Discussion

International Production Networks and the World Trade Structure
by Cingolani, Iaparde and Tajoli

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GVCs Workshop / Centro Rossi-Doria / April 28\(^{th}\), 2016
The paper

- **Key research objective**: detect international production networks (IPN) and assess their structure and organization

- **Motivation**: network perspective allows for a ‘structural’ view on GVCs (chains embedded in the network)

- **Structure of the paper**:
  1. derive and discuss the bilateral revealed trade preference (RTP) indexes differentiating between capital, intermediate and final goods (BEC) for three manufacturing sectors
  2. construct world and regional trade networks where nodes are countries (or regions) and links are functions of the RTP indexes
  3. choose appropriate measures to describe the network topology
  4. compare network-based indicators with more traditional trade indicators

- **Main findings**: networks of trade in intermediates show
  - higher density (more preferentiality) / higher clustering (more symmetric preferences) at the regional level / negative assortativity / higher centrality
How to strengthen the key contribution

**Scope of current draft**: rich and insightful descriptive exercise with

1. ‘macro’ nature
   - use models of trade network formation (Duernnecker and Vega Redondo, 2015; Carvalho and Voigtländer, 2015 - tradeoff between the benefits of input variety and the cost of customising new inputs) and firm level evidence on domestic PN (Furusawa et al., 2016; Bernard et al., 2016) to better inform your expectations at the macro level

2. intermediate VS final goods perspective
   - discuss the substitutability of connections and the role of geography across the two types of networks (write a model?)
   - derive clear implications (form clear expectations) for density/clustering/assortativity/centrality at the macro (industry) level

3. focus on trade preferentially as opposed to ‘crude’ trade flows or value-added trade (DeBenedictis et al., 2014; Duernecker et al., 2015)
   - why trade preferences network are better? use trade flows network counterfactual to show that your approach is better suited to detect IPN (results more in line with theoretical implications). Diff-in-diff exercise:

\[(\text{inputs} - \text{final})_{RTP} - (\text{inputs} - \text{final})_{\text{trade flows}}\]
Need for clarification

- Which BEC categories are you using? How do you treat food and beverages (1) / fuels and lubricants (3) / transport equipment (5)?

- How do you define the network links from the RTP index? Weighted or unweighted network?

\[ l_{ij} = \begin{cases} 
1 \text{ or } RTP_{ij} & \text{if } 0 < RTP_{ij} \leq 1 \\
0 & \text{if } -1 \leq RTP_{ij} \leq 0 
\end{cases} \]

Is \( RTP_{ij} \) instead normalized between 0 and 1?