“Trade Adjustment and Productivity in Large Crises”

by G. Gopinath and B. Neiman

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The Message

- First-order importance of **within-firm trade adjustments** during episodes of crisis.
  - Small quantitative impact of country-level extensive margin (firm and/or product overall exit).
  - Large quantitative impact of **sub-extensive margin** (**firm-level product exit**).
  - Different adjustment strategies across firms of different **size**.
- Why do the precise mechanics of trade adjustment matter?
  - To accurately **quantify TFP changes**: TFP depends on firms' (exogenous) efficiency and on the endogenous bundle of intermediates they use.

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What this Paper does

- Documents a novel **fact**: quantitative importance of within-firm import adjustments.
- Develops a **model** where firms heterogeneity and fixed costs generate adjustment mechanisms qualitatively similar to the data.
- **Quantifies** the mechanics of the adjustment generated by the model and compares them with the data.
- Use the model to compute the **changes in TFP** associated with a drop in imports of the magnitude observed in the data.

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Trade Adjustment in Multinational Corporations

My question: **Does the fact that the largest firms in the sample are foreign-owned matter?**

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Gopinath and Neiman report that:

- The largest firms in the sample adjust mainly through the sub-intensive margin (= don't drop products).
- In particular, the sub-extensive margin is NOT important in the automotive sector.

And about MNEs:

- MNEs account for about 3/4 of total imports in the sample.
- At least half of the 50 largest firms in the sample are foreign-owned.
- Firms in the automotive sector are among the largest firms in the sample and are mostly affiliates of foreign MNEs.

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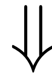
In other words: does the **type** of adjustment depends only on **size** or **multinationality plays a separate role**?

Trade Adjustment in Multinational Corporations (contd.)

Why looking at MNEs separately is informative/important?

- Affiliates of MNEs have a network of suppliers including the parent, other foreign affiliates, and unaffiliated suppliers:
  - intrafirm intermediates' pricing (**transfer prices**) may be different from arm's length pricing;
  - the price elasticity of imports may be different in intrafirm and arm's length transactions;
  - the role of fixed costs might not be so important in intrafirm transactions.



- As a result, the **drop in TFP** following the adjustment might be **smaller** than for non-multinational firms of similar size.

Trade Adjustment in Multinational Corporations (contd.)

What I would be curious to know:

1. Controlling for size, are multinational corporations relatively more likely to adjust on the sub-intensive margin than non-multinational firms?

   If yes, this could be interpreted as evidence of the presence of a preferential set of suppliers with respect to whom MNEs have lower price elasticities.

2. Within MNEs, is there any difference in the type of adjustment concerning intrafirm imports compared to arm's length imports?

   Relatively more adjustment on the sub-intensive margin for intrafirm transactions (or a smaller adjustment) could be interpreted as evidence of different pricing methods.

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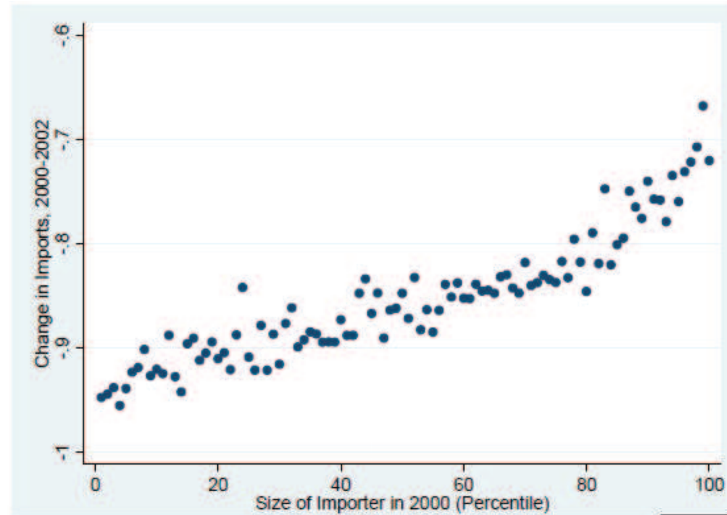
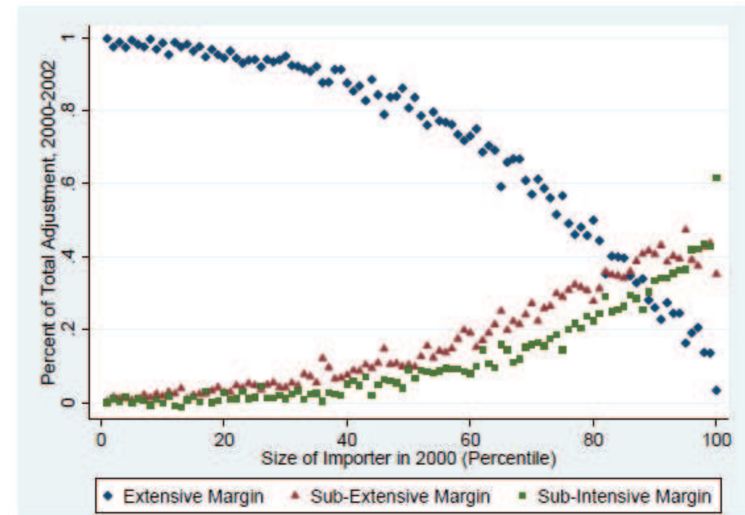
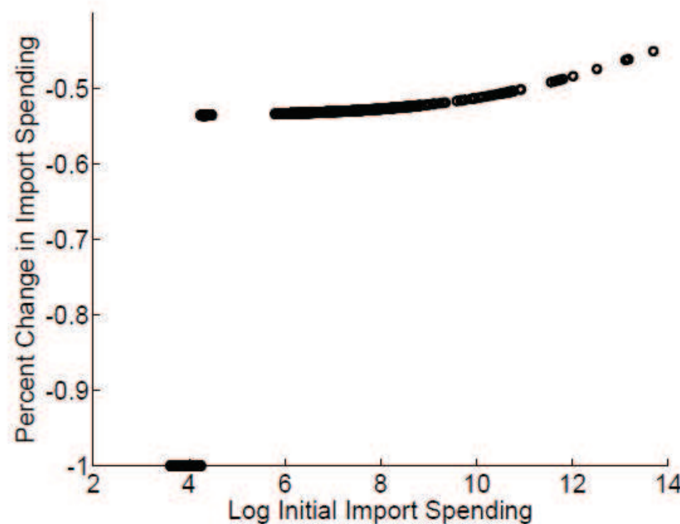
Quantitative Fit: Model versus Data



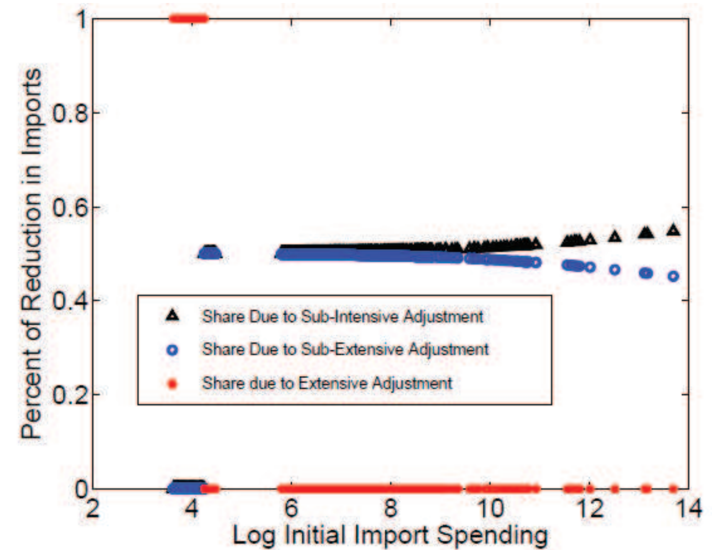
(a) Size and Import Decline, 2000-2002



(b) Size and Margin of Adjustment, 2000-2002



(a) Scale of Trade Adjustment and Size



(b) Margins of Trade Adjustment and Size

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Quantitative Fit (contd.)

- The model generates trade adjustments that are **smaller** in size and less **heterogeneous across margins** than in the data.
- Is it possible to improve fit?
  - Introduce heterogeneity in the productivity of intermediate varieties;
  - Add idiosyncratic shocks to firm productivity;
  - ...
- How is the model calibrated? (there are a few parameters to play with to get a better fit...)

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Other Comments and Questions

- Counterfactuals in **partial equilibrium**: factor prices are surely affected by the trade adjustment. It is quantitatively innocuous to disregard GE effects?

- To obtain the result that **more productive firms import more varieties**, the model features **fixed costs of importing that are increasing in the number of varieties imported**. Is this sensible? (I would have expected that having already imported would reduce the fixed cost of more imports).

- One could reformulate the trade adjustment as a **technology choice**: certain inputs (the imported ones) allow to use more advanced technologies than others (could be isomorphic to $b \neq 1$?).

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Conclusions

- Beautiful paper: teaches us about the mechanics of trade adjustment, rationalizes then through a simple model, careful with measurement.

- Possible spin-offs on the adjustment behavior of multinational corporations.