# Discussion of "Trade Shocks in Distorted Economies: Evidence from Firm-Level Import Data"

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June 2025

# Ambitious Paper Bringing Importer-Level Data to Trade Liberalizations

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    - Importer firm concentration higher in **poorer** and **smaller** countries.

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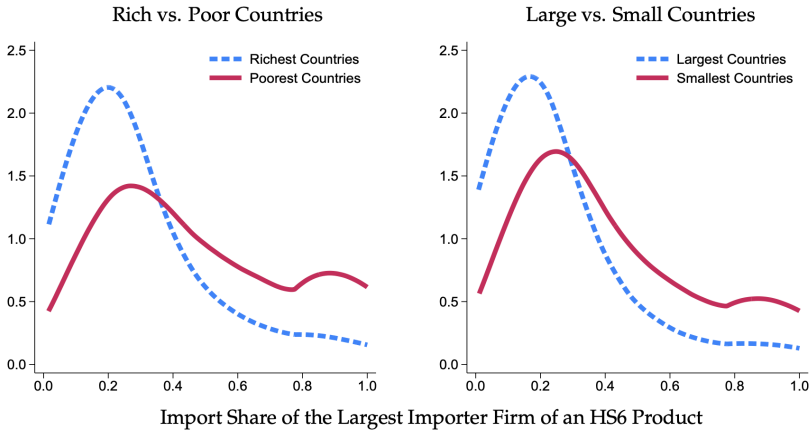
2. Model mapping importer firm sales shares to markups.
   - Discipline Atkeson-Burstein model parameters using response of quantities to tariffs.
3. Efficiency gains from trade liberalization depend on markup dispersion + reallocations.
   - In liberalizations, tariffs fall by diff amts across goods/firms. (Different starting points?)
   - Reallocation to high-markup goods/firms increases allocative efficiency.
4. Larger scope for gains in **poor**, **small** countries. Comparable to neoclassical channels!

# Importer Firm Concentration

**Figure 1:** Distribution of the Import Share of the Largest Importer Firm in an HS6 Product

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- Nested CES model (Atkeson and Burstein 2008) maps market shares to markups.
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  - Predicts that importer markups are higher and more dispersed in poor / small countries.
  - $\Rightarrow$ More scope for efficiency gains from reducing + equalizing tariffs.
- Assumption is that market shares / concentration driven by exogenous variation in number of importers and relative productivities.
  - Number of firms, concentration, market shares are all endogenous industry outcomes.
  - Not so clear that mapping market shares to markups is without loss.

# HHI and Markups: A Simple Model

- CES preferences over $N$ symmetric importing firms, with total expenditures $E$.

$$\max U = \left[\sum_{i=1}^{N} q_i^{\frac{\sigma-1}{\sigma}}\right]^{\frac{\sigma}{\sigma-1}}. \qquad \text{s.t.} \qquad \sum_{i=1}^{N} p_i q_i = E.$$

- Unit cost of imports normalized to one. Symmetric price is

$$p = \mu = \frac{\varepsilon}{\varepsilon - 1}, \qquad \text{where} \qquad \varepsilon = \sigma\left(1 - \frac{1}{N}\right) + \frac{1}{N}.$$

- Number of firms $N$ given by zero-profit condition, with fixed entry cost $F$:

$$\pi = (p-1)\frac{E}{pN} - F = 0.$$

Assume $F < E$ so more than one firm enters. Ignore integer constraints on $N$.

# HHI and Markups: A Simple Model

- Comparative statics of HHI and markups in elasticity of substitution $\sigma$, expenditures $E$.
  - Expenditures $E$ captures **market size**.
  - Elasticity of substitution $\sigma$ captures effect of **income** on price sensitivity.
    (E.g., Harrod 1936, Alessandria and Kaboski 2011, Simonovska 2015, Auer et al. 2022, Sangani 2023)

$$\text{HHI} = \sum_{i=1}^{N} (1/N)^2 = \frac{\sigma}{\sigma + (E/F - 1)}.$$

$$\mu = \frac{\sigma}{\sigma - 1}\left[1 + \frac{1}{\sigma}\frac{1}{N-1}\right] = \frac{\sigma}{\sigma - 1}\frac{E/F}{E/F - 1}.$$

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- Importer firm HHI **decreases** with market size ($\uparrow E$) and with income ($\downarrow \sigma$).
- Markups **decrease** with market size ($\uparrow E$), but they **increase** with income ($\downarrow \sigma$).

# An Example of Why We May Worry

- Whether $\uparrow$ HHI leads to $\uparrow$ markups depends on source of variation (income vs. size).

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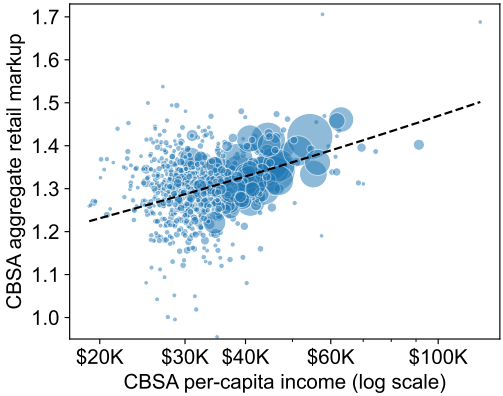
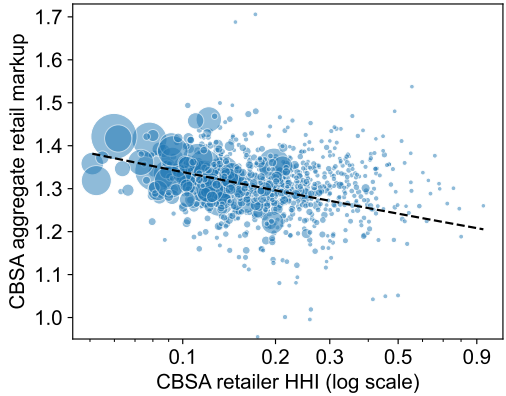
- Whether ↑ HHI leads to ↑ markups depends on source of variation (income vs. size).
- E.g., across U.S. cities, retail markups *negatively* correlated with HHI.




(a) Markups vs. per-capita income.




(b) Markups vs. retailer HHI.

# An Example of Why We May Worry

- As for importers, retailer market concentration is higher in **poorer** and **smaller** cities.
- But we would be wrong to associate this with higher markups!

| | *Retailer HHI* | | *Log Agg. Retail Markup* | | |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Log Income / Capita | −0.163** | −0.048** | 0.110** | 0.095** | |
| | (0.018) | (0.015) | (0.016) | (0.020) | |
| Log Population | | −0.020** | | 0.003 | |
| | | (0.002) | | (0.003) | |
| Retailer HHI | | | | | −0.266** |
| | | | | | (0.048) |
| *N* | 881 | 881 | 881 | 881 | 881 |
| $R^2$ | 0.26 | 0.38 | 0.27 | 0.28 | 0.17 |

*Note:* Unit of observation is a CBSA. Retailer HHI and retail markups from Sangani (2023). Robust SEs.

# Implications for Adao et al. results

- With heterogeneous firms, elasticity of firm $f$ in market $g$ is $\varepsilon_{gf} = \sigma_g(1 - m_{gf}) + m_{gf}$.
  - Within market, higher market share $m_{gf} \Rightarrow$ lower elasticity, higher markups.
  - But across markets, low income $\Rightarrow$ higher $\sigma_g$, higher market shares, lower markups.

- In regression of the form:

$$\Delta \log q_{gf} = \beta(m_{gf})\Delta \log p_{gf} + \phi_g + \varepsilon_{gf},$$

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  $\beta(m_{gf})$ captures *within-market* effect of market share on elasticity.
  - Empirically, $\beta(m_{gf})$ decreasing, means **within-good** results go the right way.
  - But different $\sigma_g$ across markets absorbed in $\phi_g \Rightarrow$ worry about **cross-good** results, **cross-country** comparisons.
    - Different HHI across goods can likewise be due to differences in consumer price-sensitivity.

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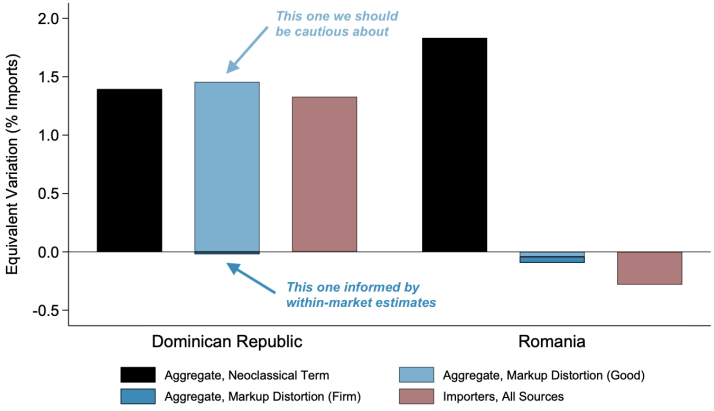

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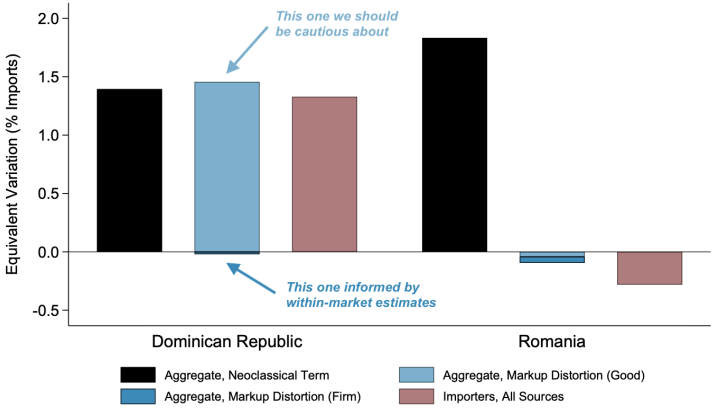


- One solution: Measure missing intercept. E.g., for market characteristics $X_g$, estimate

$$\Delta \log q_{gf} = \beta(m_{gf}; X_g)\Delta \log p_{gf} + \phi_g + \varepsilon_{gf},$$

# Conclusion

- Ambitious paper with a wealth of new importer-level data and stylized facts.
- Brings efficiency gains from micro-reallocations to center focus.
- Reallocations across firms may be as important as neoclassical channels!
- Mapping from importer market shares to markups not innocuous.
  - Many papers make this leap with Atkeson and Burstein (2008) model.

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