A ortativ Matching of Export r and Import r

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ABCDE Conference, 015

Today' tal : Capability Sorting of Export r and Import r

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Difficulti in Id ntifying Export r-Import r Sorting

- A natural approach may be a correlation approach: calculate correlations of some measure of capability of exporters and importers across matches.

- However, this approach is not feasible/difficult for typical trade data:
  - Cus oms ransac ion da a do no con ain domes ic sales, employmem , or capi al.
  - Mul i-produc firms: Da a on produc -level capahili y are rarely availahle.
  - No es ahlished me hod of es ima ing capahili y (e.g. TFP) when sor ing exis s.
  - Few o few ma ching: Correla ions of size-rela ed variahles (e.g. rade volume) of expor ers and impor ers could he mechanically posi ive.

Th ory: B c r-M litz mod l

- “Becker+Melitz” matching model of suppliers (exporters) and final producers (importers)
  - Two-sided he erogenei y of suppliers and final producers a la Becker (73) and firm he erogenei y in capahili y a la Meli z (03).
  - Exogenous cons rain s on he numher of rading par ners (e.g. due o ransac ion cos s) a la Becker (73).
  - Posi ive assor a ive ma ching (PAM) hy capahili y due o complemen ari y.
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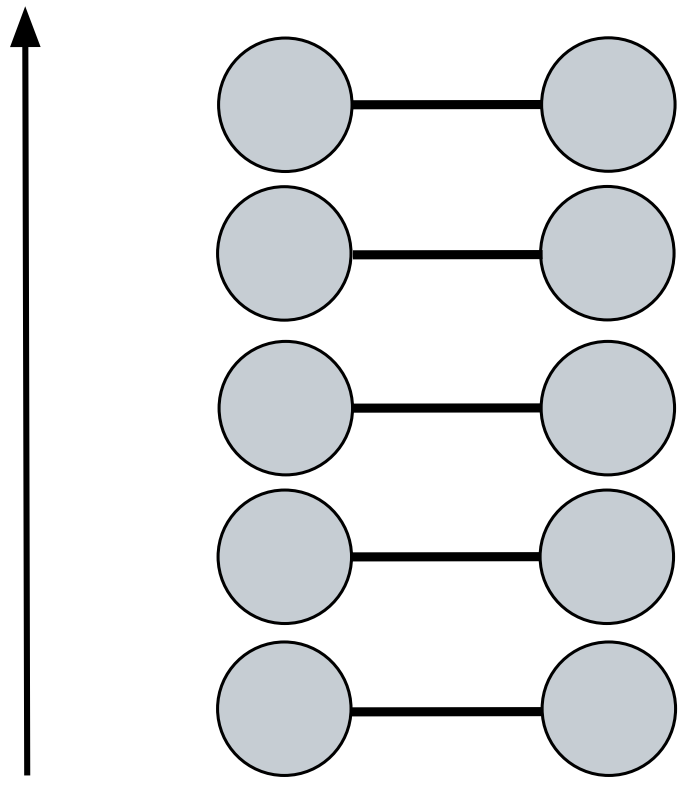
Natural Exp rim nt

- US removed import quota under the Multifibre Arrangement (MFA) at the end of 004.
  - Massive en ry of Chinese expor ers in quo a-bound produc s.
- e compare quota-bound and other products on how US and Mexican firms switch the main partners. e find:
  - US impor ers swi ched heir Mexican par ners o hose making grea er pre-shock expor s.
  - Mexican expor ers swi ched heir US par ners o hose making fewer pre-shock impor s.
  - These swi ches more frequen ly occurs in quo a-bound produc s
- This pattern is consistent with PAM, but not with NAM or no sorting (under normal circumstances).

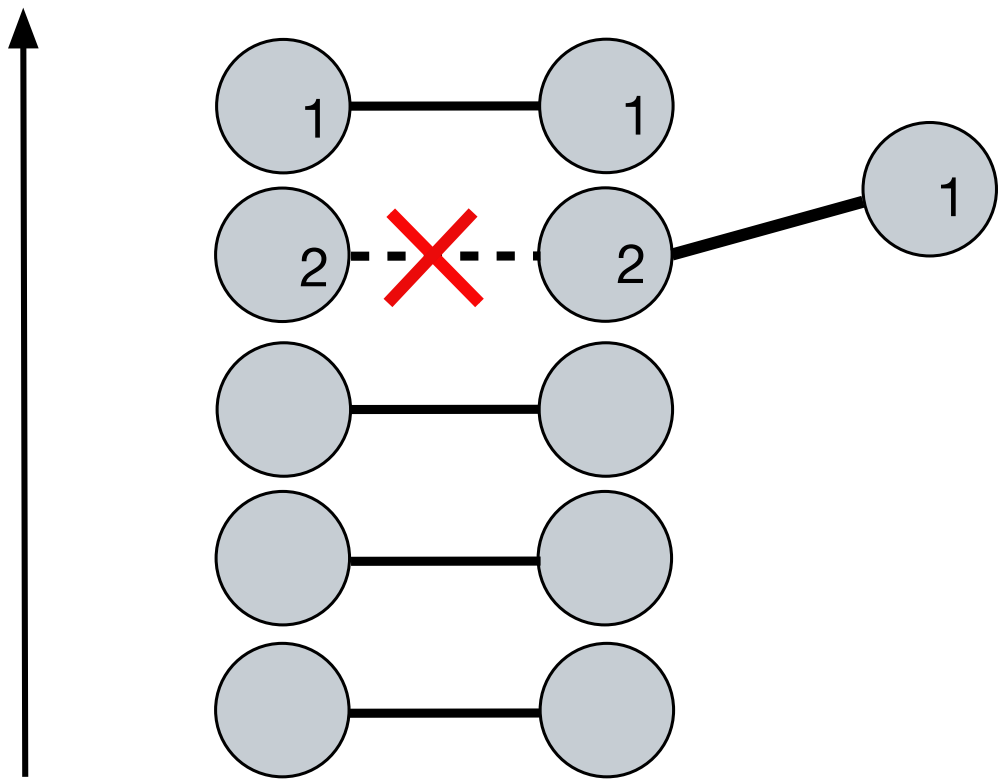
Thought xp rim nt: Pr - hoc

- Positive assortative matching holds.



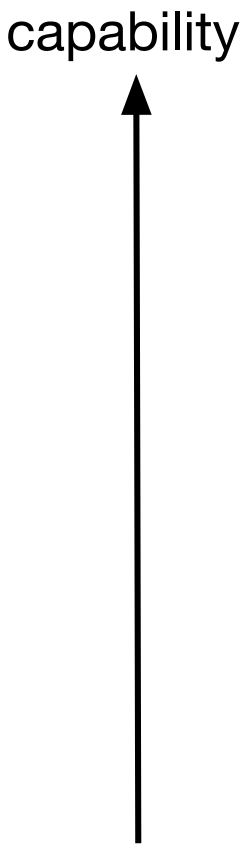
Entry of For ign Suppli r

- Chinese firms enter and some US firms switch.



Exi ting Matching B com Un tabl

- Some exporters are left without partners.



Adju tm nt to Shoc : -matching

- Room for re-optimization for matching (re-matching).

Po t- hoc : Partn r Upgrading and Downgrading

- Re-matching: partner upgrading for US and partner downgrading for Mex.

Data

Data

- Mexico's customs records for textile/apparel (HS50-63).
  - The iden i ies of Mexican expor ers and US impor ers, ransac ion value, produc code (HS 6 digi).
- Excluded:
  - Expor s by individuals and courier companies (e.g. FedEx).
  - Expor ers who do no repor impor ers for more han 80% of expor s (mos ly du y free zone rade, Maquiladora/IMMEX).
  - Transac ions from January o May since da a s ar from June 2004.
- US quota information.
  - Indica ors on whe her Chinese expor s in each HS 6 produc faced binding quo as by he US (crea ed from he indiac ors by Brambilla e al.(10)).

Finding 1: Approximately One-to-one Matching

Main-to-Main Shar

- Main-to-main match for a given product.
  - he expor er is he larges (main) seller for he impor er of he produc .
  - a he same ime, he impor er is he larges (main) buyer for he expor er of he produc .
- Main-to-main share.

$$\text{Main-to-main share} = \frac{\text{Trade volume of main-to-main matches}}{\text{Aggregate trade volume}}$$

- If this main-to-main share is close to one, we call matching is approximately one-to-one.

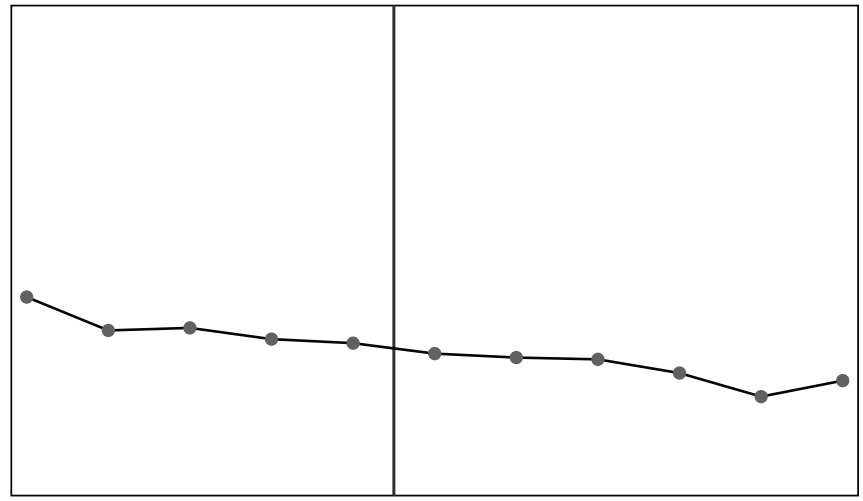
Main-to-Main Shar : Aggr gat T xtil Appar l

Year	All	Main-to-Main Share			
		Processing Trade		Trade Protection	
		Maquila	Non-Maquila	MFA Quota-bound	Quota-free
004	0.77	0.77	0.78	0.78	0.80
005	0.79	0.79	0.79	0.8	0.79
006	0.80	0.80	0.83	0.81	0.8
007	0.83	0.83	0.83	0.84	0.85

Finding 2: Systematic Re-matching

Th End of th Multi-Fibr Arrang m nt

- The US removed import quotas on certain textile/apparel products from non-NAFTA countries in January 1, 005.
- The increase in Chinese exports reduced other countries' exports to the US (Brambilla, handelwal and Schott 10; Harrigan and Barrows 09).



- The increase is driven by new Chinese exporters who have various capabilities (handelwal, Schott and ei, 13)$\Rightarrow dM_C > 0$ in our model.

Sp cification

For firm i

US Import r' Partn r Chang

$$Upgrading_{igs}^{US} = {}_1 Binding_{gs} + {}_s + {}''^{us}$$

M x Export r' Partn r Chang

$$Upgrading_{igs}^{Mex} = Binding_{gs} + {}_{s} + {}''^{m}_{igs}$$

$$Downgrading_{igs}^{Mex} = {}_{4}Binding_{gs} + {}_{s} + u^{m}_{igs}:$$

	$Upgrading^{Mex}$ ( )		$Downgrading^{Mex}$ ($_4$)	
	Linear Prob.	Probit	Linear Prob.	Probit
	(1)	( )	(3)	(4)
Binding	-0.003	-0.003	0.1 7***	0.150***
	(0.0 0)	(0.044)	(0.035)	(0.019)
HS FEs	Yes	Yes	Yes	Yes
Obs.	601	5	601	601

significance: *** 1%; ** 5%; * 10%; SE clustered at HS6

- Average probability of downgrading in sample = 0.15.

Summary

- Natures of trade data make it difficult to directly document capability sorting of exporters and importers.
- e have developed an alternative approach for identifying capability sorting: Becker-Melitz model with a natural experiment.
  - Rema ching in response o a shock o increase he mass of suppliers.
- The rematching pattern of the Mexico-US apparel trade at the end of the Multi-Fibre Arrangement we have found:
  - Expor er-impor er ma ching is posi ive assor a ive on capahili y.
  - This sugges s ha rade liberaliza ion improves ma ching of firms in he world.

Implication of Our Finding

- Importance of matching for firms.
  - We confirm the premise of the literature on information frictions causing mis-matching (e.g. Casella & Rauch, 02; Rauch & Casella, 03; Rauch & Trindade, 03).
  - Investing the roles of friction in the light of matching will be important future research.

- "Good buyers" and "bad buyers" (e.g. Chaney, 14).
  - Every exporter prefers to trade with high capable importers, but only high capable exporters can do so.