Bringing Climate Resilience Into Sovereign Debt

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Abstract

Five years following the onset of the COVID-19 crisis, the world remains on the brink of a debt crisis. The pandemic has left a lasting impact on the fiscal and debt profiles of low- and middle- income countries (LMICs). Emergency policy responses during the pandemic and economic recovery plans in the following years have significantly expanded government spending, pushing sovereigns to increasingly rely on external debt to meet their financing needs, precisely as global interest rates skyrocketed in 2022 and 2023. As a result, LMICs now face substantially higher debt levels than in the previous decade and struggle with an increasingly challenging debt servicing burden, hindering the achievement of their development roadmaps

Keywords: Sovereign debt, Debt sustainability, Natural disasters, Climate resilience, Fiscal relief, Default Risk, Debt Pause Clause, Catastrophe Bonds, Hurricane risk, International lenders

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1 Introduction

Five years following the onset of the COVID-19 crisis, the world remains on the brink of a debt crisis. The pandemic has left a lasting impact on the fiscal and debt profiles of low- and middle- income countries (LMICs). Emergency policy responses during the pandemic and economic recovery plans in the following years have significantly expanded government spending, pushing sovereigns to increasingly rely on external debt to meet their financing needs, precisely as global interest rates skyrocketed in 2022 and 2023. As a result, LMICs now face substantially higher debt levels than in the previous decade and struggle with an increasingly challenging debt servicing burden, hindering the achievement of their development roadmaps (UNCTAD, 2025). The World Bank's 2024 International Debt Report highlights that, in 2023, LIMCs allocated 3.7 percent of their gross national income to debt service, with 1.1 percent going to interest payments, the highest level recorded in two decades. This rising debt service burden was met with tightening access to liquidity, as the report highlights a pullback of increasingly risk-averse private creditors from LMIC credit markets. The compounded factors have led several economies down the road of debt distress. As of March 2025, the IMF categorized among 67 LICs 9 as in debt distress, 26 at high risk, 24 at moderate risk, and only 8 at low risk of external debt distress, highlighting the deepening systemic vulnerability across low-income countries. In this context, LMICs appear ever-more vulnerable to the numerous exogenous factors that may worsen their debt burdens, such as further trade fragmentation and unstable geopolitical conflicts (World Bank, 2024). This paper specifically focuses on the potential impact of natural disaster shocks on debt sustainability, especially as the effects of climate change are expected to intensify in the coming years.

Climate Crisis - Debt Doom Loop. Natural disasters impose substantial economic and fiscal costs associated with post-disaster relief spending, reconstruction efforts, and lost output (Cevik et al., 2018; IMF) The literature distinguishes between two types of losses: direct impacts, such physical destruction of infrastructure and productive assets, and indirect impacts, which include subsequent macroeconomic disruptions in production, employment, consumption, trade flows and broader recovery dynamics (Botzen et al., 2019). As climate change intensifies, natural disasters-related damages are projected to escalate, leading to more frequent and severe economic disruptions, particularly in vulnerable regions. While the least contributors to global emissions (IPCC, 2023), low-income countries (LICs) already face the adverse impacts of climate change. The 2021 International Development Association (IDA) Climate Change Special Report issue highlights that over the last decade, LICs have already faced close to eight times as many natural disasters as in the 1980s (World Bank, 2021). Although advanced economies are also set to suffer from climate change related damages, emerging markets remain much more at risk due to low fiscal buffers and constrained access to liquidity, vulnerabilities exacerbated

by the current global macroeconomic context. Climate-induced shocks shrink government revenues and raise emergency spending needs, straining primary balances and widening external deficits. These weakened fundamentals heighten sovereign risk, increasing the cost of borrowing precisely when additional financing becomes necessary (Cevik and Jalles, 2022). Empirically, early research shows that a single large-scale natural disaster raises sovereign default risk by about three percentage-points (Klomp, 2017), and a 1% increase in climate vulnerability adds over 3% to long-term bond spreads in LIDCs (Cevik & Jalles, 2020). Taken together, climate-related damages and associated rising debt vulnerabilities could interact to produce a feedback loop which can be referred to as a climate crisis–sovereign debt doom loop (Green Climate Fund, 2024). As climate change increases physical damage and economic disruptions, vulnerable sovereigns face revenue losses and rising expenditure needs for relief and recovery, often necessitating costly external borrowing at rising risk premia. This debt accumulation reduces the fiscal space needed for adaptation and mitigation investment, which leaves countries more exposed to future climate shocks and raises the probability of default in the long-term. Overall, the compounding nature of these effects raises the urgent need for systemic financial mechanisms that can deliver timely relief and prevent the escalation of debt burdens, which otherwise render investments in both climate resilience and debt sustainability increasingly unattainable.

References

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