Discussion of

Exporters and Shocks: Dissecting the International Elasticity Puzzle

by Doireann Fitzgerald and Stefanie Haller

Oleg Itskhoki
Princeton University

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Why a Puzzle?

- **Assumptions**
  1. Downward-slopping demand
  $$Q_{ikt} = q(P_{ikt}; Z_{kt})$$
  where P_{ikt} is local currency price (good i, market k)
  2. Marginal cost of delivering the good to consumers in local currency:
  $$MC_{ikt} = (1 + \tau_{kt})\mathcal{E}_{kt} MC^*_{it}$$
- **Result**
  Static profit maximization implies
  $$\frac{\partial \log(P_{ikt} Q_{ikt})}{\partial \log \mathcal{E}_{kt}} = \frac{\partial \log(P_{ikt} Q_{ikt})}{\partial \log(1 + \tau_{kt})}$$

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Two Distinct Puzzles

1. Exchange Rate vs Tariffs
   - exports are more responsive to tariffs

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   - exports are more responsive over longer horizons
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- This paper: Exchange Rate vs Tariff **at the firm level**
  (i) small extensive margin (entry and exit) effects at annual frequency
  (ii) large differences in intensive margin elasticities ($\beta_2 < \beta_1$)

$$\log(P_{ikt} Q_{ikt}) = \alpha_k + \delta_{it} + \beta_1 \Delta \log \mathcal{E}_{kt} + \beta_2 \log(1+\tau_{kt}) + \beta_3 \log D_{kt} + \varepsilon_{ikt}$$

Exchange Rates vs Tariffs

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   - little time-series variation in τ_{ikt} $\Rightarrow$ regression with α_k and δ_{it} is a long-run cross-sectional regression (LR investment response)
   - lots of time-series variation in $\mathcal{E}_{kt}$ $\Rightarrow$ regression with α_k and δ_{it} picks up response to annual deviations of $\mathcal{E}_{kt}$ from its time-series average (lack of SR price response)

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3. Different general equilibrium comovement
   - correlation with MC_{kt}, Z_{kt}, etc
   - correlations across markets k
   - controlling for δ_{it} does not necessarily resolve it

Why controlling for δ_{it}?

- Consider a pricing-to-market regression:

$$P_{ikt} = \mathcal{M}_{ikt}(1+\tau_{kt})\mathcal{E}_{kt}MC^*_{it} \qquad \Rightarrow$$

$$\log P_{ikt} = \log \mathcal{M}_{ikt} + \log(1+\tau_{kt}) + \log \mathcal{E}_{kt} + \log MC^*_{it}$$

- "Second stage":

$$P_{ikt}Q_{ikt} = e^{\eta_{ikt}} Q_{kt} P_{kt}^{-\theta} P_{ikt}^{1-\theta} \qquad \Rightarrow$$

$$\log(P_{ikt}Q_{ikt}) = \eta_{ikt} + \log Q_{kt} - \theta \log P_{kt} + (1-\theta)\big[\log \mathcal{M}_{ikt} + \log(1+\tau_{kt}) + \log \mathcal{E}_{kt} + \log MC^*_{it}\big]$$

- But note that both P_{kt} and $\mathcal{M}_{ikt}$ potentially have different comovement properties with $(1+\tau_{kt})$ and $\mathcal{E}_{kt}$:
  - different cross-k correlations and...
    - (i) input-ouput effects on P_{kt}
    - (ii) strategic complementarities

Conclusion

- Many possible stories are consistent with the different measured elasticities

- This paper shows that the measured elasticity differences persistent at the firm level controlling for extensive margin

  $\longrightarrow$ simple story based on sunk costs of entry is insufficient

- Next steps:

  1. Identify the mechanism most consistent with the data
  2. Develop a modeling framework
  3. Develop a structural estimation technique