

ADBI-ESCAP JOINT WORKSHOP
Research, Tools and Data for Evidence-Based Trade Policymaking
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Global Value Chains: Concepts, Main Drivers and Measures

Session I



Outline

- ▶ Introducing concepts and definitions
- ▶ Measurement
- ▶ Trade in value added (TiVA) [Marko Javorsek]



Introduction

► <https://globalvaluechains.org/concept-tools>

- ✓ We live in a world of increasing **international fragmentation of production**
- ✓ Unprecedented rise of trade in **intermediates** as firms specialize in stages (**tasks**) of production and not products
- ✓ **Gross trade** flows increasingly include **components** (and so **value**) created elsewhere
- ✓ A value chain defined as “the full range of activities that firms and workers do to bring a product from its conception to its end use and beyond”. This includes activities such as design, production, marketing, distribution and support to the final consumer. The activities can be contained within **a single firm** or divided **among different firms**. Value chain activities can produce **goods or services**, and can be contained within a single geographical location or **spread over wider areas** and often seen as “**global value chains**”



An example

- 299\$
 - 75\$ **profit** to US (xxx)
 - 73\$ **whls/retail** US (xxx)
 - 75\$ to Japan (xxx)
 - 60\$ 400 parts from Asia
 - 15\$ 16 parts from the US
 - 2\$ assembly by China

What is the product?



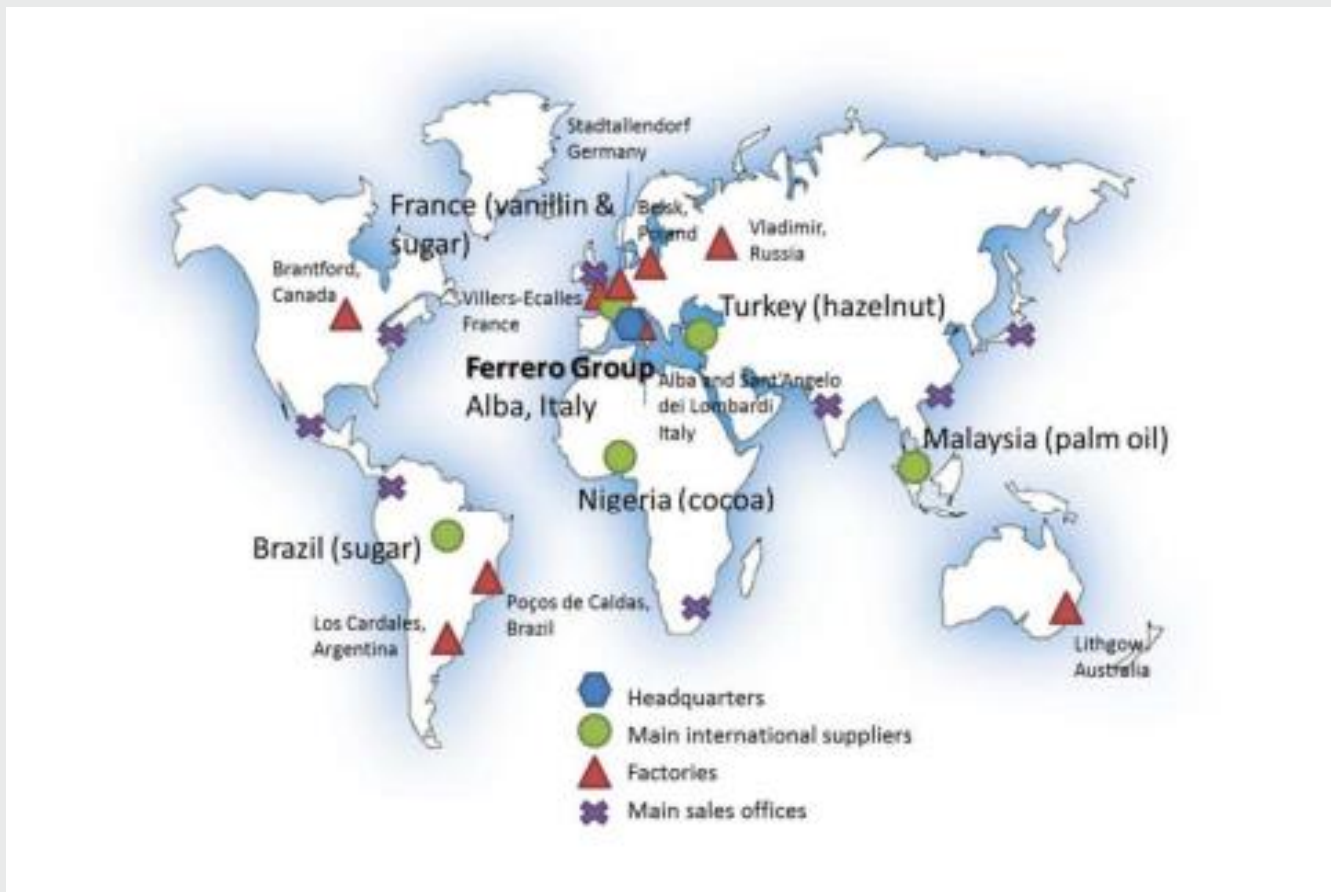


But still not so simple as small differences in nomenclature

- **International Production Networks:** emphasis on horizontal dimension
 - Coordination of international production across borders
- **Global Supply Chain:** emphasis on the private sector perspective
 - Technical characteristics in the establishment and operation of international production
- **Global Value Chain:** emphasis on welfare gains
 - Rules and strategies for maximizing welfare gains from participation in international production



Examples

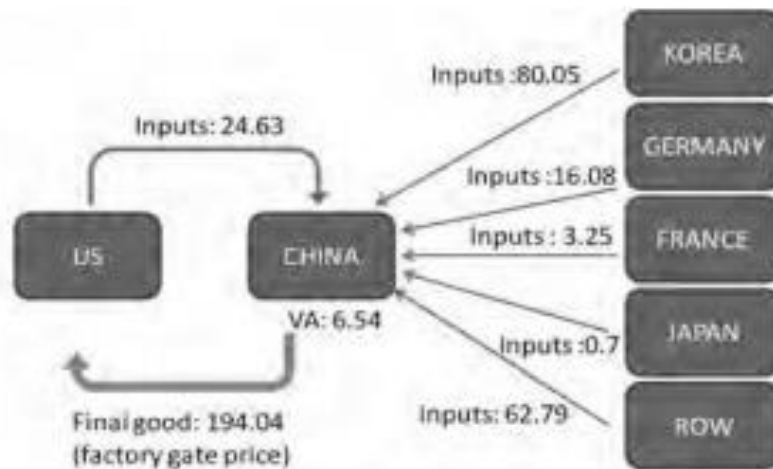


Nutella

Source: Soo Yeon Kim



Examples



US trade balance with	CHINA	KOREA	GERMANY	FRANCE	JAPAN	ROW	WORLD
Gross	-169.41	0	0	0	0	0	-169.41
Value added	-6.54	-80.05	-16.08	-3.25	-0.7	-62.79	-169.41

Figure 2 US bilateral trade balance with China for one unit of iPhone4 (US\$).
Source: OECD (2011: 40).

iPhone



Examples

ASEAN Hair Care Supply Chain (AIR 2013)



Hairspray



Examples

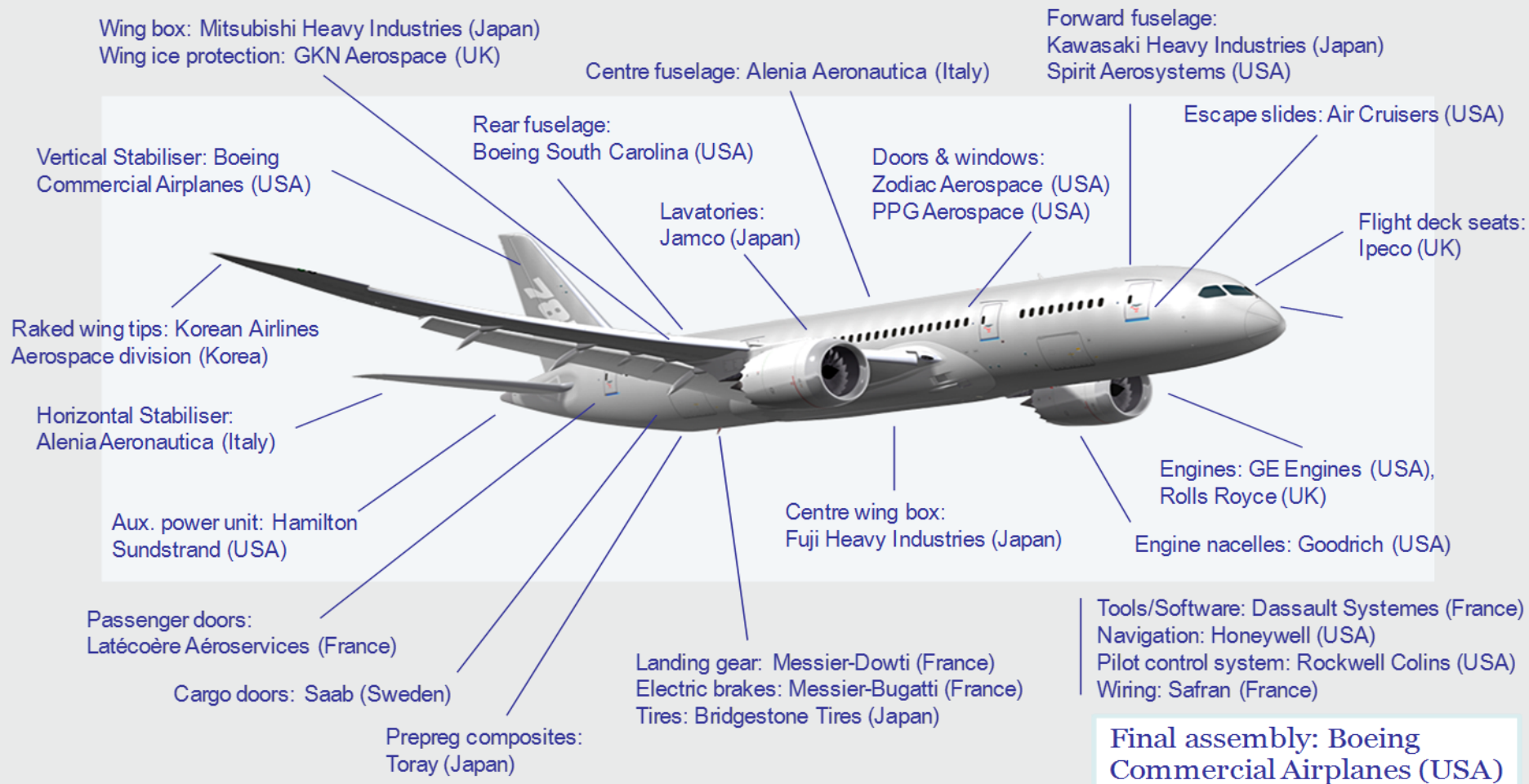
ASEAN Investment Report (2013)



Car



Examples



Dreamliner



Many different, complex examples

- ▶ Bottom line: gross trade statistics becomes a ‘multiple count’ of flows in intermediates as the production process spreads over more and more countries... **meaning that gross trade statistics may create ‘misleading perceptions’ and imperfect policies**

Implications on both statistics and trade

Global Value Chains



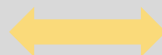
Emergence of “Trade in tasks”:

- Predominance of trade in intermediate goods
- Development of intra-firm trade
- Increase of processing trade



Impact on statistics

- Revision of international statistical concepts
- Need for new measures of international trade taking place within GVCs



Policy impact

- Need for a new angle of trade analysis
- Need to adapt trade regulation to business reality

Towards a new measure of trade in value added terms

Some advantages of the value added approach

Traditional statistics present some biases


- ❑ Multiple counting of trade flows in intermediate goods and services
- ❑ Difficult attribution of the country of origin of an imported product

Measuring trade in value added terms allows:

- ❑ To circumvent the biases observed with traditional statistics
- ❑ To take into account the specificity of trade occurring between the different actors of a production chain

Towards a new measure of trade in value added terms

Three approaches to measure trade in tasks or in value added

Approach		Level of detail	Measurement type
1. Case studies : geographical decomposition of a product value into the components and services used for its production <ul style="list-style-type: none"> Examples: iPhone, iPod, iPad, Barbie doll... 	Bottom up approach 	Product level	<i>Not applicable</i>
2. Trade statistics : focus on the role of intermediates in foreign trade <ul style="list-style-type: none"> Use of BEC or BOP (e.g. business and computer services) classifications Estimation of vertical specialization or shares of parts and components in total trade Strengthening linkage between trade and business statistics 		Product/sectoral / product group level	Direct measurement (based on raw reported data)
3. Input-output tables : combining national accounts with trade statistics <ul style="list-style-type: none"> Decomposition of gross trade into its foreign and domestic value added contents 		Sectoral level (aggregated)	Indirect measurement (estimates)
	Top down approach		

Towards a new measure of trade in value added terms

The use of International Input-Output (II-O) tables

❑ Advantages of II-O tables

- Identification of the origin and use of intermediate goods and services produced and traded amongst countries and industries (intermediate demand matrix)
- Enable to take into account backward linkages between countries and industries (Leontief inverse matrix)
- Coverage of all of goods and services

❑ Some limitations

- Assumptions applied during the construction phase of II-O tables (production assumption, proportionality assumption, dealing with inconsistencies of official trade statistics)
- Aggregated sectoral level only, not product or firm level
- Benchmark years only (every 5 years)

- ❑ **Some official II-O tables available:** ICIO (OECD), WIOT (WIOD project), AIO (from IDE-JETRO), GTAP (Purdue University)

Towards a new measure of trade in value added terms

Two main concepts

❑ The value added embodied in gross exports:

- Domestic value added content of gross exports
- Foreign value added content of gross exports

❑ The value added created by final demand:

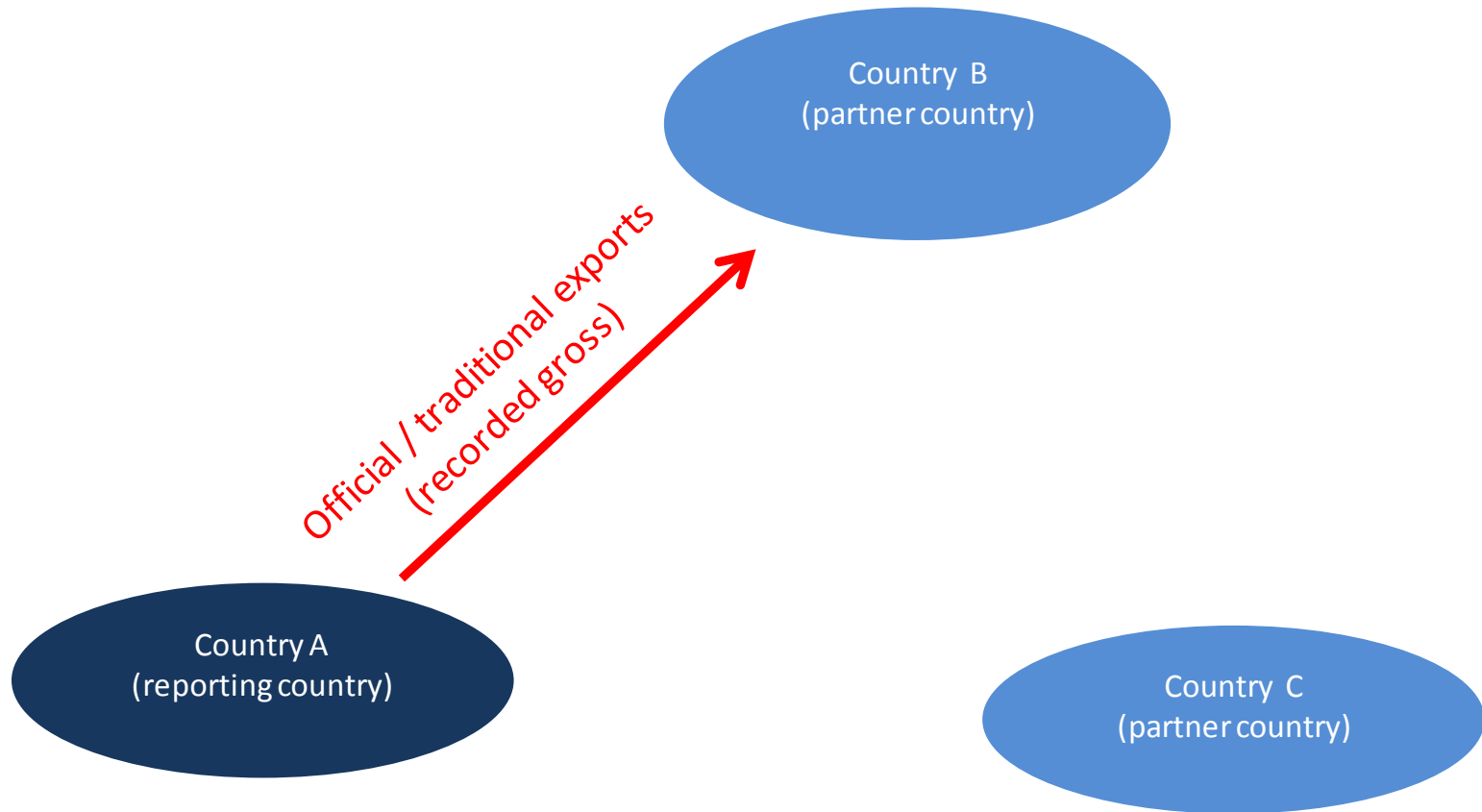
- Domestic value added embodied in foreign final demand
- Foreign value added embodied in domestic final demand



Towards a new measure of trade in value added terms

Where to find value added in gross trade flows ?

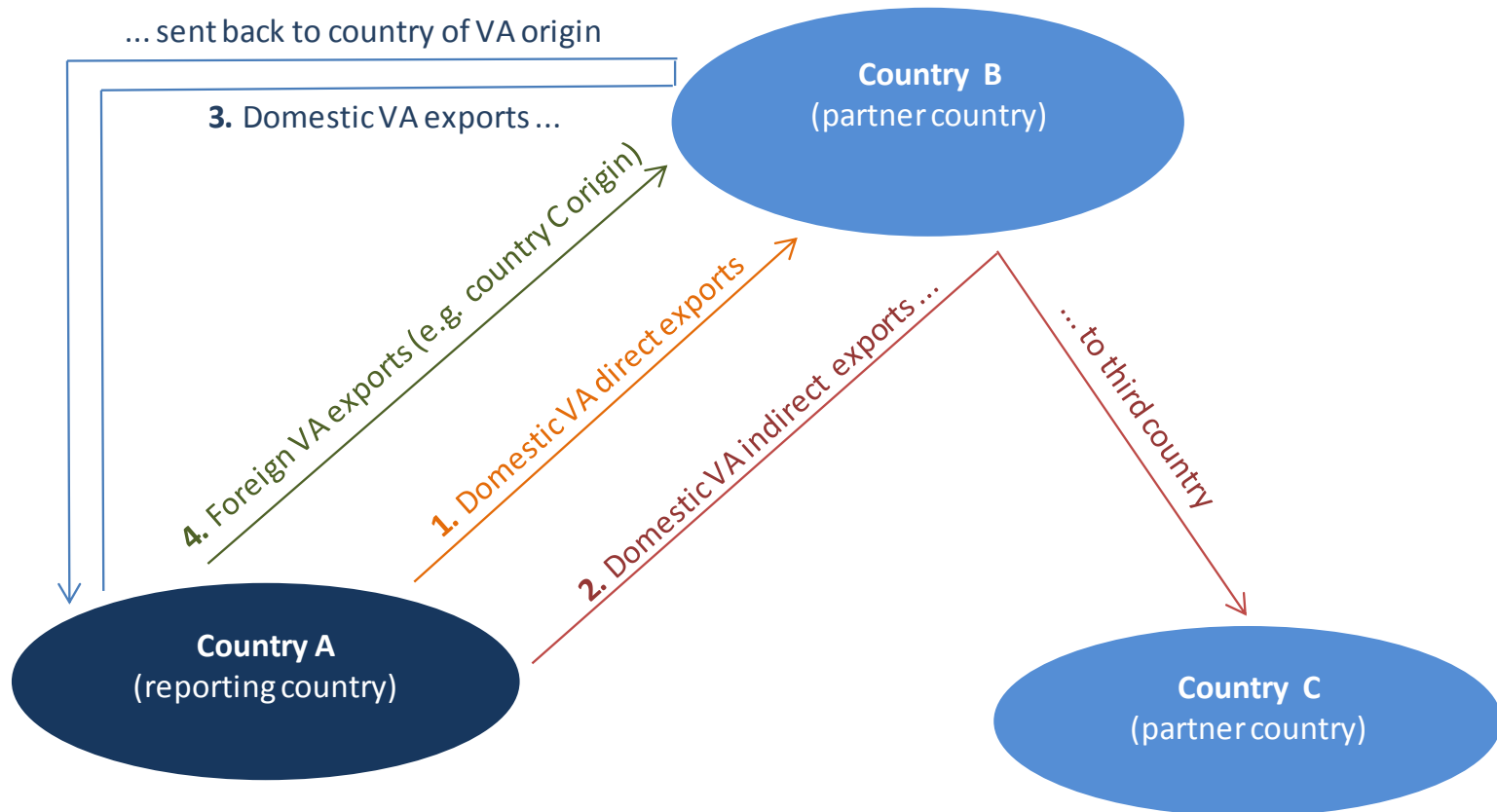
Country A gross exports to country B - **As reported in official trade statistics**



Towards a new measure of trade in value added terms

Where to find value added in gross trade flows ? (cont'd)

Country A gross exports to country B - **Decomposition into their value added components**



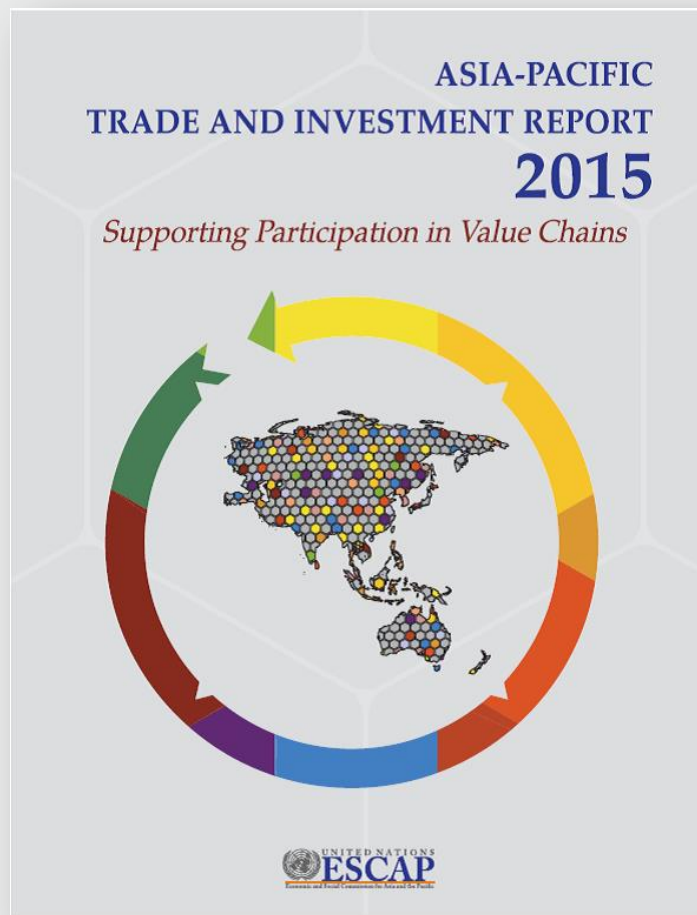
Taking action

▶ Improved **GROSS** trade data

- ▶ Import flow matrices
- ▶ Better bilateral trade statistics (integrated with SU tables) and globally consistent
- ▶ Intelligent confidentiality rules (suppress 6 digit not 2 digit HS)
- ▶ Re-export data
- ▶ Second hand goods, scrap and waste.
- ▶ SERVICES –EBOPS 2012.



For applied analysis see:



<http://www.unescap.org/publications/asia-pacific-trade-investment-report>