



“Specialization, Market Access and Real Income”

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Main Contributions

- ❑ Interesting, thought-provoking paper tackles important, topical questions
 - Theoretically characterize and empirically estimate impact of foreign market access on real income
 - Distinguish between import supply and export demand shocks
 - Distinguish between and aggregate across sector clusters

- ❑ Inspired reactions
 - What do we (want to) estimate?
 - What country and sector features matter?
 - What open (policy) questions?

Important Questions & Original Approach

How does globalization affect real income?

- ❑ Rapid expansion in international trade in recent decades has intensified debates about trade policy and structural reforms
 - Advanced countries: competition from low-wage countries, inequality
 - Developing countries: mixed gains, weak macro fundamentals
- ❑ Stylized conceptual framework accommodates multiple possible mechanisms & permits reduced-form estimation of comprehensive effects
 - Minimal assumptions on consumption and generalizable production functions
 - Stricter but justifiable assumptions on market competition & resource allocation
- ❑ Creative estimation design and careful result interpretation
 - K-means clusters of sectors and gravity measures for market access
 - Post-Double Section Estimator for selecting controls

What Do We (Want To) Estimate?

- Model-consistent expression for real income growth incorporates fully state-dependent income elasticities wrt foreign market access

$$d \ln y_{i,t} \approx \sum_k \delta_{ik,t}^{ex} \cdot [\lambda_{ik,t}^{ex} d \ln FMA_{ik,t}] + \sum_k \delta_{ik,t}^{im} \cdot [\lambda_{ik,t}^{im} d \ln CMA_{ik,t}] + \sum_k \delta_{ik,t}^T \cdot d \ln T_{ik,t} \quad (11)$$

- Estimation equation recovers elasticities that are weighted averages of sector-cluster treatment effects, where weights reflect likelihood of treatment conditional on controls for initial conditions

$$d \ln y_{i,t} = \nu_t + \sum_{g \in G} \delta_g^{ex} \cdot [d \ln FMA_{ig,t}] + \sum_{g \in G} \delta_g^{im} \cdot [d \ln CMA_{ig,t}] + \boldsymbol{\eta} \mathbf{w}_{i,t} + \boldsymbol{\phi} \mathbf{s}_{i,t} + \tilde{\epsilon}_{i,t}, \quad (19)$$

$$\tilde{\epsilon}_{i,t} = \sum_{k \in K} \boldsymbol{\eta}_k \mathbf{w}_{i,t} \cdot \xi_{ik,t}^T + \sum_{g \in G} \sum_{k \in g} (\delta_k^{ex} - \delta_g^{ex}) \lambda_{ik,t}^{ex} d \ln FMA_{ik,t} + \sum_{g \in G} \sum_{k \in g} (\delta_k^{ex} - \delta_g^{ex}) \lambda_{ik,t}^{im} d \ln CMA_{ik,t}$$

$$E[\tilde{\epsilon}_{i,t}] = 0, \quad E[\xi_{ik,t}^T | \mathbf{w}_{i,t}] = 0 \quad \forall k,$$

- How should we interpret δ_g^{ex} , δ_g^{im} ? Can we learn from differential δ_{ik}^{ex} , δ_{ik}^{im} ?

Estimation & Interpretation Trade-Offs

- ❑ On the one hand, quantifying average income elasticities is in principle an agnostic approach that captures comprehensive effects
 - Value to abstraction
 - No need to know specific mechanisms

- ❑ On the other hand, variation in income trade elasticities across countries and sectors matters for policy and can elucidate mechanisms
 - Small, insignificant or unstable avg elasticities may mask heterogeneity
 - Don't know how much of overall income effects of trade are captured by avg elasticity vs. by differential impact in controls and error term

Sector Clusters

- ❑ K-means technique identifies reasonable sector clusters based on 7 sector features
- St dev across vs. within clusters?
- Contrast sectors with high intermediate use vs. sales?
- Add upstreamness, R&D intensity
- Unpack black box of clusters and explore differential elasticities
- Group sectors by one characteristic at a time
- Interact FMA_{igt} and CMA_{igt} with sector characteristics

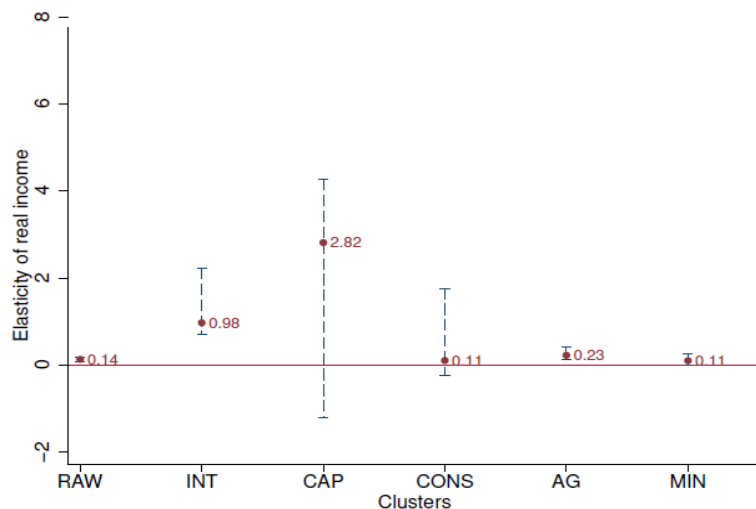
Table 1: Summary Statistics of Clusters in Manufacturing

	cluster				Mean	Std. Dev.
	1	2	3	4		
Inv. Share	0.00	0.05	0.52	0.04	0.13	0.22
Int. Using	0.78	0.58	0.65	0.66	0.66	0.16
Int. Sales	0.84	0.70	0.27	0.28	0.57	0.31
Conc. Ratio	0.47	0.27	0.38	0.56	0.40	0.21
Sk. Share	0.32	0.28	0.35	0.36	0.32	0.13
Cap. Int.	0.68	0.55	0.54	0.70	0.61	0.10
Con. Int.	0.26	0.56	0.73	0.52	0.51	0.22
Num of ind.	60	84	47	42		
Trade share	0.33	0.26	0.23	0.11		
Label	Raw Materials Processing	Complex Intermediates	Capital Goods	Consumer Goods		

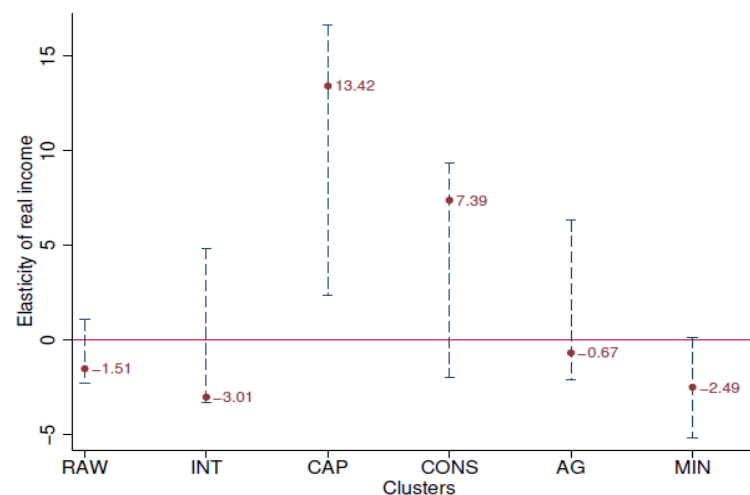
Sector Clusters & ME in Income Elasticity

- Could alternative sector grouping and differential income elasticities mitigate ME in estimated average elasticities?

Figure A6: Cluster Measurement Error Simulation



(a) Foreign Demand Shocks



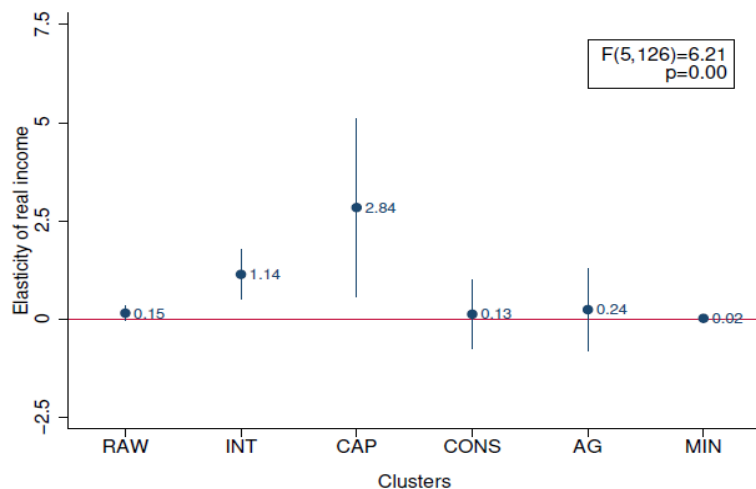
(b) Foreign Supply Shocks

Foreign Supply Shocks

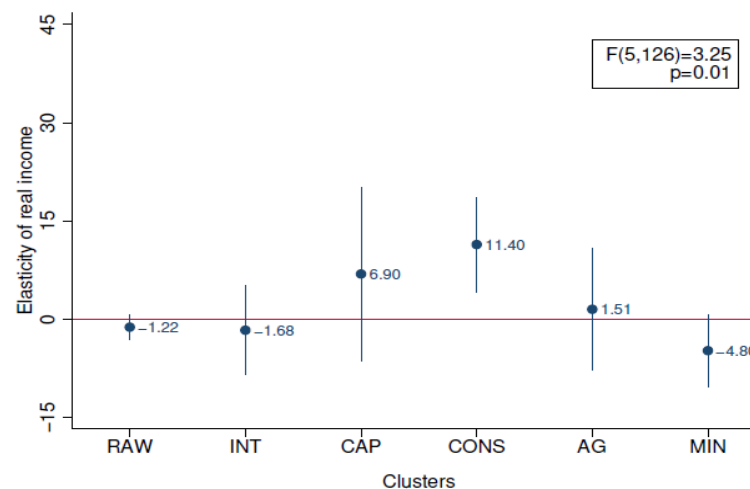
- CMA_{igt} bundles foreign supply of final consumer goods and intermediate inputs for use by domestic firms
 - Distinguishing between these components would elucidate mechanisms and potentially reduce simulated ME and clarify why $\delta^{ex} \gg \delta^{im}$

Figure 1: Cluster-Specific Coefficients and Confidence Intervals

I. OLS Estimates



(a) Foreign Demand Shocks



(b) Foreign Supply Shocks

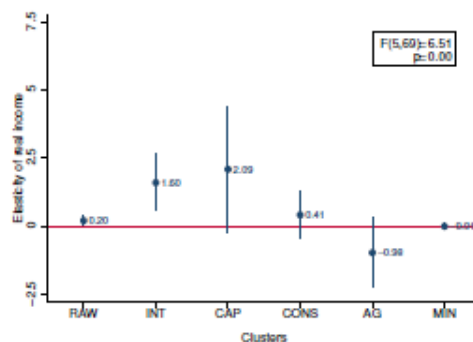
Country Size

- ❑ Model characterizes effects of market access on SOEs and identification requires independence of foreign shocks to domestic conditions
 - Sample spans both SOEs and LOEs
 - δ^{ex} and δ^{im} are generally state dependent
- Explore differential effects
 - Interact FMA_{igt} and CMA_{igt} with country i size
 - Unbundle FMA_{igt} and CMA_{igt} by trade partner size

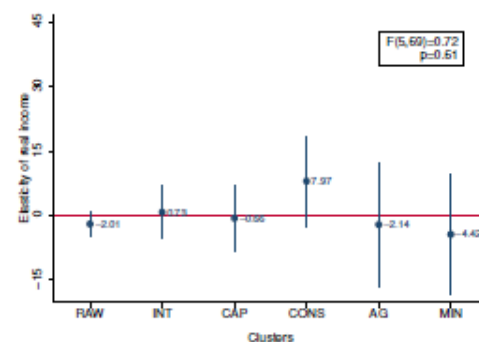
Allocative Efficiency

- ❑ Model assumes efficient (re)allocation of resources across firms and sectors
- Data reveals large differences in δ^{ex} and δ^{im} between rich & poor countries
- ME simulation indicates more stable point estimates in split sample than pooled sample
- Could institutional differences across countries matter?
- Interact FMA_{igt} and CMA_{igt} with country characteristics

I. Developed Countries

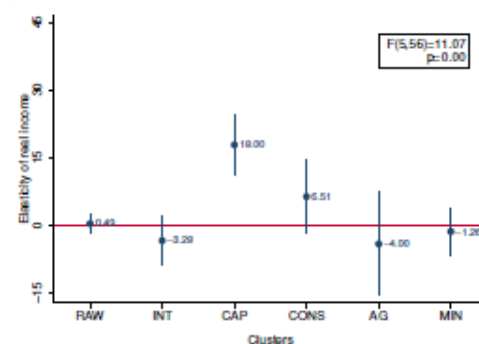
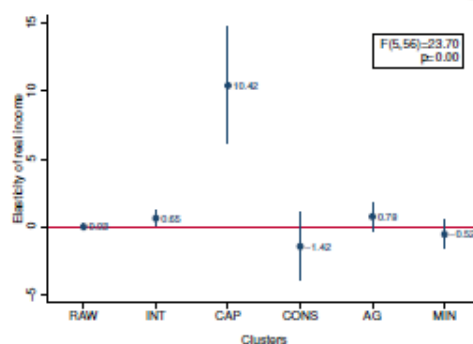


(a) Foreign Demand Shocks



(b) Foreign Supply Shocks

II. Developing Countries



Resource Misallocation

- ❑ Among others, Berthou, Chung, Manova and Sandoz (2018) emphasize the role of institutional and market frictions for the gains from trade
- ❑ Theory:
 - With no misallocation, bilateral and export liberalization raise welfare and productivity, while import liberalization has ambiguous effects
 - Misallocation can amplify, dampen or reverse the gains from trade, and all trade reforms have ambiguous effects
- ❑ Empirics: CompNet macro data that captures micro firm heterogeneity & WIOD value-added trade flows by export & import sector
 - 14 European countries, 20 manufacturing industries, 1998-2011
 - Causality relies on tariffs and Bartik shocks as IVs
- ❑ Export demand and import competition both boost aggregate productivity
 - Efficient institutions, factor and product markets amplify gains from import competition, but dampen gains from export expansion

BCMS (2018): IV Baseline

- 20% ↑ exp demand (imp compet) → 7.3-8% (1.4-10%) ↑ agg prod
 - Exp demand: ↑ avg prod (~ 3/4), ↑ prod-size covariance (~ 1/4)
 - Imp compet: ↑ avg prod (~ 5/4), ↓ prod-size covariance (~ -1/4)

	In Agg Prod (ikt)	In Avg Prod (ikt)	Cov Term (ikt)	In Agg Prod (ikt)	In Avg Prod (ikt)	Cov Term (ikt)
^Exp Dem (ikt)	0.398*** (0.039)	0.295*** (0.039)	0.103*** (0.014)	0.367*** (0.109)	0.226** (0.098)	0.141*** (0.050)
^Imp Comp (ikt)	0.068*** (0.014)	0.090*** (0.014)	-0.021*** (0.005)	0.502*** (0.185)	0.585*** (0.166)	-0.083 (0.059)
N	2,777	2,777	2,777	2,777	2,777	2,777
R2	0.820	0.852	0.485	0.856	0.887	0.649
Ctry*Year FE, Controls	Y	Y	Y	Y	Y	Y
Sector*Year FE	N	N	N	Y	Y	Y

BCMS (2018): Institutional & Market Frictions

- Efficient institutions, factor and product markets amplify gains from import competition, but dampen gains from export expansion

Institution Measure:	In Agg Prod (ikt)				
	Rule of Law	(Inverse) Corruption	Labor Market Flexibility	Creditor Rights Protection	(Inverse) Product Market Regulation
	(1)	(2)	(3)	(4)	(5)
Δ Exp Dem (ikt)	1.066*** (0.126)	0.850*** (0.096)	1.121*** (0.261)	0.718*** (0.158)	1.314*** (0.172)
Δ Imp Comp (ikt)	-0.113** (0.050)	-0.063* (0.038)	-0.202** (0.096)	-0.108* (0.061)	-0.045 (0.061)
Δ Exp Dem (ikt) x Institution (it)	-0.476*** (0.067)	-0.302*** (0.042)	-0.218*** (0.069)	-0.048** (0.019)	-0.769*** (0.130)
Δ Imp Comp (ikt) x Institution (it)	0.136*** (0.031)	0.095*** (0.020)	0.083*** (0.027)	0.028*** (0.009)	0.085* (0.046)
N	2,777	2,777	2,777	2,777	2,777
R2	0.792	0.797	0.747	0.811	0.825
Ctry*Year FE, Controls	Y	Y	Y	Y	Y

BCMS (2018): Institutional & Market Frictions

- ❑ Rule of Law : index of overall institutional capacity
 - Mean 1.11, st dev 0.49 *World Bank Governance Indicators*
- ❑ (Inverse) Corruption: perceived use of public power for private gain
 - Mean 1.07, st dev 0.69 *World Bank Governance Indicators*
- ❑ Labor Market Flexibility : avg of 21 indicators for firing & hiring costs
 - Mean 3.28, st dev 0.37 *OECD Employment Database*
- ❑ Creditor Rights' Protection : index of financial contractibility
 - Mean 5.86, st dev 1.79 *World Bank Doing Business*
- ❑ (Inverse) Product Market Regulation : avg of 18 indicators for state control, barriers to entrepreneurship, barriers to trade and investment
 - Mean 1.17, st dev 0.25 *OECD Market Regulation*

Policy Implications & Open Questions

“The **Lucas critique** is a criticism of econometric policy evaluation procedures that fail to recognize that optimal decision rules of economic agents vary systematically with changes in policy.”

New Palgrave Dictionary of Economics

- ❑ How does the changing face of globalization and technological progress shape optimal trade policy and structural transformation?
 - Should countries aim to specialize in high-income-elasticity sectors, or are income elasticities endogenous to global trade patterns?
 - Do technological progress and global value chains change income elasticities? Sector similarity clusters? GE spillovers across countries?
 - Are there interaction effects between export and import market access?

Will Globalization Trump It All?

