Annual Conference of the OECD Global Forum on Productivity 2020

Two-Sided Trade & the Transmission of Shocks

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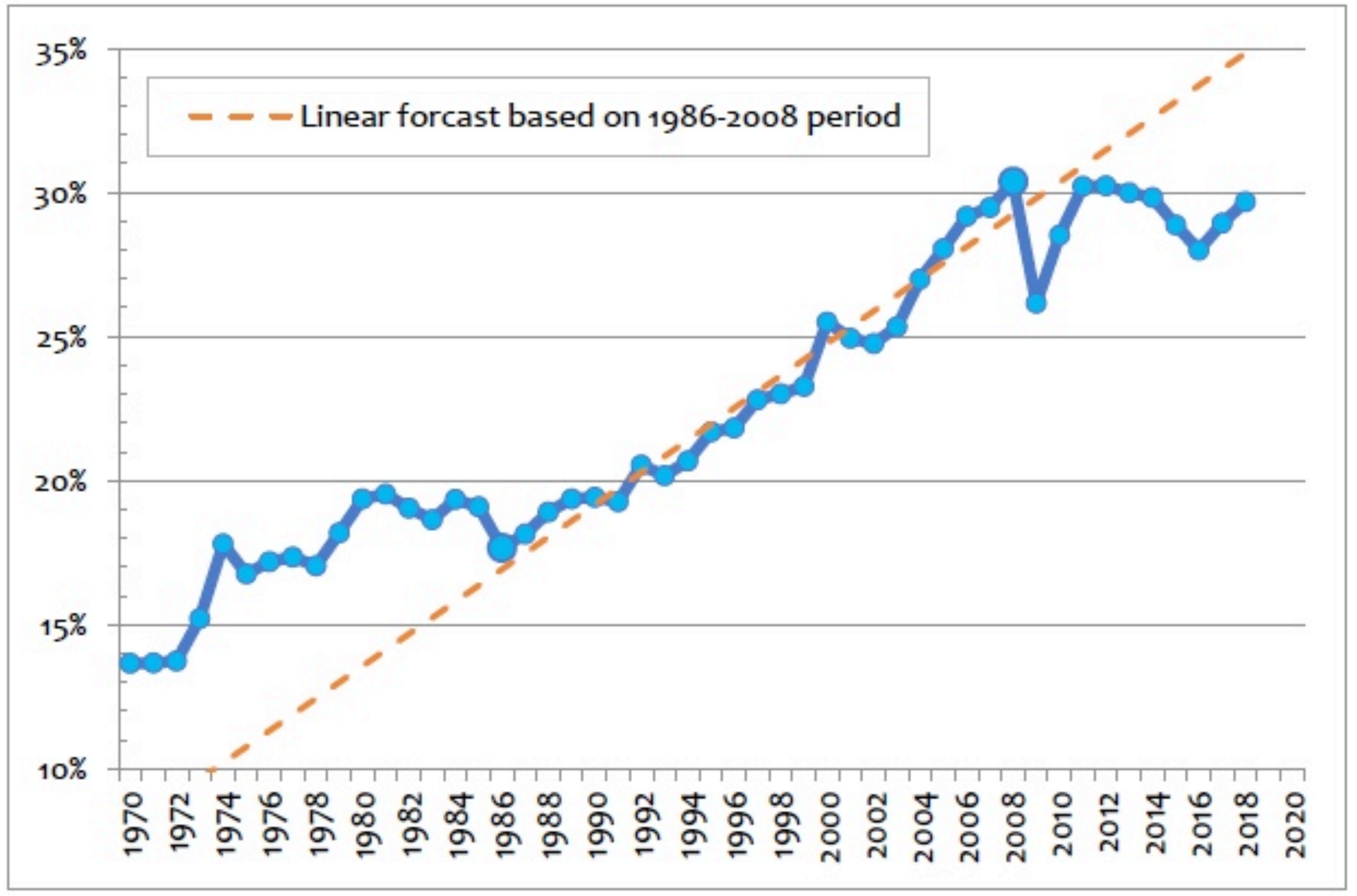
Introduction

High uncertainty about the future of world trade (COVID-19, U.S.-China trade war, Brexit)

- De-globalization or slow-balization? [Antràs, 2020]



Source: World Bank's World Development Indicators (link)

How do GVCs adjust to shocks?

- *Extensive margin:* through supply chain disruptions
- *Intensive margin:* through lower volumes

Takeaways:

1. In uncertain times bulk of adjustment at intensive margin
2. (Two-sided) firm characteristics determine intensive margin adjustment

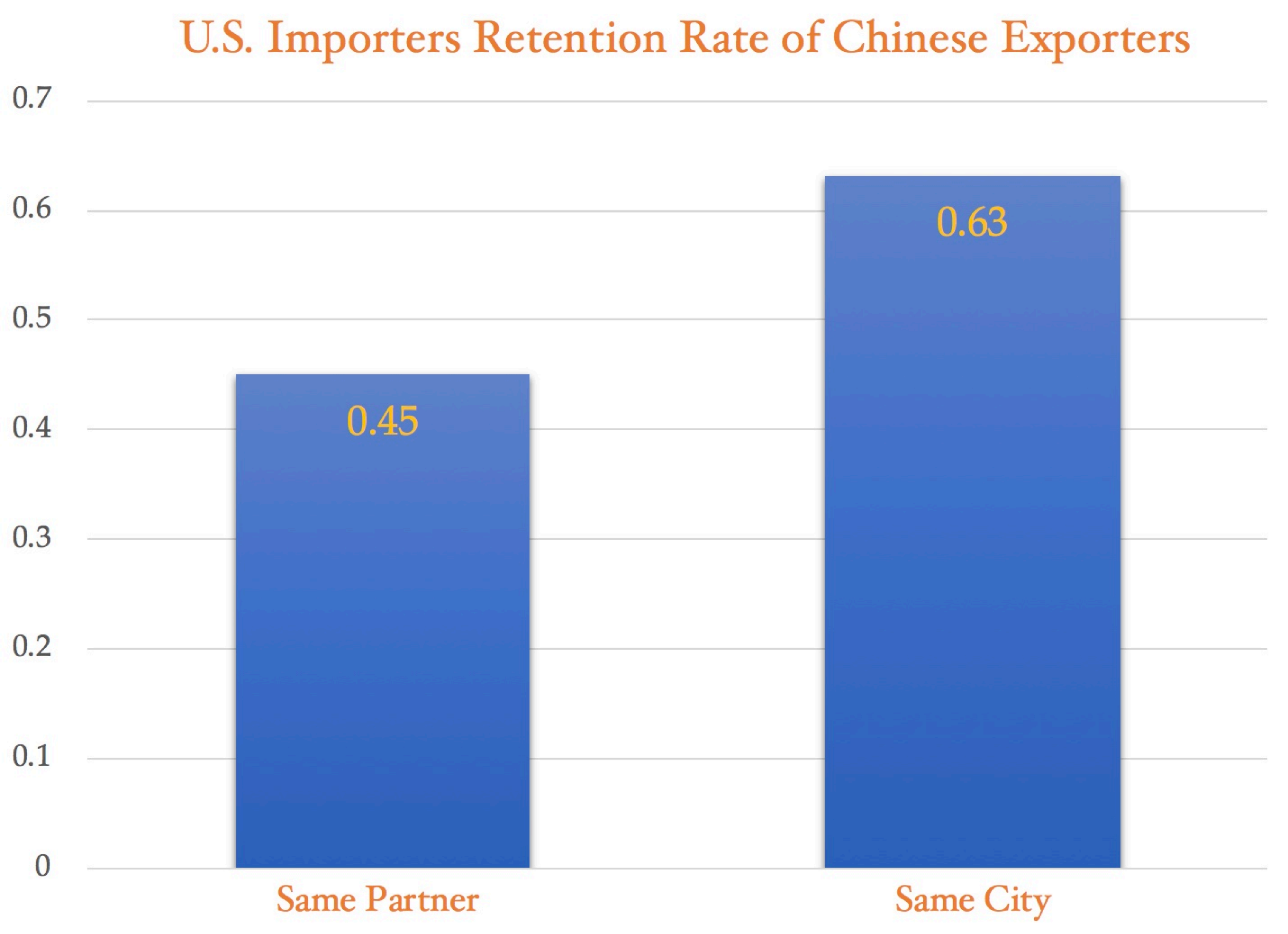
   [Alviarez, Fioretti, Kikkawa and Morlacco, 2020]

Roadmap

1. GVCs and Firms: Some key facts
2. Taking stocks: Importance of intensive margin
3. "Two-sided market power in firm-to-firm trade" [Alviarez et al.,2020]

GVCs and Firms: Key Facts

#1: Relationships are Sticky



Source: Monarch (2020)

Remarkable degree of persistence in buyer-seller links
[Monarch, 2020]

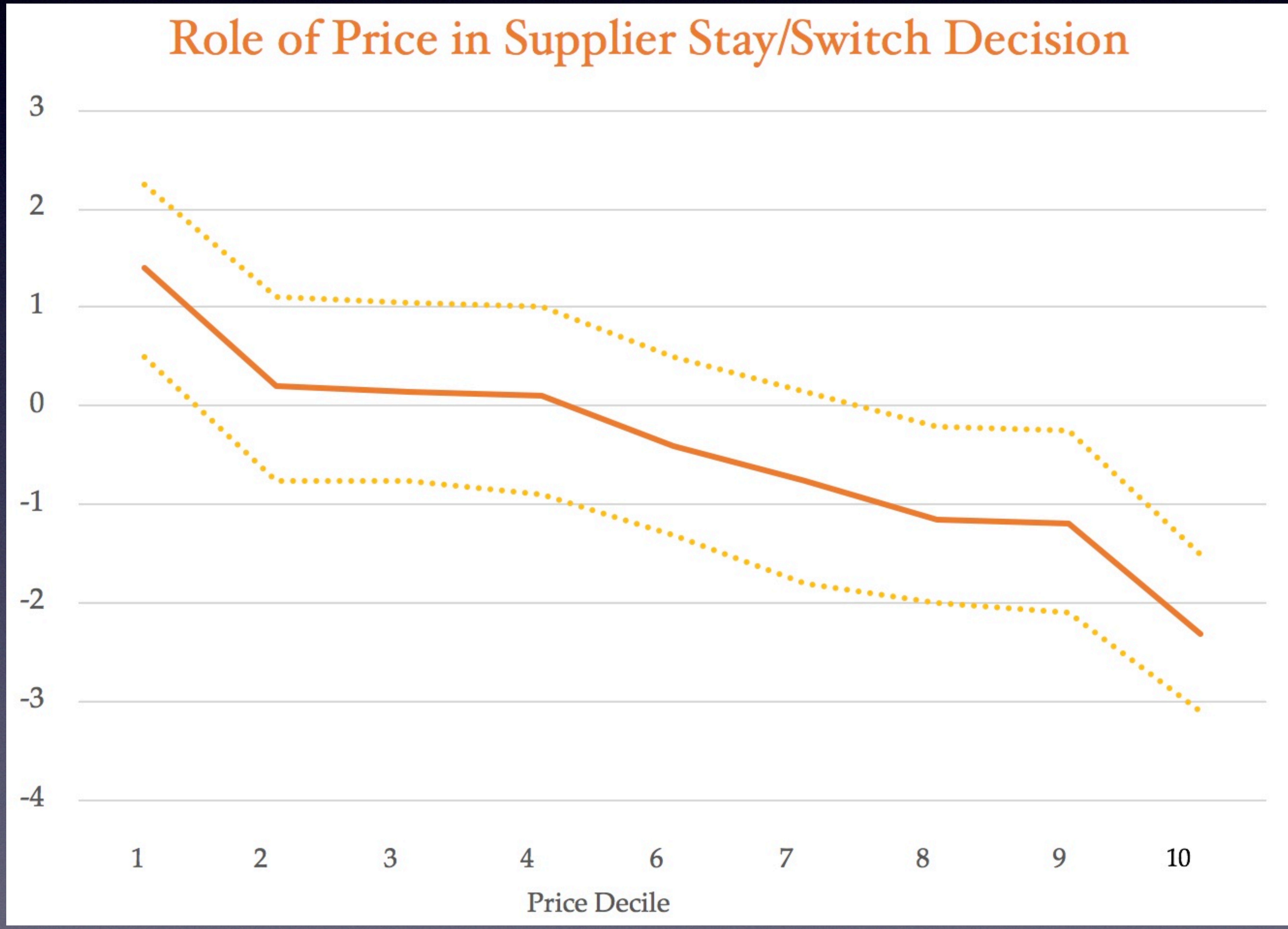
Not just a U.S. phenomenon!

- 1993- 2017: 1.5% of French imports reflect one-shot buyers

[Martin, Mejean and Parenti, 2020]

Why? Huge fixed costs of offshoring are often sunk!
(i.e., customized inputs, intangible capital, "relational" capital..)
[Antràs and Chor, 2013]

#1b: Stickiness: The Role of Prices

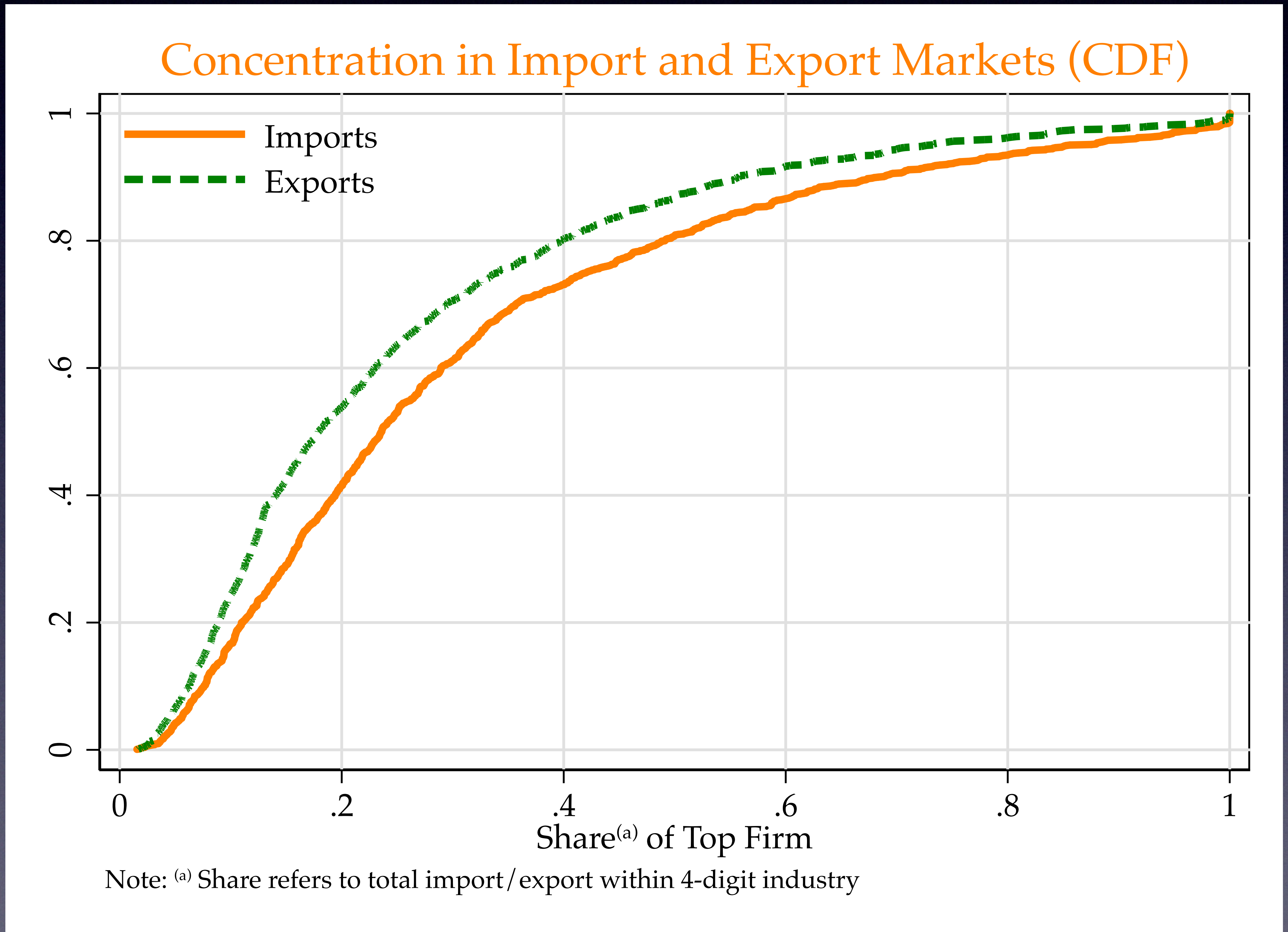


Source: Monarch (2020)

Monarch (2020): lower prices are strongly correlated with higher relationship stickiness

- Firms market power may determine churn rate of suppliers (more on this later..)

#2a: Firms in GVCs are Granular



Source: Author's calculations; French customs data (2017)

In 2017, the largest French firm accounted for:

- 31% of total imports within 4-digit industries
- 26% of total exports within 4-digit industries

Concentration even more substantial in middle-income countries
[Freund and Pierola, 2015]

▷ Transactions within GVC distinct from from anonymous, spot trades as in standard theories

#2b: Firms in GVCs have Market Power

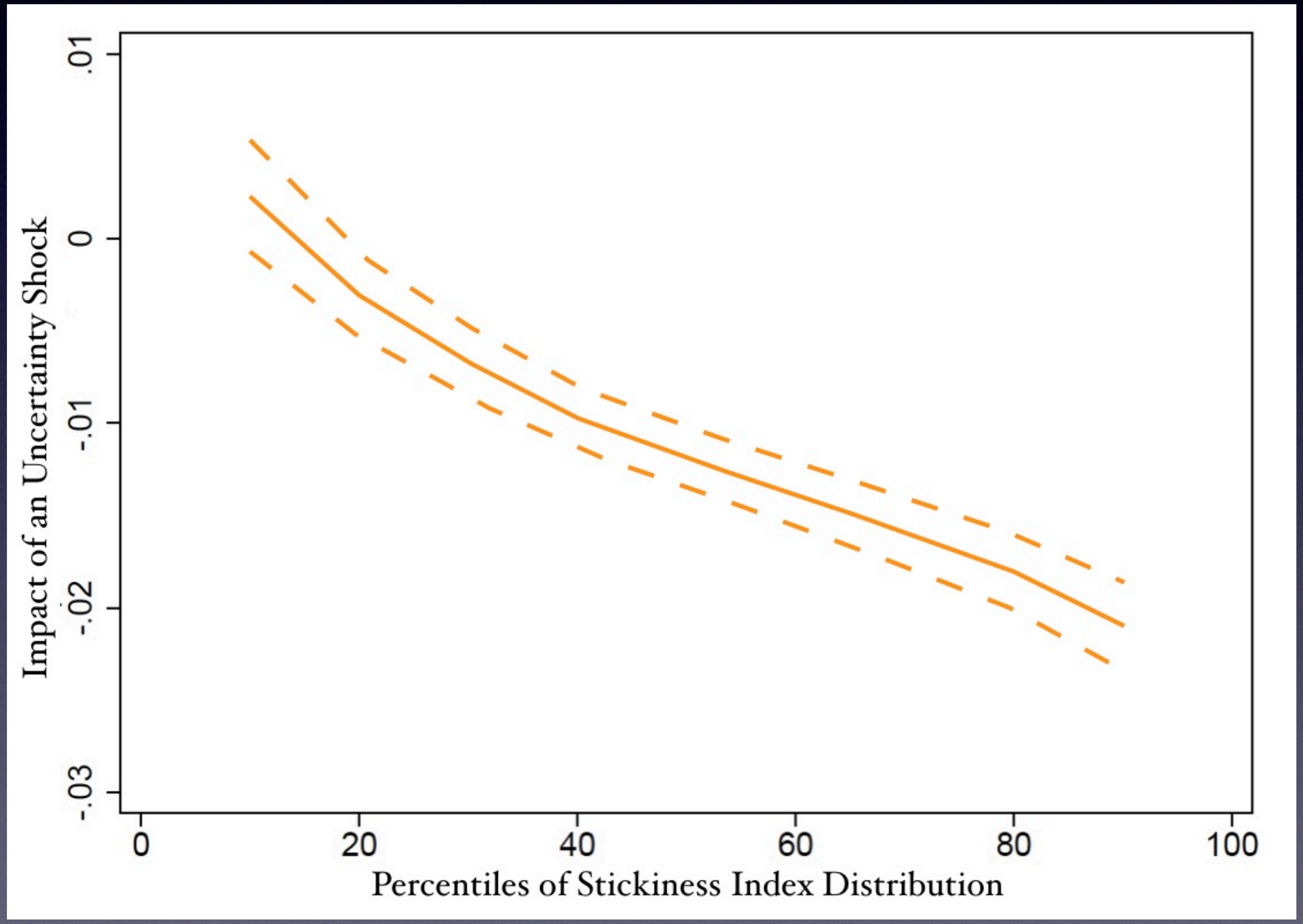
- Prices in firm-to-firm trade seem to be correlated with concentration among importers and exporters.

- Evidence from French and Belgian data:

  1. Larger buyers pay lower input prices
     [Morlacco, 2020]

  2. Larger sellers charge high markups and prices
     [Kikkawa, Magermann and Dhyne, 2019]

#3: The Role of Uncertainty



Source: Martin, Mejean and Parenti (2020)

Uncertainty affects the dynamics of trade through the option value of waiting (i.e., "wait-and-see")
[Novy and Taylor, 2019]

Impact of an uncertainty shocks on extensive margin of GVCs decreases on *stickiness* measure
[Martin et al., 2020]

Taking Stock

Three key facts about (firms in) GVCs:

1. High degree of persistence (stickiness) in relationships
2. Firms in GVCs are granular, and have market power
3. With high uncertainty, extensive margin adjustment is stifled, the more so in 'stickier' relationship

- Most GVC adjustment at the intensive margin
  [Bricongne et al. , 2012; Bernard et al., 1995]
- Only large, persistent shocks generate substantial trade reorganization
  [Hunneus, 2018]
- Firms are key actors determining the GVC adjustment to shocks

Alviarez, Fioretti, Kikkawa and Morlacco (2020)

Model Overview

- Firm-to-firm trade with two-sided market power and granularity
  - Focus on relationship between exporter i and (U.S.) importer j
  - Network structure is m:m $\Longrightarrow$ concentration among importers and exporters

- Partial equilibrium: - focus on price bargaining problem, taking as given:
  - *(i)* Demand (supply) downstream (upstream); *(ii)* Extensive margin of GVCs network
  - Solution concept: Nash equilibrium in Nash bargaining

- Key theoretical result: bilateral price depends on configuration of market power and market concentration among importers and exporters
  - Main application: Pass-through of cost shocks into import prices

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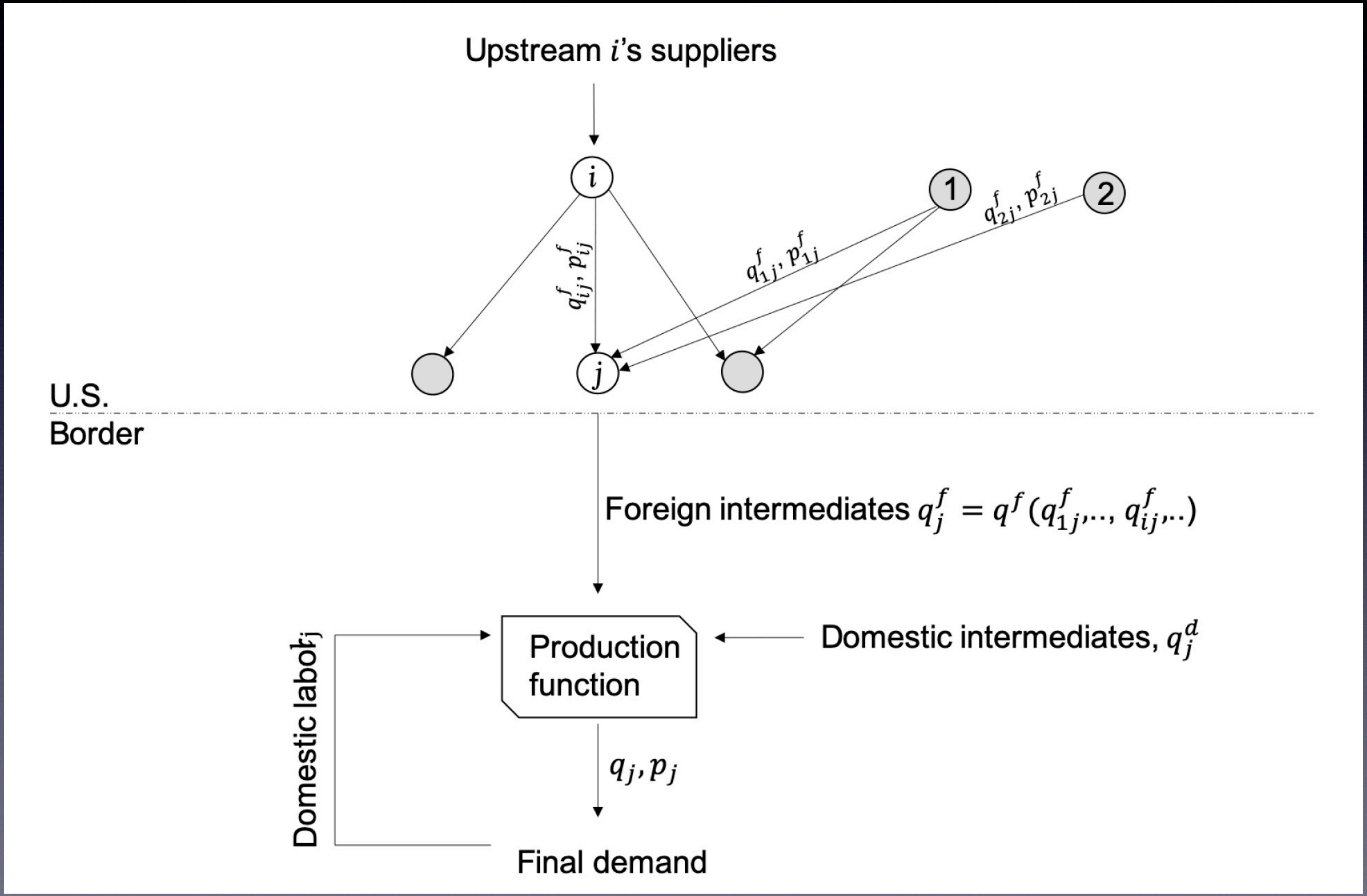

Main Theoretical Result

$$\mu_{ij} = \left(1 - \omega_{ij}(\tilde{\phi})\right) \cdot \mu_{ij}^{oligopoly} + \omega_{ij}(\tilde{\phi}) \cdot \mu_{ij}^{oligopsony}$$

- μ_{ij} : bilateral markup in firm-to-firm trade. Price is $p_{ij} = \mu_{ij} \cdot c_i$

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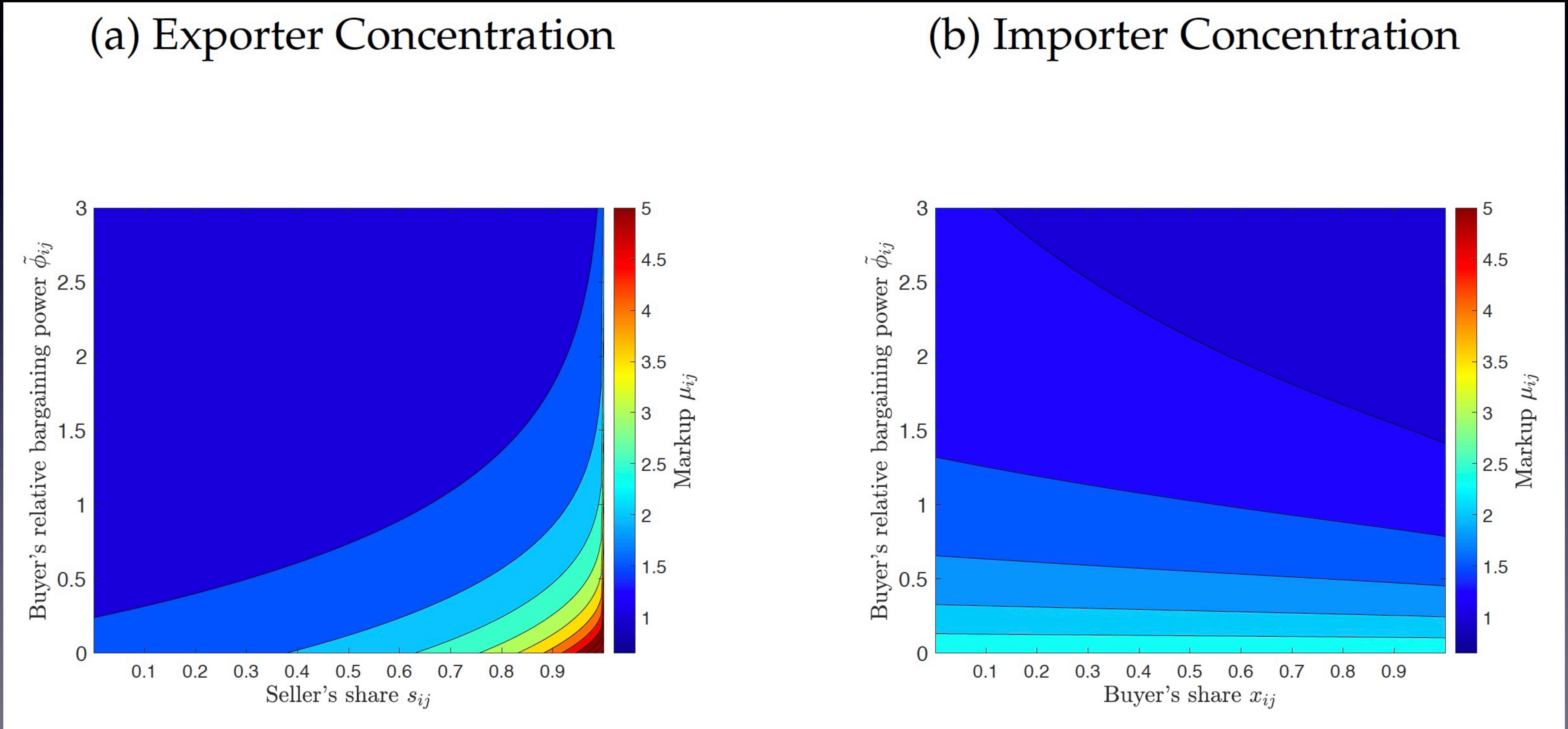
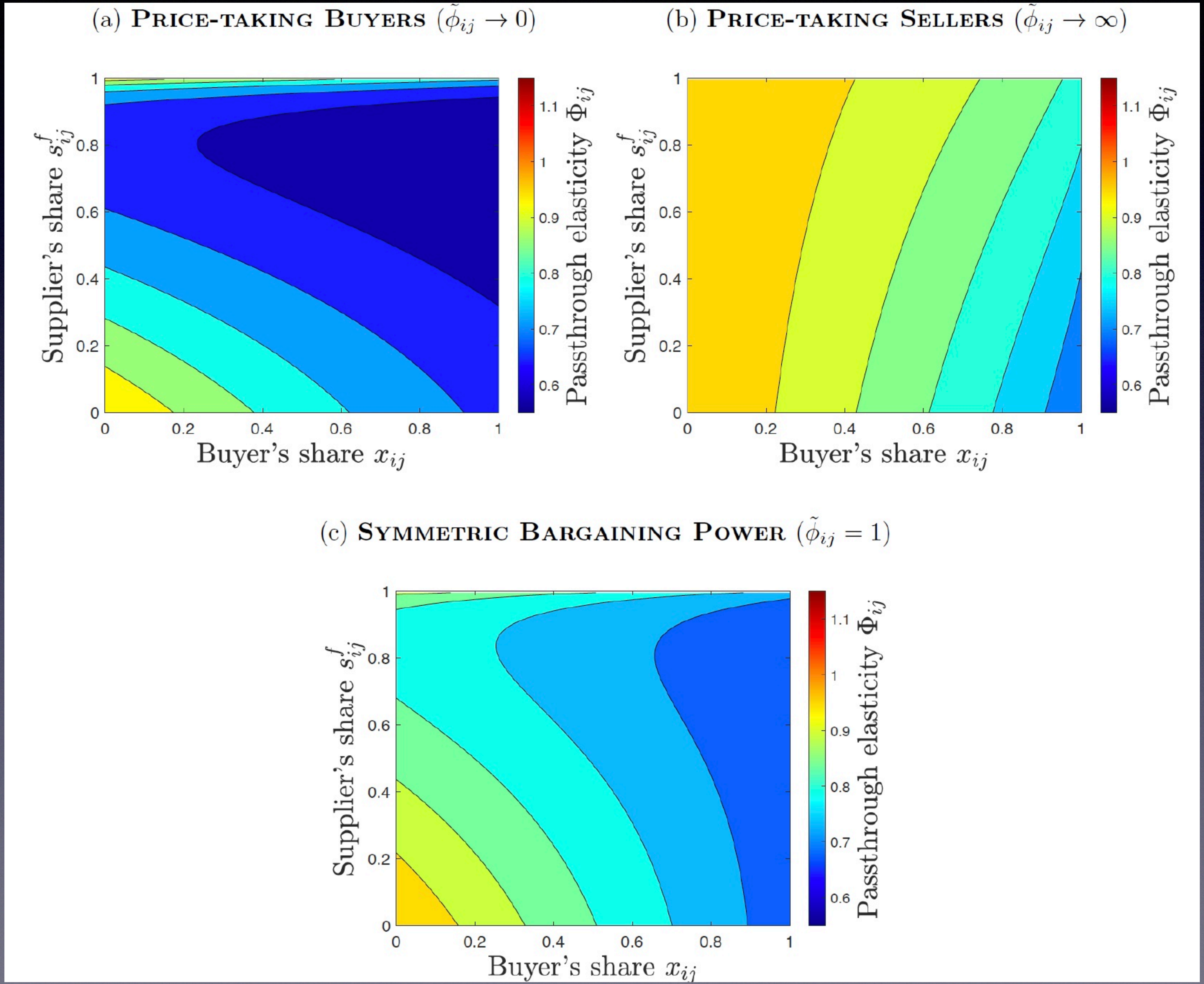
- $\tilde{\phi}_{ij}$: buyer's relative bargaining power; $\omega(\tilde{\phi})$: weighting factor, s.t. $\omega' > 0$

Bilateral Markups and Concentration



Application: Pass-through of Cost Shocks



Conclusions

- When uncertainty is high, GVC adjustment mostly at the intensive margin
  - Much depends on how persistent is the shock
  - So far, hard to conclude that COVID-19 likely to fuel much re-organization

- Firms in GVCs are granular and enjoy market power
  - Pass-through of a cost shock into prices (and volumes) depends on the configuration of market shares and market power among firms
  - High market power are the most resilient to shocks

$\Longrightarrow$ current crisis may lead to even high concentration and market power of firms, and higher inequality