The World Income Distribution: The Effects of International Unbundling of Production

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Workshop on Macroeconomic Policy and Income Inequality
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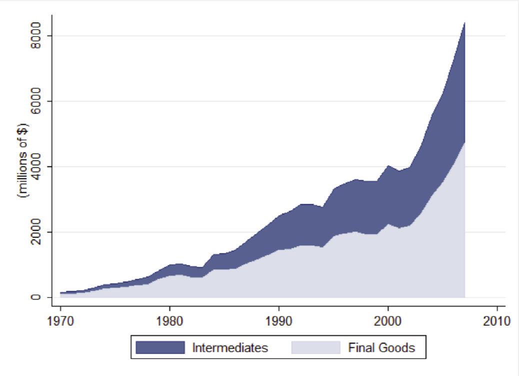
Motivation

Authors want to understand the role of increasing intermediate goods trade, "unbundling" of the supply chain, on global inequality.

(a) Value of Exported Intermediates and Final Goods



- Changes in country-level inequality seems to be less clear.

Main Contribution

The authors develop a parsimonious model of international trade in intermediate goods.

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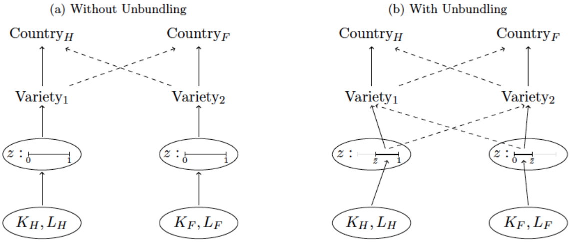
- Main Results
  1. Symmetry Breaking: Unbundling is supported even when countries are ex-ante identical
  2. Inequality: With heterogeneity, both income and welfare inequality increase
- Additional Important Implications
  1. Even though it increases inequality unbundling is efficient
  2. Accounts for "up hill" capital flows
  3. Standard TFP accounting overstates TFP difference

Modeling Unbundling

Varieties are produced by assembling intermediates, which under "unbundling" are tradable.

Figure 2: Production Structure for the Two-country, Two-variety Case



- Productivity heterogeneity gives more productive countries a comparative advantage for capital intensive production.
- Specialization in capital intensive intermediates results in capital flows, which enhance comparative advantage

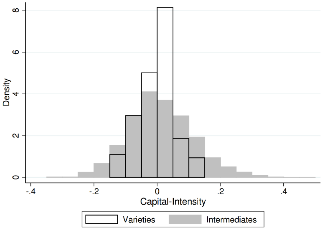
My Comments

- This is an impressive paper that uses an intuitive model based on providing stark predictions.
- My comments are mainly on how the empirical evidence might be strengthened,
- and ways the model might be extended in the future.

Trade in Intermediates and Capital Intensity Dispersion

- The authors do a good job of providing evidence to support their underlying mechanism–dispersion in capital intensity.

(b) Distribution of Capital Intensity



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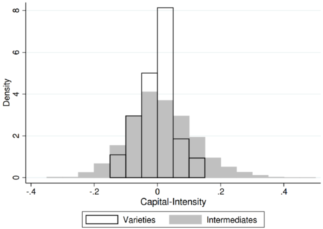


- Intermediate goods are heterogeneous in their capital intensity–more so than final goods.
- Suggestion: As an alternative, consider a measure of intermediate good capital intensity more similar to that of Feenstra and Jensen (2012) "End-Use" classification.

Trade in Intermediates and Capital Intensity and Growth

- In multi-country model, output increases among most productive countries at expense of all else.
- This is broadly consistent, if weakly, with trends in changes in GDP is correlated with pre-unbundling TFP.

Figure 4: Change in World Output Shares

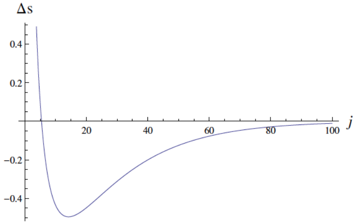
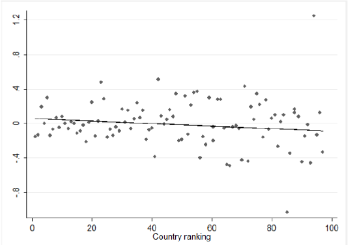


Figure N.1: GDP per capita Growth (1990-2008): Difference from the mean



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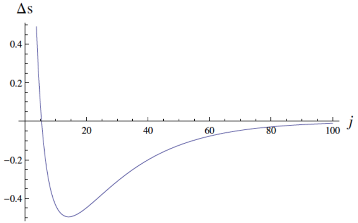

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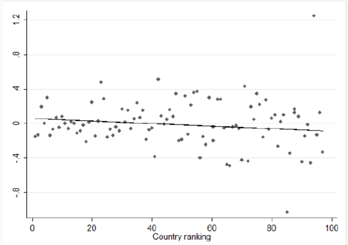

- Authors could leverage relationship between TFP ranking and the predicted change in average capital intensity as a "first stage" to more directly test the mechanism.
- Alternative could try to use time varying trade costs (Feyrer, 2009).

Thoughts on the model

The authors do an impressive set of extensions to the model, skipping a detailed discussion, here are a few thoughts I had for extensions

- Could we think about strategic trade policy in this context?
  - Welfare gains are monotonic in TFP
  - If countries are sufficiently close in productivity could a government use subsidies to leapfrog those above them?
  - Would this ever be optimal?
- Could this model help explain the skill premium?
  - Introducing skilled and unskilled labor, with a complementarity between capital and skilled labor
- Could we think about different production structures?
  - The authors model the production structure as a "spider" all intermediates are collected at a single location and assembles
  - "Upstreamness" is correlated with intensity (Antràs et al., 2012). How would sequential production "snake" change the predictions of the model?

Summary

- This is a really nice paper on a very important topic.
- I would suggest trying to do a bit more to show the mechanism is present in the data.
- There are also very interesting extensions that could be considered.

Thank you.