CEMLA
CENTER FOR LATIN AMERICAN MONETARY STUDIES

III CENTRAL BANKS CONFERENCE ON ENVIRONMENTAL RISKS

Climate-related Financial Risks: Mapping the Role of Central Banks

OPENING REMARKS: **Dr. Manuel Ramos Francia**
Director General, *CEMLA*

CEMLA, CDMX
December 1 - 2, 2022

Welcome and acknowledgements

Good morning. It's a great pleasure to welcome you to the III Central Banks Conference on Environmental Risks, co-organized by CEMLA, the United Nations Environmental Programme — UNEP — and UNEP Finance Initiative (UNEP FI).

This conference represents an effort to improve our understanding of environmental challenges for the financial system and integrate these into the agenda of central banks and supervisory authorities. What is at stake in the context of environmental risks is none other than the sustainable future of humanity in general, and economic and social systems in particular. Thus, we see this conference as a contribution to try to exceed our own expectations on what can be done to limit the consequences of environmental degradation and climate change to our societies.

For a few years now, CEMLA has been developing a strong agenda highlighting the importance of climate-related risks for our member institutions. This conference represents, however, a tipping point in our involvement in fostering a fast regional convergence towards global standards in the incorporation of climate-related risks in financial stability policy frameworks. Our motivation is the conviction that central banks and supervisory authorities will face tough difficulties to fulfill their mandates of price and financial stability if climate-related criteria are not incorporated resolutely to policy decision frameworks.

This is so since, first, we are starting a new cooperation with UNEP and UNEP FI, which is the result of a year of preparations and which will allow us to widen the scope of our objetives. But even more important, is the fact that we are launching the Climate Financial Risk Center, as a joint initiative to offer the region a platform aiming at translating global advances in the field of climate-related financial risks to our local realities in Latin America and the Caribbean.

I wanted to begin by thanking the Head of UNEP FI, Eric Usher, and his staff for their support of this joint initiative. In addition, I would also like to thank Caroline Wellemans on behalf of the European Commission and the EUROCLIMA+ programme, without whose support this project would not be possible.

This conference brings together distinguished policymakers and academics from over 40 institutions from the Americas, the Caribbean, and Europe. We are proud to have Thomas Allen representing the NGFS and Irene Heemskerk from the ECB with us today. We are also honored to have Prof. Elmar Kriegler

and Prof. Irene Monasterolo in the agenda, sharing their deep knowledge on climate risk scenarios based on their contributions in developing some of the key analytical tools for the ongoing work coordinated by the NGFS.

Finally, I also wanted to thank Mercedes García Fariña from UNEP, Johan López from UNEP FI, as well as Matias Ossandon Busch and Peter Karlström from CEMLA's Directorate of Financial Stability for leading the organizing committee of the conference and for their contribution in developing the concept behind the Climate Financial Risk Center.

The urgency of addressing climate-related risks

Climate risks are considered the greatest threat to economic development gains in Latin America and the Caribbean according to the UN-led Global Commission on Adaptation. Assuming that the current trend in rising temperatures continues, the six largest economies in Latin America may lose on average up to 17 percent of GDP by 2050 (UN, 2020). The importance of addressing climate-related risks in the financial system is, at the very least, an urgent challenge for the institutions joining us today.

Climate change can affect the financial system through different channels that we are all familiar with. First of all, physical risks stemming from events such as floods, storms, heat waves, or rising sea levels can cause direct effects on the economy. When borrowing firms, households, and governments face an increasing exposure to these risks, financial institutions can hedge by rising interest rates, tightening collateral requirements, or even rationing out credit for highly exposed borrowers (Frisari et al., 2019). The consequences of these adjustments range from a lack of access to credit to a drastic deterioration of banks' balance sheets when risks are not correctly priced.

But physical risks are only part of the problem. The changing societal attitude towards climate risks and environmental degradation is leading to individual and collective decisions that can and probably will have a material impact on financial institutions, as the economy transits towards a net-zero objective. In this context, so-called transition risks can emerge from changing regulatory and tax frameworks, different consumer preferences, or business models that become suddenly outdated. Financial institutions can be adversely impacted through the devaluation of assets linked to firms exposed to this kind of risk (Frisari et al., 2019). A recent example is the de facto ban of all new fossil-fuel cars starting in 2035 in the European Union (Abnett, 2022a).

I wanted to call your attention to the fact that physical and transition risks can also emerge from the affectation of other biosphere systems that have supported the earths´ stability in the previous 10 thousand years, that is, during the Holocene. These systems are the earths' land configuration (the biomes), biodiversity, the hydrological cycle and the nutrients cycle. In some cases, as in the case of the climate, these systems are fast approaching tipping points, that is, points that when surpassed, bring about irreversible nonlinear changes. Case in point are the massive losses in biodiversity; as we know, biodiversity in the planet is declining faster than in any known period in history. Factors such as land

conversion, pollution, and human-induced climate change have been a driving force behind this dramatic dynamic.

The affectation of the aforementioned biosphere systems can curtail economic growth due to a reduction in the services provided by ecosystems, a key input for economic activity. Economic activities borrowing from these ecosystem services are not restricted only to agriculture, as these services are also key for industries such as tourism, energy production, or manufacturing sectors relying on clean water for production. Biodiversity losses pose a major concern for financial stability, considering that approximately 55 percent of global GDP has a strong dependence on ecosystem services (Swiss Re, 2020).

It is easy to see how ecosystem services fall into the category of common goods, with their use being non-excludable and non-rivalrous, a characteristic that induces well-known market failures in their supply and sustainability (see Kroeger and Casey, 2007). As with the case of clean air or water, the incentives to regrow and protect natural suppliers of ecosystem services are low. Adding to this, and equally or even more important, is the lack of low-cost measurability and valuation of such services, which has precluded efficient regulatory or market-based approaches to prevent their depletion (Stallman, 2011).

As with most market externalities and or failures, it is unlikely to expect market forces to start pricing in natural capital (i.e., ecosystem services) providing a possible solution to its excess demand. Even conventional policy measures in these contexts such as Pigouvian tax frameworks would require identifying industries and firms' reliance on ecosystem services, pricing their value, and assessing firms' impact on them derived from their activities. This problem brings us back to fundamental and well-known questions in economics and policymaking, related to how societies can avoid a tragedy of the commons and agree on formal commitments to price-in natural capital.

The size of the task is monumental, as is evident only by looking at global warming. In this case, the culprit is well known, that is, the emission of greenhouse gases, the externality is well identified as are the policy prescriptions, such as establishing a market for fossil fuel emissions or a carbon tax. In spite of this, the incredible difficulties in achieving the necessary international coordination to combat global warming effectively are brought out o light daily. In the case of most ecosystem services, the difficulties in assessing and pricing them are colossal, let alone the ones in achieving the coordination needed to stop or reverse the damages already made.

The complexity of this challenge should be interpreted as an urgent call for collective action both within and across countries. Any action taken by central banks, financial supervisors, or any other public authority will prove a failure in absence of a systematic public response that can help to align incentives, foster coordinated action, and generate awareness about the urgency of publicly-enforced societal commitments to fundamentally change the economy, integrating in our mindsets the fact that the marginal product of natural capital, just as with the case physical and human capital, is a key input to define prices and value economic outputs.

What can central banks do to address climate-related financial risks?

Against the backdrop of escalating climate risks, policymakers are facing dire decisions about which policies to implement to deal with climate-related challenges for the financial system. To address climate-related financial risks, a broad-based policy response is required, probably with some form of carbon tax framework as its cornerstone (Hiebert, 2022).

In this context, a key question is which role central banks and financial supervisors can play to contribute in addressing climate risks. Let me briefly suggest a few ideas that may guide the discussions we will have in the conference. These suggestions should be taken with caution, considering that their policy responses will be effective only if coordinated within a broader policy consensus. Any policy innovation will be beset with incentives to free-ride, both by private and public actors. Therefore, central banks and financial supervisors should foremost understand their role within a wider context in which national and supra-national coordination is key.

So, what can your institutions do to approach the challenges ahead? First and foremost, central banks and supervisors can expand the traditional mandate of preventing the buildup of systemic risk to include climate-risk exposures. Specifically, a green macro-prudential framework can have a complementary role in curtailing climate-induced systemic risks.

Second, central banks and supervisors can help to implement stricter climate regulations by forcing financial institutions to incorporate climate-criteria, for instance, when supplying credit to the real sector. This role has the potential of facilitating the transition towards a net-zero economy. Central banks could also incorporate climate-related criteria in their portfolio management practices or when assessing whether an asset should be eligible as collateral in open market operations (Campiglio et al., 2018). Finally, central banks and supervisors can have a broader role in communicating the importance of climate risks to the overall economy, setting climate-related standards and promoting a more comprehensive consideration of these risks.

As already mentioned, a green prudential policy framework can be an important tool to deal with climate-related systemic risk. The prudential realm contributes to tackling climate risks by providing a risk-based focus for the financial sector, incorporating complementarities from both micro- and macro-based responses. (ECB/ESRB, 2022).

The main obstacle for implementing a green macroprudential framework is, however, the mispricing of climate risks. The challenges associated with pricing climate-risks are two-sided: they can originate both in stranded assets and in potential green financial bubbles. So far, financial risks stemming from overvalued carbon-intensive assets that can rapidly lose their value and become "stranded assets" (also called carbon bubbles) have received most of the attention (Borio et al., 2022). Recent evidence suggests that a carbon bubble (see Manthos et al., 2018) of this type exists, yet banks have started to

price transition risks to a certain extent (Delis et al. 2021).

Less attention has been devoted to possible green bubbles, implying overvalued green assets or assets that are purported as green (so-called "greenwashing"). Particularly, in a context in which consumers and policymakers are becoming increasingly aware of environmental damages caused by economic activity, there is a material risk of a green bubble, which could exacerbate financial instability and potentially derail the transition towards a net-zero economy. In sum, the challenges associated with pricing climate risks can lead to an underestimation of transition risks resulting in "stranded assets" or an overestimation of risks that can trigger "green bubbles" (Borio et al., 2022).

To mitigate the mispricing of climate risks it is imperative that financial markets reflect economic fundamentals. I would like to highlight three key prerequisites that central banks and supervisors may need to address to adequately incorporate climate-related financial risks in macroprudential frameworks (SUERF eLecture, 2022). First of all, it is crucial to bridge data gaps in climate reporting. Second, to address "greenwashing" transparency should be prioritized by improving climate-related disclosures from the corporate sector. Finally, the effective implementation of a greenmacroprudential framework hinges on the ability to distinguish between projects that are either green or brown. The development of a standardized risk taxonomy is therefore of utmost importance (OECD, 2021).

Finally, let me stress that these actions require addressing a central question when thinking about a climate policy utility function: How much current consumption and wealth do we need to sacrifice to avoid the damage that environmental degradation and climate change will cause? Given the longer-term horizon in which these risks can fully materialize, the way in which discounting is approached is key for the conclusions drawn from economic models. This question is far from being solved.

International cooperation to address climate risks

I would not like to finish these introductory words without highlighting the central role of international cooperation, which due to the nature of the problem we face is intrinsic to any possible solution. The discussions around the recent COP27 meeting in Egypt have highlighted once again the difficulties in reaching global agreements to pledge cuts to carbon dioxide emissions to put a halt on temperature rises. These difficulties will be also central when discussing, for instance, the consideration of green capital regulatory standards on a global scale.

A proper starting point is to recognize that global objectives are extremely difficult to achieve in the context of a highly non-cooperative game, borrowing from game theory parlance. A cooperative equilibrium in this context can only be achieved if there is some kind of supra-national authority that makes players comply with the needed policy actions. Needless to say, currently this as good as impossible to do.

The COP meetings, as well as a plethora of other initiatives, including the one joining us here today, give positive signals about

countries' willingness to cooperate in different dimensions to accelerate the transition towards a net-zero economy.

Let me now get to a sore and sticking point: an efficient transition towards a net-zero economy will inevitably require financial compensations between nations. Regrettably, recent history reminds us once and again how difficult the implementation of any compensation scheme is. Twelve years ago, in the COP17 meeting in Copenhagen, advanced economies made a significant pledge committing to channel US$100 billions a year to poorer countries to mitigate the effect of climate change and adapt their economies to a net-zero transition. The idea of mobilizing capital to less developed countries has since then been central in the international agenda.

The difficulties of implementing compensation schemes have given rise to heated discussions worldwide. We still lack methodological clarity on how countries' contributions should be measured, while most experts agree that reported numbers are largely overestimated (see Nature, 2021). Needless to say, however, by any metric used advanced economies' have been far behind the US$100 billion goal. The urgent problem is not only that the goal seems to be out of reach, but that the current goal is estimated to be at most symbolic given the massive funding needed to rapidly adapt economies towards a net-zero transition aimed at keeping global warming well below 2°C above pre-industrial temperature.

The political economy of global compensation agreements is complex and goes certainly beyond the specific role of central banks and supervisors. Discussions revolve around issues such as the proper share of compensation per country, the nature and definition of what can be considered a compensation transfer or the monitoring and governance of these transfers in recipient countries, among many issues. At least, the new "loss and damage" scheme discussed in the COP27, despite its limitations, has given some hope about the possibility of reaching an effective and well-crafted compensation mechanism in the near future (Harvey et al., 2022). The problem of lacking a central coordination capable of enforcing multilateral action remains, however, a dramatic limitation.

For central banks and supervisors, international cooperation is also key. A high degree of policy coordination is not only beneficial to avoid market distortions that give scope for undesirable arbitrage mechanisms. Coordinating our efforts is also key to learn from evidence-based policy evaluations in other countries, to share methodological advances, and to promote a stronger international agenda making policymakers and the private sector aware of the urgent need of action.

Climate Financial Risk Center for LAC

We hope to contribute to these efforts with the Climate Financial Risk Center (CFRC), which will be officially launched tomorrow. This center aims at establishing a regional hub where central banks, supervisory institutions, and other private and public institutions can collaborate to jointly develop standards for incorporating climate-related financial risks in their agenda.

Building on previous successful efforts in the

community of central banks and supervisors, with the NGFS as the most prominent example, we see this center as a possibility to fulfil two objectives. First, we aim at addressing the need of translating global methodological and policy advances in the field of climate-related financial risk to the local institutional realities of our countries. Second, this center gives us the opportunity to draw lessons from evidence-based policy analysis in our region to enrich global discussions and contribute to a better understanding of climate-related financial risks.

Tomorrow we will have the opportunity to introduce the center's objectives and to openly discuss how this initiative can complement individual efforts in your institutions by disseminating best-practices in the region.

Final remarks

Before concluding, I would like to welcome you again and emphasize that your participation is fundamental for the establishment of the Climate Financial Risk Center in LAC, which is created for the benefit of all central banks and supervisors to enhance coordinated efforts in our region and beyond. We at CEMLA are grateful to co-organize this conference and hope to see your institutions becoming proactive players in the Climate Financial Risk Center.

I wish that you have a fruitful discussion.Thank you for your attention.

References

- Borio, C., Claessens, S., Tarashev, N., 2022. **Finance and climate change risk: Managing expectations**. VOXEU Column.
- Abnett, K., 2022a. **EU approves effective ban on new fossil fuel cars from 2035**. Reuters (28 Oct 2022).
- Abnett, K., 2022b. **Explainer: COP27: What is 'Loss and Damage' compensation, and who should pay?**. Reuters (6 Nov 2022).
- Campiglio, E., Dafermos, Y., Monnin, P., Ryan-Collins, J., Schotten, G., Tanaka, M., 2018. **Climate change challenges for central banks and financial regulators. Nature Climate Change**. Vol 8, 462-468.
- Manthos, D., de Greiff, K., Ongena, S., 2021. **The Carbon Bubble and the pricing of bank loans, in Weder di Mauro, Beatrice (ed.), Combatting climate change: a CEPR collection**. CEPR, 147-154.
- ECB/ESRB, 2022. **The macroprudential challenge of climate change**. Joint European Systemic Risk Board and European Central Bank study.
- Frisari, G., Gal lardo, M., Nakano, C., Cardenas, V., Monnin, P., 2019. **Climate risk and financial systems of Latin America: regulatory, supervisory and industry practices in the region and beyond**. IDB Technical Note; 1823.
- Harvey, F., Lakhani, N., Milman, O., Morton, A., 2022. **Cop27 agrees historic 'loss and damage' fund for climate impact in developing countries**. The Guardian (22 Nov 2022).
- Hiebert, P., 2022. **A case for climate-related macroprudential policy**. VOXEU column.

- Manthos D. Delis & Kathrin de Greiff & Steven Ongena, 2018. **Being Stranded on the Carbon Bubble? Climate Policy Risk and the Pricing of Bank Loans,** Swiss Finance Institute Research Paper Series 18-10, Swiss Finance Institute, revised May 2018. URL: https://www.ecb.europa.eu/pub/conferences/ecbforum/shared/pdf/2019/degreiff_paper.en.pdf

- OECD, 2021. **Strengthening Macroprudential Policies in Emerging Asia: Adapting to Green Goals and Fintech**. The Development Dimension, OECD Publishing, Paris.

- Ongena, S., Benincasa, E., and Kabaş, G. (2021), **There is no planet B, but for banks there are countries B to Z: Domestic climate policy and cross-border bank lending,** CEPR Discussion Paper 16665.

- SUERF eLecture, 2022. **The Macroprudential Challenge of Climate Change**. SUERF BAFFI Bocconi e-Lecture.

- Swiss Re, 2020. **Biodiversity and Ecosystem Services** – A business case for re/insurance.

- Timperley, Jocelyn (2021). **The broken $100-billion promise of climate finance — and how to fix it**. Nature, News Feature, October 2021. URL: https://www.nature.com/articles/d41586-021-02846-3

- United Nations, Global Center on Adaptation (2020). **State and Trend in Adaptation Report 2020**. URL: https://gca.org/wp-content/uploads/2021/03/GCA-State-and-Trends-Report-2020-Online-3.pdf

- Yuan, W., Zheng, Y., Piao, S., Ciais, P., Lombardozzi, D., Wang, Y., Ryu, Y., Chen, G., Dong, W., Hu, Z., et al. **Increased atmospheric vapor pressure deficit reduces global vegetation growth**. Sci. Adv. 2019.