

Edem Egnikpo

PhD Candidate in Economics

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RESEARCH INTERESTS

Natural Disaster Risk, Quantitative Macroeconomics, Applied Econometrics

EDUCATION

Aix-Marseille School of Economics (AMSE) Marseille, France
Ph.D. in Economics *Sept. 2023 – Current*

- Thesis: On the Macroeconomic Effects of Natural Disaster Risk
- Supervisor: Gilles Dufrénot

Aix-Marseille School of Economics (AMSE) Marseille, France
Master's in Theoretical and Empirical Economics *Sept. 2021 – Jun. 2023*

- Master Thesis: Inflation Risk and Sovereign Debt Crisis in Emerging Economies
- Supervisor: Gilles Dufrénot

University of Lome Lome, Togo
Bachelor's Degree in International Economics *Sept. 2016 – Jun. 2019*

WORKING EXPERIENCE

Aix-Marseille University Sept. 2023 – Current
PhD Candidate *Marseille, France*

- Led quantitative research on macro-financial impacts of natural disasters with emphasis on economic growth, sovereign risk, and macroeconomic resilience in low-income countries
- DSGE modelling integrating disaster shocks

Aix-Marseille University Sept. 2023 – Current
Teaching Assistant *Marseille, France*

- Macroeconomics (L2)
- Industrial Organization (L2)
- Applied Econometrics Project (L3)

Aix-Marseille School of Economics (AMSE) May 2022 – July 2022
Research Assistant *Marseille, France*

- Data analysis and literature review on markups in macroeconomics

SKILLS

Programming
R, Stata, Python, Matlab

Software
Excel, Word, PowerPoint, L^AT_EX

Languages
French (Advanced), English (Professional proficiency)

Natural Disasters and Economic Growth: A Quantile-on-Quantile Regression Approach With Wavelet Decomposition, *joint with Gilles Dufrénot*

Abstract: We propose a new empirical approach to measure the sensitivity of economic growth to natural disasters across different time horizons. We allow for heterogeneous effects across growth regimes and disaster severity using quantile-on-quantile regressions and wavelet decomposition. Our findings yield several insights and reveal contrasting dynamics. First, moderate disaster shocks tend to boost growth in low-growth economies but generate sharp and persistent declines in high-growth ones. Second, severe shocks inflict sustained losses in low-growth economies but trigger an initial rebound in high-growth countries that remains positive across horizons. Third, the role of transmission channels in amplifying or mitigating disaster impacts varies systematically across growth regimes, shock magnitudes, and time horizons. These results help reconcile conflicting evidence in the literature and underscore the importance of tailored resilience policies that reflect countries' structural and institutional conditions.

Physical Disaster Risk and Sovereign Debt Distress, *single-authored*

Abstract: This paper examines how physical disaster risk affects sovereign debt distress in emerging and developing economies. Using a Generalized Panel Smooth Transition Regression (GPSTR) model, I show that the sovereign consequences of storms and earthquakes are strongly state-dependent. Specifically, storm shocks increase default severity when fiscal space is constrained by high interest payment burdens, whereas stronger external conditions—healthier external balances and higher FDI inflows—dampen storm-related distress. Earthquakes likewise have nonlinear effects: they increase default severity primarily for high-magnitude events, and the effects are amplified in more capital-intensive and financially integrated economies. These results remain robust after controlling for banking and currency crises as well as global financial conditions. The findings underscore the need to incorporate physical disaster risk into debt sustainability and sovereign risk frameworks and highlight the role of fiscal space and external buffers in strengthening resilience to nature-related shocks.

A Stochastic Growth Model of a Poorly Developed Country with Natural Disasters, *joint with Gilles Dufrénot*

Abstract: This paper proposes a dynamic model in which natural disasters affect the accumulation of private wealth, public spending, and output in an economy that is intended to capture salient features of developing countries. The central object of the analysis is the stationary distribution of key macroeconomic variables that emerges in the presence of recurrent, stochastic disasters. Within this framework, we derive analytic characterizations of the stationary distributions of private wealth, government spending, and GDP, and study how their shapes and tails depend on both disaster risk and institutional parameters. Natural disasters affect the economy via two channels. First, the effects on production are transmitted through a demand channel by altering the consumption-savings trade-off of households and thus the proportion of capital that can be invested in capital accumulation. Second, natural disaster shocks also activate a supply channel: they destroy capital and alter the way in which public spending influences total factor productivity. The stationary distributions of capital stock and public expenditure exhibit unusual characteristics such as Pareto laws and upper Gamma distributions. Our stylized model describes key mechanisms in developing countries and allows us to investigate the factors that enhance economic resilience to shocks, as well as those that may render their effects persistent.

Informality and Heterogeneous Growth Effects of Natural Disasters (JMP), *single-authored*