



Task Force 1
Macroeconomics, Trade, and Livelihoods:
Policy Coherence and International
Coordination



ADDRESSING CROSS-BORDER SPILLOVER RISKS OF CLIMATE TRANSITION POLICIES: THE ROLE OF THE G20 AND IMF

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Abstract





G20 members need to undertake a coordinated approach to foster an orderly low-carbon transition. In particular, the G20 countries should focus on the global impact of their domestic transitions. Climate policies adopted at the country or regional level can have unintended cross-border consequences, which are illustrated through two empirical examples: (i) the European Union's Carbon Border Adjustment Mechanism (CBAM), and (ii) the impact of taxing air travel on tourism-dependent economies. Significant welfare impacts


and macroeconomic consequences for developing economies emerge from both cases. Policy recommendations presented in this brief include: strengthening the assessment of cross-border impacts of domestic climate policies; addressing the distributive and welfare effects of climate policies in developing countries, for example, by investing revenue from the CBAM to support the low-carbon transition; integrating cross-border spillovers into surveillance activities; and pursuing a globally coordinated approach to climate policy with economic diversification.



The Challenge

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With the support of the G20, the International Monetary Fund (IMF) has recognised the importance of addressing climate change to protect global financial and economic stability. The IMF launched its climate strategy in 2021, outlining its plans to integrate climate change into its operations (IMF, 2021a). The IMF conducts ongoing bilateral and multilateral surveillance of its global membership. Given this unique position, it plays a central role in identifying the risks associated with climate change, the policies implemented to mitigate it, and the transition risks that stem from both domestic measures, as well as from the spillover effects of policies adopted by other countries.

The IMF released this strategy at the heels of the Comprehensive Surveillance Review (CSR), 2021, which describes climate change as a macro-critical risk and provides a broad roadmap on how the Fund will integrate climate change into its surveillance functions (IMF, 2021b). It identifies some of the challenges brought on by the global transition and emphasises risks for countries that export fossil fuels or those that are especially vulnerable to climate disasters and shocks.

The IMF plans on taking partial measures towards integrating climate risks into its operations, incorporating climate-related assessments in select publications, Article IV consultations, financial sector assessment programmes (FSAPs), and capacity development tools (IMF, 2021a; IMF, 2021b). In its climate strategy, the IMF proposes an organisation of its climate work across three areas of engagement. These are:

- adaptation and resilience building focused on climate vulnerable countries;
- mitigation efforts targeting the largest emitters; and
- transition management of domestic efforts to reduce emissions (IMF, 2021a; IMF, 2021b).

The IMF's current frameworks and approach fail to address and identify the cross-border spillover risks that climate transition policies aimed at reducing emissions in one country or region can have on other countries. Its surveillance activities can help ensure that G20 members are better equipped to manage spillover risks and pursue an orderly transition to a low-carbon future.




Research by the Task Force on ‘Climate, Development and the IMF’, a consortium of experts utilising rigorous, empirical methods to advance a development-centered approach to climate change at the IMF, highlights the large-scale implications and risks of cross-border transition. The findings underscore the macro-criticality of climate change and identify some of the transmission mechanisms through which climate issues impact macroeconomic indicators. In their overall assessment of the IMF’s efforts to integrate climate change into its operations, Task force members conclude that the IMF’s approach and toolkit underestimates climate-related risks (Task Force, 2023).

Two examples are illustrated in this brief. First, research by He et al. (2022) shows the disproportionate impact that the introduction of a carbon border adjustment mechanism (CBAM) could have on some emerging and developing countries. At its broadest implementation, the CBAM could result in developing countries experiencing a net annual welfare loss of more than US\$100 billion (He et al., 2022). Second, a study by Gourdel and Monasterolo (2022) examines the implications of global carbon policies and their

impact on the tourism industry for a country such as Barbados. It further demonstrates that a collapse in tourism could reduce Barbados’ GDP by up to 37 percent by 2050, with severe implications for its debt sustainability. This brief emphasises the need for the IMF to revamp its frameworks and incorporate spillover risks in its surveillance activities. It also proposes changes to the IMF’s frameworks to address these blind spots.

Implications of the CBAM

To stop carbon leakage from non-EU imported goods, the EU proposed a CBAM that would be phased in until it became fully effective in 2026. While it is gradually implemented, the CBAM will apply to direct greenhouse gas emissions and target specific carbon intensive sectors, such as electricity, cement, aluminum, fertiliser, iron, and steel. It is then due to be evaluated and possibly expanded to all products as well as indirect emissions. He et al. (2022) examined the impact of the CBAM in two different scenarios – as per the version of the proposal that the EU is due to adopt, and according to an improved version covering all items that may be introduced in the coming years.



In view of these two scenarios, He et al. (2022) use a dynamic computable general equilibrium (CGE) model to assess the impact of the CBAM on macroeconomic indicators and identify the countries most vulnerable to it, which are then grouped into 24 different economies. This allows for a better understanding of the impacts on small countries, which are often left out of such analyses. According to the simulation, the impact of the CBAM may vary across countries, but overall, developing countries are net losers of such a policy. It further highlights that countries with carbon-intensive exports to the EU are disproportionately impacted by CBAM proposals and face large welfare losses relative to the sizes of their economies. A CBAM could also worsen inequality between countries and further complicate transition efforts in developing countries.


He et al. (2022) provide recommendations to address such negative welfare effects in the context of the EU moving ahead with a CBAM to accelerate decarbonisation. This includes creating a fund to redistribute revenues collected from developing countries towards climate investments, which can then address equity considerations. Additional support can take the form of

technology transfers to reduce costs and speed up transition efforts.

Transition spillover risks in Barbados

Barbados' climate risks extend beyond the impacts of climate-related hazards. Climate policies to decarbonise the economy away from fossil fuels, both domestically and globally, can be additional sources of risks for the small island state in the Caribbean. A new study by Gourdel and Monasterolo (2022) examines the sovereign fiscal and financial implications of these risks by taking into account the spillover risks of low-carbon transition policies introduced at the global level, as well as the acute and chronic impacts of physical shocks. The study identifies the tourism sector as a primary root of climate risks to the Barbadian economy. This highlights the importance of cross-border spillover risks given that climate policies introduced outside Barbados will play a key role in determining changes in tourist flows. For instance, a tax on aviation will increase the costs of intercontinental flights.

Gourdel and Monasterolo (2022) calibrate a macro-financial template—the EIRIN Stock-Flow Consistent



behavioural model—for Barbados. EIRIN is an open economy model in which heterogeneous agents and sectors of the economy and finance interact through a set of markets, including the financial market. The agents are represented as a network of balance sheet entries and endowed with behaviours (from empirical results and heuristics), and with adaptive expectations. The paper simulates three climate mitigation scenarios from the Network for Greening the Financial System (NGFS) set—Current Policies, Below 2 Degrees, and Net Zero 2050. Under the different scenarios, estimates of the damages resulting from chronic physical risks range between roughly 1.7 percent to about 3 percent of the GDP by 2050. Introduction of spillover risks significantly alter the picture. Tourism accounted for nine percent of Barbados' GDP in 2019. 37 percent of Barbados' jobs and 60.4 percent of its exports are linked to this sector. The country receives the most number of tourists from the UK, US, and Canada, followed by the EU countries. Thus, measures that impact the global aviation industry would subsequently affect Barbados' economy.

Under the Net Zero 2050 scenario, a shock to the tourism industry from a

drop in intercontinental flights causes a spillover risk to Barbados. This results in Barbados' real GDP experiencing a negative deviation from the baseline case. The consequences of a global Net Zero path for Barbados are severe and lead to a substantial and prolonged reduction of the GDP growth rate. In 30 years, its output is 22 percent lower than what it is now, with the whole world following current policies. In contrast, the slower transition path of the Below 2 Degrees trajectory would have limited economic consequences. The authors find that the Barbadian economy would be better off engaging in transition policies. Given the Barbadian economy's reliance on imported oil, the benefits of sole decarbonisation are largely explained by the weight of fossil fuels in its balance of payment. These potential cross-border effects and related fiscal and financial risks are currently not captured by official debt sustainability assessments.

Lastly, Gourdel and Monasterolo (2022) integrate scenarios of free-riding in which Barbados does not deliver on its climate target and sticks to its current policies while the rest of the world decarbonises. In such scenarios, while Barbados would benefit from lower potential hurricane losses in the long-



run, it would suffer larger potential losses from carbon stranded assets and from the exposure to spillover risk. Thus, even after accounting for potential political and reputational drawbacks, backing coordinated and orderly transition policies emerges as a better scenario for the economy than free-riding.


The studies on Barbados highlight the urgency of economic diversification and a structural transformation that can make the country resilient to potential decreases in tourist flows because of

global climate action. Two key policy messages emerge to limit the sovereign fiscal and financial implications of spillover risks. First, the coordination of international climate policy matters. Indeed, the analysis shows that a free-riding “business as usual” strategy would maximise the exposure to spillover risks. Second, a coherent industrial policy that diversifies away from high carbon or fossil fuel activities and fosters the transition in each sector can lead to co-benefits of an orderly transition by avoiding the trade-offs between climate and development.



The G20's Role

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Climate change and policies to address it may drive new sources of transition risks through spillover. As G20 members are in the process of devising and strengthening their policy responses to climate change, they will need to identify and manage the full range of climate risks. These include the direct, indirect, and spillover risks stemming from the introduction of domestic climate policies, and their impacts on fiscal and financial stability, in particular in vulnerable and in emerging countries.

As a forum that brings together the largest economies, the G20 is a natural actor for discussion and coordination of climate policy development and implementation. In particular, in the context of identifying and managing climate risks, the G20 can best serve its role in coordination with another main financial institution that has skin in the game, i.e. the IMF, of which G20 countries represent the largest members. As a multilateral body charged with maintaining economic and financial stability, the G20 can play a major role in shaping the IMF strategy and action on climate risks for sovereigns.

In this regard, the G20 could consider some important steps, including:

- Informing the IMF's climate strategy (as well as other regional institutions focused on supervising financial stability) identifying key issues for country's climate risks assessment
- Critically discussing IMF's approaches implemented so far to integrate climate risks consideration into its main products, i.e. debt sustainability analyses (DSA) and FSAP and results
- Challenging the accuracy and relevance of assumptions and models put forward by the IMF for climate risks analysis in the context of physical risks as well as domestic and cross-border transition risks, in order to develop a more realistic—and thus more policy-relevant—assessments of debt sustainability and repayment capacity. Indeed, overly optimistic assumptions run the risk of delaying necessary debt restructurings, as well as creating the necessary space for investing in more resilient economies.

Given its mandate, the IMF should be well positioned to help its members



identify climate-related risks. However, the IMF's current approach to assessing climate risks would fail to identify transition spillover risks and their implications for countries' fiscal and financial stability. Neither will it be able to

recognise how climate risks compound one another and with other sources of risks, creating new challenges for DSA and financial policy response (Dunz et al., 2021).



Recommendations to the G20



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As the IMF's largest shareholders, comprising over two thirds of its voting power, members of the G20 can support an orderly and just transition by supporting the IMF take on the following recommendations. The IMF's global membership and mandate for bilateral and global surveillance puts it in a unique position to identify risks and promote a better understanding of cross-border inward transition spillover risks.

The G20 should update its macroeconomic and financial models to properly incorporate climate scenarios, the characteristics of climate risks, and the co-benefits of early and coordinated climate policies in the analysis of the fiscal and financial implications of the transition. It can also consider the drivers and implications of cross-border spillover risks by referring to the risk scenarios formulated by academics and financial supervisors.

It is also necessary for the G20 to support negotiations for the introduction of coordinated international climate policies, aimed at taming the impacts of transition spillover risks and the consequences of free-riding on the fiscal and financial stability of low-income

and emerging countries. Supporting the introduction of a coherent industrial policy that diversifies away from high carbon or fossil fuel activities and fosters the transition in each sector is crucial.

The G20 can also coordinate industrial policy with fiscal policies that are aimed to ease the short-term impacts of the transition on lower income households and workers who would otherwise be worse-off due to the economic restructuring. This can be done through targeted welfare support and retraining. It is also necessary to consider the interplay of fiscal and monetary policies in the country's quest for climate finance. Countries like Barbados that face fiscal restructuring and sovereign debt crises are negatively hit by the turmoil in international markets. It affects their ability to service existing debt and access to finance for climate investments. Finally, the G20 can ensure global coordination around carbon prices to prevent shifting additional mitigation burdens to developing countries. When CBAMs are implemented, complementary investment funds that are resourced through the CBAM-based revenue could focus their programming on emerging markets and developing economies to help support a just transition.

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