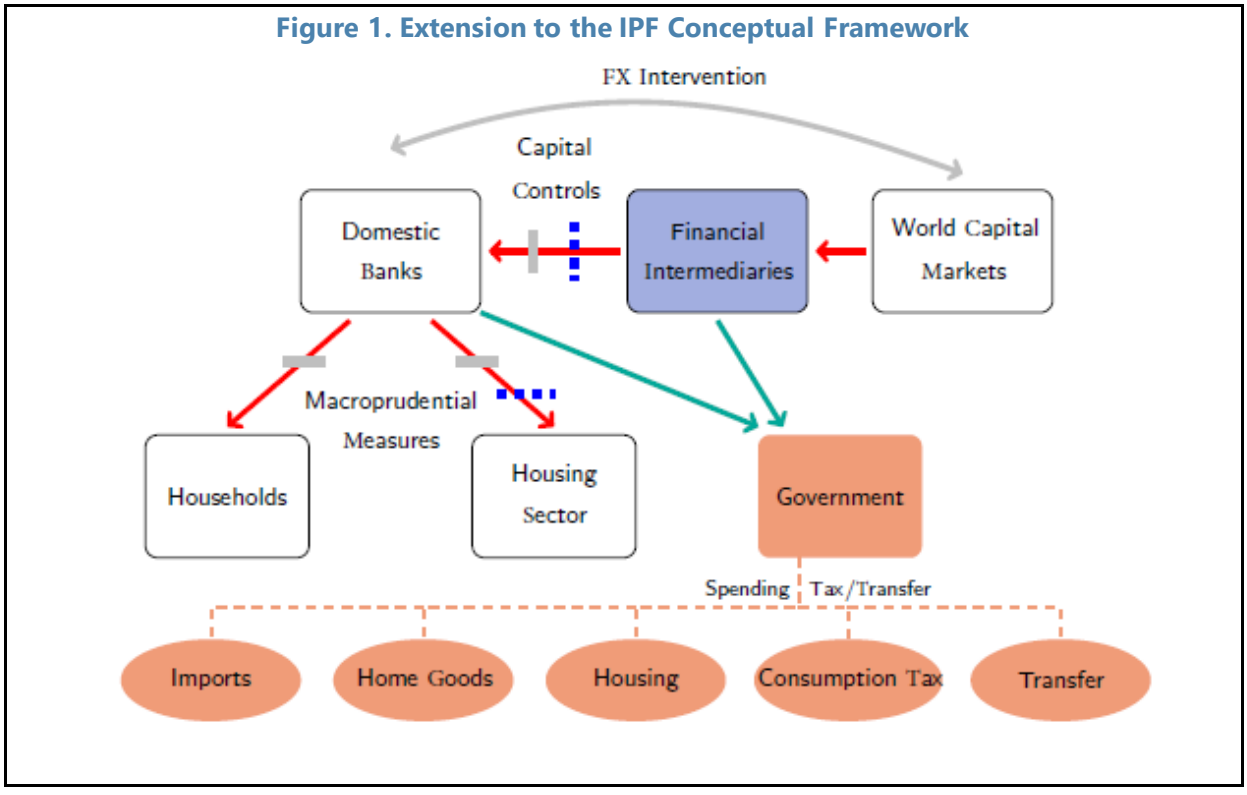
FISCAL POLICY IN THE IPF CONCEPTUAL MODEL

A. Extension to the Modeling Framework

10. The IPF conceptual framework that served as input into the September 2020 IPF Board paper characterized the optimal mix of the policy rate, FXI, CFMs, and MPMs as a function of shocks and country characteristics. The framework helped to understand how the maximization of household welfare could be affected by real and financial shocks in the presence of trade and financial frictions, and it recommended an appropriate policy mix for different circumstances. The government's policy tools should be used to address externalities related to price stickiness, shallow FX markets, and both external and domestic borrowing constraints.

11. This framework was subsequently extended to include a government sector, as shown in Figure 1. The government has expenditure tools, i.e., public spending on imports, home goods, and housing, as well as taxation tools, i.e., consumption taxes and transfers. The government also has additional objectives related to provision of public goods, which enter household welfare.

Figure 1. Extension to the IPF Conceptual Framework



12. The framework can be used to characterize the optimal integrated use of all instruments to maximize household welfare. Using fiscal policy to handle financial stability shocks is not costless, as it may shift the provision of public goods from their desired levels. The framework helps to answer the following questions for each shock and set of country characteristics: which fiscal tool best addresses the distortions that the shock generates; and whether a fiscal action is warranted to address the shock when other instruments are also available.

13. The analysis examines optimal policies under a variety of assumptions on the government sector and the economy's financial-flows structure. Fiscal policy can be completely flexible, or slow to adjust from its medium-term optimal target, or set rigidly at a level that is inappropriate from the medium-term public-goods-provision/redistributive perspective. The more flexible fiscal policy is, the more that it may partially substitute for IPF tools. In practice, it is likely that fiscal policy can be adjusted quickly enough to cushion a persistent inflow boom, but not to counter high-frequency shifts in foreigners' risk appetite. The framework helps think through the connection between the private and the government sectors, which typically varies across countries. The private and government sectors may have different external borrowing limits if they borrow from different banks, or alternatively there may be an economy-wide constraint on total borrowing from these sectors if they use the same banks as the source of funding. These sectors may also be connected via the cushioning of external shocks, for example, if the government is able to transfer its FX buffers to the private sector.

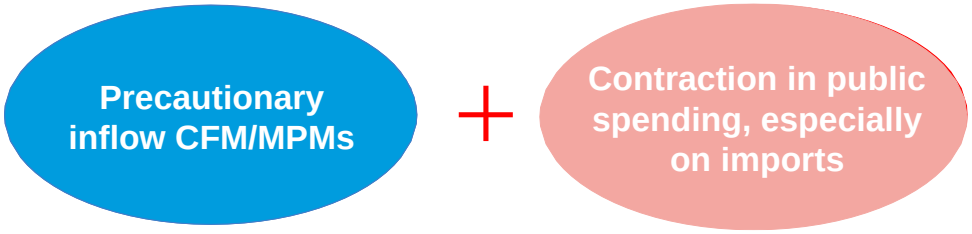
B. Fiscal Policy and Financial Stability Risks

14. Fiscal policy should not replace FXI and CFMs for managing external financial stability risks under two key external shocks. After sudden stops (when the FX external debt limit becomes binding) and non-fundamental risk-off shocks related to local-currency debt, FXI and CFMs continue to have an important role. In this subsection, we explain the optimal integrated policies for these shocks. For illustration, we consider a configuration of financial flows in which fiscal policy has the greatest scope of substituting for IPF tools: there is a single economy-wide limit on total borrowing from the private and government sectors, and the government is able to transfer its FX resources to the private sector immediately and without cost when shocks hit the economy. In alternative configurations, fiscal policies would be less of a substitute for FXI and CFMs than what is described below.

15. When facing *sudden stop risks owing to high FX mismatches*, the optimal policy mix in non-crisis times is a combination of precautionary inflow CFM/MPMs and a contraction of fiscal spending (Figure 2). Since economy-wide external positions are important for external risks, the attenuation of sudden stop risks requires a reduction of public external FX debt and/or an increase in liquid FX assets in reserve accounts or sovereign wealth funds. In general equilibrium, the contraction of public imports helps to achieve this objective. However, fiscal policy alone is not optimal. First, if used on its own, a large precautionary expenditure contraction is necessary in non-crisis times, which excessively hurts the provision of public goods. Second, fiscal policy is a blunt vehicle to tackle the high FX mismatches that are at the source of the sudden stop risks. Unlike fiscal

policy, precautionary CFM/MPMs are effective at directly reducing private FX mismatches, e.g., through FX mismatch regulations, and are therefore useful additional instruments.

Figure 2. Precautionary Policies to Tackle Sudden Stop Risks



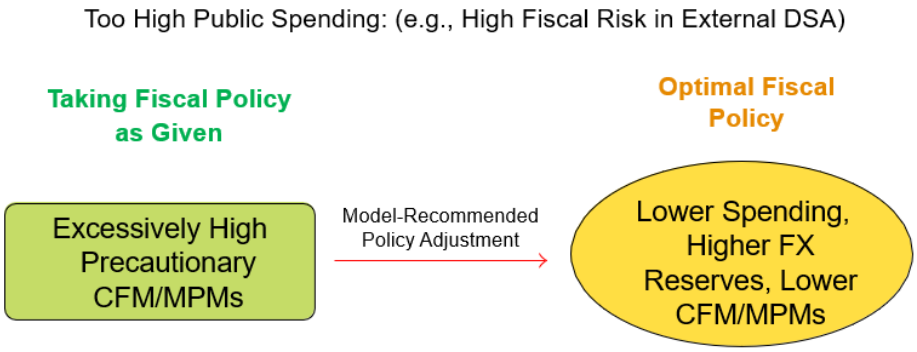
16. When facing *risk-off shocks*, the optimal policy mix is a combination of FXI and inflow CFMs, and fiscal policy should not be used. We define such shocks as outflows from local currency debt owing to a tightening of foreigners' portfolio constraints. Since these shocks are not associated with a change in domestic or foreign fundamentals, but do destabilize exchange rates, uncovered-interest-parity premia, and prices, they threaten domestic monetary autonomy. The optimal policy is to fend off such shocks through a combination of FXI and inflow CFMs, while allowing fiscal and monetary policy to focus on public spending and price objectives, respectively. If FXI and CFMs are not feasible, monetary policy would need to adjust and fiscal policy would need to contract as external premia rise, transmitting the shock procyclically into domestic activity and public goods provision.

C. Inappropriate Fiscal Policy and the Use of IPF tools

17. FXI and CFMs are not an appropriate substitute for inadequate fiscal policy. If fiscal policy is at inappropriate settings, the economy fares better if fiscal policy is corrected than if fiscal policy is not corrected but FXI and CFMs are used to compensate for the inappropriate fiscal policy. The remainder of this subsection illustrates this principle in the context of sudden stop risks.

18. When faced with sudden stop risks, countries should make warranted fiscal adjustments, and FXI and CFMs should be used to support the adjustments, not to substitute for them. For example, consider a country with government expenditure that is at an excessively high level and is generating external sustainability risks. If the country does not adjust fiscal policy, the achievement of external sustainability must rely solely on reducing the private sector's contribution to the vulnerability, leading to excessively high preemptive CFM/MPMs on private FX debt and excessively low private sector activity. Welfare is higher when fiscal policy is tightened. Reducing government expenditure and increasing FX reserves allows for lower CFM/MPMs on private FX debt, achieving a balanced reduction in the contribution of the private and government sectors to the sudden stop risks.

Figure 3. Inappropriate Fiscal Policy



FISCAL POLICY IN THE IPF QUANTITATIVE MODEL

19. This section describes how the current IPF quantitative framework has been extended to account for fiscal policy. It also investigates whether the stance of fiscal policy affects the appropriate use of IPF tools, and whether fiscal policy can materially reduce the risk of a sudden stop, and hence, at least in part, substitute for IPF tools such as precautionary CFM/MPMs. Finally, the section also compares the multilateral effects associated with a fiscal expansion and stimulative FX intervention.

A. Model Setting and Fiscal Policy Transmission

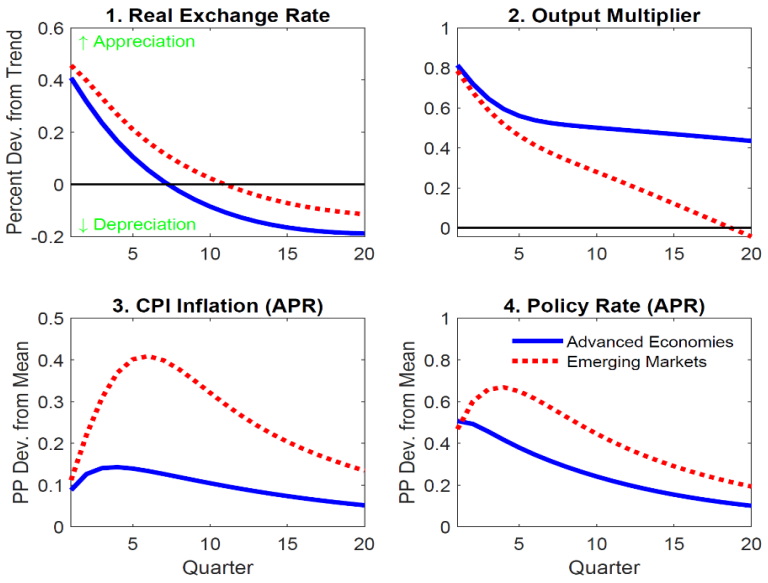
20. The fiscal block aims to provide a simple yet realistic account of government spending and revenue streams as well as government spending multipliers in the mid-range of empirical estimates. It is added to the New Keynesian open economy framework developed and refined in Adrian et al. (2020, 2021). The underlying Dynamic Stochastic General Equilibrium (DSGE) model features sticky wages and prices and explicitly allows for occasionally-binding credit constraints, as well as effective lower bounds on domestic and foreign policy rates. Importantly, it accounts for how medium-term inflation expectations may be destabilized by exchange rate changes in EMs, by allowing those to exert large and persistent effects on inflation through compensatory wage demands and via high passthrough of exchange rate changes to import prices. In addition, spillover effects can be analyzed by relaxing the default small open economy (SOE) assumption.[1]

21. The quantitative IPF model demonstrates that a government spending hike is likely to have a larger impact on inflation relative to output in EMs compared to AEs. Figure 4 illustrates fiscal stimulus transmission and shows that under the advanced economy calibration (blue solid lines), the shock has a notably smaller impact on CPI inflation, implying less need for monetary

[1] Under that assumption, the home economy is so small that its impact on the foreign economy is negligible.

policy to "lean" against it.[2] In contrast, the dotted red lines show the effects for an EM calibration, in which inflation is more sensitive to changes in demand. In that case, the central bank needs to hike interest rates by more to contain inflation, ultimately muting the effects of the fiscal stimulus.

Figure 4. Effects of a Transient Rise in Home Government Spending

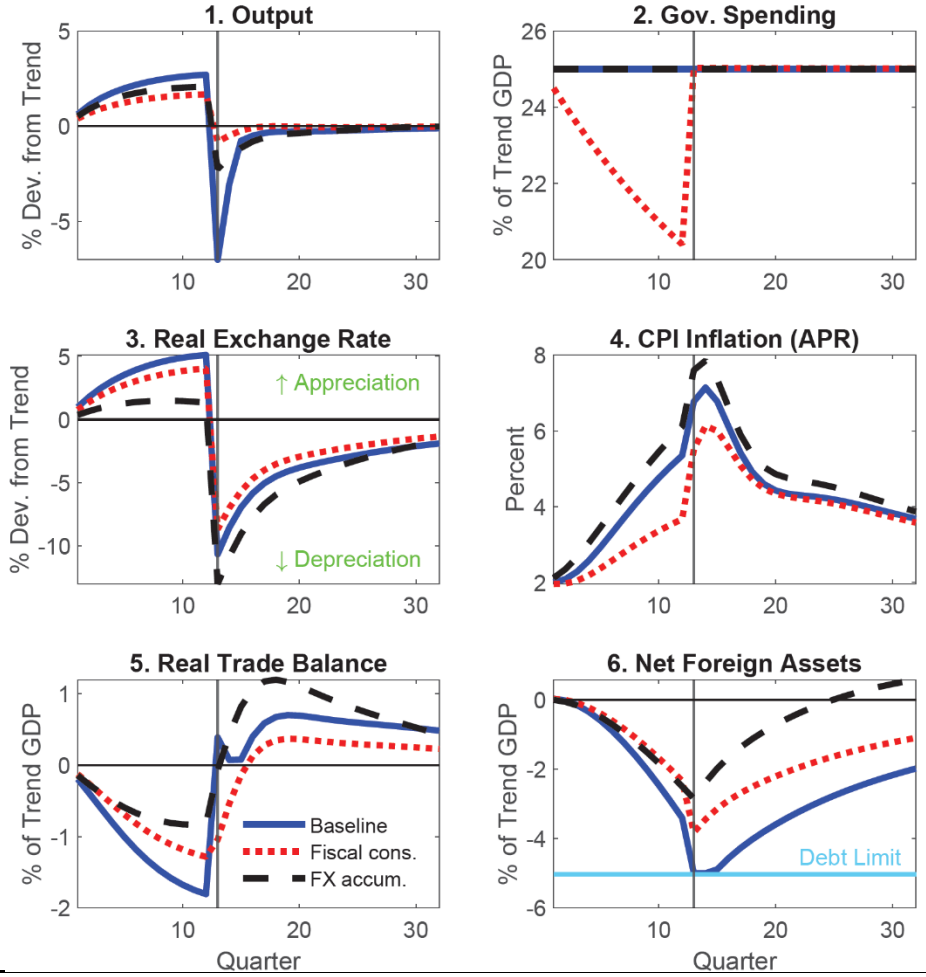


B. Fiscal Stance and Appropriate Use of IPF Tools

22. The combination of financial frictions and weakly anchored inflation expectations can translate into an important role for using FXI, CFMs or fiscal policy to help avoid procyclical interest rate tightening in the face of capital outflow pressures. To analyze if fiscal policy can help alleviate the need for IPF tools, we begin by constructing a baseline scenario (solid blue lines), in which a combination of capital inflows and strong domestic EM demand leads to a boom in economic activity. The boom causes inflation (Panel 4) to rise relative to the 2 percent target and is also associated with a sizeable exchange rate appreciation (Panel 3). Buoyant demand (Panel 1), coupled with the stronger exchange rate, cause the trade balance to worsen (Panel 5) and the net foreign asset position to deteriorate (Panel 6). Higher foreign debt, in turn, leaves the economy more vulnerable to a sudden stop. Should one materialize—as occurs in our simulation (vertical line)—the associated capital flow reversal causes a sharp exchange rate depreciation, and a fall in domestic demand.

[2] Figure 4 shows the effects of a transient but persistent increase in government spending equal to 1 percent of baseline GDP in the SOE case.

Figure 5. Overheating Scenario in a Small Open Emerging Market Economy



23. Our analysis suggests that countercyclical fiscal policy can partly substitute for the use of FXI in helping limit the risk and consequences of a sudden stop. To that effect, Figure 5 compares this baseline scenario (blue solid lines) to alternatives with foreign exchange intervention (dashed black lines) and the activist use of countercyclical fiscal policy (dotted red lines). As it demonstrates, an FXI policy that leans against the appreciation pressure in the boom phase and lowers the buildup of external debt reduces the depreciation of the exchange rate during the capital outflow phase, significantly attenuating the output boom-bust cycle. A tight fiscal stance during the boom phase reduces the expansion of domestic demand and the appreciation of the exchange rate, which in turn limits the deterioration of the trade balance and rise in foreign debt. Similarly to FXI, prudent fiscal policy thus makes the economy less vulnerable in a sudden stop and so reduces the need for FXI or CFMs to mitigate financial stability risks.

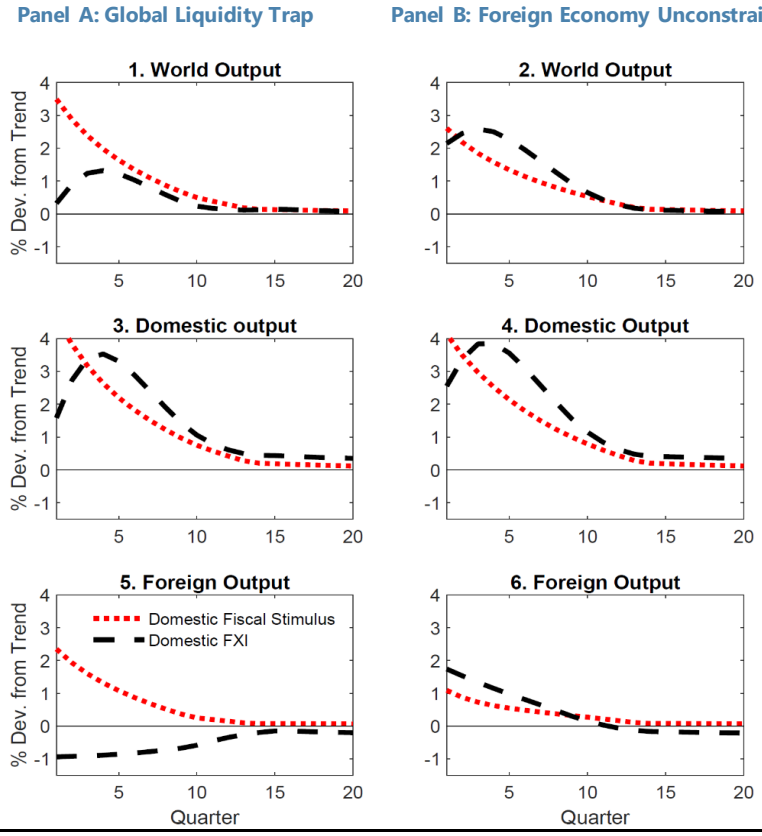
24. Even so, fiscal policy and FXI transmit differently, which typically makes it desirable to use a mix of both tools. For example, reducing debt vulnerabilities exclusively through fiscal channels may require draconian spending cuts with adverse distributional implications. Moreover, fiscal policy is often less suited for addressing financial stability risks than more targeted

macroprudential tools or CFMs. Naturally, given the differences in transmission mechanisms, the optimal mix can vary substantially depending on the initial conditions and country-specific circumstances. For instance, as illustrated in Figure 5, FXI during the boom phase leads to considerably higher CPI inflation relative to fiscal consolidation, reflecting that the former yields a much weaker exchange rate path. Thus, a country struggling with above-target inflation may find it desirable to rely relatively more heavily on fiscal consolidation than FXI to achieve its objectives. Fiscal consolidation may also be better suited for countries with high levels of debt as it may create more space for future stimulus.

C. International Spillover Effects

25. We now show that while fiscal policy and IPF tools may appear well-suited to achieving domestic objectives, they can have very different international spillovers. To demonstrate this, we analyze how FXI and fiscal policy can stimulate activity and boost inflation in a protracted liquidity trap in an advanced open economy.[3] By focusing on the case in which the home economy is as large as the foreign one, we allow for sizeable multilateral effects, with domestic policies "spilling over" abroad.

Figure 6. Spillovers of Fiscal Policy and FXI



[3] The underlying scenario assumes a recession driven by weak home and foreign demand coupled with a risk-off sentiment shock, which drives an appreciation of the home exchange rate, and which pushes the inflation rate well below target.

26. Figure 6 shows that a fiscal expansion calibrated to achieve identical effects on CPI inflation as FX purchases generates similar output gains, but its effects on the nominal exchange rate as well as the trade balance are markedly different. Specifically, FXI weakens the exchange rate significantly and hence improves the trade balance. In contrast, fiscal stimulus boosts domestic demand and weakens the trade balance. Panel A, further demonstrates that when both the domestic and foreign economies are in a liquidity trap, a domestic fiscal stimulus boosts activity in the foreign economy, while FXI can reduce it. But when the foreign country is not at the ELB (Panel B), FXI can have positive spillover effects, very much in line with fiscal policy.

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