

COMPETITIVENESS AND GVCs – TRADE IN VALUE ADDED

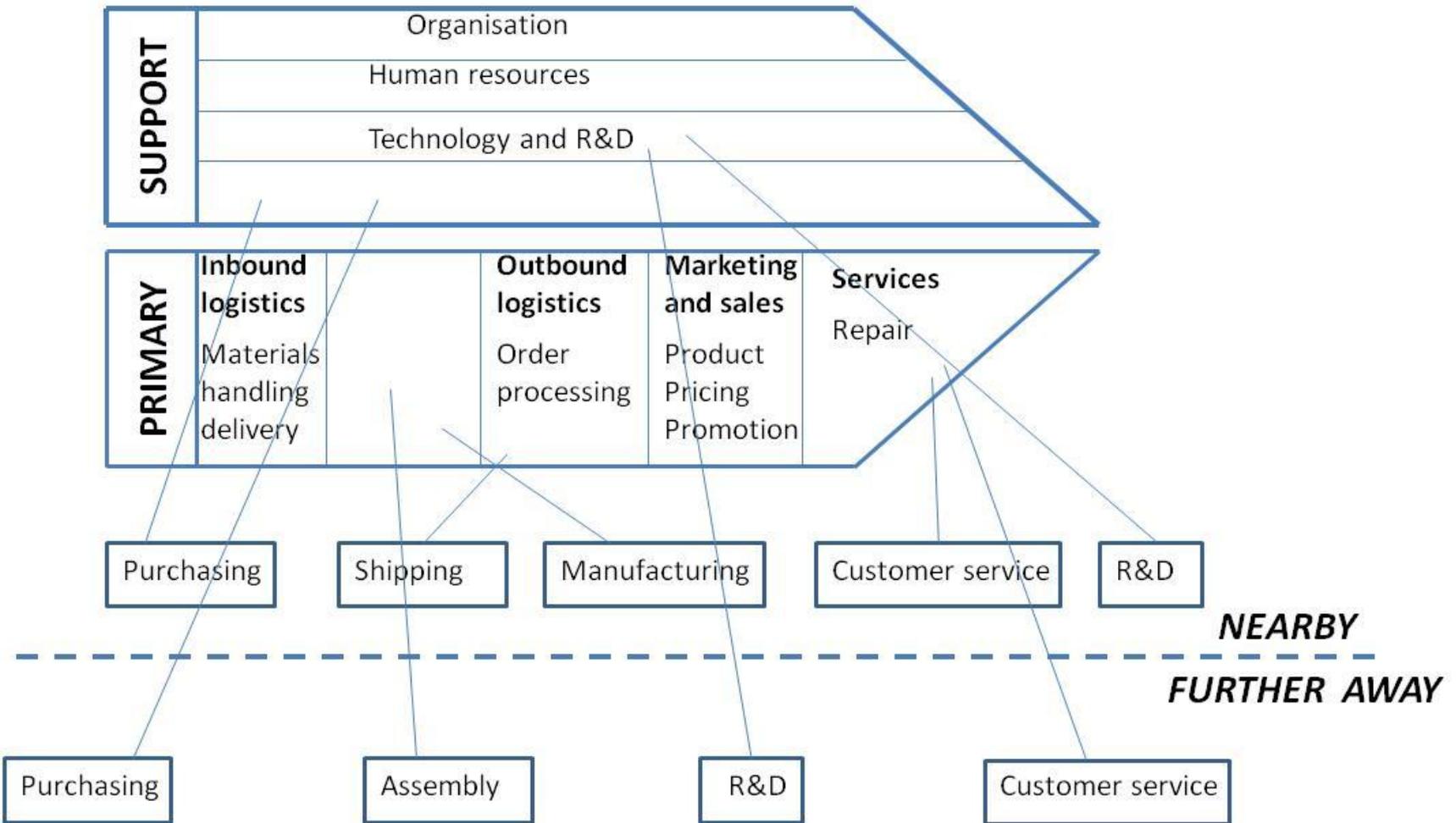
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COMPNET Workshop
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GVCs challenge 'traditional' competitiveness indicators (1)

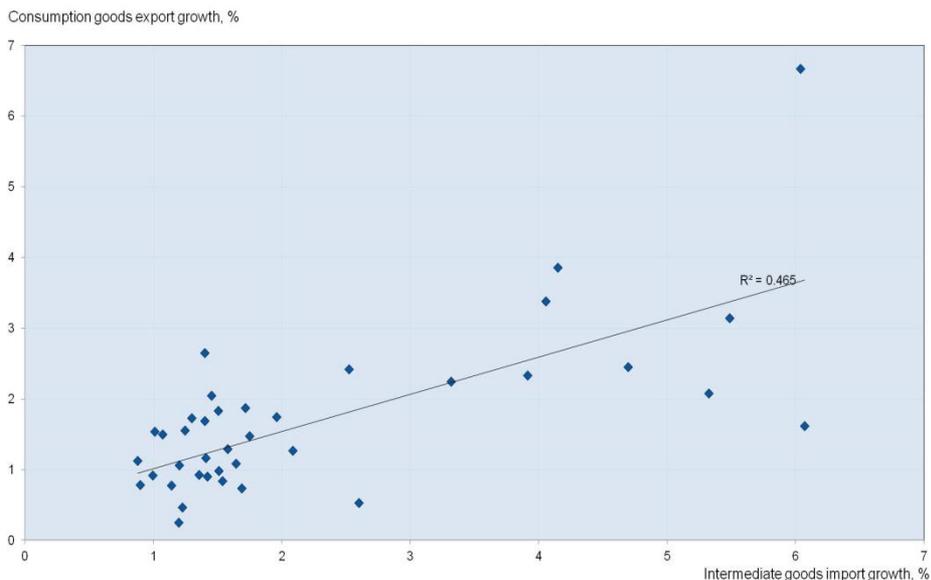
- **External competitiveness**
 - International trade performance
 - Revealed Comparative Advantage (RCA) - indexes
 - (Bilateral) trade balances
- **The changing characteristics of international trade**
 - Countries mainly trade varieties of similar products (intra-industry trade)
 - Production is fragmented across countries; countries specialize in specific activities (business functions) in the global value chain (GVCs)
 - Flows of intermediate inputs are now higher than flows of final goods and services

GVCs and offshoring/outsourcing



GVCs challenge 'traditional' competitiveness indicators (2)

Export growth final goods vs import growth intermediates, 1995-2009



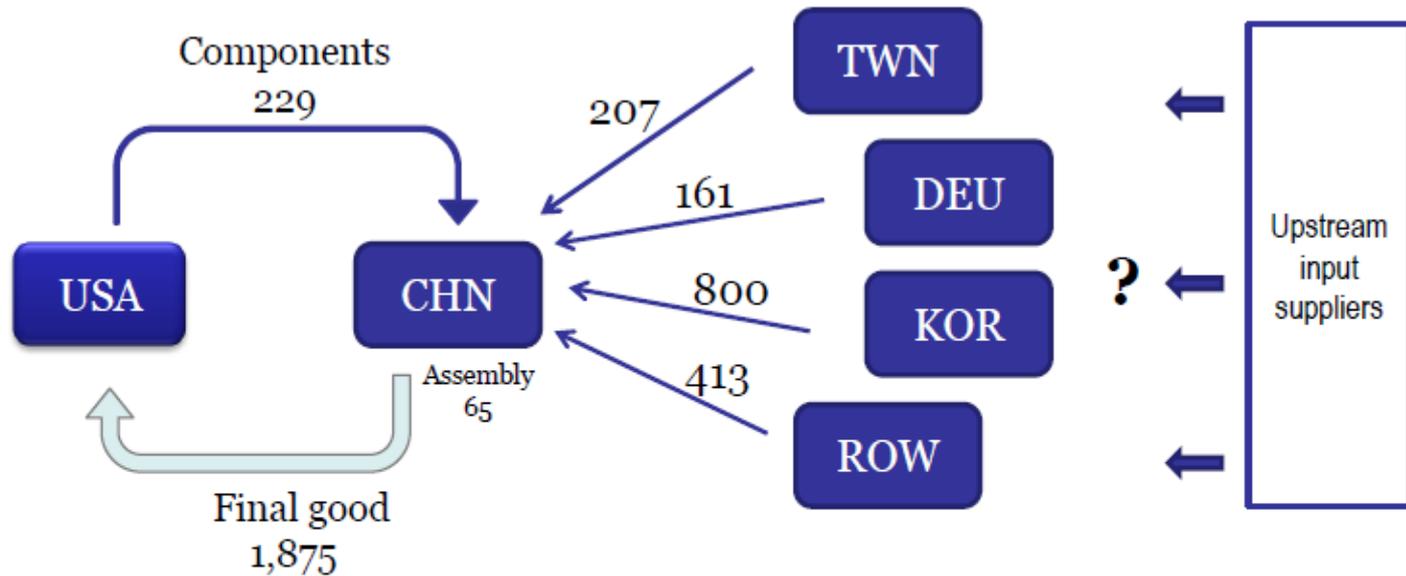
RCA export final goods vs RCA import intermediates, 1995 and 2007

1995					
	ALL	HT	MHT	MLT	LT
RCA	0.3	0.34	0.37	0.05	0.39
(t-statistic)	-6.11	-2.15	-2.6	-0.14	-6.02
industry dummies	yes	yes	yes	yes	yes
country dummies	yes	yes	yes	yes	yes
Adj. R²	0.29	0.24	0.38	0.29	0.24
# observations	880	200	200	120	360
2007					
	ALL	HT	MHT	MLT	LT
RCA	0.41	0.71	0.25	-0.55	0.36
(t-statistic)	-8.91	-5.79	-1.7	-1.7	-6.16
industry dummies	yes	yes	yes	yes	yes
country dummies	yes	yes	yes	yes	yes
Adj. R²	0.31	0.32	0.39	0.44	0.29
# observations	880	200	200	120	360

GVCs challenge 'traditional' competitiveness indicators (4)



10 million units exported from China to the US

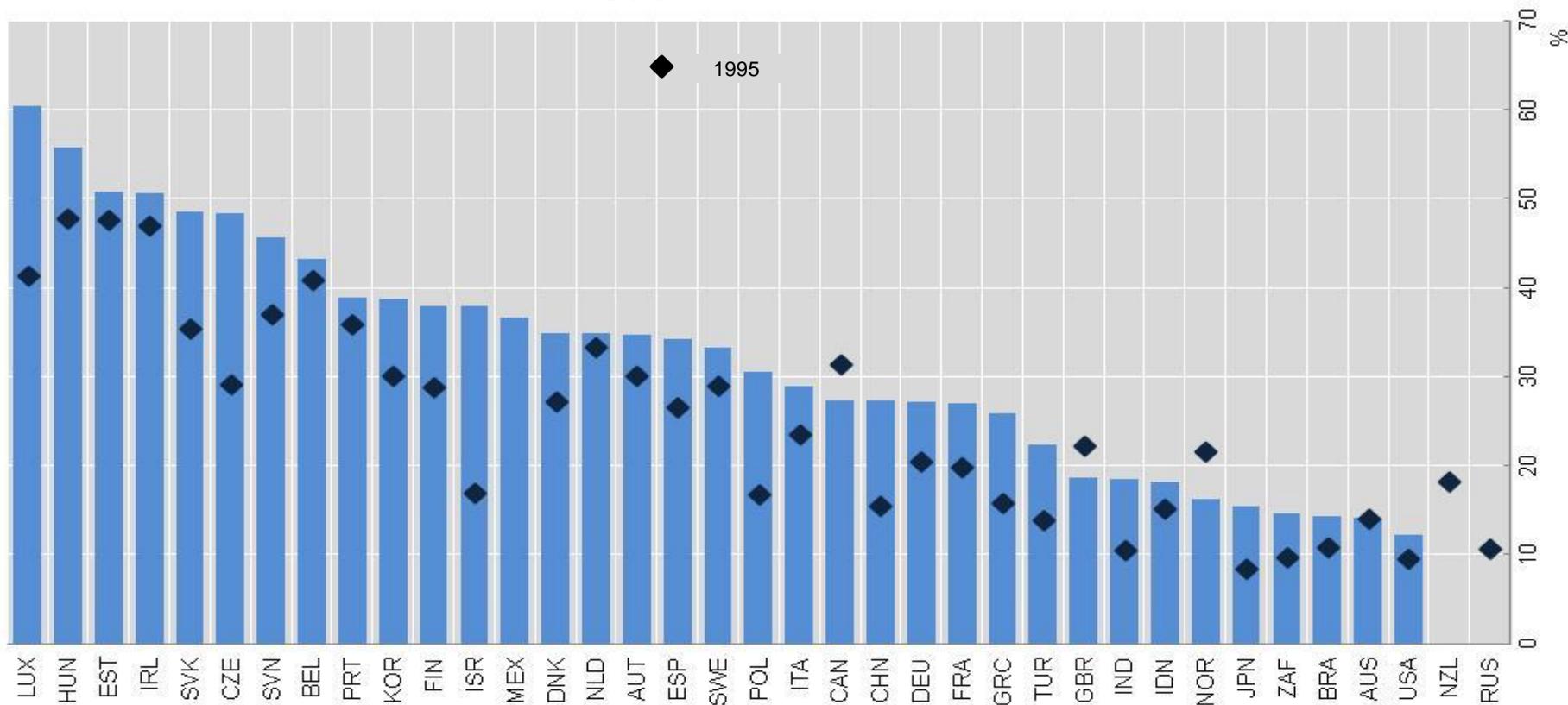


US trade balance	CHN	TWN	DEU	KOR	ROW	World
Gross	-1,646	0	0	0	0	-1,646
Value added	-65	-207	-161	-800	-413	-1,646

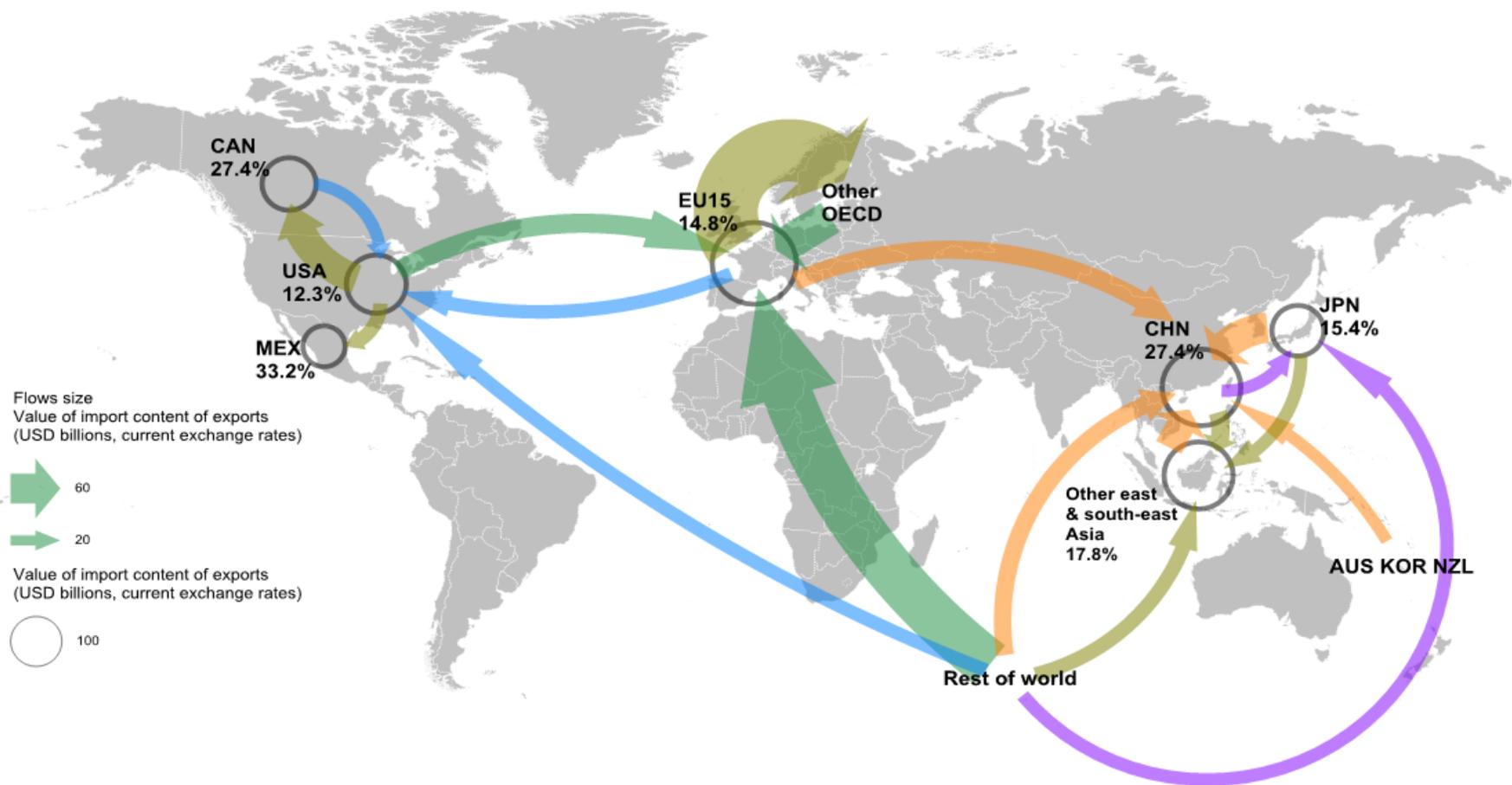
The analysis takes only into account the direct suppliers of the Chinese assembler

A simple indicator: import content of exports (1)

2005



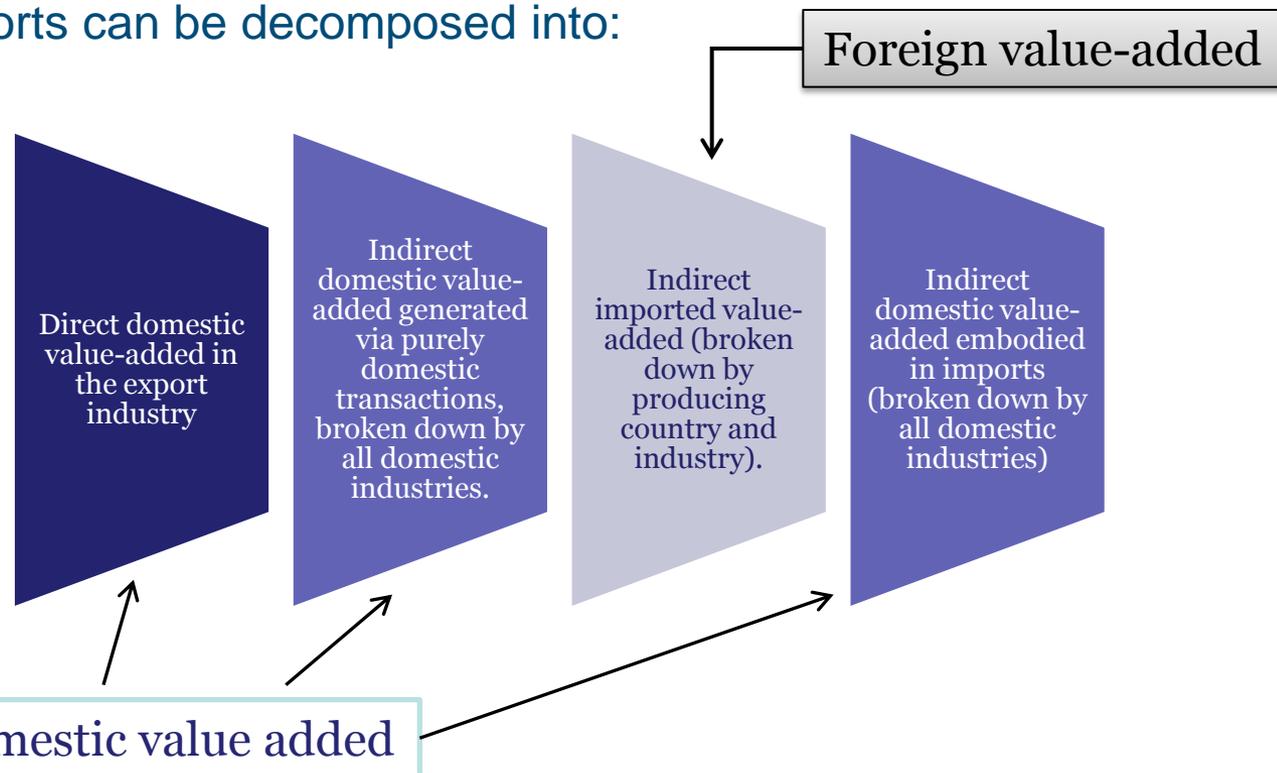
A simple indicator: import content of exports (1)



Import content of exports, 2005

A more complete approach: trade in value added (1)

- To disentangle domestic and foreign value-added in global value chains, we rely on an Inter-Country Input-Output (ICIO) table.
 - The value of a final product can be decomposed according to the country where the value is added.
 - Trade flows in value-added terms can be estimated (from the point of view of a given exporter)
- Gross exports can be decomposed into:



The OECD Inter-Country Input-Output table

		Interindustry transactions						Total intermediate	Components of final demand		
		Country 1 Industry 1	Country 1 Industry 2	Country 1 ...	Country 2 Industry 1	Country 2 Industry 2	Country 2 ...		Country 1	Country 2	...
Country 1	Industry 1	Use of domestic inputs			Use of foreign inputs			...			
Country 1	Industry 2	Use of domestic inputs			Use of foreign inputs			...			
Country 1	...	Use of domestic inputs			Use of foreign inputs			...			
Country 2	Industry 1	Use of foreign inputs			Use of domestic inputs			...			
Country 2	Industry 2	Use of foreign inputs			Use of domestic inputs			...			
Country 2	...	Use of foreign inputs			Use of domestic inputs			...			
...						
...						
...						
Value-added											
Gross output											

- Three global input-output matrices estimated for the years 1995, 2000 and 2005
- Based on national input-output tables harmonised by the OECD
- Cover 56 countries and 37 industries
- Linked internationally using the Bilateral Trade by Industry and End Use (BTDIxE) database and estimates of bilateral services trade flows.

A more complete approach: trade in value added (2)

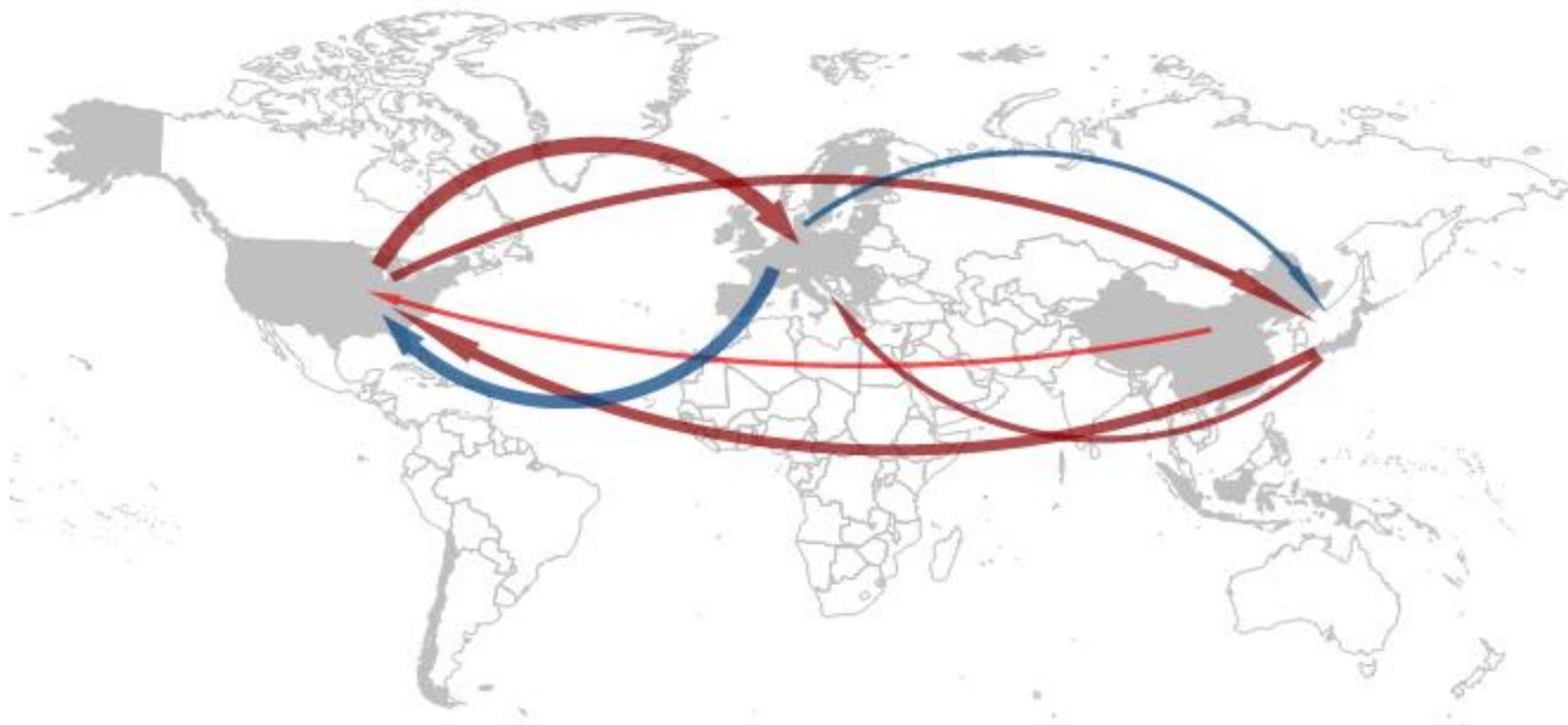
- Objectives

- Reduce multiple counting of intermediate goods and services
- Identify who (country/sectors) contributes to the value chain in terms of income and employment?
- Foster a closer integration between trade, business, balance of payments statistics and national accounts.

- OECD-WTO collaboration

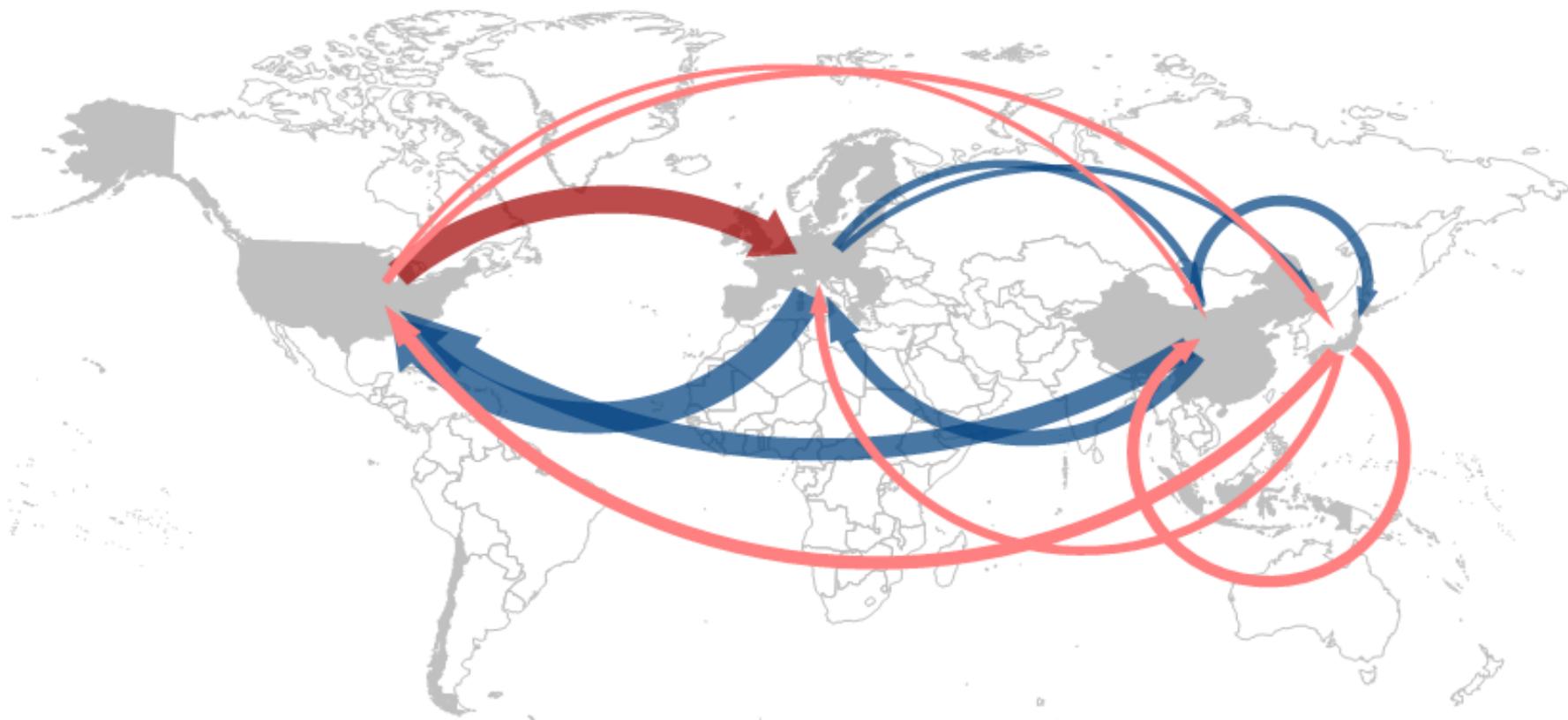
- Produce and disseminate trade statistics in value added
- Promote evidence-based policy making
- Support and sustain research in the related fields

Preliminary results: gross exports and share of domestic VA (1995)



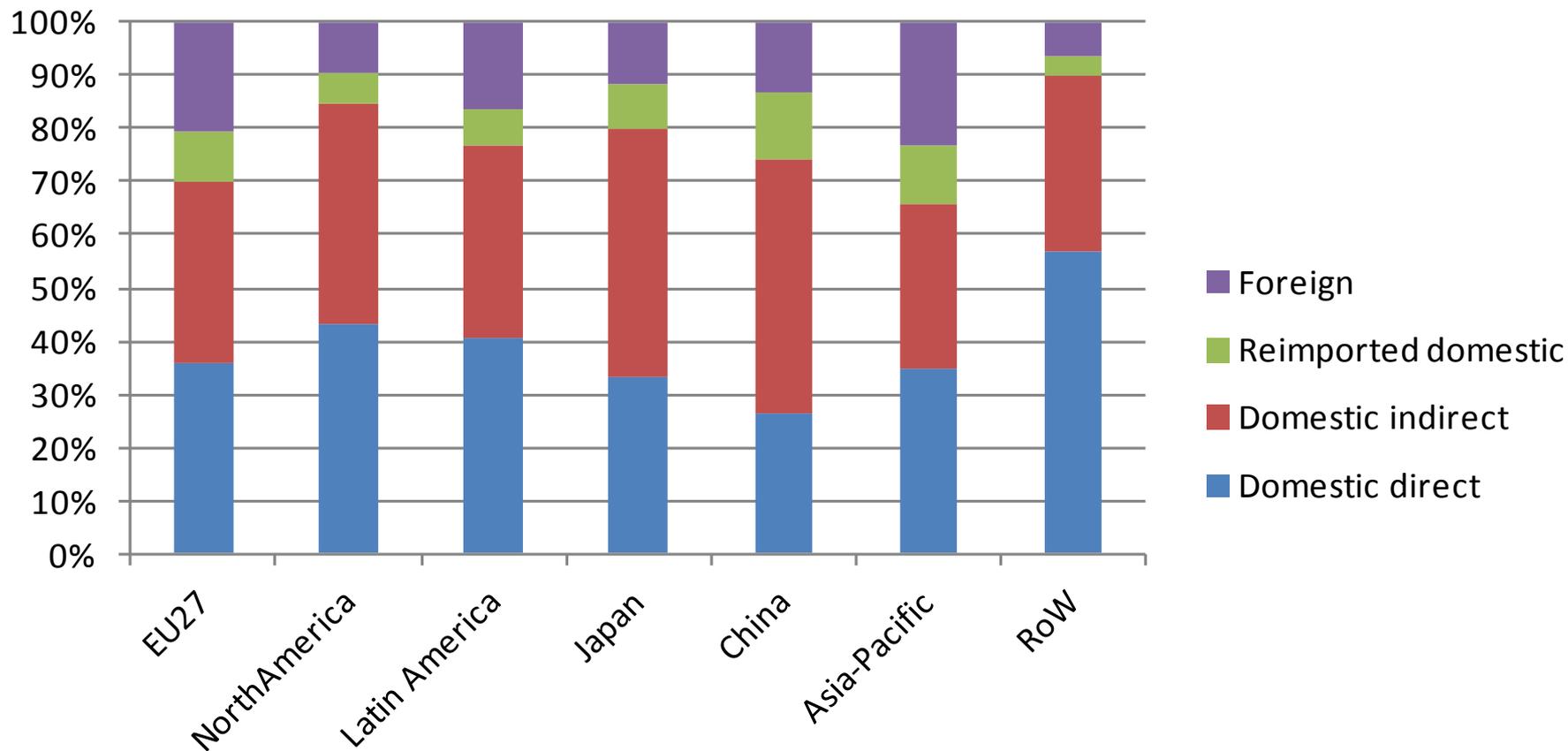
- ➔ Domestic value added shares 90% or more
- ➔ Domestic value added shares between 80-90%
- ➔ Domestic value added shares 80% or less

Preliminary results: gross exports and share of domestic VA (2005)



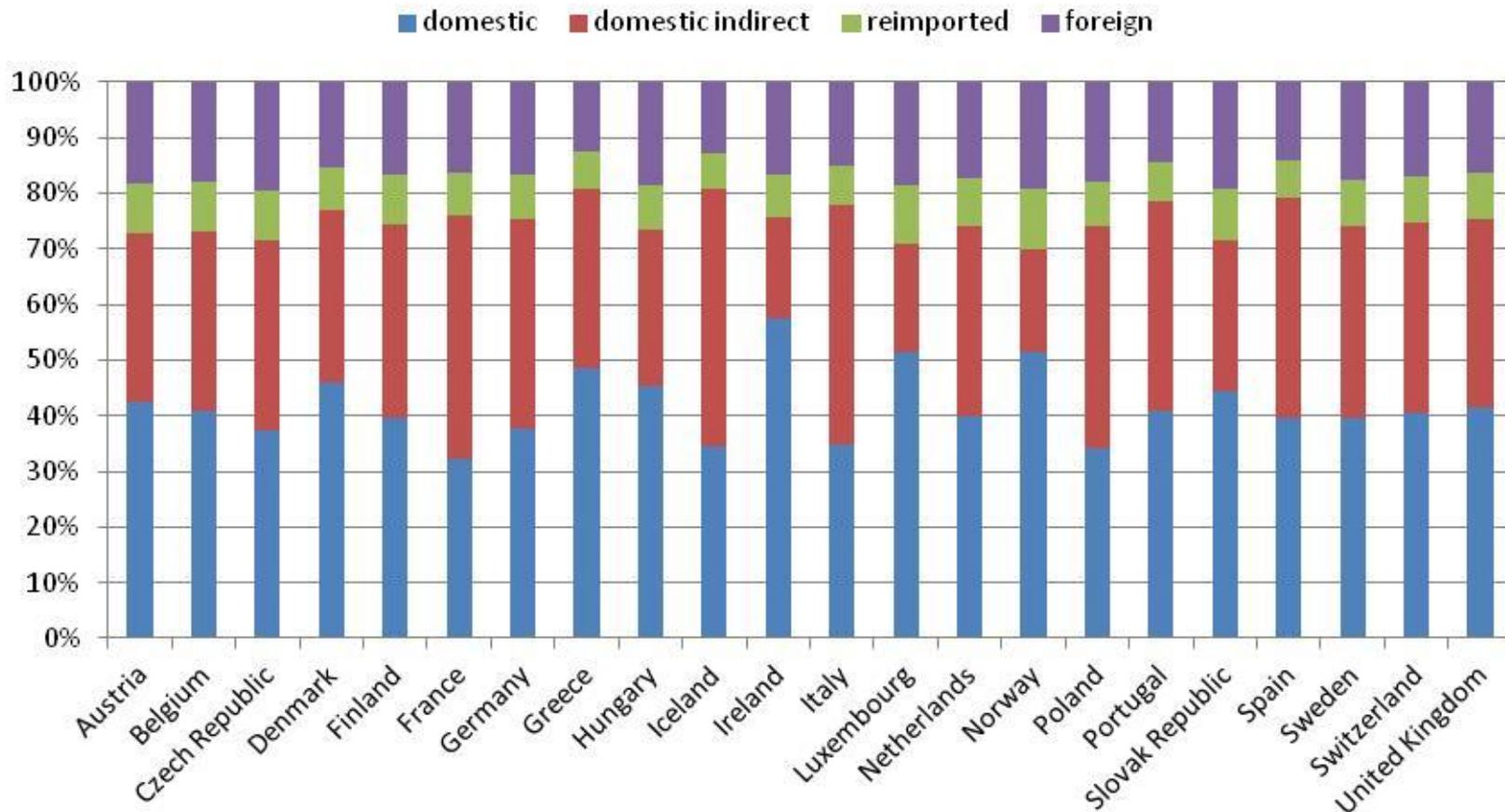
- ➔ Domestic value added shares 90% or more
- ➔ Domestic value added shares between 80-90%
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Preliminary results: value-added in gross exports (1)



Source: OECD ICIO tables

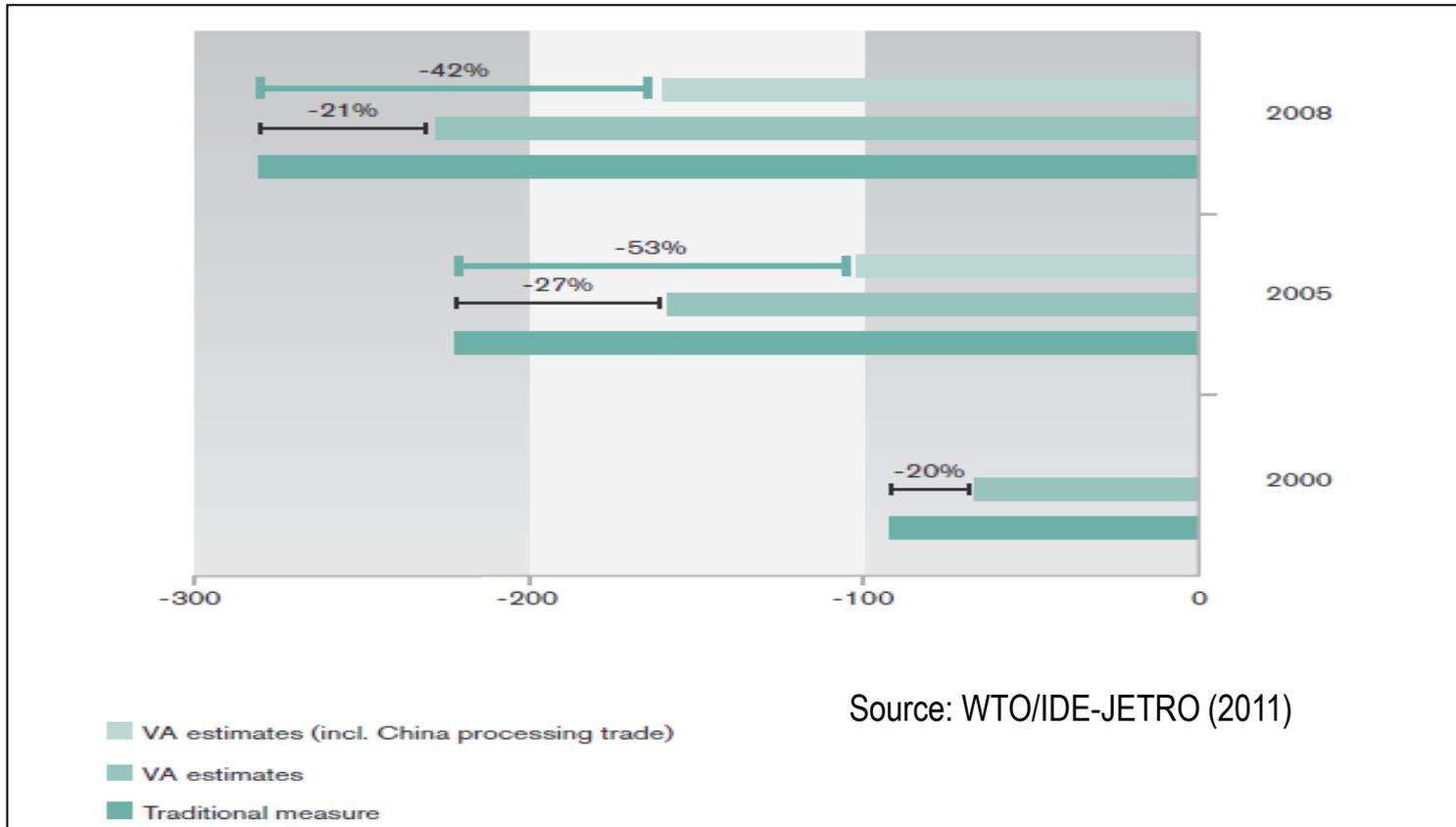
Preliminary results: value-added in gross exports (2)



Source: OECD ICIO tables

Preliminary results: trade balances in VA and gross terms

US-China trade balance (in billions of US\$)



A more complete approach: trade in value added (3)

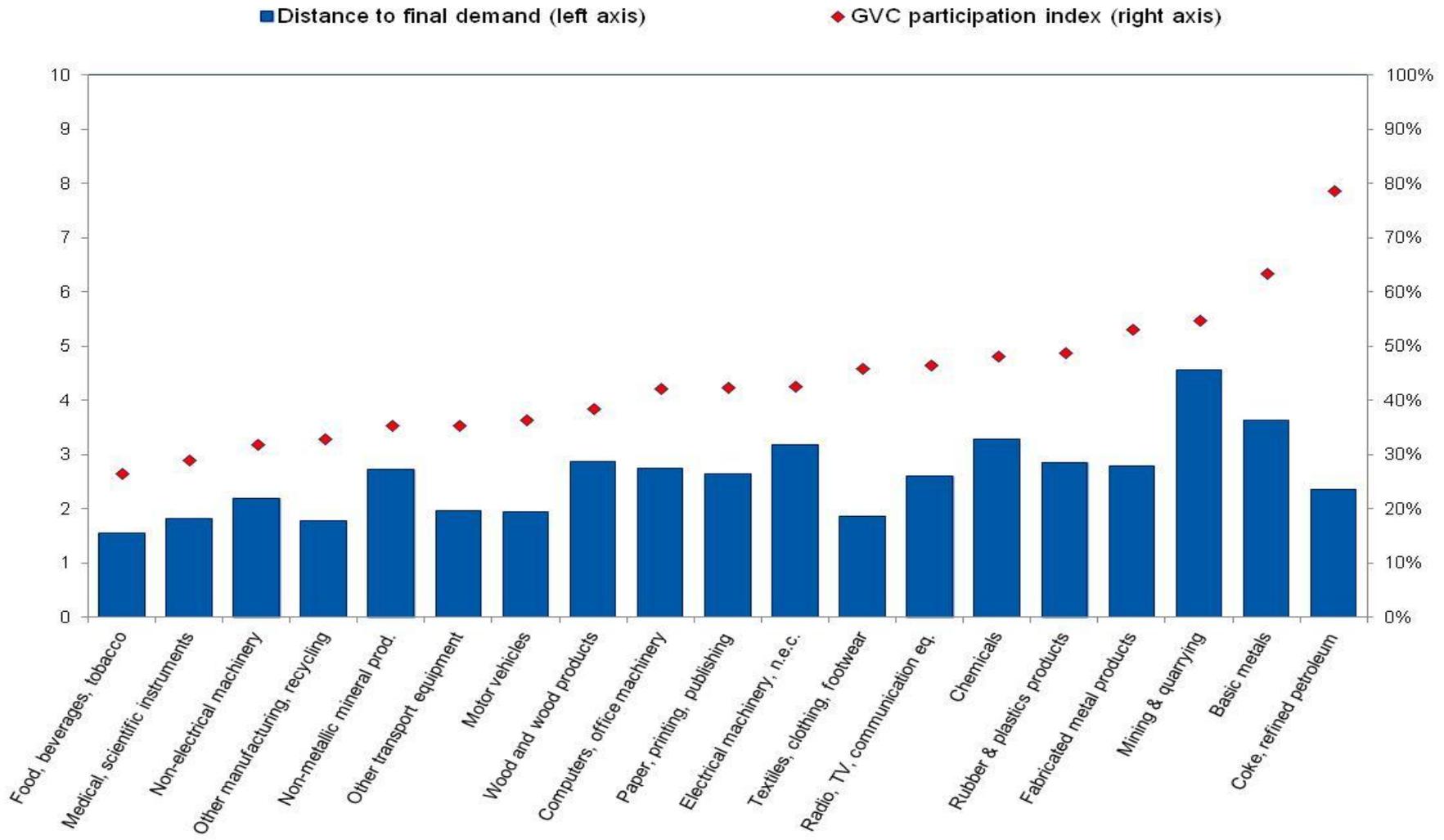
Issues and further work

- Aggregation and homogeneity bias
- Identification of trade in intermediate goods
- Identification of trade in services
- Conciliating trade statistics with national accounts across different countries
- Static versus dynamic approaches

A number of other indicators

- Participation in GVCs: to what extent are countries participating in GVCs
= imports and exports of inputs used in third countries
- Length of GVCs: how many production are stages in GVCs
- Position of countries in GVCs: where are countries positioned in GVCs
= distance to final demand index

Germany, manufacturing



Policy relevance

1. Trade policy (trade negotiations/disputes)
2. Trade and employment
3. National competitiveness and growth (identifying comparative advantage)
4. Moving up the value chain and innovation
5. Global systemic risk

www.oecd.org/trade/valueadded

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