

**EXECUTIVE
BOARD
MEETING**

SM/20/138
Supplement 1

August 20, 2020

To: Members of the Executive Board

From: The Secretary

Subject: **Independent Evaluation Office—IMF Advice on Capital Flows—Managing
Capital Flows—Theoretical Advances and IMF Policy Frameworks**

Board Action: Executive Directors' **consideration** (Formal)

Tentative Board Date: **Friday, September 18, 2020**

Publication: The IEO proposes that, after the Executive Board completes its discussion, this background paper be posted on the external IEO website together with the evaluation's main report, management comments, any IEO response, and a summary of the Board discussion. The Board would be notified of any changes or corrections made in the published version.

Questions: Mr. Loungani, IEO (ext. 37043)
Ms. Batini, IEO (ext. 35763)

BP/20-02/01

Managing Capital Flows: Theoretical Advances and IMF Policy Frameworks

Anton Korinek

IEO Background Paper
Independent Evaluation Office
of the International Monetary Fund

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Prepared by Anton Korinek*

August 18, 2020

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* Associate Professor of Economics, University of Virginia.

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ABBREVIATIONS

CFM	capital flow management measure
FDI	foreign direct investment
GFC	global financial crisis
IPF	Integrated Policy Framework
IV	Institutional View on the Liberalization and Management of Capital Flows
MPM	macroprudential measure

I. INTRODUCTION

1. Over the course of the 1980s, the traditional Mundell-Fleming approach to studying open economy macroeconomics was progressively displaced by the intertemporal approach to analyzing the external accounts. This new approach introduced models that explicitly described international capital flows as resulting from the optimizing choices of private agents who trade off the benefits and costs of their actions—in short, they provided microeconomic foundations for what drives international capital flows. For a comprehensive survey, see, for example, the Handbook chapter by Obstfeld and Rogoff (1995).

2. The first simple optimizing models of capital flows were good at emphasizing the fundamental economic forces at work but they were not particularly useful for policy analysis. Since they closely followed the Arrow-Debreu benchmark of perfect markets,¹ they mechanically inherited the efficiency properties implied by the first welfare theorem, namely that capital market liberalization and free capital flows were always economically efficient, since price signals (sometimes dubbed the “invisible hand of the market”) guide private economic decision makers to optimally trade off the benefits and costs of capital flows. Any government intervention to limit capital flows would thus reduce welfare. Even though these predictions were based on a rather simplistic set of assumptions, by the early 1990s they were reflected in a relatively broad consensus view across both academia and policy circles that capital market liberalization and free capital flows were a desirable policy objective.

3. The series of financial crises in emerging markets in the 1990s shook this consensus view by making it increasingly difficult to reconcile the theory based on perfect capital markets with reality. Calvo (1998), Krugman (1999), and others pointed out that simple intertemporal models of capital flows that built on the assumption of perfect capital markets provided a poor description of the observed crises. Instead, they argued that capital market imperfections played a crucial role. Consider an emerging economy that has borrowed in foreign currency and experiences a growth slowdown and by extension a depreciation of its exchange rate. As a result, the domestic currency value of the economy’s foreign currency liabilities rises just when the value of its assets declines, leading to adverse balance sheet effects that may generate financial difficulties and bankruptcies. These financial dislocations may trigger a feedback cycle of further declines in growth, depreciating exchange rates, and further deteriorations in balance sheets. This phenomenon is frequently referred to as financial amplification (or financial accelerator effect).

4. In economies with market imperfections, the first welfare theorem generally does not hold since price signals do not correctly capture how capital flows interact with the imperfections. As a result, the private benefits and costs of capital flows differ from the social benefits and costs, and price signals may not guide the decisions of private agents to a Pareto-

¹ This benchmark describes the economy as encompassing a complete set of perfectly competitive markets for goods in all time periods, locations, states of nature with full information, perfect enforcement, etc.

efficient allocation.² This observation forms the foundation of the new literature on the externalities of international capital flows.

5. Section II summarizes this new externality view of capital flow regulation, focusing on two particular sets of issues: financial instability that gives rise to pecuniary externalities, and demand imbalances that give rise to aggregate demand externalities. These externalities are closely connected to the Mundellian trilemma and the recent literature on how the corners of the trilemma can be rounded through limits on capital mobility and exchange rate flexibility to give more space for monetary autonomy. It also reviews theoretical developments on the relationship between macroprudential policies and capital controls. Section III assesses the Fund's policy frameworks in the light of these theoretical advances. Section IV discusses how adopting a more durable framework would require the IMF to clarify its thinking about the welfare objectives of capital account policies. Section V analyzes the role of the international spillovers generated by such policies. Section VI concludes and lays out future directions in which additional research would be of great value.

6. A brief remark on nomenclature is in order. The academic literature uses the term "capital controls" or "capital account regulations" to refer to regulations governing financial flows between residents and non-residents of a given country. The IMF's Institutional View on the Liberalization and Management of Capital Flows (IV) has introduced a new term, "capital flow management measures (CFMs)," which it defines as "measures that are designed to limit capital flows" (see IMF, 2012). Such CFMs encompass both capital controls and other measures that do not discriminate on the basis of residency but nonetheless are designed to limit capital flows. These other measures frequently fall under the scope of what the academic literature calls macroprudential regulations. For clarity, I will use the term "capital controls" when discussing the academic literature on that topic. I will return to the distinction between "capital controls" and "other CFMs" in my evaluation of the IMF's IV in Section III.

II. NEW THEORETICAL DEVELOPMENTS: AN EXTERNALITY VIEW OF CAPITAL FLOWS³

7. The externality view of capital flows recognizes that the benefits and costs of capital flows can be distinguished into private and social benefits and costs. Policymakers can leave it to the market to evaluate the private benefits and costs of capital flows—markets are generally considered to be quite effective at that job, and perhaps more so than policymakers. Whereas the traditional approach to evaluating the desirability of capital flows has been to comprehensively

² An economic allocation is Pareto-efficient if nobody can be made better off without hurting someone else. If an allocation is not Pareto-efficient, this is a strong sign of suboptimality since there is a "free lunch:" some agents can be made better off without hurting anybody.

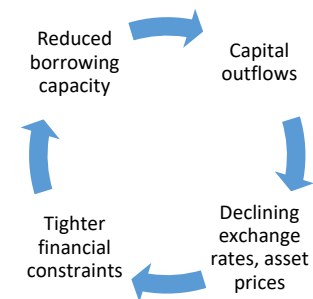
³ For a more detailed description, see the comprehensive surveys by Erten, Korinek, and Ocampo (2019) and Rebucci and Ma (2020).

weigh all of the benefits and costs of capital flows, the externality view sets itself the humbler goal of evaluating only the uninternalized social benefits and costs of capital flows.

8. The task for policymakers is thus to identify and quantify these uninternalized social benefits and costs, which represent externalities of capital flows. Private market participants will not naturally consider these externalities, just as polluters typically do not internalize the externalities generated by the pollution they cause. In the presence of externalities, policy intervention in the capital account can increase welfare by judiciously imposing regulations that make private actors take into account the externalities that they generate. One caveat is that the new externality view does not necessarily advocate blanket restrictions on all flows—the policy measures on capital flows need to be commensurate with the externalities that they create to ensure that welfare is improved.

A. Financial Instability and Pecuniary Externalities

9. The emerging market financial crises of the 1990s highlighted the need for a new class of models to understand capital flows and how they may lead to financial crises. Calvo (1998) and Krugman (1999) were the first to describe the balance sheet effects and financial amplification inherent in modern emerging market financial crises. Aghion, Bacchetta and Banerjee (2001); Céspedes, Chang, and Velasco (2004); and Mendoza (2005) analyzed the mechanisms behind such balance sheet crises in further detail.



10. A deeper understanding of modern financial crises that involve balance sheet effects and financial amplification dynamics also has important implications for our understanding of the benefits and costs of capital flows, as pointed out by Caballero and Krishnamurthy (2003), Korinek (2007, 2011a, 2011b, 2018), Jeanne and Korinek (2010), Bianchi (2011), and Benigno and others (2016). These papers showed that individual actors did not internalize their contribution to the financial amplification effects that were at the center of the described financial crises, giving rise to pecuniary externalities. Specifically, when a borrower repays a loan to a foreign lender in the midst of a crisis, she moves funds out of the country and contributes to the depreciation of the country's exchange rate, thereby magnifying the financial amplification. Furthermore, crisis-related stress reduces her ability to finance domestic asset holdings, exacerbating potential fire sales and generating asset price declines and further financial amplification. These effects represent externalities because individual actors do not internalize how their joint behavior affects the level of exchange rates and asset prices at the macro level.

11. The objective of capital controls according to this literature is to mitigate the capital outflows that occur during financial crises in which balance sheet and amplification effects are active. Most of the literature cited above focuses on the implications for prudential capital flow regulation: by reducing capital inflows in good times, the outflows during crises can be mitigated. Korinek (2018) shows that there are large welfare gains to be achieved from

differentiating the regulation of capital inflows according to their structure and risk profile. Some types of inflows are much less likely to give rise to outflows at times of stress, or to outflows that contain an element of insurance. This gives rise to a pecking order of capital flows. Greenfield foreign direct investment (FDI) is the most benign type of inflow; portfolio equity flows and local currency debt flows are more subject to reversal, but in their cases the impact of reversal on the external account is moderated, since local currencies and asset prices typically depreciate during crises. Inflation-indexed debt and foreign currency debt are the highest-externality types of inflow. Similarly, short-term flows generate larger externalities than do long-term flows because of the difficulty of rolling over debt during crises. Moreover, a similar argument can be made for outflows: by temporarily restricting a rush to the exit in the midst of a severe financial crisis, the amplification dynamics can be mitigated, bringing benefits to the majority of investors (the “collective action problem”).

B. Recessions and Aggregate Demand Externalities

12. Capital flows also generate externalities via their effects on aggregate demand, as observed by a more recent strand of literature exemplified by Farhi and Werning (2016), Korinek and Simsek (2016), and Schmitt-Grohe and Uribe (2016). The economic mechanism through which capital flows generate externalities according to this literature is as follows. Capital outflows transfer liquid wealth from domestic agents to foreigners. This motivates domestic agents, in particular domestic agents who are subject to binding financial constraints, to reduce their spending. Foreigners have a lower propensity to spend on domestic goods and will therefore at most partially offset the decline in domestic demand. If stabilization policies such as interest rate cuts and exchange rate depreciations are able to respond, they can undo these aggregate demand effects and restore the efficient level of output. However, if stabilization policies are only partially effective and there is an aggregate demand shortage, as is typically the case during financial crises (for example because interest rate cuts generate contractionary depreciations because of balance sheet effects), then capital outflows will generate aggregate demand externalities by further depressing an already inefficiently low level of aggregate demand. Similar arguments with opposite sign hold for capital inflows in an overheated economy.

13. The objective of capital controls according to this literature is to restrict capital inflows into an overheated economy and to take measures to mitigate capital outflows from an economy with aggregate demand shortages. It is important to note that this literature views traditional instruments to manage aggregate demand, such as monetary policy, as the instruments of first choice. However, capital controls are the next instrument in line if the efficacy of traditional instruments is restricted, for example because of fixed exchange rates, because of time lags in the real effects of monetary policy, or because interest rate cuts would risk exchange rate depreciations that exacerbate balance sheet effects and financial amplification. Under those circumstances, it is desirable for capital controls to lean against overheating and to act as a prudential instrument that will reduce future outflows and the associated negative demand

effects. Furthermore, in crisis situations, the externalities from aggregate demand effects of capital outflows provide a theoretical justification for outflow controls.

14. Observe that there is a tight connection between the literature that motivates capital controls from aggregate demand externalities and the literature on the Mundellian trilemma. One way of expressing Mundell's impossible trinity is that a country with a fixed exchange rate that wants to run an independent monetary policy to steer domestic aggregate demand cannot at the same time adopt a fully open capital account, but instead needs to resort to capital controls. This is precisely the same finding as in the new literature on aggregate demand externalities. The novel contribution of the literature on demand externalities is that it emphasizes that the question can be framed in terms of private market participants creating externalities that make it welfare-optimal to impose capital controls. Rey (2013) adds the observation that in our modern financially integrated world, the Mundellian trilemma turns into a dilemma: even countries with floating exchange rates cannot operate a fully independent monetary policy if they are open to free capital flows. Farhi and Werning (2014) show that this argument can also be framed in terms of aggregate demand externalities. This literature has then gone on to explain how a country's macroeconomic policy choices can be extended by "rounding the corners of the trilemma" (Klein and Shambaugh, 2015). Thus, limits on capital mobility and exchange rate flexibility can help to increase the degree of monetary autonomy in emerging and developing economies.

C. The Relationship Between Capital Flow Management and Macroprudential Measures

15. Much of the academic literature considers capital controls as part of the toolkit of macroprudential policy in open economies; see, for example, Farhi and Werning (2016), who develop a general theory of macroprudential regulation that includes several examples of capital controls. Capital controls and other forms of macroprudential regulation are both used to impose wedges in financial market allocations that act as second-best instruments to address certain market imperfections, including the pecuniary externalities generated by financial amplification processes and the aggregate demand externalities generated by recessions. When the wedges created by such policies are imposed between domestic and foreign residents, the academic literature calls them capital controls; when they are imposed between borrowers and lenders regardless of residency, the academic literature calls them macroprudential regulation. There is little conceptual difference between the two.

16. However, there is a strong economic case for the two types of wedges to differ, that is, for imposing different regulations on transactions between residents versus on transactions between residents and non-residents. In market economies that have pecuniary externalities or aggregate demand externalities, this makes it desirable to employ both capital controls and domestic macroprudential regulation.

17. The intuition behind these results derives directly from the economic mechanisms behind the externalities. Pecuniary externalities arise because the allocation of wealth in the economy, particularly the allocation between domestic and foreign residents, affects exchange rates and domestic asset prices. As Korinek and Sandri (2016) demonstrate, ensuring that domestic residents do not take on excessive debt therefore helps to shore up the exchange rate and may also shore up domestic asset prices; both these outcomes would mitigate the financial amplification effects. Aggregate demand externalities arise because the allocation of wealth in the economy affects demand. As Farhi and Werning (2016) demonstrate, ensuring that domestic residents do not take on excessive debt helps to support domestic aggregate demand. Regulatory interventions that do not discriminate between domestic and foreign residents fail to target this important decision margin and cannot adequately address these inefficiencies.

D. The IMF's Contributions to Theoretical Developments

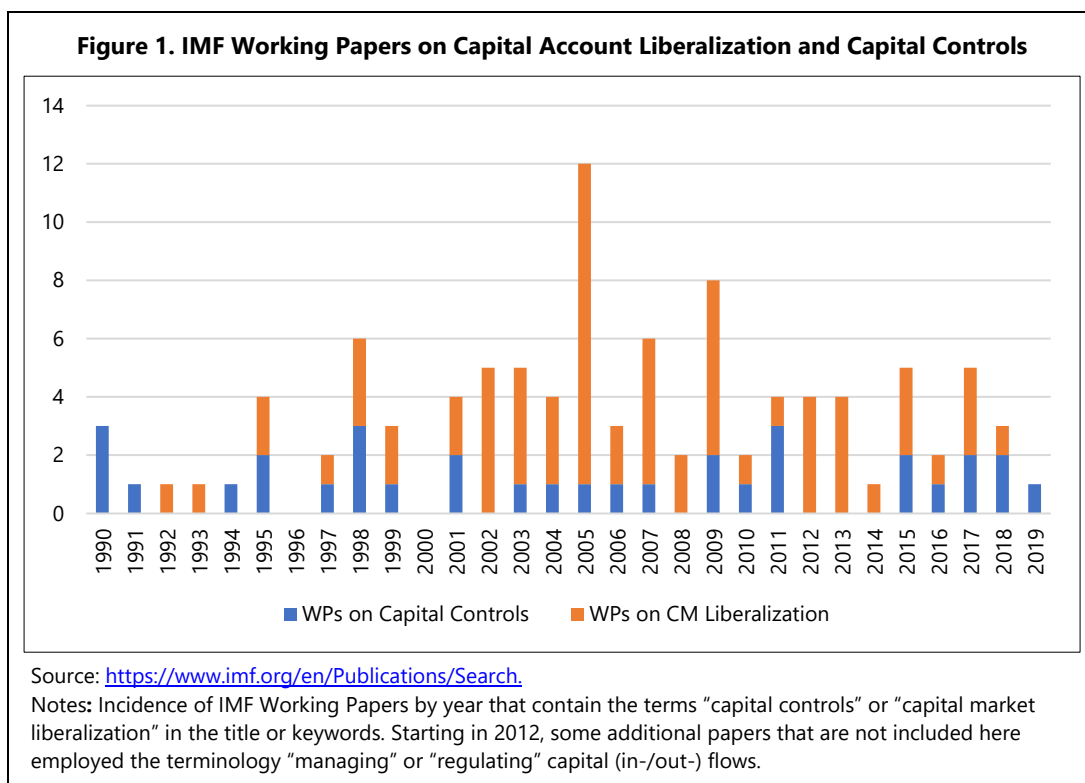
18. The evolving views on capital flow liberalization and capital flow management within the IMF significantly contributed to the theoretical advances in academia that took place over the past decade. Before the global financial crisis (GFC), capital controls were largely regarded as distortions that should be removed sooner or later. As described in the background paper by Montiel (2020), the IMF frequently advocated capital account liberalization. This approach changed in the aftermath of the GFC when there was a new openness within the IMF to discussing the desirability of CFMs.

19. The IMF influenced the academic literature via two channels. First and most directly, IMF staff members and academic visitors to the IMF contributed a significant number of academic papers (Figure 1).⁴ Research performed at the IMF in the 2000s and early 2010s highlighted the economic risks associated with exposure to volatile capital flows and the possible role of CFMs to address such risk. This work both provided conceptual analysis and brought together the experience of countries using such measures. It represented a sea change that strongly affected the thinking of the economics profession; see, for example, Kose and others (2003, 2009), Ostry and others (2010, 2011a, 2011b), and the collection of many of these works in Ghosh, Ostry, and Qureshi (2017). This body of work positioned the Fund as an intellectual leader on economic policies to manage capital flows.

20. Second, the policy developments and challenges faced by the IMF in advising member countries informed the questions tackled by academic researchers. A number of conferences organized by the IMF that brought together policymakers and academics to discuss capital flow management—for example, the 2013 and 2015 Institute for New Economic Thinking/IMF Conferences on Macroeconomic Externalities and the 2018 IMF Annual Research Conference—

⁴ Interestingly, searching the IMF's publication database over consecutive years for working papers that include terms such as "capital controls" or "capital market liberalization" in the title or keywords reveals that work on the topic was actually performed throughout the 1990s and 2000s, although the stance towards intervention in capital markets became progressively more open (see Figure 1).

proved to be particularly useful in this regard, as noted in the background paper by Towe (2020).⁵



21. Recently, the IMF has been rethinking its framework for advising emerging markets. Specifically, the new Integrated Policy Framework (IPF) seeks to reassess the costs and benefits of several different tools—monetary policy, macroprudential policy, exchange rate interventions, and CFMs—to help stabilize economies exposed to domestic and external shocks. Importantly, the “integrated” aspect of the new framework will capture how these tools interact with each other and with country circumstances (Georgieva, 2020; Basu and others, 2020; Adrian and others, 2020; Brandao-Marques and others, 2020). This is a significant step forward that I highly commend. It also promises to make IMF policy advice more responsive to country fundamentals.

III. HOW WELL DO IMF POLICY FRAMEWORKS REFLECT THEORETICAL ADVANCES?

22. The work at the IMF culminated in a number of policy papers, notably in the IV (IMF, 2012)—as well as the Guidance Notes for the Liberalization and Management of Capital Flows

⁵ While frequent interactions between policymakers and academic researchers are of course desirable, there is also some danger of groupthink if academics try to deliver results that they perceive will be of interest to policymakers. It is difficult to counteract this natural tendency, although taking steps to be open to contrarian research would be helpful for the IMF.

(IMF, 2013a) and for Managing Capital Outflows (IMF, 2015), and “Increasing Resilience to Large and Volatile Capital Flows—the Role of Macroprudential Policies” (IMF, 2017).

23. In the following, I will evaluate these policy frameworks in light of the theoretical economic literature on the topic discussed in Section II above. I will first focus on the liberalization of capital flows. Then I will examine the management of capital flows, including the IMF’s position on managing inflows, dealing with outflows, and the relationship between capital controls and macroprudential policies.

A. The Liberalization of Capital Flows

24. The IV reflects several important elements of the thinking on capital flows in the theoretical economic literature: it emphasizes that there are both benefits and costs to liberalization; it recognizes that different countries may want to choose different speeds of liberalization, and it emphasizes that full liberalization is not necessarily a goal for all countries. The IV observes that liberalization increases the risk of capital flow volatility, and more so for less financially developed countries. Furthermore, the IV recommends an “integrated approach” to capital flow liberalization that couples support for domestic financial reforms with different steps toward capital account liberalization. This approach emphasizes that it would not be appropriate to liberalize before certain institutional conditions are met. It advises that flows that are long-term and that are conducive to insurance, such as FDI, be liberalized first, and that flows that are short-term and un-contingent, such as foreign currency debt, be liberalized last. This aligns well with the findings of theoretical studies such as Korinek (2011b, 2018), which measure the externalities of capital flows using a sufficient statistics approach and find that contingent long-term financial flows (such as FDI or domestic currency debt) are quite benign whereas un-contingent short-term foreign currency debt creates large, negative externalities.

25. There remain a number of areas with room for further development of the IV on capital account liberalization issues. First, a conceptual shortcoming of the IV’s analysis of liberalization is that it does not distinguish private from social benefits and costs. While the IV’s section on the liberalization of capital flows does start with an evaluation of benefits and costs, the IV does not explicitly consider the role of externalities in providing guidance in capital account opening. Whether these benefits and costs are private or social is of critical importance in deciding whether policy intervention in *private* market transactions is advisable or not. Financial markets are generally considered to be quite capable of evaluating private benefits and costs. If all benefits and costs were private, then the invisible hand of the market should work efficiently, and it would be difficult to make a case for continued public intervention to limit capital flows. However, markets are unlikely to consider the externalities of individual actions, and these externalities create scope for public interventions such as capital flow restrictions (see, for example, Korinek, 2011b).

26. Second, the IV’s discussion of the benefits and costs of liberalization is somewhat biased. The IV places substantially greater emphasis on analyzing the benefits of liberalization than it

does on analyzing the costs, resulting in a bias towards liberalization. Some results in the literature that suggest limited benefits of liberalization are not mentioned (e.g., Gourinchas and Jeanne, 2006). The description of costs is couched as “risks,” suggesting that any costs of liberalization would be probabilistic—even though the economic literature points to several costs that occur with certainty, for example reduced policy autonomy and ability to manage the domestic economy, decreased managerial control rights, etc.

27. Third, the IV’s analysis of capital account liberalization pays little attention to the distribution of the benefits and costs of liberalization. With regard to domestic income distribution, the wealthy and the employed who have ready access to financial markets may be affected differently by capital market liberalization than, for example, the unbanked poor. Furthermore, an important part of the benefits from liberalization may accrue to global financial institutions rather than to domestic residents. This may be an important consideration for member countries pondering whether to liberalize, given the increasing recognition of the need to ensure that growth is inclusive and welfare gains are widely distributed.

28. Fourth, the IV’s policy advice on liberalization is largely framed as a one-way street: the IV permits the reimposition of CFMs only on a temporary basis. This provides a disincentive to liberalization as countries may be wary of taking steps towards liberalization that may be difficult to retract without contravening the IV.

B. The Management of Capital Flows

29. The approval of the IV represented a major advance in the thinking of the IMF regarding policies for the management of capital flows. In the two decades before the IV, IMF advice on capital flow management had generally leaned towards a presumption in favor of capital account liberalization. Although teams took into account circumstances in which capital account restrictions could be called for, there was little consistency across countries and no coherent framework. By contrast, the IV systematically specifies circumstances under which the active management of capital flows can be useful. In alignment with the economic literature on the topic, the IV places capital flow management policies in the context of containing financial risks and maintaining macroeconomic stability.

30. At the same time, the IV’s policy position on the management of capital inflows still places significant restrictions on the circumstances under which the use of inflow controls would be advisable. While the IV may be seen as having been a reasonable compromise between a range of views among policymakers at that time, it contains a number of features that are not warranted from an economic theory perspective, particularly in view of the further research that has been published on the issues since 2012.

31. First, it draws an unduly sharp distinction between advice on CFMs and on macroprudential measures (MPMs). It does recognize that CFMs may have value in terms of safeguarding financial stability—and it classifies CFMs that have this feature as CFMs/MPMs—

but it still provides different guidance on CFMs/MPMs as distinct from pure MPMs. The latter are regarded as useful permanent features of the regulatory landscape, while the former are seen as distortionary, not to be used pre-emptively, to be removed over time and, if needed for financial stability reasons, replaced with non-CFMs/MPMs. According to the IV, CFMs/MPMs that discourage the build-up of foreign currency exposure by domestic residents may well be a desirable feature of the regulatory framework of a country until risk management and control tools are fully developed. But there is no case from economic theory to suggest that this distinction is warranted, and it may in fact undermine the effectiveness of CFMs/MPMs. Many of the theoretical papers on CFMs cited above explicitly call them a prudential tool and conclude that permanent and preemptive use of such tools as part of a country's regulatory regime may well be economically desirable to contain financial vulnerabilities.

32. Second, the IV suggests that before CFMs are appropriate, a long set of preconditions should be met, including an overheated economy, an overvalued exchange rate, and an adequate level of reserves. As a result, it effectively treats CFMs as a measure of last resort. There is no convincing economic rationale for this view. Although the listed preconditions are reasonable intermediate goals, there is no a priori theoretical case that some instruments or intermediate goals should take precedence over others. As I will discuss in more detail in Section IV, the IV seems motivated by a traditional targets-and-instruments approach of economic policy analysis, whereas a modern welfare-based analysis emphasizes that all intermediate goals must be traded off against each other.

33. Alternative policy responses such as reserve accumulation, interest rate policy, or fiscal policy adjustments carry alternative costs and differ in their distributional implications, and have different implications for financial market development and investor confidence depending on specific country circumstances. As a result, different countries may reasonably want to choose different combinations of policy tools at different times. For example, a country's "adequate level of reserves"—which the IV proposes as a precondition for imposing CFMs—cannot be determined independently of the capital flow regime. There may be good reasons for one country to pick lower reserves and a more restrictive capital flow regime and for another country to pick higher reserves and a more relaxed capital flow regime. One country may want to underline its commitment to a market based financial system by eschewing capital account restrictions, while another may be more concerned about financial frictions and vulnerabilities. Similarly, one country may be concerned to limit exchange rate fluctuations and wish to use limits on capital account mobility to raise monetary policy autonomy, particularly if the banking system is heavily dollarized or if large swings in competitiveness are seen as damaging for economic development, while another country, for example with already deep and resilient financial markets, may be committed to allowing the exchange rate to play a stabilizing role in the face of external shocks such as terms of trade shocks.

34. Furthermore, the targeting principle in modern public economics suggests that policy should aim as directly as possible at the source of a given distortion when attempting to correct

it. If volatility in capital inflows leads to financial stability risks or macroeconomic overheating, a policy measure targeted specifically at the capital inflows may well be the intervention of choice, as suggested, for example, by Korinek (2011b) and Farhi and Werning (2014).

35. Third, the IV recommends that new CFMs should be imposed at most on a temporary basis. This curtails the menu of policy options available to national policymakers, without providing strong economic justification for this view. As discussed above, permanent or preemptive CFMs may be a useful part of the policy toolkit as a country seeks to balance multiple objectives.

36. Fourth, the IV states that CFMs “should be ... preferably non-discriminatory.” In most economic models, the point of capital controls is precisely to discriminate between domestic and foreign residents since the net worth, financial wellbeing, and spending power of domestic residents are what drives domestic macroeconomic variables. For example, Korinek and Sandri (2016) explicitly distinguish between capital controls and non-discriminatory macroprudential regulation and observe that the role of capital controls is to make the domestic economy as a whole financially more resilient so as to avoid excessive future exchange rate depreciations and crises.

37. On outflows, the IV’s recommendations correspond largely to the views within the academic literature, recognizing both that outflow controls may hurt investor confidence and that, nevertheless, such controls may be of critical importance in crisis situations. This is important because IMF prescriptions play an outsized role in affecting whether or not a given policy will hurt investor confidence. If a country in crisis imposes outflow controls that are sanctioned by the IMF as needed to restore economic stability, their effect on investor confidence is likely to be far more benign.

38. Three aspects are currently missing in the IV’s advice on outflow controls but would complement and strengthen the advice. First, there may be situations in which outflow controls can be helpful to increase the margin to use monetary policy to support the economy when it is facing external stress and a weak domestic economy, but still not in a crisis or on the verge of crisis. Second, outflow controls have particularly stark distributional implications, which are a significant reason why they are so contentious: foreign investors who cannot repatriate their funds at will may feel expropriated while domestic residents who are unable to move funds offshore may feel penalized and resent that the wealthiest may find effective loopholes. An explicit discussion of the distributional implications of outflow controls would be useful to inform member countries about their benefits and costs. Third, it would be useful for the IV to distinguish more systematically between capital outflows by domestic residents and repatriations by foreign residents. The two types of flows can be affected by different types of policy measures: for example, during episodes of capital outflows in non-crisis scenarios, it may not be desirable to restrict outflows by foreigners, while policies that encourage reductions in outflows by domestic residents may well be warranted without being measures of last resort.

39. There are two other key respects in which the IV's position on the relationship between CFMs and MPMs falls short of the academic perspective on the topic. First, the IV restricts the scope for macroprudential policy to cases of systemic risk. This is in accordance with the IMF's macroprudential framework (IMF, 2013b; 2014), which reflects the state of the academic literature circa 2013 and does not incorporate the influential new developments in the economic literature on aggregate demand externalities described in Section II. In any instances in which monetary policy faces restrictions and is unable to fully stabilize aggregate demand, macroprudential policies may make a useful contribution to economic stabilization. Examples of such restrictions on monetary policy include the zero lower bound on interest rates, the inability to lower rates because of concerns about exchange rate depreciations and balance sheet effects, or simply the long lags in the effects of monetary policy on the economy. In such circumstances, relaxing or tightening MPMs to encourage or discourage bank lending may make a useful contribution to managing aggregate demand. MPMs may also be useful to target specific sectors of the economy, e.g., overheating in housing that goes hand in hand with an otherwise sluggish economy. Note that there are no other first-best instruments to address the described distortions in such instances—hence this strand of literature emphasizes that macroprudential policy should be an essential part of the policy mix to address aggregate demand distortions, both in a prudential manner and once demand imbalances have materialized.

40. Second, the IMF's position on macroprudential instruments that are also CFMs restricts the use of such instruments in a number of ways that are not warranted by the academic literature. I have already largely discussed these issues in the preceding paragraphs on capital flow management; the academic literature suggests that capital controls that are used in a macroprudential sense may be useful in a prudential manner, both before and after inflow surges actually materialize, that they should not necessarily be instruments of last resort, and that it is generally useful for them to discriminate between residents and non-residents. Put succinctly, the academic literature does not support a substantially different treatment of capital controls and macroprudential measures.

IV. THE ROLE OF WELFARE OBJECTIVES IN MODERN ECONOMIC POLICY ANALYSIS

41. The starting point of a modern economic policy analysis is a clear statement of the welfare objectives that are to be achieved. The second-best nature of capital flow policy implies that it is crucial for policymakers to be clear about how to value the relative benefits and costs of policy intervention. This makes it paramount for policymakers to spell out the welfare criterion underlying their cost-benefit analysis. Moreover, it implies that it is perfectly reasonable for different policymakers, or for the citizens of different countries, to differ in their preferences regarding the benefits and costs of capital flows.

42. The described modern welfare-based approach differs from an earlier tradition in economic policy analysis, based on Tinbergen (1952), that viewed the economy as a linear control system in which certain predefined policy targets can be achieved by setting certain policy instruments to their optimal levels. A widely used example of this approach is the

Mundell-Fleming framework, one of the IMF's earlier workhorse macroeconomic models, in which policy targets such as "internal balance" and "external balance" can be achieved by setting fiscal and monetary policy to the right level. In Tinbergen's original analysis, the set of available instruments was assumed sufficient to precisely meet the chosen targets—this is called a complete set of policy instruments.

43. The IMF's current policy framework on capital flows seems to be largely based on this traditional targets-and-instruments approach and does not explicitly spell out the social welfare objective to be achieved. But the traditional targets-and-instruments approach has two fundamental shortcomings:

44. First, the approach does not explain where the chosen targets come from and how the overall set of instruments under consideration is selected. If the given policy targets are chosen outside of the economic model and are exogenous to the economic policy analysis, their ultimate connection to social welfare may be tenuous. The postulated policy targets may then be too rigid and not optimal for welfare. For example, targeting external balance in the Mundell-Fleming framework may be optimal in some circumstances but not in others, such as when a country has great investment needs and can obtain stable flows of FDI from abroad. Similarly, viewing capital flow liberalization as an objective in itself that is taken as given may lead to economic policy mistakes. Instead, capital flow liberalization is an intermediate target that may contribute to overall social welfare and that may therefore be desirable for some countries (for example, advanced economies) but not for others (such as emerging economies with a less developed financial sector). The ultimate objective from which all intermediate targets derive should always be social welfare. A rigorous economic policy analysis must be explicit about how each intermediate target contributes to the ultimate objective of social welfare.

45. Second, in the real world, the set of available policy instruments is generally incomplete and not sufficient to simultaneously address all the chosen policy targets of interest. This makes it crucial to specify how to choose tradeoffs between competing policy targets. Such tradeoffs may not be of significant concern in cases where a single instrument is sufficient to meet a single target. For example, simple models of monetary policy suggest that it is sufficient to use a single instrument, the interest rate, to target the level of aggregate demand. However, capital flow policies are by their very nature second-best policies that inherently need to make difficult tradeoffs among competing objectives, as emphasized in Section II above. In the case of second-best policies, it is thus indispensable to explicitly specify how to choose the tradeoffs between different intermediate objectives.

46. Important examples of such objectives include distributional and social concerns. In some settings, even concerns about environmental impacts may be relevant. Distributional and social objectives matter because public policies almost always have different implications for different

members of society, and these unequal impacts matter greatly for social welfare.⁶ As protests in several countries have shown, ignoring the distributive implications of policy choices is perilous as it reduces social cohesion. It may undermine legitimate political processes and open the door to dogmatism and special interest groups. Ultimately it may weaken public trust in economic experts as neutral and agenda-free arbiters of public policies and thus degrade the political decision-making processes.

A. Welfare Objectives in the Work of the IMF

47. Whenever there are policy tradeoffs, academic research is very clear that what is optimal depends crucially on the welfare objectives of the country in question and that there is no single optimal policy. Academic research can analyze the menu of available policy options and trace out the probable economic outcomes. It can rule out inefficient policy choices that are always dominated by other, superior policy measures. However, economic theory is silent on what a country's preferences actually are or should be. The choice from the menu of efficient policy options must be left to the political process within each country. For example, when considering policy measures that affect inequality, economic theory can describe the economy's Pareto frontier, i.e., how alternative policy choices differentially distribute resources across members of society. It may be able to rule out some policy choices that are clearly Pareto-inefficient. But it cannot take a stance on which point on the Pareto frontier should be picked, i.e., which way of distributing resources across society is best. This is a choice that must be left to the political process within each country.

48. The IMF finds itself in a novel position that receives little explicit attention in academic studies attempting to account for differing welfare objectives across different countries. The standard assumption in much of the literature is that the welfare objective of the policymaker under consideration is known, and as a result, a unique optimal policy can be identified. This is the case in traditional analyses following Tinbergen's targets-and-instruments approach, in which a single and well identified set of targets for economic policy is taken as a given. It is also the case in most modern micro-founded approaches to economic policy analysis, which typically impose a specific social welfare function a priori—for example the utility function of a representative agent or the sum of utilities of heterogeneous agents weighted with exogenously given welfare weights. From the perspective of defining a menu of policy options, both described approaches are in fact equally ill suited.

⁶ Distributional implications matter for welfare except in two very narrow circumstances: First, they would be irrelevant if society were completely indifferent to questions of income distribution. This is clearly not the case in most societies. Second, they would be irrelevant if lump sum taxes and transfers were used to fully compensate the losers of public policies. This too is clearly unrealistic, as in the real world taxation introduces significant distortions, and as losers from most public policies are rarely fully compensated in practice. In short, it is impossible in practice to evaluate the welfare effects of public policies and to choose optimal policies without taking account of distributional implications.

49. Instead of a single one-size-fits-all policy prescription that imposes arbitrary preferences on all countries, what is needed is a flexible policy framework that maps different preferences about economic outcomes into different policy choices. This requires a flexible specification of country preferences—in the form either of a flexible welfare function over intermediate targets in a Tinbergen-style targets-and-instruments approach or of a flexible welfare function in a micro-founded economic model. Working out the specifics of such a framework is an important task for the IMF.

B. The Role of Welfare Objectives in the Analysis of Capital Account Policies

50. Clear welfare objectives are of particular importance for an economic analysis of capital account policies because such policies affect multiple aspects (or intermediate targets) of the economy, and policymakers need to decide how to weigh these against each other.

51. Capital account liberalization and capital flow management significantly influence the risk/return profile of an economy, as documented, e.g., by Kose and others (2003). As a result, society's risk preferences, i.e., how much risk society is willing to take on to earn an additional unit of economic output, are a critical consideration in policy decision making. It is impossible to determine how much liberalization is optimal for a country without considering its risk preferences. As the case study of Korea for this evaluation (Everaert and Genberg, 2020) notes, the traumatic experiences with two sudden stop episodes in 1997 and 2007 led Korean policymakers to focus intensely on avoiding the risk of disorderly outflows, even if this approach might impose some economic efficiency costs.

52. The distributional and social implications of capital account policies are perhaps the elephant in the room in policy discussions of capital account policies. In emerging economies, distributional effects are one of the main factors behind the domestic political opposition to capital account liberalization. Much of that opposition traditionally comes from parties on the left of the ideological spectrum who perceive that their constituents may lose out from such policies (see, for example, Gallagher, 2014). In the broader context of financial regulation, Campbell and Hercowitz (2009) and Korinek and Kreamer (2014) show that deregulation generally increases inequality. Korinek (2016, Section 2.7) and Furceri, Loungani, and Ostry (2019) show in a theoretical model and in empirical work that capital account liberalization increases inequality in financially less developed countries, because the gains from liberalization accrue mostly to the elites who have access to the formal financial sector whereas the greater volatility resulting from liberalization disproportionately hurts the poor. More recently, even some advanced economies have had to deal with the social effects of capital flows. As Everaert's (2020) background paper describes, some of the capital flow restrictions imposed in Australia, Canada, and other countries are motivated by a desire to keep non-resident flows from making housing unaffordable for domestic citizens.

C. Welfare Objectives in the IMF's Policy Framework on Capital Flows

53. The IV refers to welfare objectives at several points but generally in rather vague terms. Most of the IV seems to be based on the assumption that most countries have the objective of wanting to proceed with capital account liberalization while avoiding frequent crises, perhaps because it is assumed that this maximizes expected economic output. This assumption fails to acknowledge that risk/return preferences may differ across countries, for example because of experience with past crises, and it ignores other implications of capital account policy such as distributional and social concerns that are relevant for social welfare.

54. Going forward, the goal of the IMF's policy framework on capital flow liberalization and management should be to lay out a menu of the available efficient policy options, in the sense of describing the economy's Pareto frontier, without imposing specific preferences on member states. One would expect the framework to be specific about the following points in order to best inform policy choices:

- (i) What is the available menu of policy options that are economically efficient?
- (ii) What are the economic outcomes that policymakers may care about, for example growth outcomes, risk outcomes, development outcomes, and distributional/social outcomes?
- (iii) How do the different policy options map into different economic outcomes, given the country's circumstances and institutional capabilities?
- (iv) How certain are we about the predicted mapping from policy options to outcomes?

55. Clarity on these questions would allow the IMF to delineate a menu of efficient policy choices for member states, providing reasonable policy space without being overly prescriptive or adopting an "anything goes" approach. It would enable policymakers to make well informed and transparent tradeoffs about the policy goals of interest. Ultimately, it would enable the Fund to provide fact-based advice in a manner that is both evenhanded and provides sufficient flexibility to member countries. The new work on an IPF mentioned above could contribute to this goal by analyzing how the optimal use of policies varies in response not only to country fundamentals but also to policy preferences, as outlined in the preceding paragraphs.

V. CAPITAL ACCOUNT POLICIES AND INTERNATIONAL SPILLOVERS

56. Since international capital movements involve by definition at least two countries, any economic evaluation of capital account policies must also consider their effects on other countries. There has been significant progress in the economic literature describing and evaluating international spillover effects, exemplified by Bagwell and Staiger (1999, 2001, 2004) in the context of goods flows and by Costinot, Lorenzoni, and Werning (2014) and Korinek (2016) in the context of capital flows. This strand of literature describes the world as a general equilibrium system in which both goods and capital flow across the different countries of the world

economy. International spillovers are analyzed as simply general equilibrium effects that occur between countries.

57. Spillovers can be distinguished according to their source into spillovers from real shocks and policy spillovers. An example of a real spillover is when one country experiences a negative shock to its investment opportunities, and capital flows out to other countries in response. An example of a policy spillover is when a country raises taxes on domestic investment and capital flows out to other countries in response. As these two examples illustrate, from an economic perspective, it does not matter for the recipient countries whether a given spillover is a real spillover or a policy spillover.

A. Spillovers and Economic Efficiency

58. An important question in the international economics literature is under which conditions international spillovers lead to allocations that are Pareto-efficient. An allocation is Pareto-efficient if there is no way to make one country better off without hurting other countries. This is an important benchmark because a Pareto-*inefficient* allocation implies that there is clear scope for international policy cooperation—there is a potential for a “free lunch” in the sense that cooperation can make some countries better off without hurting others. Conversely, if an allocation is Pareto-efficient, there is little scope for policy cooperation—in fact, attempts at finding an agreement that all countries would benefit from are a waste of time.

59. The literature on international spillovers and Pareto efficiency offers the following insights. On the one hand, spillovers are a fundamental part of how the market economy works. The academic literature finds that both real spillovers and spillovers from policy measures motivated by domestic policy considerations are a necessary part of the functioning of the market economy. This also applies to spillovers from capital flow policies that are motivated by domestic considerations.

60. On the other hand, there are three sets of circumstances under which spillovers are Pareto-inefficient and there is at least potential scope for policy cooperation that can make everybody better off:

61. First, spillovers of strategic behavior are inefficient and have beggar-thy-neighbor effects (see, for example, Costinot, Lorenzoni, and Werning, 2014; Section 5 of Korinek, 2016). A policy measure is considered strategic if it is aimed at distorting international market prices to improve a country’s terms of trade. In practice, the distinction is sometimes subtle and difficult to make because it relies on the intent of a policy rather than on the observed spillovers from the policy. For example, the same tax on capital inflows can be a perfectly legitimate financial stability tool in one country, but in another country it may be a strategic attempt to abuse market power and extract surplus from international investors by lowering their returns. Through its surveillance, the IMF is in a unique position to shed light on whether policy measures adopted by countries are justifiable by reasonable domestic policy concerns or represent unfair strategic behavior, and

indeed its Articles of Agreement give the Fund the explicit mandate to “avoid competitive exchange depreciation.”

62. Second, Pareto inefficiency and opportunities for welfare gains from cooperation may also arise when countries have limited policy instruments at their disposal (see, for example, Bagwell and Staiger, 2004; Korinek, 2016, Section 6). If a country’s policy instruments to target international transactions are either missing or costly and imperfect, a Pareto improvement may be achieved if another country with better ability to influence certain flows assists the country with lesser ability. For example, consider an emerging market or developing economy that is unable to regulate risky capital inflows that generate financial instability or economic volatility. If banking regulators and security market regulators in the country from which the outflows originate (say, an advanced economy) have regulatory instruments available at the source, they may assist the recipient country in reducing financial risk and economic volatility, creating a Pareto improvement via policy cooperation.

63. Third, market imperfections in the international market may also generate Pareto inefficiency and scope for cooperation (Korinek, 2016, Section 7). In the context of goods trade, a classic example would be externalities from pollution. In the context of capital flows, classic examples would include global aggregate demand shortages that call for coordinated stimulus measures, or imperfections in international capital markets that call for the creation of more state-contingent financing instruments—a role that is frequently performed by the IMF in its crisis lending. All these examples represent different versions of international policy cooperation.

64. In summary, Pareto inefficiency and a related opportunity for policy cooperation may arise from three sets of circumstances: (i) strategic behavior that abuses market power; (ii) limited policy instruments; and (iii) international market imperfections. When none of these three sets of circumstances is present, the market equilibrium and any spillovers associated with it are Pareto-efficient and there is no scope for policy cooperation that generates a Pareto improvement. Even when a Pareto improvement is impossible, there may still be circumstances when policy cooperation seems desirable because one country derives significant benefits but another country incurs comparatively small costs. For example, Brainard (2017) suggests that different approaches to normalize monetary policy may have similar domestic effects but differ significantly in their international spillovers. In such instances, resorting to the policies with more desirable spillover effects may not necessarily generate a Pareto improvement but may make sense from a perspective of overall welfare.

B. The Redistributive Dimension of Spillovers

65. Although spillovers are a natural part of the functioning of our global economic system, it is important to recognize that they inherently entail redistributions across countries that make some countries better off and others worse off. For example, if the United States as the center of the international monetary system raises interest rates, this will generally increase the world

interest rate, making all countries that are net borrowers pay more interest and all net lenders earn greater interest income.

66. The redistributions inherent in international spillovers are one of the main factors why capital account policies are contentious in the international arena. For example, if a capital importing country erects barriers to international capital flows, capital exporting countries, and in particular financial institutions in those countries, will find fewer investment opportunities and earn lower returns. Indeed, the financial sector in advanced economies is typically one of the most vocal opponents of capital account interventions in emerging economies (see, for example, Gallagher, 2014).

67. International spillovers thus create a fundamental dilemma for international policymakers. On the one hand, spillovers are a natural and necessary part of the efficient functioning of the global economic system; on the other hand, some countries will lose from spillovers and will complain loudly. The dilemma is exacerbated by the fact that mechanisms for compensating the losers are almost entirely absent at the international level. (At the domestic level, by contrast, many countries do employ policies that mitigate the adverse impacts of price movements on losers, either directly or via a general social safety net.)

C. Evaluating the Institutional View's Perspective on International Spillovers

68. It is critical for the IMF to clarify its thinking about international spillovers to be able to resolve this dilemma in its policy frameworks. The IV repeatedly emphasizes the importance of cooperation but does not spell out which objective international policy cooperation is intended to achieve. This makes it difficult to guide policy in an effective way.

69. At times the IV seems to suggest that spillovers are inherently undesirable, i.e., that it is preferable to maintain the status quo in the international allocation of resources and minimize any spillover effects of national policies. From a political economy perspective, this would minimize potential political disagreements arising from spillovers.

70. However, the principle of minimizing spillovers is in stark conflict with the benchmark of Pareto efficiency—in general, only one of the two objectives can be satisfied.⁷ To illustrate this, consider a large economy that experiences an economic shock that calls for lower interest rates. Achieving economic efficiency in the sense of ensuring full employment would require the country's central bank to cut interest rates, but this would generate international spillover effects as funds flowed abroad to seek better returns, perhaps raising challenges for the recipient country. By contrast, if the goal is to minimize spillovers, the country's central bank should leave

⁷ The exception is the case described under point (ii) in para 64 above, when a country lacks sufficient policy instruments to regulate its international transactions but another country can help with its policy instruments.

rates at a higher level, but this would generate inefficiency at the domestic level in the form of unemployment.

71. I recommend instead that the IMF adopts the standard of Pareto efficiency as a guiding principle for its thinking about international spillovers, while being aware of the redistributive aspects inherent in these spillovers. Note that when spillover effects arise from real shocks as opposed to economic policy actions, the IMF already embraces the benchmark of Pareto efficiency without hesitation. For example, if a commodity producer experiences a negative supply shock, IMF advice would typically be to let the price of the affected commodity rise, even though this will generate international spillover effects and will hurt commodity importing countries.

72. A policy framework regarding international spillovers that is based on the standard of Pareto efficiency would observe the following points. First, international spillover effects are a natural part of the economic adjustment process of market economies when different countries in the world economy experience asymmetric shocks. Such spillover effects are Pareto-efficient in a broad range of settings. When spillover effects are Pareto-efficient, there is no room for cooperation to make all parties better off.

73. Second, as we noted above, there are three sets of circumstances that call for policy cooperation from a standpoint of Pareto efficiency: (i) strategic behavior that abuses market power, (ii) limited policy instruments for international transactions, and (iii) international market imperfections. The IMF's policy framework could have an extremely useful and important role to play in each of these areas.

74. Regarding strategic behavior that abuses market power, the IMF's surveillance mandate puts the Fund in a unique position to evaluate whether capital account policies are justified by domestic considerations (such as financial or macroeconomic stability) or whether they represent unfair beggar-thy-neighbor policies that attempt to gain a competitive advantage.

75. Regarding limited policy instruments, it would be useful for the IMF to lay out a general framework and provide specific examples of how cooperation can help countries deal with their limitations in instruments. The IV briefly cites this motivation for cooperation in para 52, but does not elaborate further how it could be accomplished, and little has been achieved since then on this front (IEO, 2019). More attention from both researchers and the international policymaking community would be required to make such cooperation implementable. A practical example of successful policy cooperation to help countries deal with limited instruments is the reciprocity clause in Basel III, which allows banking regulators in the countries receiving capital flows to request the assistance of banking regulators who oversee the banks from which the flows originate in source countries.

76. Regarding international market imperfections, the IV lists several successful examples of policy cooperation that can be interpreted as addressing collective action problems arising from failures in international financial markets. It would be useful to frame these as examples in which

cooperation can ensure a Pareto improvement to provide a useful template for policy cooperation based on this motive. Delineating the conditions under which the Fund views spillovers as efficient versus inefficient would be extremely beneficial in focusing cooperative efforts where they are most likely to bear fruit.

77. Third, even when spillovers are Pareto-efficient, it is important for the international community to be aware that spillovers entail redistributions that may sometimes be sizable and may sow discontent, especially if they hurt poor countries. It is perhaps outside the mandate of the IMF to take sides in such a situation and strongly advocate that member countries deviate from their preferred policies and reduce domestic efficiency for the sake of reducing spillovers. However, it may be useful to suggest cooperation if one country could deviate from its domestically optimal policy in a minor way and provide large benefits to other countries, as suggested by Brainard's (2017) example on monetary policy normalization that we discussed above. Moreover, it may be useful to keep track of the redistributions inherent in spillovers and to inform the international community so as to facilitate decisions about whether and how to help the affected countries in the adjustment process.

VI. CONCLUSIONS AND FUTURE STEPS

78. The IMF's IV and related documents represented a significant step forward in the thinking of the IMF. But there is much work left to be done to make the IMF's policy framework on capital flows more tangible and more adaptable to country circumstances.

79. Recent IMF working papers seek to move the agenda forward by providing the foundations for the IMF's new IPF to analyze how several different policy tools—monetary policy, macroprudential policy, exchange rate interventions, and capital flow management measures—interact with each other and with country circumstances (Basu and others, 2020; Adrian and others, 2020; Brandao-Marques and others, 2020).

80. Though it is too early to carry out an assessment of the IPF workstream, it clearly offers much promise to make IMF policy advice more responsive to country fundamentals and, ultimately, more useful for member countries. As emphasized in Section III above, one area—in which academic research is lagging and in which the IMF has a strong comparative advantage to fill the gap—is in more comprehensively spelling out, evaluating, and comparing the policy options regarding capital flows at a more tangible and operational level. While conceptual models can provide useful guidance, they cannot fully capture the details often involved in the design of CFMs. The IMF has a critical role to play in using the insights from the models in advising countries on practical issues: which CFMs are most effective under which circumstances? What are their relative benefits and costs? How do they fit for countries with different institutional structures and capabilities? And how do they contribute to the different policy objectives of different countries?

81. As highlighted in Section IV above, the next useful step in this area would be to analyze how different policy tools can take into account not only country fundamentals but also differing policy objectives and priorities. This would provide more policy space to member countries. In a world in which the ability of market efficiency to be the sole provider of wellbeing is being questioned, and social welfare increasingly hinges on additional objectives such as controlling risk or reducing inequality, it is crucial to allow member countries to pursue policies that account for such factors rather than imposing a narrow vision of efficiency that may in fact reduce social welfare.

82. Moreover, as highlighted in Section V, work remains to be done to refine the Fund's thinking on international spillovers. Spillovers pose a dilemma for international policymakers because they inherently create winners and losers. When spillovers are Pareto-efficient, it would be outside the Fund's mandate to ask countries to deviate from their preferred policies to lean against spillovers and thereby advocate the interests of some countries over others. However, there are clear circumstances when spillovers are inefficient and effective coordination is desirable, in particular (i) when countries engage in strategic behavior, (ii) when recipient countries have limited instruments to deal with capital flows and source countries can help them, and (iii) when there are imperfections in international capital markets.

83. The IMF has both the operational experience and the intellectual firepower to tackle these important questions. Furthermore, such questions are frequently undervalued by purely academic economists since studies of them are difficult to publish in the leading academic journals. This makes it paramount for the IMF to continue its tradition of thought leadership and provide both foundational research and policy guidance on these questions.

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