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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

A network diagram logo in the top left corner, consisting of a complex web of interconnected nodes and lines, with nodes colored in shades of green, yellow, and red.

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 \approx 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
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Case study 1

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



Case study 2

Case study 2 (Company B) :

| | Revenue | Exports | Inventories |
|---------|---------|---------|-------------|
| 2011 Q1 | 39 | 26 | 6 |
| 2011 Q2 | 44 | 33 | 5 |
| 2011 Q3 | 41 | 30 | 6 |
| 2011 Q4 | 44 | 33 | 5 |
| 2012 Q1 | 86 | 76 | 2 |
| 2012 Q2 | 11 | 11 | 0 |
| 2012 Q3 | 11 | 11 | 0 |
| 2012 Q4 | 9 | 9 | 0 |

STS



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