Call for Research Proposals

Fiscal Tools to Manage Climate-Induced Disaster Risk

A Research Network Project

RG-T4566

1. Background and Justification

Most Latin American and Caribbean (LAC) countries are vulnerable to disasters caused by natural hazards and to the effects of climate variability, which include extreme weather events as well as slow-onset events. The disaster risk varies significantly across communities (such as different states or municipalities within a country), asset types, economic activities, and social groups. These differences in relative risk, coupled with the influence of anthropogenic emissions as key driver, present challenges for developing risk management strategies that enhance resiliency in an equitable and socially acceptable manner while using tools that can be implemented in practice.

By and large, LAC governments are still in the process of fully assessing how disaster risk affects their countries, including its differentiated impacts across communities and assets. As a result, they continue to face challenges in developing effective mechanisms to enhance their resilience and response capacity.

Ministries of Economy and Finance play a critical role in these efforts by directly managing fiscal risks and indirectly shaping the incentives that influence market behavior. Both are affected by shifts in climate patterns and affect a country's ability to respond to natural disasters and build climate resilience. Moreover, fiscal policy decisions significantly affect how the costs of climate adaptation and disaster response are distributed across different segments of society, including local governments, economic sectors, activities, and socio-economic groups.

Building Fiscal Tools and Strategies for Climate Risk Management

Through macro-fiscal analysis and modelling, some LAC countries have begun to examine the potential impacts of changing climate on public expenditures, GDP growth, debt levels, and cost of capital. However, these efforts typically rely on aggregate economic indicators and adopt a predominantly macroeconomic perspective. Such analyses, while informative, thus offer limited insight into the distributional and equity dimensions of climate risks, particularly regarding key policy questions such as the following: Who should bear the costs of natural disasters? How should adaptation investments be prioritized? How could cost-sharing mechanisms be designed and implemented effectively?

To understand questions such as these and develop appropriate fiscal policy responses, it is critical to:

- **Improve the understanding of climate and disaster risk, and of its distribution,** at a sufficiently granular level, across geographic areas (e.g., states or municipalities), asset types (e.g., man-made or natural), economic sectors, socio-economic groups, and individuals.
- **Establish clear linkages between these risks and fiscal variables** to assess their potential impact on government revenues, public expenditures, and the value of public assets—and conversely, how fiscal policy may influence risk exposure.
- **Identify and evaluate fiscal instruments for managing such risks**, examining their effectiveness, equity implications, and practical trade-offs from the perspective of diverse communities.
- **Analyze the operational aspects of implementation**, including how these instruments can be designed, negotiated, deployed, governed, and managed in practice within the LAC context.

In most LAC countries, data on climate vulnerabilities at the local or individual (taxpayer) level are not used to the fullest extent possible, and in many countries such data are not available. Yet more granular datasets (for example, about the disaster risk of individual buildings or businesses) and analyses based on such data can help explore alternative approaches to assess climate risks and estimate the costs of climate adaptation, disaster response or post-disaster recovery. Moreover, the availability of granular datasets enables the implementation of more sophisticated

approaches to cost-sharing, which could take the form of tax policies, incentives, insurance schemes, or regulations.

This Call for Research Proposals aims to address existing gaps in data and analytical tools, thereby improving the understanding of how fiscal instruments can be leveraged to assess and manage the physical climate risks at micro and local levels. It complements the IDB's ongoing support to LAC countries in strengthening resilience, including the recently launched *Ready and Resilient Americas* program, which promotes collaborative governance for risk prevention, disaster preparedness, and rapid response.

2. Objectives

The main objective of this Call for Research Proposals is to equip scholars and policymakers in LAC countries with datasets, evidence-based insights, and tools to articulate and implement fiscal strategies that contribute to climate adaptation and disaster response efforts, meeting countries' priorities and equity goals. The aim is to enhance the management of climate-related risks through fiscal reforms at the national or local level, enabling the development of risk-sharing mechanisms that align with countries' economic and social objectives.

The call intends to support quantitative and qualitative analyses that combine physical/climate and fiscal dimensions to develop models, methodologies, or tools (including datasets) that offer actionable insight for fiscal policy in LAC. Studies should offer policy recommendations based on rigorous evidence (when historical data can be used), or strong logical argumentation (for example when future uncertainties require decision-making under conditions of deep uncertainty). Research could explore one or more of the following areas:

I. Improve the understanding of climate and disaster risk distribution

Methodologies and models for catastrophic risk analysis are well established and support the insurance and re-insurance sectors, as well as planning and investment decisions in both the public and private sectors. However, current datasets and tools often face integration challenges with fiscal policy tools due to differences in data granularity, lack of interoperability, or technological and institutional barriers

between different areas of expertise. Both domains are currently experiencing or are expected to undergo substantial changes due to several factors such as the need to comprehensively address the impacts and uncertainties associated with global variations in climatic conditions, the emergence of artificial intelligence (AI), which can enhance predictive models, and the availability of higher computational power, which facilitates the handling of larger datasets with greater granularity. Considering this context and aiming to enhance the management of climate-related risks through fiscal policies, we are particularly interested in datasets and models that can directly support such policy decisions:

- Innovative methodologies, tools, or datasets, of sufficient granularity, to quantify and characterize disaster and climate risk for different communities, asset types, economic sectors, individuals, etc.
- Models to better analyze risk and uncertainties for different communities within a country/region, considering both well-behaved risks as well as possible system-level risks and tipping points.
- Analyses of how an extreme event may affect economic outputs, natural and man-made capital, or labor supply in different countries (or regions), given their economic and social structure and endowment of natural and man-made capital.
- Disaster and climate risk datasets designed to better integrate with (national or sub-national) financial management systems or with other fiscal analysis tools (for II below)

II. Establish clear linkages between these risks and fiscal variables

- Methodologies and tools to connect climate risk information (from I above) with fiscal variables such as the following:
  - Fiscal revenue that are vulnerable to natural disasters or shifts in climate conditions.
  - Public expenditures that are sensitive to natural disasters or shifts in climate conditions (e.g., expenditures related to disaster recovery).
  - Public assets that could be damaged and whose value could be diminished by natural disasters or shifts to climate conditions.

- Georeferenced fiscal risk maps that incorporate the outputs of climate models to describe and evaluate climate risks and uncertainties (e.g., value of property or business taxes that may be affected by climate variations).
- Models to better understand how individual fiscal variables may respond to natural disasters and changes to climate and how this may affect system-level fiscal risk.

III. **Identify and evaluate fiscal instruments for managing such risks**

- Frameworks and methodological approaches for sharing the risks and costs of shifts in climate conditions and natural disasters, considering goals of effectiveness, fairness, social acceptability, practicality, etc.
- Quantitative models to evaluate alternative risk management options and assess risk-sharing approaches, considering economic, social (e.g., equity), and environmental benefits, costs, and trade-offs.
- Assessments of specific risk management instruments, considering economic and social impacts, risk-sharing approaches, key trade-offs, dynamic and systemic impacts, etc. A non-exclusive list of instruments that could be considered includes the following:
  - Strategies based on tax reforms such as property tax, pollution taxes or income taxes that price climate risk
  - Burden sharing approaches to distribute risks or costs among subnational governments and between subnational governments and central governments
  - Debt-based approaches to fund public investment or PPPs with a focus on resilience
  - Insurance tools (voluntary or mandatory) to spread and manage risk

IV. **Analyze the operational aspects of implementation**

- Frameworks, methodologies or tools to analyze political economy challenges associated with the development or implementation of fiscal tools to manage disaster and climate risk.

- Governance challenges to successfully manage disaster and climate risk using fiscal tools.
- Capabilities and tools for the implementation of fiscal approaches to disaster and climate risk management.

3. Content of the Proposal

Research proposals can be submitted by LAC universities, think tanks or NGOs. Proposals can be submitted individually or by a consortium. Partnerships between academic institutions and governments (e.g., ministries or sub-national governments) or civil society are welcome.

Research institutions must submit a short proposal (maximum of 5 pages) detailing the following:

- The country/countries that will be analyzed and the main research question, explicitly stating how the research contributes to the preexisting literature on the topic.
- A description of the data that will be employed, including whether the datasets are publicly available or restricted. For the latter, the team should show that access to the data is possible and provide a detailed plan for acquiring the data.
- A detailed description of the methodology to be used specifying how the research question will be addressed and of the strategy used to respond to it, describing how relevant empirical data will be collected, as relevant, and discussing the main obstacles identified and how they will be addressed.
- How the results from the studies are expected to contribute to answering important fiscal policy questions or moving the policy debate, and practices, in new directions.
- Proposals that create new datasets or tools that will be made publicly available will be prioritized,
- **Proposals must be submitted in English.**

In addition, the proposals must include:

- The name of the research leader and a list of other researchers involved. The research institution should present a research team whose makeup is justified

by its capacity to meet the objectives of the project, including relevance of prior experience. Curricula vitae of all researchers involved in the whole project must appear in a separate annex. Subsequent substitutions for researchers originally specified in the proposal may be made with prior approval from IDB project coordinator.

- A budget (in a separate annex) indicating the time and resources that will be used within the context of the research work plan. The budget proposed by the institution should disaggregate items financed by the IDB contribution and those financed by the institution. The budget should distinguish between amounts assigned to professional honoraria, "overhead for a maximum of 15 percent of direct costs" and other major categories of research expenditures. **The proposal and corresponding budget *must* be sent in separate files** (following the indication provided in the web submission form)**.**
- Institutions must provide the name and contact information of their legal representative, with authority to sign contracts with the IDB, if selected to conduct the study.

Application Guidelines:

- For your application to be considered, please do not modify the provided format, and please respect the word limit specified in each case. Use the blank space to enter the answer in each section. **This application should not exceed 5 pages in length** (excluding CVs, work plan/schedule of execution, indicative budget, and bibliographical references that are part of the annex of this form).
- To apply, researchers and research teams must send this form (in PDF format) duly completed through the Web Submission Form. **All annexes must be included in this application form and should also be attached individually, following the instructions provided in the Web Submission Form**.
- **This form is subject to the terms and conditions of the Call, including the provision on "Arbitration, Applicable Law and IDB Privileges and Immunities."**

4. Selection Criteria

Research institutions only (including think tanks) may present proposals or lead a consortium presenting a proposal. Government institutions and other stakeholders can be part of a research consortium. The IDB seeks to produce up to five (5) studies and will contribute up to **US$25,000** (or its equivalent in local currency) for each study. The research proposals will be selected based on the following criteria:

a) Importance of the topic / research question
b) Potential for practical applicability of research output within the LAC context
c) Quality and feasibility of the proposed case.
d) Validity of the research design and methodology.
e) Experience of the research team.

5. Proposal Submission

Interested research institutions should submit a proposal through the following Web Submission Form and use the provided proposal form. Proposals are due **August 24, 2025.** Please note that there are two options within the submission form: one for institutions and another for individual researchers. Please make sure to choose the institution's option. If you are unable to submit by this means, please send an email to eltonma@iadb.org.

The research team should include the names of all the researchers and evidence of their ability to meet the objectives of the investigation (including previous relevant experience) and the curriculum vitae (CV) of each participant (maximum 3 pages per person). The CV should highlight experience and publications on the subject of this call. All members of the research team must be citizens of one of the 48 IDB member countries and must not have family members currently working at the IDB Group up to the fourth degree of consanguinity and second degree of affinity, including spouse.

While IDB specialists may collaborate on the project, they will not be eligible to receive compensation for their contribution. It is crucial to note that any change in the composition of the research team after proposal selection must be approved by the IDB. Unauthorized changes to the team may be grounds for termination of the contract.

The selected teams must be willing to receive and respond to comments from the advisors of the Call for Proposals and from the IDB Group specialist throughout the execution of the study, as well as to participate in discussion seminars.

6. Coordination

The project will be coordinated by Marco Buttazzoni from IDB's Institutions for Development sector, Fiscal Management division (IFD/FMM). The scientific committee selecting proposals includes Bridget Hoffmann and João Luiz Ayres Queiroz Da Silva from the IDB's Research Department (RES), Rudy Loo-Kung from IDB's Institutions for Development sector, Fiscal Management division (IFD/FMM), Ginés Suárez from IDB's Natural Disasters and Risk Management division (CSD/DRM), and a qualified external advisor.

7. Activities

During the execution of the research proposals, two closed discussion seminars (conducted in English) will be held to present preliminary versions of the studies and receive feedback from external advisors and IDB Group specialists. These seminars are designed to foster ideas for coordination and exchange among the participating researchers or research teams.

The intermediate and final drafts of the research study will be submitted to a peer review process by the external advisors of this call for proposals. The final product will be the presentation and approval of the publishable version of the research study, along with a response letter to all comments received in the various peer reviews, with the aim of publication in the IDB Working Paper series or Technical Notes, depending on quality.

In all cases, the final dataset employed in the analysis will be delivered to the IDB along with the research paper and replication codes (an exception may be made in the case of proprietary data, in which case the team should provide the appropriate documentation. In those cases, however, providing the replication codes and data at some level of aggregation may nonetheless be required).

The tentative schedule of activities is as follows:

- **August 24, 2025:** Due date for **receiving proposals.** Institutions should ensure that the complete documentation is submitted to the coordinating committee. Complete documentation includes the registration form with all the information requested, the research proposal, budget, and curriculum vitae (CVs up to three pages long).
- **September 8, 2025:** Announcement of **selected research proposals**.
- **October 30, 2025: Submission of signed contracts** between IDB and the awarded institution. The contract must be signed by the legal representative of each institution. Selected proposals that fail to comply with the deadline will be ineligible to receive research funds from this Call for Research Proposals.
- **November 30, 2025: Due date for receiving the paper outline.**
- **January 16, 2026: First Discussion Seminar** to be held virtually via **Zoom** with the research leaders of the studies for the purposes of presenting their proposals and the methodologies to be used in the studies, as well as brief preliminary discussions.
- **April 15, 2026:** Due date for receiving a **first draft** of research papers. The drafts should include an outline of the paper, a draft discussion of the related literature, a description of the context and institutional background, a detailed description of the methodology, and a description of the data to be used. Though welcome, results are not expected for the first draft.
- **May 15, 2026** (Date to be determined): **Second Discussion Seminar** in Washington, D.C. with the research leaders of the studies (or designated team members previously approved by the IDB) to discuss updated drafts of the research papers.
- **August 15, 2026:** Due date for receiving a **second draft** of the research papers, incorporating the changes associated with the feedback received from the coordinating team during the Second Discussion Seminar.
- **September 30, 2026:** Deadline for **final versions** of the research papers**,** including summaries that discuss policy implications. Data and replication files should be submitted by this date. Research papers must follow the **IDB Manual of Style** for working papers. Studies that are of good quality at this stage will be considered for publication in the **IDB Working Papers series**.

8. Financial Contribution and Payment Schedule

The IDB will contribute up to **US$25,000** or its equivalent in local currency as a contribution to the total budget of each study. The maximum percentage of administrative costs (overhead) is 15% of the direct costs. The payment schedule is as follows. The funds provided must be used exclusively for financing research activities, collecting primary data, and/or accessing secondary data sources. Funds may not be used to cover the costs of dissemination materials (dissemination of the products of this call will be the responsibility of the IDB), travel expenses, or the purchase of goods and services:

- **15 percent** within 30 calendar days of the presentation of the **paper outline**.
- **35 percent** within 30 calendar days of presentation and approval by the IDB of the **first draft** of the research paper.
- **30 percent** within 30 calendar days of presentation and approval by the IDB of the **second draft** of the research paper.
- **20 percent** within 30 calendar days of presentation and approval by the IDB of the **final draft** of the research paper, delivery of the datasets utilized by the study, and completion of all the conditions of the terms of reference.

9. References

- Alejos L., Cavallo E., Gabrielli V. (2025) Fiscal Policy: A Two-Way Street. In: Blackman A., Cavallo E., Hoffmann B., Vogt-Schilb A. (eds) *Peril and Promise: Tackling Climate Change in Latin America and the Caribbean.* (Chapter 10) Development in the Americas. InterAmerican Development Bank.
- Delgado R., Eguino H., Perera A.L. (2021). *Fiscal Policy and Climate Change: Recent experiences of Finance Ministries in Latin American and Caribbean* Interamerican Development Bank.
- Eguino H. (coord.) (2024) *Toward Resilient, Decarbonized Public Investment: Practices for Integrating Climate Action into Public Investment Management*. InterAmerican Development Bank
- Eguino H., Delgado R. (2023) *Fiscal Policy for Resilience and Decarbonization: Contributions to the Policy Dialogue*. InterAmerican Development Bank

- Gomez-Gonzalez J., Uribe J., Valencia O. (2025) *Asymmetric sovereign risk: Implications for climate change preparation* World Development vol. 188
- Llempén, Z., Frenk, P., Guardia, A. (2025) *Incorporación de la acción climática en la inversión pública: avances y retos de los sistemas nacionales de inversión pública (SNIP) en América Latina y el Caribe.* InterAmerican Development Bank
- Martinez-Vazquez J. (2021) *Adapting Fiscal Decentralization Design to Combat Climate Change.* International Center for Public Policy. WP 21-05. February 2021
- OECD/The World Bank (2019), *Fiscal Resilience to Natural Disasters: Lessons from Country Experiences*, OECD Publishing, Paris
- Rakes K., et al (2023). *Planning Climate Action in Cities and Regions: Towards Carbon Neutral and Resilient Territories in the face of Climate Change*. InterAmerican Development Bank.
- Rozenberg, J.; Fay, M. (2019) *Beyond the Gap: How Countries Can Afford the Infrastructure They Need While Protecting the Planet* (Vol. 1 of 2). Washington, D.C.: World Bank Group.
- Smoke P., Cook M. (2022) *Administrative Decentralization and Climate Change: Concepts, Experience, and Action.* Climate Governance Papers Series. Washington, DC: World Bank.