

Climate change and monetary policy in Latin America and the Caribbean

Michael Pedersen



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Abstract

Climate change poses significant challenges to economic stability, particularly in vulnerable regions such as Latin America and the Caribbean (LAC). This paper examines the macroeconomic and monetary policy implications of climate risks in the region, focusing on both physical and transition risks. Physical risks, including extreme weather events and long-term climate shifts, disrupt productivity, infrastructure, and supply chains, intensifying inflationary pressures and hindering economic growth. Transition risks, driven by the shift to a low-carbon economy, impact key industries and labor markets, while also creating opportunities for green investments and innovation.

The study explores how climate change disrupts the traditional monetary policy transmission mechanism, requiring central banks to adapt their frameworks and tools. It emphasizes the crucial role of central banks in integrating climate risks into monetary policy, promoting sustainable finance, and collaborating with fiscal authorities to enhance climate resilience. The findings highlight the importance of robust data collection, policy coordination, and regional cooperation to address these challenges effectively. By tailoring monetary policies to the LAC region's distinct socio-economic and environmental context, central banks can play a key role in mitigating climate-related disruptions and fostering sustainable growth.

Introduction

Climate change is not just an environmental issue; it is a profound global challenge that threatens human well-being, economic stability, and social equity. Rising temperatures, more frequent and severe weather events, and long-term shifts in climate patterns are already disrupting ecosystems, livelihoods, and communities around the world. These impacts disproportionately affect vulnerable populations, exacerbating inequality and threatening progress toward sustainable development.

The economic costs of inaction —manifesting through damaged infrastructure, reduced agricultural productivity, health crises, and financial instability— far outweigh the investments required to mitigate and adapt to climate risks. Addressing climate change is essential not only for preserving the planet’s ecological balance but also for ensuring the resilience of societies and economies in an uncertain future.

In addition to its environmental and social dimensions, climate change represents a profound challenge to global economic stability, with far-reaching implications for, e.g., inflation and economic growth. Traditionally, monetary policy has focused on maintaining price stability and supporting economic growth. However, the growing frequency and severity of climate-related shocks compel policymakers to consider their systemic impact on financial systems and macroeconomic outcomes. This emerging intersection between monetary policy and climate change has become a crucial area of study and action.

Recent research suggests that incorporating climate change considerations into monetary policy frameworks could enhance their effectiveness in achieving traditional objectives such as price stability and economic growth.¹ This may involve adapting existing policy tools like interest rates and quantitative easing to support green investments, alongside developing new instruments to address climate-related financial risks. The study explores these potential adaptations and their implications for monetary policy in the context of climate change.

¹ See also NGFS (2020). In Box I.2 of the Monetary Policy Report from April 2024 (RBI, 2024), the Reserve Bank of India highlights that climate change poses a serious challenge to the effectiveness of monetary policy, as it can slow economic growth, increase credit risk premiums, heighten inflation volatility, and destabilize financial asset prices.

Latin America and the Caribbean is a region particularly vulnerable to climate change impacts, including more frequent and severe natural disasters such as hurricanes, floods, and droughts. These events disrupt economic activity, damage infrastructure, and may contribute to increased poverty and inequality. Beyond physical risks, climate change poses significant threats to macroeconomic and financial stability.² For instance, natural disasters can cause sharp declines in production, disrupt supply chains, and lead to higher food price volatility, which in turn complicates monetary policy by fueling inflation.

Central banks increasingly recognize the importance of integrating climate risks into their policy frameworks. As guardians of price and financial stability, central banks have a vital role in ensuring that climate risks do not undermine economic growth. Research on effective monetary policy responses to climate-related shocks remains limited, though the literature is rapidly expanding.³

Globally, and in the LAC region, in particular, there is a significant opportunity to transition toward more sustainable and resilient economies. Green investments, such as those in renewable energy and sustainable agriculture, are critical to mitigating climate change impacts. In this context, the present study aims to identify the macroeconomic effects of climate change and the pathways toward low-carbon economies by reviewing the relevant literature, with a particular focus on the LAC region. This includes quantifying the effects on the monetary policy transmission mechanism and identifying the main challenges for central banks in addressing climate-induced disruptions.

The paper is organized as follows: section II discusses the climate change challenges in LAC and macroeconomics risks. Section III examines the relevance of climate change for central banks, the monetary transmission mechanism as well as future challenges. Finally, section IV offers concluding remarks on the challenges for monetary policy in LAC.

² The impact of climate change on financial stability is beyond the scope of the present study; however, relevant discussions concerning the LAC region can be found in ECLAC (2023a) and Hukka et al. (2024).

³ Some studies, such as Hansen (2022) and Cullen (2023), argue, however, that the tools available to central banks cannot significantly contribute to addressing climate change.

I. Macroeconomic risks related to climate change in Latin America and the Caribbean

As in the rest of the world, the LAC region is also severely affected by climate change, which poses risks to economic and social development. There are two primary categories of climate-related financial risks.⁴

The first category refers to physical risks, which stem from the direct physical effects of climate change. These risks include acute risks, such as extreme and increasingly frequent weather events like droughts, floods, and hurricanes; as well as chronic risks, which involve long-term changes in climate patterns, such as rising average temperatures and altered precipitation levels. These changes can disrupt ecosystems and economies over time.

The second category refers to transition risks, which arise from the societal and economic adjustments required for the transition towards a carbon-neutral economy. Transition risks can be driven by policy changes, such as restrictions on carbon emissions, the introduction of carbon pricing, or stricter energy efficiency standards. They can also result from technological advances, such as shifts toward technologies supporting low-carbon solutions. Additionally, changes in consumer and investor preferences that affect carbon-intensive industries, as well as regulatory changes (e.g., the implementation of stricter environmental laws and standards), also require adjustment and may, therefore, be characterized as transition risks.

While physical risks can result in direct damage to assets and infrastructure, disrupt supply chains, or impact agricultural output, thereby reducing asset values and companies' profitability, transition risks can lead to the rapid reassessment of a wide range of asset values through unanticipated or premature write-downs of carbon-intensive industries. In any case, both types of risks currently affect the LAC region.

⁴ A third risk, which is related to financial stability, is liability risk, which refer to the financial costs and losses incurred by financial institutions, such as insurance companies, when households and firms seek compensation for damages caused by climate impacts.

This section discusses how each of the two risks may impact macroeconomic variables important for monetary policy. Subsection I.A discusses the macroeconomic consequences of physical risks, while Subsection I.B examines those related to transition risks.

A. Macroeconomic consequences of physical risks

The main physical climate risks in the LAC region are diverse and vary across countries due to its vast geographical diversity. These risks primarily arise from the direct impacts of climate change, including extreme weather events and long-term environmental changes. The key physical climate risks affecting LAC include rising temperatures, extreme weather events, changing precipitation patterns, sea-level rise, glacier melting and water scarcity, wildfires, ocean changes, loss of biodiversity and ecosystem services as well as ocean warming and fisheries. Below, the main consequences of each of these risks are briefly outlined, along with their quantitative macroeconomic impacts where data is available.

Rising temperatures. In vulnerable areas, rising temperatures can exacerbate heatwaves, affecting public health, labor productivity, and agricultural yields. In extreme cases, they can lead to higher mortality rates, particularly among vulnerable populations. ILO (2019) estimates that heat stress in LAC will cost between 0.6% and 0.9% of total working hours by 2030, stressing that lower-middle and low-income countries would be the worst affected losing 4% and 1.5% of their GDP, respectively.⁵

Extreme weather events. These events include hurricanes and cyclones. The Caribbean and Central America are particularly vulnerable to hurricanes and tropical storms, which cause widespread destruction, flooding, and loss of life, and disrupt economic activities such as tourism, agriculture, and trade. IMF (2019) estimates that, between 1980 and 2017, natural disasters cost small Caribbean states approximately 3% of their GDP, while Ötoker and Srinivasan (2018)⁶ mention that estimates show that the Hurricane Maria in 2017 cost Dominica 225% of its GDP.

Another extreme weather event relates to heavy rainfall, which is intensified by climate change and increases the likelihood of both riverine and urban flooding. Coastal flooding from storm surges and rising sea levels also threatens low-lying areas. While there is little evidence of the economic costs of flooding in the LAC,⁷ in a case study of Jamaica and Trinidad and Tobago, Fontes de Meira and Phillips (2019) find that the impact of flooding during the period 2015 to 2018 amounted to approximately 0.06% and 0.05% of GDP in the two countries but mention that these estimates are most likely too small. Desmet et al. (2021) find that permanent flooding is projected to reduce global real GDP by 0.19% under an intermediate scenario of greenhouse gas emissions.

A third extreme weather event is droughts. Prolonged droughts affect water availability, agriculture, and energy generation, especially in regions dependent on hydropower. Central and South America, particularly the Andean region, have seen more frequent droughts in recent decades, which strain agricultural and water resources. There are several studies on the effects of droughts in LAC, such as Fernández et al. (2023) who in a case study investigate the megadroughts in Chile, however, information of direct economic impact is scarce. Desbureaux and Rodella (2019) analyze 78 large Latin American urban areas and find that large droughts reduce the general level of employment by approximately 1%, the number of hours worked by 4.5%, and labor incomes by 6.5%.

⁵ Chadwick and Saygili (2024) employ a panel of 186 countries over 23 years and find that the cumulative effect of a 1°C temperature increase on inflation reaches up to 0.6 percentage points (pp).

⁶ Based on the findings reported by Alleyne et al. (2017).

⁷ Dottori et al. (2018) find that floods have had an effect of 0.4% on global GDP, while the median for a range of countries reported by Fornino et al. (2024) is 0.8%.

Changing precipitation patterns. Related to extreme weather events are altered rainfall patterns and desertification. Climate change has led to shifts in seasonal rainfall, with some areas experiencing increased rainfall and others suffering from reduced rainfall. These changes affect water availability for agriculture, drinking water, and energy generation (especially hydropower). Reduced rainfall in areas such as northern Mexico, parts of Brazil, and the Andes contributes to desertification, reducing the amount of arable land and increasing food insecurity.

Sea-level rise. Rising sea levels are a major risk for coastal cities and islands, especially in the Caribbean, the Gulf of Mexico, and along South America's Pacific and Atlantic coasts. Coastal areas are threatened by both flooding and erosion, which damage infrastructure, disrupt tourism, and endanger populations. Furthermore, sea-level rise threatens freshwater aquifers in coastal regions, leading to saltwater intrusion into drinking water supplies and affecting agriculture and food production.

Glacial melting and water scarcity. The Andean region, which has significant glacial cover, faces the loss of glaciers that provide important water sources for millions of people. As glaciers melt, this poses a threat to water availability for agriculture, hydropower, and drinking water, especially in countries like Peru, Bolivia, and Chile. Furthermore, glacial melting can alter river flows, potentially decreasing water availability during the dry season, affecting agriculture and energy production, particularly in countries dependent on hydropower. According to Mahlknecht et al. (2020), in 2015, 46.5% of LAC's energy production was derived from hydropower.⁸

Wildfires. Drier conditions and higher temperatures contribute to more frequent and intense wildfires, especially in regions like the Amazon, southern Brazil, and parts of Chile and Argentina. These fires destroy ecosystems, threaten biodiversity, and can disrupt agriculture and settlements. Wildfires also affect air quality, leading to health problems and reduced agricultural productivity due to smoke and ash deposits. González-Cabán (2013) reports that Chile was affected by a total of 70,676 wildfires during the period 2000 to 2011, with estimated expenditures of more than 153 billion U.S. dollars.

Ocean change. Rising ocean temperatures and ocean acidification threaten coral reefs, which are vital to marine ecosystems and the economies of coastal communities reliant on fishing and tourism. This is a significant concern for the Caribbean region and parts of Central America. Rising ocean temperatures affect the distribution of marine species, which can harm fisheries in the region. For example, fish stocks in the Pacific and Atlantic Oceans may migrate to cooler waters, impacting local fishing industries. Furthermore, the absorption of more CO₂ by the oceans is causing acidification, which harms marine life, particularly shellfish and coral reefs, and affects fisheries that many coastal LAC countries depend on. CMEP (2021) mentions that the predicted annual loss in landed fish values across Latin America and the Caribbean due to climate change is between 1.21 and 2.72 billion U.S. dollars.

Loss of biodiversity and ecosystem services. Changes in temperature and precipitation patterns, along with extreme weather events, are leading to shifts in ecosystems and the loss of biodiversity. The Amazon rainforest, one of the world's most important carbon sinks, is particularly vulnerable to deforestation, wildfires, and the impacts of climate change. This threatens the biodiversity of crop species and livestock, impacting food security. Altered precipitation and temperatures may affect crop yields, particularly for staple foods like coffee, corn, and beans, in regions like Central America, Brazil, and Argentina. Estimates by Lachaud et al. (2021) indicate that climate change in general reduces productivity in the LAC agricultural sector by between 9.03% and 12.7% over the 2015-2050 period and output losses range from 14.7 to 31.4 billion U.S. dollars.

These physical risks are interrelated and compound one another, creating a complex set of challenges for LAC. The impacts vary by region, with coastal areas and countries reliant on agriculture, tourism, and natural resources being particularly vulnerable. Therefore, the macroeconomic effect of

⁸ See also IEA (2021).

each of these risks is diverse across regions and countries. However, the main impact on key economic variables can be summarized as follows, with expected impacts in parentheses:

GDP and potential GDP (-): physical Risks reduce GDP and potential GDP due to disruptions in production (e.g., agriculture, tourism, and fisheries). Risks like extreme weather events and sea-level rise directly damage productive assets, while long-term changes in temperatures reduce labor productivity and agricultural output.

Consumption (-): decreased as households face rising costs (e.g., energy, food, health) and income losses from reduced employment or productivity.

Investment (-): physical risks lower investor confidence, reduce profitability in key sectors, and increase capital costs for adaptation or rebuilding. Coastal areas (e.g., due to sea-level rise) experience particularly sharp declines in investment.

Productivity (-): reduced by heat stress, destruction of infrastructure, and disruption of supply chains. Long-term risks (e.g., biodiversity loss) degrade natural capital, further hindering productivity.

Employment and wages (-): employment declines due to sectoral disruptions (e.g., agriculture, fisheries, tourism). Wages fall in affected regions, particularly in rural economies, due to decreased demand for labor.

International trade (-): agricultural and fishery exports decline due to reduced yields, extreme events, and damaged infrastructure. Import dependency increases for food and energy, worsening trade balances.

Interest rates (+): central banks may raise interest rates to counter inflationary pressures caused by supply-side shocks (e.g., rising food or energy prices).⁹

Exchange rates (+):¹⁰ exchange rates may depreciate as trade deficits widen and capital flows out of vulnerable regions.

Inflation and inflation expectations (+): inflation rises due to food and energy price volatility. Prolonged risks (e.g., water scarcity, extreme weather) exacerbate cost-push inflation, elevating inflation expectations.

Several studies quantify how natural disasters affect macroeconomics variables, mainly with a focus on output growth and inflation rates.¹¹ Using a panel of primarily developing countries, Cavallo et al. (2022) estimate that the impact of natural disasters is on average between 2.1 and 3.7 pp on GDP growth, with a larger impact on poorer countries. In a study of tail risks, Chavleishvili and Moench (2025) analyze how climate-related natural disasters affect the predictive distribution of output and inflation. Their results suggest an initial significant downside risk for output growth and an upside risk to inflation. Bejarano and Rodríguez (2024) apply a Dynamic Stochastic General Equilibrium (DSGE) model to analyze the economic impact of climate-related shocks, interpreted as a decrease in total factor productivity (TFP). Applied to Colombia, they find that these shocks imply a gradual decline in potential

⁹ Dietrich et al. (2024) show that consumers across several countries expect the likelihood of natural disasters to increase over the next few decades. For high-income consumers, this correlates with a lower likelihood of stock market participation, rising the demand for safe assets, which could affect the natural rate of interest.

¹⁰ Measured as local currency units per unit of foreign currency.

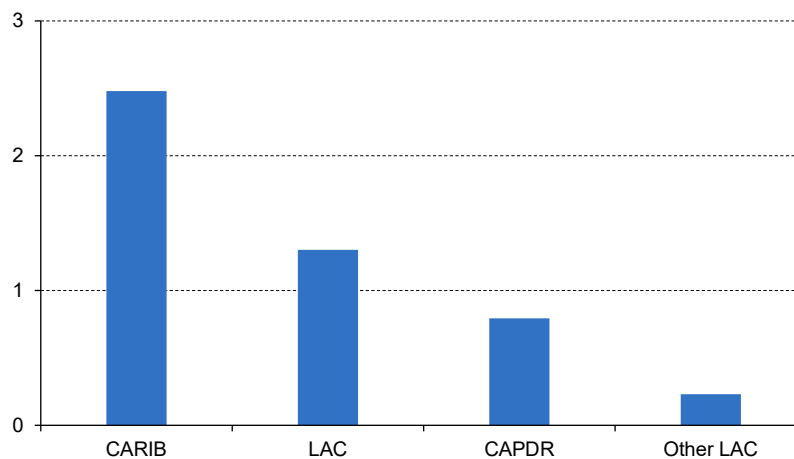
¹¹ Hallegate et al. (2022) propose a model for analyzing the macroeconomic consequences of natural disasters. They argue that appropriate macro-fiscal and monetary policies provide opportunities to mitigate the welfare impact of major disasters. Black et al. (2023) present a tool to help quantify impacts of climate mitigation policies, while Fernández-Villaverde et al. (2024) review the development of structural integrated assessment models (IAMs) used to analyze the macroeconomics of climate change.

GDP in the long term, due to higher production costs and lower real exchange rate. Inflation rises temporarily, while the natural interest rate decreases.¹²

In a large study of, among other things, global economic impacts of climate shock, Fernando et al. (2021) use the G-Cubed model¹³ to analyze the economic effects of extreme climate shocks. Amongst the five shocks analyzed (droughts, extreme temperatures, floods, storms, and wildfires), wildfires have the largest impact on agricultural productivity, while storms are the events that affect electricity generation the most.¹⁴

Concerning the LAC region, Bonato et al. (2024) analyze climate change challenges in the region. As demonstrated in figure 1, the Caribbean is the zone most affected by weather-related natural disasters, with an annual average effect of approximately 2.5% of GDP, while the effect in LAC is a little more than 1.3% of GDP.

Figure 1
Average annual effect of weather-related natural disasters, 1980–2020
(Percentages of GDP)



Source: Bonato et al. (2024).

Note: CARIB: The Caribbean. LAC: Latin America and the Caribbean. CAPDR: Central America, Panama, and the Dominican Republic. Weather-related natural disasters include climatological (droughts and wildfire), hydrological (flood and landslide), and meteorological (storm and extreme temperature). The whole sample covers countries that report at least one weather-related natural disaster incurring positive damage. Groups are exclusive. A simple average is taken across countries and years after damage is scaled by GDP annually.

Figure 2 shows how LAC macroeconomic indicators react around large weather-related natural disasters during the period from 1990 to 2019. While there seems to be no large GDP impact, probably reflecting reconstruction efforts, fiscal deficit and public debt rise markedly in the year after the event.

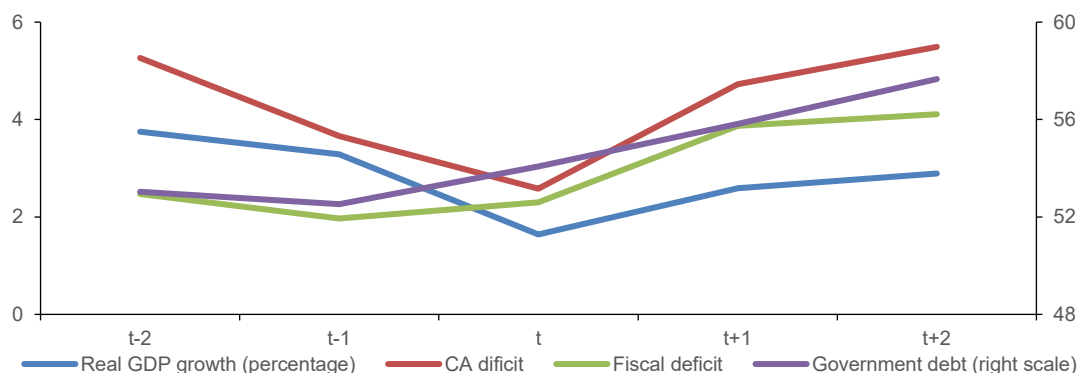
Physical climate risks in LAC significantly threaten macroeconomic stability. Their effects propagate across variables, creating a cycle of reduced productivity, economic output, and trade, alongside rising costs and inflation. Effective policy responses, such as climate-resilient infrastructure and adaptive monetary frameworks, are critical to mitigating these impacts. The next subsection examines the macroeconomic impact of transition risks.

¹² Concerning interest rates, a literature review conducted by de Bandt et al. (2024) shows that banks' and bond markets' perception of climate change-related risk is limited, with loan and bond spreads typically below 50 basis points, which contrasts with the more substantial effects noted in studies on stock markets.

¹³ A multi-country, multi-sector, intertemporal general equilibrium model developed by McKibbin and Wilcoxon (1999, 2013).

¹⁴ See also McKibbin and Vines (2023).

Figure 2
Macroeconomic Latin America and the Caribbean indicators
around largest weather-related natural disasters, 1990–2019
(Percentages of GDP)



Source: Bonato et al. (2024).

Note: CA: current account. One largest natural disaster is identified for each country over 1990–2019, in a sample of countries where fatalities plus 0.3 times the affected persons (reported in the Emergency Events Database of the Centre for Research on the Epidemiology of Disasters) exceed 1% of the population.

B. Macroeconomic consequences of transition risks

Transition risks in LAC refer to the challenges and risks associated with shifting to a low-carbon economy to address climate change. These risks can impact financial stability, economic growth, and social equity in the region. The main transition risks in LAC are the following:¹⁵

Economic dependency on high-carbon sectors: many LAC economies heavily depend on extractive industries (e.g., oil, gas, and mining) and agriculture, which are carbon intensive. Transition policies, such as carbon pricing, emissions reduction targets, or fossil fuel phase-outs, could reduce the profitability of these sectors, leading to stranded assets and job losses. Cárdenas and Orozco-Sanchez (2022) argue that this transition is more expensive for LAC countries than in North America and Europe. For Argentina, Brazil, Chile, Colombia, Mexico, and Peru, the transition requires investments averaging 7% to 11% of GDP between 2021 and 2050 with costs being higher for countries in Central America and the Caribbean.

Regulatory and policy changes: implementation of new climate regulations, including stricter environmental laws, carbon taxes, and renewable energy incentives, could impose compliance costs on businesses and disrupt current economic structures. Uncertainty regarding the timing and scope of these policies adds risk for investors. IMF (2022) argues that if such policies are implemented soon and phased in over a limited time period, the costs will be relatively small, while they may be much larger if the transition is delayed.

Technological shifts: adoption of cleaner technologies may outpace the ability of industries and labor markets to adapt. LAC countries could face challenges in accessing or developing the necessary technologies due to financial and technical constraints. McKinsey & Company (2022) report that capital spending on physical assets for energy and land-use systems in the net-zero transition would be equivalent to 6.8% of GDP in the short term, rising to 8.8% of GDP between 2026 and 2030 before falling.

¹⁵ See also IDB (2019) and ECLAC (2023b).

Market risks: changes in global demand for fossil fuels and other high-carbon exports could reduce revenues for LAC countries reliant on these products. Market shifts toward greener investments may limit capital for traditional energy-intensive sectors. EIB (2023) argues that Caribbean banks are more exposed to climate risks than other parts of the LAC.

Social Inequalities and Political Risks: transition measures could disproportionately affect vulnerable populations, exacerbating inequality and creating social unrest. Governments face challenges in balancing climate action with the need to protect employment and social stability.

Reputational and Legal Risks: companies failing to transition to sustainable practices may face reputational damage, reduced market value, and potential legal actions. International pressures could lead to trade restrictions or sanctions for countries lagging in climate commitments.

In LAC, transition risks associated with the shift toward a low-carbon economy can significantly impact key macroeconomic variables, but the effect may vary across time depending on the countries' ability to take advantage of the opportunities the transition includes. The main effects on main macroeconomic variables are the following:

GDP: transition risks may lead to reduced economic activity in carbon-intensive industries (e.g., energy, mining, and agriculture), which are significant contributors to GDP in many LAC countries. Job losses and economic dislocation could suppress overall growth, but there is a large degree of heterogeneity across countries. Resource-dependent countries, such as Venezuela and Colombia, are likely to experience sharper declines, while more diversified economies may be less affected.

Potential GDP: structural shifts could lower potential GDP in the medium term if economies are slow to adapt, due to stranded assets or misallocated resources. On the other hand, proactive and well-managed transitions could boost potential GDP by fostering green industries, innovation, and sustainable economic structures.

Consumption: there may be negative impacts since rising energy costs during the transition could reduce household disposable income. Furthermore, job losses in traditional industries could further suppress household spending. On the other hand, over the longer term, if green jobs and industries emerge, consumption could recover and grow sustainably. Also, policies like green subsidies and targeted fiscal transfers could cushion the transition for lower-income households, mitigating adverse effects.

Investment: investment in fossil fuels and carbon-intensive infrastructure may decrease sharply due to regulatory restrictions, financial divestment, and market demand shifts.¹⁶ Stranded assets could result in significant capital losses, reducing overall investment levels. On the other hand, there is potential for increased investment in renewable energy, energy efficiency, and low-carbon technologies. In this respect, the challenges are, firstly, that the financial systems may struggle to reallocate capital efficiently, leading to transitional inefficiencies. Secondly, limited access to technology and green finance in some countries could constrain green investment growth.

Productivity: transition risks can cause temporary productivity declines, particularly in industries struggling to adapt to new regulations or technologies. However, if countries embrace innovation and green technologies, productivity could increase in the medium to long term and adoption of energy-efficient processes and digitalization could enhance productivity across sectors. The risks are, however, that countries that are slow to adapt risk falling behind globally, leading to productivity stagnation or decline. Moreover, educational and skill mismatches could exacerbate productivity losses during the transition.

¹⁶ In a recent study, Kellogg (2024) investigates how the transition to a zero demand for crude oil may unfold. The model with the strongest empirical support suggests that the disinvestment effect - i.e., that anticipated decline in demand reduces investment - outweighs the 'green paradox,' i.e., the tendency of producers to accelerate near-term extraction to beat the decline in demand.

Employment and wages: there may be job losses in carbon-intensive sectors, such as fossil fuels, mining, and heavy manufacturing, as industries downsize or shut down due to new regulations or market shifts. There could also be skill mismatches in the labor market if workers in declining industries are not equipped to transition to green jobs. On the other hand, job creation in green sectors, such as renewable energy, sustainable agriculture, and energy efficiency could offset some losses and wages in green industries may rise if labor demand outpaces supply, particularly for skilled workers. There are likely sectoral and geographic disparities, with countries more dependent on high-carbon industries experiencing greater disruption.

International trade: the transition to low carbon economies may pose some challenges for exports. Particularly, resource-exporting countries, such as oil, gas, coal, or minerals may face declining demand and lower prices for their key exports and there may be trade barriers implemented, such as carbon border adjustment mechanisms, which could reduce competitiveness in global markets. But there are also opportunities. Countries investing in renewable energy technologies or sustainable agriculture may capture new export markets. Furthermore, green-certified products and services could see higher demand in international markets.

Interest rates: in the short term, risk premiums may rise if financial markets perceive heightened economic uncertainty or increased credit risks for firms exposed to transition risks and central banks may adjust interest rates to manage inflationary pressures arising from higher energy or transition-related costs. Furthermore, public or private borrowing costs may increase for carbon-intensive projects. In the long term, however, if the green transitions are successful, risk perceptions may stabilize, potentially reducing interest rates.

Exchange rates: as markets adjust to new trade patterns and investment flows, exchange rates may become more volatile. This implies depreciation risks for resource-dependent economies, if exports of fossil fuels or commodities decline, reducing foreign exchange earnings. Also, capital outflows could further weaken currencies if investors perceive heightened transition-related risks. However, countries with competitive green sectors or significant inflows of green finance may see currency appreciation.

Inflation: energy costs may increase temporarily during the transition as fossil fuel subsidies are removed, or as investments in green technologies create short-term supply constraints. Also, costs of imported goods could rise if trading partners implement carbon tariffs or carbon border adjustment mechanisms. Over the longer term, energy efficiency and renewable energy adoption could reduce production costs and stabilize inflation. In any case, price increases may be concentrated in carbon-intensive goods and services, creating disparities across sectors.

Inflation expectations: households and businesses may revise their inflation expectations upward in response to rising energy prices or supply chain disruptions during the transition. However, effective communication by central banks on managing transition risks can anchor expectations and prevent inflation spirals. A successful transition to stable green energy sources could reduce inflation volatility and anchor long-term expectations.

Table 1 summarizes the short- and long-term impact of transition risks on macroeconomic variables.¹⁷

¹⁷ Batten (2018) distinguishes between demand and supply shocks, as well as physical and transition risks. See also NFGS (2020) and ECB (2021).

Table 1
Impacts on macroeconomic variables of transition risks

Variable	Short-term impact	Long-term impact
GDP	Decline due to dislocations in industries and demand shifts	Recovery if green industries expand; risk of stagnation in resource-dependent economies
Potential GDP	Decline if transition is mismanaged	Growth potential from green innovation and structural change
Consumption	Decline due to energy price increases and job losses	Recovery with green job creation and policy support
Investment	Decline in traditional sectors	Growth in green sectors, contingent on policy and finance
Productivity	Temporary decline due to disruptions	Long-term gains with green technology and energy efficiency
Employment	Job losses in carbon-intensive industries; skill mismatches	Job creation in green sectors; higher demand for skilled labor
Wages	Pressure on wages in declining industries	Rising wages in green jobs, especially for skilled workers
International Trade	Decline in fossil fuel exports; potential carbon tariffs	Opportunities in green technologies and sustainable exports
Interest rates	Possible increase due to risk premiums	Stabilization with successful transitions
Exchange rates	Depreciation for resource-dependent economies	Stabilization or appreciation with green finance
Inflation	Energy and transition-related cost pressures	Long-term stabilization with green energy
Inflation expectations	Risk of unanchored expectations	Anchored expectations with central bank credibility

Source: Author's elaboration.

Fernando et al. (2021) report that by 2032, the GDP effects of transition risks span from approximately -1% to -10%, depending on country and region.¹⁸ As shown in figure 3, replicated from Bonato et al. (2024), the vulnerability to transition risks is highly heterogeneous across LAC countries. Some countries receive significant income from natural resources, while others' exports are dominated by agricultural products. This implies diverse challenges across countries.

While transition to the green economy involves some costs, it also presents opportunities.¹⁹ ECLAC (2023b) identifies priority sectors in the regional transition to carbon-neutral economies: renewable energies, e-mobility, the circular economy, the bioeconomy, water resources, sustainable tourism, and food security. In that regard, a search for energy transition projects capable of attracting investors was conducted in 2022. The result of this exercise was highly illustrative of the challenges facing the transition process. Despite their relevance and strategic importance, the projects did not meet the minimum requirements to attract private investors. Nevertheless, ECLAC estimates that annual investment in the LAC required to meet national climate action commitments amounts to an average of 3.7% to 4.9% of regional GDP, with 2.3% to 3.1% allocated for mitigation actions and 1.4% to 1.8% required for adoption.

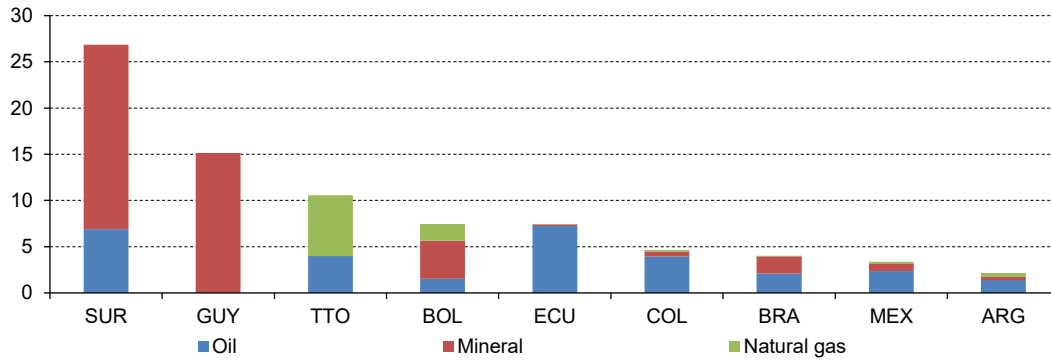
To sum up, transition risks represent both challenges and opportunities for LAC. Effective management can unlock new avenues for sustainable growth while avoiding severe economic and social disruptions. The next section examines how monetary policy can help mitigate climate change.

¹⁸ See also McKibbin and Vines (2023).

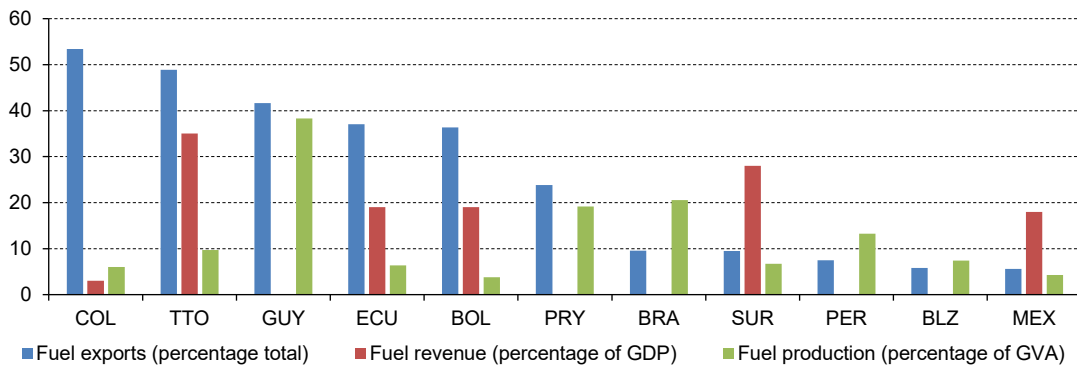
¹⁹ Duarte et al. (2024) mention that employment gains may occur due to the green transition in the electricity sector.

Figure 3
Vulnerability to transition risks

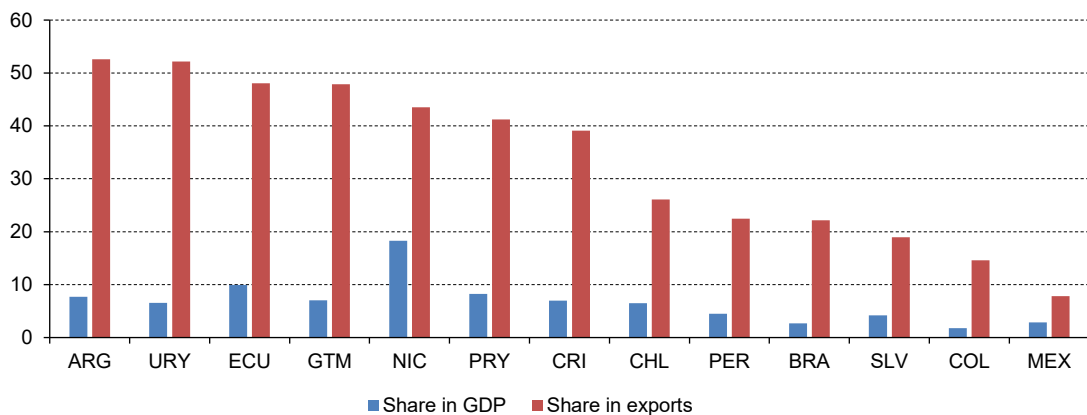
A. Natural resources rents, 2018
(Percentages of GDP)



B. Dependence of fossil fuels, 2015-2019
(Percentages of total exports)



C. Agricultural exports, 2019
(Percentages of GDP and exports)



Source: Bonato et al. (2024).

Note: Data labels use International Organization for Standardization (ISO) codes. Natural resources rents are estimated as the difference between the value of natural resources production at world prices and total costs of production. Fuel exports cover exports of mineral fuels, lubricants, and related materials (Standard International Trade Classification Rev. 3, Section 3). Fuel production is proxied by mining and quarry if petroleum and/or natural gas extraction and/or refinement is not available. Fuel revenue estimates are not available for some countries. In figure 3B, GUY data are from 2020.

II. Monetary policy and climate change

Monetary policy is not primarily a tool for mitigating climate change, but it can play a supporting role in addressing the economic and financial risks associated with it. Besides promoting financial stability, central banks can incorporate climate risks into their policy frameworks²⁰ by accounting for these risks in the assessment of financial stability and macroeconomic conditions. Furthermore, the climate-related risks mentioned in the previous section can influence inflation, interest rates, and output growth, requiring central banks to adapt their models and strategies.²¹

A more direct way of supporting the green transition is by prioritizing the purchase green bonds as part of quantitative easing programs and refinancing operations, which could favor loans for environmentally sustainable projects, indirectly encouraging green investments. By signaling support for a low-carbon transition, credible central banks may be able to influence market expectations, potentially steering investments toward more sustainable sectors. However, this is a strategy that should be evaluated carefully, as the market for these bonds is still of a limited size.

There is, however, a trade-off with the bank's primary mandates. Since most central banks prioritize inflation and employment stability, overemphasizing climate goals could conflict with these mandates. It should also be noted that monetary policy alone is insufficient; coordinated efforts with fiscal policy (e.g., carbon taxes, green subsidies) and regulation are essential to successfully tackle climate change challenges.

²⁰ Schnabel (2021) explores the integration of climate risks into the European Central Bank's (ECB) monetary policy framework. See also Beckmann et al. (2023) and the ECB's monetary policy strategy statement at https://www.ecb.europa.eu/home/search/review/html/ecb.strategyreview_monpol_strategy_statement.en.html.

²¹ Chen et al. (2021) use an Environmental DSGE model and argue, however, that there may be risks for central banks to proactively address climate change using narrow monetary policy, i.e., the short-term nominal interest rate.

This section examines the extent to which central banks may consider climate change as an integrated part of the monetary policy. Subsection II.A discusses why and how climate change is relevant for central banks and how they may support the transition to low-carbon economy. Subsection II.B discusses how climate change affects the monetary transmission mechanism, while Subsection II.C elaborates on future challenges for monetary policy due to climate change.

A. Climate change relevance for central banks

As discussed in the previous section, climate change significantly impacts macroeconomic development. Consequently, it is becoming increasingly relevant for central banks due to its implications for macroeconomic, price and financial stability. Concerning macroeconomic stability, climate change impacts agricultural yields, energy prices, and productivity, potentially leading to volatility in inflation and economic growth.²² Furthermore, extreme weather events disrupt production and supply chains, affecting prices and employment. Both physical and transition risks can impact central banks' inflation aim, affect the transmission of monetary policy, the equilibrium interest rate, and the space for conventional monetary policy.²³

To conduct forward-looking monetary policy, central banks rely on economic forecasts and climate change introduces uncertainties that challenge traditional models. Additionally, persistent climate-related shocks may require central banks to adapt their inflation targeting or growth stabilization strategies. In this context, it should be remembered that many central banks are tasked with supporting sustainable economic growth, which climate risks directly threaten.²⁴ Hence, some central banks, particularly in emerging markets, may explicitly consider including environmental sustainability within their mandates.

Finally, climate change mitigation often involves fiscal policies like carbon pricing, subsidies, or infrastructure investments, which interact with monetary policy. In this sense, central banks must align their strategies with these measures to avoid conflicts. Hence, as stewards of economic and financial stability, central banks cannot ignore the profound challenges posed by climate change.²⁵ Their involvement ranges from assessing risks to actively shaping policies that enhance the resilience of the economy and financial systems.

While several LAC central banks have acknowledged climate change as an important factor and are incorporating it into their financial stability frameworks, most have not yet directly included climate change in their formal monetary policy statements. The work so far has focused on stress testing, the development of sustainable finance markets, and financial system resilience rather than direct monetary policy adjustments. However, several central banks in LAC, including those of Chile, Mexico, and Brazil, are members of the Network for Greening the Financial System (NGFS), which demonstrates their commitment to improving environmental risk management and exploring how climate change affects financial stability and monetary policy. Full integration of climate change into direct monetary policy, however, remains a work in progress.²⁶

²² In a study of the Middle East and Central Asia, Abidi et al. (2024) find that climate shocks could affect the path of policy rates through food prices.

²³ See also ECB (2021) and Boneva et al. (2022).

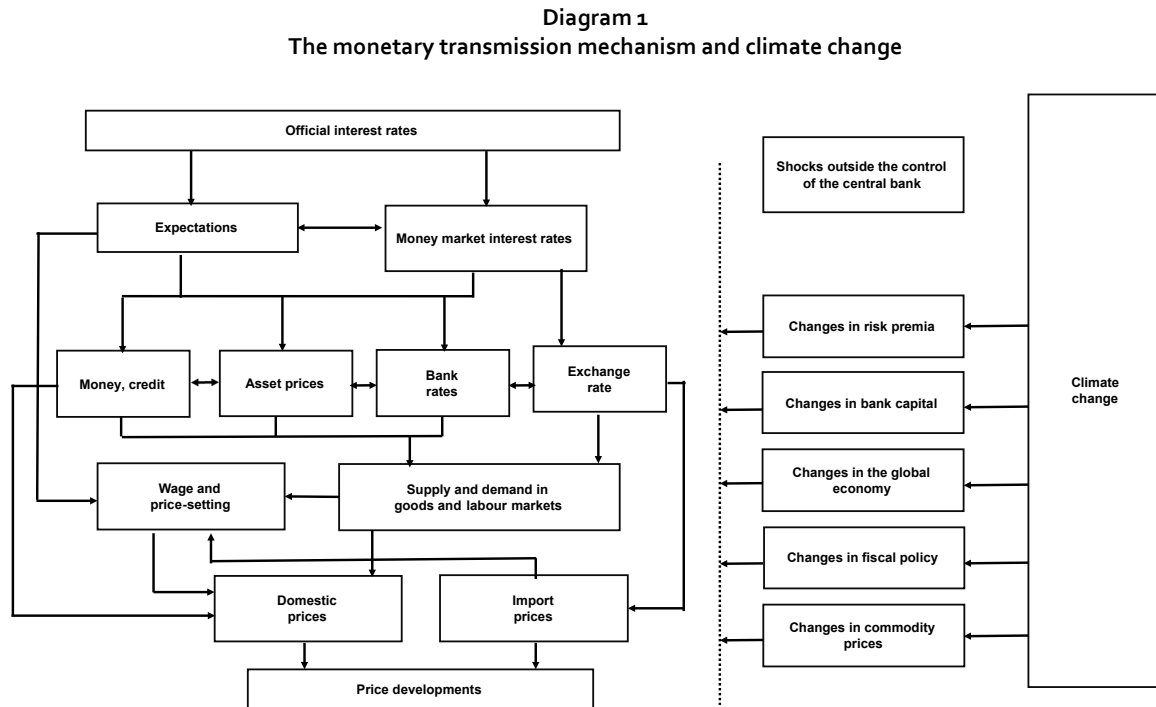
²⁴ See also Dikau and Volz (2021).

²⁵ See also Olovsson (2018).

²⁶ Eickmeier and Petersen (2024) report that 69% of German households have increased trust in the ECB due to its climate actions.

B. Climate change and the monetary transmission mechanism

Climate change affects the monetary policy transmission mechanism in several ways, impacting the channels through which monetary policy influences the economy. Diagram 1 contains an illustration of the monetary policy transmission mechanism and how climate change may influence it. The impacts are external to the actual mechanism, but as discussed in the previous section, they may influence each of the steps, from the change in the official interest rate to the impact on price development.



Source: Roy (2024), based on the illustration on the webpage of the ECB.

The monetary transmission mechanism consists of several channels. The following describes how each of them may be affected by climate-induced disruptions.

The interest rate channel: central banks set interest rates to influence borrowing and lending. Lower interest rates stimulate demand by making loans cheaper, while higher rates discourage borrowing by increasing the cost of credit. Climate change-induced events (e.g., floods or heatwaves) can reduce production and increase costs (e.g., food and energy). These disruptions can cause inflationary pressures that force central banks to raise interest rates, potentially counteracting the intended effects of monetary stimulus. Furthermore, increased uncertainty about climate risks may reduce firms’ willingness to invest, making them less responsive to lower interest rates. This can dampen the typical economic boost from rate cuts.

As an example, consider a natural disaster increases input costs, such as energy, which drives up inflation. Despite lower interest rates set by the central bank to stimulate the economy, businesses and consumers may still reduce spending due to supply constraints or uncertainty about future climate-related risks.

The credit channel: this channel operates through changes in interest rates that affect the demand for credit. Lower rates encourage borrowing, particularly for consumption and investment, while higher rates discourage it. The impact of climate change implies that the financial sector may become more cautious in lending to sectors or regions vulnerable to climate risks, such as agriculture. This could lead to tighter credit conditions, reducing the effectiveness of monetary policy in stimulating the economy.

Credit rationing may also play a role, as banks assess climate-related risks to their portfolio, they may adjust their lending practices. The perceived risk of climate-related shocks may result in higher borrowing costs or stricter lending standards, limiting credit access for businesses and households. As an example, banks may raise interest rates for loans to businesses in flood-prone areas, making it more expensive for these businesses to borrow, even if the central bank has lowered its policy rates. In other words, there is a lack of pass-through from the central bank rate to commercial ones.

The exchange rate channel: in this mechanism, changes in interest rates influence exchange rates through interest rate parity. A rate cut typically weakens the domestic currency, making exports more competitive and imports more expensive, thus stimulating demand for domestic goods and services. Climate change can affect global commodity prices, e.g., agricultural products and energy. Price shocks may impact exchange rates if a country is a major importer or exporter of these commodities. Moreover, increased climate-related risks might lead to changes in investor sentiment, with capital flowing out of countries more vulnerable to climate impacts or those with weaker adaptation strategies. This could cause exchange rate volatility, complicating the response to monetary policy.

As an illustration, imagine a severe drought in a major exporting country, such as, Brazil's coffee production, which may reduce export earnings, leading to a depreciation of its currency. Central banks may struggle to use interest rate adjustments to stabilize the currency as external factors, like climate shocks, dominate.

The asset price channel: typically, changes in interest rates influence asset prices, such as real estate or stock markets. Lower interest rates increase the present value of future cash flows, typically boosting asset prices and encouraging wealth effects, which may stimulate consumption and investment. Climate change may lead to a reassessment of asset values, especially real estate in vulnerable areas, e.g., coastal properties and agriculture. A rise in the perceived risk of climate impacts can lead to a decline in asset values, particularly in regions exposed to physical climate risks. Additionally, as governments and markets shift towards green technologies, there may be increased demand for green bonds and assets, while fossil-fuel-related investments could lose value, changing the dynamics of asset prices.

As an example, consider a real estate developer in a coastal city who may find that their properties lose value due to the increased risk of flooding, despite low interest rates. This revaluation of assets limits the positive wealth effect typically generated by lower rates.

The expectations channel: monetary policy relies on shaping expectations. If a central bank signals that rates will stay low for an extended period, businesses and consumers may anticipate lower borrowing costs, thus stimulating spending and investment. Climate change introduces significant uncertainty, both physical and transition. This uncertainty can dampen the effectiveness of forward guidance, as businesses and consumers may hold back on decisions due to concerns about future climate-related risks. Also, central banks' policy decisions may need to account for long-term expectations about climate-related regulations, which could influence inflation expectations and the behavior of economic agents.

For example, a central bank might indicate that interest rates will remain low, but businesses, uncertain about future carbon taxes or the impacts of climate change, may still hesitate to invest, undermining the expected economic boost.

As demonstrated in table 2, both physical and transition risks affect the five channels described.

Table 2
Monetary policy transmission: effects of climate change

	Physical risk	Transition risk
Interest rate channel	Non-interest cost factors become more relevant, lowering investment and saving response to interest rate changes.	Uncertainty about timing and speed of policy response raises risk premia and volatility. Natural rate of interest affected.
Credit channel	Financial losses reduce borrower net worth, bank collateral and profitability. Non-performing loans constrain credit supply. Uncertainty reduces market funding of banks.	
Exchange rate channel	Devaluation incentive for short-term competitiveness gain. Higher volatility.	Carbon border adjustments may disrupt trade routes and global value chains.
Asset price channel	Physical risks destroy capital and residential property. Financial losses lower firm valuations.	Demand shifts across sectors and regions. Stranded assets.
Expectations channel	Monetary policy is less predictable since shock persistence uncertain, blurring supply/demand.	Time-inconsistent transition policies reduce monetary policy credibility and effectiveness of forward guidance

Source: ECB (2021).

Besides the possible effect of climate change on the monetary transmission channel, climate change may affect the long-term neutral rate, often denoted r^* , and the composition of the central bank's balance sheet. Concerning the neutral rate of interest, climate change may reduce productivity and economic growth, potentially lowering this rate, which constrains central banks' ability to use interest rate cuts as a stimulus tool. Hence, increased climate-related risks may raise the risk premium on investments, complicating monetary transmission.

With respect to the balance sheet, central banks incorporating climate considerations, such as acquiring green bonds, may influence the composition of their balance sheets, potentially altering the transmission of quantitative easing. Additionally, climate-related shocks could impair the quality of collateral held by central banks, affecting their monetary policy operations.

In summary, climate change interacts with the traditional channels of monetary policy transmission by introducing new risks, uncertainties, and disruptions that alter the response of households, businesses, and financial institutions to changes in interest rates. These effects can weaken or complicate the traditional mechanisms of monetary policy, necessitating adjustments in central bank strategies to address climate-related challenges. To adapt, central banks may need to incorporate climate-related risks into economic models and forecasting, enhance coordination with fiscal authorities on climate-related investments, and adjust inflation targeting frameworks to account for climate-driven price volatility.

There is still little empirical evidence to quantify the effect of climate change on monetary transmission. Song and Fang (2023) use data from China and show that when climate change is severe, expansionary monetary policy is less efficient, and the negative impact of tight monetary policy is enhanced. In a study of the expectation channel of climate change, Dietrich et al. (2021) find that climate change-related disaster expectations lower the neutral rate of interest substantially, and time variation in disaster expectations contributes to cyclical expectations. More research in this area is certainly needed.

C. Future challenges for monetary policy in the context of climate change

Concerning climate change, Arndt et al. (2020) state that the best way central banks can support adaptation and mitigation efforts is by maintaining macroeconomic stability, lowering the cost of borrowing to support green investment, facilitating the development of sustainable finance markets, and improving the sharing of information in the financial system, especially concerning risks. However, climate change introduces complex challenges for monetary policy, reshaping how central banks operate in maintaining price stability, supporting economic growth, and managing financial systems. The increasing frequency and severity of climate-related events complicate monetary policy in multiple dimensions, as highlighted below:

Balancing price stability with climate goals: climate-induced shocks, such as extreme weather events and long-term environmental changes, drive supply-side disruptions, raising inflation and complicating inflation targeting. Central banks face the challenge of managing these pressures without undermining economic growth, especially in regions highly vulnerable to climate impacts.

Incorporating climate risks into monetary policy: physical and transition risks associated with climate change affect inflation, growth, and interest rates, necessitating adjustments to traditional policy models. Central banks must integrate climate risks into economic forecasts, requiring advanced modeling techniques to account for uncertainties and potential tipping points. The lack of historical data on climate impacts adds complexity to these efforts, as does the challenge of adapting the economic models to incorporate horizons long enough to address the challenges posed by climate change.

Monetary transmission mechanism disruptions: climate change weakens traditional transmission channels. For example, extreme weather can disrupt supply chains and reduce investment responsiveness to interest rate changes. Similarly, transition risks might increase borrowing costs for carbon-intensive industries, complicating the effectiveness of the credit channel.

Long-term neutral interest rate pressures: climate-related disruptions may lower productivity and economic growth, reducing the neutral rate of interest. This limits the space for conventional monetary policy, potentially necessitating non-traditional tools, such as targeted quantitative easing for green investments.

Balancing mandates and resources: many central banks, especially in emerging markets like those in the LAC region, operate under constrained resources. Balancing climate considerations with traditional mandates of inflation and employment stability requires careful prioritization and international collaboration.

Coordination with fiscal policy: effective climate mitigation and adaptation require alignment between monetary and fiscal policies. Central banks must work with governments to ensure that fiscal measures, such as carbon pricing and green subsidies, complement monetary actions, avoiding policy conflicts and enhancing overall effectiveness.

Stakeholder expectations and credibility: as public awareness of climate risks grows, central banks face pressure to actively address these challenges. Managing expectations while preserving credibility in their core objectives demands transparent communication and a clear delineation of their role in climate policy.

To address these challenges, central banks must innovate their frameworks, prioritize international collaboration, and develop robust strategies to integrate climate risks while maintaining economic stability. For regions like LAC, where vulnerabilities are acute, these adaptations are critical to fostering resilience and sustainable growth. In this context, based on Boneva et al. (2024), table 3 presents possible central bank actions to respond to climate change, separating them between protective and proactive measures, and others to raise awareness of climate risks.²⁷

Table 3
Possible central bank actions to respond to climate change

Protective measures	Awareness measures	Proactive measures
Protect central bank's balance sheets: reduce the weight of polluting assets and other assets at risk of becoming stranded	NGFS membership	Greening non-monetary policy portfolios (pension fund, own fund)
Assess the impact of climate change on the economy, financial markets and the monetary transmission mechanism	Publicly communicate about climate change and the urgency of greening the financial system	Greening foreign reserves management
Incorporate climate change into the analytical toolkit	Promote the disclose of climate-related risks	Greening outright asset purchase programmes (QE)
Develop a monetary strategy that is resilient to climate change	Support initiatives from policymakers to finance sustainable growth	Greening central bank financing and/or lending quotas
		Greening the collateral framework for monetary policy operations

Source: Boneva et al. (2022).

Note: Awareness measures are aimed at raising awareness of climate risks.

²⁷ See also Lane (2024).

III. Conclusions: challenges for monetary policy in Latin America and the Caribbean

This document examines the interplay between climate change and monetary policy, with a particular focus on the LAC region. The region faces both physical and transition risks stemming from climate change, which have profound macroeconomic implications. Physical risks, such as extreme weather events, rising temperatures or sea-level changes, disrupt economic activity, reduce productivity, and intensify inflationary pressures, complicating monetary policy responses. Transition risks associated with the shift toward a low-carbon economy pose economic challenges, including asset devaluation in carbon-intensive sectors and labor market disruptions. However, it also presents opportunities for investment in green technologies and renewable energy.

These risks require adaptations in monetary policy, as climate change disrupts the traditional channels through which it influences the economy, such as interest rates and credit availability. Furthermore, climate impacts may reduce long-term productivity and economic growth, lowering the neutral interest rate and limiting policy effectiveness. While monetary policy alone cannot address climate change, central banks can integrate climate risks into policy frameworks, support green finance, and align with fiscal measures like carbon pricing. Therefore, central banks should strengthen climate risk assessments, promote sustainable finance, enhance coordination with fiscal authorities, and improve data collection and regional cooperation to build climate resilience.

In the LAC region, central banks are increasingly recognizing the need to address climate change²⁸ due to the region's vulnerability to extreme weather and its economic dependence on natural resources. While progress varies, many are joining global initiatives like the NGFS and

²⁸ Studies related to climate change published by LAC central banks include Bernal-Ramírez and Ocampo (2020), Hernández and Madeira (2021), Agudelo-Rivera et al. (2022), and Barón and Rodríguez (2024).

integrating climate risks into their financial stability frameworks. However, challenges persist, including limited resources, less developed financial systems, and the need for regional collaboration to scale up efforts in green finance and resilience building.

Given the heightened vulnerability of the LAC region to climate change, central banks should adopt tailored strategies that account for their unique socio-economic and environmental contexts. The following recommendations focus on enhancing resilience and promoting sustainable growth:²⁹

Integrate climate risks into monetary policy analysis frameworks: LAC central banks should embed climate risks—both physical and transition—into their monetary policy models. This involves developing tools to forecast climate-related supply-side shocks and their impacts on inflation and growth, adjusting the inflation targeting frameworks to account for climate-induced price volatility in sectors like food and energy, and incorporating climate risks into projections of the neutral rate (r^*) of interest and adapting policies accordingly.

Strengthen climate risk assessments: robust risk assessment frameworks are essential for understanding vulnerabilities of economies to climate change. This includes conducting regular climate-related stress tests for financial institutions, focusing on critical sectors, such as agriculture, energy, and tourism, and collaborating with the NGFS to adopt the best global practices for assessing climate risks.

Promote sustainable finance: central banks should actively support the development of sustainable finance markets to facilitate the transition to low-carbon economies by encouraging banks to offer favorable financing for renewable energy, sustainable agriculture, and resilient infrastructure projects. Additionally, they should establish guidelines for green taxonomy to ensure transparency and alignment with international standards.

Enhance data collection and research: improving data availability and analysis capacity is critical for effective decision-making. Central banks should partner with local governments and international organizations to develop comprehensive climate and economic databases. Additionally, they should invest in research to quantify the macroeconomic impacts of climate change and transition risks, particularly in key sectors like mining, fisheries, and agriculture.

Foster policy coordination: climate resilience in the LAC region requires close collaboration between monetary and fiscal authorities. Hence, central banks should work with governments to align fiscal measures (e.g., carbon taxes, green subsidies) with monetary policy and advocate for public investments in climate-resilient infrastructure and sustainable development projects.

Support regional cooperation: Given the interconnected nature of climate risks, regional collaboration can amplify the effectiveness of national efforts. In this context, central banks should share data, research, and policy experiences with counterparts in other LAC countries. Furthermore, they should collaborate on cross-border initiatives, such as joint green bond issuances or regional climate resilience funds.

Improve communication and stakeholder engagement: To maintain credibility and public trust, central banks should transparently communicate their role in addressing climate risks and the limitations of monetary policy in this context. They should also engage with stakeholders, including private sector players and civil society, to foster broad-based support for green initiatives.

²⁹ The recommendations are broadly in line with those of Kranz et al. (2024).

In conclusion, addressing the interplay between climate change and monetary policy is critical for fostering economic stability and sustainable growth in the LAC region. The region's heightened vulnerability to both physical and transition risks underscores the urgent need for tailored strategies that integrate climate considerations into monetary policy frameworks, risk assessments, and sustainable finance initiatives. Central banks have an important role to play in enhancing resilience by promoting sustainable finance markets, improving data and research capacities, and fostering collaboration with fiscal authorities and regional partners. While challenges remain, progress can be accelerated through strengthened regional cooperation, effective stakeholder engagement, and adherence to international best practices. By taking proactive measures, central banks in the LAC region can not only mitigate the risks posed by climate change but also unlock opportunities for investment and innovation in green technologies, thereby laying the foundation for a more resilient and sustainable economic future.

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