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Fiscal Impact Estimates of a Net-Zero Emissions Transition for Major Hydrocarbon Producers in Latin America and the Caribbean

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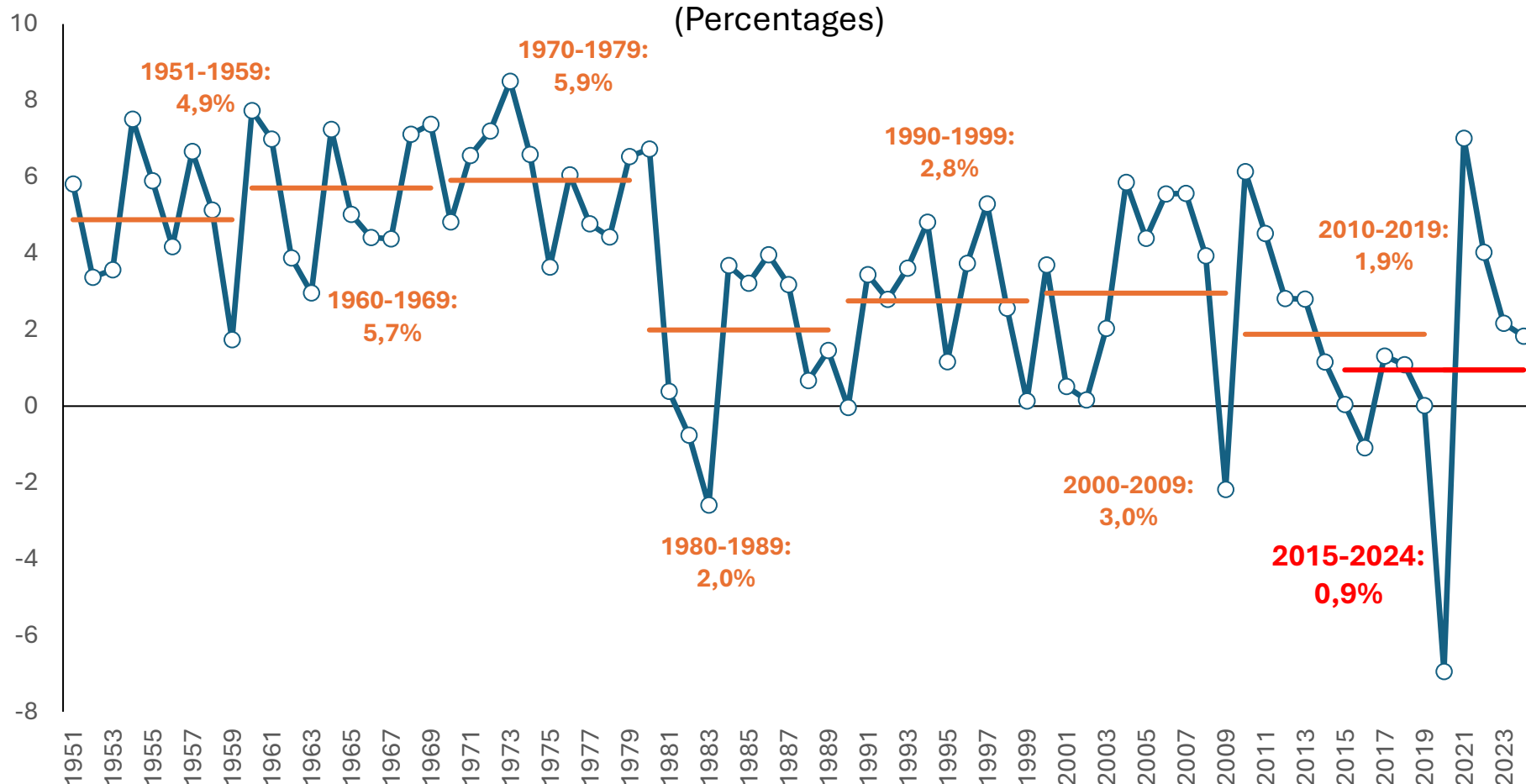
Economic Development Division, UN-ECLAC

Motivation

- The transition to NZE represents a major economic, productive, and fiscal challenge for hydrocarbon producers.
- These countries will need to deal with energy and productive restructuring while managing large losses of exports and fiscal revenues.
- The complexity of the NZE transition will largely depend on the degree of fiscal dependence on hydrocarbons.
- In Latin America and the Caribbean, current macroeconomic and fiscal conditions are not favorable for facilitating this transition.
- In 2021, UN-ECLAC prepared a study to estimate the fiscal impacts of the NZE transition on the region's major hydrocarbon producers: Bolivia, Brazil, Colombia, Ecuador, Mexico, and Trinidad and Tobago (LAC-6 countries).

Latin American and Caribbean countries face a complicated macroeconomic context on the way to the NZE transition

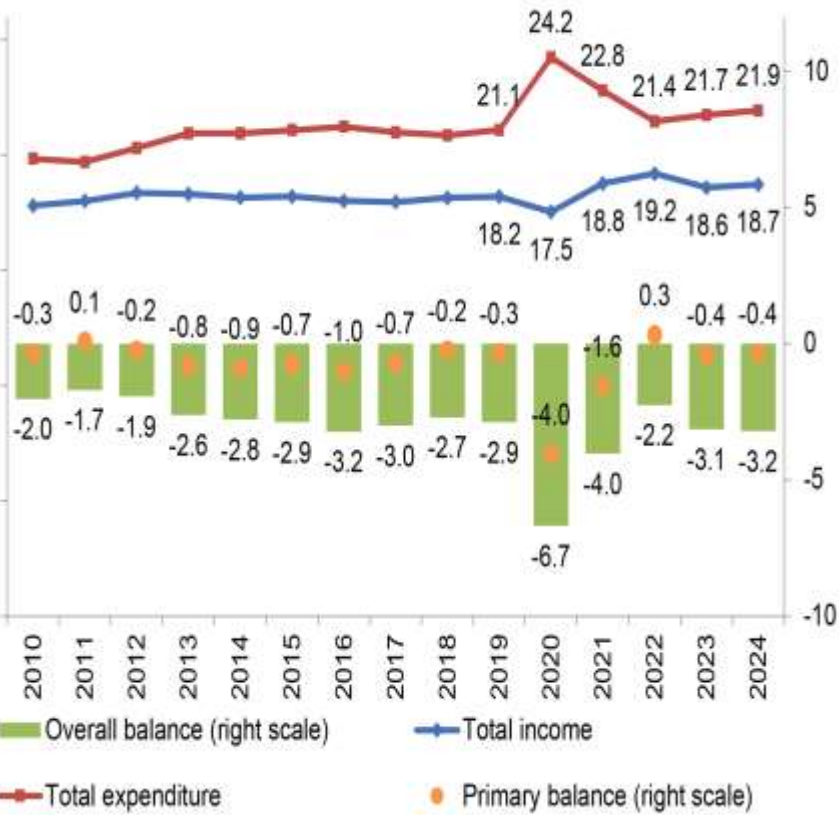
Latin America and the Caribbean: GDP real growth, annual average and by decade, 1951–2024



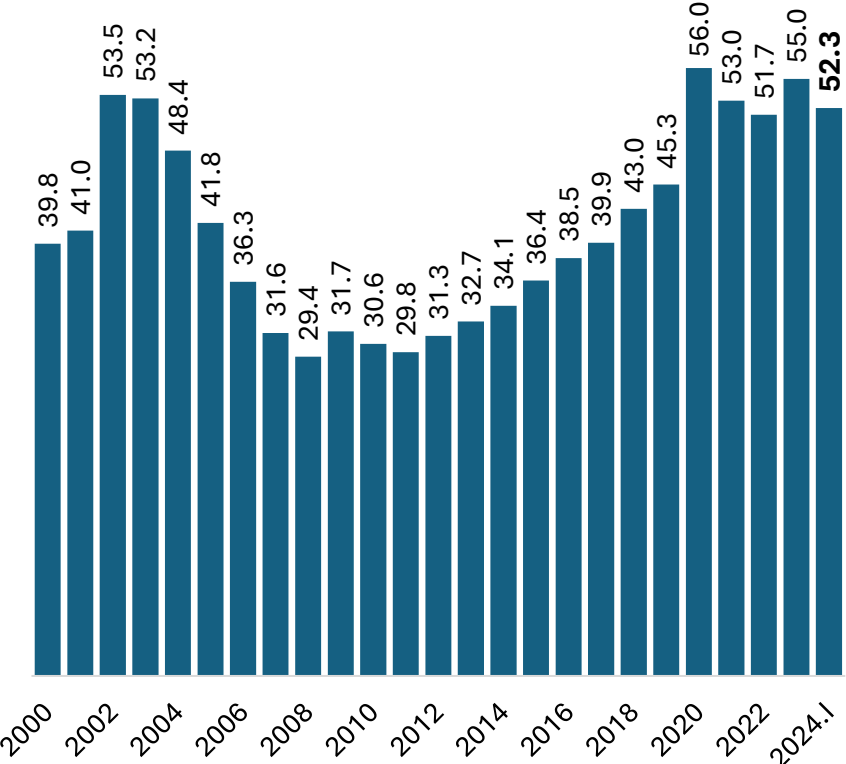
- LAC faces a low-economic-growth trap, combined with high inequality and low social mobility and cohesion.
- The external sector will provide a limited boost to economic activity due to moderate global economic and trade growth, and tight international financial conditions.

Along with a reduced fiscal space due to recurrent deficits, high debt levels, and increasing interest payments that limit social and productive spending

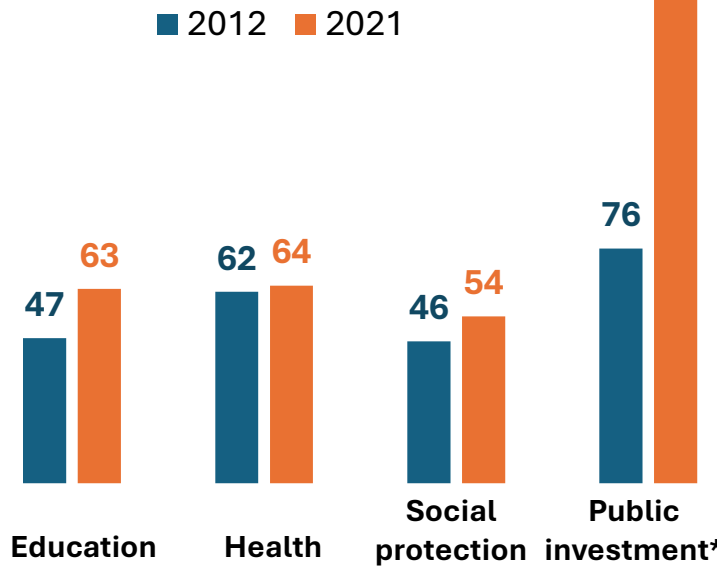
LATAM (16 countries): central government fiscal indicators, 2010–2024
(Percentages of GDP)



LATAM (16 countries): central government public debt, 2000–March 2024
(Percentages of GDP)



LAC (21 countries): central government interest payments as % of spending on education, health, social protection and public investment, 2012-2021
(Percentages)

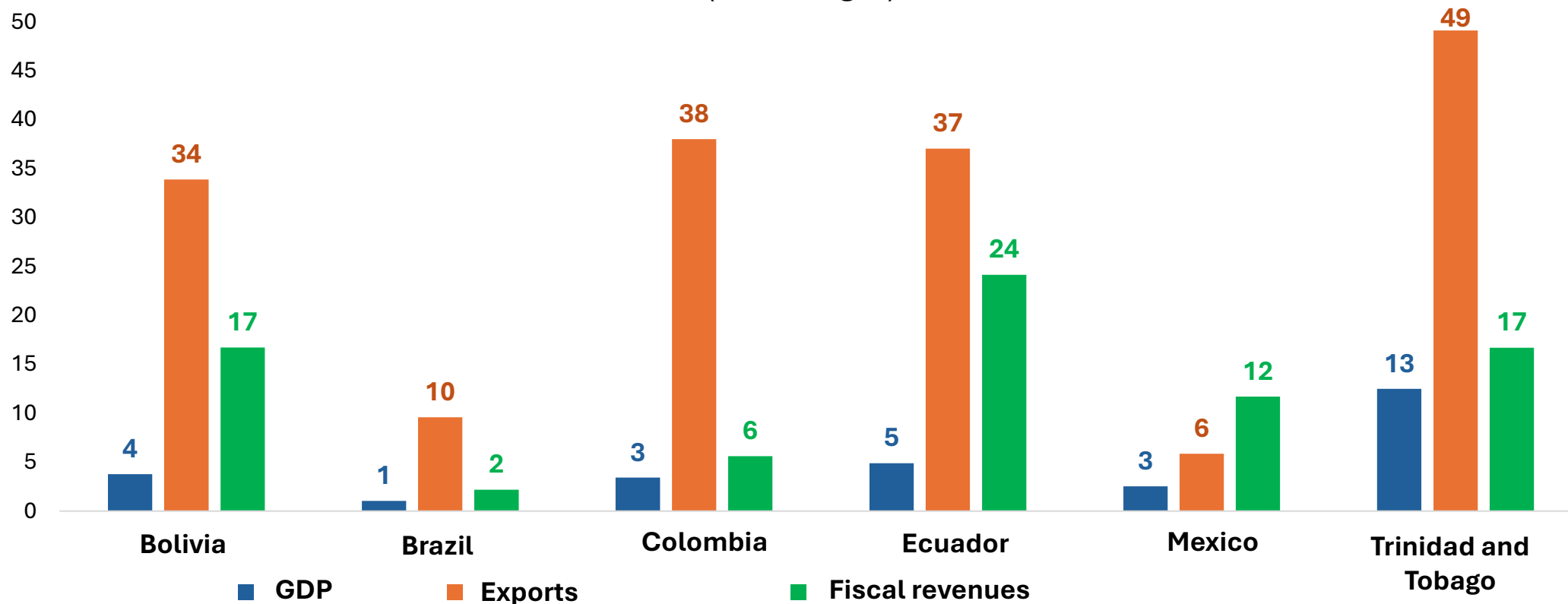


Source: ECLAC, *Economic Survey of Latin America and the Caribbean 2024*.

* Measured as the acquisition of fixed capital assets

Hydrocarbon activities account for a significant share of GDP, exports and fiscal revenues in LAC6 countries

Share of hydrocarbon activities in GDP, exports, and general government total revenues, 2015-2019
(Percentages)

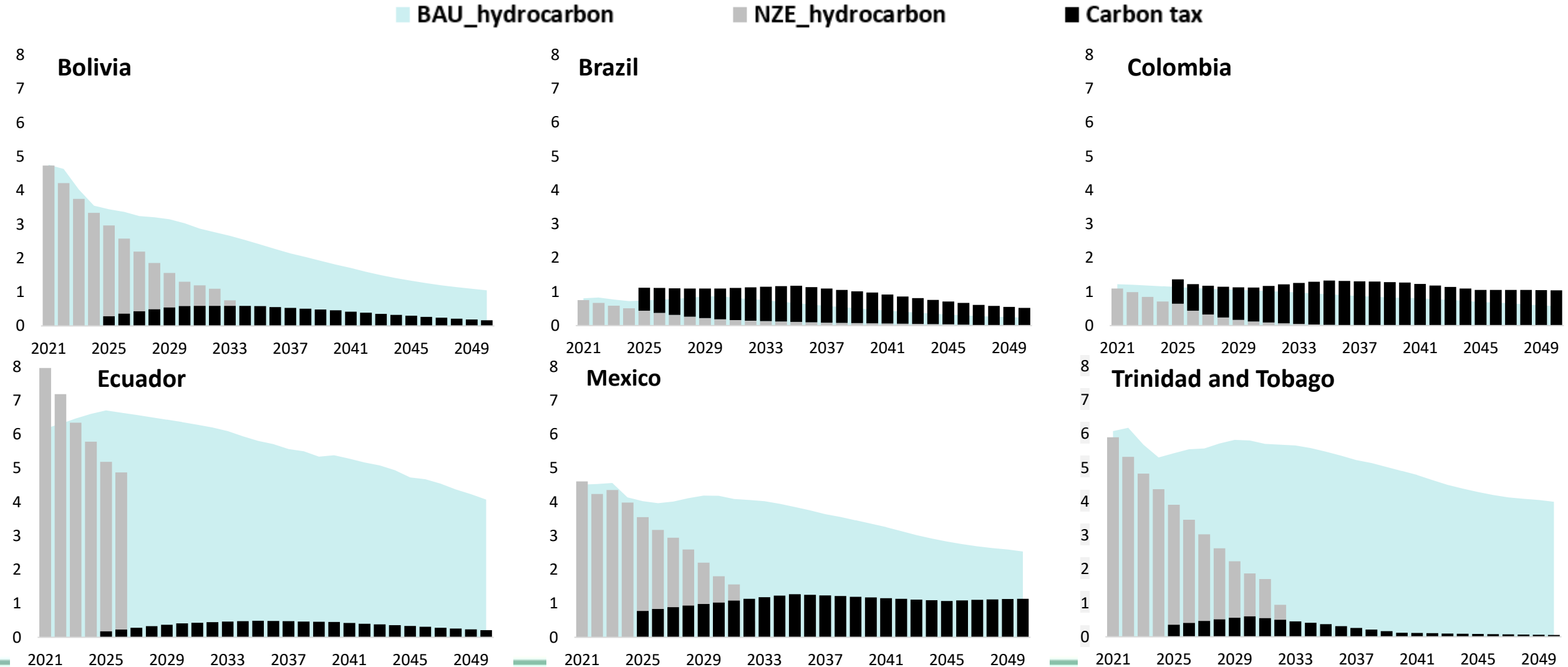


Fiscal impact estimates of the NZE transition for major hydrocarbon producers (LAC-6 countries)

- We used a reduced form of the IMF fiscal framework for resource-rich countries to estimate 2 models:
 - Business-as-Usual (BAU): long-run hydrocarbons production assumed to maintain present levels. Hydrocarbon prices based on the IEA Baseline Scenario (2021).
 - NZE: long-run hydrocarbon production falls sharply, in line with the IEA NZE Scenario (2021), based on the exhaustion of existing reserves and no additional investment. Hydrocarbon prices based on the IEA NZE Scenario (2021).
- We considered two scenarios for each model:
 - Deficit anchor (DA): adjusted expenditure levels to maintain the average fiscal balance for the period 2000-2019.
 - Investment and social needs (ISN): incorporated growing public spending demands by increasing expenditure linearly to 39.5% of GDP in 2050 (equivalent to OECD 25th percentile in 2019).

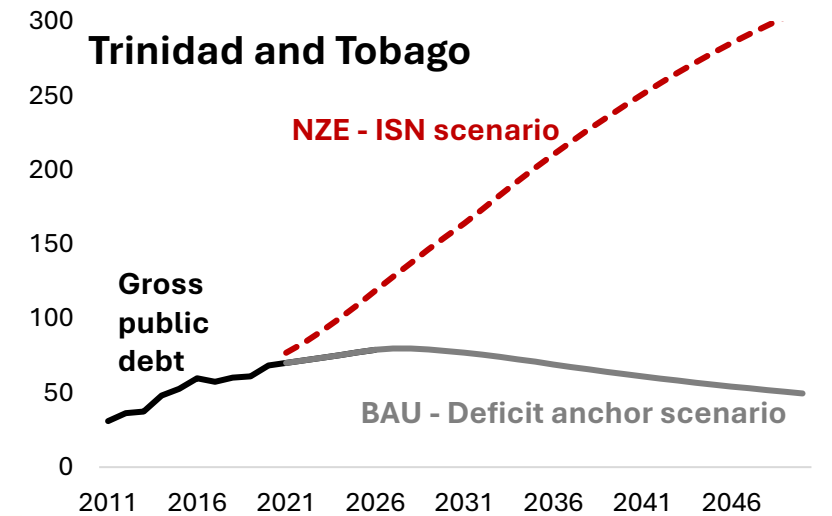
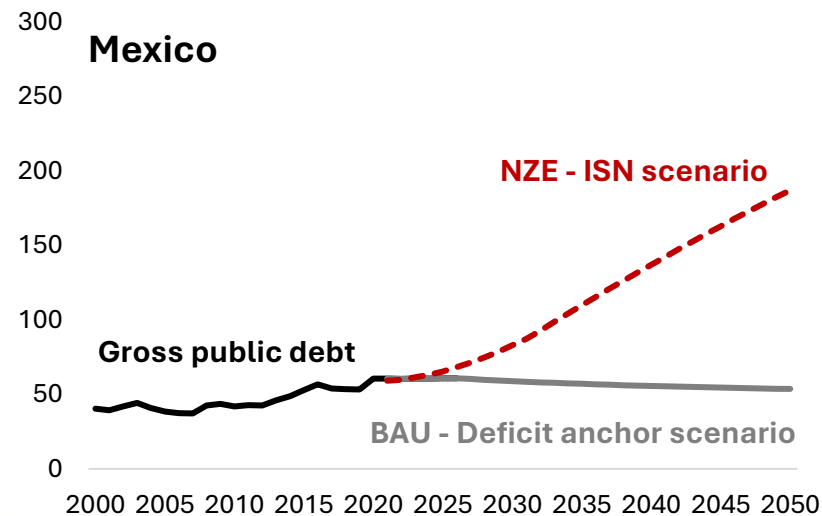
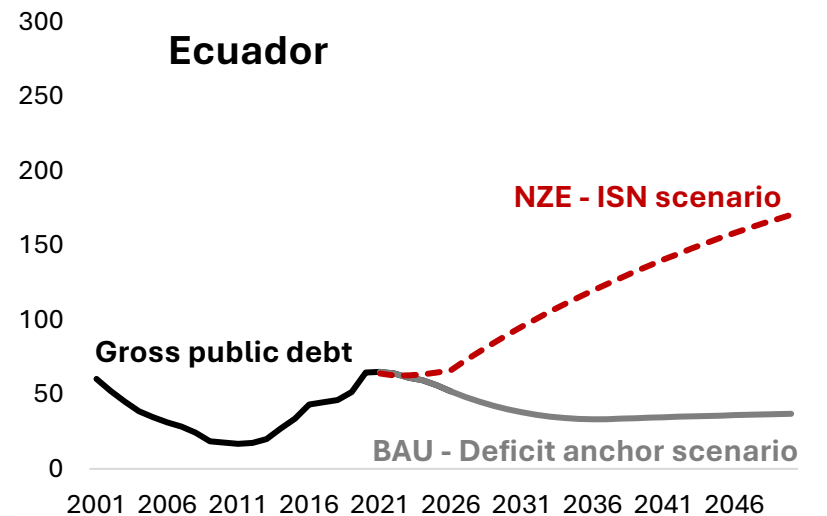
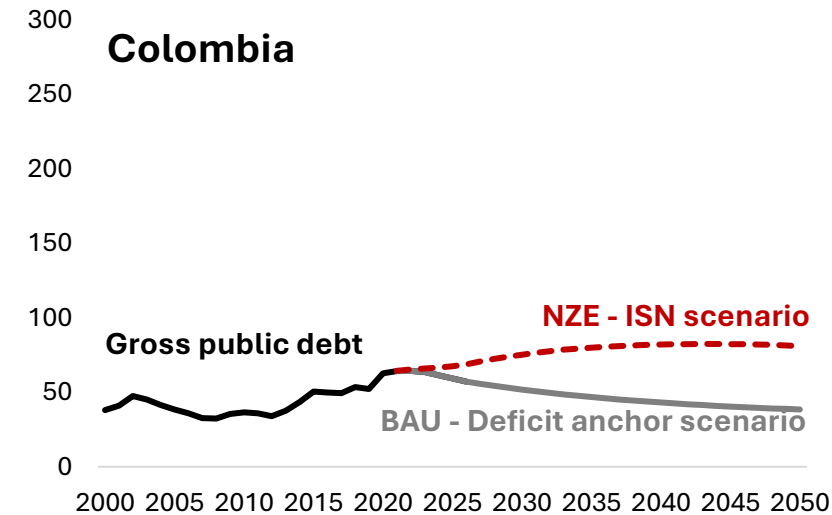
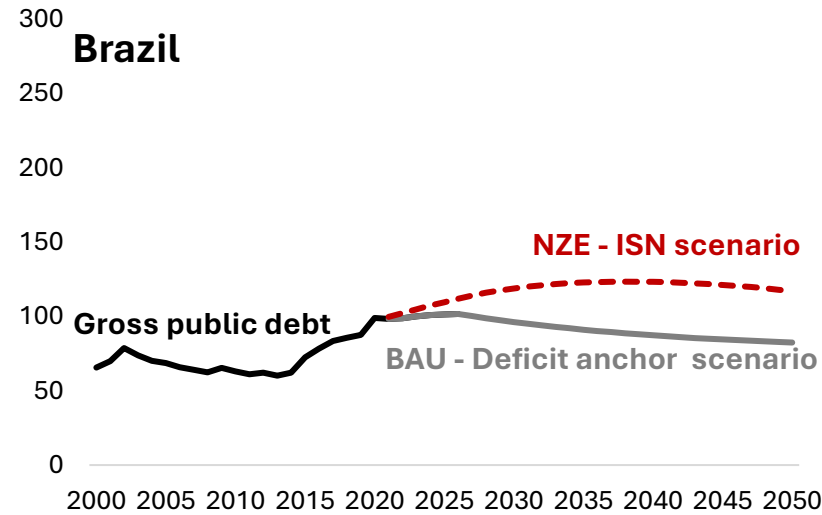
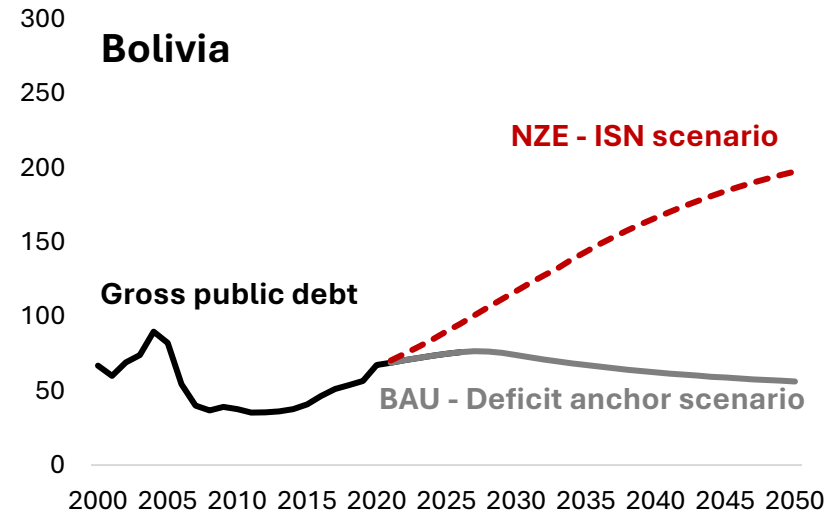
Hydrocarbon revenues fall due to a drop in production and prices, which in most cases would not be offset by a carbon tax

Hydrocarbon revenues in the BAU and NZE models and carbon tax revenues, 2000-2050 (*Percentages of GDP*)



Addressing social and investment needs during the NZE transition could lead to unsustainable debt trajectories

General government gross public debt, 2000-2050 (Percentages of GDP)



Main messages

- NZE will imply a sharp decline in fiscal revenues at a time when social and public investment requirements will increase significantly.
- Carbon taxes would be insufficient to cover the decline in hydrocarbon revenues in most countries.
- If growing social and investment needs are addressed during the NZE transition, debt dynamics would become unsustainable.
- Increasing domestic public resources will be a key challenge to make debt sustainable under the NZE transition. These efforts will be required to increase the tax take in order to accommodate increasing expenditure demands.
- Efforts at the national level must be accompanied by supportive measures by IFIs.
- Expanding the lending toolkit of multilateral lenders will be key to ensuring that countries, in particular hydrocarbons producers, have access to long-term low-cost financing for green structural transformation and sustainable and inclusive development.
- Access to precautionary financing will be particularly helpful for hydrocarbon producing countries as they adjust during the NZE transition.



Thank you!

- **Fiscal Impact Estimates of a Net-Zero Emissions Transition for Major Hydrocarbon Producers in Latin America and the Caribbean:** <https://www.bu.edu/gdp/2022/04/05/fiscal-impact-estimates-of-a-net-zero-emissions-transition-for-major-hydrocarbon-producers-in-latin-america-and-the-caribbean/>
- **Fiscal Panorama of Latin America and the Caribbean 2024:** <https://www.cepal.org/es/publicaciones/69216-panorama-fiscal-america-latina-caribe-2024-politica-fiscal-enfrentar-desafios>
- **Economic Survey of Latin America and the Caribbean 2023:** <https://www.cepal.org/es/publicaciones/67989-estudio-economico-america-latina-caribe-2023-financiamiento-transicion>