Discussion of “An Anatomy of U.S. Establishments’ Trade Linkages in Global Value Chains”

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This paper: what and why

1. Q: Do global input-output (IO) tables measure true global value chains?
2. Why is this paper important?
   - Good measurement is key to assess rise/fall of global value chains.
   - Calibrate international trade and macro models.
   - Conduct counterfactuals
     - welfare gains from trade, macro consequences of country-sector shocks.

This paper: how and findings

3. How?
   - Merge two US datasets
     - LFTTD: universe of goods export and import flows.
     - CMF: establishment product-level input and output.
   - Conduct measurement to assess:
     - extent of aggregation bias.
     - importance of proportionality assumptions.
     - effects of regional trade agreements on trade flows.
   - partial equilibrium GVC model to rationalize the findings.
4. Findings
   - Global input-output tables underestimate true global value chains.
   - Uncover a robust round-trip effect.
   - Regional trade aggreements have a significant effect on trade flows.
   - Symmetric import and export fixed costs can match the findings.

Initial reaction and discussion roadmap

- Impressive empirical work! I learned a great deal.
- My discussion:
  1. Global versus regional value chains.
  2. Heteroskedasticity.
  3. Contribution and my initial view.
  4. Application.
  5. What can I make of this paper moving forward as a user?

Global or Regional Value Chains?

- You emphasize a robust round-trip effect.
- Global value chains or just Mexico-US-Canada?
  - Table A.6 in appendix shows some chains that involve China/Ireland.
    - How quantitatively relevant are these?
  - Suggestion
    - Redo Table 4-5 in the paper without Mexico-US-Canada links.

Heteroskedasticity

- Log-linear estimation of gravity models suffer from heteroskedasticity.
  (Santos-Silva and Tenreyro, 2006)
  - Error will in general depend on covariates.
  - Goes beyond presence of zeros: any log-lin model may suffer from this.
  - May bias the coefficients.
- Suggestion:
  - use the PML procedure in Santos-Silva and Tenreyro (2006).

The contribution and my initial view from other literature

1. Before reading this paper
   - limited quantitative role of IO for macro outcomes.
   - heterogeneity is important but available IO tables do not seem to deliver
   - Is it a data and/or a theory issue?
2. While reading this paper
   - Global value chains may not be well captured by global IO tables.

   $\Longrightarrow$ known in the literature in theory and data for some countries (Johnson 2018; Bems and Kikkawa, 2021)
3. After reading this paper
   - confirms point 2 with US data.
   - reassure data perhaps more of an issue than theory.
   - As an international macroeconomist: what can I make out of this?

Application

- I like how the paper starts:

  > *The ongoing U.S.-China trade war, tariff escalations between the U.S. and other countries, the COVID-19 pandemic, Russia's invasion of Ukraine, and rising geopolitical tensions are just the latest examples of global shocks that alter prices, output, employment, and income in countries around the world.*

- So far, great measurement paper that speak mostly to trade audience.
- Can you also try to speak to the international macro audience?
  - Consider any of the events above.
  - Compare their effects using your data vs. global IO tables.
  - This is a positive point: your work has broader implications!

What can I make of this paper as a user?

- Three views:
  - Negative: *I'll continue using the available IO tables even if they have flaws.*
  - Positive: *Collect similar data to yours in many countries.*
  - A middle ground: *I can infer global IO linkages using machine learning*

(Fetzer et. al, 2024)

- My view:
  - Negative is too negative
  - Positive is too positive
  - Middle ground is too black boxy.
- Another middle ground alternative:
  - Provide adjustments to US IO tables according to your data?
  - Making the adjustments publicly available would be very valuable!

(+ citations)

Final thoughts

- Great, well written and cleanly executed paper. I learned a great deal!
- Other comments to the authors.
- Looking forward to where the agenda goes from now on!

Thank you!

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