Discussion of
"Trade Elasticities"
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Imbs/Mejean Makes Three Big Points

- Country-level trade elasticity estimates are biased (down) when run on aggregated (versus sectoral) data
  - Uses Feenstra (1994), similar to BGW (2006)
  - Most results with sector heterogeneity are 4-5 rather than 1-2

- Heterogeneity in aggregate elasticities are driven by differences in country-sector elasticities
  - Composition
  - "Preferences"

- Calculate trade elasticities to various shock scenarios
  - Add information on import penetration ratios (i.e. home sales)
  - Compute relevant weights to average up the elasticities
Nested CES

\[
C_j = \left[ \sum_{k \in K_j} \left( \alpha_{kj} C_{kj} \right)^{\frac{\gamma_j - 1}{\gamma_j}} \right]^{\frac{\gamma_j}{\gamma_j - 1}} \quad \text{and} \quad C_{kj} = \left[ \sum_{i \in I_{kj}} \left( \beta_{kij} C_{kij} \right)^{\frac{\sigma_{kj} - 1}{\sigma_{kj}}} \right]^{\frac{\sigma_{kj}}{\sigma_{kj} - 1}}
\]

Generates import elasticity:

\[
\eta^M_{kj} = 1 - \sigma_{kj} + (1 - w_{kjj}) \left( \sigma_{kj} - \gamma_j \right) + (\gamma_j - 1) \sum_k w_{kj} (1 - w_{kjj})
\]

Intuition:

- Single foreign firm with market share: \( s = (1 - w_{kjj}) \)
- Elasticity of demand as \( K_j \to \infty \):

\[
\varepsilon = - \left[ s \left( \gamma_j \right) + (1 - s) \sigma_{kj} \right] = -\sigma_{kj} + s \left( \sigma_{kj} - \gamma_j \right)
\]
Heterogeneity Bias

- Would like much more analytical or empirical corroboration that this is what is going on
  - When might we expect this bias to be larger/smaller?
  - How does that line up with differences found empirically?
  - Is gap related to unit value decile/quality distribution?
  - Related to shares of organized exchange goods?
  - etc.

- After all, the sectors used here are also aggregations
Most Variation Driven by "Preferences"

- Import price elasticities vary primarily due to cross-country differences in elasticities within the same sector – I find this result both concerning and interesting.

- Authors should do much more to explore this – for example, seems more plausible ex ante in some sectors than others.

- And if this is the case:
  - Is model right? Should preference parameter differ so much?
  - Result of non-homotheticities? Intrafirm trade?
  - Implies need for asymmetric elasticities in GE models.
  - This is difficult: For example, differing trade elasticities in Eaton, Kortum, Neiman, and Romalis (2010) reflect sectoral differences, but not country-sector differences.
What Could One Do with these Estimates?


- Analyzing welfare impact of external shocks at sector level can be done in their framework with:

$$\hat{W}_j = \Pi_k (\hat{w}_{kjj})^{\alpha_{kj}}\eta_{kj},$$

so results are useful even without aggregating

- Helpful for sector-level studies, such as literature on exchange rate pass-through

- Evaluate impact of industry policies using time-series
What Do Authors Do with these Estimates? (1/3)

- Authors focus on partial equilibrium simulations:
  - Hold *trade shares fixed*
  - Specify a shock to *relative prices*
  - Figure which relationships are impacted by shock
  - Calculate the right share-weighted average of elasticities

- But, trade shares (weights) change a lot in response to interesting "shocks"

- Further, most interesting shocks don’t translate 1:1 into prices
Trade shares weren’t fixed in recent recession:

![Graph showing the relationship between change in exports and implied by absorption. The line y=x indicates a significant correlation.](image-url)
Would be interesting to evaluate response to wage-shock or exchange rates

Authors instead consider price shock. But passthrough of these shocks is not complete:
  - Data
  - This demand system implies a variable markup
Final Minor Suggestion

- Should engage more with Broda/Greenfield/Weinstein. Explanation of quantitative differences would be useful to consumers of these elasticities...
Conclusion

- A nice paper with lots of good data work; I enjoyed reading it.
- Paper is still preliminary, but provision of estimates and analysis of country-sector heterogeneity is promising.
- A key challenge is determining how to use this type of heterogeneity in GE models, which would relax the necessities of using fixed shares and specifying a "price shock"