Trade Costs and Inflation Dynamics
Cuba-Borda, Queralto, Reyes-Heroles, Scaramucci

Discussion by Doireann Fitzgerald[1]

Federal Reserve Bank of Minneapolis

September 2025

Timely question

What is the impact on inflation (and output) of:

- ▶ 2018-19 trade war
- ▶ Trade cost spikes around Covid
- ▶ .... tariffs redux??

Summary

Part I

- ▸ Recover proxy for trade costs from bilateral trade data
- ▸ Use local projections to estimate impulse-responses of inflation and GDP to trade cost shocks
- ▸ Contrast inflation impact of intermediates trade costs with final goods trade costs

Takeaway:

- ▸ Bigger & more persistent inflation responses to intermediate than final goods trade costs

Part II

- ▸ Calibrate multi-country New Keynesian model with roundabout structure
- ▸ Compare model & data responses to trade cost shocks
- ▸ How did 2018-19 tariffs affect inflation and output?
- ▸ How much did trade costs contribute to Covid inflation?

Measuring bilateral trade costs

- Assume CES demand:

$$C^{ik} = \left(\frac{\kappa^{ik} d^{ik} P^i}{P_C^k} \right)^{-\eta} C^k$$
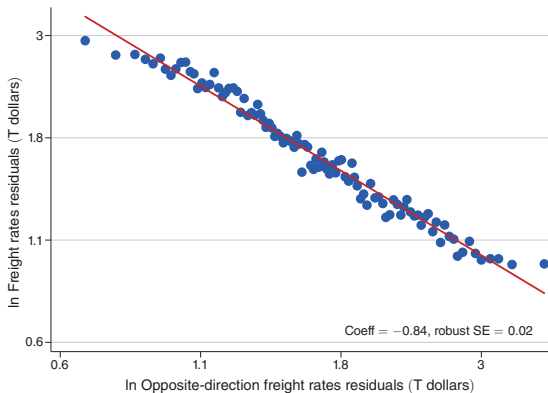
- Then

$$\omega^{ik} = \frac{X^{ik}}{X^k} = \frac{\kappa^{ik} d^{ik} P^i C^{ik}}{P_C^k C^k} = \left(\frac{\kappa^{ik} d^{ik} P^i}{P_C^k} \right)^{1-\eta}$$

and

$$\mathscr{T}^{ik} = \left(\frac{\omega^{ik} \omega^{ki}}{\omega^{ii} \omega^{kk}} \right)^{\frac{1}{2(1-\eta)}} = \sqrt{\kappa^{ik} \kappa^{ki} d^{ik} d^{ki}}$$

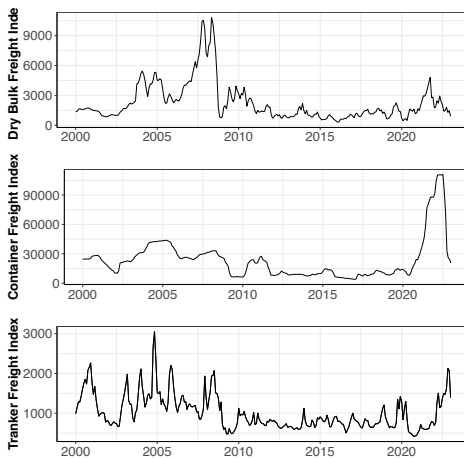# Are trade costs and tariffs symmetric?

- Asymmetric zeros in ω^{ik}: clear violation of symmetry
- Measured tariffs are asymmetric
- Measured container freight rates are asymmetric: Wong (2022)

Source: Wong (2022)

Are trade costs exogenous to trade?

- Brancaccio, Kalouptsidi & Papageorgiou (2020), Wong (2022): freight rates endogenous to trade volumes

Source: Brancaccio, Kalouptsidi & Papageorgiou (2025)

Does it matter what is in τ?

- ▶ When frictions induce forward-looking behavior, shock process matters for responses
- ▶ e.g. very different passthrough of exchange rates & tariffs
- ▶ Trade costs, tariffs: very different processes
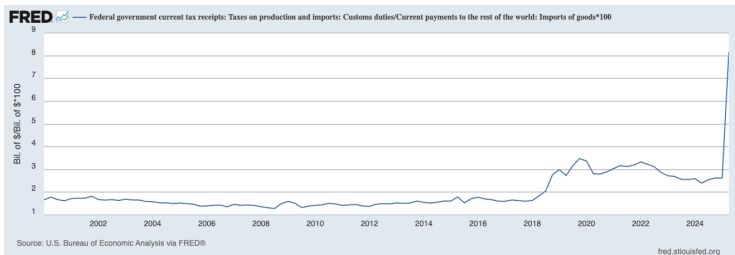
Aggregating bilateral trade costs

- Remember bilateral wedge

$$\mathscr{T}^{ik} = \left(\frac{\omega^{ik} \omega^{ki}}{\omega^{ii} \omega^{kk}} \right)^{\frac{1}{2(1-\eta)}} = \sqrt{\kappa^{ik} \kappa^{ki} d^{ik} d^{ki}}$$
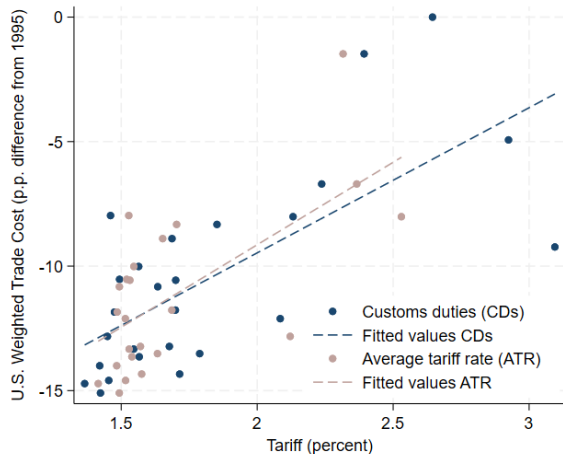
- Aggregate across import sources using import weights to get importer-level trade cost:

$$\tau^k = \sum_{i=1}^{N} \frac{X^{ik}}{\sum_{j \neq i}^{N} X^{jk}} \mathscr{T}^{ik}$$

What do these importer-level trade costs pick up?

▶ Related to tariffs, but a lot of measurement error?

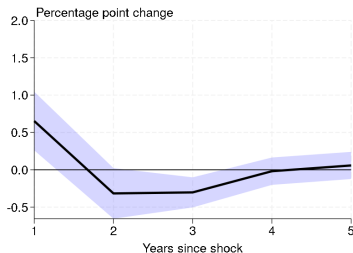Figure 3: Trade Costs and Effective Tariffs in the U.S.

Local projections

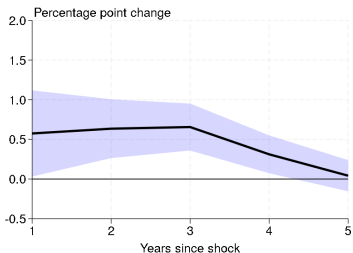▶ Estimate for $h = 1, \ldots 5$:

$$\frac{P_h^i}{P_{h-1}^i} = \delta_h^i + \delta_{h,t} + \beta_h \Delta \tau_t^i + \Gamma' Z_{t-1}^i + \varepsilon_{h,t}^i$$

Figure 4: Response of Inflation to a 10 Percentage Point Increase in Trade Costs

(a) Response to Trade Costs in Final Goods

(b) Response to Trade Costs in Intermediate Goods

Are the magnitudes reasonable?

- First-order approximation: use Domar weight to infer impact of supply shock on aggregates
- Scaling issue here?
  - Some countries more open than others
  - Countries may have different shares of imports accounted for by final vs intermediates

- But difference in persistence across final and intermediate shocks is very striking

Conclusion

- ▶ Super-interesting result contrasting responses to trade cost shocks to intermediates & final goods
- ▶ Would be nice relate to supporting evidence based on better-measured shocks, especially with more granularity

- ▶ Model is nice, could also connect with closed economy literature emphasizing heterogeneous price stickiness, input-output linkages
- ▶ e.g. La'O & Tahbaz-Salehi (2022), Rubbo (2023), Afrouzi & Bhattarai (2025)