Export diversification and output volatility: comparative firm-level evidence by Urška Čede, Bogdan Chiriacescu, Péter Harasztosi, Tibor Lalinsky, Jaanika Meriküll

Discussion by Luca David Opromolla (Banco de Portugal, CEPR & UECE)

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- Does export diversification, in terms of destinations or products, reduces value added volatility?
- Relevant
  - both at the country-level and firm-level
  - from the point of view of shareholders, banks, suppliers, and workers

- Timely. Given the experience of the last 5 years
- **Countries**. All the countries studied belong to the group of new member states of the EU who accessed the EU in 2004 or 2007

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  - firm age, productivity, age as an exporter...
  - unobserved productivity shocks...
- **Simultaneity.**Export diversification strategies can be a consequence of expected volatility in real value added.
- Measurement error. Deflating value added using NACE 2-digit country-wide deflators.
  - Suppose you have two firms belonging to the same NACE 2-digit industry. But they are different in terms of the distribution of their sales over the products that constitute the NACE 2-digit industry. Then you are introducing measurement error in the dependent variable. This...
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### Treatment of endogeneity in the paper

- Use an endogenous binary-variable model: a linear potential-outcome model that allows for a specific correlation structure between the unobservables that affect the treatment and the unobservables that affect the potential outcomes
- Problem: roughly, the same covariates are used both in the treatment and outcome equations

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  - Hummels, D., Jørgensen, R., Munch, J. and Xiang, C. (2013), "The wage effects of offshoring...: Evidence from danish matched worker-firm data", American Economic Review
- Compute a firm's *i* export shares for each destination *d* in a pre-sample year, say 2006.
- Take total imports (minus those from your country of analysis) for each destination *d* in 2008.
- Aggregate at the firm-level by multiplying imports and shares, taking squares, and summing up.
- You get an instrument for the Herfindhal index of firm *i* in 2008.
- More sophisticated: (1) product\*destination imports and shares, (2) only imports from "similar" countries, (3) also transport costs and exchange rates

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  - Is it less-than-perfectly synchronised business cycles across countries? That seems to be the case when you talk about destination diversification.
  - But when you talk about export diversification of products?
    - ★ Is it really international trade?
    - \* Or mainly just production diversification? Or the combination of the two?
    - \* Can you get data on the production mix of firms (Prodcom data)?
- Exploit more the cross-country dimension. Motivate why you expect to find different results for the different countries. Do you have a prior and is it consistent with your results?

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- Need a table with summary statistics of all variables used (e.g. export share).
- Show simple OLS estimates, as well. Show likelihood-ratio test for the errors of the treatment and outcome equations.
- Use the same product aggregation across countries and time. Maybe you can convert everything at SITC4?
- Be careful in comparing results for destinations and products. In some cases the conclusion depends on your definition of a "product"

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