Update on New BEA Measurements of the Impacts of Globalization

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January 2016
Proof of concept: 2015 presentations

- April 21: Zicklin School of Business Research Seminar, Baruch College, New York
- June 19: Washington, DC Global Value Chains Meeting, Washington, DC
- June 23-26: International Input-Output Association, Mexico City, Mexico
- July 9: Group of Experts on National Accounts: Measuring Global Production, UNECE, Geneva, Switzerland
- July 16: EcoMod2015, Boston College, Chestnut Hill, MA
- Nov. 2-4: Second Meeting of the APEC Technical Group on Measurement of TiVA in Shanghai, China
- Nov. 13: BEA Advisory Committee, Washington, DC
Supply-use tables: New for the United States

- Released in September, 2015 in BEA’s *Survey of Current Business* and updated in November, 2015
  - [http://bea.gov/scb/toc/0915cont.htm](http://bea.gov/scb/toc/0915cont.htm)
- Estimates are at the 71-industry level detail and cover the period 1997-2014
- Estimates will continue to be revised and the time series extended during future annual revisions
Supply-use tables: Estimation methodology

- Rearrangement of make-use tables
- International standard for TiVA analysis
- Consistency in valuation:
  - Gross output and value added in basic price valuation
  - Imports in CIF (cost plus insurance and freight) valuation
Supply-use tables: Why do they matter?

- Consistency with the international standard
- Consistency among national tables is a prerequisite for linking
- Linking is a requirement for TiVA analysis
Firm-level heterogeneity: Proof of concept

<table>
<thead>
<tr>
<th></th>
<th>Multinational</th>
<th>Non-multinational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic owned</td>
<td>Based on BEA data</td>
<td>Based on tax data</td>
</tr>
<tr>
<td>Foreign owned</td>
<td>Based on BEA data</td>
<td></td>
</tr>
</tbody>
</table>
Firm-level heterogeneity: Why Does it Matter?

- Current TiVA indicators assume firm homogeneity within industries
- But, even within narrowly defined industries, firms can have:
  - Different product choices
  - Different production technologies
- The homogeneity assumption affects TiVA measures
  - The foreign share of exports is likely to be underestimated.
- Accounting for heterogeneity can reveal policy-relevant information on the contribution of different actors to global value chains
Firm-level heterogeneity: Multinational firms account for bulk of trade

## Firm-level heterogeneity: Multinational heterogeneity

Output supply and use for all private industries, 2011
(percentage of total output)

<table>
<thead>
<tr>
<th></th>
<th>Multinational</th>
<th>Non-multinational</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Domestic-owned</td>
<td>Foreign-owned</td>
</tr>
<tr>
<td><strong>Output supply</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intermediates</td>
<td>69</td>
<td>79</td>
</tr>
<tr>
<td>Value Added</td>
<td>31</td>
<td>21</td>
</tr>
<tr>
<td><strong>Output use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exports of goods</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>Other final uses</td>
<td>94</td>
<td>91</td>
</tr>
</tbody>
</table>
### Firm-level heterogeneity: Import share of exports

#### Output supply and use for manufacturing, 2011 (millions of $)

<table>
<thead>
<tr>
<th>Output supply and use for manufacturing</th>
<th>(current method)</th>
<th>(future method)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All firms</td>
<td>Multinational</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Domestic-owned</td>
</tr>
<tr>
<td>Domestic intermediates and imported services</td>
<td>6,146</td>
<td>2,189</td>
</tr>
<tr>
<td>Imported goods</td>
<td>817</td>
<td>482</td>
</tr>
<tr>
<td>Value Added</td>
<td>2,320</td>
<td>1,072</td>
</tr>
<tr>
<td>Exports of goods</td>
<td>961</td>
<td>465</td>
</tr>
<tr>
<td>Other final uses</td>
<td>8,322</td>
<td>3,278</td>
</tr>
<tr>
<td>Output</td>
<td>9,283</td>
<td>3,743</td>
</tr>
</tbody>
</table>

#### Import share of exports*

- All firms: 9%
- Multinational: 13%
- Non-multinational: 19%
- Foreign-owned: 1%

*Equals import share of output
Firm-level heterogeneity: Value added as a share of output

Source: James J. Fetzer and Erich H. Strassner, "Identifying Heterogeneity in the Production Components of Globally Engaged Business Enterprises in the United States"
Firm-level heterogeneity: Short-run feedback

- Reasonable results from enterprise-level proof-of-concept analysis

- Multinational/ownership type appears to capture firm heterogeneity

- Results foreshadow long-run challenges
  - e.g., Larger difference in value added for some industries compared to others
Firm-level heterogeneity: Long-run linking project

- Data sets to be linked
  - Census Bureau
    - Economic censuses (and annual surveys)
    - Trade in goods
  - BEA
    - Activities of multinational enterprises
    - Trade in services
- Interagency agreement
- BEA & Census economists starting soon to link data
Next steps

- Joint project with U.S. International Trade Commission (USITC) to prepare extended SUTs (2016)
- Enhanced supply-use tables:
  - Consistent with international standard industrial classification (ISIC)
  - Separate domestic and import use tables valued at basic prices
- Begin Census-BEA linking project-(5 year project)
- Continue international engagement:
  - OECD Expert Group on Extended Supply-Use tables
  - Asia-Pacific Economic Cooperation TiVA project
  - North America Initiative with Canada and Mexico (2018)