

2021 Comprehensive Surveillance Review—Background Paper on The Surveillance Priority Preempting and Mitigating Spillovers



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2021 COMPREHENSIVE SURVEILLANCE REVIEW— BACKGROUND PAPER ON THE SURVEILLANCE PRIORITY PREEMPTING AND MITIGATING SPILLOVERS

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April 7, 2021

**2021 COMPREHENSIVE SURVEILLANCE REVIEW—
BACKGROUND PAPER ON THE SURVEILLANCE PRIORITY
PREEMPTING AND MITIGATING SPILLOVERS**

EXECUTIVE SUMMARY

The scope for spillovers that may significantly influence the effective operation of the international monetary system is increasing, as the complexity of international networks has evolved and new sources as well as channels, such as health policies, climate change or digital currencies, have been growing in significance. The COVID-19 pandemic has further underscored the sheer scale of global interconnectedness and potential for large spillovers. Against this background, the Fund is uniquely placed to monitor and assess economic and policy spillovers across countries.

The Fund has a range of modalities and tools to cover spillovers. However, there remains scope to enhance synergies between global and country-specific spillover coverage and to foster cross-country dialogue. Practical guidance and enhanced information-sharing would also allow for more systematic surveillance of spillovers. Furthermore, the COVID-19 pandemic has underscored the need to continue expanding the research frontier covering new spillovers and channels and developing new tools and data sets. Therefore, filling these remaining gaps in the Fund's spillover work would allow for a more coordinated and evenhanded surveillance of spillovers.

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INTRODUCTION

1. The scope for spillovers that may significantly influence the effective operation of the international monetary system is increasing. While global linkages continue to evolve in their complexity, new sources and channels, such as health policies, climate change or technological change, have been growing in significance (see Box 1 for definition of key concepts of spillover analysis). Furthermore, the COVID-19 pandemic has underscored the sheer scale of global interconnectedness and thereby the importance of multilateral cooperation to maintain the effective operation of the international monetary system.

2. The Fund’s coverage of spillovers is guided by its focus on domestic or global macroeconomic stability. The Fund is uniquely placed to monitor and assess economic and policy spillovers across countries. The Integrated Surveillance Decision (ISD), as applied through the Surveillance Guidance Note, clarifies the Fund’s coverage and provides guidance on when and how to cover spillovers. The COVID-19 pandemic has reconfirmed the advantages of the Fund’s flexible approach to spillovers and its critical role in providing spillover analysis as a public good.

Box 1. Spillovers: Key Concepts

Linkages refer to the links between sectors within an individual economy or across countries, which can act as transmission channels for shocks.

Spillovers refer to the cross-border transmission of shocks. These can be global or affect one or more countries and occur through a variety of channels. Spillovers can arise from exogenous shocks or, importantly, a country’s actual or potential policies.

The analysis of **inward spillovers** involves evaluating the channels through which external shocks affect a country and quantifying their impact. It covers *actual* spillovers and *potential* spillovers. The former is when risks have already materialized (as “shocks”) or policies adopted, allowing the spillovers through the different channels to be observed and estimated directly. Potential spillovers correspond to risks that have not yet materialized or prospective policies.

Policy spillovers. The Fund has focused on identifying *policies* that generate spillovers. This helps increase the awareness in “source” countries of the impact of their policies on others, which can facilitate policy cooperation.

Spillbacks are a special case of spillovers where one country’s outward spillovers affect a number of other countries, causing their economic situation to deteriorate and potentially take policy actions in reaction to the spillover that lead to adverse feedback effects (“spillbacks”) on the source country.

Source: (IMF 2014b) and (IMF 2015).

3. The Fund has a range of modalities and tools to cover spillovers. Flagship reports have extensive coverage of global spillovers (e.g., Chapters 1 in the WEO and the GFSR, and the annual spillover chapter in the WEO), while Article IV staff reports often discuss inward spillovers. Recent staff reports of the systemic five have also covered outward policy spillovers.¹ In addition, a range of

¹ The systemic five comprise of China, the Euro Area, Japan, the United States, and the United Kingdom.

frameworks and tools are in place that support spillover analysis (such as the Surveillance Guidance Note and Global Risk Assessment Matrix). Concerns about better handling adverse spillovers from cross-border capital flows have also motivated the Fund's work on the Integrated Policy Framework (IPF) (IMF 2020c).

4. However, there remains scope to enhance the Fund's spillover coverage in Article IV reports. Previous reviews have surfaced the need to (i) integrate and deepen risk and spillover analysis (IMF 2014a); (ii) provide more consistent coverage of outward policy spillovers in Article IV reports (IMF 2018g); and (iii) make sure the Fund is at the forefront of financial spillover analysis and provision of advice on dealing with capital flows (Independent Evaluation Office 2019). The background surveys for the CSR further confirmed that authorities value more analysis of policy responses, greater timeliness, and more coverage of outward spillovers (*see Background Paper on Main Findings from the Stakeholder Surveys*).

5. Filling remaining gaps in the Fund's spillover work would allow for more coordinated and evenhanded surveillance of spillovers. This includes fostering engagement with the membership and among members on systemic spillovers, having a systematic approach to identifying economically important spillovers at a regional or global level in a given juncture, and ensuring strong coordination and knowledge dissemination of spillover work, for instance through the Spillover Taskforce.

6. This paper is structured as follows. Section 2 will discuss recent developments in the spillover landscape, the Fund's spillover coverage as well as previous and ongoing work. Section 3 will lay out new and revised modalities to allow for more coordinated and systematic surveillance of spillovers.

THE FUND'S SPILLOVER COVERAGE IN A RAPIDLY EVOLVING LANDSCAPE

A. Developments in the Spillover Landscape

7. Global interconnectedness continues to evolve in its complexity. Staff analysis on trade, financial, and migration networks points to the changing nature of exposure to spillovers in the future, both within and across regions (see Box 2). For example, strongly interconnected trading and migration "communities" have expanded across regions, suggesting greater potential for global spillovers through trade and migration ties. At the same time, financial networks have increased in value, accompanied by some reshuffling in countries' systemic importance, calling for close and timely monitoring of changes in exposures.

8. As a result, the scope for spillovers, which may significantly influence the effective operation of the international monetary system, is increasing. These include policy areas related to health, climate change, technological advances, and migration. For example, mitigation policies to

address greenhouse gases in large emitters affect global economic and financial stability and influence the fiscal sustainability of low-income countries (LICs) and small states that are coping with consequences of climate change. Similarly, regulations governing innovations in financial intermediation such as digitalization of currencies will have major implications for the international monetary system as they could change reserve currency composition for central banks and affect the currencies used for invoicing and thereby trade. Moreover, immigration policies, in-part driven by demographic challenges, may affect the quantity and quality of labor as well as productivity, both in the source and destination countries. In addition, the current global macro-financial landscape with multi-speed recoveries amid concerns about weakening balance sheets and rising debt levels has the potential to change magnitudes of spillovers and the transmission channels and reduce the policy space of receiving countries to react to spillovers.

9. The COVID-19 pandemic has underscored the sheer scale of global interconnectedness and the importance of multilateral cooperation.

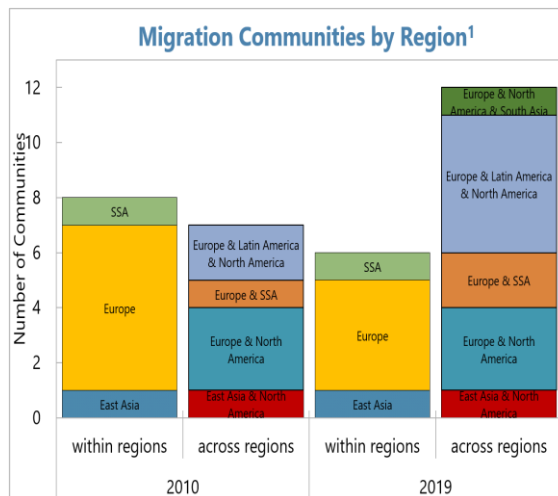
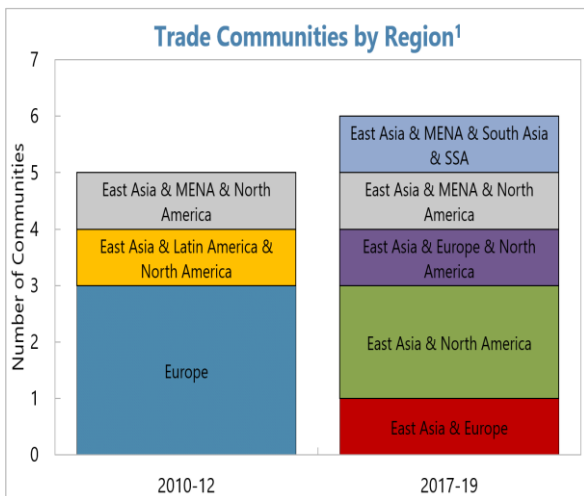
The ongoing pandemic is showing an unprecedented level of complexity as enormous demand and supply shocks have hit the global economy, propagating spillovers through multiple channels and initiating unprecedented magnitudes and modes of policy responses, which are little researched (e.g., trade in services, containment measures, unconventional policies). Moreover, spillovers are likely to remain high for the foreseeable future at a time of uneven global recovery and vaccine distribution, and potentially higher financial market volatility. The pandemic has also demonstrated that many smaller countries could have sizable global influence through actions that are similar in nature (e.g., concurrent fiscal or monetary policy tightening, outflow CFMs or debt restructuring) and that any individual country can have a significant impact on the global economy (through a virus outbreak or mutation). Thus, there are large gains from multilateral coordination, e.g., on containing public health spillovers, debt restructuring, vaccine distribution, fiscal stimulus for recovery and others as well as a need to understand the global impact of new policies and developments (e.g., digital currencies, industrial policies, decoupling and disruption of supply chains and long-term scarring).

Box 2. Network Analysis of Global Integration

Using the Clique Percolation Method and Eigenvector centrality, we find that global trade and migration networks have continued to evolve and reshuffle over the last decade. Strongly linked global financial networks have become fewer, concentrating around core advanced economies. Understanding how network size and structure has changed and identifying core systemic economies and communities can yield insights into global spillover potential.

Strongly interconnected trading communities have expanded across regions, ...

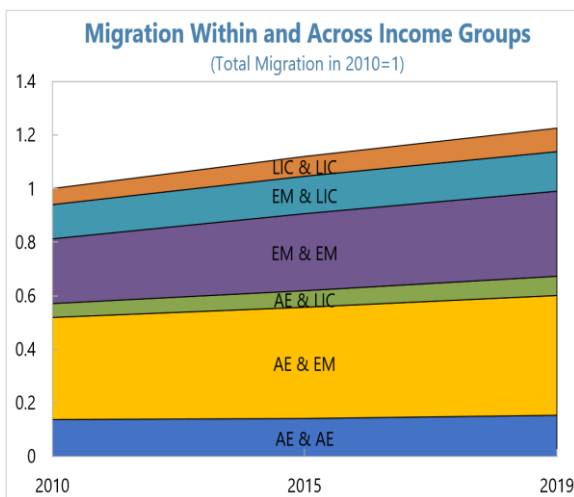
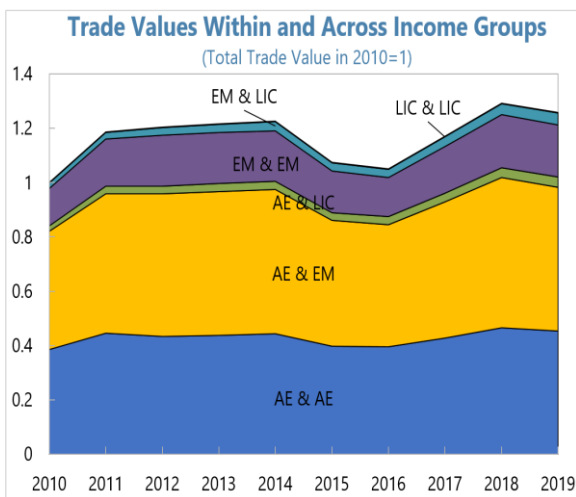
... as have migration communities, suggesting growing complexity.



1/ A community is a group of economies that has strong ties among all economies for that network. See footnote at end of the box on the Clique Percolation Method. The figure highlights which geographic region economies in that community belong to. East Asia includes Pacific, Europe includes Central Asia, Latin America includes Caribbean, MENA refers to Middle East and North Africa and SSA refers to Sub-Saharan Africa. See footnote at the end of the box for an explanation of the clique percolation method.

EM's linkages have grown in importance for global trade...

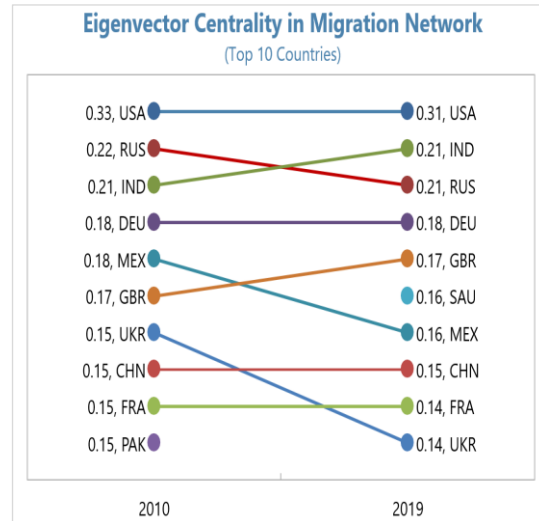
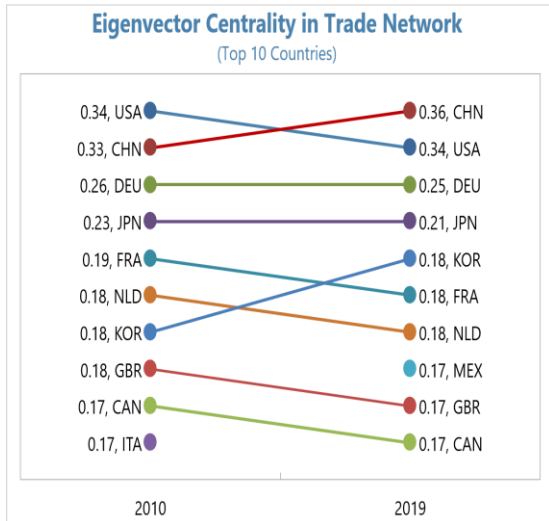
...and migration networks.



Box 2. Network Analysis of Global Integration (Continued)

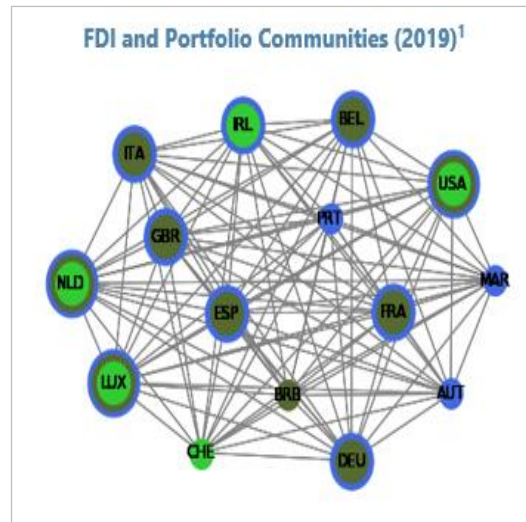
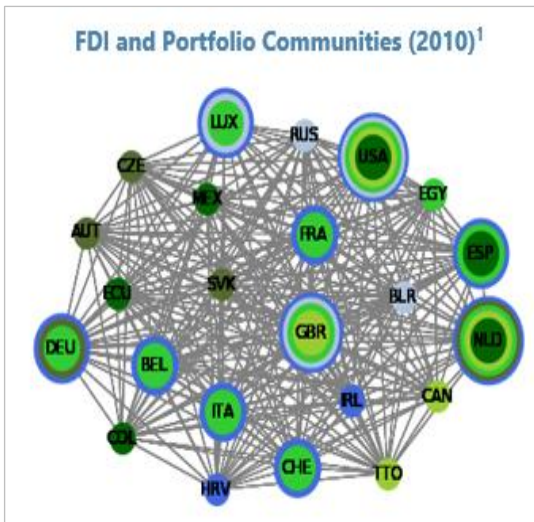
Over the last decade, global importance of China, Korea and Mexico increased in the global trade network...

...while Saudi Arabia joined the 10 most central economies in the international migration network



Financial networks are characterized by strongly interconnected communities, centered around a few core economies

... that have become fewer, concentrating around key advanced economies and financial hubs.

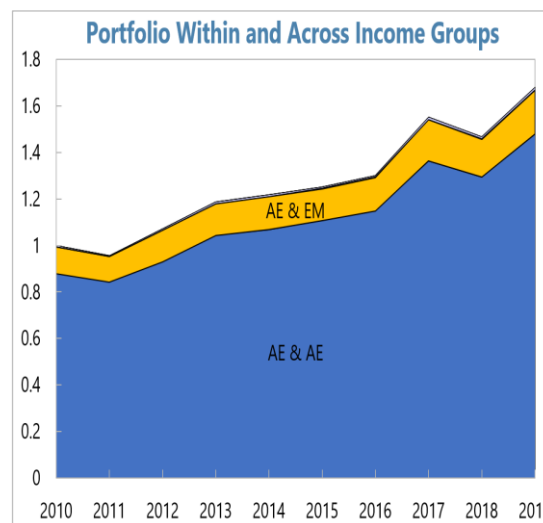
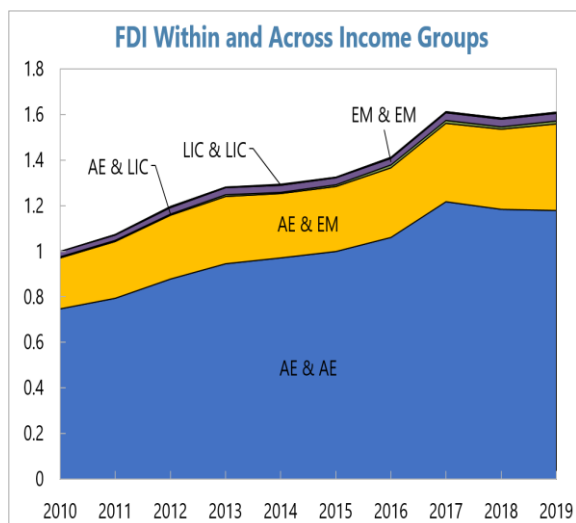


1/ Blue circles are members of portfolio communities and green circles are members of FDI communities. Different shades of the same color reflect different communities within the same network. See footnote at the end of the box for an explanation of the clique percolation method.

Box 2. Network Analysis of Global Integration (Concluded)

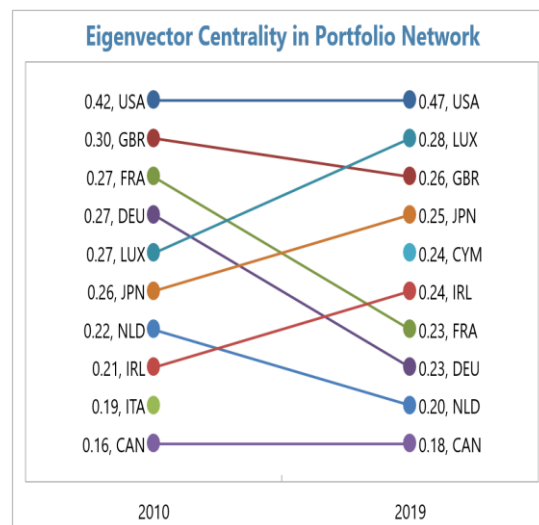
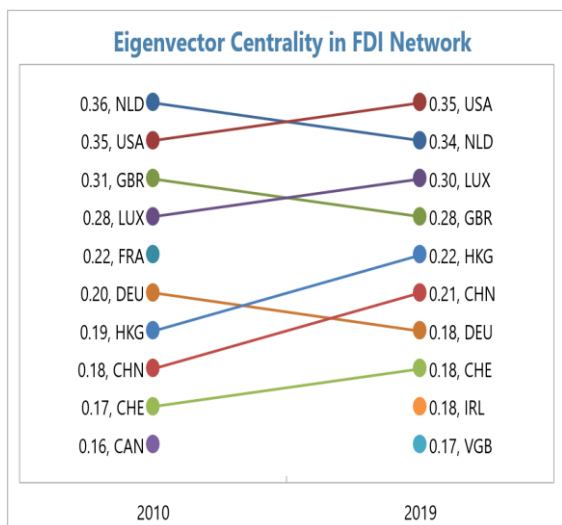
The contribution of EMs to the global FDI stock has increased, ...

...while AEs continue to dominate portfolio investment.



The systemic importance of economies in the FDI network has experienced some reshuffling, with financial hubs and China rising up.

Reordering in systemic importance has also taken place in the portfolio network, but AEs remain in top positions



Notes: The Clique Percolation Method is an algorithm developed by Palla et al. (Palla, et al. 2005) and has previously been used in IMF policy papers on interconnectedness (IMF 2012c) and on identifying jurisdictions with systemically important financial sectors for the financial sector assessment program (IMF 2013). It allows to identify an unknown number of potentially overlapping clusters (i.e., strongly interlinked economy groups) with varied membership size. See (Youssef 2012e) for more detail. Eigenvector centrality measures the centrality for a country based on how important the economies it connects to are, accounting for the strength of the connection. See (Bonacich 1986) or (IMF 2010c) for further details.

Sources: Direction of Trade Statistics, UNDESA Population Division, Coordinated Direct Investment Survey, Coordinated Portfolio Investment Survey, staff calculation.

B. Goal and Scope of the Fund’s Spillover Coverage

10. Spillover analysis has become an integral part of the Fund’s surveillance work.² Calls for more Fund work on spillovers date back to at least the 1990s, when the Asian financial crisis demonstrated the significance of cross-border linkages. This has only intensified with the global financial crisis, trade tensions, political uncertainty and rising urgency of addressing climate change. By virtue of its universal membership, the Fund is uniquely placed to monitor and assess international spillovers from exogeneous shocks and policies, advise on how to achieve global economic and financial stability (a global public good), and serve as a forum where members discuss each other’s policies and collaborate.

11. The Fund’s coverage of spillovers is grounded in the Articles of Agreement as laid out in the Integrated Surveillance Decision (ISD) (IMF 2012a). From a multilateral surveillance perspective, the Fund has the obligation to oversee the international monetary system to ensure its effective operation (Article IV, Section 3(a)). The Fund’s multilateral surveillance therefore focuses on outward spillovers arising from policies of individual members that may significantly influence the effective operation of the international monetary system, for example by undermining global economic and financial stability. From a bilateral surveillance perspective, the Fund has the obligation to assess members’ compliance with their undertaking to collaborate with the Fund and other members to assure orderly exchange arrangements and to promote a stable system of exchange rates (Article IV, Section 1). Because such systemic stability is most effectively achieved by each member adopting policies that promote its own stability, the Fund focuses its bilateral surveillance on those policies that can significantly influence present or prospective balance of payments and domestic stability. Accordingly, it covers the actual or potential impact of inward spillovers on a member’s economic and financial stability. The objective and scope of coverage of both inward and outward spillovers are elaborated in a Triennial Surveillance Review (TSR) background study (IMF 2014b) and the Surveillance Guidance Note (IMF 2015).

12. The Fund’s coverage encompasses both ends of spillovers—source and recipient countries (see Table 1). On the receiving side, the Fund should assess the impact of developments and policy actions in other countries and global markets on a member’s economic and financial stability (inward spillovers) when it supports members in achieving balance of payment (BOP) or domestic stability. On the producing side, the Fund should examine spillovers from a member’s policies in two circumstances: (i) if a member’s policies are not promoting its own stability; or (ii) if the member’s policies are promoting its own stability, but they could nevertheless significantly affect global stability.³ The Fund cannot require members to change their policies when these promote the

² Based on (IMF 2010b) and (IMF 2014b).

³ Judgment is required to assess whether a country’s policies are sufficiently powerful to affect global stability. Outward policy spillover should be covered if by themselves, or in combination with spillovers from other members’ policies, or through their regional impact, they would enter the macrofinancial policy considerations of members representing a significant portion of the global economy. Spillovers with smaller impact can also be discussed on a voluntary basis unless the member objects (IMF 2015).

member’s own stability but may recommend policy alternatives that would improve global stability when possible, while continuing to promote the member’s own stability.

13. The scope for the Fund’s coverage of spillovers is anchored in domestic or global macroeconomic stability. The Fund’s surveillance comprises actual and potential inward and outward spillovers that arise through all relevant channels (BOP or non-BOP, e.g., contagion, or market pricing effects). Given the role of surveillance, the Fund’s spillover work focuses on spillovers with adverse impact. However, staff may also discuss positive spillovers. There is no explicit guidance over which time horizon the impact of spillovers should be evaluated. Yet, the potential for diverging short- and longer-term impacts and the aim of ensuring current and future stability highlight the need to consider the expected accumulated impact over time where relevant and realistically assessable. The range of significant outward policy spillovers includes those from members’ exchange rate and domestic economic and financial policies. This definition allows to consider relevant policies that can affect macroeconomic stability at the domestic or global level, which also motivates the Fund’s analysis of climate change mitigation policies (see background paper *Integrating Climate Change into Article IV Reports*).

Examples of Types of Spillovers	Inward Spillover (AIV Consultation)	Outward Spillover (AIV Consultation)	Multilateral Surveillance Products	Example of IMF Coverage
Policy spillover that impacts few countries (e.g., immigration policy).	✓			AIV Staff Report Dominican Republic (2019) – <i>Impact of US migration policy on remittance flows</i>
Global development with wide impact (e.g., fluctuation in commodity prices; inflation surprises leading to tighter financial conditions).	✓		✓	WEO (April 2018) – <i>Shared productivity growth</i>
Policy spillover with wide impact but domestically beneficial (e.g., China’s rebalancing towards more sustainable growth; appropriate monetary tightening in large AEs).	✓	✓	✓	WEO (October 2016) – <i>China’s transition</i>
Policy spillover with wide impact and significant spillbacks (e.g., insufficient containment measures for pandemic; accommodative monetary policies in AEs that provided room for EMDEs to loosen their monetary policies during the pandemic)	✓	✓	✓	WEO (April 2021) – <i>Monetary Policy Spillovers During the Recovery from COVID-19</i>

14. The COVID-19 pandemic has reconfirmed the usefulness of the Fund’s flexible spillover coverage and its critical role in providing spillover analysis as a public good. The COVID-19 pandemic has underscored the need to allow for broad and flexible coverage of spillovers, e.g., from health and containment measures and through new channels such as

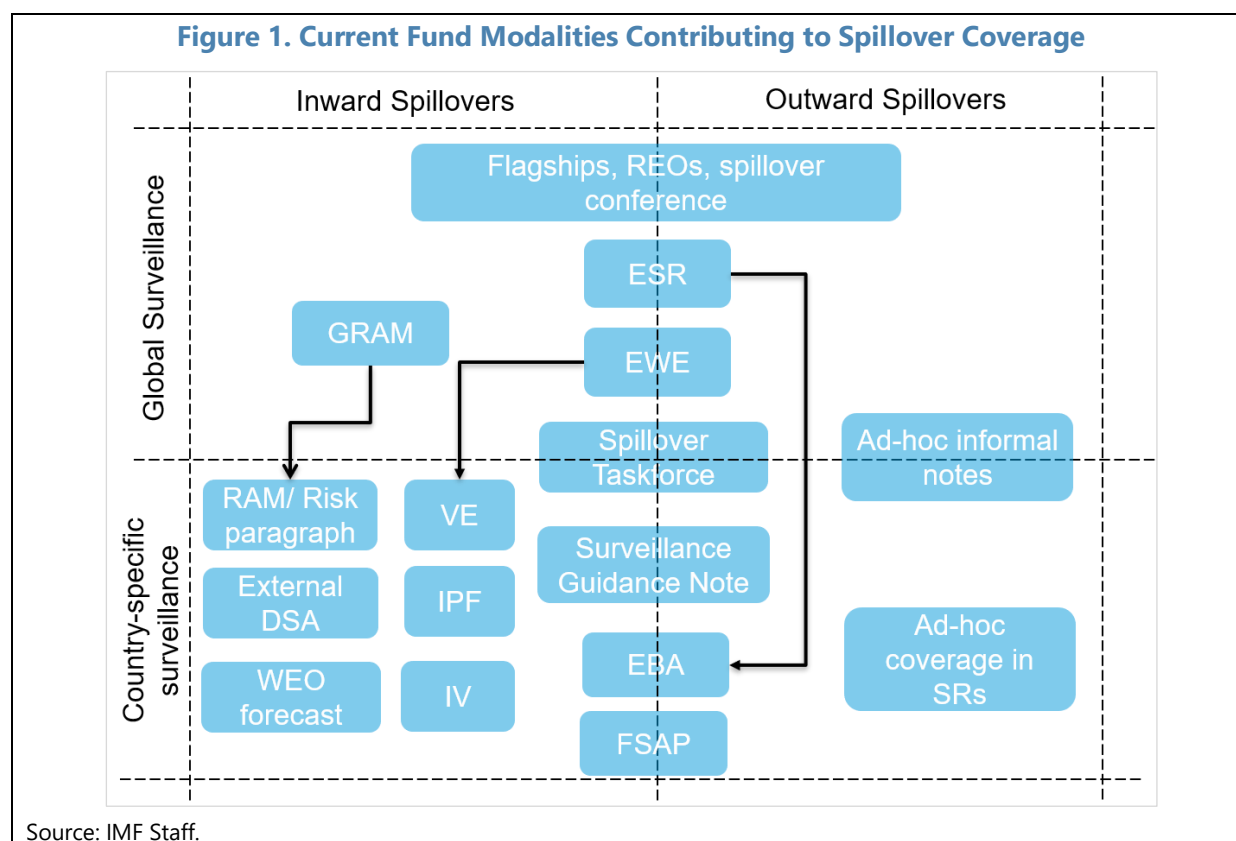
international movement of people. It has also highlighted the criticality of monitoring potential spillovers and exposures, as high uncertainty and rapid spread of the virus leave little time to design and coordinate mitigating measures. Furthermore, it has demonstrated the importance of analyzing positive spillovers, in particular global gains from their interaction. This arose e.g., with regards to (i) massive unconventional monetary policy accommodation by advanced economies' central banks in mid-March 2020 helping to support confidence and generating the room for monetary easing by other emerging market and developing economies; (ii) the need to internalize the positive spillovers that individual members' disease containment confers on the world; and (iii) the recovery where benefits of a fiscal infrastructure push will be particularly large when carried out in a synchronized way (IMF 2020b). Finally, the Fund has to play a critical role in monitoring financial stability risks that are accumulating during the current crisis and could have significant spillover effects.

15. Looking beyond the pandemic, accelerating technological change will also impact the international monetary system and thereby raise the need for the Fund to step up its spillover work. There is a vast range of technological developments in the near-term horizon with implications for the core areas of the Fund's spillover coverage. Such developments include the rise of digital assets, including central bank digital currencies (CBDCs), and various crypto assets such as the so-called global stable coins (GSCs) proposed by large technological companies or platforms (IMF 2020n); novel forms of financial intermediation, such as mobile payments and transfer systems and peer-to-peer (P2P) lending; and technological improvements to the financial infrastructure through the use of artificial intelligence (AI) and machine learning. Much of this can, in turn, be expected to impact on capital flows, global imbalances and their adjustment mechanisms; and reserve assets and the Global Financial Safety Net (GFSN).

C. Previous and Ongoing Fund Work

16. The Fund has a range of modalities and tools to cover spillovers. Flagship reports have extensive coverage of global spillovers, while Article IV staff reports often discuss inward spillovers. Various outward policy spillovers were also discussed in recent staff reports of the systemic five. A range of frameworks and tools are also in place that directly or indirectly support spillover coverage (see Figure 1 for an overview of existing modalities).

17. Coverage of spillovers in multilateral products is extensive. Since 2011 the Fund has published spillover reports and notes as part of its multilateral surveillance, shifting over time from a focus on key systemic economies to a more thematic approach (see Box 4). These efforts have culminated in the WEO spillover chapter, which has been published annually since 2016 and has made important contributions to the development and application of a wide range of methodologies for spillover analysis and to the study of new types of spillovers (see Box 5). In addition to the specific WEO chapter, spillovers have also been covered in chapter 1 of the WEO and the GFSR and other products (e.g., ESR, REOs). Finally, there is an annual spillover conference organized jointly with the Bank of England, the Bank for International Settlements, and the ECB, to support research in this area.



18. However, the global analysis is not sufficiently finding its way into country-specific surveillance and available tools and data are not applied systematically. Interviews with mission chiefs (see Annex) suggested that flagships might be too technical and insufficiently country-specific to be used in bilateral AIV discussions and that it would also be useful to extend the application of existing models developed by functional departments to more emerging market and low-income countries. They also pointed towards an analytical gap regarding spillbacks and alternative policy choices for spillover-producers, which hinders meaningful engagement with authorities who often focus primarily on achieving domestic stability mandates. Lastly, while the Fund’s multilateral analytical work does well in applying various methodologies to enhance the robustness of specific results, there is further need for general meta- and post-mortem analysis to assess and improve empirical approaches and build a consensus regarding the impact of different spillovers (Mishra and Rajan 2018).

Box 3. Chronology of the Fund's Spillover Work

While identifying and analyzing cross-border spillovers has always been integral to the Fund's surveillance work, efforts to systematically consider spillover issues and give them greater prominence started with the **2010 Review of the Fund's Mandate** (IMF 2010b, IMF 2010a) and the **2011 Triennial Surveillance Review** (IMF 2011). In response to the Global Financial Crisis, a period of exceptional systemic stress and contagion, the TSR called for Fund surveillance to be as interconnected as the global economy itself. The adoption of the **2012 Integrated Surveillance Decision** provided the basis for more effective and relevant surveillance in a highly integrated world economy by setting clear expectations for the practice of both bilateral and multilateral surveillance. Integrating and deepening risk and spillover analysis was also a key focus of the **2014 Triennial Surveillance Review** (IMF 2014a) as they remained a first-order issue in the post-crisis world. Internally, this work is overseen by a spillover task force comprising senior staff from area and functional departments, currently anchored in the Research Department. The coverage of globally systemic spillovers has evolved over time:

- From 2011 to 2013 **spillover reports** focused on the external effects of domestic policies in five systemic economies (China, the euro area, Japan, United Kingdom and the United States). Analytical work for spillover reports was documented in background papers that were issued jointly with the reports.
- From 2014 to 2015 these **spillover reports** shifted to a more thematic approach, focusing on key spillover issues chosen based on their conjunctural relevance from a spillover perspective. Technical analysis on spillover issues was documented in a series of spillover notes issued throughout the year.
- Since 2016 global spillover analysis migrated to a **special annual WEO chapter** to allow for a more systematic approach to dealing with conjunctural spillover issues and ensuring consistency between multilateral and bilateral surveillance. It also allowed the messages to be elevated and better integrated into the narrative on the global economy.

At the time of the **2018 Interim Surveillance Review (ISR)** (IMF 2018g), Executive Directors appreciated that better integration of bilateral and multilateral surveillance had resulted in a deeper understanding of global risks and spillovers in the flagship reports and an increased focus on inward spillovers in Article IV consultations. They noted that, while outward spillover work had been developed via a range of surveillance outputs, this work should be featured more prominently in Article IV consultations. They thus encouraged staff to make further efforts to understand and ensure a deeper and more consistent coverage of outward spillovers in surveillance, including through outreach with member countries. The **2019 IEO's review of Fund work in unconventional monetary policy** (Independent Evaluation Office 2019) had similar conclusions, noting that the Fund should continue to strengthen its work on cross-border spillovers, including analyzing further how finetuning the policy mix in source countries can alleviate adverse spillovers on recipient countries. It also recommended to make sure the Fund is at the forefront of financial spillover analysis and provision of advice on dealing with capital flows, drawing on its global multilateral mandate, universal membership, and breadth of country experience.

19. Spillover analysis has become an indispensable element of Article IV consultations.

Projected inward spillovers enter a country's baseline forecast through the WEO process that takes multiple rounds and common global assumptions. Potential inward spillovers are mostly examined in the Risk Assessment Matrix (RAM), the accompanying risk paragraph and External Debt Sustainability Analysis (DSA), which inspect sources of external risks and their expected impacts and provide policy advice. Moreover, in response to the ISR's call for more prominent coverage of outward spillovers in systemic countries' staff reports, recent reports have discussed outward spillovers from various policies and in some cases considerations for spillovers also factor into policy

recommendations (see Box 6). In addition, to achieve more external prominence on spillover topics, workshops on the Institutional View (IV) in Practice were held with country authorities at the 2020 Spring and Annual Meetings.

Box 4. WEO Spillover Chapters

The Macroeconomic Effects of Global Migration (April 2020, Chapter 4)

Both empirical findings and model simulations indicate that migration generally improves the macroeconomic outcomes of recipient economies. The “dynamic gains” from immigration, in the form of rising TFP and investment, can be attributed to the complementarity between the skills of immigrants and natives, and are large and quick to materialize.

The Drivers of Bilateral Trade and the Spillovers from Tariffs (April 2019, Chapter 4)

Based on both sectoral empirical analysis and general equilibrium simulations, this chapter identifies trade diversion effects when tariff changes are more discriminatory and less generalized across countries. While some countries may benefit from trade diversion, all will be affected by adverse confidence effects and tighter financial conditions as trade tensions escalate. Moreover, the chapter highlighted that costs from bilateral trade wars are larger due to more reliance on global value chains and provided evidence that bilateral trade balances have been largely driven by macro factors, undermining the arguments for a bilateral tariff war.

Is Productivity Growth Shared in a Globalized Economy? (April 2018, Chapter 4)

Using a combination of gravity model, panel regression, and other methodologies, this chapter shows that globalization has intensified the diffusion of knowledge and technology across borders, helping to spread potential growth among countries and boosting it at the global level. This productivity spillover is achieved by the international use of patents, trade and competition. The chapter also underscored the rise of China as a global innovator and the fact that technology spillovers are a two-way stream. This analysis was further used to estimate effects of tech wars between US and China.

Cross-Border Impacts of Fiscal Policy: Still Relevant? (October 2017, Chapter 4)

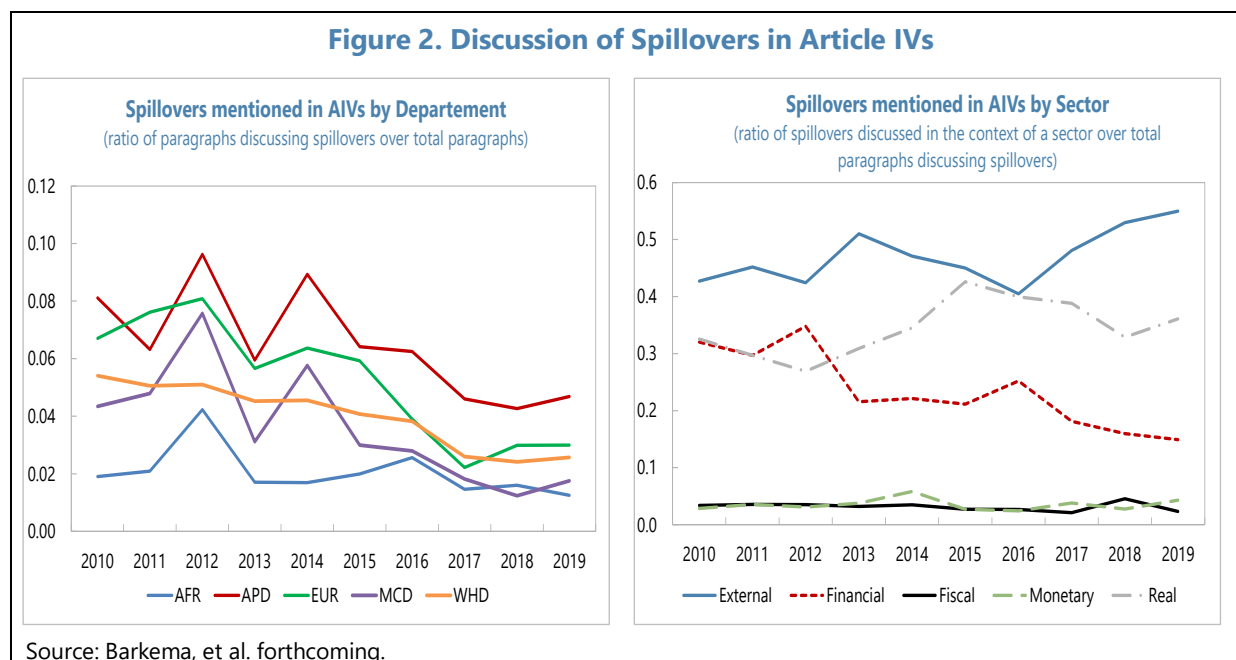
Using structural vector autoregression, a multi-region general equilibrium model (the IMF’s G20 Model) and a narrative approach, the chapter illustrates the relevance of fiscal spillovers today. Spillovers from fiscal policy tend to be large when domestic multipliers are also large, when associated with government spending shocks, and among countries with fixed exchange rates.

Spillovers from China’s Transition and From Migration (October 2016, Chapter 4)

Based on recent IMF publications and new analytical work, this chapter documents the spillovers of China’s transition and migration and discusses policy implications. China’s slowdown has spillover implications, through trade, commodity prices, and asset prices, whereas migrants have an impact on the labor force, public finance, social security, etc. of recipient countries. While the source and transmission channels of these spillovers vary, a common theme is that, despite the negative short-term impact on recipient economies, they offer potential gains in the long term if handled well.

20. Yet, Article IV consultations could improve the discussion of policy responses and create more opportunities for cross-country exchanges. A text analysis of IMF staff reports from 2010 to 2019 finds that the discussion of spillovers has been mixed over time despite the elevated global interconnectedness (see Figure 2) (Barkema, et al. forthcoming). In addition, surveys and interviews have highlighted that authorities would value more analysis of policy responses, greater

timeliness, and more coverage of outward spillovers (see Annex). To be able to do so, mission chiefs highlighted that notwithstanding access to state-of-the-art tools, there were gaps (e.g., models for sectoral analysis and technical models that can provide country-specific results). Mission chiefs and policy makers also saw scope to enhance the Fund’s role in facilitating informal dialogue among the membership, including by sharing of cross-country lessons and fostering timely exchange between spillover-producers and-receivers.



21. Various frameworks and tools have been developed that directly or indirectly support spillover analysis. Following the ISD and TSR (IMF 2014a), the 2015 Surveillance Guidance Note gives broad guidance on when and how to cover spillovers. In addition, the IV on the Liberalization and Management of Capital Flows (IMF 2012b) provides comprehensive guidance for the management of capital flows and the Integrated Policy Framework (IPF) is being developed to explore combined policy responses to exchange rate fluctuations and capital flows (IMF 2020c). The External Balance Assessment (EBA) model and External Sector Reports (ESR) provide multilaterally consistent estimates of the contribution of domestic and foreign policies to current account imbalances and the Global Risk Assessment Matrix (G-RAM) has supported consistency of the discussion of potential inward spillovers. The network models and contagion analysis applied by FSAP teams represent important resources to assess cross-border financial linkages and have also been used in Article IV surveillance (IMF 2017b, IMF 2019g).

22. Despite these important developments, gaps remain with regard to more practical guidance and tools for outward spillover analysis. While the Surveillance Guidance Note provides a list of questions to ask for spillover analysis, it is by definition static in nature and thus unable to redirect the focus of the institution to specific sources of spillovers that are most currently germane in any given period. It also does not provide practical guidance on how to answer them (e.g., how to

evaluate and quantify transmission channels and interaction of multiple spillovers or how to develop alternative policies). Furthermore, mechanisms to allow for discussions of incipient outward policy spillovers with the membership are currently missing.

Box 5. Coverage of Spillovers in 2018–19 Staff Reports for Systemic Countries

China 2018 and 2019: Discussed (i) spillovers to the global economy from a disruptive adjustment to Chinese demand through commodity prices and financial markets; and (ii) global repercussions from the U.S.-China trade dispute and how macroeconomic policies should respond to rising trade tensions under the baseline, adverse, and upside scenarios, including the need to limit adverse spillovers from its own policies and work with partners to build a stronger multilateral system. The RAM includes potential global spillovers from weaker-than-expected growth.

Euro Area 2018 and 2019: Discussed spillovers from global trade tensions, the political uncertainty in Italy, and the potential impact of Brexit. Argued for coordinated implementation of digital services taxation to limit spillovers. The RAMs discuss inward spillover risks, including from geopolitical uncertainties, a disorderly Brexit, and a significant slowdown in China.

Japan 2018: Discussed (i) the possibility that Japan's accommodative monetary policy amid rising global interest rates could amplify outward spillovers via FDI, portfolio outflows, increasing unhedged carry trade positions, and a potential sharp reversal of these positions; and (ii) inward spillovers from the escalation of trade tensions. The RAM covered potential inward spillovers from a slowdown in China.

U.K. 2018: Focused on potential outward spillovers from Brexit, illustrating several scenarios. The RAM discussed inward spillovers from a slowdown in the Euro Area and China.

U.S. 2018 and 2019: Discussed (i) outward spillovers from budget and tax policy, tightening of financial conditions, and uncertainty around trade; (ii) potential negative global spillovers from a policy-induced recession, outward spillover risks from expansionary fiscal policy, monetary policy tightening, tax policy, and trade policy; and (iii) spillovers from the US-China trade tensions, outward negative spillover risks from U.S. financial conditions, positive outward spillovers from the U.S. oil and gas sector becoming a global shock absorber, and spillovers from U.S. fiscal and monetary policy. The RAM discussed potential inward spillovers, including from a significant China slowdown and a disorderly Brexit.

23. Internal processes have also been developed to support surveillance of spillovers, but gaps remain. The Early Warning Exercise (EWE) and Vulnerabilities Exercise (VE), which are internal processes to analyze global tail risks and assess individual countries' vulnerabilities, enrich the IMF's perspectives on systemic risks and enhance its crisis prevention capabilities. The interdepartmental Spillover Task Force, chaired by the research department and comprised of senior staff from different departments, coordinates spillover work across the institution, identifies spillover issues and informs multilateral surveillance. However, surveys and interviews among staff have highlighted that information-sharing, peer learning, and internal coordination could be further strengthened.

24. The Fund's spillover analysis has broadened in scope and added regional specificity to meet new challenges. As non-core issues (e.g., migration, climate change) become increasingly relevant to global stability, they have been integrated into the IMF's spillover analysis to develop an adequate understanding of how these risks can be managed. For example, a series of staff discussion notes have focused on the refugee surge in Europe and its channels of impact (Aiyar, et al. 2016a, Atoyán, et al. 2016b). More recently, trade conflicts have brought tariffs and taxation to

the center stage of the global policy agenda (Cerruti, et al. 2019). As policy spillovers and external shocks increasingly proliferate on a regional scale, Regional Economic Outlooks, e.g., (IMF 2019f), by adding a regional perspective to the flagships, have made efforts to bridge the gap between bilateral and multilateral surveillance.

25. During the COVID-19 pandemic the Fund’s spillover work has broadened from analyzing individual country spillovers and policy responses to analyzing the global equilibrium. At an early stage of the outbreak, internal work focused on identifying potential global repercussions of the initial outbreak and optimal policy responses. The WEO process also provided detailed guidance on how to incorporate the various shocks in individual forecasts to ensure consistency. In parallel, staff published a range of practical notes on how to respond to the different shocks⁴ with some of the work taking a multilateral perspective, considering spillovers (e.g., from foreign exchange interventions and CFM) and highlighting the need for cooperation. Flagships also highlighted the need for multilateral efforts (IMF 2020m). Staff also made use of high-frequency data (e.g., SWIFT, radio signals of the global vessel fleet) to ensure the timely assessment of spillovers. More recently, Article IV consultations have restarted with initial staff reports discussing spillovers and the difficulties of assessing them (see Box 6).

26. At the same time, the COVID-19 pandemic has exposed limitations of analytical tools and lack of data. While spillover discussion in AIV staff reports has continued, the COVID-19 pandemic has highlighted the need to continue expanding the research frontier covering new spillovers and channels and developing new tools. In addition, the crisis has underscored the criticality of addressing limited coverage and low frequency of certain data, which is needed to quickly assess the potential impact of spillover and policy responses (e.g., bilateral flows of remittances and services, foreign exchange interventions, residency of holders of external debt).

Box 6. Spillover Discussion in Article IV Staff Reports Since the Start of the COVID-19 Pandemic

United States 2020 Article IV Consultation Staff Report

In response to the pandemic, the efforts by the Fed to lower federal funds target range were effective in rapidly normalizing liquidity conditions and market functioning in key fixed income markets. This also had positive spillover effects by easing financial conditions globally and increasing access to new loans for a range of overseas sovereign and corporate borrowers.

Sierra Leone 2020 Article IV Consultation Staff Report

Against this background of dramatic daily changes in COVID-19 cases globally, estimates of the potential fiscal costs to cushion the economic spillovers are not yet available. The authorities look forward to continued Fund engagement to monitor the wider implications of COVID-19 and explore ways to minimize economic spillovers.

⁴ For example, IPF during COVID, fiscal policy and financial surveillance for oil exporters experiencing a large drop in oil prices, debt management under sharp increases in borrowing costs.

Box 6. Spillover Discussion in Article IV Staff Reports Since the Start of the COVID-19 Pandemic (Concluded)

Comoros 2020 Article IV Consultation Staff Report

The pandemic is likely to transmit to Comoros through the following channels: lower growth in Europe may translate into lower remittances inflows; lower international travel is likely to result in lower tourist arrivals; lower international travel is likely to result in lower tourist arrivals; China’s participation in public investment projects could be temporarily halted with adverse impacts on growth; the tightening in global financial conditions and the possible temporary disruption of global value chains centered on China would likely have little direct impact. While these spillovers are likely to have a noticeable adverse impact, the damage would likely be much greater if the pandemic reaches Comoros, as appears increasingly likely.

Belgium, Columbia, Jordan, Malta, Panama, San Marino 2020 Article IV Consultation Staff Reports

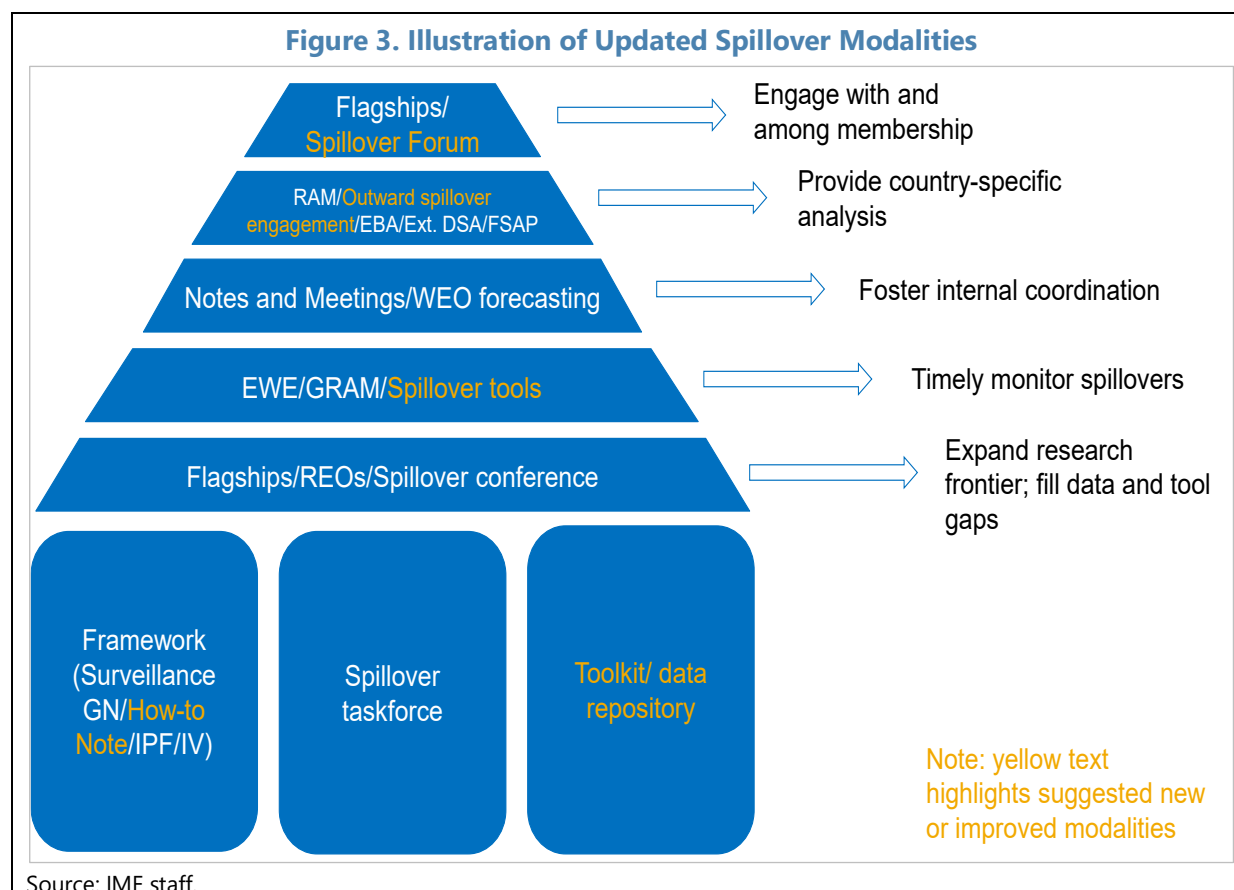
In their respective RAMs, high risks associated with coronavirus outbreak have been identified, including widespread and prolonged disruptions to economic activity and global spillovers through tourism, supply chains, containment costs, and confidence effects on financial markets and investment.

OPERATIONAL CONSIDERATIONS

27. Filling remaining gaps in the Fund’s spillover work would allow for more coordinated and evenhanded coverage of spillovers (see yellow text in Figure 3 for suggested new or improved modalities). To ensure a well-functioning surveillance process, three basic pillars need to be in place of which much already exists (see section Previous and Ongoing Fund Work). These include a comprehensive framework that also provides practical guidance, a Spillover Taskforce that holds regular consultations and coordinates spillover work in the Fund, and a repository of existing tools and data to enhance knowledge management. With this foundation in place, the various spillover products can serve their specific surveillance role:

- Flagships and other research outlets continue to expand the research frontier covering new spillovers and channels and developing new tools and data sets aiming to build consensus regarding the impact of different spillovers .
- Existing and new monitoring tools flag actual and potential spillovers to staff in country teams, review, and the Spillover Taskforce to ensure timely identification of spillovers.
- Internal coordination to ensure consistency and foster information-sharing and peer learning remains anchored in the WEO forecasting process and the Spillover Taskforce, with the latter aggregating past and ongoing work in the repository (bottom-up) and commissioning notes or meetings (top-down), e.g., to discuss a global equilibrium of policies and how to engage relevant authorities on the issue.
- Existing (RAM, EBA, external DSA and FSAP) and potentially new products will continue to provide country-specific analysis, thereby ensuring key spillovers at a given juncture are consistently covered.

- A new spillover forum that complements the flagships' spillover work in engaging with and among the membership would allow to share cross-country lessons and foster timely exchange between spillover-producers and-receivers.



28. This updated spillover concept would entail the following new or updated modalities:

- **An informal Spillover Forum** during the Annual or Spring Meetings to strengthen the dialogue on spillovers between country authorities and share experiences and views from spillover-producers and -receivers. The high-level closed-door forum would be anchored around one to two pressing spillover issues with staff providing supporting technical analysis as needed to foster informal dialogue among policy makers. By focusing on incipient spillovers on the horizon (e.g. spillover implications of potential policy changes being considered in major economies but not yet too far advanced), they would be forward-leaning rather than on discussing spillovers that may already be playing out, which is often the case in Article IV reports. They would also complement, rather than substitute for the EWE exercise, which has both a wider scope and greater focus on tail risks and would speak to the gap at the Fund relative to other institutions (see Annex on discussion with senior policy makers).
- There may also be merit in developing an **institutional level understanding** on the types of spillovers that are relevant to consider at a given juncture, and the channels through which they

are likely to operate which would strengthen the link between bilateral and multilateral surveillance.

- **Further development of tools and data to identify exposures and spillovers.** This could include tools to simplify access to country-specific exposure data and spillover estimates.
- **More detailed guidance**, e.g., in form of a live how-to note, that provides practical guidance on (i) coverage of inward and outward spillovers; (ii) design of alternate and mitigating policies including good practice examples; and (iii) selection and application of methodologies and data; and (iv) internal responsibilities of country teams, reviewers and the Spillover Taskforce.
- **A toolkit and data repository** that collects and organizes past and ongoing spillover work, with a focus on making analytical tools and data accessible to facilitate their reuse.

29. The implementation of new and updated modalities suggested in this note should be gradual. Given resource constraints (for costing see Background Paper Modalities for Modernizing Surveillance), implementation should be sequenced and reviewed and adjusted during the process. One could start with the spillover forum and further exploration of a potential product to support engagement on outward policy spillovers in Article IVs. Based on the initial experience these could then be further expanded and revised. The how-to-note could then be drafted based on the needs identified in the implementation process. The repository should be initiated as soon as possible and continuously maintained as it could provide valuable savings by sharing existing methodologies, models and data across the institution.

Annex I. Structured Interviews with Policymakers and Fund Staff on Spillover Issues

1. This annex summarizes the key takeaways from consultations with senior policymakers and IMF mission chiefs for the systemic five (S5) and six other economies. The latter are geographically diverse, at different stages of economic development, and are exposed to various sources of spillovers. Policymakers primarily included current and former senior central bank officials.¹ The interviews took place between May and September of 2019.

A. The Approach to Spillovers

2. S5 policymakers were keenly aware of spillovers while emphasizing the primacy of their domestic mandates for the conduct of monetary policy. They noted that due to the need to focus on domestic mandates, cross-border spillovers from monetary policy were not always central in the policy formulation process. Spillovers are usually considered when (i) policies generate spillbacks, in which case the estimated impacts are integrated into projections and considered in policy decisions; or (ii) policies could affect global financial stability. In the latter case, policymakers mentioned the importance of communication to their counterparts in other countries and to markets to avoid market disruptions. In general, IMF mission chiefs shared this perception. However, they also noted that policies in areas other than monetary (such as foreign public investment programs) may have limited domestic impacts but significant cross-border spillovers, and in such cases possible tensions with domestic policy mandates were less relevant.

3. Policy spillovers from systemic economies are major concerns for policymakers in spillover-receiving countries. They pointed to several significant spillovers that they had had to grapple with that arose from monetary and fiscal policy decisions in major economies. They also noted other policies affecting oil and food prices, as well as trade and immigration that had had impacts on their economies. Spillover receivers emphasized sound policies, resilience building (e.g., through structural reforms) and access to the global financial safety net as mitigants for the spillovers they faced. They noted that spillovers could intensify in the period ahead, in particular, to EMDEs moving toward greater exchange rate flexibility and deeper integration into international financial markets.

B. Quality of Engagement

4. S5 authorities confirmed that outward spillovers featured in their discussions with Article IV teams, albeit somewhat peripherally. They indicated high appreciation for the analytical

¹ Policymakers: Janet Yellen (U.S.), Servaas Deroose (European Union), Peter Praet (Eurozone), Sir Jon Cunliffe (U.K.), Hiroshi Nakaso (Japan), He Jianxiong (China), Pedro Rodrigo Goncalves Castro e Silva (Angola), Agustin Carstens (Mexico), Viral Acharya (India), Per Callesen (Denmark), and Philip Abradu-Otoo (Ghana). IMF mission chiefs: Nigel Chalk (U.S.), Mahmood Pradhan (Euro Area), Dora Iakova (U.K.), Paul Cashin (Japan), James Daniel (China), Nelson Sorbinho (Angola), Costas Christou (Mexico), Ranil Salgado (India), Miguel Segoviano (Denmark), Carlo Sdravovich (Ghana), and Natalia Tamarisa (U.A.E.).

work done by the Fund, including in the WEO spillover chapter and the multilateral perspectives provided by the Fund during Article IV consultations. They nevertheless also emphasized that more work could be done by the Fund on understanding spillover channels and spillbacks as well as spillovers from structural policies. They also remarked that discussions with Fund teams seldom included proposals for alternative policies. Fund mission chiefs reported that the authorities were open to discussing spillovers, including country-specific results from the analysis in multilateral reports.

5. Spillover-receiving countries welcomed discussing spillover issues with the Fund. They considered the engagement with Article IV teams on spillovers to be helpful and informative, with multilateral reports (in particular the WEO spillover chapter) especially insightful. On their part, mission chiefs also confirmed the authorities' high engagement on discussions of inward spillovers and their interest in the Fund's work. Mission Chiefs proposed publication of country-specific results in the WEO chapter on spillovers as a means to enhance the dialogue on spillovers with their country authorities.

C. Internal Collaboration on Spillovers

6. Mission Chiefs for spillover producing countries appreciated the institutional support provided to them. They noted extensive collaboration and analytical support from functional departments on issues such as monetary and trade policy (RES/SPR), fiscal policy (FAD) or financial de-risking (MCM), as well as collaboration between some country teams. In two cases, the teams organized internal seminars or external conferences on spillover issues.

7. Mission chiefs for spillover-receiving countries noted that the analysis of spillovers seldom benefited from collaboration, and this could be improved. Teams study the multilateral reports, staff reports of major economies, and engage with other country teams, especially those of relevant economies in the region. Some considered the technical and insufficiently country-specific nature of the WEO spillover chapter to be constraints to more effective dialogue. They also felt that coordination on spillover analysis and dissemination of results within the Fund could be improved. And notwithstanding access to state-of-the-art tools, there were gaps (e.g. models for sectoral analysis, technical models that can provide country-specific results). It would also be useful to extend existing models developed by functional departments to more emerging and low-income countries. The lack of expertise in certain areas, such as Fintech and de-risking, was highlighted as well. Finally, mission chiefs noted that the analysis of spillovers by both functional departments and country teams is constrained by resource and time availability.

D. The Fund's Role in Facilitating Dialogues

8. Policymakers and mission chiefs for spillover-producing economies saw much potential for the Fund to take a greater role in facilitating dialogue across the membership. Policymakers noted that there are already several opportunities for larger countries to engage on spillover issues, including at G-20 meetings or the BIS bi-monthly meetings of central bank

governors but pointed to the benefits to spillover discussions that the Fund brings through its universal membership. Some also saw a role for the Fund to play a bigger role in providing analysis and insights on spillovers at these other fora. Smaller countries would like to have more opportunities to express their views and concerns as well as hear the spillover producers' points of view. Mission chiefs saw benefits to organizing informal discussions (at either policy or technical levels) during the spring or annual meetings where the authorities could discuss spillover issues, with the Fund providing analysis.

E. Future Spillovers

9. Mission chiefs saw several sources of spillovers as potentially impacting on their countries in future. They expected spillover issues to arise from policies related to demographics/immigration, financial regulation, and climate change. Potential spillovers from the banking sectors in Europe and the UK were additional concerns alongside Fintech and the increasing footprint of China, especially if it were to open up its capital account.

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