Climate Financial Risk Center
for Latin America and the Caribbean
December 2nd, 2022
Motivation

According to recent studies*:

• Climate Change is classified as a “catastrophic risk,” considering that this is the most impactful long-term risk for LAC economies.

• Over 50% of the LAC region’s population currently resides in countries with high or extreme climate vulnerability risks.

• Almost half of the LAC region’s GDP originates in regions with high or extreme climate change vulnerability risks.

• Assuming the current trend in temperature increase continues (around 3°C), the six largest economies in the region (Argentina, Brazil, Chile, Colombia, Mexico, and Peru) could lose on average up to 17% of GDP by 2050.

Latin America and the Caribbean stand out as particularly affected region considering the increase in the number of meteorological, hydrological, and climatological disasters since 1960*.

Motivation

- In México, the Yucatán Peninsula and Chiapas, which hold some of the most biodiverse regions in the country, have lost 0.245 points in the Natural Capital Index (NCI) on average since 1985*.

- Approximately, 10% of the land area in Mexico has lost more than 0.3 points of NCI.

Source: Ramos-Francia et al. (2022)

*Data source: Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO), calculation from Ramos-Francia et al. (2022).
Natural Capital Index (NCI)

\[ \text{Natural Capital Index} = \text{Ecosystem quantity} \times \text{Ecosystem quality} \]

Ecosystem quantity: percentage of remnant natural areas in a given region. Estimation based on the remaining natural vegetation.

Ecosystem quality: ecological integrity of a given region. Estimation based on the complexity of top predators relations. A healthy ecosystem is able to maintain top predators, which require vast intact areas and a base of biomass for sustenance.

Natural Capital is the stock of natural assets that provide essential benefits from nature. The Natural Capital Index integrates how much and how well that stock is preserved in a given area. All values are comprised between 0 and 1.
Climate-related risks pose a threat to the stability of the financial system, leading to economic losses, business disruptions, and overall consequences to the monetary and macroeconomic stability of national economies.

**Physical Risks**
(Extreme weather events and gradual changes in climate, biodiversity loss)

**Transition Risks**
(Policy, technology, consumer preferences)

### Economy
- Business disruption
- Asset destruction
- Migration
- Reconstruction / replacement
- Lower value of stranded assets
- Increase in energy prices with dislocation

#### Lower...
- Lower property and corporate asset value
- Lower household wealth
- Lower corporate profits, more litigation
- Lower growth and productivity affecting financial conditions

### Financial system
- Market losses (equities bonds, commodities)
- Credit losses (residential and corporate loans)
- Underwriting losses
- Operational risks

**Negative feedback from tighter financial conditions**
How do Climate Risks Translate Into Financial Risks?

The LAC region is highly susceptible to physical climate change of Moody's-rated sovereigns. This is due to the lack of economic diversification since it depends to a large extent on commodity sectors (agriculture, mining & energy) and tourism, which are highly vulnerable to climate change. This lack of diversification linked to climate change could drastically affect the fiscal balance of the countries of the region.

Source: Adjusted from Moody’s Investors Service IPCC
How do Climate Risks Translate Into Financial Risks?

Suben a más de US$1.000M pérdidas en sector agrícola de Uruguay por sequía

Hay unos US$ 850 millones que se explican por menores rendimientos en cosecha de soja.

Autor: ObservaConAmolatname | 11 June 2018

La crisis hídrica encogerá el PIB brasileño en un 0,11 % este año

Info | Río de Janeiro | 3 nov. 2021

Informe de CEPAL: Eta e Iota tuvieron un impacto de más de 45 mil millones de lempiras en Honduras

23 diciembre 2020

México podría perder 50% del PIB a causa del cambio climático, advierten expertos de la UNAM

De acuerdo con los académicos de la UNAM, ciudades como la Ciudad de México, Guadalajara y Monterrey tendrían pérdidas de hasta mil millones de dólares anuales
Losses associated with stranded fossil fuel assets could represent a GDP loss of USD $300 billion (2020 – 2035), which is equivalent to approximately 0.1% of GDP per year for the LAC region.

The sectors most exposed to transition risks in LAC are:

- Energy
- Transportation
- Materials and construction

which account for more than 70% of carbon emissions in the region and represent 20-35% of the region's GDP.

The Role of Central Banks and Supervisors

Why is this important for central banks and supervisors?

1. Climate-related risks will most likely affect Central banks’/supervisors’ ability to achieve their mandates.

2. Central banks/supervisors are expected to prevent the build-up of systemic risk → should include climate-related risks in their risk management framework.

3. Central banks/supervisors are (should be) key in the transition towards a net-zero economy by enforcing stricter climate standards in the financial sector.
What do central banks/supervisors in LAC need to do to address climate risks?

- Assess and quantify the extent of climate-related financial risks.
- Develop and adopt flexible methodological approaches aligned with the necessities for the LAC region. Examples of this could be region-specific scenario analysis and risk-taxonomies.
- Learn and converge towards global best practices.
- Develop technical capacities (human and capital resources) adapted to the challenges stemming from climate change.
Barriers to cope with climate financial risks

- Longer time horizons
- Information asymmetry
- Reliance on backward-looking nature
- Data gaps/needs
- Higher degree of uncertainty
- Lack of standardized scenarios analysis
- Probability of occurrence
- Severity of impact
- Non-linearity
- Multidimensional variables
- Inadequate risk classification and differentiation across exposures
- Inadequate risk classification and differentiation across exposures
The CFR Center seeks to establish a hub in which its members collaborate to promote regional convergence towards incorporating financial risks arising from climate change as a fundamental driver of policy action.

The CFR Center aims to:

- Promote open discussions, build capacity, and share knowledge and best practices among its members to advance their responses to financial risks stemming from climate change.

- Disseminate, discuss, and test global standards and methodologies to address climate risk into a regional context with an imperative urgency to make data and knowledge publicly available.
Specific objectives of the CFRCenter

- Disseminate and highlight the importance of climate-related financial risks in the eyes of central banks and regulators helping to put these issues high in regional and domestic agendas.

- Translate the global NGFS agenda into domestic/regional realities: language, institutional constraints, geographical/economic realities, features of LAC financial systems.

- Draw lessons/conclusions from LAC that can feed global discussions on issues such as data challenges, regulation in EMEs contexts, disclosure, and governance.

- Create a platform for capacity building in assessing climate-related financial risks in the community of central banks and supervisors/regulators: courses, seminars, support of bilateral cooperations.

The CFRCenter will bring together senior representatives from central banks, financial regulators and supervisors, climate data providers, Scientifics, and academics, who will address key issues around climate financial risk management.
Key Cornerstones of the CFRCenter

Translation of global standards to local realities

- Capacity building for the LAC region.
- Adapting methodological tools to local realities.

Evidence-based policy recommendations

- Bridge data gaps for climate risks in the region.
- Develop joint regional research projects.
CFRCenter Structure

CFRCenter Partners

- UN Environment Programme
- UN Environment Finance Initiative
- CEMLA
- ASSAL

CFRCenter Secretariat

CFRCenter Beneficiaries

Funding by

Euroclima+ Funded by the European Union

External observers
Groups Membership

CBs/supervisory and regulatory institutions that would like to join the CFRCenter as beneficiaries are expected to:

1. Submit a letter of interest.
2. Nominate a representative.
3. Provide in-kind contributions and participate in the meetings and activities.
Workflow

March 31, 2023
- Working groups of CBs/supervisory authorities.

June 30, 2023
- Submit a form with a proposal regarding climate-related concerns that exceed their own jurisdiction.
- CFRCenter Secretariat conceptualizes the proposal and creates a plan based on the relevance of the problems and current necessities.

October 31, 2023
- CFRCenter actions include:
  1. Capacity building.
  2. Adapting methodological tools to local realities.
  3. Evidence-based policy recommendations.
Final remarks

The CFRCenter follows a horizontal governance structure, with the input from its members being key to define specific working plans.

The CFRCenter is hub in which central banks, regulatory and supervisory authorities can work in a collaborative approach to promote the regional convergence towards incorporating financial risks as a fundamental driver of policy action.

The CFRCenter is built around two cornerstone objectives: translating global standards to local realities and drawing evidenced-based policy recommendations for LAC and abroad.

The CFRCenter follows a horizontal governance structure, with the input from its members being key to define specific working plans.
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