

Does Directed Lending Affect Climate-induced Bank Risk? Evidence from India

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Abstract

This study examines how state-directed credit mandates interact with climate change to shape financial system vulnerability in emerging economies. Using an unbalanced panel of 80 Indian commercial banks over the period 2005-2020, we construct a composite climate anomaly index based on temperature and precipitation deviations. Bank risk is measured using Δ CoVaR, capturing downside tail risk contribution, and Z-score, reflecting distance-to-default. The results show that climate change significantly increases bank risk, raising Δ CoVaR and reducing Z-scores. PSL independently elevates risk and, more importantly, amplifies the adverse impact of climate change, particularly in banks with higher exposure to climate-sensitive sectors. Heterogeneity analysis indicates that public sector banks are most vulnerable under joint climate and PSL stress, as compared to the private and the foreign ones. In contrast, income and asset diversification mitigate climate-induced risk by reducing tail exposure and strengthening financial stability. The findings highlight directed lending as a transmission channel of climate-related financial vulnerability and diversification as a strategic buffer. The study provides policy-relevant insights for emerging economies, balancing developmental mandates with financial stability in a changing climate.

Keywords: Climate change; Diversification; Emerging Economies; Financial Stability; Priority Sector Lending