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Measuring global production arrangements in the Dutch National Accounts

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Comments from Robert Dippelsman, IMF Statistics Department, August 2016

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Measuring global production arrangements

- Growth in manufacturing arrangements involving more than one country
- Classic version:
  - Owner in Country A
  - Assembly in Country B
  - Customers in Country A
Measuring global production arrangements

- More complex versions:
  - Assembly in two or more countries - Country A and B; or B and C
  - Customers in two or more countries - Country A, B, and X
  - Materials or final product may never pass through Country A
Measuring global production arrangements

- Under global production arrangements, *physical location* can differ from *economic ownership*.
Measuring global production arrangements

- For data sources in the Netherlands:
  - Territorial basis
    - Foreign trade statistics (ITGS) (physical movements across border)
    - Prodcom (goods produced in Netherlands)
  - Ownership basis
    - Business surveys
      - Structural Business Statistics (SBS)
      - Short-Term Business Statistics (STS),
      - Survey of Finance of Enterprises (SFO)
      - Foreign Trade in Services (ITSS)
Measuring global production arrangements

- Inward processing
- Outward processing
- Factory-less goods producers
- Merchanting
- Combination of above
Measuring global production arrangements

- The contribution of this paper
  - Six interesting case studies in detail
  - How Statistics Netherlands cleverly uses the alternative data sources to identify:
    - the type of production arrangement
    - misreporting
Measuring global production arrangements

- Large and Complex Cases Unit
  - For largest and most complex 300 enterprises
  - Personal visits to resolve anomalies
  - Found misunderstanding, inconsistencies when responses from different divisions within the company
  - Paper raises the question about undetected problems in smaller enterprises
Patterns of relationships between sources

Example: Inward processor
- SBS shows: Production of services, limited use of raw materials
- ITSS shows: Export of services

- Prodcom: Production of goods
- ITGS: Imports of raw materials, export of finished goods

→ Can use these relationships to identify this type of arrangement.
Patterns of relationships between sources

Table 2 shows “fingerprints” for inward processors, outward processors, factory-less goods producers, and merchants.
Patterns of relationships between sources

Example: Fingerprint of an inward processor:

- a) Exports ITGS > Exports SBS
- b) Imports ITGS > Imports SBS
- c) Turnover Prodcom > Turnover SBS
- d) Exports manufact. services SBS = Turnover SBS
- e) Turnover Prodcom – Exports ITGS ≈ Domestic use
Case study 1

Case study 1 (Company A) is an inward processor, but:

- Part of the processed goods are bought and sold by company A (wholesale trade activities)
- The principal provides all raw materials, but some are bought in the Netherlands
Case study 1

Case study 1 (Company A) is an inward processor, but:

- a) Exports ITGS > Exports SBS
- b) Imports ITGS > Imports SBS
- c) Turnover Prodcom > Turnover SBS
- d) Exports manufact. services SBS = Turnover SBS
- e) Turnover Prodcom – Exports ITGS ≈ Domestic use
Case study 1

- The case study continues in the paper with data collection needed for NA purposes:
  - activities as a processor
  - activities as a trader
## Case study 2

Case study 2 (Company B):

<table>
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<tr>
<th></th>
<th>Revenue</th>
<th>Exports</th>
<th>Inventories</th>
</tr>
</thead>
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<tr>
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<td>39</td>
<td>26</td>
<td>6</td>
</tr>
<tr>
<td>2011 Q2</td>
<td>44</td>
<td>33</td>
<td>5</td>
</tr>
<tr>
<td>2011 Q3</td>
<td>41</td>
<td>30</td>
<td>6</td>
</tr>
<tr>
<td>2011 Q4</td>
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<td>33</td>
<td>5</td>
</tr>
<tr>
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<td>76</td>
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</tr>
</tbody>
</table>
Summary and Conclusions

- Complex and diverse arrangements that statisticians need to understand.
- Cross-checking of sources at the individual company level is a powerful tool for detection of these arrangements and ensuring they are reported correctly.
- Resource intensive to get right – study of different data sources, company visits.
Issues for Discussion

- Applicability to other countries
Issues for Discussion

- Paper says implementing 2008 SNA is time-consuming and not straightforward.
Issues for Discussion

- BUT - Are there revisions to classifications and standards that would help?
  - Seems to be a product of real world complexity
  - Bringing back 1993 SNA would not solve the problems
  - Additional sub-classification to show status in global value chains?
    - E.g., “Textiles (inward processing + factory-less production)"
    - Also useful information for analysis on global production processes