

## ITALIAN FIRMS IN INTERNATIONAL PRODUCTION NETWORKS

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ITALIAN TRADE AGENCY  
ICE - Agenzia per la promozione all'estero e  
l'internazionalizzazione delle imprese italiane



# Outline

- Italian firms in IPNs: research and policy issues
- Empirical approach
- Results
- Implications for trade promotion organizations
- Outstanding statistical needs

# Italian firms in international production networks

- What do we know?
  - The participation of the Italian economy in international production networks (IPNs) is more or less in line with other major European economies and higher than the world average, particularly in the manufacturing industry
  - Participating in IPNs improves productivity and competitiveness of Italian firms, and this advantage is higher for firms producing final goods and for firms characterized by more complex internationalization strategies
  - Comparative advantages of the Italian pattern of specialization have been strengthened by the participation in IPNs, even if the centrality of the Italian economy in the world trade network is lower than in the past, as a result of the increasing centrality of Asian countries

# Italian firms in international production networks

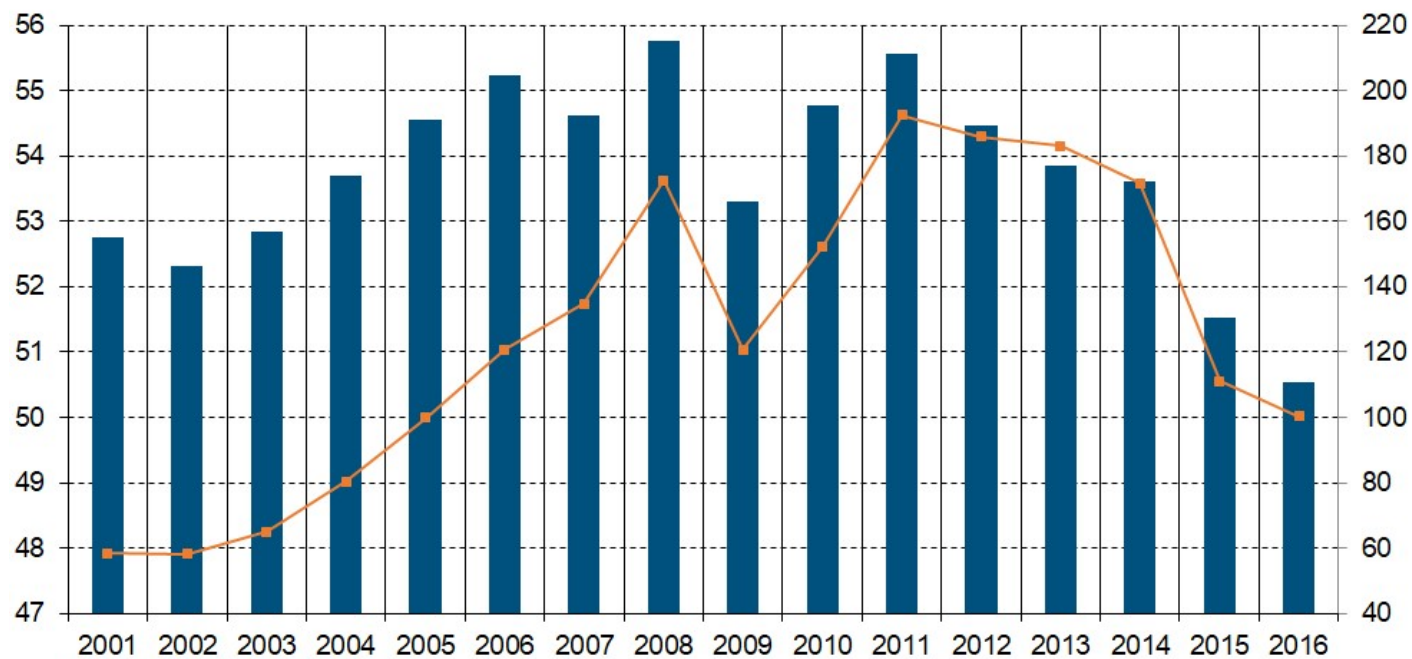
- What would we like to understand better?
  - To what extent do Italian firms, at the micro level, participate in IPNs?
  - How to explain the organization of IPNs and their geographic extension?
  - What are the effects of trade barriers on the functioning of IPNs?
  - What are the effects of participation in IPNs on firm competitiveness and performance?
  - How to devise policy tools that can be effective in promoting SMEs' participation in IPNs?

# Empirical approach

- Main statistical sources to study IPNs
  - Data on trade in intermediate goods
  - Data on foreign direct investment and the activities of multinational enterprises
  - International input-output tables
  - Case studies
- The Report's approach
  - Survey of empirical literature
  - Data on trade in *processed* intermediate goods
  - Micro-data on trade in 'made in Italy' products
  - Three case studies
    - Motor vehicles
    - Electrical appliances
    - Suppliers

Intermediate goods account for more than half of world trade and this share fluctuates with the price of commodities.

**World trade in intermediate goods and the price of commodities**

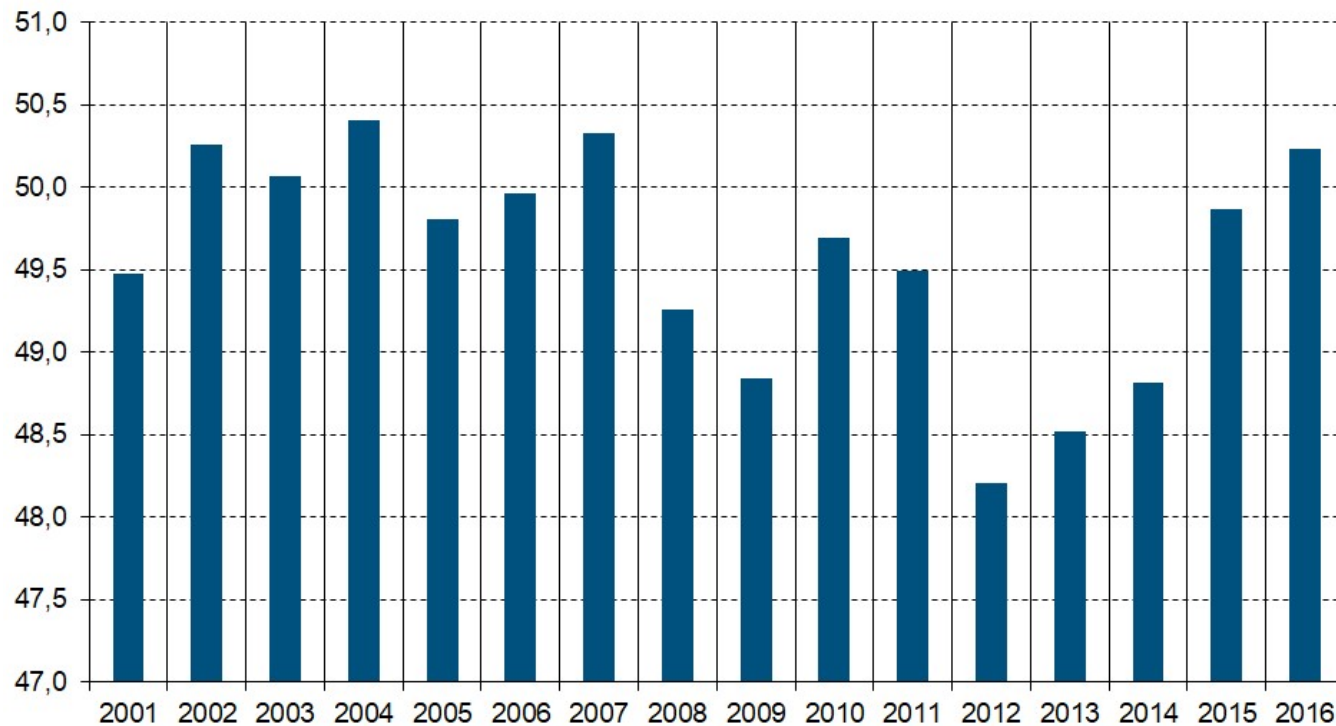


Source: ITA based on IMF and OECD data.

- Intermediate goods' share of world trade in goods (percentages at current prices, left scale)
- IMF Commodity Price Index 2005=100 (right scale)

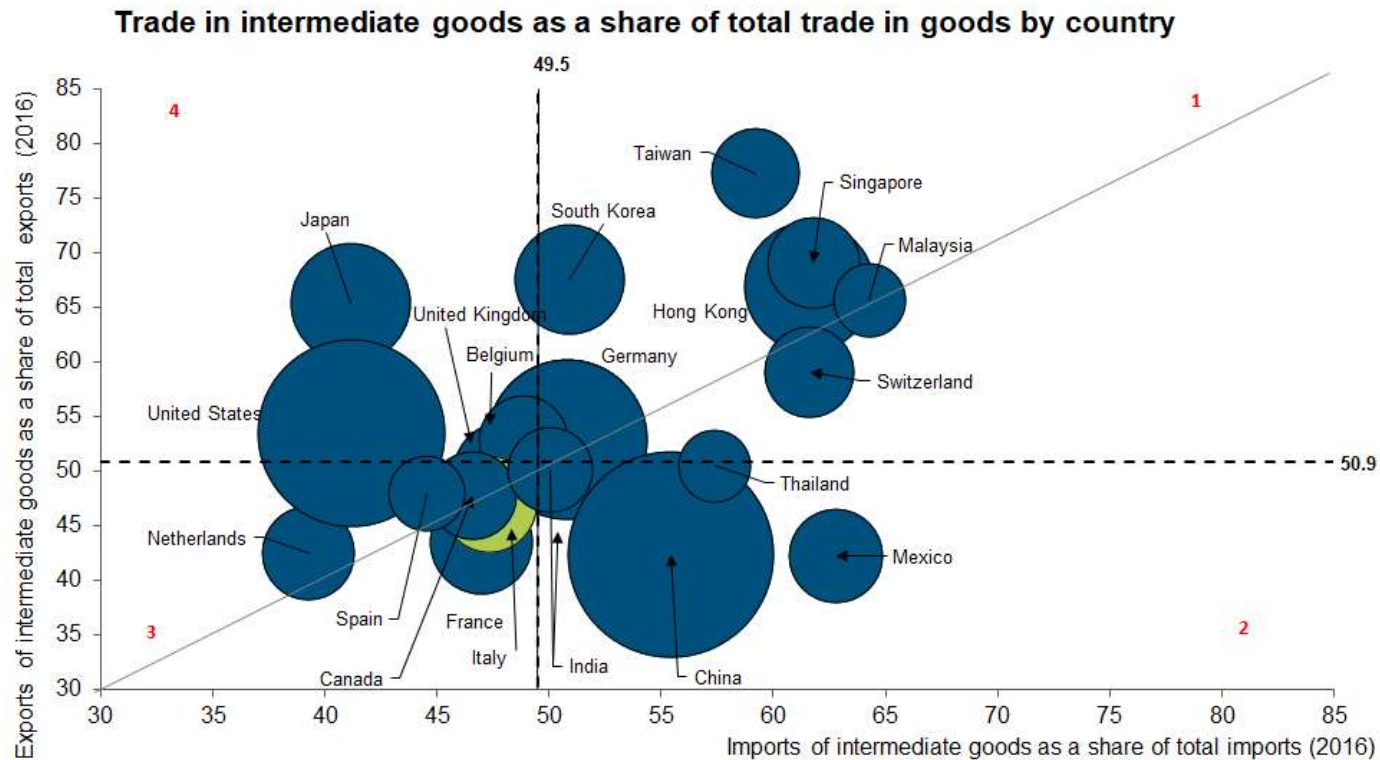
Trade in parts and components was heavily hit by the global crisis, but has been recovering since 2012.

**World trade in processed intermediate goods as a share of total trade in goods**  
Percentage shares of total world trade, net of items not classified by Broad Economic Category



Source: ITA based on OECD data.

Countries differ in their relative position in trade of processed intermediate goods.



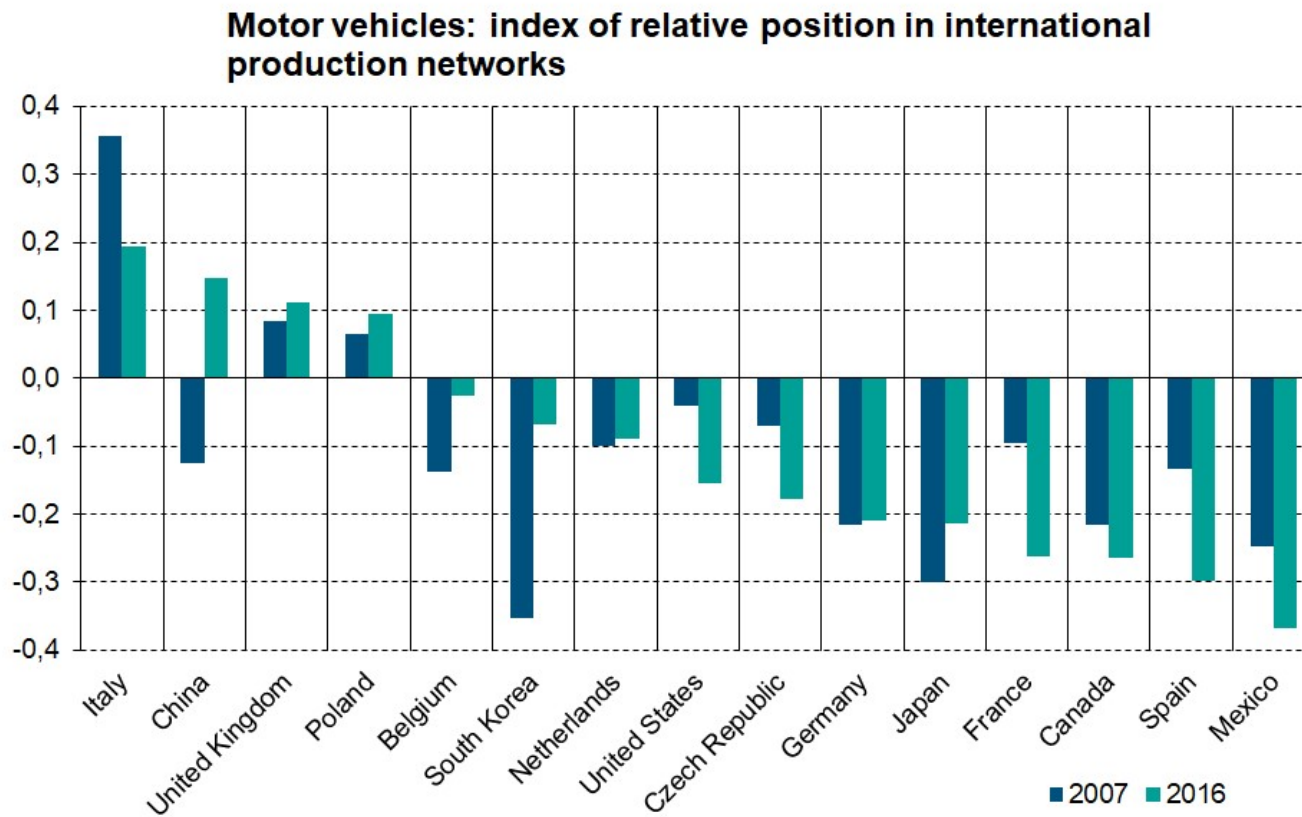
Source: ITA base on data from National Statistical Institutes.

The size of the bubbles measures each country's share of all reporting countries' trade in intermediate goods in 2016. The dotted lines refer to the total of reporting countries. Total trade excludes products not classified by Broad Economic Categories.



IPNs in motor vehicles:

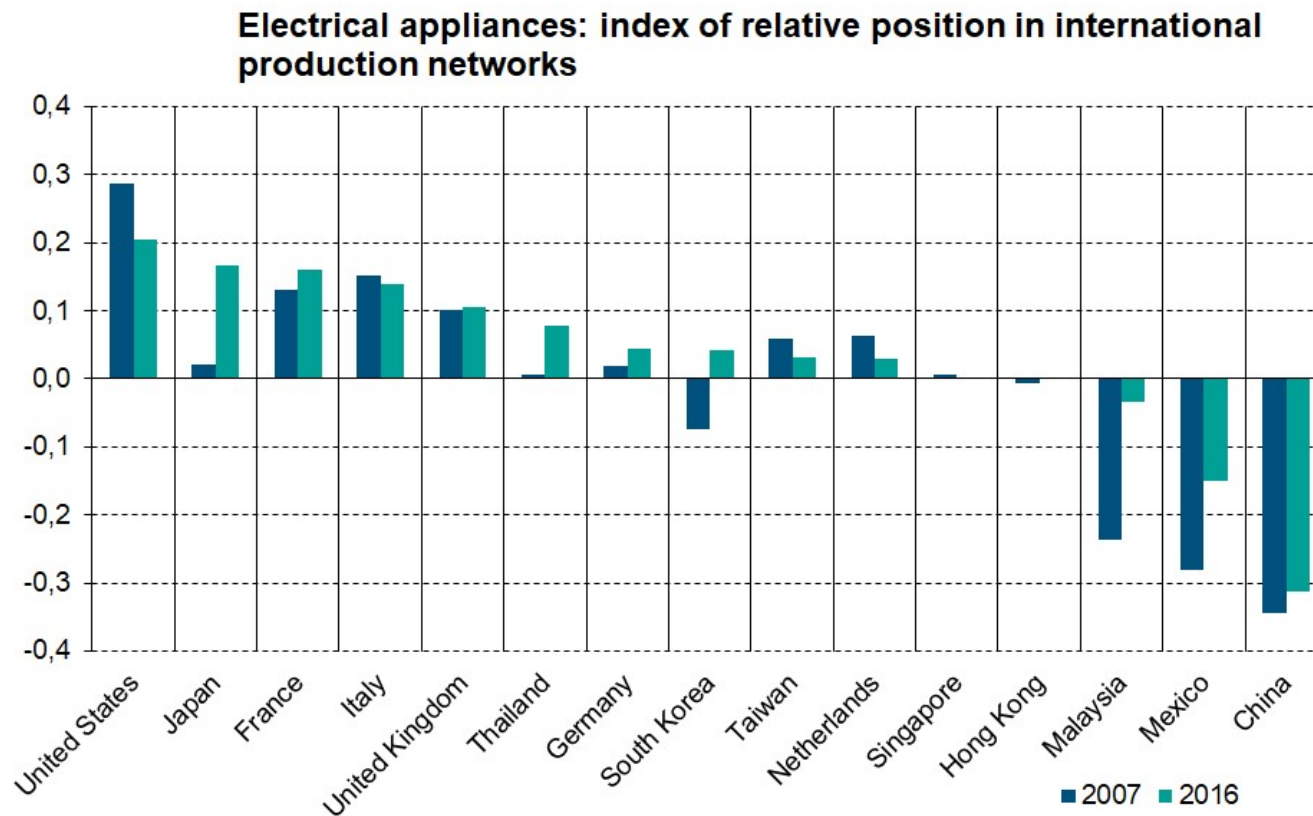
- China's position changed significantly during the crisis;
- Italy stands out for its relative upstream specialization.



Source: ITA based on data from National Statistical Institutes

## IPNs in electrical appliances:

- Emerging countries tend to be specialized in downstream productions;
- Developed economies, including Italy, tend to be more upstream oriented.

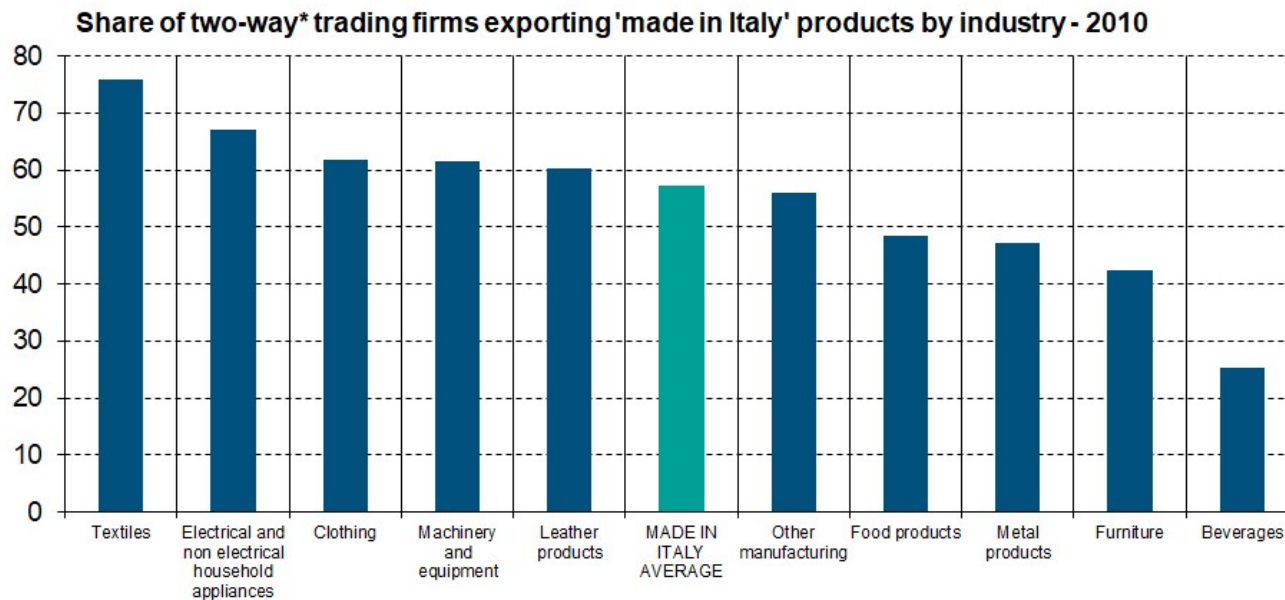


Source: ITA based on data from National Statistical Institutes

# A study of micro-data on trade in 'made in Italy' products

- 26,854 manufacturing firms exporting mostly 'made in Italy' products
  - Food
  - Textile-clothing
  - Leather-footwear
  - Furniture and household appliances
  - Mechanical equipment
- They do not necessarily belong to 'made in Italy' industries and account for 43% of Italian manufacturing exports in 2010
- Focus on 'two-way' trading firms, i.e. firms reporting both exports and imports of 'made in Italy' products, belonging to 'made in Italy' industries

Two-way trading firms represent a significant share of total firms in 'made in Italy' industries.

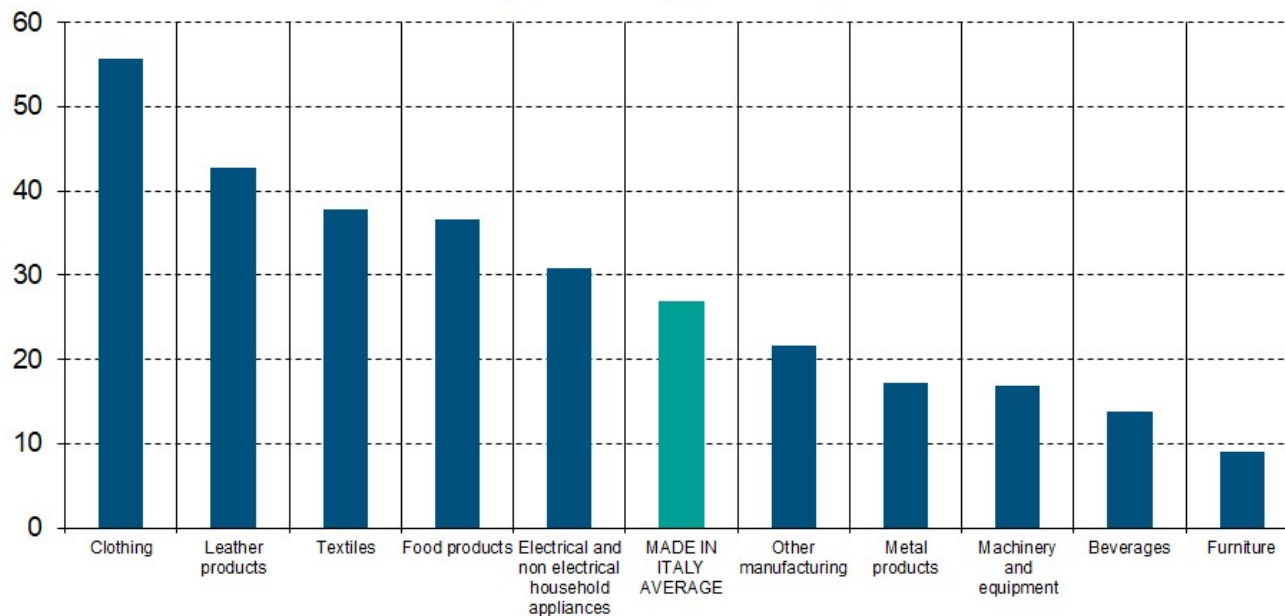


\* Number of firms reporting both exports and imports as a percentage of the total number of firms in each industry. The 'made in Italy' average refers to the ten industries shown in the graph, accounting for about 90% of exports of 'made in Italy' products.

Source: ITA based on Istat data.

Import content of exports can be seen as an indicator of downstream participation in IPNs.

Import content of exports from two-way trading firms exporting 'made in Italy' products, by industry - 2010



\* Percentage ratio between imports and exports reported by firms exporting 'made in Italy' products in each industry. The 'made in Italy' average refers to the ten industries shown in the graph, accounting for about 90% of exports of 'made in Italy' products.

Source: ITA based on Istat data.

# Case studies

- Three case studies, based on detailed interviews of Italian firms (or foreign-controlled firms located in Italy) operating in *producer-driven IPNs*
  - 10 firms producing electrical appliances for household/professional use
  - 10 firms producing transportation equipment (motor vehicles, motor cycles, ships and yachts)
  - 28 supplying firms
- Research issues
  - degree of internationalization of core business functions (production/assembly) and of the related supporting functions (procurement, research and development, marketing, distribution, after-sales services, ICTs)
  - role of ICT in facilitating the participation of supplying firms in IPNs
  - role of Trade Promotion Organisations (TPOs) in promoting firms' participation in IPNs

Purchases of intermediate inputs account for a large share of firms' total turnover: lead firms are “big assemblers” and value chains are producer-driven.

COSTS BY BUSINESS FUNCTION		
Percentage shares of total revenue		
Business functions	Electrical appliances	Motor vehicles
<b>Core function</b>		
Production/assembling of final goods	22.0	27.1
<b>Other functions</b>		
Sourcing of raw materials, intermediate goods and components	48.5	56.2
Research & development, innovation, design	2.5	2.8
Information and communication technologies (ICTs)	1.0	0.6
Marketing	2.8	1.9
Distribution, transportation, storage	3.3	1.4
After-sales services	2.2	1.1
Other (1)	17.8	9.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>

(1) general costs, financial expenses, contribution margin

# Make or buy? In Italy or abroad?

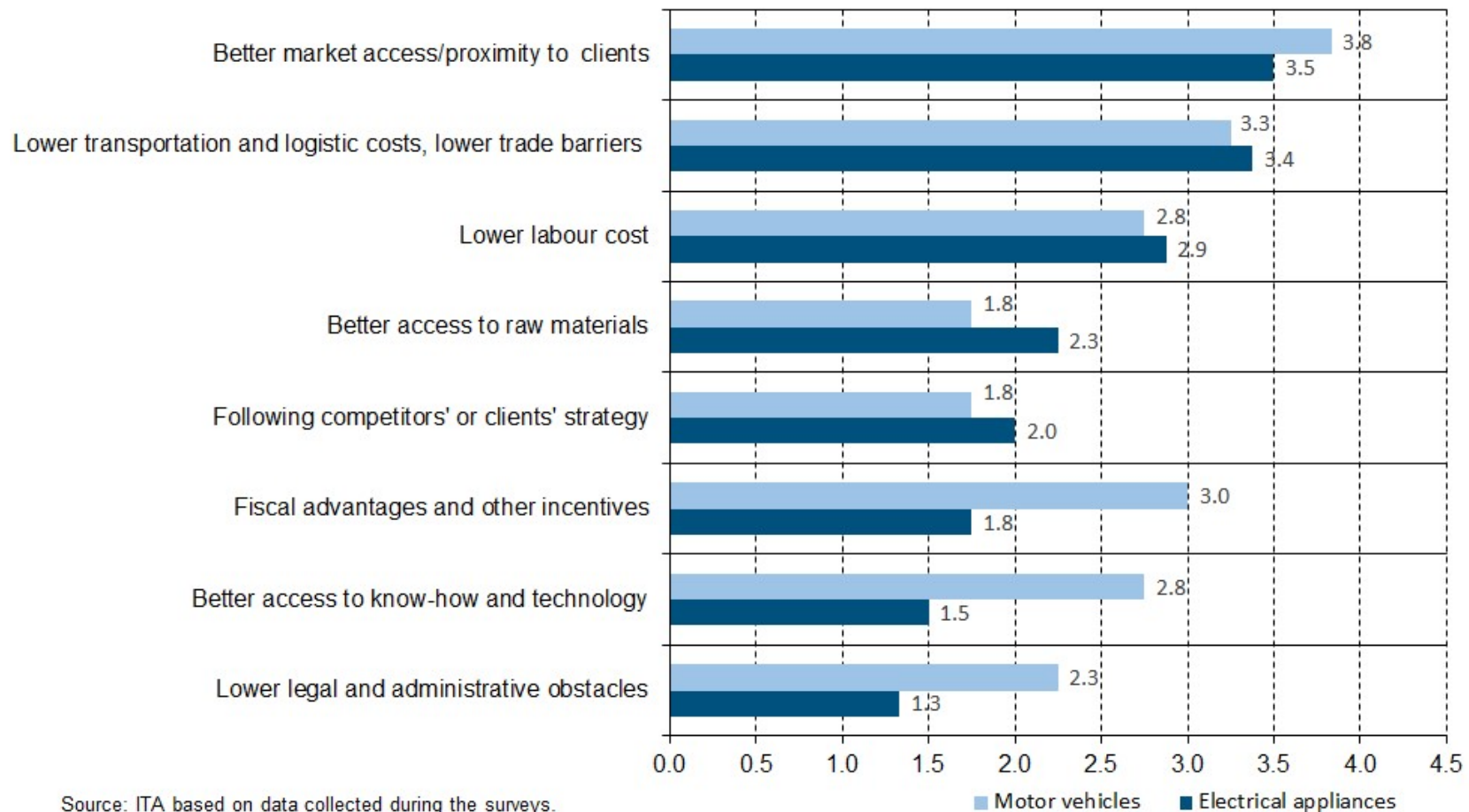
Business function costs by geographic location and organizational choice								
Percentage shares of total cost by business function								
		Italy			Abroad			TOTAL
Business functions		A) performed within the firm/group	B) performed by independent suppliers (ownership below 10%)	Total (A+B)	C) performed by foreign subsidiaries (ownership over 10%)	D) performed by independent suppliers (ownership below 10%)	Total (C+D)	
<b>Core function</b>								
Production/assembly of final goods	Motor Vehicles	65.8	20.8	86.7	12.7	0.7	13.3	100.0
	Electrical Appliances	66.2	7.2	73.4	21.7	4.9	26.6	100.0
<b>Other functions</b>								
Sourcing of raw materials, intermediate goods and components	Motor Vehicles	16.0	50.0	66.0	8.6	25.4	34.0	100.0
	Electrical Appliances	1.2	67.2	68.4	4.8	26.9	31.6	100.0
Research & development, innovation, design	Motor Vehicles	74.0	20.0	94.0	6.0	0.0	6.0	100.0
	Electrical Appliances	78.4	17.1	95.5	4.5	0.0	4.5	100.0
Information and communication technologies (ICTs)	Motor Vehicles	51.3	39.3	90.5	0.0	9.5	9.5	100.0
	Electrical Appliances	37.8	58.1	95.9	2.2	1.9	4.1	100.0
Marketing	Motor Vehicles	68.8	13.0	81.8	6.3	12.0	18.3	100.0
	Electrical Appliances	49.9	28.6	78.5	9.2	12.3	21.5	100.0
Distribution, transportation, storage	Motor Vehicles	22.5	51.0	73.5	1.3	25.3	26.5	100.0
	Electrical Appliances	13.7	63.5	77.2	1.0	21.8	22.8	100.0
After-sales services	Motor Vehicles	1.5	50.0	51.5	48.5	0.0	48.5	100.0
	Electrical Appliances	21.3	46.3	67.5	20.0	12.5	32.5	100.0



# Productive FDI is mostly aimed at improving market access and, to a lesser extent, at reducing costs

## Main determinants of foreign direct investment location choices

Simple mean of evaluations; scale from 1 (very low importance) to 4 (very high importance)



Source: ITA based on data collected during the surveys.

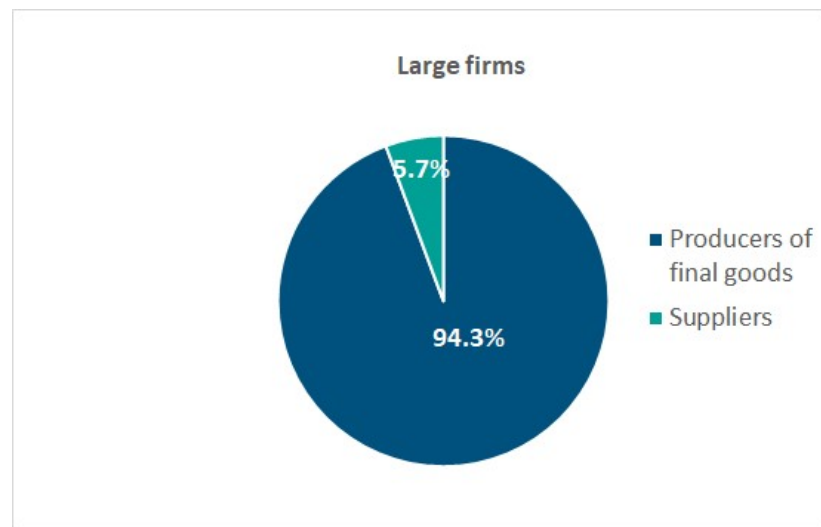
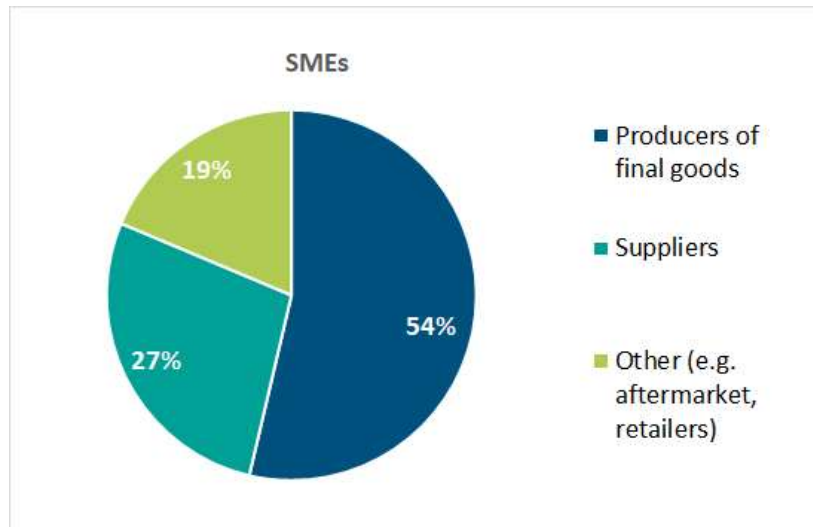
Value chains are modular or relational.

The degree of vertical coordination between lead firms and suppliers is higher with domestic suppliers, particularly in motor vehicles.

<b>Suppliers' classification according to the main input provided</b>				
Percentages computed as simple averages of the answers obtained				
	Electrical appliances		Motor vehicles	
	Italian suppliers	Foreign suppliers	Italian suppliers	Foreign suppliers
Standard inputs	31%	49.5%	16.4%	35%
Customized inputs (co-projecting, co-design, etc.)	69%	51.5%	83.6%	65%
Source: ITA based on data collected during the surveys.				

Large suppliers tend to be more directly connected to producers of final goods.

**Firms' position in the supply chain based on their customer type**  
Percentage shares of sales by customer type



Co-operation between clients and suppliers appears to be less frequent across the lower levels of the “supplier pyramid”, especially in the case of smaller sized subcontractors.

**Clients' classification according to the main input supplied**

Percentages computed as simple averages of the answers obtained

	Large firms		SMEs	
	Italian clients	Foreign clients	Italian clients	Foreign clients
Standard inputs	8.3%	13.3%	50%	48.8%
Customized inputs (co-projecting, co-design, etc.)	91.7%	86.7%	50%	51.2%

Source: ITA based on data collected during the surveys.

**Suppliers' classification according to the main input provided**

Percentages computed as simple averages of the answers obtained

	Large firms		SMEs	
	Italian suppliers	Foreign suppliers	Italian suppliers	Foreign suppliers
Standard inputs	56.7%	70%	66.5%	77.6%
Customized inputs (co-projecting, co-design, etc.)	43.3%	30%	33.5%	22.4%

Source: ITA based on data collected during the surveys.

# General conclusions from the case studies

- Leading firms in the electrical appliances and motor vehicles sectors are «big assemblers»: the sourcing function is the task with the highest share on turnover.
- Value chains in both industries are producer driven and their governance is mainly modular or relational.
- Firms' heterogeneity matters.
  - SMEs prefer lighter form of internationalisation. They source more regionally, while their production activities abroad are mainly carried out in extra-regional countries, from where they import back to Italy.
  - Large companies have articulated internationalisation strategies. Their sourcing and production activities abroad are more extra-regional. They generally use foreign affiliates as export platform.

# The role of trade promotion organizations

- Firms were asked:
  - whether they are aware of the different forms of public support offered by the Italian government;
  - whether they have benefitted of any public measure or service;
  - which measures and types of services they would consider more useful.
- «Traditional» trade promotion services appear to be more appealing for SMEs.
- Large companies would need public support when establishing or expanding their presence abroad, for example in:
  - finding local suppliers;
  - fostering the internationalization of their Italian suppliers.
- Companies would be interested in «import promotion services» and stressed the importance of FDI attraction policies.

# Outstanding statistical needs

- A more precise distinction between final and intermediate goods and services in trade statistics
- A consistent integration of trade statistics, international input/output tables, and data on the activities of multinational enterprises
- Micro-data on the geographic location and organization of business functions, based on representative surveys
- Making firms' access to public support measures conditional to providing an independent authority with all the data needed to assess their effectiveness