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Confronting the Macroeconomic Challenges of Climate Change:
The Road Ahead for the IMF

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THE CHALLENGE FOR THE IMF

The deleterious impacts of global climate change are upon us. What were episodic and isolated climatic, meteorological, and biological crises have now become regular and widespread. Confronting climate change requires an international cooperative effort on a scale never seen. Economic issues are at the heart of the problem: policymakers must make politically difficult decisions about using (or not using) resources, building new infrastructure, managing public budgets and financial portfolios, and regulating financial flows. While the cost of taking serious action is high, the cost of inaction will be higher. Close cooperation among economists and environmental experts will be critical to accelerate change, reduce uncertainties, and contain costs of the needed fundamental shifts in the productive structure of the global economy. While the COVID-19 crisis has rightly occupied the world stage in the past weeks, the climate challenges will endure and in due course, policy makers will have to confront them.

Shifting resources on the scale required will have significant macroeconomic and systemic financial impacts, both at the country and global levels. Given the magnitude of the changes that need to be brought about, the rapid mobilization and sound allocation of financial resources to enable mitigation and adaptation responses is crucial. While the public goods aspects of climate change policies require concerted global efforts, many key decisions will be made country by country. Mitigation and adaptation strategies are quickly rising to the top of the policy agenda in almost all countries. The cumulative impact of these decisions from large and small countries alike will determine the global response to the climate challenge.

As the world's custodian of economic and financial stability, the International Monetary Fund (IMF) should be a decisive instrument in the decarbonization of the world's economy. The IMF is well placed to understand the linkages between the various risks threatening economic growth and stability and to provide guidance on how these risks can be balanced both globally and country by country. It has the talent, scope, and bully pulpit to guide the macroeconomic dialogue on carbon taxation, economic transformation, carbon-related financial incentives and risk sharing, the macroeconomic and fiscal impact of adaptation strategies, and the macroeconomic costs of inaction or delayed action on climate mitigation. And it has the analytic and policy tools for action at the global and country levels. But the IMF must act in concert with experts from the climate community to maximize its impact in a timely fashion.

The IMF and the climate community need to work together to mainstream climate concerns into the IMF's work and maximize the IMF's contribution to decarbonization. Given its already-heavy workload, the IMF will need to find a way to integrate climate issues into its surveillance, lending, and technical assistance work in a way that complements the efforts of others already active in the field while fulfilling its other mandates. It can only do this through increased cooperation with climate experts around the world. While the climate agenda will naturally take a back seat in the few months ahead as the IMF helps the world confront the fallout from COVID-19, the systemic implications of climate change will continue to be a chronic challenge over the next decades.

THE IMF'S COMMITMENT TO CLIMATE CHANGE

The IMF has already raised its voice on climate issues, offering concrete policy advice in many settings. The broad case for the IMF's involvement in climate change was initially made by then Managing Director Christine Lagarde in 2012 at a CGD public event entitled Back to Rio, the Road to a Sustainable Economic Future. Over the years, the IMF has sharpened its efforts , as explained by Lagarde at another CGD event in 2019 entitled Fiscal Policy Tools to Protect Our Planet.

The IMF's new Managing Director, Kristalina Georgieva, quickly elevated climate change to one of the IMF's top priorities. For example, in the IMF's flagship external publication, Finance and Development, Georgieva confirms that "climate change [is] a systemic risk to the macroeconomy" and commits to the institution's deep involvement "through its research and policy advice." She lays out a wide-ranging slate of activities for the IMF. Top of the list is to intensify its work on carbon pricing and helping governments craft road maps as they navigate their way from brown economies dependent on carbon to green ones that strive to be carbon free, noting "the need to retool the tax system in fair, creative, and efficient ways—not just add a new taxes." She notes that the "IMF also works across various fronts on the adaptation side to help countries address climate-related challenges and be able to price risk and provide incentives for investment, including in new technologies" and supports resilience-building strategies, particularly in highly vulnerable countries to help them prepare for and rebound from disasters. And she flags the important role that the IMF must play alongside the world's central banks, including through the Network for Greening the Financial System, to "adapt regulatory frameworks and practices to address the multifaceted risks posed by climate change" and assess climate risks to financial institutions and systems, including through appropriate stress testing.

Three recently published papers by the IMF detail the importance of macroeconomic and financial regulatory considerations in supporting global efforts and mitigating and adapting to climate change.

- In Fiscal Policies for Paris Climate Strategies – from Principle to Practice, IMF staff considered the fiscal implications of implementing the Paris Agreement, recognizing that meeting national and international mitigation and resilience challenges could have macro-critical implications that merit attention by policymakers. The paper offers a set of tools to help policymakers judge the likely impact on emissions, fiscal revenues, local air pollution, mortality, and economic welfare of a range of instruments including comprehensive carbon taxes, emissions trading systems, taxes on individual fuels, and incentives for energy efficiency. The paper notes that the IMF has an important role to play, working with other organizations, in advising on the implications of climate commitments for countries' fiscal policies and overall macroeconomic stance.

- In the 2019 Fiscal Monitor, the IMF focuses on the mitigation of climate change and makes a strong case that "of the various mitigation strategies to reduce fossil fuel CO2 emissions, carbon taxes—levied on the supply of fossil fuels (for example, from oil refineries, coal mines, processing plants) in proportion to their carbon content—are the most powerful and efficient, because they allow firms and households to find the lowest-cost ways of reducing energy use and shifting toward cleaner alternatives." If carbon taxes prove to be politically infeasible, emission trading systems could be effective if applied to a wide range of economic activities. Any economy-wide mitigation policies must be accompanied by economic incentives provided by legislation and regulation to increase investment in technologies that will facilitate a shift from carbon-based energy generation to non-carbon energy sources.

- Reaching beyond the fiscal considerations, IMF staff review a broader set of macroeconomic and financial policies in a working paper entitled Macroeconomic and Financial Policies for Climate Change Mitigation: A Review of the Literature. While noting that fiscal tools are the first-line economic instruments for confronting the challenges of climate change, the paper underscores that they must be supported by financial and monetary policy tools. Climate change mitigation requires a change in the productive structure of the economy, away from the use of carbon technologies, which in turn implies that the underlying financial structure of assets much change. Thus, financial policy tools must be brought to bear, either to correct the lack of accounting for climate risks or to internalize externalities at the societal level. Monetary policies can also be brought to bear through fully accounting for climate risk in central bank assets and adapting credit allocation and monetary policies for climate risk. These policies are not without controversy, particularly as they move away from setting incentives within broad policy frameworks towards being more directive.

Reaching beyond its work on the global systemic issues relating to the macroeconomics of climate change, the IMF has slowly begun to use its economic macroeconomic surveillance mandate to comment on countries' approaches to climate change, both in terms of mitigation and adaptation. CGD staff surveyed the IMF's Article IV consultation country reports published since January 2019 to determine the extent to which climate issues were included in the annual surveillance discussions.[1] Of the 100 reports published between January 1, 2019 and March 17, 2020[2], about 45 had some mention of climate issues, including references to vulnerability associated with weather-related natural disasters. The most extensive references were within staff reports for those countries that have had a climate change assessments done by IMF staff (see below) and/or island states. A few developing countries had more in-depth discussions, especially where weather-related issues were causing major economic dislocations (e.g., Mozambique, Somalia, and Zambia). Among developed countries, the staff reports for Ireland, Germany, and Singapore included discussions of the authorities' climate policies and similar policies were outlined by the French authorities in their statement that accompanied the staff report. No climate-related concerns were raised in the reports for Canada, China, Russia, and the United States.

Given the commitment of the IMF's management to addressing climate change issues, it might seem startling to those outside the institution that climate issues appear in a minority of the annual Article IV consultations. Typically, country teams have a raft of macroeconomic issues to consider, and, given limited time and human resources, they tend to focus on the most immediate and pressing economic problems faced by each country and those raised by the country authorities. Bringing in a new set of issues to an ongoing dialogue, especially where the economic analysis and supporting policy tools are still being developed, is a difficult task in the IMF. It will require continued attention from management and from interested parties outside the IMF to accelerate the momentum to integrate climate analysis.

The IMF has also begun to address the ancillary effects of climate change, recognizing that countries that are prone to natural disasters need to build physical and financial resilience to such events. The IMF's Executive Board recently endorsed the recommendations in a policy paper that vulnerable countries undertake a Disaster Resilience Strategy based on three-pillars: (i) enhancing structural resilience by building infrastructure and making other investments to limit the impact of disasters; (ii) building financial resilience by creating fiscal buffers and using pre-arranged financial instruments to protect fiscal sustainability and manage recovery costs; and (iii) planning for post-disaster resilience through contingency planning and related investments to ensure a speedy response to a disaster. Building such a strategy can be challenging for any country, and in particular for developing or island economies with limited resources, scale, and expertise. Thus, the IMF argues for a concerted international support effort to disaster-prone economies, mobilizing both technical expertise and financial support.

To this end, the IMF, in coordination with the World Bank, has prepared Climate Change Policy Assessments for five vulnerable countries: Seychelles, St. Lucia, Belize, Grenada, and the Federated States of Micronesia. In these reports, the staffs of the two institutions evaluate general preparedness for the impacts of climate change, mitigation and adaptation strategies, financing needs, and risk management capabilities. They look at the national processes in place to make key decisions, both short and long term, and suggest priority areas for action. From a macroeconomic standpoint the emphasis is on fiscal policies and the impact on debt and financing; little, if any, attention is paid to

1 The IMF's Articles of Agreement call on the institution to engage in an annual consultation with every member country on the country's macroeconomic and financial policies. This so-called Article IV consultation is considered by the IMF's Executive Board and the conclusions of the Board discussion along with the underlying staff report are typically then published soon thereafter. While there is a presumption of publication, in some instances, publication may be delayed at the country authorities' request. The survey that was done was based on publication date, although we eliminated from our analysis two countries (Ecuador and the Maldives) where the staff report was published more than two years after it was considered by the IMF's Executive Board.

2 This analysis covers the Article IV Consultations performed for the 2019 period.

financial sector issues. It is worth noting that these assessments are supplementary to the ongoing work of the IMF country teams and there have been no extra internal budgetary resources for doing them. Typically, teams working on these countries are small, so production of such reports, absent additional resources, is difficult. Thus, the IMF's work has focused on small island states where the threats from global climate change is most immediate and existential as sea levels rise. But a host of low-income countries, particularly in Africa, are predicted to bear the brunt of climate change in the next 20 years, and early preparedness of the potential impact and needs in preparing resilience strategies seems urgent.

The IMF also prepares Financial System Stability Assessments (FSSAs) periodically for its member countries, which consider the financial vulnerabilities of the banking and other institutions. To date, these reports do not reflect the recent increased attention of the financial community on climate issues. In the 11 FSSAs published between January and March 2020,[3] there is no mention of the possible long-term effects of climate change on financial systems nor of any short-term vulnerabilities. The FSSA report for the Bahamas makes some reference to disaster preparedness, while a background paper on the insurance industry in Switzerland notes possible vulnerabilities to large natural disasters in the United States. It should be noted that these reports are complex undertakings, involving numerous teams of experts and, in developing countries, done in consultation with the World Bank. From inception to completion the analysis can take a year or longer and thus policy emphasis in the report changes only with a lag.

A key element of climate change mitigation and adaptation will be "[a] accelerating investment in sustainable infrastructure, supported by clear national and sub-national strategies and programmes."[4] While much of this infrastructure investment can be privately financed and executed, a substantial share of infrastructure projects will fall to governments, particularly in developing countries. The macroeconomic challenges are twofold: assuring there is adequate financing for needed expenditures, either through government revenues or borrowing, and that those expenditures are well-executed. While the financing evaluation can be handled through its surveillance and, where applicable, through its lending program discussions, the sound planning and execution of public investment is generally provided through technical assistance from the IMF. Of particular note is the Public Investment Management Assessment (PIMA) tool, which helps countries evaluate the strength of their public investment management practices. To date, over 50 countries have undertaken such an assessment with the IMF. Of the nine assessments published in 2019 and one in 2020,[5] the need for climate/green investment strategies figures only in the Maldives document, while some of them make little or no mention of the environmental impact and its consideration in public investments.

WHAT THE IMF COULD DO

Climate change and the decarbonization of the economy will change the patterns of economic growth and trade, present fiscal challenges for governments, and require a rewriting of the global financial infrastructure. By focusing on its strengths and understanding how the magnitude of the challenge ahead overlaps with the core mandate, the International Monetary Fund could move forward and successfully integrate the climate imperative to its structural operations, activities, and tools. For instance:

3 Austria, Australia, The Bahamas, Canada, Switzerland, France, Kuwait, Malta, Poland, Singapore and Thailand.

4 "Unlocking the Inclusive Growth Story of the 21st Century", the New Climate Economy.

5 2019: Armenia, Guinea, Maldives, Philippines, Estonia, Slovak Republic, The Gambia, Mexico, and Ukraine 2020: Benin

The IMF could integrate climate into its macroeconomic toolkit, where climate is not just an add-on issue but part and parcel of all the IMF's macroeconomic analysis.

Effectively integrating climate change into the Article IV consultations, the PIMA tool, and the FSSAs would be a starting point to diagnose the macroeconomics of climate change in member countries. This will open a platform for analysis and supporting governments in the implementation of policies for addressing climate change, including mitigation and adaptation strategies as well as the transition from brown to green economies.

The IMF could take an active role in encouraging green investment by showing how the linkages between macroeconomic policies and the financial sector could promote investment in a low-carbon economy.

The IMF is well positioned and has expertise in global financial systems, so can bring to bear valuable intersectoral analysis and contribute to climate risk analysis to support the financial sector's shift towards green investment. The IMF's expertise in financial system stress testing, and its global macroeconomic perspective would be useful to international and national regulatory agencies.

The IMF could consider alternatives to carbon taxes, as the global political environment has yet to embrace them as an effective tool.

Fiscal policies are front and center in the climate mitigation effort. The IMF needs to consider second best solutions to carbon taxes, as they are first best only in highly specific economic circumstances and, perhaps more importantly, as the global political environment has yet to embrace them as an effective tool. Understanding the distributional consequences of climate-favorable taxation or regulatory policies will be critical to development effectiveness and political acceptability. The IMF will also need to augment its fiscal analysis to include the costs of mitigation and adaptation, which will vary considerably across countries. The IMF should advise on "climate-smart" expenditure and revenue frameworks. Fiscal analysis will also need to account for the heightened uncertainty that climate change brings.

The IMF could rethink its debt analysis tools to encourage responsible climate-related investment and its lending can be instrumental in supporting public investments.

Climate change and investment in mitigation and adaptation will have an impact on countries' debt, particularly the many developing countries that are approaching or in debt distress. The IMF is well positioned to encourage responsible climate-related public investment and could be instrumental in guiding developing countries in the economic transformation ahead.

The IMF could strengthen its presence in global climate change discussions.

While the IMF can be a forceful voice in international gatherings, its analytic expertise and political reach can also be instrumental in mobilizing political leadership at the country level to commit to climate-oriented action. The IMF's recent affiliation with the central bank Network for the Greening of the Financial System and with the Coalition of Finance Ministers for Climate Action is a good start but needs to be extended. The IMF could play an important role in promoting coherence across the many global working groups and initiatives on green finance.

The IMF's role can be particularly catalytic in developing countries. The Sustainable Development Goals have already raised the stakes for macroeconomic management in developing countries. With strained budgets, stagnant donor support, and private finance not yet filling infrastructure financing gaps, debt levels are increasing as governments try to push development forward. Climate change will strain budgets even more, at least in the short term. The IMF can lay out the economic impact of climate change to presidents, prime ministers, ministers of finance, and central bank governors, bringing what may be seen as a peripheral issue to the foreground and helping to "green" the budget and assess the debt dynamics of climate change investment.

HOW CAN THE INTERNATIONAL COMMUNITY SUPPORT THE IMF?

The IMF's shareholders need to ensure that management and staff have the resources needed for climate analysis. Developing and integrating climate analysis tools will require resources that either must be diverted from other activities or added to the IMF's budget, and shareholders will need to take the tough decisions as to how to find the resources to advance the agenda. The climate community can help make the case to shareholders for expanded resources for the IMF.

Despite its reputation as a doctrinaire and immovable bureaucracy, the IMF is remarkably adept at embracing new areas into its core work. To successfully integrate climate into its work, there must be a demonstrable case that the issue is indeed macroeconomically critical and that the IMF should acquire the needed expertise carefully and methodically and integrate it prudently into its policy advice.

But it cannot do so in isolation. Experts in the science and politics of climate change need to help make the case to the IMF and to its shareholders that there is a macroeconomic imperative and then help the IMF access the technical knowledge it needs to do its job.

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