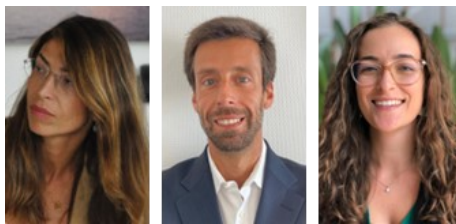


Climate risks in Latin America and the Caribbean: are banks ready for the green transition?*



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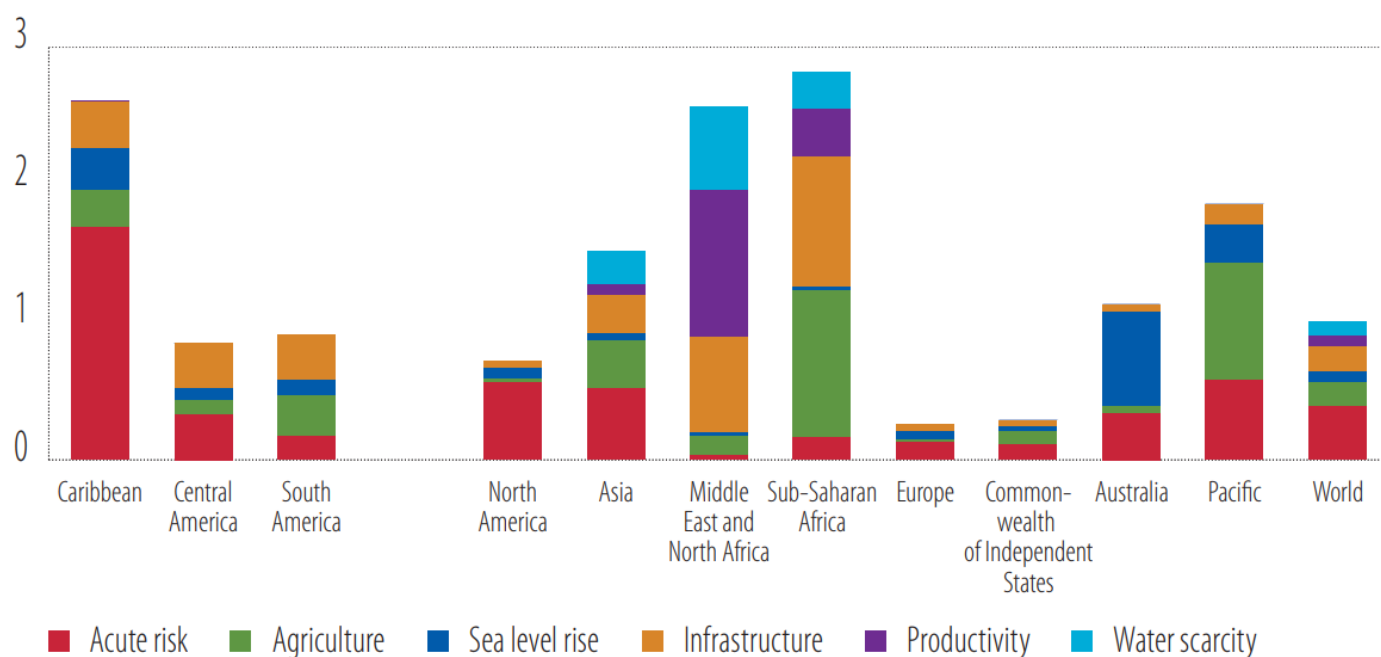
In this study we analyse climate risks for a large sample of Latin America and Caribbean (LAC) countries. We also assess what these risks imply for the financial sector, particularly for banks. We conclude that the aggregate physical climate risk of the banking sector is the highest in the Caribbean while for transition risk the picture across LAC banking systems is more homogenous. We also note that capital flows for climate projects in the LAC region have been lagging other parts of the world. Against the backdrop of considerable financing needs, the international financial community and public development banks have an important role to play to support both public and private green investments providing long-term, patient funding at affordable rates and sharing part of the risks.

*This policy brief is based on "[Climate risks in Latin America and the Caribbean: Are banks ready for the green transition?](#)", European Investment Bank, 2023. The views expressed in this publication are those of the authors and do not necessarily reflect the position of the European Investment Bank.

Climate change is increasingly and disproportionality making its mark in Latin America and the Caribbean (LAC). Despite contributing less than 5% of global carbon emissions, the countries in the region have been hit with as many as 1 350 natural disasters attributable to climate change, affecting more than 170 million people and causing almost 30 000 deaths and accumulation over \$170 billion in economic damages over the past two decades.

Based on the EIB climate risk country scores, Caribbean countries appear to be among those most affected by the impacts of physical risk worldwide while Central and South America exposure physical risk is in line with the world average.¹ Caribbean countries are specifically the most affected in terms of damage deriving from acute risk and in addition to high exposure to physical risk they face the double jeopardy of lower adaptation capacity.

Figure 1: Economic impact of physical risk in the world, by component (world average = 1)

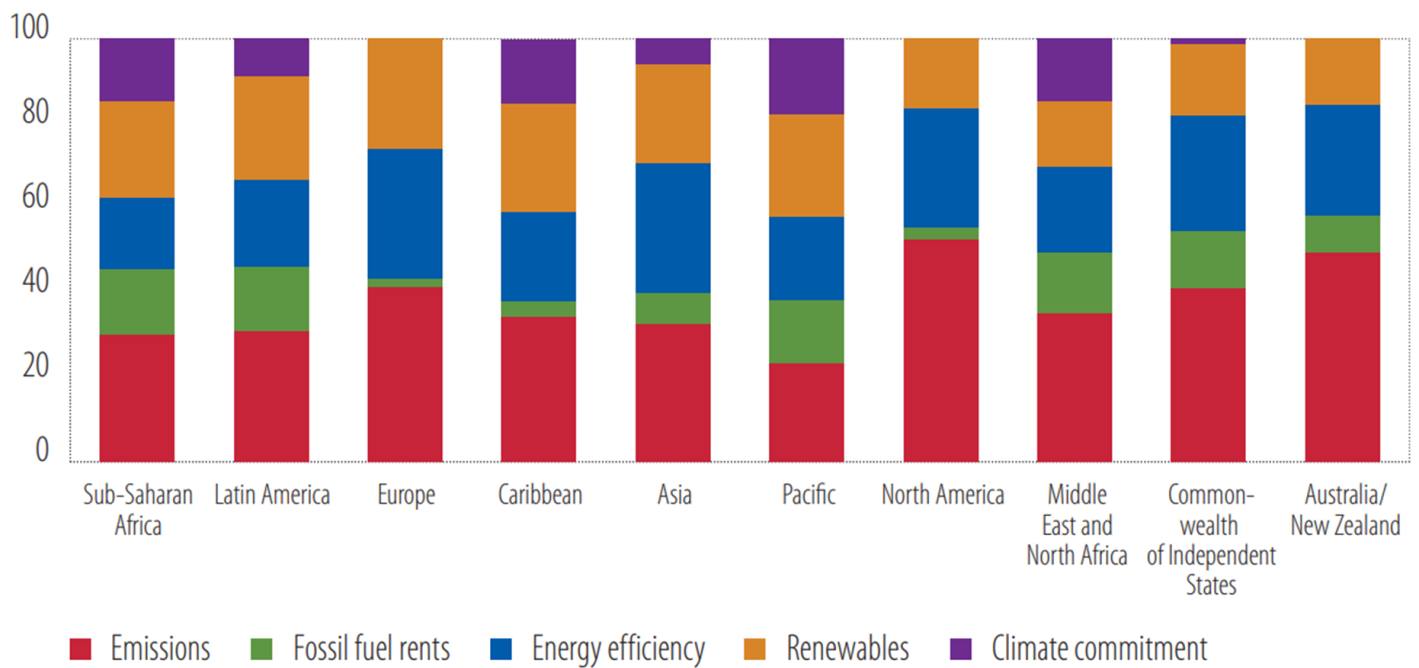


Source: EIB climate risk country scores. Note: World average is calculated as weighted average (weighted by the economic dimension of a country, i.e. nominal GDP) and is by construction equal to 1.

Turning to transition risk LAC countries face significant challenges risks, but they are relatively less exposed compared to other regions of the world.² The EIB climate risk country scores estimate that one-third of the transition risk in LAC comes from the need to reduce greenhouse gas emissions, while another third stems from the need to deploy renewable energy at sufficient scale. This mainly comes as a result of several LAC countries being fossil fuel exporters.

¹ Defined as the sum of the damage deriving from natural disasters, production losses in agriculture, the impact of sea level rise, the impact on infrastructure, the impact of heat on labour productivity and the effects of water scarcity.

² Defined as the changes to our systems needed to transition towards a lower-carbon economy and measured by scores for countries': level of emissions; exposure of the economy to fossil fuels; energy efficiency; deployment of renewable energy; country preparedness.

Figure 2: Contribution of the main components to the overall transition risk score (% of total)

Source: EIB climate risk country scores. Note: The scores are weighted by the countries' GDPs.

We expanded the above analysis on country wide climate risks to understand what they imply for the financial sector. We focus on banks, as they represent the bulk of financial intermediation in the region. Our methodology rests on two pillars: (1) each bank's vulnerability to climate risks via their portfolio exposure to various sectors of the economy, and (2) the climate risks of the sectors and country where the bank is operating.

Table 1: Climate risk levels for the NFC loan book by sector of activity and by risk type

	Agriculture	Mining	Tourism	Manufacturing and industry	Trade	Services	Real estate and construction	Other
Physical	High	High	Medium-Low	Medium-Low	Medium-Low	Medium-Low	Medium-Low	Medium-Low
Transition	Medium-Low	High	High	Medium-High	Medium-Low	Medium-Low	Medium-High	Medium-High

Source: European Investment Bank.

In practice, the steps to calculate the aggregate banking climate risk (BCR) score are as follows. We first collect each banking sector's lending portfolio exposure to Non-Financial Corporations (NFCs, in turn broken down into eight sectors of economic activity), Households and the Sovereign. We then assign to each sector a level of climate risk (Table 1) determined by EIB climate experts. Households and Sovereigns are attributed the EIB's climate country risks scores. Finally, the aggregate banking climate risk (BCR) score is calculated separately for physical and transition risk by weighting the sectoral risk levels by their respective lending exposures.

A further step is taken in the form of a notching exercise in which the country dimension is taken into account.

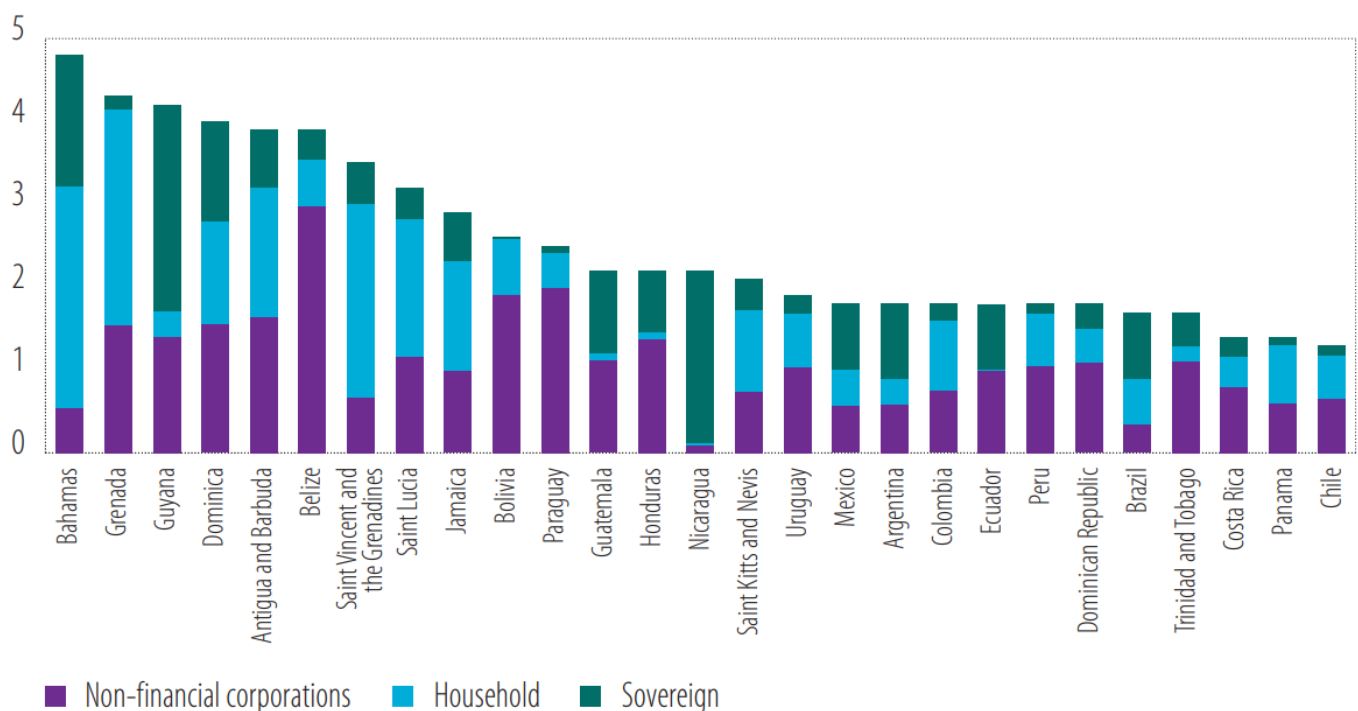
$$BCR_i = NFCw_{i,NFC} + S_iw_{i,H} + S_iw_{i,S}$$

Where NFC is the EIB non-financial corporation climate risk score for sector of economic activity regardless of the country, S_i is the EIB climate risk score for country i , w_{iNFC} is the weight of the banking sector's exposure to non-financial corporations for country i , w_{iH} is the weight of the banking sector's exposure to households for country i and w_{is} is the weight of the banking sector's exposure to the sovereign for country i .

After computing the aggregate banking sector climate risk scores, we take the country dimension into account by notching them up or down based on each country's level of physical or transition risk.

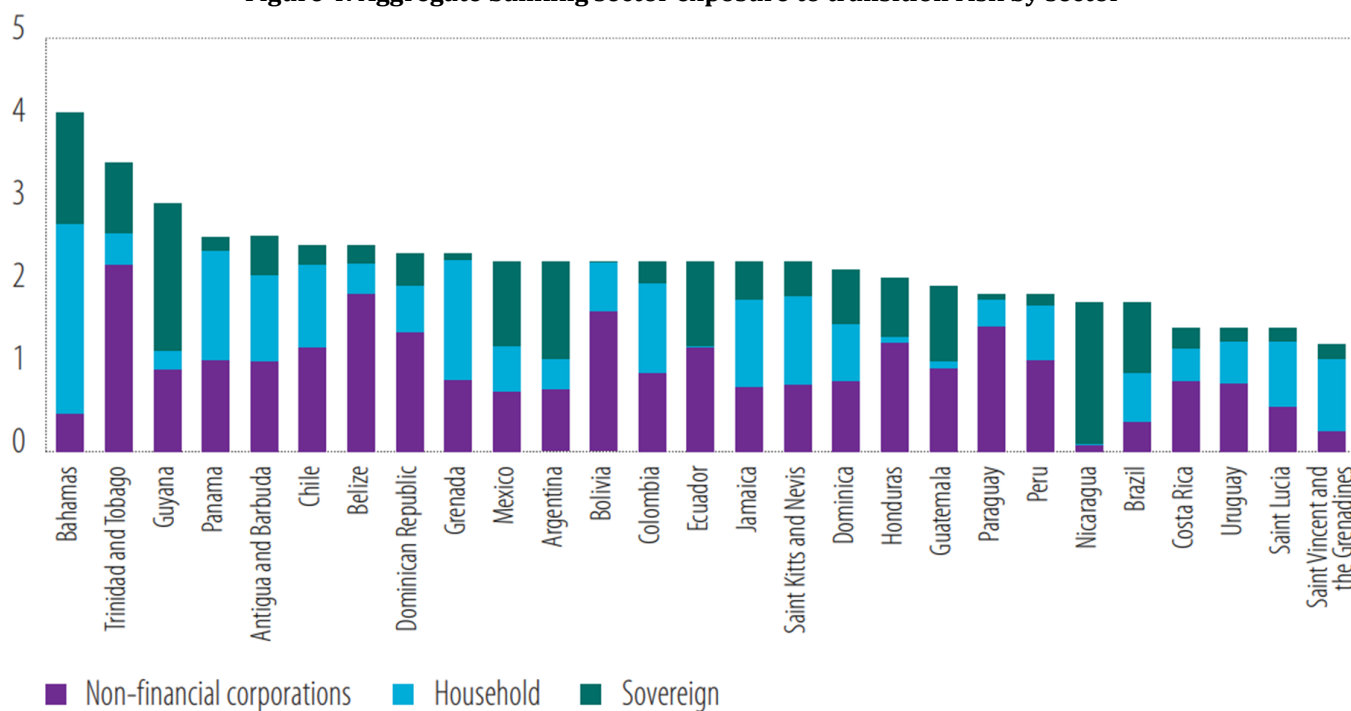
In line with the EIB climate country risk scores, banking sectors seem to be more exposed to physical than to transition risks. Physical risk is highest and more extreme in the Caribbean, as opposed to Central and South American countries, while transition risk is not only lower on average across the LAC but the distribution is more homogeneous between LATAM and the Caribbean. We also found that generally banks are mostly exposed to climate risks via lending to NFCs. While on average the concentration of lending to high-risk sectors (agriculture, mining and tourism) on banks' balance sheets is comparable to other regions in the world (for instance Sub-Saharan Africa), the combination of lending to high-risk sectors and a high share of NPLs is prominent in the Caribbean making those banking sectors more vulnerable to climate risks.

Figure 3: Aggregate banking sector exposure to physical risk by sector



Source: National central banks, EIB aggregate banking exposure scores, author's calculations.

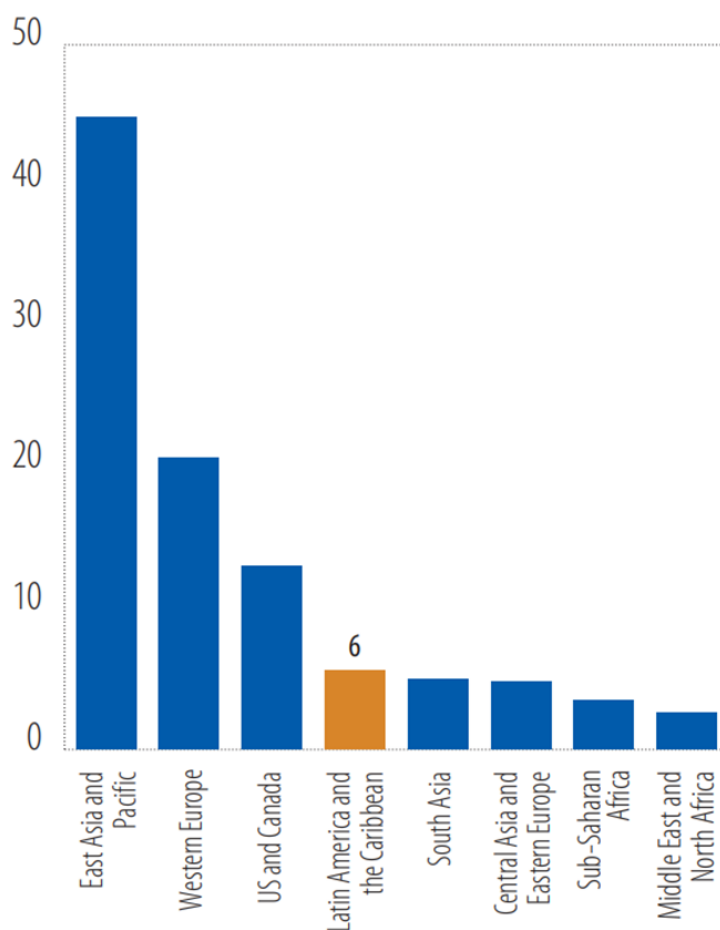
Figure 4: Aggregate banking sector exposure to transition risk by sector



Source: National central banks, EIB aggregate banking exposure scores, author's calculations.

Despite the significant needs, Latin America and the Caribbean countries receive a relatively small share of global climate finance. Countries in the region received around 6% of the total share of global climate finance in 2019 and 2020, lagging significantly behind other regions in the world. The international financial community and public development banks have an important role to play to support both public and private green investments providing long-term, patient funding at affordable rates and sharing part of the risks.

Figure 5: Climate flows between 2019 and 2020 (% of total 2019 and 2020 flows)



Source: Climate Policy Initiative, Global Landscape data; author's calculations.

About the authors

Barbara Marchitto is the Head of Country and Financial Sector Analysis at the Economics Department of the EIB. In her role, she leads analytical work to support the Bank's operations and economic surveillance in countries of operations outside the EU. She is responsible for a broad range of macroeconomic and financial sector analyses, spanning from sovereign and banking industry risk ratings, macroeconomic scenarios and country diagnostics, including through the analysis of proprietary bank and firm level data. Barbara's main areas of interest have recently encompassed financial sector development and access to finance as drivers of growth. She oversees the publication of several country and regional reports, including *Finance in Africa*. Prior to joining the EIB, Barbara has held positions at the International Monetary Fund and the Italian Ministry of the Economy and Finance. She holds a PhD in Economics from the University of London and an honours degree in Economics from Bocconi University, Milan.

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