WTO OMC

TRADE IN VALUE ADDED

-- Methodologies and Experiences --

andreas.maurer@wto.org

WTO OMC

Today's planet of trade...

..., has blurred many conceptual boundaries. Today, most products are "made in the world" and have many "countries of origin". The traditional trade statistics based on customs data may not always provide the relevant picture needed for factual decision-making.

(Pascal Lamy)

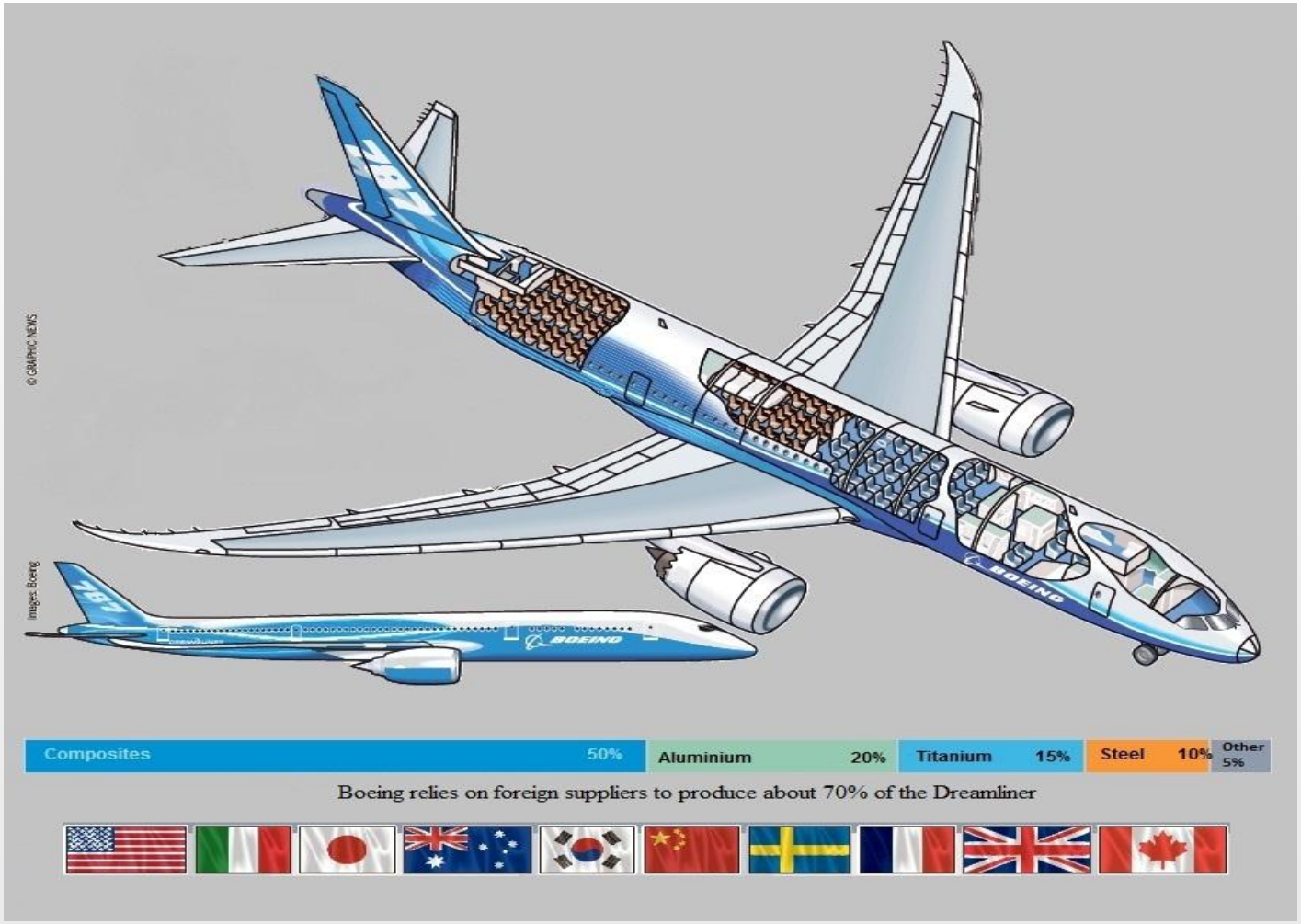
What do trade statistics hide?

→ Accounting standards differ for GDP and Trade

→ **Important:** measure "process" in global value chains for complementing traditional trade statistics

WTO OMC

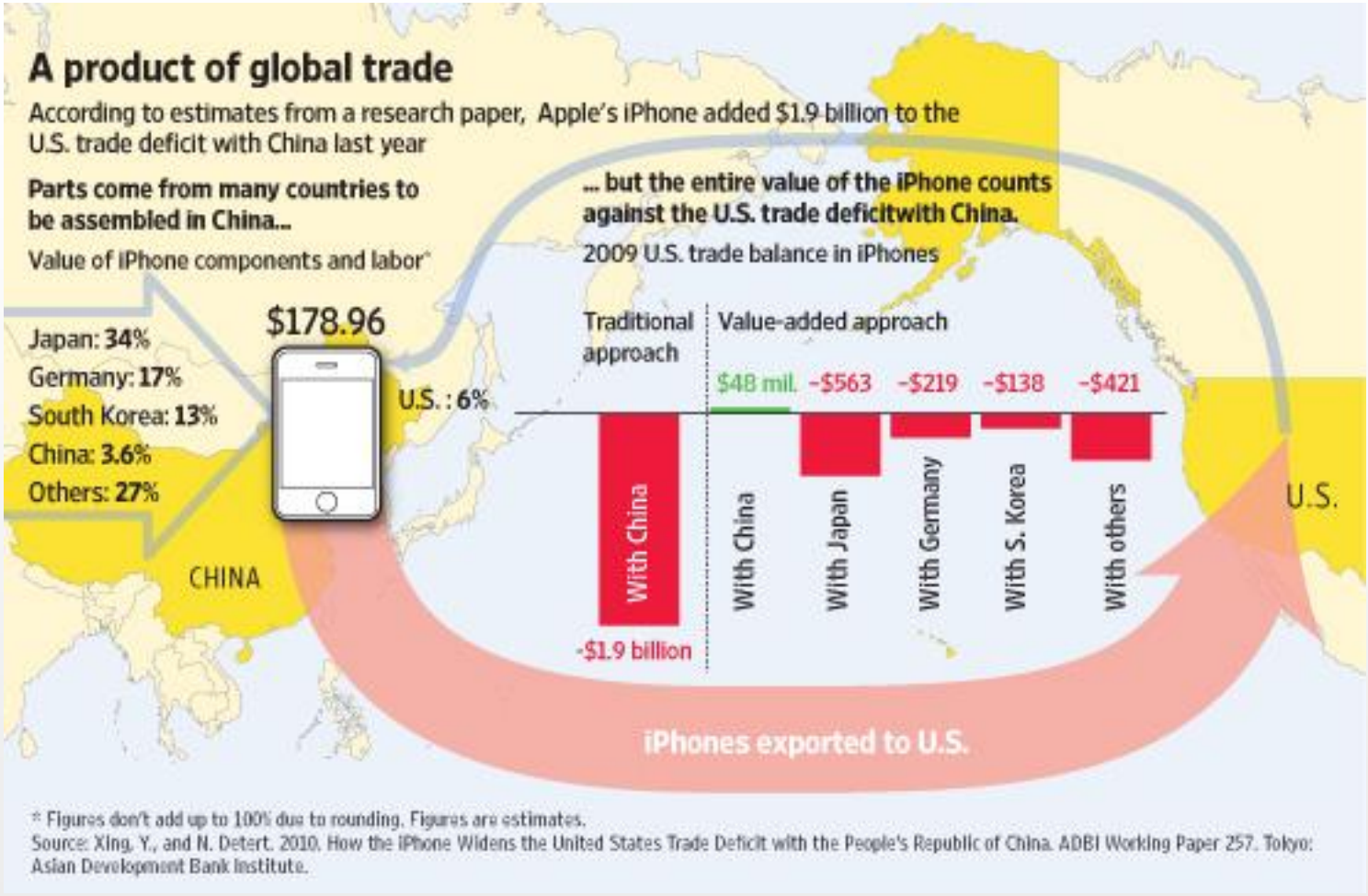
Boeing Dreamliner 787



Source: Graphic News

WTO OMC

WTO OMC

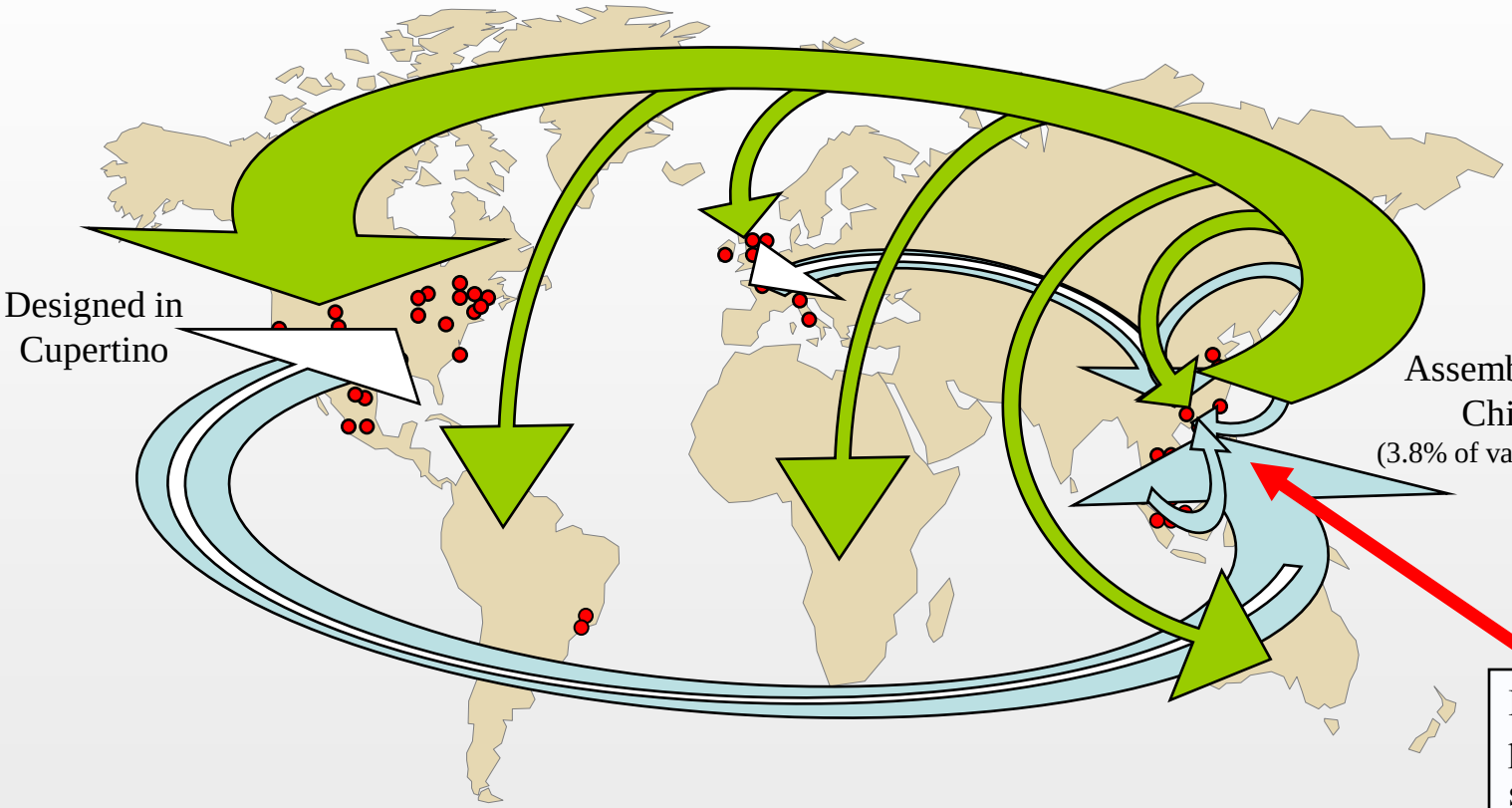


http://online.wsj.com/article/SB10001424052748704828104576021142902413796.html

WTO OMC

The Apple iPod

Emblematic Case: Low Cost Assembly and Global Sourcing.



Source: Sturgeon, J.S., MIT, Global Forum on Trade Statistics

Regional production systems are nested within global production systems

WTO OMC

Trade in value added

Three approaches

1. Case studies
   - Examples: iPod, Barbie doll, Porsche Cayenne, Nokia

2. Direct measurement
   - Foreign trade statistics (share of parts in total trade)
   - Strengthening linkage between trade and business statistics

3. Indirect estimation
   - Estimates based on national accounts (input/output) and trade statistics

© WTO/OMC

WTO OMC

Who Captures Value in Global Supply Chains?

Case Nokia N95

Processors, €34, 6%

Memories, €15, 3%

Integr.circuits, €32, 6%

Display, €22, 4%

Camera (5 mp), €17, 3%

Other parts, €59, 11%

Licenses, €21, 4%

Value added in Nokia's internal support fns, €169, 31%

(Excl. Operating profit & assembly listed below)

Nokia's operating profit, €89, 16%

Final assembly, €11, 2%

Distribution, €19, 4%

Retailing, €60, 11%

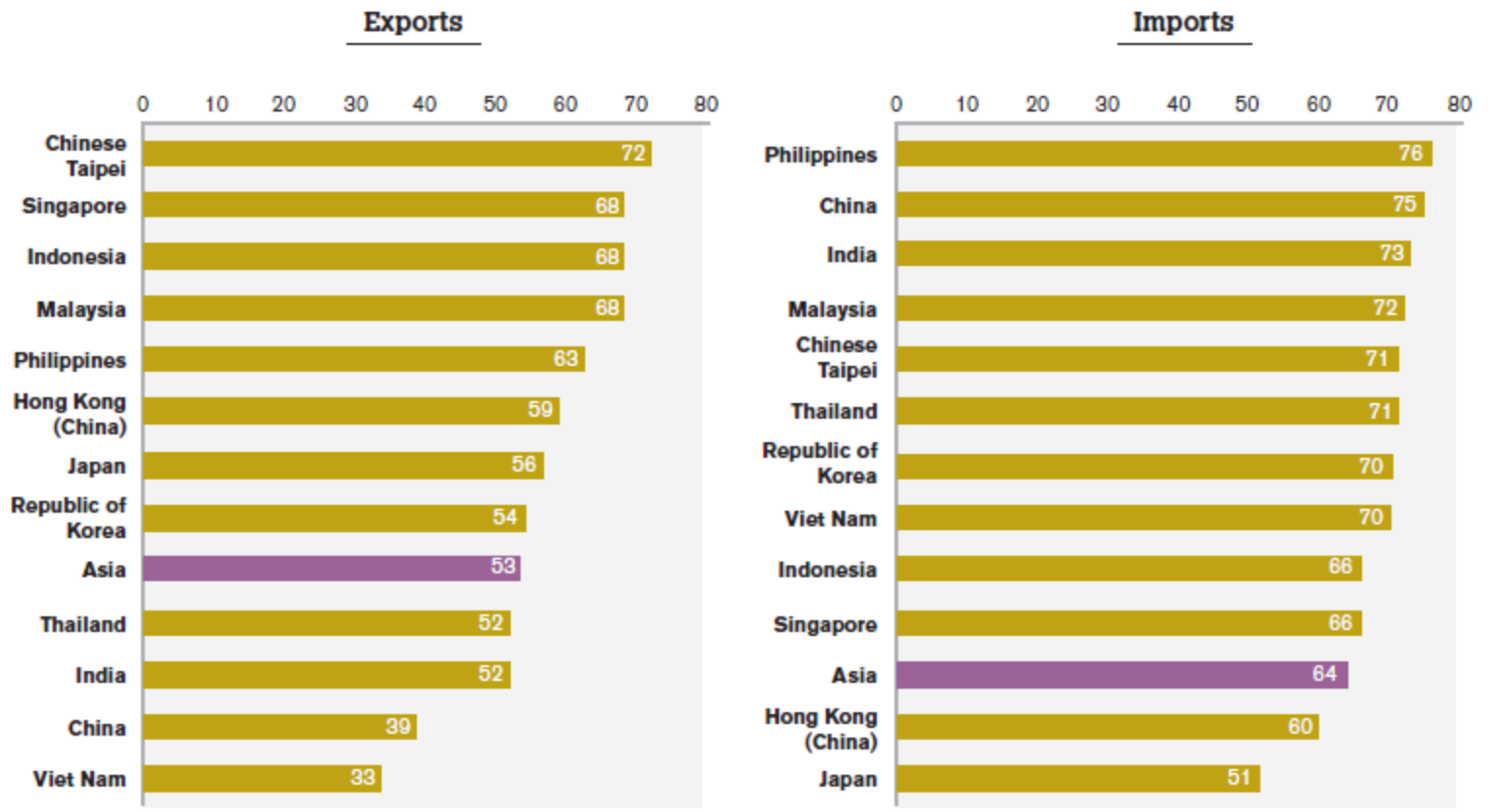
Source:
Jyrki Ali-Yrkkö, Petri Rouvinen, Timo Seppälä & Pekka Ylä-Anttila

ETLA, The Research Institute of the Finnish Economy

WTO OMC

Figure 8

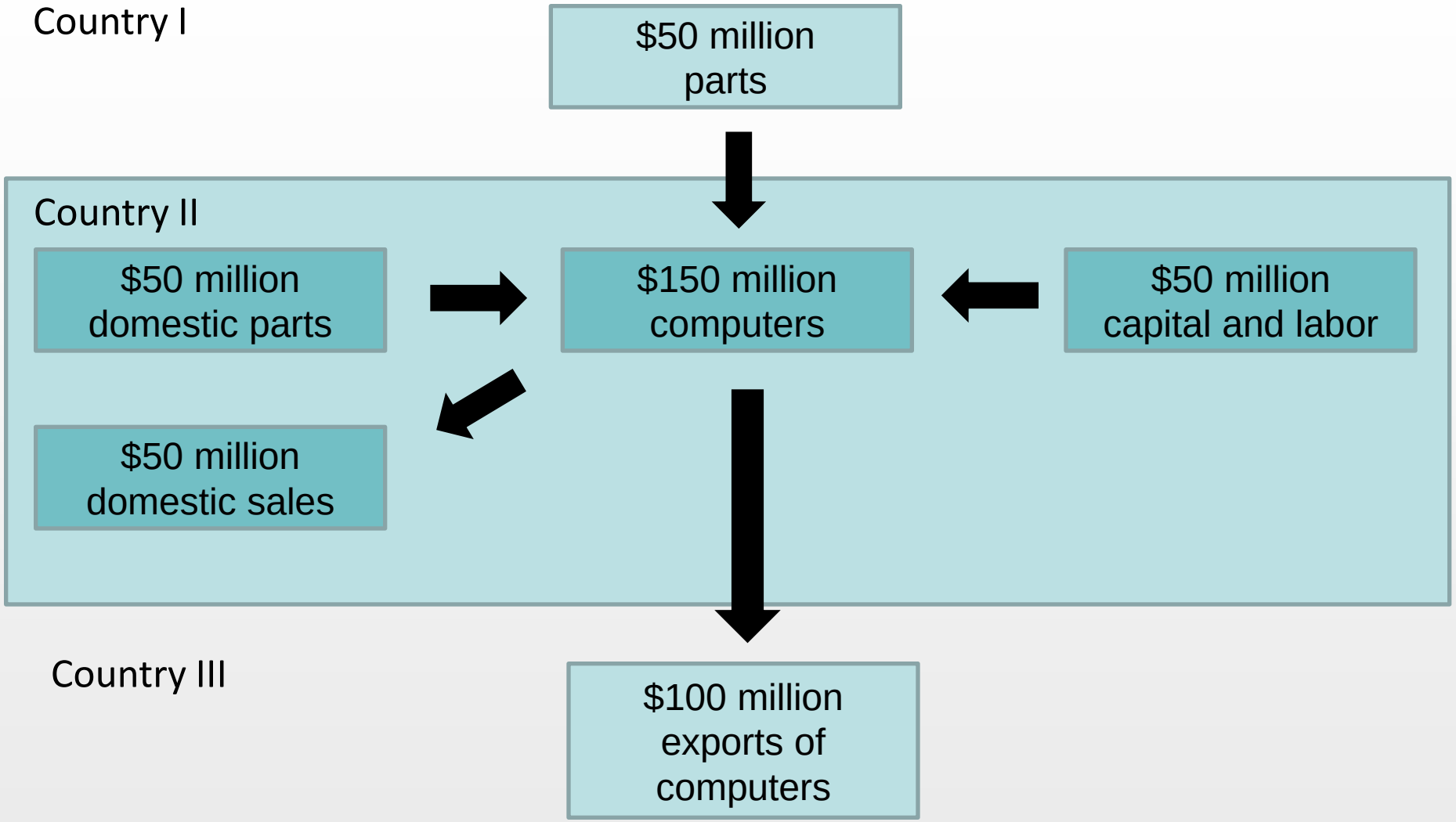
Share of intermediate goods in total non-fuel trade of major Asian traders, 2009 or latest year available (percentage)



Sources: UN Comtrade Database and WTO estimates.

Vertical trade

An Example of Vertical-Specialization-Based Trade

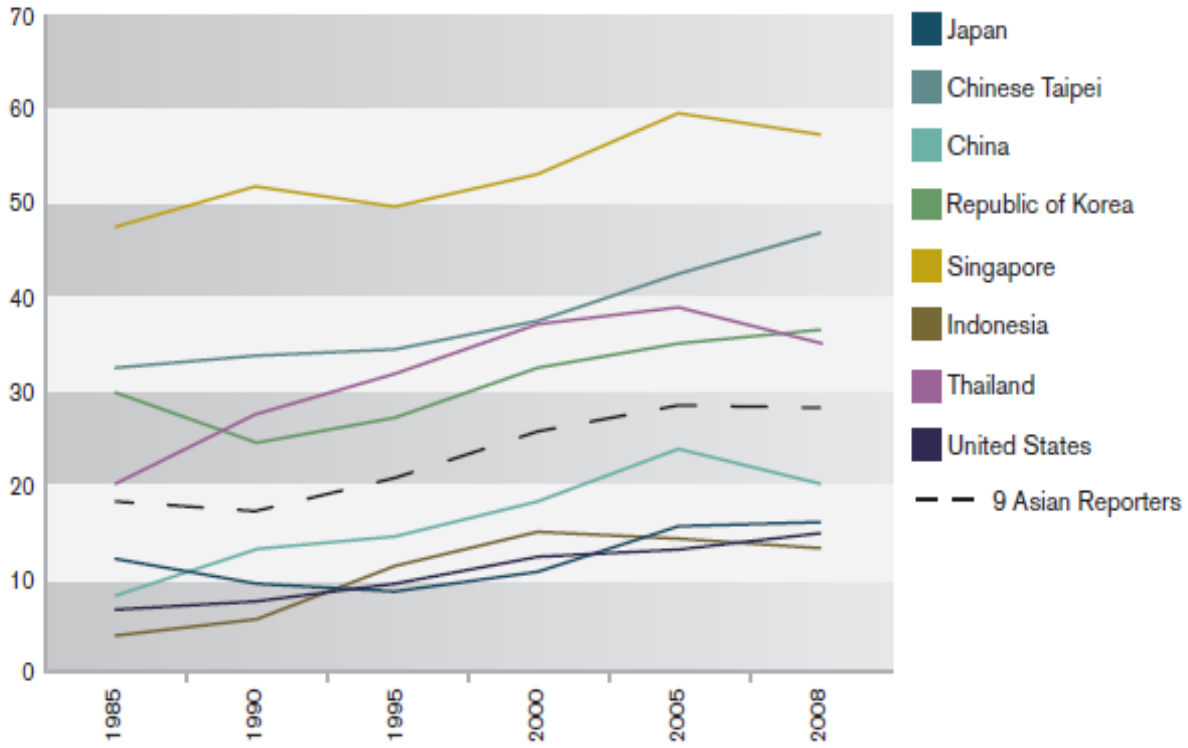


Source: Hummels (1998)

WTO OMC

Figure 3

Historical evolution of the vertical specialization of selected Asian economies and the United States, 1985-2008 (percentage)

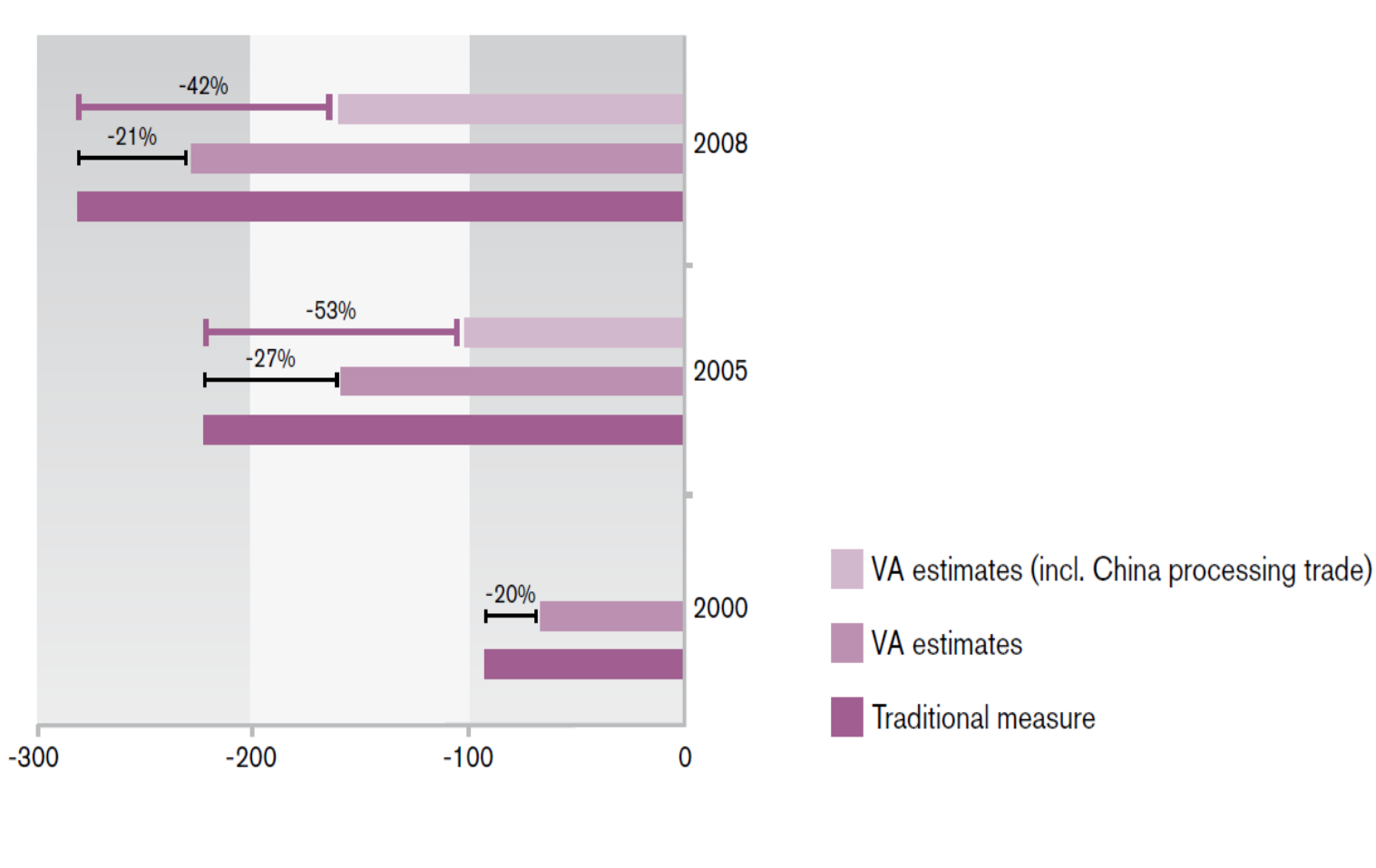


Note: The "Asia 9 reporters" aggregate includes Malaysia and the Philippines, not shown in this figure.

Source: The Asian international input-output table, IDE-JETRO.

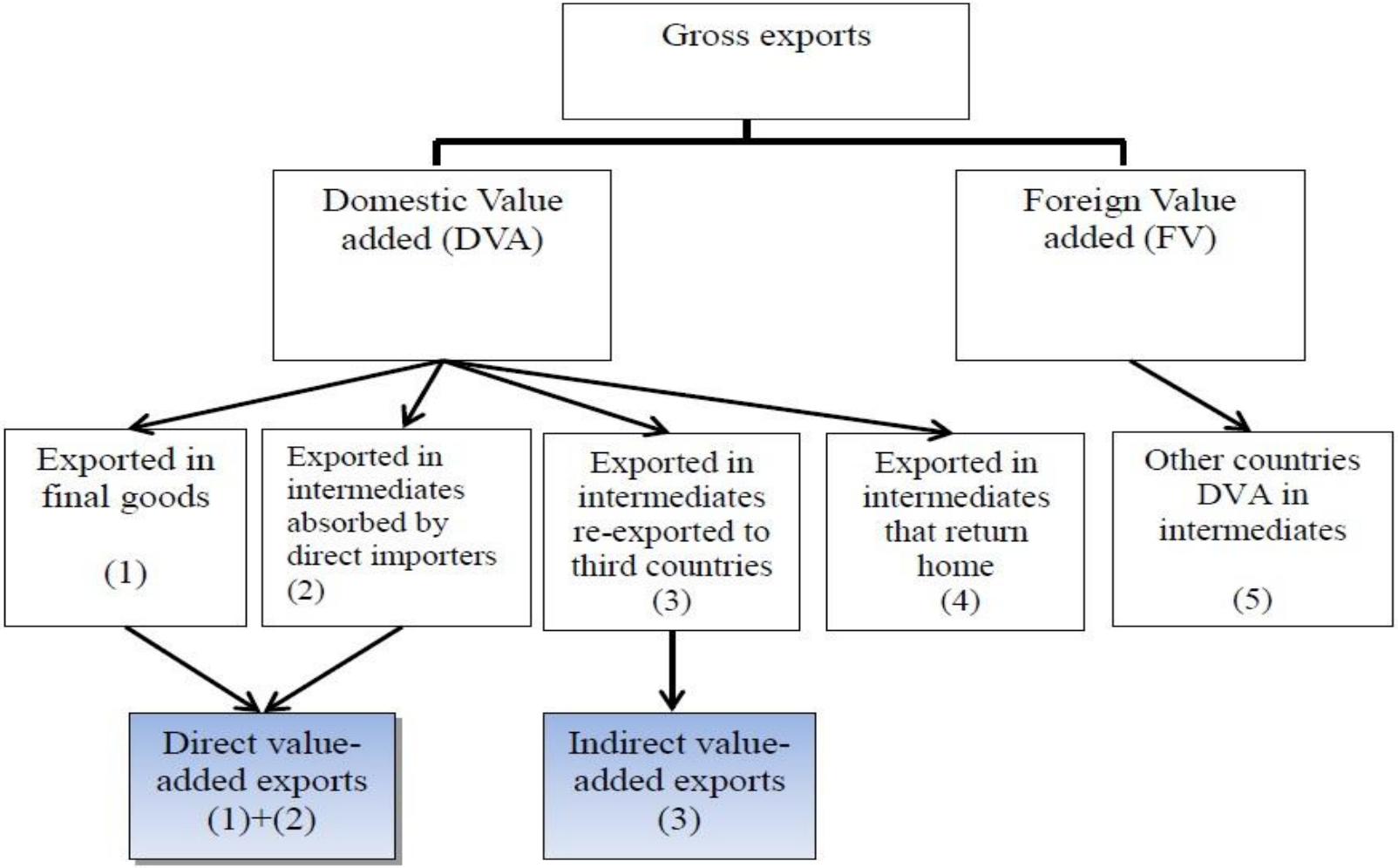
WTO OMC

United States-China trade balance
Traditional *vs* VA measure (billion US$)



Sources: UN Comtrade Database, IDE-JETRO AIO table and WTO estimates

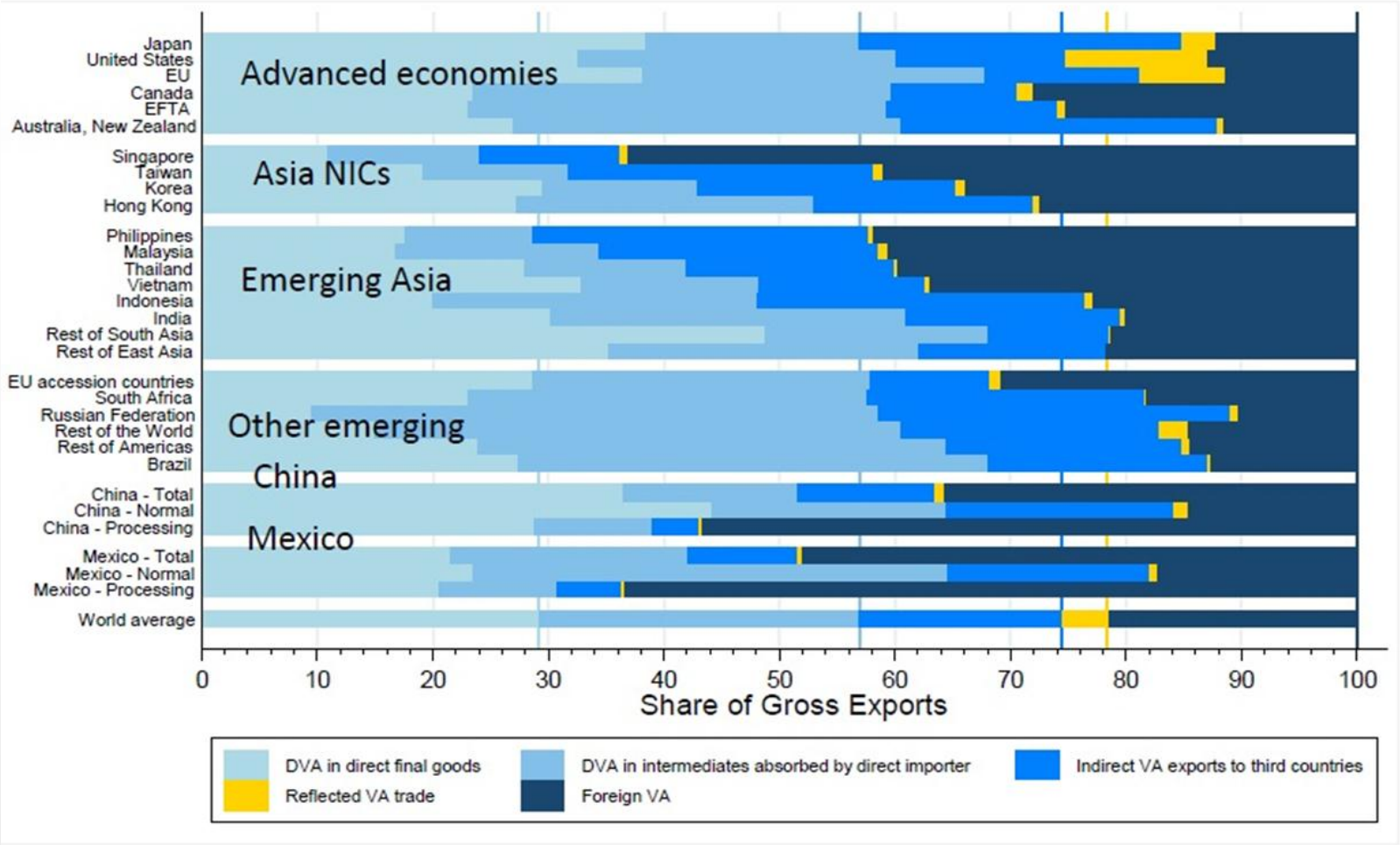
Figure 1 Decomposition of gross exports: concepts



Source: Koopman, Powers, Wang, Wei (2011)

WTO OMC

Figure A1. Decomposition of Gross Exports, actual data, 2004

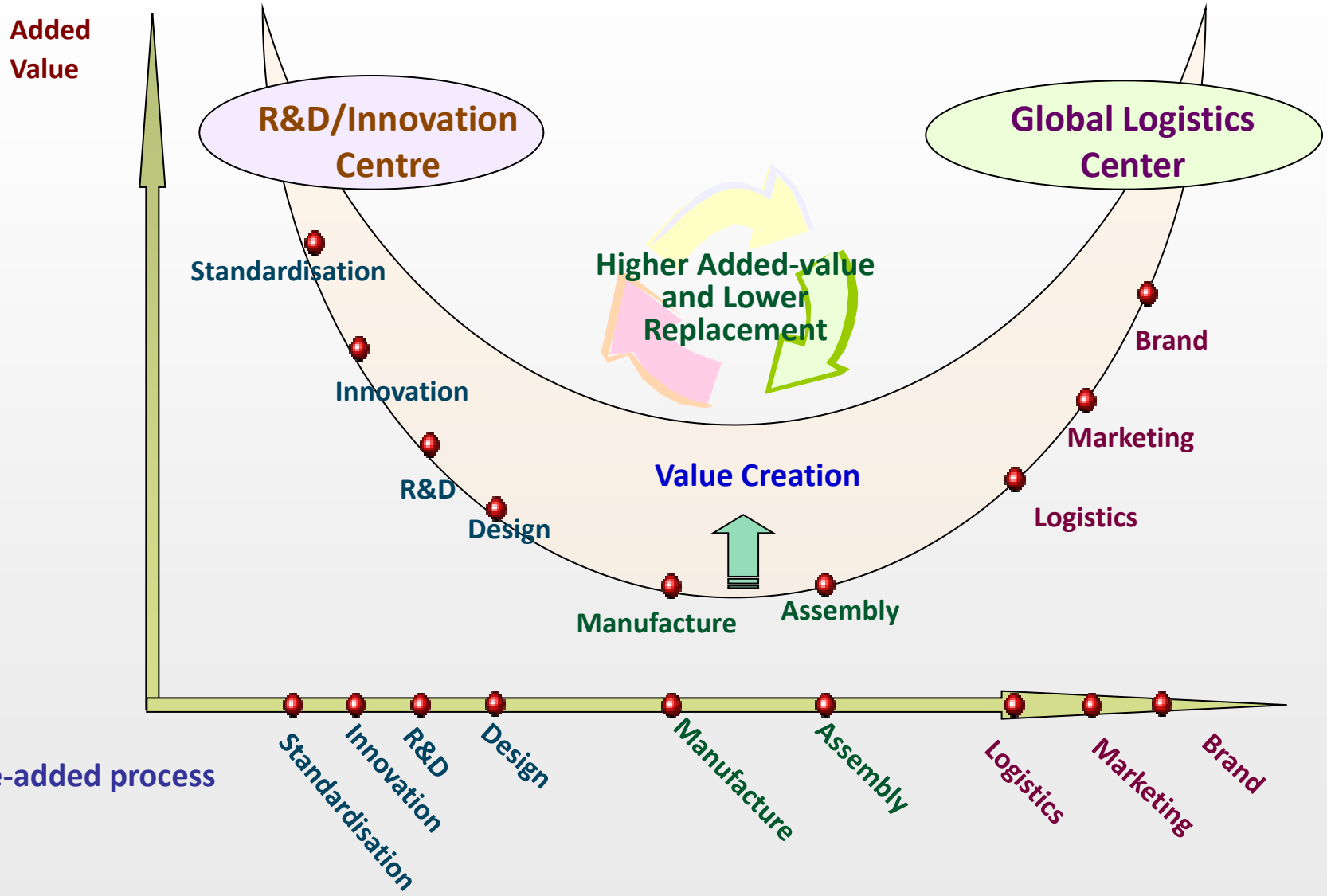


Source: Koopman, Powers, Wang, Wei (2011)

WTO OMC

Smiley Face

(*Source:* Business Week International online extra, May 16, 2005, Stan Shih on Taiwan and China)



WTO OMC

Trade by Enterprise Characteristics

- Linkages of business and trade registers to develop firm-level data on import content of exports

World Input-Output Table

- Period: 1995-2006 (2009?)
- 40 countries included (EU-15, NAFTA, BRI: Brazil, Russia, India CHN: China, OTHER: Turkey, Japan, South Korea, Taiwan, Indonesia, Australia

- 59 products (corresponding to CPA)
- 35 industries (corresponding to NACE Rev. 1)

Business functions/International Outsourcing

- A new European Survey on Business Functions

Business functions: International Sourcing
Share of enterprises carrying out international sourcing

	Manufacturing		Other sectors	
	Core Business functions	Support functions	Core Business functions	Support functions
Total*	**17.4**	**12.8**	**5.2**	**7.6**
CZ*	3.7	3.3	1.1	1.7
DK	23.9	23.3	4.1	15.8
DE	13.3	11.2	2.6	5.2
IE	49.2	41.9	20.8	22.5
IT	15.9	7.8	1.3	2.6
NL*	13.9	10.5	4.7	8.5
PT*	11.0	13.0	2.9	4.4
SI	17.4	20.1	3.6	7.9
FI	21.7	14.8	5.5	14.2
SE	9.3	4.7	1.0	2.1
UK	52.6	36.6	15.3	17.0
NO	13.5	17.7	2.4	11.2

*CZ, PT: provisional data; Total, NL: unreliable data

Source: Eurostat (2011), Statistics Explained online, International sourcing statistics

WTO OMC

Summary

- Conventional trade statistics need complement for analysing value added – data gaps and how can they be closed (TEC, WIOD, OECD/WTO)

- Trade in value added impacts wide range of issues:
  - Trade imbalances
  - Trade disputes
  - Trade and industrial policy
  - Trade and macroeconomic shocks
  - Trade and employment