

Climate-proofing the Global Financial Safety Net*

Ulrich Volz

SOAS University of London

German Development Institute

Although climate change poses a serious threat to macrofinancial stability and economic development, the global financial safety net has so far failed to address this challenge. This paper reviews the extent to which the International Monetary Fund (IMF) has started to integrate climate change in its analytical and operational frameworks, showing significant shortcomings in addressing the risks emanating from climate change. Regional financing arrangements (RFAs) have to date not engaged or only very little in addressing climate-related risks. Against this backdrop, this paper argues that the IMF and also RFAs need to climate-proof their policies and frameworks and puts forward seven recommendations: (i) mainstream systematic and transparent assessments of climate-related financial risks in all operations; (ii) introduce consistent, systematic, and universal appraisal and treatment of physical climate risks and transition risks in surveillance and monitoring for all countries; (iii) advance disclosure of climate-related financial risks and promote sustainable finance and investment practices; (iv) support member countries in mainstreaming climate risk analysis in public financial management; (v) support climate-vulnerable countries in dealing with debt sustainability problems; (vi) develop lending instruments for climate emergency financing; and (vii) in the case of the IMF, explore options to use SDRs to support climate vulnerable countries.

Keywords: Global financial safety net, International Monetary Fund, climate-related macrofinancial risks.

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1. Introduction

Climate change is one of the greatest challenges facing humanity. A growing body of literature has shown that the physical and transition impacts of climate change pose material risks to macrofinancial stability (e.g. NGFS 2019, Bolton et al. 2020, Semieniuk 2020) and ultimately sovereign risk (Volz et al. 2020a). Importantly, climate-related macrofinancial risks threaten not only small island development states but also larger and more advanced economies.

Climate change should therefore be a prime concern for the institutions that form the global financial safety net (GFSN), including the International Monetary Fund (IMF) as well as regional financing arrangements (RFAs) such as the Arab Monetary Fund, the Chiang Mai Initiative Multilateralisation with its surveillance unit ASEAN+3 Macroeconomic Research Office, the Eurasian Fund for Stabilization and Development, the European Stability Mechanism, and the Latin American Reserve Fund.¹ The IMF has only recently come to recognise that climate change may be a “macro-critical” factor, that is, crucial to the achievement of macroeconomic and financial stability, which is at the core of the Fund’s mandate. In 2015, the IMF recognised climate change as an “emerging structural issue”. In November 2015, then Managing Director Christine Lagarde acknowledged that “[t]he Fund has a role to play in helping its members address those challenges of climate change for which fiscal and macroeconomic policies are an important component of the appropriate policy response.” In October 2019, new Managing Director Kristalina Georgieva made clear right at the start of her tenure that she considers climate change a key responsibility for the IMF. Since then, she has made countless statements on the importance of climate change for the IMF. At the operational level, however, the Fund has been slow to address climate-related macrofinancial risks. Among RFAs, there has been to date very little or no engagement at all with climate-related risks.²

This paper reviews the extent to which the IMF has started to integrate climate change in its analytical and operational frameworks and puts forward an operational agenda for the IMF as well as RFAs to support their membership in better managing and mitigating climate-related risks. The paper argues that, going forward, the IMF and RFAs should (i) mainstream systematic and transparent assessments of climate-related financial risks in all their operations; (ii) introduce consistent, systematic, and universal appraisal and treatment of physical climate risks and transition risks for all countries in Article IV consultations and FSAPs in the case of the IMF and comparable surveillance and monitoring exercises in the case of RFAs; (iii) advance disclosure of climate-related financial risks and promote sustainable finance and investment practices; (iv) support member countries in mainstreaming climate risk analysis in public financial management; (v) support climate-vulnerable countries in dealing with debt

¹ The global financial safety net also comprises bilateral or multilateral central bank swap arrangements. See, for instance, McKay et al. (2011).

² The Arab Monetary Fund published “General Guidelines for Central Banks to Deal with the Implications of Natural Disasters and Climate Changes on Banking System and Financial Stability” in June 2020 (AMF 2020). The AMRO dedicated three pages of its *ASEAN+3 Regional Economic Outlook* to climate change in April 2020 (AMRO 2020).

sustainability problems; (vi) develop lending instruments for climate emergency financing; and (vii) in the case of the IMF, explore options to use SDRs to support climate vulnerable countries.

The paper is structured as follows. Section 2 reviews how the IMF has so far addressed climate-related risks in its analytical and operational work. Section 3 discusses options for the IMF as well as RFAs to incorporate climate risks into their operational frameworks and thereby climate-proof the GFSN. Section 4 concludes.

2. The IMF and climate change

“At the IMF we recognize that the climate actions we take in our institution and globally are paramount for our future. We have embraced climate in everything we do.” – Kristalina Georgieva, December 2020

The IMF recognised climate change as an emerging structural issue in 2015 (Bretton Woods Project 2019). In November 2015, Christine Lagarde, the IMF’s Managing Director at the time, acknowledged that “[t]he Fund has a role to play in helping its members address those challenges of climate change for which fiscal and macroeconomic policies are an important component of the appropriate policy response” (Lagarde 2015: 1). Lagarde asserted that, while the Fund is “is not an environmental organization [...] climate change poses significant risks for macroeconomic performance and several of the appropriate policy responses lie within the Fund’s expertise” (ibid.). Lagarde identified six roles that the Fund should play: (i) analytical work; (ii) technical assistance, surveillance and training; (iii) promoting dialogue, (iv) integrating natural disaster risks and preparedness strategies in macroeconomic forecasts and debt sustainability analyses; (v) helping countries incorporate adaptation strategies in medium-term budget frameworks; and (vi) working closely with other institutions to encourage consistent climate-related disclosures, prudential requirements, and stress testing for the financial sector (Table 1).³

Table 1. The IMF’s role in addressing climate change according to Christine Lagarde, 2015

Analytical work underpins the Fund’s contributions	The IMF draws on the specialist analysis of others contributing within their mandates (e.g., the Intergovernmental Panel on Climate Change, the International Energy Agency, the World Bank) and focuses on the practical design and administration of fiscal instruments for climate policy and broader energy policy. For example, Fund staff work has quantified, for over 160 countries, the environmental, fiscal, and economic benefits of energy pricing reform, including the removal of subsidies. This information helps policymakers craft the specifics of legislation to meet environmental and fiscal objectives and enlightens stakeholders on the case for reform. An overarching issue, which staff intends to analyze, is the growth impact of transitioning to a less carbon-intensive economy.
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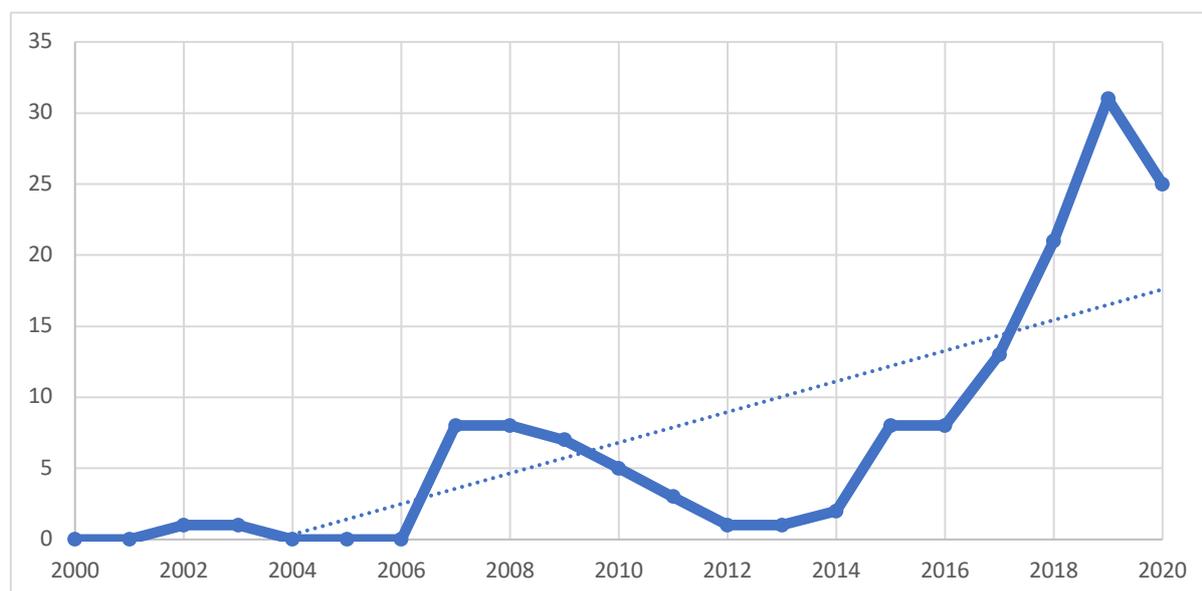
³ Lagarde’s piece draws from an IMF Staff Discussion Note by Farid et al. (2016).

Technical assistance, surveillance and training	The Fund is well positioned to provide technical assistance and training, given its global membership and expertise in fuel tax design, tax administration, and energy price reform. Climate and energy policy developments are sometimes discussed in Article IV consultations, and this seems likely to become increasingly common. Next steps on further integration in surveillance will be informed by assessing experience with selected pilot countries.
Promoting dialogue	The Fund collaborates with other international organizations (e.g., World Bank, Organisation for Economic Co-operation and Development, and United Nations Environment Programme) to promote policy dialogue among finance ministries, emphasizing the benefits of carbon pricing as one component of an effective tax structure.
Integrating natural disaster risks and preparedness strategies in macroeconomic forecasts and debt sustainability analyses	Low-income and small developing states are especially vulnerable to increasing risks of extreme weather events. Staff, collaborating with other international institutions, will work with countries to develop comprehensive risk management frameworks to assess risks and determine the right mix of building domestic buffers versus risk transfer through insurance or financial market instruments, while tailoring investment and growth policies to building resilience.
Help countries incorporate adaptation strategies in medium-term budget frameworks	More analysis of the macroeconomic implications of adaptation policies is needed. Where macro-critical, the fiscal costs of adaptation, and the effective use of climate-related financial flows, will need to be integrated in sustainable medium-term fiscal frameworks.
Work closely with other institutions to encourage consistent climate-related disclosures, prudential requirements, and stress testing for the financial sector	Staff work, in close coordination with other institutions, such as the World Bank, Financial Stability Board and International Association of Insurance Supervisors (IAIS) will: i) enhance understanding of the transmission mechanisms from climate risks to financial stability, ii) contribute to the design of appropriate disclosure rules for climate risk exposure, iii) provide technical assistance to promote safe and sound development of markets and instruments to help manage climate-related risks, iv) contribute to the development of best practices for stress-testing for climate risks, and v) support ongoing work on globally consistent prudential requirements for the insurance sector, including on a Global Insurance Capital Standard being developed by IAIS to allow for catastrophe risk in capital requirements.

Source: Lagarde (2015).

Although the IMF was rather slow to follow up on this agenda set out by Lagarde, there has been a steady increase in the number of publications and events with substantial reference to climate change since 2016 (Figure 1). The most notable outputs include a chapter on weather shocks on economic activity in low-income countries in the 2017 World Economic Outlook (WEO) report (IMF 2017), volumes on ‘Resilience and Growth in the Small States of the Pacific’ (Khor et al. 2016) and ‘Unleashing Growth and Strengthening Resilience in the Caribbean’ (Alleyne et al. 2017), and a policy paper on ‘Small States’ Resilience to Natural Disasters and Climate Change – Role for the IMF’ (IMF 2016). Still, only relatively few people at the IMF regarded climate change as a “macro-critical” factor, i.e., crucial to the achievement of macroeconomic and financial stability, which is at the core of the Fund’s mandate.

Figure 1. Number of publications and events with substantial reference to climate change, January 2000 – October 2020



Source: Compiled by author.

Note: Publications which show at least ten references to ‘climate change’, ‘climatic’, ‘climate risk’ and/or ‘climate-related’ or provide at least one whole paragraph, box or section on the topic are categorised as having “substantial reference” to climate change.

The IMF’s attention to climate change increased markedly in 2019. That year, IMF staff produced a growing number of working papers and reports addressing important dimensions of climate change, including the fiscal challenges of and responses to climate change (IMF 2019a, 2019b) and sustainable finance and environmental, social and governance reporting (IMF 2019c). The IMF also published a review of macroeconomic and financial policies for mitigating climate change (Krogstrup and Oman 2019). On top of this, the IMF became an observer of the Central Banks and Financial Supervisors Network for Greening the Financial System (NGFS), a group of 75 central banks and supervisory authorities (and 13 observers) committed to better understand and manage the financial risks and opportunities stemming from climate change.⁴

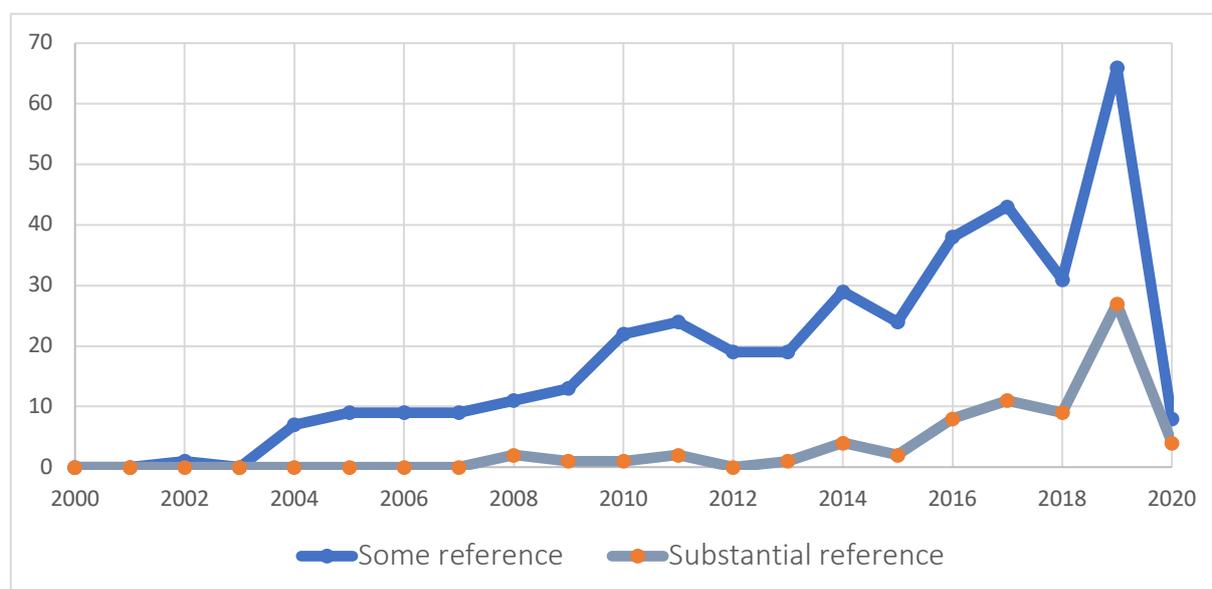
Upon taking up her role in October 2019, the new Managing Director Kristalina Georgieva made clear that she considers climate change a key responsibility for the IMF. At the 2019 Annual Meetings of the IMF and the World Bank Group in October, Georgieva acknowledged the centrality of climate risks for the Fund’s work: “The criticality of addressing climate change for financial stability, for making sure that we can have sustainable growth, is so very clear and proven today, that no institution, no individual can step from the responsibility to act. For the

⁴ Numbers as of December 2020.

IMF, we always look at risks. And this is now a category of risk that absolutely has to be front and centre in our work” (IMF 2019d).

However, in its operational work – comprising surveillance, technical assistance and training, and emergency lending and crisis support – the IMF has been rather slow to address climate-related financial risks. In its surveillance and monitoring operations, which are carried out at the global, regional and country levels, the IMF seeks to identify potential risks to macroeconomic and financial stability and puts forward policy adjustments that should support economic growth, promote financial and economic stability, and prevent the build-up of financial risks. At the country level, surveillance centres around the annual Article IV consultations. As can be seen in Figure 2, the IMF has only recently started to address climate change in some of its Article IV consultations with its member countries. Since the early 2010s, when climate change was still virtually absent from Article IV consultations, a small number of Article IV reports per year included substantial references to climate change. A large increase was recorded in 2019.⁵ However, in the vast majority of Article IV consultations, climate change and climate-related macroeconomic and fiscal risks still play no role.

Figure 2. Number of Article IV reports with reference to climate change, January 2000 – October 2020



Source: Compiled by author.

Note: Included are all the published staff reports of Article IV consultations that took place between January 2000 and June 2020 that include the words ‘climate change’, ‘climatic’, ‘climate-related’ or ‘climate risk’. Article IV reports which show at least ten references to ‘climate change’, ‘climatic’, ‘climate risk’ and/or ‘climate-related’ or provide at least one whole paragraph, box or section on the topic are categorised as making “substantial reference” to climate change. All others are categorised as making “some reference” to

⁵ A few country studies on climate-related risks were conducted outside of Article IV consultations, including an analysis of enhancing resilience to natural disasters in St. Lucia (Cantelmo et al. 2019) and an analysis of transition risks in Norway (Grippa and Mann 2020).

climate change. The year refers to the year in which the consultation was held, not the year of publication as a staff report.

A survey of the IMF's most recent Article IV reports (for 2019) for five countries with ongoing coal sector expansions (India, Indonesia, Mozambique, the Philippines, and South Africa) showed that the IMF's analysis did not sufficiently recognise climate-related macroeconomic risks (Mainhardt 2020). For India, Indonesia, and South Africa, climate change was not considered a macroeconomic risk in these Article IV reports. For Mozambique and the Philippines, climate change was deemed a macroeconomic risk, but only stemming from physical impacts of climate change. Transition risks were not considered at all in these reports. Moreover, Mainhardt (2020) highlights that the Article IV reports for India, Indonesia, and Mozambique were supportive of tax incentives for fossil-fuel related infrastructure investments, even though new investments in coal and other fossil fuels enhance stranded asset and transition risks for the economy.

At the country level, the IMF conducts two surveillance activities jointly with the World Bank: Financial Sector Assessment Programs, and Debt Sustainability Analyses for low-income countries. To date, climate change has played no or little role in the Financial Sector Assessment Programs, and where it does, it is covered in the parts produced by the World Bank. Likewise, the joint World Bank-IMF Debt Sustainability Analyses for low-income countries, which are structured examinations of developing country debt based on the Debt Sustainability Framework, do not systematically address climate risk analysis for the time being. An exemption was the latest Debt Sustainability Analysis that was carried out for Somalia as part of the Enhanced Heavily Indebted Poor Countries Initiative in 2020, which did include a simulation of a climate shock scenario (IMF 2020a).

At the regional level, the IMF has organised a number of regional dialogues for Pacific islands and the Caribbean.⁶ Among the flagship publications for regional surveillance, the Regional Economic Outlooks (REO), to date only the 2020 REO for Sub-Saharan Africa had a special chapter dedicated to 'Adapting to Climate Change in Sub-Saharan Africa' (IMF 2020b).

The IMF's global surveillance has to date not systematically addressed climate-related macrofinancial risks in a major report or integrated this issue in its regular monitoring exercises. The IMF published the already-mentioned chapter on the impact of weather shocks on economic activity in low-income countries in the 2017 WEO report (IMF 2017), a chapter on sustainable finance in the 2019 Global Financial Stability Report (IMF 2019c) and an analysis of mitigating climate change in the 2019 Fiscal Monitor, which focused on carbon pricing (IMF 2019b). During the COVID-19 crisis, the Fund adopted a strong rhetoric calling for a green

⁶ These included a High-Level Dialogue on 'Enhancing Macroeconomic Resilience to Natural Disasters in the Pacific Islands' in 2015, a workshop and High-Level Pacific Islands Dialogue on 'Building Resilience to Natural Disasters and Climate Change' in 2017, and a High-Level Conference on 'Building Resilience to Disasters and Climate Change in the Caribbean' in 2018.

recovery and “building back better”.⁷ This was backed up by numerous analytical pieces on the need to tackle climate risks and boost resilience. This included a chapter on “Mitigating Climate Change” in the October 2020 WEO (IMF 2020c).

With respect to technical assistance, the IMF – together with the World Bank – has thus far conducted so-called Climate Change Policy Assessments for six countries: the Seychelles (June 2017), St. Lucia (June 2018), Belize (November 2018), Grenada (July 2019), the Federated States of Micronesia (September 2019), and Tonga (June 2020). Climate Change Policy Assessments provide “an overarching assessment of countries’ climate strategies—as articulated in their Nationally Determined Contributions (NDCs) and other government documents” and “are intended to help countries build coherent macro-frameworks for responding to climate change, which could improve prospects for attracting external finance and put future revisions to NDCs on a sound footing” (IMF 2020e).

Regarding the IMF’s third main area of work, supporting member countries facing balance of payments difficulties and providing temporary financing, the IMF has a Rapid Credit Facility (RCF) and a Rapid Financing Instrument (RFI) which can be each used in catastrophe situations including climate disasters. The RCF “provides rapid concessional financial assistance with limited conditionality to low-income countries (LICs) facing an urgent balance of payments need” (IMF 2020f). The RCF’s concessional financial support is provided exclusively to LICs through the Poverty Reduction and Growth Trust (PRGT). Member countries that are not PRGT-eligible can access the RFI (IMF 2020g).⁸ However, while both the RCF and RFI provide quick access to finance, they are both quota-based and provide only small emergency support. The IMF has not yet had a meaningful discussion about adjusting these facilities or create a new facility that would be tailored to support members in responding to shocks related to climate change.

The IMF toolkit also comprises the Catastrophe Containment and Relief Trust (CCRT), which enables the Fund “to provide grants for debt relief for the poorest and most vulnerable countries hit by catastrophic natural disasters or public health disasters” (IMF 2020h). However, for the time being only 33 countries are eligible for support from the CCRT (IMF 2020i). For the majority of member countries, including climate vulnerable developing countries, the IMF has no specific frameworks or instruments to deal with climate-related debt.

Overall, despite growing research evidence and financial supervisors’ awareness of the materiality of climate-related financial risks, climate risk considerations have thus far been largely excluded from the IMF’s policies. The IMF’s own publications have established that “climate change is potentially macro-critical” (IMF 2019a), but also reveal that staff in many cases apparently don’t consider climate change to be macro-critical. Often, climate risks are not examined at all.

⁷ See, for instance the September 2020 issue of the IMF’s Finance and Development magazine on resilience (IMF 2020d).

⁸ The RFI replaced the Emergency Natural Disaster Assistance and Emergency Post-Conflict Assistance facilities.

The Fund has announced to scale up climate-related surveillance, addressing both physical risks posed by the increasing severity of climate impacts, and transition risks posed by a change in the value of fossil-fuel assets. However, the Fund has also indicated that surveillance on climate issues will not be mandatory in Article IV consultations, raising the prospect of climate risk being evaluated from some countries, but not others.

3. Climate-proofing the global financial safety net

For mainstreaming climate-related macroeconomic and financial risks assessments in its operations, the IMF and also RFAs need to recognise that climate risks differ from the types of risks that are considered in traditional financial risk analyses. While traditional financial risk evaluation and benchmarks are based on historical performances and thus backward-looking, climate risks are forward-looking in nature and characterised by deep uncertainty, non-linearity and endogeneity. Moreover, climate risks could be amplified by the complexity of the financial system (Battiston and Monasterolo 2019). Ignoring forward-looking climate risks in policy design and implementation omits a major source of macroeconomic and financial stability. Thus, assessing countries' exposures to climate-related macrofinancial risks should be at the core of the IMF's work and also of that of RFAs that conduct surveillance. The macro models currently used by the IMF and other international organisations are not designed to consider climate risks and need to be enhanced to identify the largest sources of macroeconomic and fiscal risks and assess the exposures of the private and public sectors to forward-looking climate-related risks. Enriching the analytical frameworks for assessing climate-related risks provides the basis for designing tailored measures to mitigate such risks, while addressing potential trade-offs on sustainable development and inequality.

Going forward, the IMF and also RFAs should make concerted efforts to support their member countries in mitigating and managing climate-related physical and transition risks and also provide assistance in measures aimed at scaling up investment in resilience. The following measures would help to climate-proof the operations of the IMF and – where applicable – also of RFAs:

- i. mainstream systematic and transparent assessments of climate-related financial risks in all operations;
- ii. introduce consistent, systematic, and universal appraisal and treatment of physical climate risks and transition risks in surveillance and monitoring for all countries;
- iii. advance disclosure of climate-related financial risks and promote sustainable finance and investment practices;
- iv. support member countries in mainstreaming climate risk analysis in public financial management;
- v. support climate-vulnerable countries in dealing with debt sustainability problems;
- vi. develop lending instruments for climate emergency financing; and

- vii. in the case of the IMF, explore options to use SDRs to support climate vulnerable countries.

(i) Mainstreaming systematic and transparent assessments of climate-related financial risks in all operations

The starting point for the IMF and RFAs is to mainstream a transparent assessment of climate-related financial risks in their operations. As the availability of science-based climate financial risk metrics and methods such as climate stress-testing and climate-financial pricing models increases, the IMF and RFAs have a solid ground for incorporating assessments of climate-related financial risks into their macroeconomic modelling, in order to better inform its policy advices and thus to be able to deliver on its mandate. Given the role of the financial sector in the economy and society, the assessment of climate-related financial risks (and opportunities) should be integrated in a transparent way.

(ii) Introducing consistent, systematic, and universal appraisal and treatment of physical climate risks and transition risks in surveillance and monitoring for all countries

Second, by including a mandatory section on climate risks in its Article IV consultations with all member countries, the IMF can mainstream the assessment of climate risks in countries' financial stability analyses. A consistent, systematic, and universal treatment of climate risks in Article IV consultations will facilitate better management and mitigation of macrofinancial risks through governments and enhance the recognition of such risks by the financial sector. Importantly, a systematic analysis of climate-related macrofinancial risks should not be limited to a few countries deemed highly vulnerable to the physical impacts of climate change. Scenario-based assessment of all sources of vulnerability for the macroeconomy, the financial system, and public finances is needed for all member countries, addressing both physical and transition risks (Bos and Gupta 2019, Volz et al. 2020a).

The IMF could also include a mandatory section on climate-related financial risks to the Financial Sector Assessment Programs it conducts together with the World Bank. Crucially, the IMF should recognise the unique susceptibilities of climate vulnerable countries, stemming from both physical and transition risks, and support their financial and monetary authorities in developing capacities to better assess and respond to climate risks, e.g. via climate stress-testing to inform the design of prudential policies, when needed.

A better analysis of climate-related macrofinancial risks will not only enable better micro- and macroprudential policies to safeguard macrofinancial stability, it should also lead to better pricing of these risks by financial markets, which will contribute to overcoming barriers to scaling-up sustainable investment (Monasterolo and Volz 2020).

(iii) Advancing disclosure of climate-related financial risks and promoting sustainable finance and investment practices

To meet the commitment of “making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development” made in Article 2.1c

commitment of the Paris Agreement, it will be crucial to mainstream sustainability practices in financial decision making. Well-developed financial markets that account for sustainability risks facilitate climate-friendly private sector investment. The IMF's 2019 Global Financial Stability Report highlights the way investors and equity markets have long ignored the growing risk of financial losses associated with climate risk (IMF 2019c). The IMF could use its unique position in international finance to promote the disclosure of climate-related financial risks and the development of sustainable finance and investment practices. As an observer of the NGFS, the IMF can play an important role in working with monetary and financial authorities and international organisations like the Bank for International Settlements in acceleration the adoption of sustainable finance policies and practices that will be crucial for both climate change mitigation and adaptation. Likewise, RFAs could work with their member constituents to strengthen sustainable finance policies and practices.

(iv) Supporting member countries in mainstreaming climate risk analysis in public financial management

Fourth, the IMF (and RFAs to the extent that they engage in capacity building) could provide support to member countries in strengthening public debt management to enable them to better account for climate risks in public budgets. Importantly, governments should be supported in developing contingency plans and securing pre-arranged contingent financing facilities from different sources, as well as insurance-based solutions.

Through policy advice and technical assistance, the IMF and RFAs can support climate vulnerable countries in climate-proofing public finances. In particular, they can encourage and provide advice to finance ministries on how to analyse the potential impacts of climate change on the medium- to long-term quality and sustainability of public finances and mainstream climate risk analysis in public financial management. Based on climate vulnerability assessments, the IMF and RFAs can help finance ministries identify potential risks on the expenditure and revenue side (Volz et al. 2020a). The IMF and RFAs could also support member countries in incorporating fiscal buffers for climate-related risks in budget planning. In particular, they could help promote budgetary instruments for *ex ante* disaster financing, including contingency lines and disaster, reserve, or contingency savings funds (Cevik and Huang 2018).

Since debt sustainability can be affected by a country's ability to absorb shocks, it is important that governments of climate vulnerable countries are supported in developing contingency plans including options for securing pre-arranged and pre-agreed pricing of risk transfer instruments. To enhance debt sustainability, the IMF and RFAs could promote a discussion around adding natural disaster clauses to sovereign debt contracts and the use of instruments such as GDP-linked bonds. Moreover, they could seek to enhance transparency of public debt contracts, and support governments in asserting that assumptions and terms or clauses of debt contracts are realistic and sustainable.

By supporting climate vulnerable countries in strengthening public debt management and engaging with initiatives like the Coalition of Finance Ministers for Climate Action, the IMF and also RFAs can contribute to enhanced debt sustainability and enable a better accounting for climate risks and investment opportunities that deliver high socio-economic and adaptation dividends in public budgets.

(v) Supporting climate-vulnerable countries in dealing with debt sustainability problems

Fifth, the IMF could play an important role in supporting climate vulnerable countries that are facing debt sustainability challenges or are already in debt distress. As recently highlighted by Georgieva et al. (2020), a “reform of the international debt architecture is urgently needed”. The IMF (2020j) has recently put forward reform options for the international architecture for resolving sovereign debt involving private-sector creditors. At a general level, the IMF could explore options for a sovereign debt restructuring mechanism, as was originally proposed by the IMF two decades ago (IMF 2003), to deal with debt crises.

Beyond this, the IMF ought to make sure that climate risks are sufficiently integrated in debt analysis and policy frameworks for resolving debt crises. As discussed, the joint World Bank-IMF Debt Sustainability Framework for Low-Income Countries does currently not consider climate-related risks for public finances in a systematic way, and in the majority of cases not at all. It also ignores investment needs in climate adaptation to reduce climate vulnerability, which is having adverse effects on the sovereign cost of capital and can amplify sovereign risk (Buhr et al. 2018, Volz et al. 2020a). The Debt Sustainability Framework therefore needs to be enhanced to incorporate the impact of climate-related risks on debt sustainability. This is a crucial step for identifying debt vulnerabilities early on so that debt problems can be addressed and delays in debt restructuring, if needed, be avoided. Importantly, assessment should also be rolled out to climate vulnerable middle-income countries.

In the context of the current COVID-19 crisis, which has worsened public finances in the Global South, many low-income and middle-income countries will require debt relief to respond effectively to the crisis and undertake meaningful investment to climate-proof their economies. The IMF will have to play a crucial role in assessing debt sustainability and making sure that debt restructuring, where needed, provides the fiscal space for governments to invest in green and inclusive recoveries that also strengthen climate resilience (Volz et al. 2020b).

Going forward, the IMF should also explore options for the treatment of climate debt, i.e. public debt that has been incurred as a direct result of climate disasters or necessary adaptation measures (Volz 2020). This is particularly relevant for Small Island Developing States, where single events can have devastating effects on the economy and public finances.

(vi) Developing lending instruments for climate emergency financing

Sixth, the IMF and RFAs could explore to what extent their existing emergency financing facilities should be further developed or new climate emergency financing facilities should be developed. This is particularly relevant for Small Island Developing States though options

should be explored as well to include other climate vulnerable countries. For the IMF, one option is to raise access under the RCF/RFI, e.g. up to 400-500 percent of quota. Moreover, options should be explored to converting these facilities into grants, particularly for PRGT-eligible countries. A further option would be to establish an entirely new climate disaster emergency facility. The IMF could also explore to link a climate disaster facility to an issuance of Special Drawing Rights (SDRs), which would benefit only countries hit by climate disasters.

(vii) In the case of the IMF, exploring options to use SDRs to support climate vulnerable countries

Seventh, the IMF and its membership should consider the possibility of allocating new SDRs as a way of providing vulnerable countries with enhanced liquidity. While a general SDR allocation would primarily benefit large economies, options could be explored where rich countries, whose historic carbon emissions are the main cause of anthropogenic climate change, make their SDRs available to a new multilateral swap facility or donate their SDRs to a trust fund at the IMF, which could use them in a way that benefits climate vulnerable countries. Another option would be to develop a mechanism where new SDRs are issued exclusively to climate vulnerable countries. Such an SDR issuance could be linked to exogenous shocks such as climate-induced disasters, eliminating problems with moral hazard. As climate vulnerable countries that have hardly contributed to global climate change suffer the biggest impacts, SDR issuances for climate vulnerable countries could be a way of enhancing resilience and global climate justice at the same time.

The role that RFAs can and should assume depends on their mandates and resource capacities, but also the context in which they are operating. For instance, the European Stability Mechanism could make important contributions to analysing macrofinancial risks arising from climate change for countries of the European Union, but it may have a lesser role in providing emergency finance given alternative funding sources through the European Commission. On the other hand, the Arab Monetary Fund, the Chiang Mai Initiative Multilateralisation and AMRO, the Eurasian Fund for Stabilization and Development, and the Latin American Reserve Fund have in their membership countries facing large physical and/or transition risk with limited options for obtaining external crisis financing should they need it.

4. Conclusion

The macrofinancial risks arising from climate change pose a serious threat to economic development. The macrofinancial impacts of climate change can trigger balance-of-payments or financial crisis. For the time being, the institutions that form the GFSN are not equipped to properly analyse these risks, nor do they have the policy frameworks or lending instruments to mitigate or manage climate-related crises. Since 2015, when the IMF identified climate change as an “emerging structural issue”, the Fund has come a long way in acknowledging the macrocriticality of climate change. Yet, at the operational level, the IMF has been too slow in

address climate-related macrofinancial risks. Among RFAs, there has been almost no engagement with climate-related risks thus far.

Against this backdrop, this paper argues that the IMF and also RFAs need to climate-proof their policies and frameworks and puts forward seven recommendations, calling on the IMF and RFAs to (i) mainstream systematic and transparent assessments of climate-related financial risks in all their operations; (ii) introduce consistent, systematic, and universal appraisal and treatment of physical climate risks and transition risks in surveillance and monitoring for all countries; (iii) advance disclosure of climate-related financial risks and promote sustainable finance and investment practices; (iv) support member countries in mainstreaming climate risk analysis in public financial management; (v) support climate-vulnerable countries in dealing with debt sustainability problems; (vi) develop lending instruments for climate emergency financing; and (vii) in the case of the IMF, explore options to use SDRs to support climate vulnerable countries.

The omission of climate-related risks is a glaring hole in the GFSN. Climate proofing the GFSN is not only a matter of safeguarding national, regional or even global financial stability. It is also a matter of climate justice, as poorer countries are disproportionately affected by the consequences of global warming. It is therefore imperative that the IMF rapidly strengthens its analytical capacity and develops its policy frameworks to adequately help its membership in mitigating and managing climate-related macrofinancial risks. RFAs can complement this, according to their mandates and capacities. A climate-proofing of the GFSN needs to be supplemented by more ambitious global climate policies, in which multilateral development banks and development finance institutions ought to play substantial roles in supporting mitigation and adaptation efforts.

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