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LOCAL PRODUCTIVITY DIFFERENCES THROUGH THICK AND THIN: MARKET SIZE, ENTRY COSTS AND OPENNESS TO TRADE

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Background

- Why are firms more productive in large than in small cities?

- Two main explanations have been proposed:

  - "**agglomeration economies**": larger cities promote interactions that increase productivity.

  - "**firm selection**": larger cities toughen competition allowing only the most productive firms to survive.

- This paper follows Combes et al (2010) in trying to assess the relative merits of these explanations by merging state-of-the-art theory and empirics.

Combes et al (2010)

- Combes et al (2010):
  - Extend the selection model of Melitz and Ottaviano (2008) to include agglomeration economies
  - Use the extended model to derive an identification strategy for the two alternative explanations
  - Translate the identification strategy into an original estimation procedure
  - Find that selection cannot explain the differences in the distribution of firms' productivity across French cities of different sizes
- Their findings do not mean that selection is irrelevant but rather that its effect is the same in all cities irrespective of their sizes. Why?

Accetturo et al (2010)

- Accetturo et al (2011):
  - Tackle the "Why?" question
  - Extend Combes et al (2010) in three directions:
    - Asymmetric entry costs in different locations, as land prices are usually higher in densely populated areas
    - Heterogeneous market potentials in different locations, as accessibility may very across regions
    - Different spatial scales at which the effects of agglomeration (limited spatial scale) and selection (larger scale) may operate, as argued in regional and urban economics

Accetturo et al (2010)

- Using a large dataset of about 48,000 Italian manufacturing firms, they find that:
  - As in Combes et al (2010) productivity advantages are largely due to agglomeration economies
  - However, their **extensions matter**: allowing for asymmetric market access and different spatial scale reveals a significant selection effect

Main contribution

- Combes et al (2010) do not try to reconcile their finding that the intensity of competition across locations is not affected by factors such as transport costs, the location of customers and competitors, the geographical position of cities in the transport network, etc. with the theory and the empirics of spatial competition, which suggests instead that those factors are important.

- Accetturo et al (2011) fill this gap by looking at the role of asymmetric market potentials and different spatial scales, thus showing that selection and agglomeration operate where urban and regional economics theory would suggest they should.

Some Comments

- Further unresolved issues in common with Combes et al (2010):
  - There is no labour mobility in the theoretical model but one would expect to see that in reality, possibly with different relevance at different spatial scales. How would mobility affect the methodology and the results?
  - Theory predicts that the intensity and the relative importance of agglomeration and selection varies across sectors. More discussion of the findings from this angle welcome.
  - The methodology does not allow to make any causal statement but this is what we mostly care of. Does density ("agglomeration") cause higher productivity or vice versa?

Further Comments

- **Identification 1**. Natural advantage may play an important role. The Combes et al (2010) methodology looks at one particular kind of selection and looks for its effect as opposed to the effect of "everything else", where "everything else" is called "agglomeration". Are asymmetric entry costs (capturing different prices of non-tradables) enough to deal with natural advantage?

Further Comments

- **Identification 2**. Multiproduct firms may dominate several of the sectors analyzed. If so, the multiproduct extension of Melitz and Ottaviano (2008) by Mayer, Melitz and Ottaviano (2011) implies that, with variable demand elasticity, multiproduct firms may appear to be more productive in larger cities because in tougher competitive environments they skew their production runs towards their more productive products. In the methodology adopted this would be part of "everything else" but is called "agglomeration".

Further Comments

- **<u>Identification 3</u>**. The methodology of Combes et al (2010) works only if one buys their identifying assumptions: common underlying productivity distribution for potential entrants and *separability between agglomeration and selection.* If agglomeration reinforces selection (and vice versa), the latter identification assumption fails. For example, Bernard, Redding and Schott (2007) show that selection reinforces comparative advantage: if both agglomeration economies and selection reinforce localised natural advantages, how do we disentangles agglomeration and selection?