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Import Competition, Productivity and Multi-Product Firms (Dhyne, Petrin, Smeets and Warzynski)

Comments

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- Massive data effort: firm-product-*quarterly* data on output and inputs for Belgian manufacturing, 1995Q1-2007Q4 period (925,641 observations)
- Step 1: measuring firm-product level TFP with “hybrid” measure based on Diewert (1973)
- Step 2: regressing firm-product level TFP on import competition measures based on imports (in same product code)
- Main findings: TFP reacts positively on increased competition
 - mainly by improving TFP in production of core product
 - And less in “minor” products



Method:

The **requirements for the Diewert (1973) model to hold** are not innocuous:

- declining marginal rates of transformation of outputs for inputs (among at least some subset of inputs, Lau 1976): likely given (high) fixed costs?
- Substitution of inputs for inputs: will different products use same inputs in (l , k and m)? Short run substitution possibilities might be limited, given installed machinery.
- Did you test for assumptions to hold (locally) (Diewert and Wales 2005)?
- More involved: do assumptions imply the finding concerning lower ranked products?



Data:

- Deflation of **intermediate inputs**?
- The (dis)advantages of **high-frequency** data:
 - Role of inventories (differ across products)
 - Picking up effects of high-frequency shocks to demand on TFP

Results:

- What is the underlying mechanism driving productivity growth? Within firm specialisation?
- Long-run (dynamic) versus short-run (efficiency) effects: what do we want to pick up, for policy?
- Alternative interpretation: increasing (cheaper) intermediate imports improve measured TFP if price decline due to source switching is not accounted for (Houseman and follow up work)?



- Implicit underlying model of **competition in final products**
- Some basic stats for Belgian manufacturing in 2011
 - Value added / gross output ratio is 20% (17% cars to 42% in pharma) in 2011
 - Imported intermediate inputs / gross output ratio is 42%
- Belgium is competing in *tasks*, and price/quality of imports will be determinant of its competitiveness
- Future work: distinction between final and intermediate imports (based on BEC, 8-digit)?