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

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

Generates import elasticity:

$$\eta_{kj}^M = 1 - \sigma_{kj} + \left(1 - w_{kjj} \right) \left(\sigma_{kj} - \gamma_j \right) + \left(\gamma_j - 1 \right) \sum_k w_{kj} \left(1 - w_{kjj} \right)$$

Intuition:

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

$$
\begin{aligned}
\varepsilon &= - \left[s \left(\gamma_j \right) + \left(1 - s \right) \sigma_{kj} \right] \\
&= -\sigma_{kj} + s \left(\sigma_{kj} - \gamma_j \right)
\end{aligned}
$$

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?

▶ Specification in Imbs/Mejean lines up with multi-sector version of gravity model in Arkolakis, Costinot, and Rodriquez-Clare (2010) when $\gamma = 1$.

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

$$\widehat{W_j} = \Pi_k \left(\widehat{w}_{kjj} \right)^{\frac{\alpha_{kj}}{\eta_{kj}}},$$

so results are useful even without aggregating

▶ Helpful for sector-level studies, such as literature on exchange rate passthrough

▶ 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

What Do Authors Do with these Estimates? (2/3)

▶ Trade shares weren't fixed in recent recession:
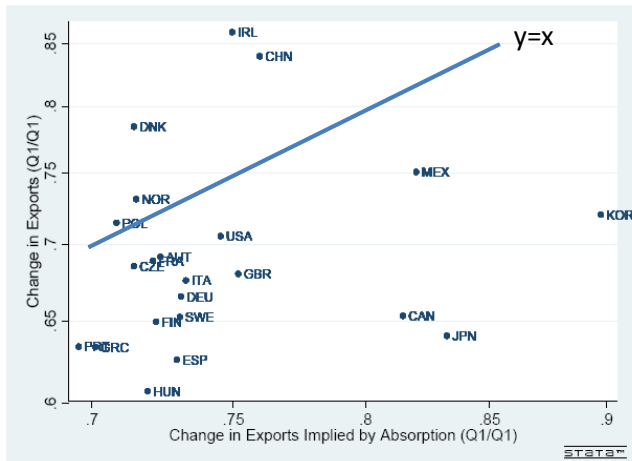
What Do Authors Do with these Estimates? (3/3)

- ▶ 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.
Explaination of quantitative differences would be useful to
consumers of these elasticities...
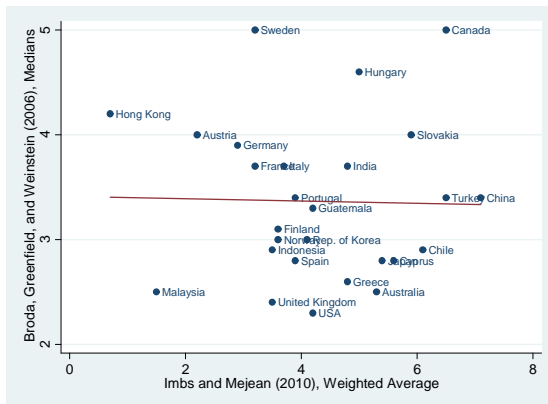
Conclusion

▶ 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 challange 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"