

# Long-Run Economic Impacts of Climate Volatility \*

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*Preliminary and incomplete. Please do not circulate*

## Abstract

Using a panel dataset covering 157 countries from 1950 to 2014, this study investigates the long-run impact of climate volatility on gross domestic product(GDP). A stochastic frontier analysis in which long-term climate variables including climate volatility determine the production frontier and short-term weather anomalies cause inefficiency is conducted. Temperature volatility is found to negatively affect the production frontier with high statistical significance. The impact of precipitation volatility on the production frontier, however, turns out to be statistically insignificant. Unlike many previous studies, GDP is found to be resilient to short-run weather shocks(both temperature and precipitation) as weather anomalies do not appear to be a statistically significant source of inefficiency.

**Keywords:** climate volatility, economic growth, stochastic frontier analysis

**JEL Classification Numbers:** D24, O44, O47, Q54

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