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EXPLORING THE FUEL SUBSIDY REFORM AND FISCAL SPACE IN RESOURCE-DEPENDENT ECONOMIES: EVIDENCE FROM ECUADOR'S HYDROCARBON VALUE CHAIN

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Extended Abstract

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Abstract Summary

In resource-dependent nations such as Ecuador, fossil fuel subsidies reforms are expected to create additional fiscal revenues and improve the national fiscal accounts. Nevertheless, persistent and structural inefficiencies in the whole hydrocarbon value chain, administered by the state-owned enterprises, commonly jeopardize these potential returns. This paper describes and examines the Operational Offset Effect: the extent to which structural and managerial constraints, such as declining domestic oil production, climate-induced pipeline disruptions, underutilized refining capacity, and rising dependence on imported petroleum products, reduce the net fiscal outcomes of fossil fuel pricing reforms.

Using a monthly dataset for Ecuador covering the period from 2011 to 2025, this study combines historical descriptive analysis, counterfactual fiscal scenarios, and an Autoregressive Distributed Lag (ARDL) econometric scheme to compute the interrelation between hydrocarbon value chain performance and fiscal results. Preliminary outcomes show that fossil fuel subsidy reforms generated on average, fiscal gains equivalent to nearly 2% of Ecuador's GDP annually between 2022 and 2025. However, these gains were partially offset by managerial weaknesses throughout the value chain operated by the largest state-owned enterprise, Petroecuador.

The results of the study show that fossil fuel pricing reforms alone are not enough to fully expand fiscal space unless complemented by measures to strengthen oil production, pipeline reliability, refinery utilization, and domestic fuel commercialization. The paper offers new evidence to the energy economics literature by linking the managerial efficiency of state-owned enterprises directly to the effectiveness of fossil fuel subsidy reforms in resource-dependent nations, specifically oil producers. Similar dynamics are likely relevant for other petroleum-exporting economies facing comparable structural challenges.

Presenting Author Biography

Pablo Albán is an economist with over 15 years of experience in fiscal policy and energy economics. He has played a key role in shaping Ecuador's energy transition, working on policies to align national energy markets with decarbonization pathways. Since 2018, he has led high-impact reforms equivalent to 3.5% of GDP per year through regulatory design and public policy advisory. Pablo holds a B.A. in Economics from Pontificia Universidad Católica del Ecuador and an MSc in International Business and Emerging Markets from the University of Edinburgh and is a Certified Expert in Climate and Renewable Energy Finance.