

# **Mapping Trade in Tasks within Global Supply Chains**

## ***The Trade (and business) Statistics Approach***

**Another look at**

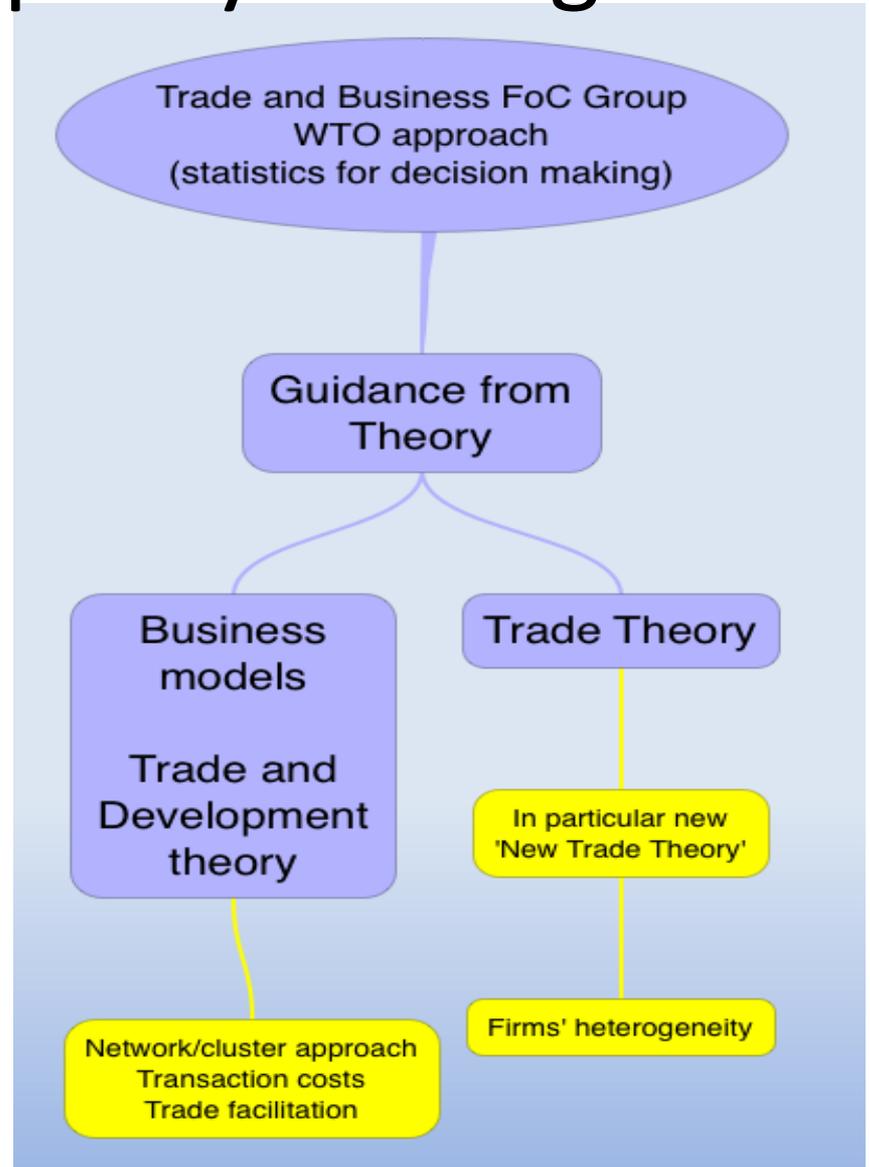
- **the information that we (should) have and**
- **the data we would like to have**

**Hubert Escaith**

**hubert.escaith@wto.org**

# 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

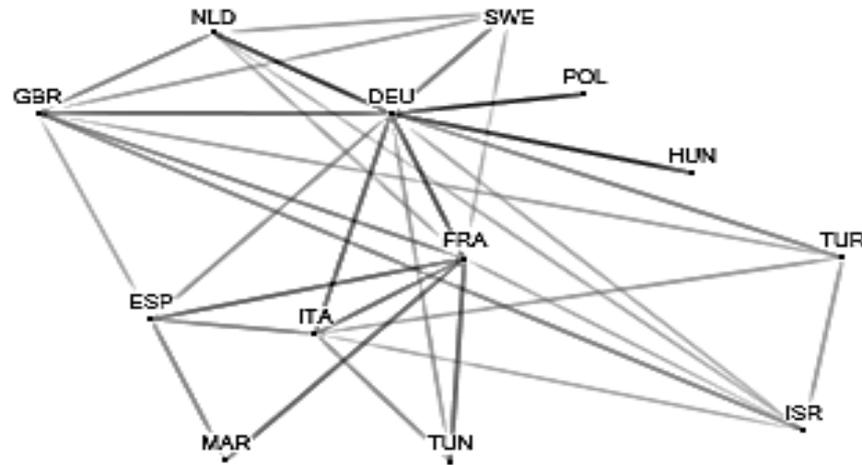


# 1. Mapping Trade Networks with Traditional Trade Statistics

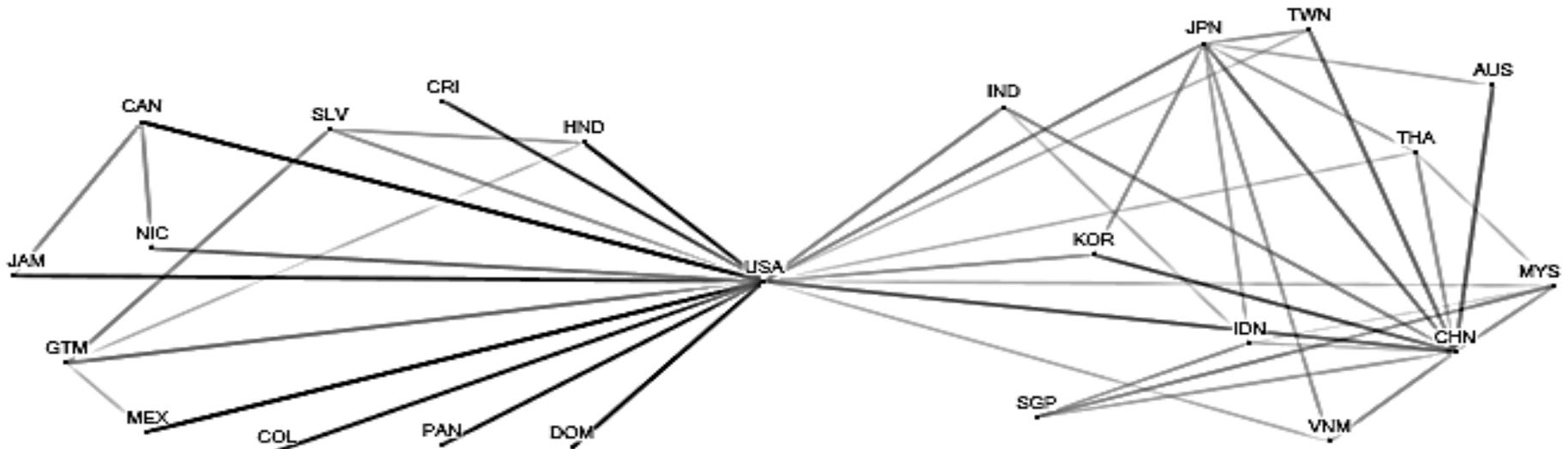
- “Old” customs-based statistics do provide a lot of information (*when we ask them*) :
  - Custom Registers:
    - Origin and Destination, Product Category (about 5,000 at HS6), Value, Quantity (and Unit Value)
  - **Filtering** provides additional information:
    - BEC : final demand, intermediate 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

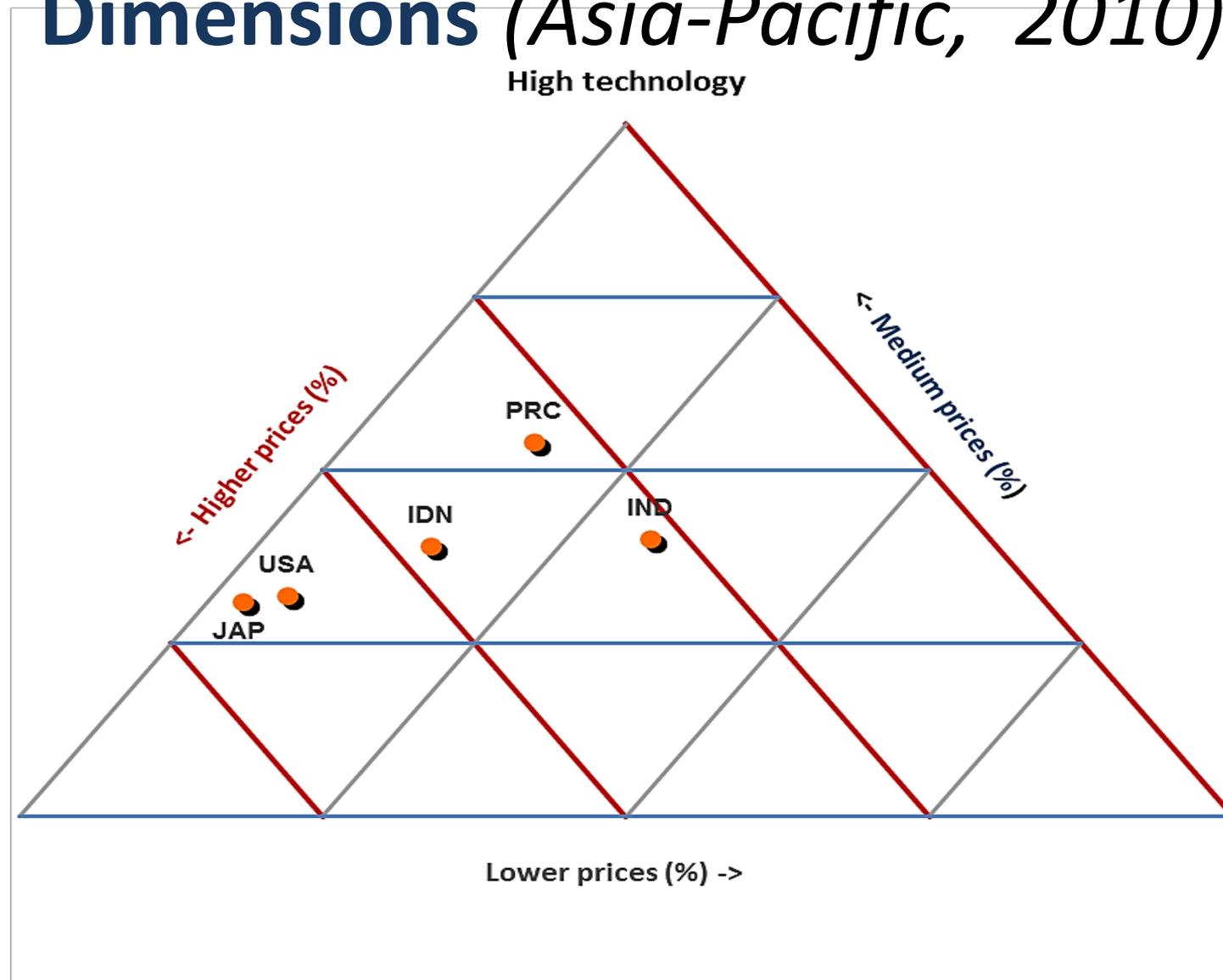
*Asia-Pacific, Euro-Med, North-Meso Americas*  
(intermediates >10%, 2010-12)



Source: WTO based on  
Comtrade and BEC

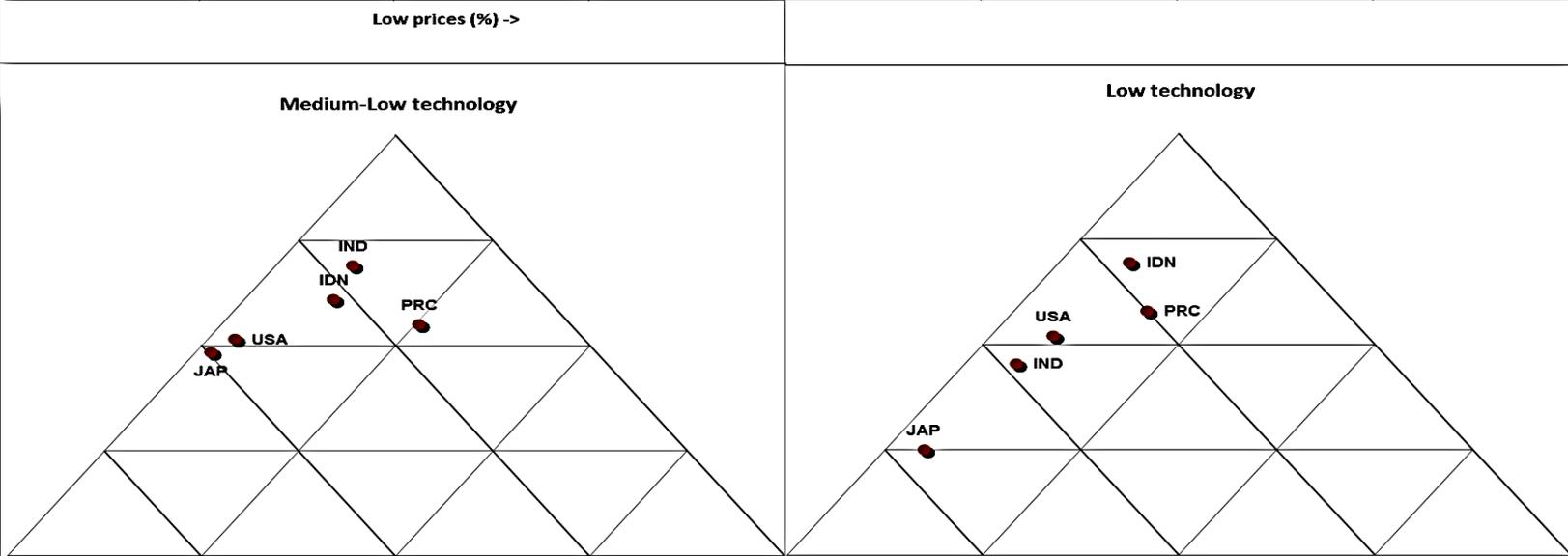
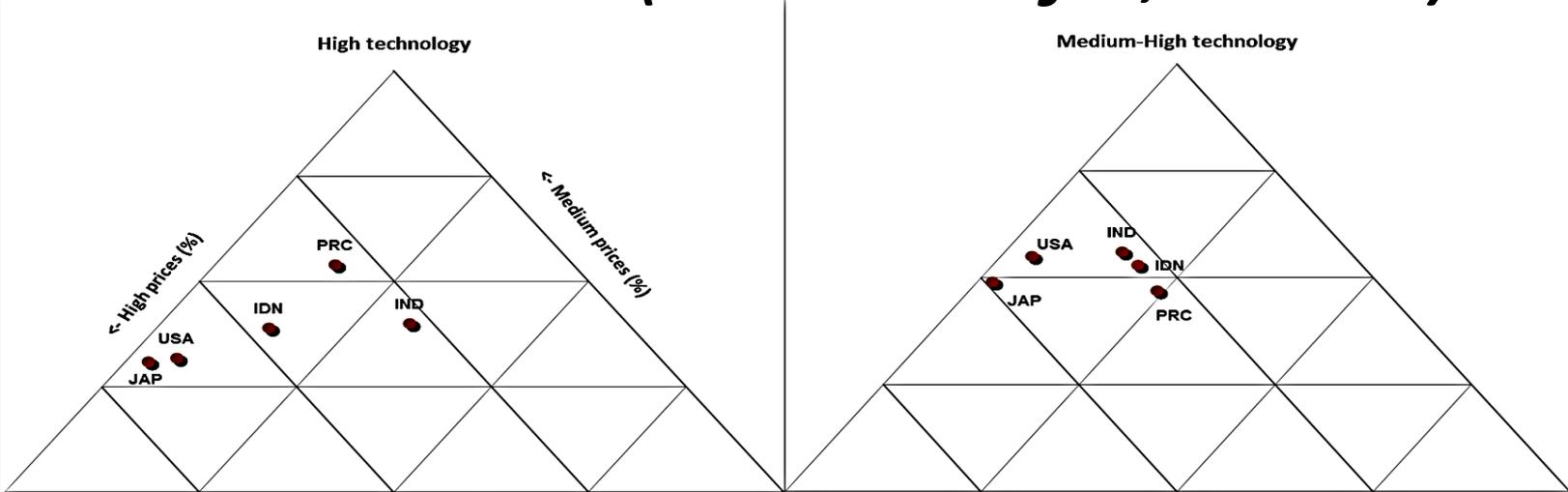


# Crossing the *Technology and Quality* Dimensions (Asia-Pacific, 2010)



Based on data from OECD (2013) Figure 5.12

# Crossing *Technology and Quality Dimensions (Asia-Pacific, 2010)*

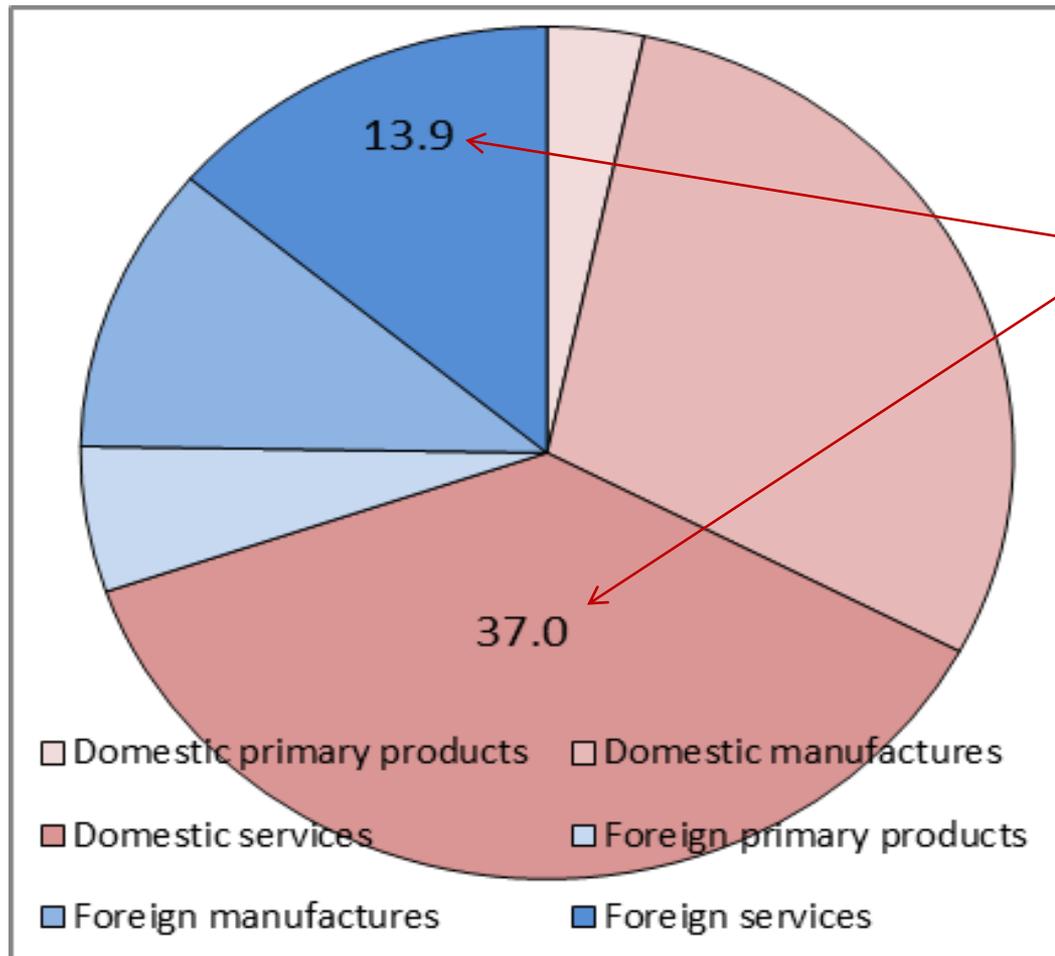


WTO, based on data from OECD (2013)

# On-going programmes (1): Linking Trade and National Accounts

## *Trade in Value-Added*

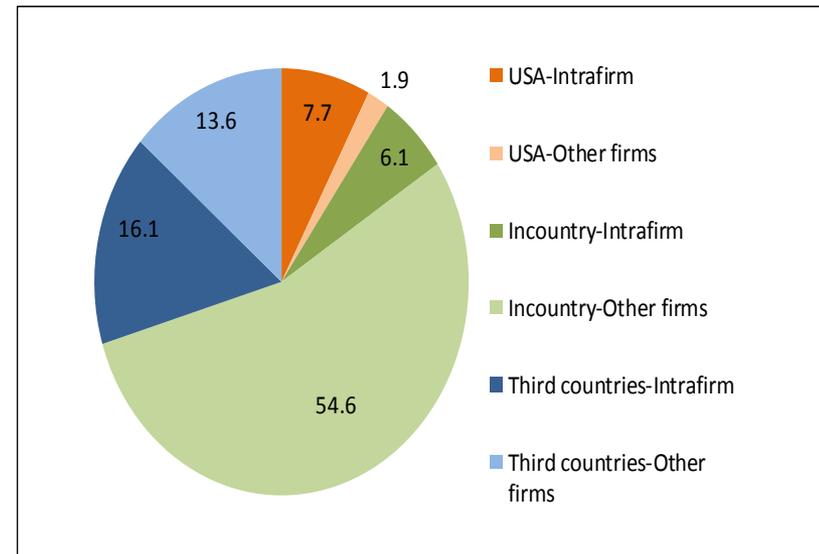
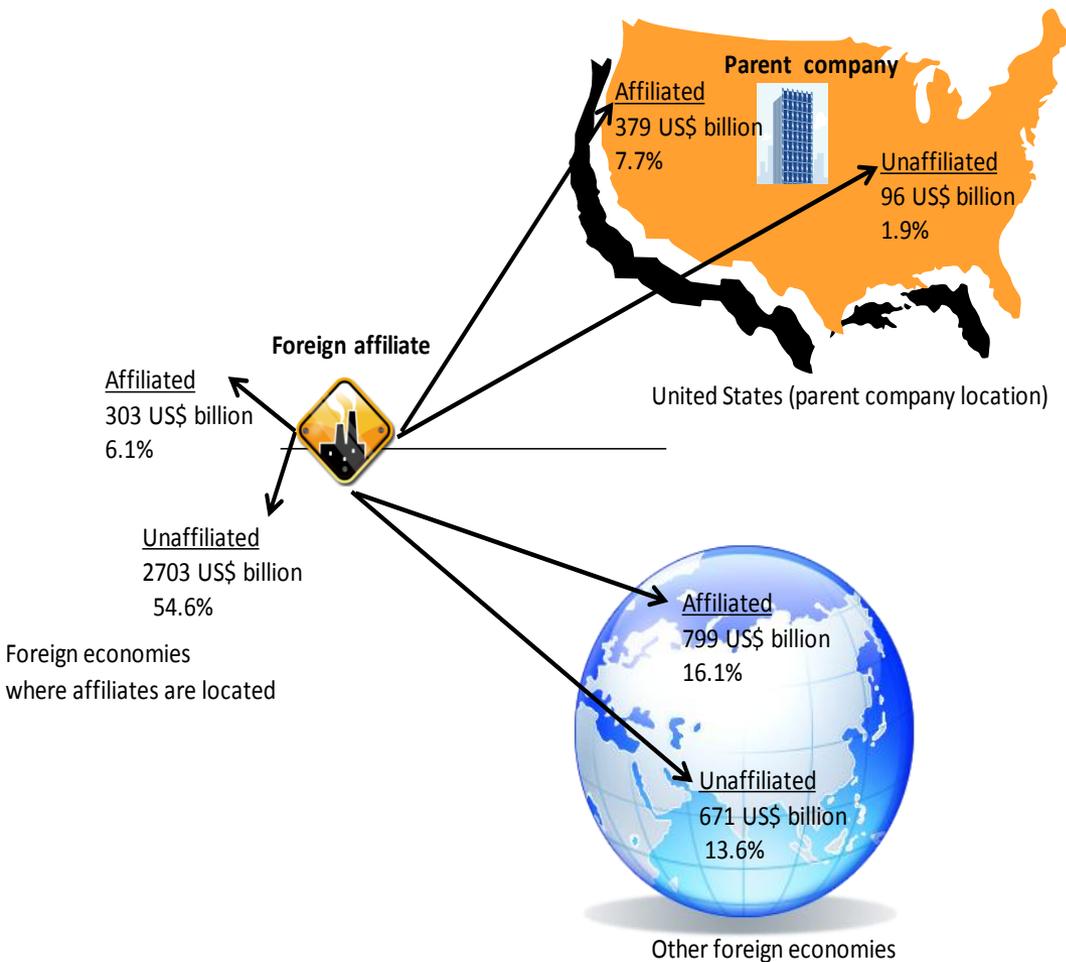
**Contribution of Services:  
Value Added Content of Total Exports, EU 2008**



**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

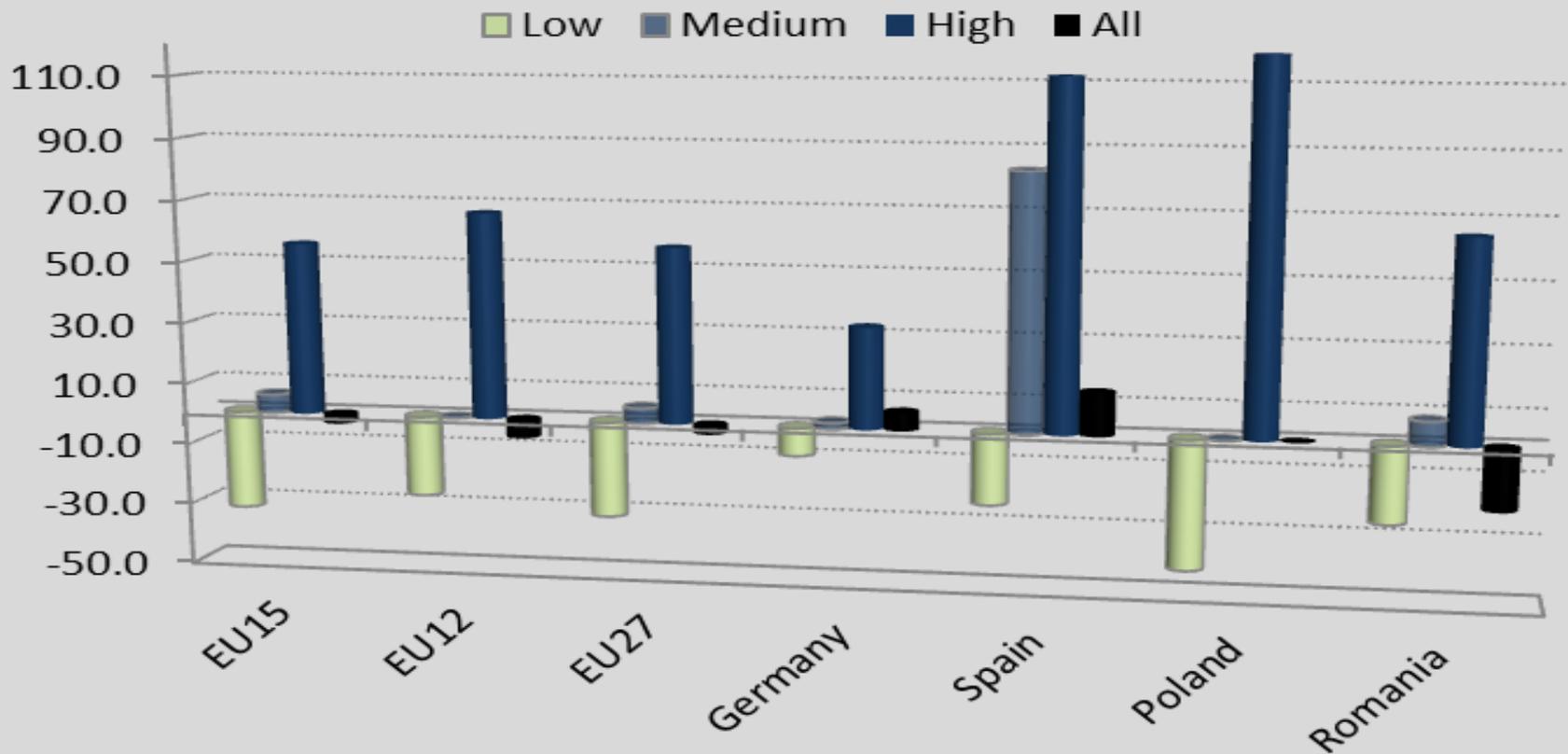


Source: WTO

# (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.).