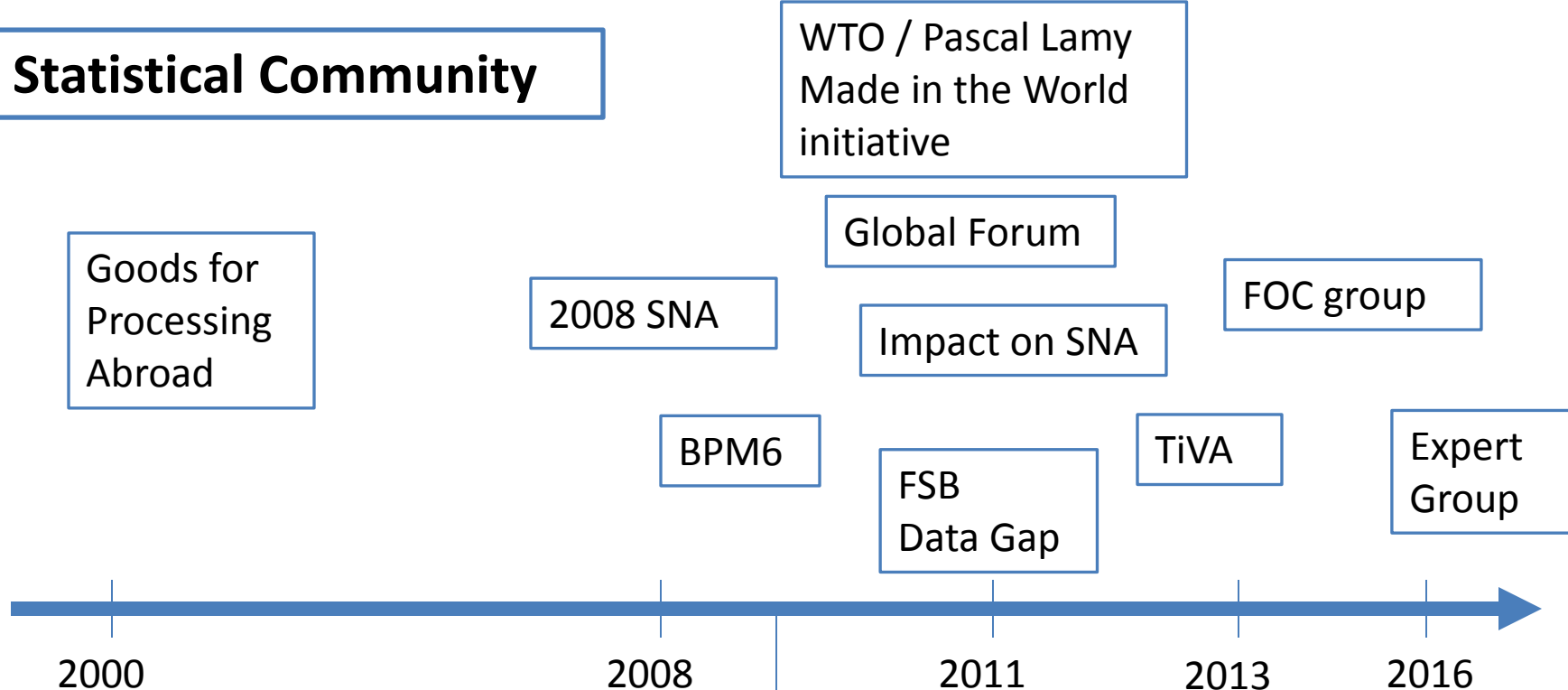


# GVC Measurement

Expert Group on International Trade and  
Economic Globalization Statistics

# Statistical Community



Global Value Chain research

World KLEMS

Financial Crisis

GVC in Post-crisis World

G20 and GVCs

Making GVCs work for Development

GVCs: Aid for Trade

# Research Community

# Outcome of First Expert Group Meeting

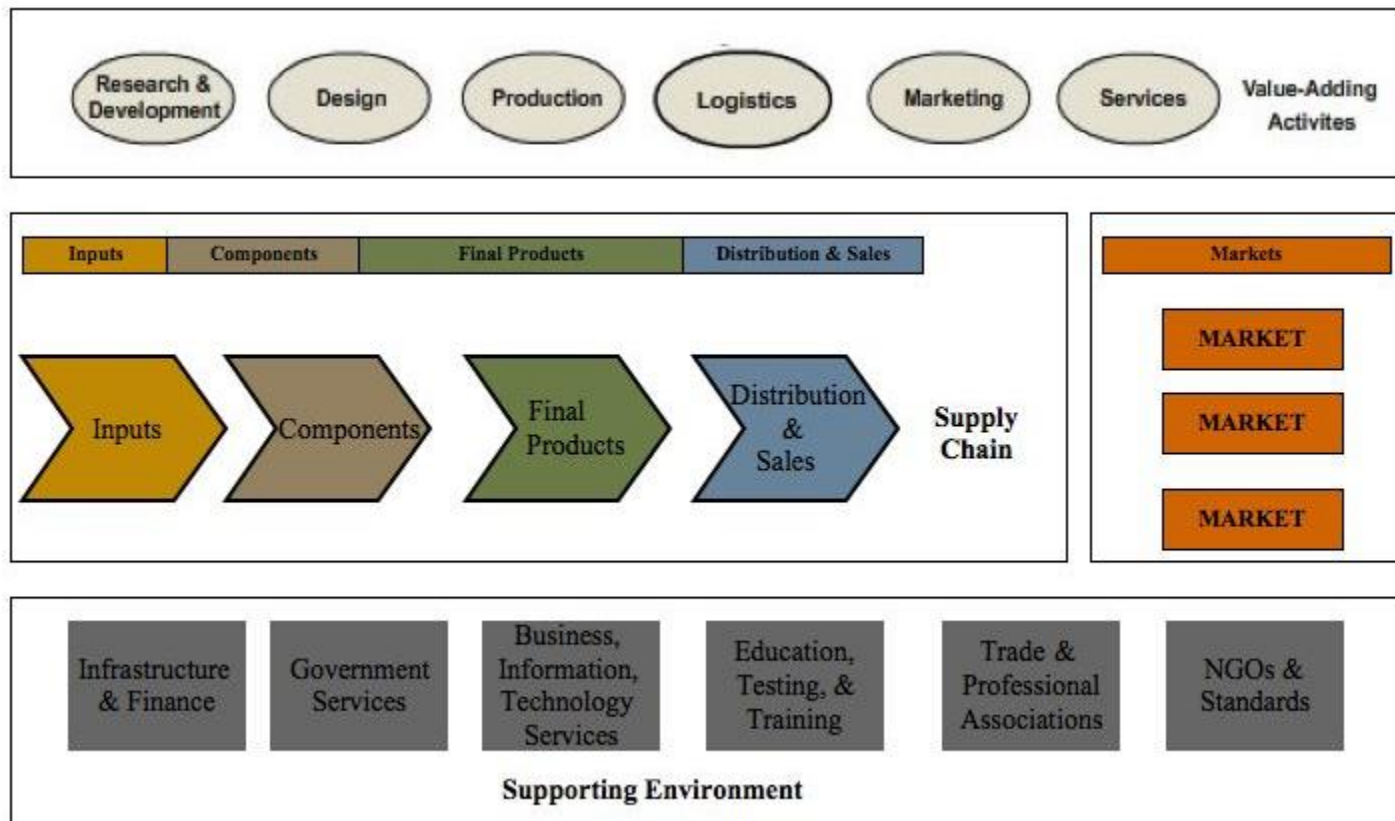
- New Handbook
  - the global value chain concept and its global value chain model are central to the measurement of globalisation
  - the general statistical framework consists of a) extended national supply and use tables and accounts and b) integrated business and trade statistics and registers
  - satellite accounting approach from a national perspective taken to the SNA for the measurement of extended national and multi-country GVC industry tables and accounts
  - firm based perspective taken to move from bilateral to multilateral country perspective in production, investment and trade statistics

# The Concept of Global Value Chain

The value chain describes the full range of activities, business functions, institutional environment and governance of the value chain required to bring a product or service from conception through the different phases of production, the delivery to final consumers, and the final disposal after use

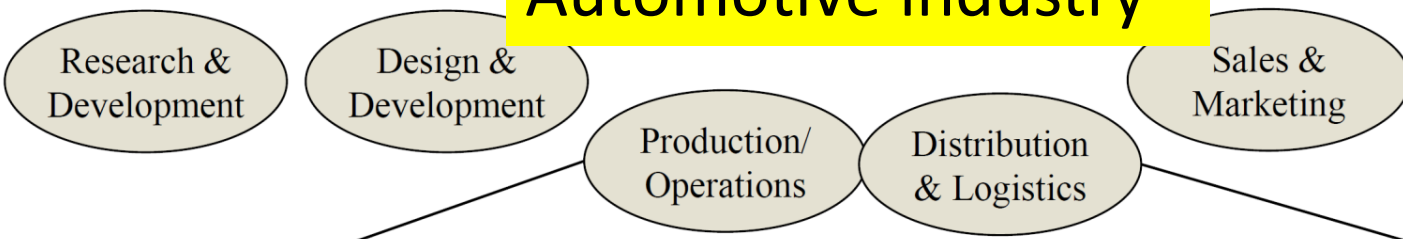
# Global Value Chain Model

for I/O structure in supply chain and value adding activities, governance of supply chain, geographical scope of markets and supporting environment



# Automotive industry

## KEY VALUE-ADDING ACTIVITIES Business Functions



Top row: Non-manufacturing activities that account for most "value-added"

## SUPPLY CHAIN STAGES



- Raw Material
  - Steel & PU (Polyurethane) are the most basic materials required for exterior and interior respectively

- Manufactures sub-components for a number of basic automobile components
  - Tier 2 suppliers are well integrated in the supply chains of major tier 1 suppliers
  - Operate on thin margins

- Make major components for the OEMs
  - Highly integrated into the supply chain of major OEMs
  - Usually dedicatedly supply to a major OEM

- Assembles the components and produces the automobile
  - Few & specialized players
  - Most critical link in the entire value chain
  - Implements & drives innovation & efficiency across the entire chain

- Dedicated point of sale for each OEM
  - Usually have sound financial background & market presence
  - Provide after sales support to customers
  - Represent OEM to the customers, thus critical for overall customer satisfaction

**EXTENDED NATIONAL GVC INDUSTRY  
SATELLITE TABLES AND ACCOUNTS**

# A multi-country GVC industry Satellite Account

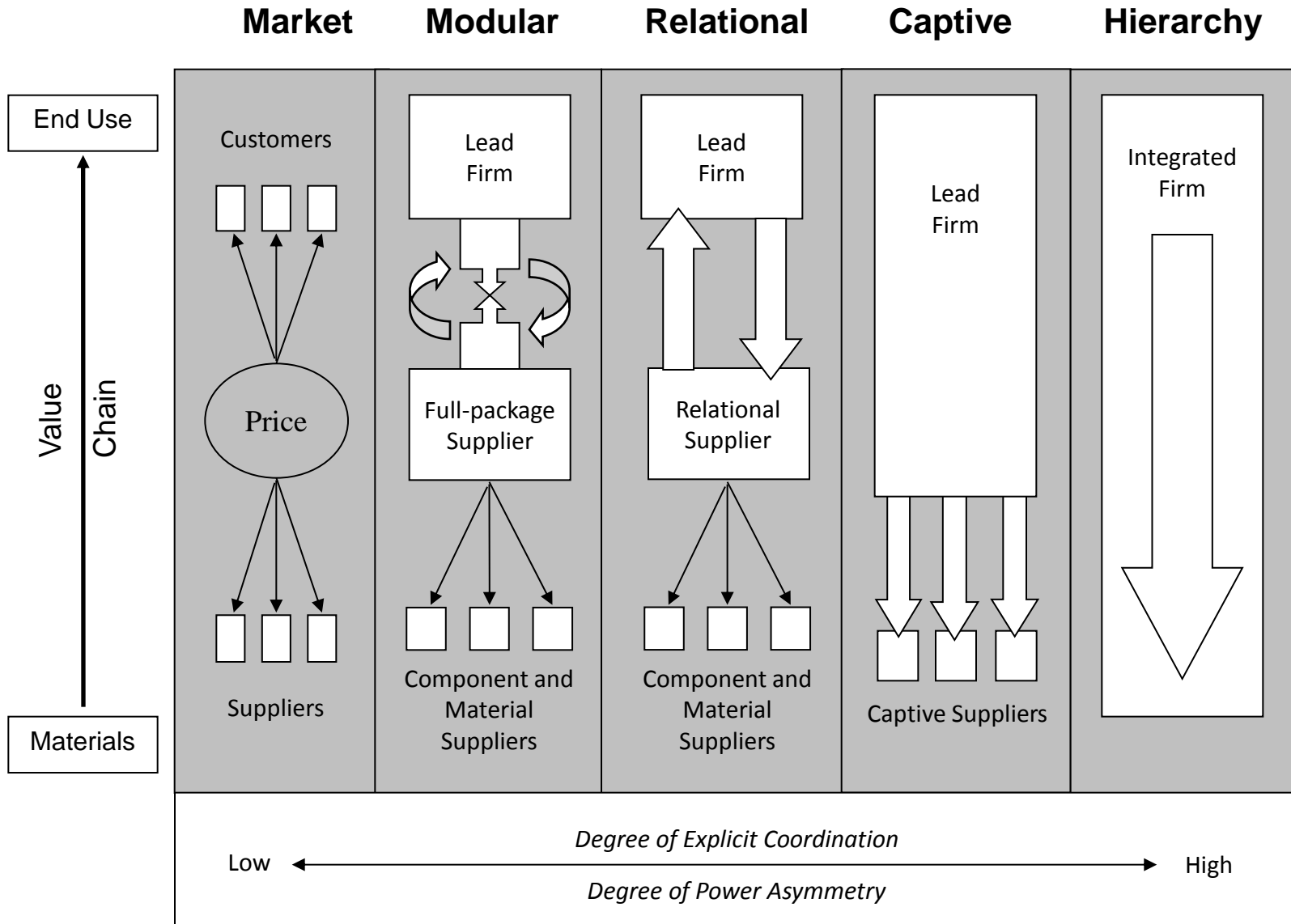
## a simplified two-country Supply and Use Table

		Products		Industry		Final use		Exports	Output
		<i>Country 1</i>	<i>Country 2</i>	<i>Country 1</i>	<i>Country 2</i>	<i>Country 1</i>	<i>Country 2</i>		
Products	<i>Country 1</i>			D	M	D	M	D	D
	<i>Country 2</i>			M	D	M	D	D	D
Industry	<i>Country 1</i>	D	0						
	<i>Country 2</i>	0	D						
Import		M	M						
Trade and Transport		D	D						
Value added				VA	VA				
Output		D	D						





# Statistical units related to GVC Governance arrangements



# **INTEGRATED BUSINESS AND TRADE STATISTICS AND REGISTERS**

# Integrated Business, Investment and Trade Statistics Framework

- **The extended national and GVC satellite accounts improve data quality, and coherence**, by providing insights into data challenges, such as the proportionality assumptions and **bilateral trade asymmetries**
- **GVC satellite accounts** can be formulated in terms of their **goods and services producing activities, their supply and use of intermediate products, their final outputs in the end markets**, and their heterogeneity of firms, in terms of ownership, size class and trade intensity
- **Various GVC industries** are considered as examples for the Handbook, such as the agri-food, **textile and apparel, automotive**, energy, pharmaceutical and tourism industries

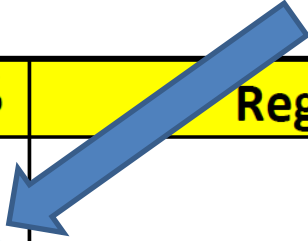
# Elements of the Integrated Business, Investment and Trade Statistics Framework

- Improve **business registers** with identification of multi-national enterprises, foreign affiliates and size class, and with links to trade and investment statistics
- Establish a **global enterprise group register**, by further developing the approach employed by the euro-groups register
- **Balance bilateral trade and investment asymmetries** in a consistent way
- Standardize surveys on **international sourcing of Business Functions**
- Address the concerns of confidentiality in the access to and use of micro-data
- Recommend indirect measures where basic data are missing

# GVC satellite accounts USA-Canada-Mexico

## Automotive Value Chain – 2014 data

Exports	World \$	Region %	Region \$
Components - Supplier	552.4	20%	109.8
Components - OEM	74.7	21%	15.8
Vehicles	689.8	20%	135.4
Imports	World \$	Region %	Total \$
Components - Supplier	546.5	28%	155.3
Components - OEM	72.4	33%	23.6
Vehicles	658.7	27%	180.9



# GVC satellite accounts USA-Canada-Mexico

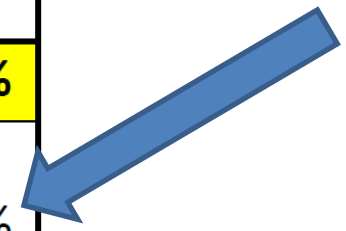
## Automotive Value Chain – 2014 data

Exports	Region \$	Intra %	Extra %
Components - Supplier	109.8	82%	18%
Components - OEM	15.8	94%	6%
Vehicles	135.4	64%	36%
Imports	Region \$	Intra %	Extra %
Components - Supplier	155.3	55%	45%
Components - OEM	23.6	64%	36%
Vehicles	180.9	47%	53%

# GVC satellite accounts USA-Canada-Mexico

## Automotive Value Chain – 2014 data

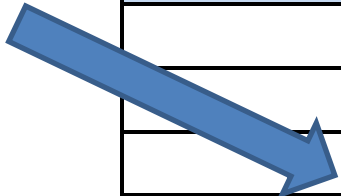
Exports	Region \$	Intra +4 %
Components - Supplier	109.8	87%
Components - OEM	15.8	94%
Vehicles	135.4	80%
Imports	Region \$	Intra +4 %
Components - Supplier	155.3	86%
Components - OEM	23.6	77%
Vehicles	180.9	93%



Big 4 = Germany, Japan, Korea and China



Components - Supplier	Total \$	Canada	USA	Mexico	Other
Exports	109.8				
Canada	<b>13.0</b>		<b>12.0</b>	<b>0.4</b>	<b>0.6</b>
Foreign owned	11.1		10.5	0.2	0.4
<i>USA (UBO)</i>			<i>7.0</i>	<i>0.1</i>	<i>0.2</i>
<i>Japan (UBO)</i>			<i>2.2</i>	<i>0.1</i>	
<i>Germany (UBO)</i>			<i>1.1</i>		<i>0.2</i>
<i>Other (UBO)</i>			<i>0.2</i>		
Domestic owned	1.9		1.5	0.2	0.2
Domestic MNE	0.0		0.0	0.0	0.0
Mexico	<b>37.8</b>	<b>1.1</b>	<b>33.9</b>		<b>2.8</b>
Foreign owned		1.1	31.2		2.8
<i>USA (UBO)</i>		<i>1.1</i>	<i>21.2</i>		<i>0.0</i>
<i>Japan (UBO)</i>			<i>5.2</i>		<i>1.3</i>
<i>Germany (UBO)</i>			<i>4.8</i>		<i>1.5</i>
<i>Other (UBO)</i>			<i>0.0</i>		<i>0.0</i>
Domestic owned		0.0	2.7		0.0
Domestic MNE		0.0	0.0		0.0
USA	<b>59.0</b>				



# Core versus extended – accounts and integrated business, trade and investment statistics

National versus Global

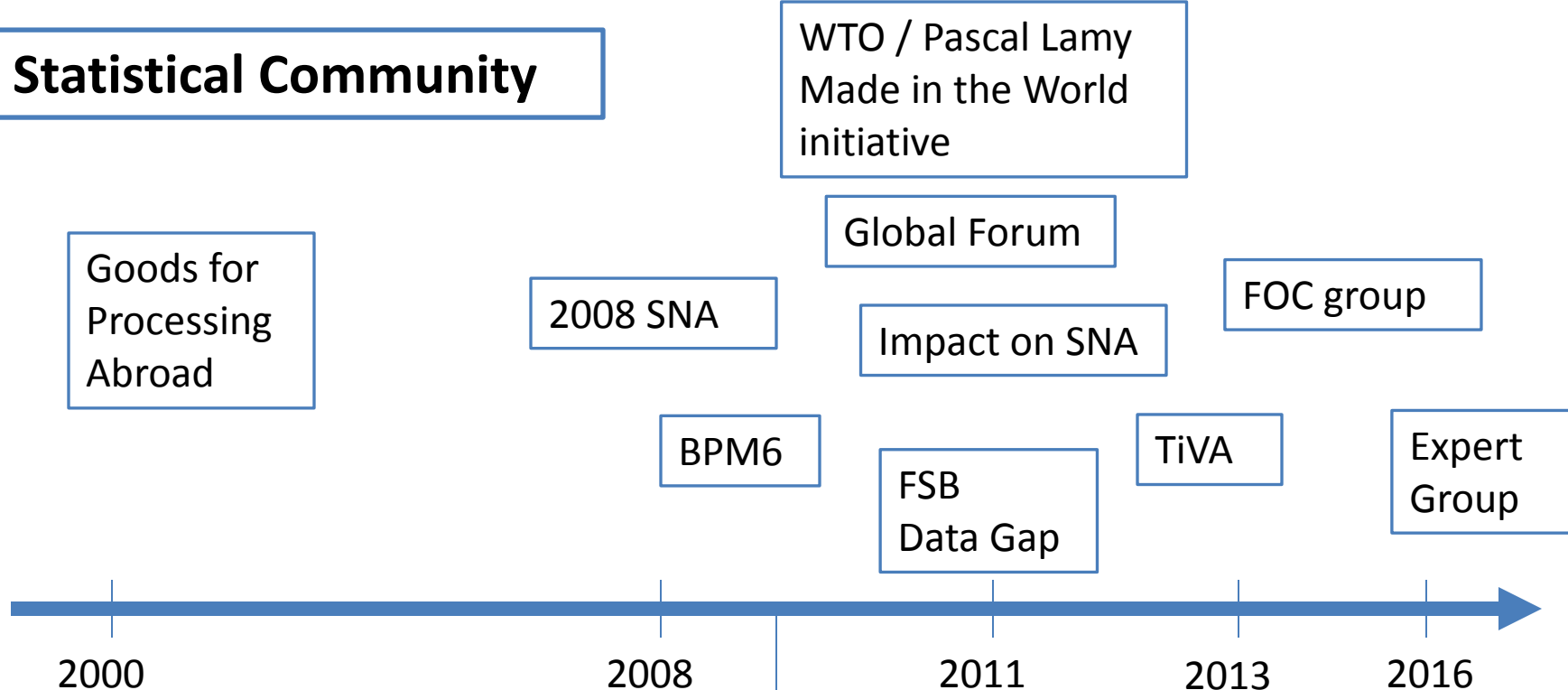
**Core national accounts, micro-data linking:**  
trade, investment, business statistics

**Extended national accounts, micro-data GVC analysis**  
with firm heterogeneity; trade, investment, business and MNE statistics; business functions outsourcing

**Core global SUTs**  
WIOD, TiVA, FIGARO  
Globalization indicators, foreign content of exports

**Extended global SUTs** firm heterogeneity (foreign ownership, size and trade intensity)

# Statistical Community



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