Discussion

"Spatial Correlation, Trade, and Inequality: Evidence from the Global Climate"

by Jonathan I. Dingel, Kyle C. Meng, and Solomon M. Hsiang

Economic Effects and Policy Responses
to Climate Change and Natural Disasters

IIEP and World Bank

2 December 2021

Nina Harari

The Wharton School, University of Pennsylvania

Summary

1. **Theory**
   Spatial correlation amplifies global inequality

2. **Empirical test**
   ENSO as exogenous shifter of the global spatial correlation in cereal productivities

3. **Application**
   Impacts of climate change accounting for spatial linkages

Many phenomena exhibit spatial correlation

- Pandemics
- Natural endowments
- Natural disasters
- Conflict and political instability

- Vulnerability to climate shocks (e.g. rainfed agriculture)
- Potential for adaptation / remediation

- Implications also for:
  - Regional inequality within countries
  - Migration flows

Empirics

- Moran's I: interpretation / intuition for magnitudes?
- Moran's I and Modifiable Area Unit Problem: large vs small countries?
- ENSO vs drought indexes?
- Exclusion restriction: direct effects of ENSO on trade costs
  - Inside vs. outside crop growing season?

Dynamics

- Is global spatial correlation increasing / decreasing over time?
- Do the spatial linkages also make shocks more persistent?
- How fast does the "own" shock dissipate vs the "feedback" effect via gains from trade?