Climate-Related Stress Testing: Transition Risk in Colombia

Can Sever and Manuel Perez-Archila

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Abstract

This paper builds a framework to quantify the financial stability implications of climate-related transition risk in Colombia. We explore risks imposed on the banking system based on scenarios of an increase in the domestic carbon tax by using bank- and firm-level data. Focusing on the deterioration of firms' balance sheets and the exposure of banks to different sectors, we assess the extent to which such policy shock would transmit from nonfinancial firms to the banking system. We observe that sectors are affected unevenly by a higher carbon tax. Agriculture, manufacturing, electricity, wholesale and retail trade, and transportation sectors appear to be the most important in the transmission of the risk to the banking system. Results also suggest that a large increase in the carbon tax can generate significant but likely manageable financial stability risks, and that a gradual increase in the carbon tax to meet a higher target over several years could be preferable in terms of financial risks. A gradual increase would also have the benefit of allowing for a smoother adjustment to higher carbon tax for stakeholders.

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GLOSSARY

BAU  Business-As-Usual
BUR  Biennial Update Report to the UNFCCC
BvD  Bureau van Dijk
CH4  Methane Gas
CO2  Carbon
GHG  Greenhouse Gases
ICR  Interest Coverage Ratio
IDB  Inter-American Development Bank
NDC  Nationally Determined Contributions
NGFS Network for Greening the Financial System
UVT  Tax Value Unit