EUROPEAN CENTRAL BANK

EUROSYSTEM

Discussion of:

Climate trade costs: extreme weather, transportation, and supply chains

Hubert Massoni

4th Conference on
"Trade, value chains and financial linkages in the global economy"

Banca d'Italia, Rome

15/12/2025

Massimo Ferrari Minesso

What I have learned

- Maritime ports are highly vulnerable to extreme weather, creating risks for global trade and raising concerns about transportation-network resilience.

- Firms adapt to port disruptions mainly by rerouting shipments rather than changing suppliers, helping preserve trade relationships.

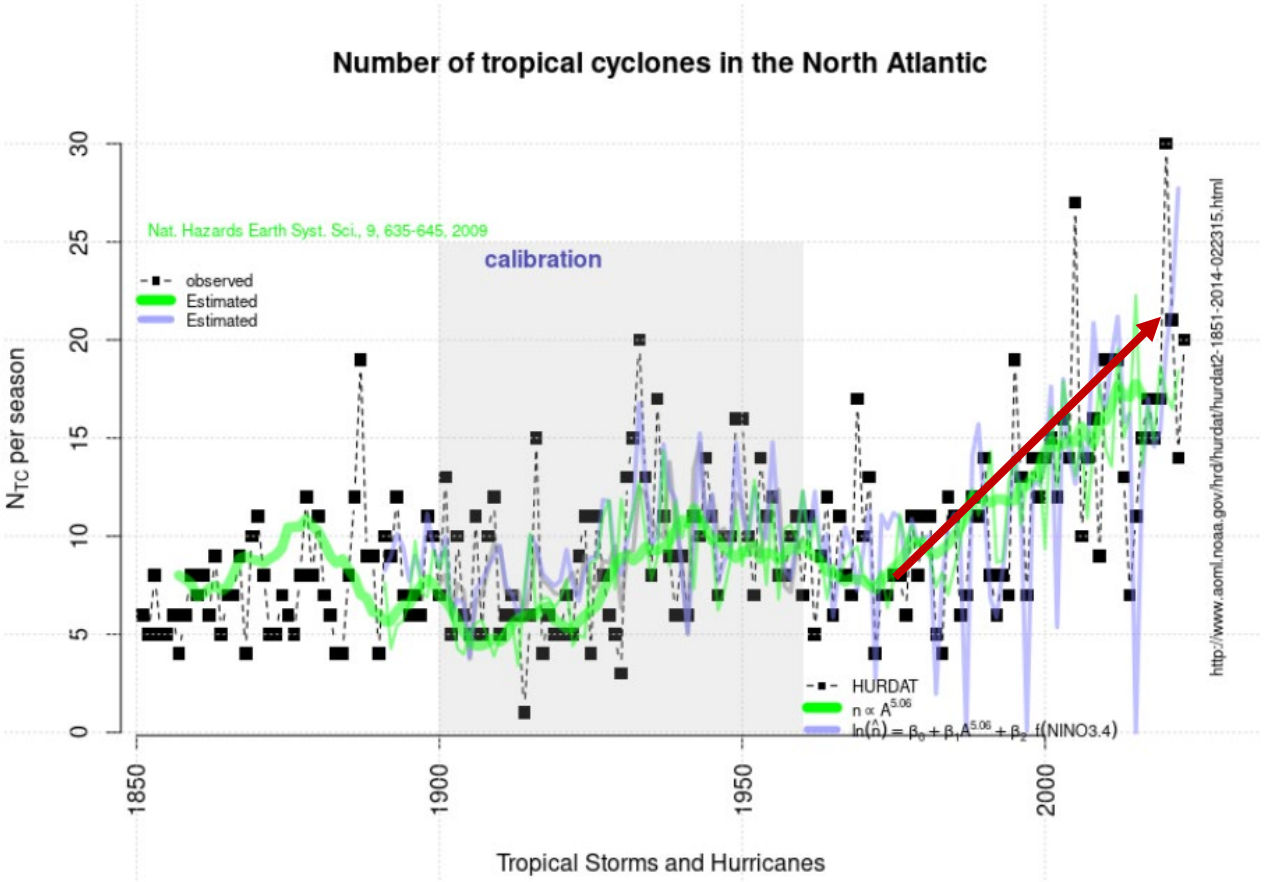
- Weather shocks temporarily disrupt ports and trigger months-long rerouting, but do not break buyer–supplier links.

- Accounting for future climate risk changes the optimal allocation of port-capacity investments, and ignoring it leads to measurable misallocation and regional welfare disparities.

Comments

- Nice use of micro-data and climate data. Very elegant model.
- I liked the paper, which is at an advanced stage.
- My comments more in line with a talk for a policy institution, hope they help in the job market:
  - How do I link this paper to aggregate data on trade disruptions? These seem flat over time, but climate events are on the rise, what factors have countered climate change?
  - Effects of cyclones seem short-lived, empirically do they matter at business cycle frequency?
  - Need to guide the reader more through simulations, just looking at the reported comparative statistics poses some questions

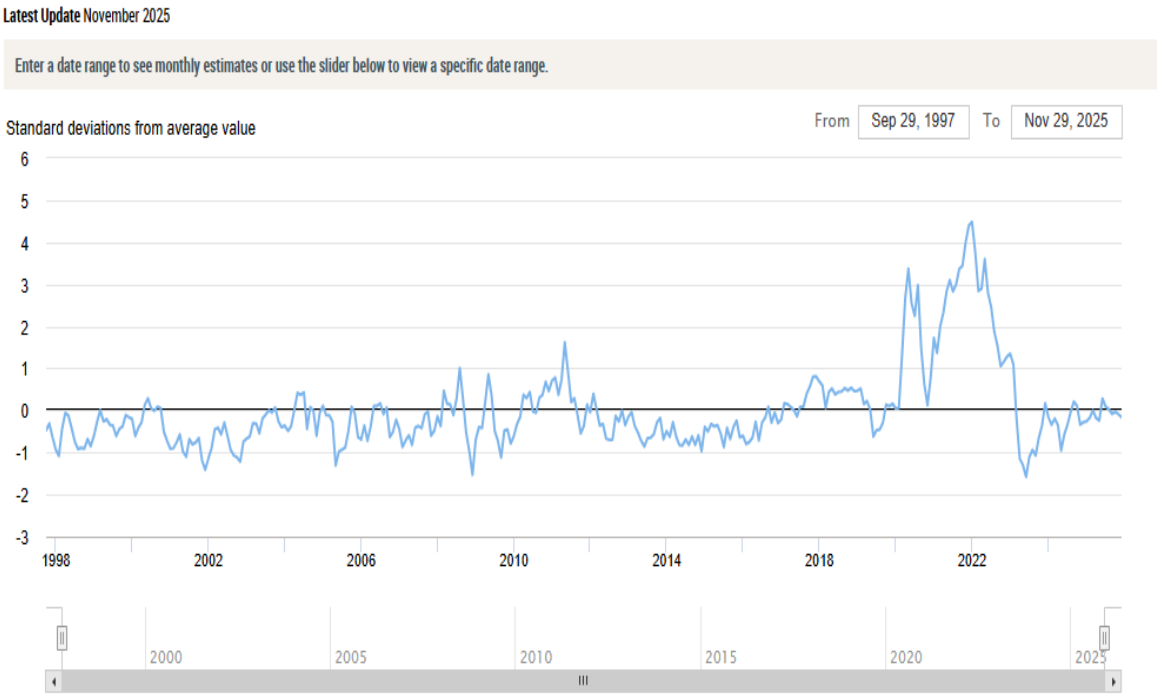
Comment #1 – can we see it in aggregate data?



Clear upward trend in the number of extreme events

Source: realclimate.org

Comment #1 – can we see it in aggregate data?



But global supply chain pressure index is flat..

Source: Federal Reserve Bank of New York, Global Supply Chain Pressure Index, https://www.newyorkfed.org/research/policy/gscpi.

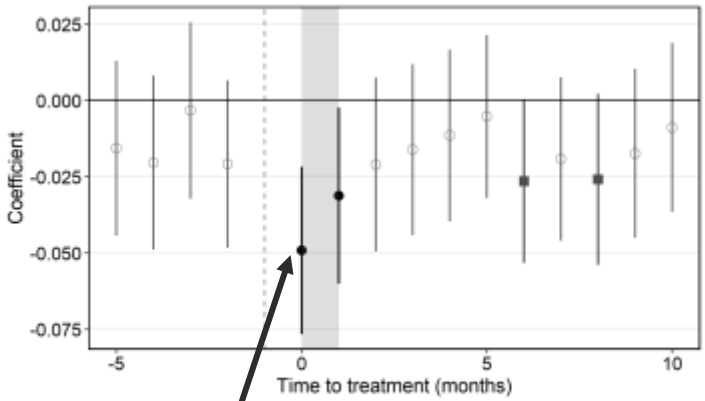
Comment #1 – can we see it in aggregate data?

Figure 4: ACR Index of Global Supply Chain Disruptions

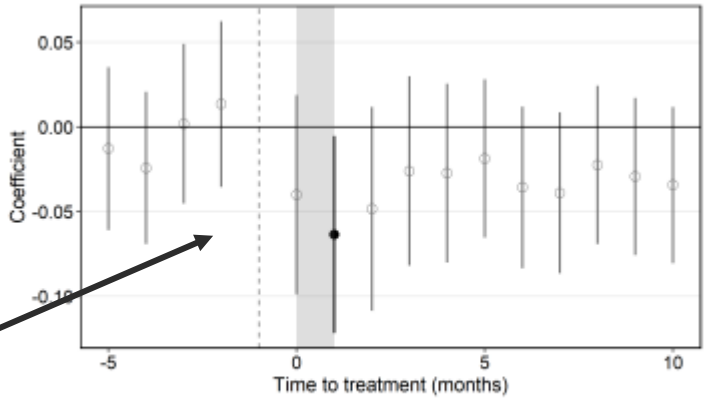
Similar with the index by Bai, Fernández-Villaverde & Zanetti

Source: Bai, X., Fernández-Villaverde, J., Li, Y., & Zanetti, F. (2024). The causal effects of global supply chain disruptions on macroeconomic outcomes: evidence and theory.

Comment #2 – are there macro effects?



(a) Route activity



(a) Relationship activity

Impact seems short-lived

Does it impact import and export prices? Does it move production costs?
How does this square against other estimates?

Comment #3 – counterfactuals

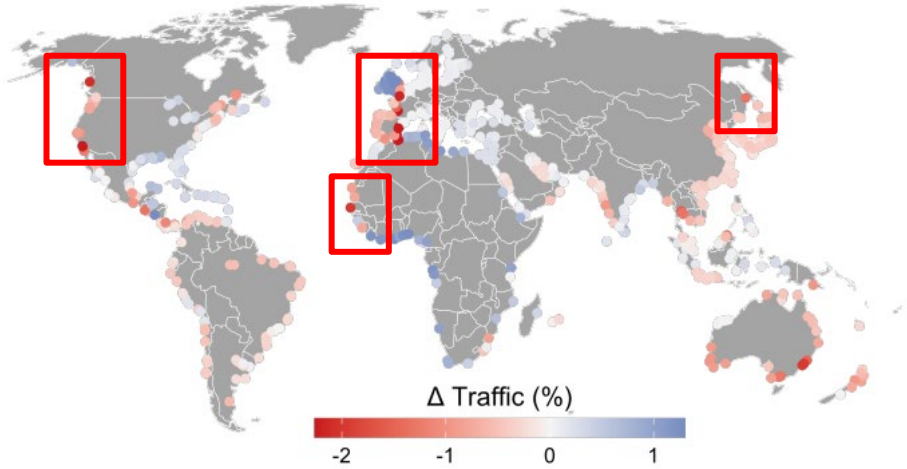
I think the paper should improve the way it guides the reader through counterfactuals.

I think it is mostly exposition, but it help a lot to delive the message and the contribution of the model.

Just looking at the charts, few questions might come.

Comment #3 – why the most affected areas are where cyclones do not hit?

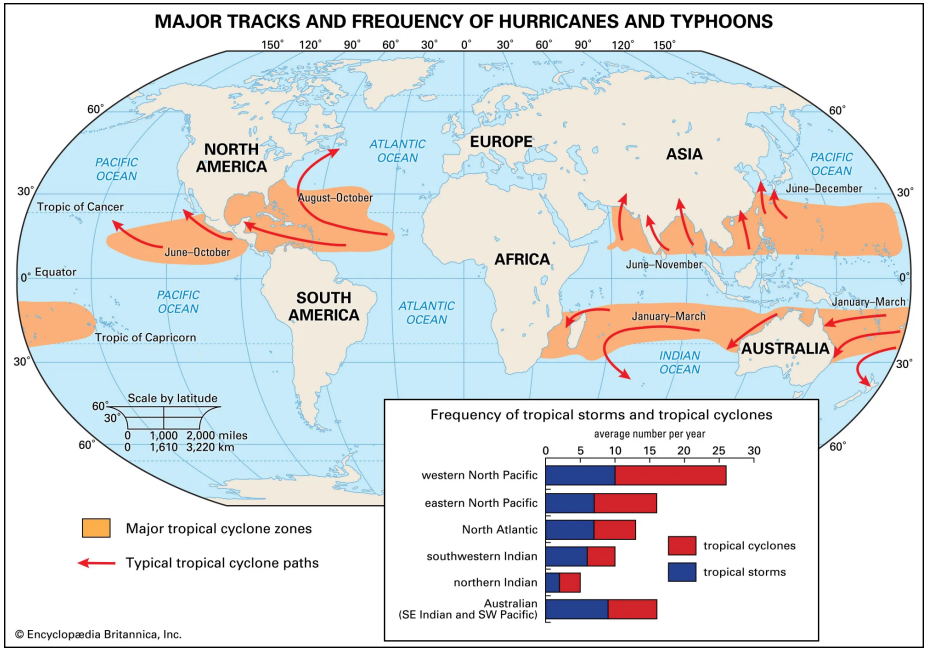
Model counterfactual



(b) Δ Port traffic (%)

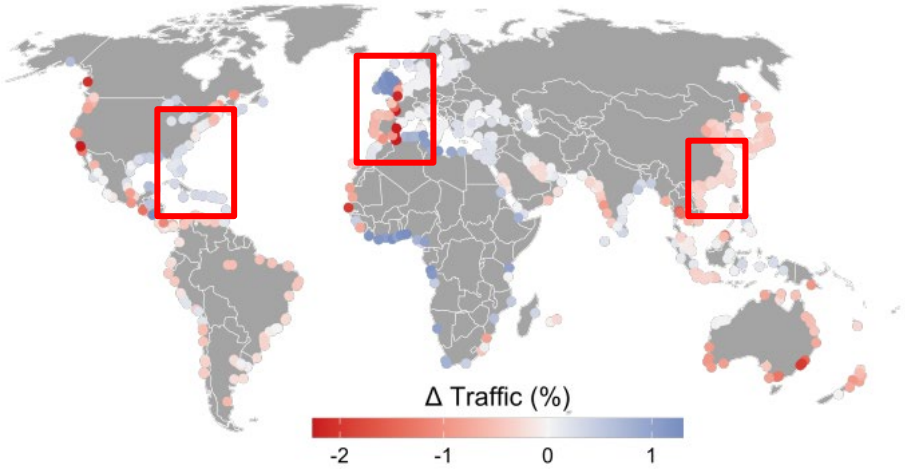
Areas hit by cyclones

(Britannica)



Comment #3 – looking at projected disruptions also puzzling

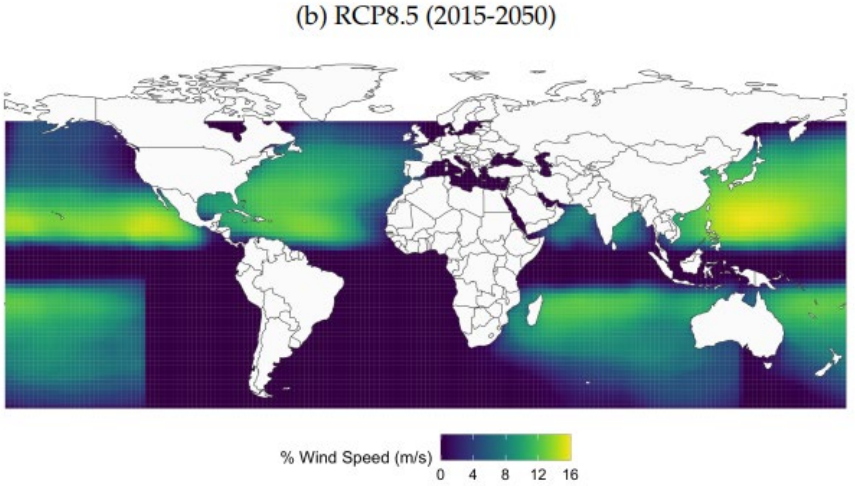
Model counterfactual



(b) Δ Port traffic (%)

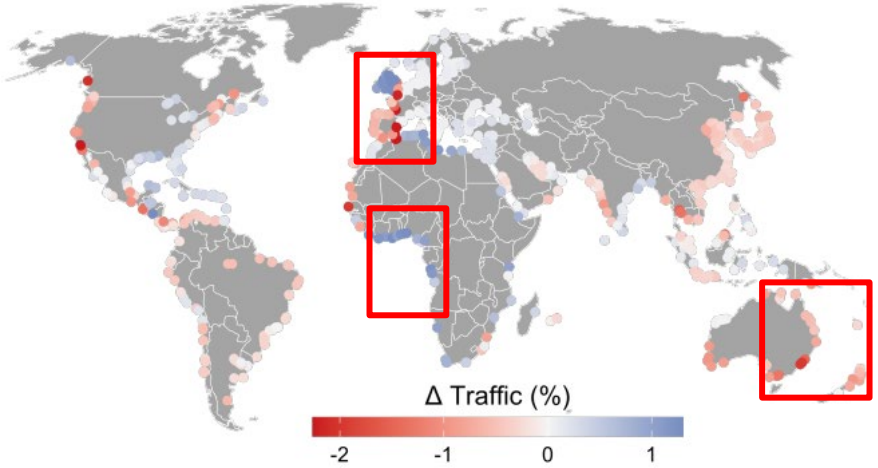
Projected distribution of cyclones

(Paper Appendix)



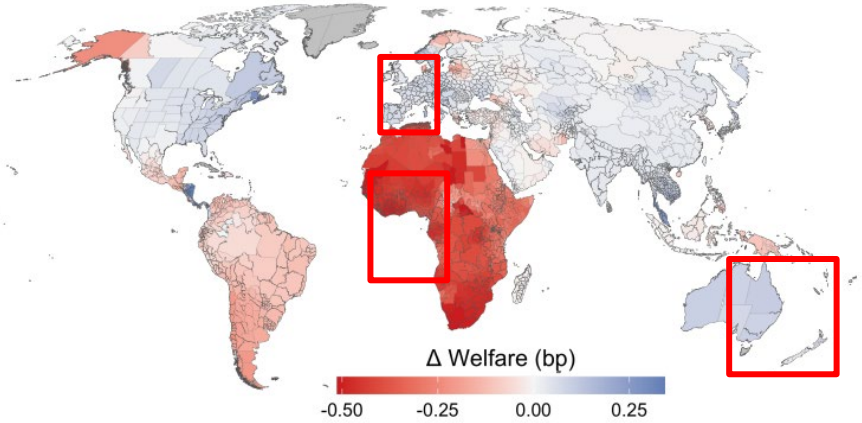
Comment #3 – I struggled to understand all welfare gains

Model counterfactual



(b) Δ Port traffic (%)

Model welfare

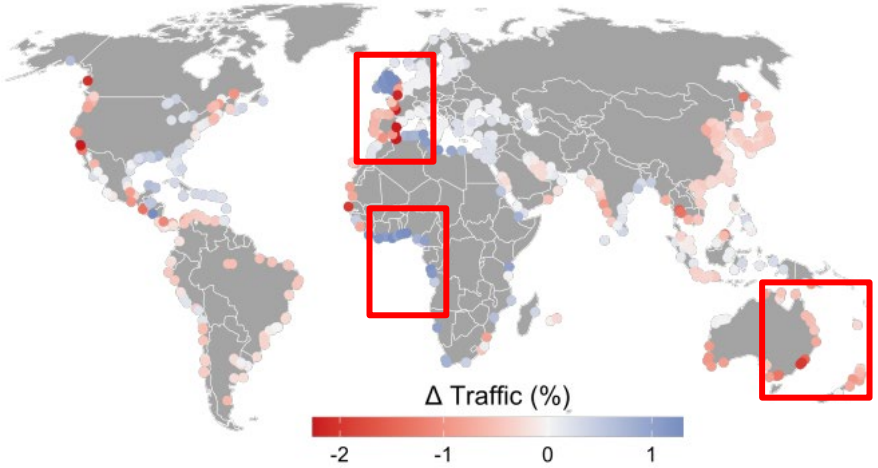


(a) Δ Welfare (bp)

Is an increase in the port's traffic decreasing welfare? Why if cyclones operate though the opposite channel?

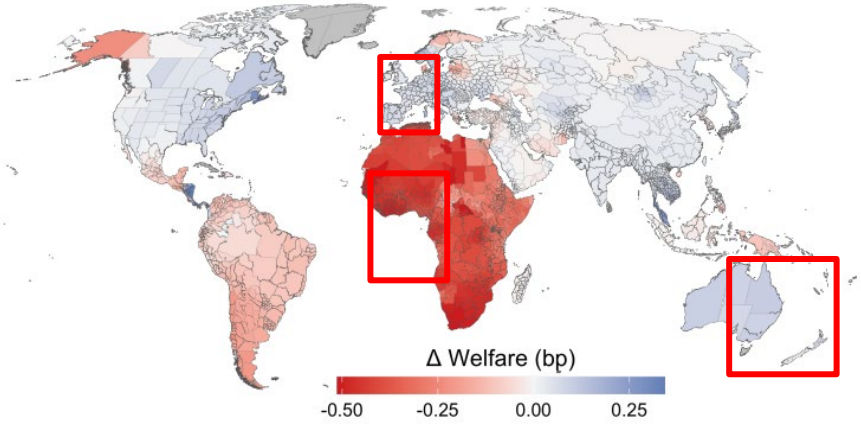
Comment #3 – I struggled to understand all welfare gains

Model counterfactual



(b) Δ Port traffic (%)

Model welfare



(a) Δ Welfare (bp)

Minor point welfare ≠ income; preferences are concave, the starting point matters!
(relevant when comparing welfare losses across Africa and North America)