Mapping Trade in Tasks within Global Supply Chains

The Trade (and business) Statistics Approach

Another look at

- the information that we (should) have and
- the data we would like to have

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Statistics at WTO: a support to trade negotiations and policy making

- **Statistical Analysis or Decision Making:**
  - \{data; model\}

- **Complementarity:**
  - Models guide data compilation (why, what)
  - New evidence opens new questions and new models
1. Mapping Trade Networks with Traditional Trade Statistics

• “Old” customs-based statistics do provide a lot of information *(when we ask them)*:

  – **Custom Registers**:
    * Origin and Destination, Product Category (about 5,000 at HS6), Value, Quantity (and Unit Value)

  – **Filtering** provides additional information:
    * BEC: final demand, intermediate consumption
    * Unit Value within each HS category: proxy for quality
    * Technological sophistication (*Lall*, OECD and EUROSTAT):
      * Market power (*Rauch*: homogeneous, reference priced and differentiated products)
Dense vs. Sparse industrial networks

Asia-Pacific, Euro-Med, North-Meso Americas
(intermediates >10%, 2010-12)

Source: WTO based on Comtrade and BEC
Crossing the Technology and Quality Dimensions (Asia-Pacific, 2010)

Based on data from OECD (2013) Figure 5.12
Crossing Technology and Quality Dimensions (Asia-Pacific, 2010)

WTO, based on data from OECD (2013)
On-going programmes (1): Linking Trade and National Accounts

Trade in Value Added

Contribution of Services:
Value Added Content of Total Exports, EU 2008

Services: 51%

Source: OECD and WTO TiVA database
(2) **FATS:** example of US foreign affiliates' supplies in goods and services within global value chains, 2010

![Diagram showing US foreign affiliates' supplies in goods and services, 2010.](image)

**United States (parent company location):**
- Affiliated: 379 US$ billion (7.7%)
- Unaffiliated: 96 US$ billion (1.9%)

**Foreign economies where affiliates are located:**
- Affiliated: 303 US$ billion (6.1%)
- Unaffiliated: 270 US$ billion (54.6%)

**Other foreign economies:**
- Affiliated: 799 US$ billion (16.1%)
- Unaffiliated: 671 US$ billion (13.6%)

*Source: WTO*
(3) Using additional information (KLEMS)

Labour, Capital (skills, technology)

EU: Change in GVC-related labour demand by skills, 1995-2008

Source: based on WIOD
Future directions of work

• Considering firm heterogeneity in trade in value-added
  – Splitting SUT and input-output tables by firm characteristics (eg. China IO by export orientation, ownership, ...)

• Developing harmonised micro-data on trade and business (EUROSTAT, OECD, ...)

• Trade and development perspective:
  – Trade in Value Added: looking for ways to include (to impute?) lesser developed countries that do not have yet a good statistical infrastructure.
  – Trade and business micro data: identify best practices from on-going experiences; capacity building.
Conclusions (1)

• A lot can already be achieved using existing trade statistics if
  – They are systematically recorded in all their dimensions (HS, quantity and value, CIF / FOB)
  – Linked with SUT and National Accounts
  – Linked with International IO matrices

• More can be done if:
  – Improved trade in services statistics (EBOPS, FATS, CPC)
  – Linking trade and business registers (The micro dimension: trade by firms characteristics)
  – Linking Input-Output and Social-Accounting Matrices (The macro dimension: trade and jobs)

• Towards an Integrating Framework:
  – Satellite Account of the External Sector (similar to the Tourism Satellite Account)
Conclusions (2) a wish-list

- **Trade flows in intermediate inputs, including goods and services**
  - The glue connecting the firms participating in international supply chains.
  - Unit Value and additional tools (BEC, etc.) to classify incoming (inputs) or outgoing (output) flows by use, technological content and quality (proxy: price).
  - Special emphasis on services (FATS; royalties and fees –or "trade in ideas"). From EBOPS to CPC
  - By sector of origin and destination.
    - If possible, by firm’s characteristics (size, ownership)

- **Transaction costs: freight and insurance by modes of transport, border and "behind the border" costs (tariffs, cost of complying with non-tariff measures)**
  - Official sources (customs, notifications to WTO)
  - Non official sources (survey to business and operators)

- **Trade in tasks: Value-Added created by each industry in the value chain**
  - Disaggregated into its main components (wages, profit and taxes).
  - Further disaggregated into resident/non-resident (i.e., profit repatriation) for Balance of Payments assessment and “trade in factors”

- **Satellite accounts:**
  - Jobs and skills, if possible related within broader business functions.
  - Capital and its ownership (tangible, intangible, technological content and intellectual property)
  - Non-reproducible capital or inputs (natural resources, land, water) involved in production
  - Other environmental variables (CO2 emissions, etc.).