

# Towards better measuring the international organization of enterprises:

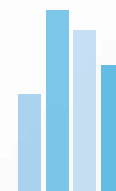
## The concept of Business Functions

UN Expert Group on International Trade and Economic Globalisation Statistics

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# Today's Presentation

- **Business Functions**

- Background
- Definitions

- **Survey on International Organisation and Sourcing**

- Background and design
- Survey results

- **The Road ahead**

- Possible sources for measuring BF
- Proposal for revised list of BF



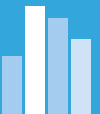
# A changing economic environment

- Globalisation driven by
  - Increased liberalisation of international trade and movement of capital (and individuals)
  - Technological development lowering costs of transportation, travel and communication
  - Rising importance of emerging economies (due to economic reform, demographics)
- Fragmentation of production driven by
  - ICT technologies enabling storing and transferring of know-how and services
- The interaction of the two creates
  - New ways of organising the production process across borders (international sourcing / offshoring)



# Statistics measuring economic globalisation

- Trade statistics (goods and services)
- Balance of Payments statistics
- FDI statistics
- FATS/AMNE statistics
- **TiVA**
- **International Sourcing statistics (including Business Functions concept)**



# What are Business Functions?

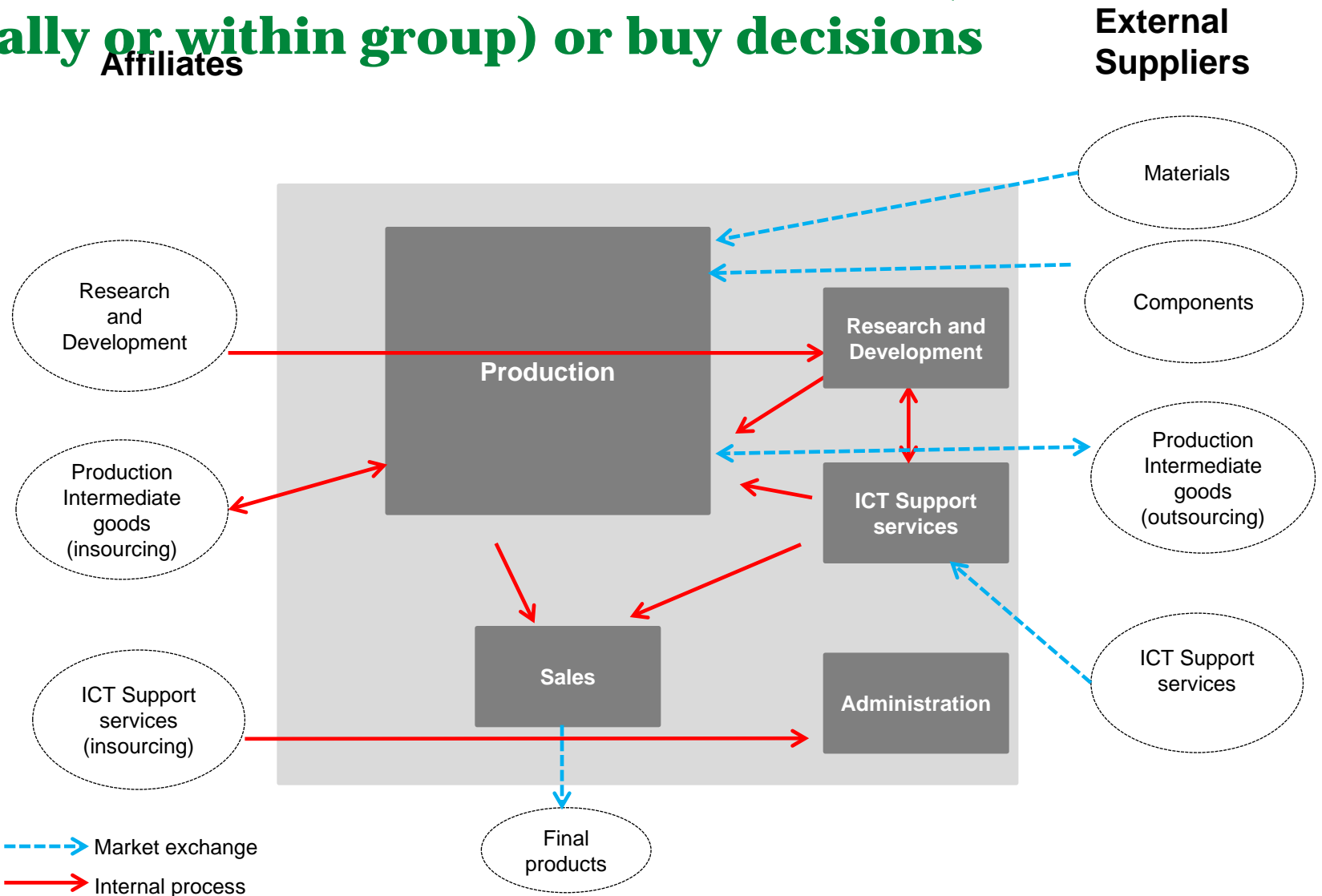
- Aggregation of specific tasks performed within the enterprise corresponding to a specific grouping of products (e.g. CPA classification)
- The level is less aggregated than the activity (NACE) but more aggregated than products or tasks
  - Trade-off: sufficient detail to capture fragmentation process vs. sufficient aggregation to be manageable for data collection
- Business Functions in practice mainly a tool to capture “outsourcable” services elements in the production processes
  - Any business function can be the main activity of an enterprise supplying others and can hence be related to a NACE category, i.e. functions can be related both to CPA and NACE



# Typology of Business Functions

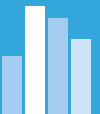
Business function	Definition
<b>Core business functions</b>	The core/primary business function of the firm. Generally the production of goods or services intended for the market or third-parties.
<b>Support Business Functions:</b>	
Transport, logistics and distribution support functions	A support function that includes activities related to procurement, transportation, warehousing and the delivery of goods and services to customers.
Marketing, sales, after sales service support function	A support function focusing on market analysis, advertising, selling, retail management, as well as activities related to repair, maintenance and customer services (including help desks and call centres).
IT services and software support functions	Activities related to data processing, software development and the provision of ICT services.
Management, administration, and back-office support functions	Activities associated with the administration of the firm, including legal, finance, accounting and human resources management.
R&D, engineering and related technical services and R&D support functions	This support function includes activities related to experimental development, research, design, engineering and related technical consultancy, technical testing, analysis and certification.
Other business functions	Activities related to building maintenance and security as well as other activities not belonging to specific firm-level business functions.

# Flows of Business Functions: Make (internally or within group) or buy decisions



# Use of Business Functions in statistics

- European Statistical System:
  - Survey on International Sourcing (2007)
  - Survey on international organization and sourcing of business functions (2012)
- Statistics Canada:
  - Survey of Innovation and Business Strategy (2009 and 2012)
- USA:
  - National Organizations Survey (2010)
- Korea:
  - Pilot: Automobile industry





# Correspondance list of Business Functions

2007 International Sourcing (Eurostat)	2012 International Sourcing/Global Value Chains Survey (Eurostat)	2010 National Organizations Survey (USA: Brown and Sturgeon)	2009/2012 Survey of Innovation and Business Strategy (Statistics Canada)	Proposed Business Function List (grey different from 2012 Eurostat IS/GVC survey)	Comments	
(7: 1 core and 6 support)	(6: 1 core and 5 support)	(8: 1 core and 7 support)	(14: 2 core and 12 support)	(12: 1 core and 11 support)		
Core business function	Core business function	Primary business function	Provision of services	Core business function	Can be goods or services, includes intermediate inputs	
			Production of goods			
Distribution and logistics	Distribution and logistics	Transportation, logistics, and distribution	Distribution and logistics	Manufacturing services	Increasingly used by "factoryless" manufacturing and non-manufacturing enterprises	
				Transport services	Physical transported (goods and passengers only): not ICT-enabled	
Marketing, sales and after sales services including help desks and call centers	Marketing, sales services and after sales services, incl. help desks and call centres	Customer and after-sales service	Call centers and help centers	Distribution and logistics services	Possibly ICT-enabled	
		Sales and marketing	Marketing, sales and after sales service	Customer contact (call) centres	Includes any dedicated customer contact function, including sales, help desk, and customer service; ICT enabled	
ICT services	ICT services	Information technology systems	Data processing	Marketing, sales and after sales service (except call centres)	These tend to be higher wage activities that could require market proximity; not likely to be ICT-enabled	
			Software development	Data processing	ICT-enabled, routine	
Administrative and management functions	Administrative and management functions	Management, administration, and back office functions	Information & comm. Tech. (ICT) services	Information & comm. Tech. (ICT) services	ICT Services	ICT-enabled, less routine
			Legal services	Administrative and back office functions	Management	Increasingly ICT-enabled, less routine
			Accounting and book-keeping			
			Human resource management			
			Financial management			
Engineering and related technical services	R&D, engineering and related technical services	Research and Development of Products, Services, or Technology	Engineering and related technical services	Engineering and related technical services (except R&D)	Increasingly ICT-enabled	
Research & Development			Research and development (R&D)	Research and development (R&D)	Increasingly ICT-enabled	
Other	Other	Facilities Maintenance	Other	Other	Other	
		Other				

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# Policy issues addressed

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How many jobs are moved across borders? Which type of jobs and in which sectors?

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Is there a risk of “hollowing out” skill based activities?

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To which destinations are mainly sourced?

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What is the impact of international sourcing on the competitiveness of European firms?

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What are the overall employment impacts – in terms of job losses or gains?



# Modules in the IS/GVC survey 2012

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General information

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Employment in domestic enterprises broken down by business functions

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International sourcing and relocation of business functions 2009–2011

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International organisation of activities in the enterprises' foreign affiliates 2011

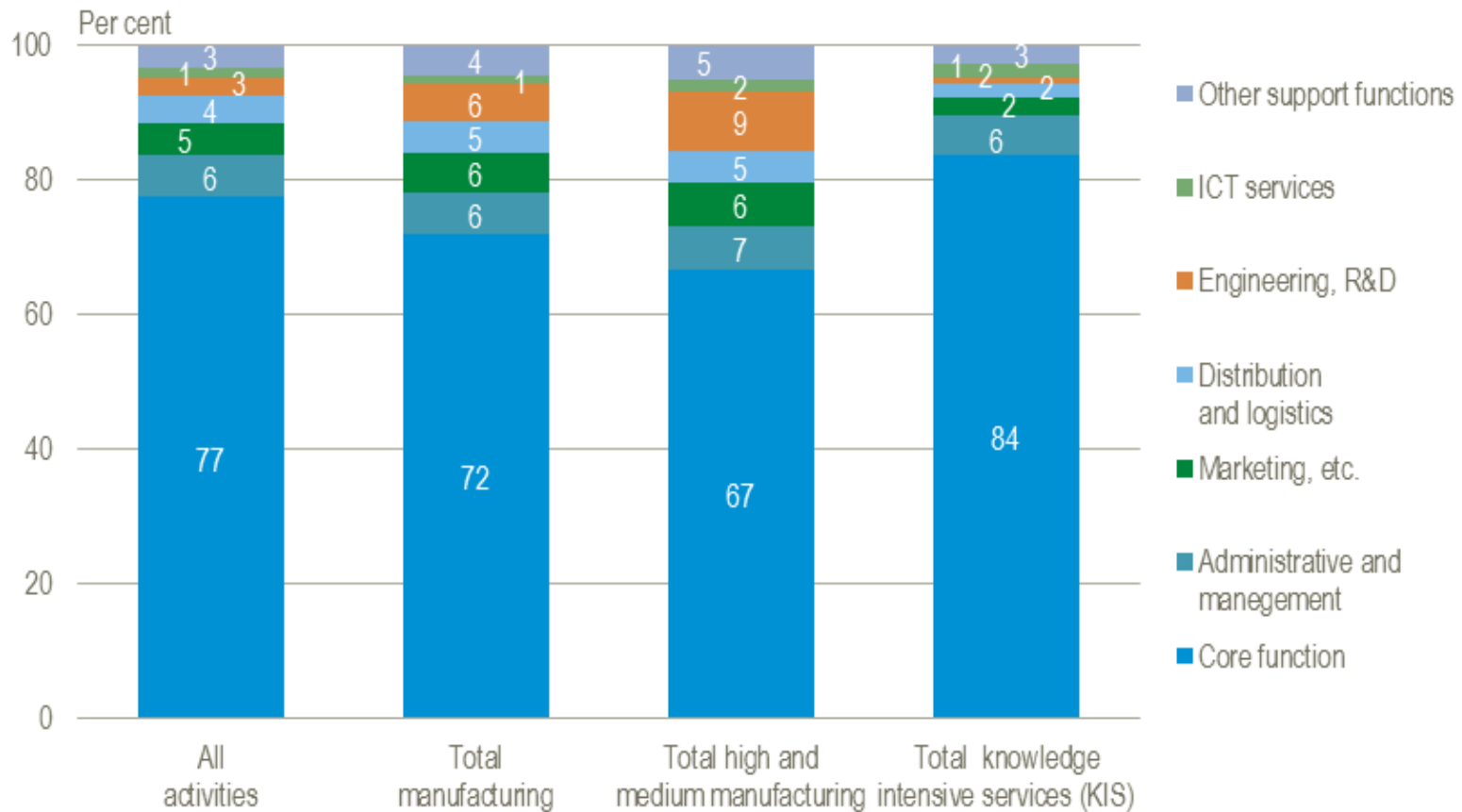
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Activities contracted to supplying enterprises abroad 2009–2011



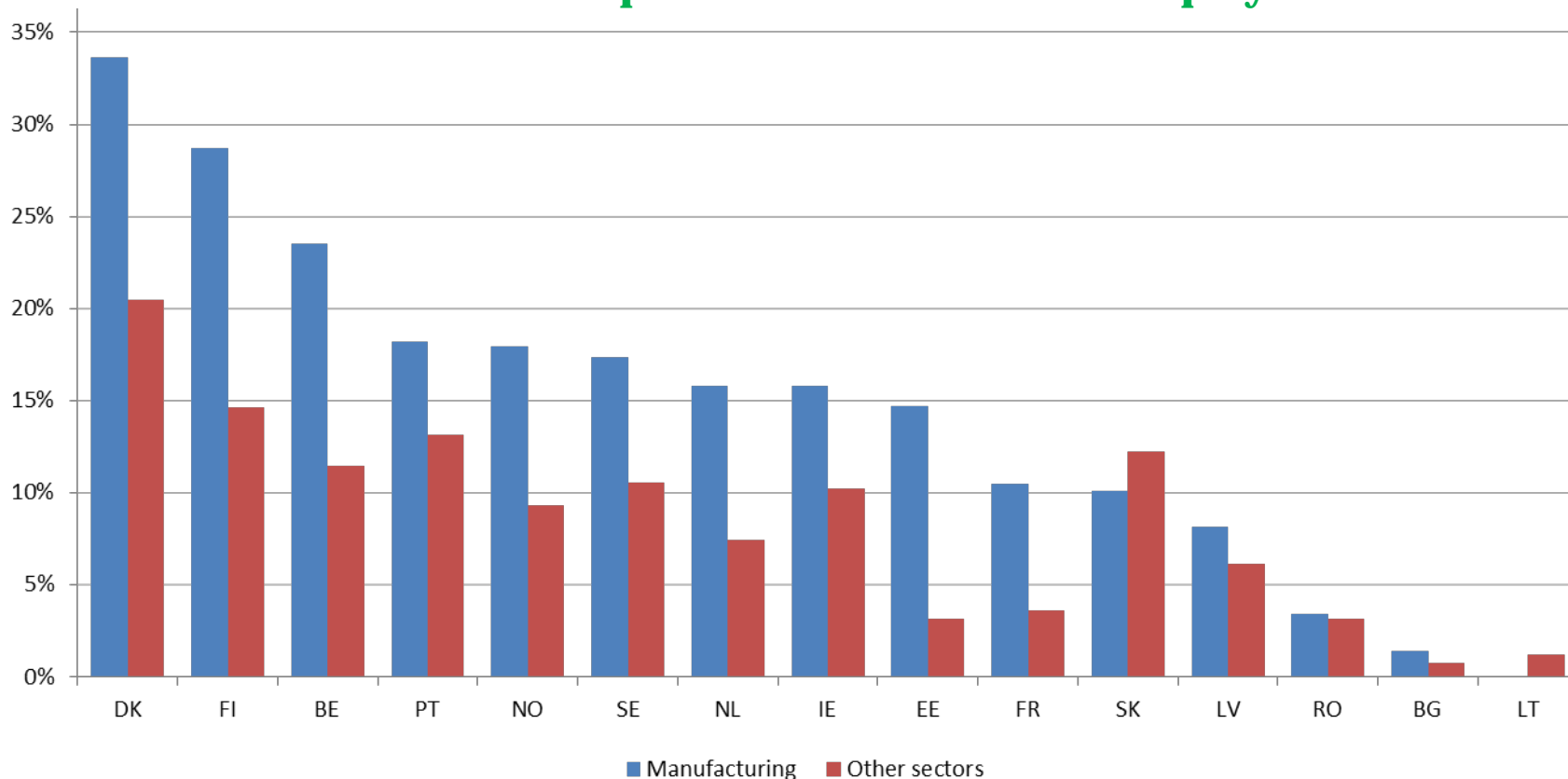
# Employment broken down by business function

## Enterprises with 100+ employees 2011



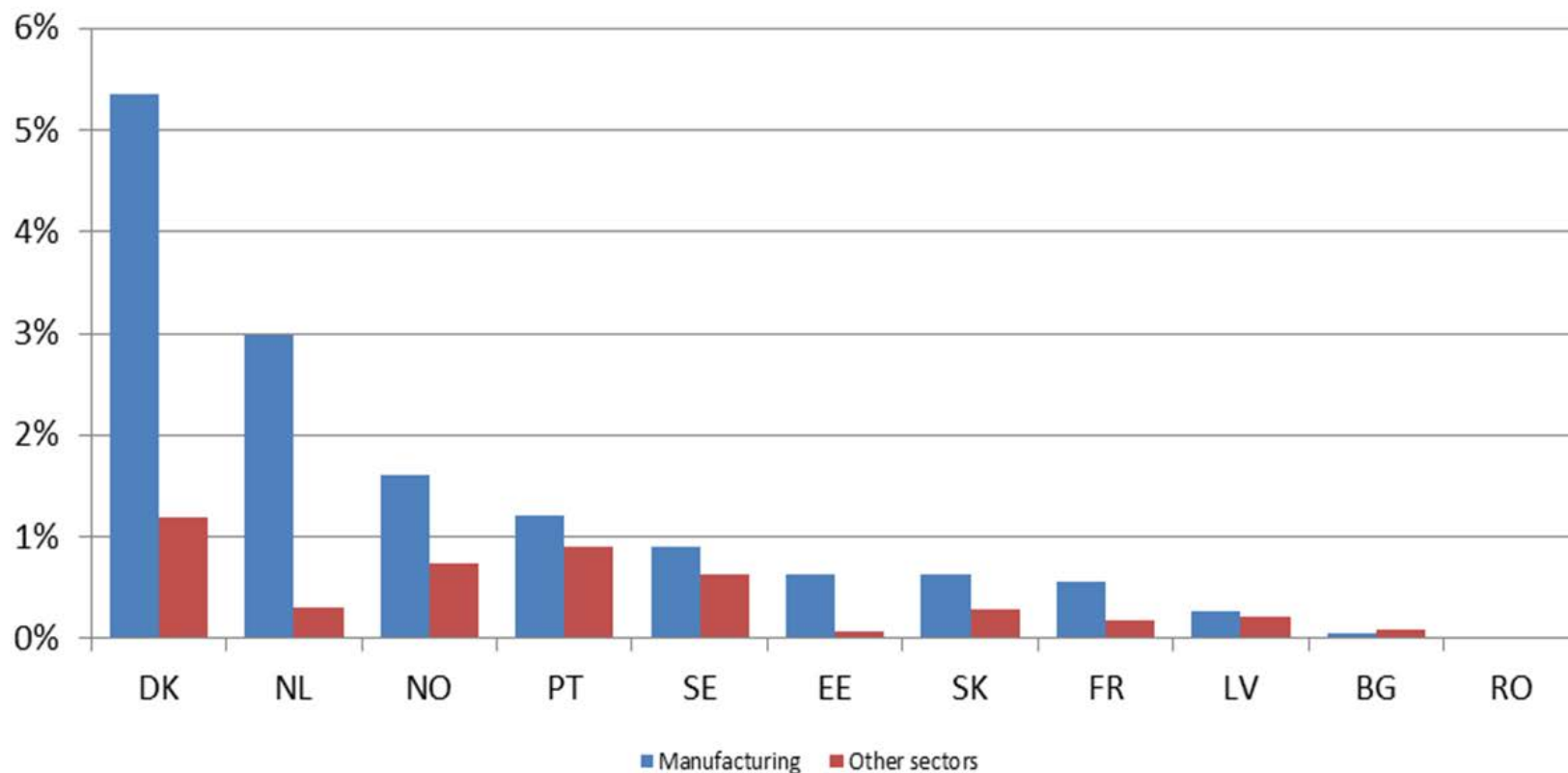
# Mainly manufacturing enterprises sourcing internationally

Enterprises sourcing internationally 2009-2011 by main sector.  
Share of total no. of enterprises with 100 or more employees



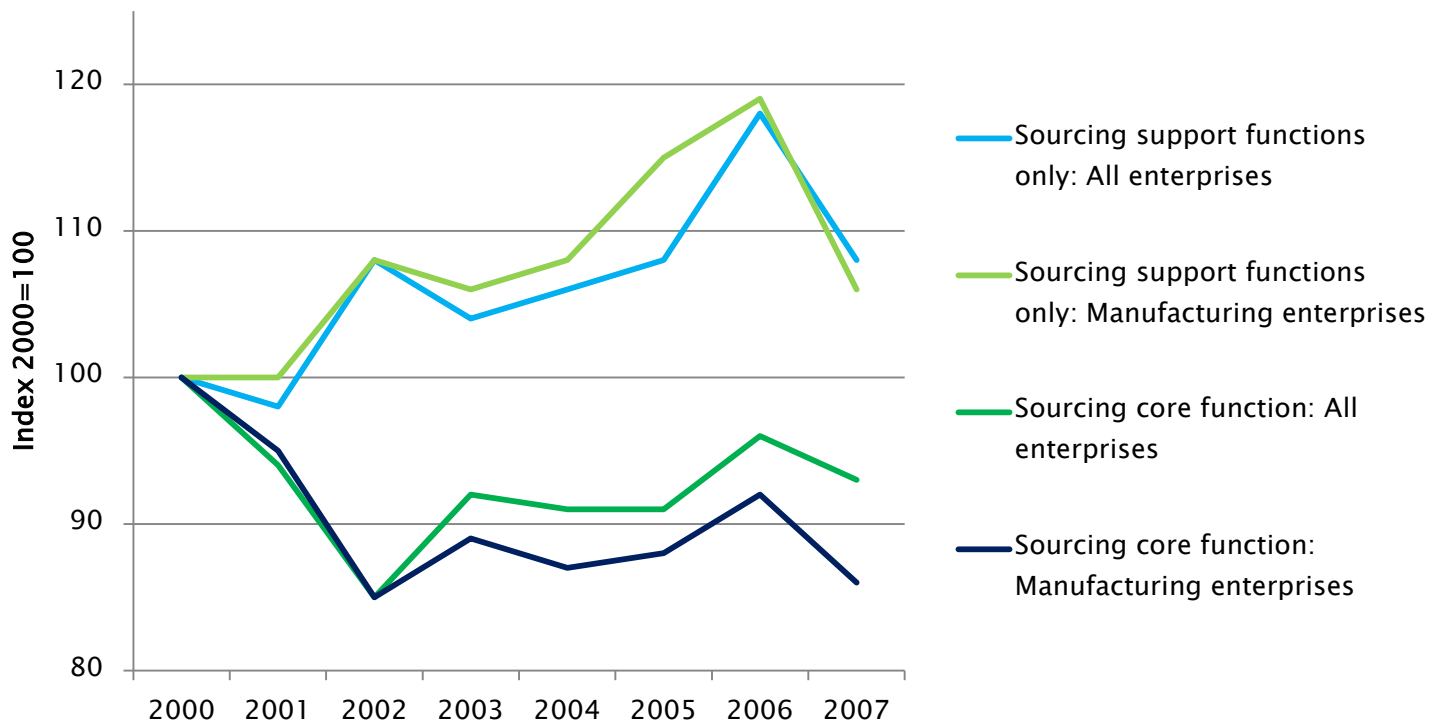
# Job losses due to international sourcing 2009 - 2011

(% of number of persons employed in enterprises with 100+ employees)



# Employment development by function sourced internationally

## Denmark, 2000-2007

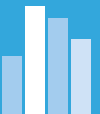
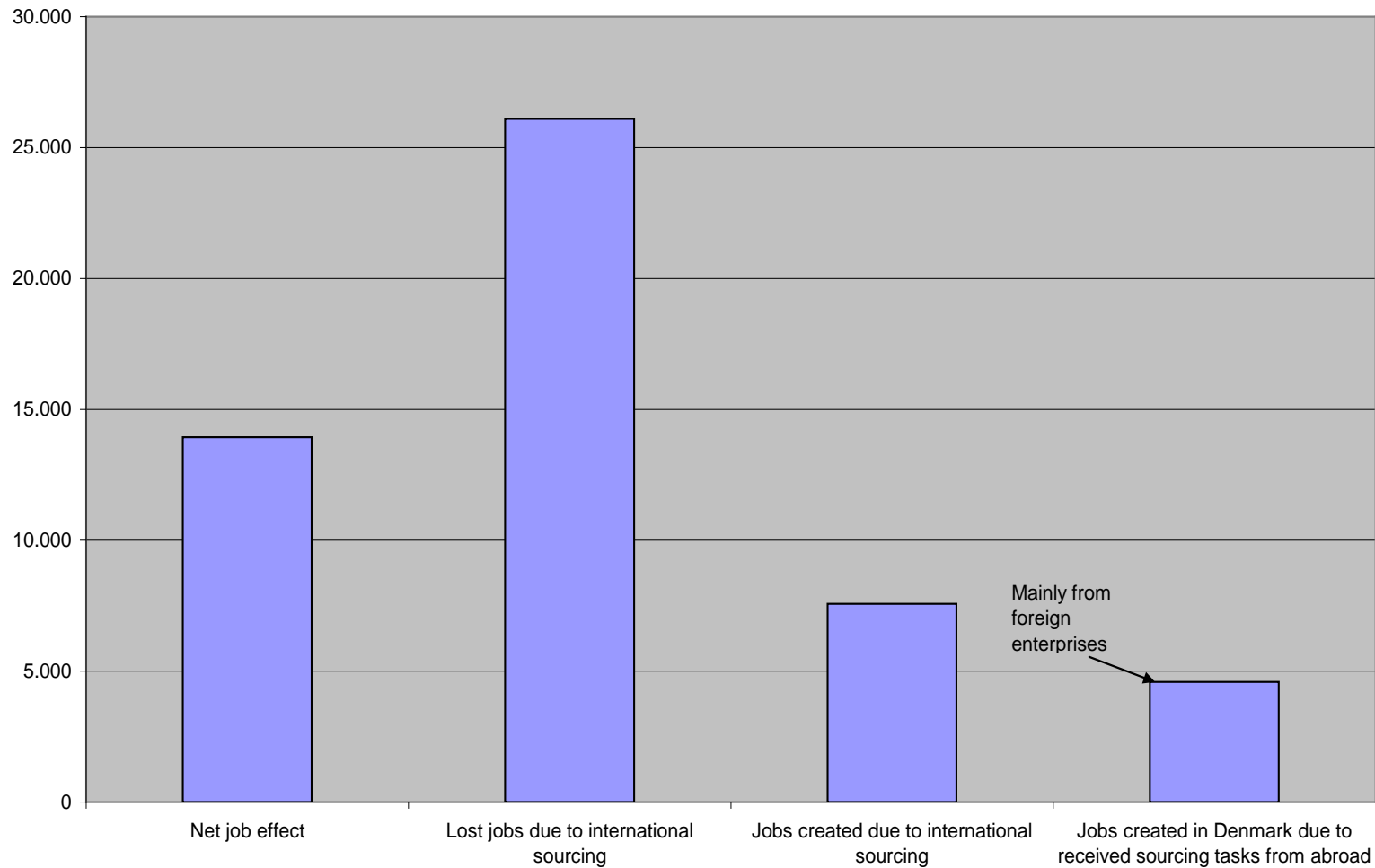


- Median values of full-time equivalent number of employees





# Net job effect of international sourcing of minor scale in Denmark



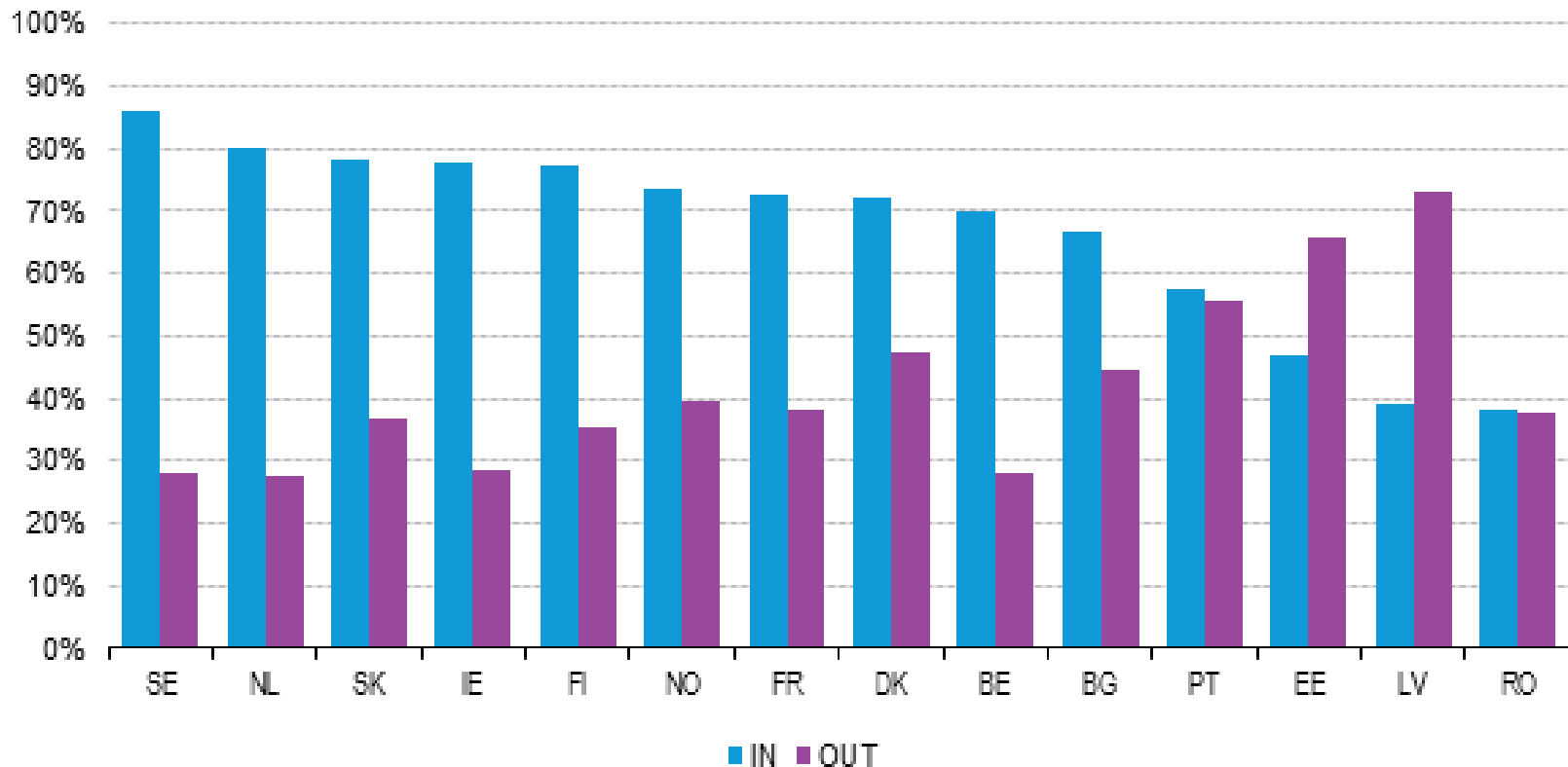
# International Sourcing dimensions

ORGANIZATION/CONTROL	LOCATION	
	DOMESTIC	INTERNATIONAL
<b>INTERNAL:</b> function within the enterprise or enterprise group	<p>EU terminology: Domestic insourced</p> <p>US terminology: Domestic in-house</p> <ul style="list-style-type: none"> <li>Function performed within the enterprise or enterprise group within the compiling country</li> </ul>	<p>EU terminology: International insourced</p> <p>US terminology: Offshore in-house</p> <p>Function performed within the enterprise group outside the compiling country (by affiliated enterprises)</p>
<b>EXTERNAL:</b> function outside the enterprise or enterprise group	<p>EU terminology: Domestic outsourced</p> <p>US terminology: Domestic outsourced</p> <p>Function performed outside the enterprise or enterprise group by non-affiliated enterprises and within the compiling country</p>	<p>EU terminology: International outsourced</p> <p>US terminology: Offshore outsourced</p> <p>Production outside the enterprise group and outside the compiling country (by non-affiliated enterprise, e.g., suppliers, service providers, contractors, etc.)</p>

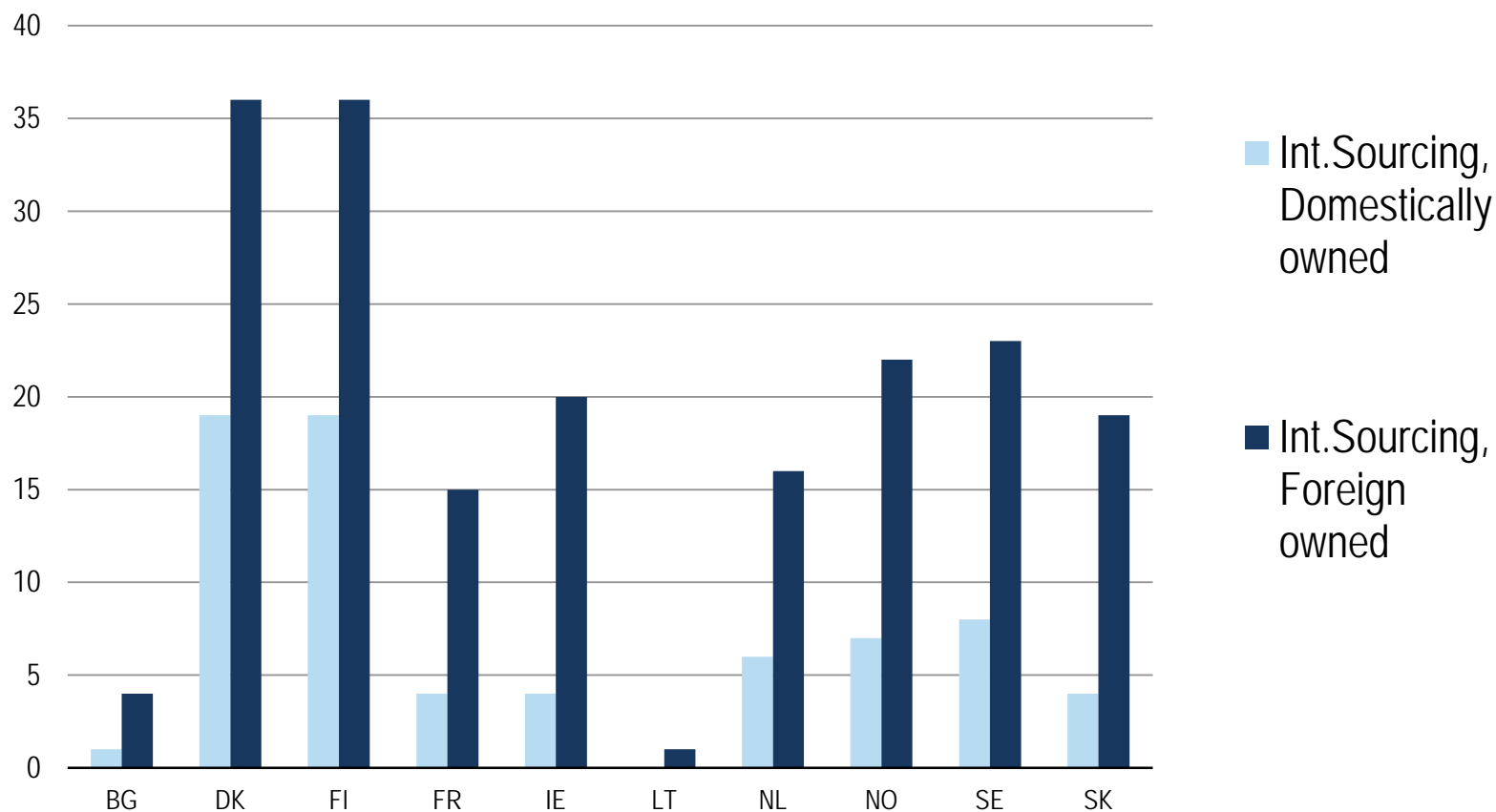


# Enterprises insourcing and outsourcing.

Percent of total number of enterprises sourcing Internationally. 2011

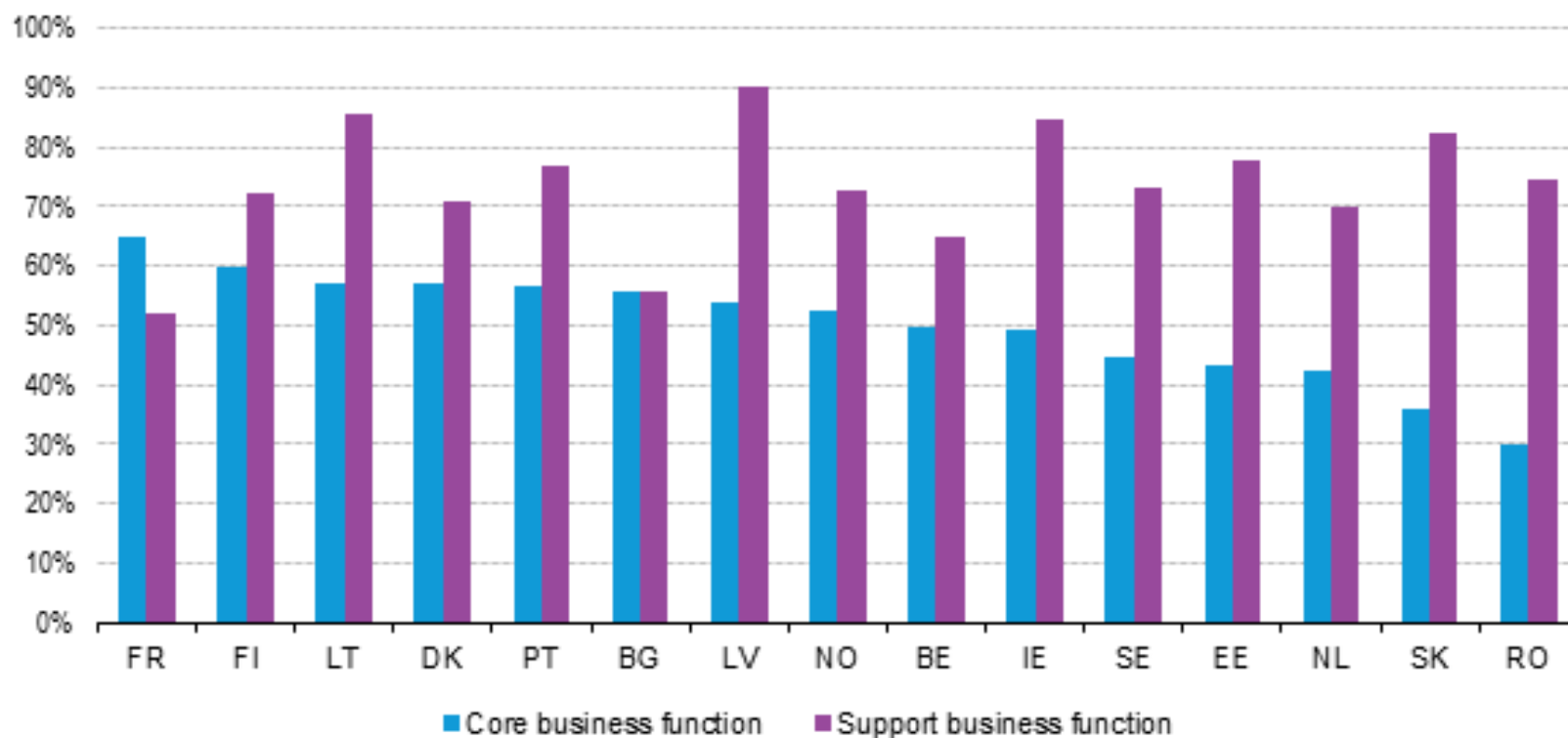


# Foreign owned enterprises source more frequently



# Support functions sourced most frequently

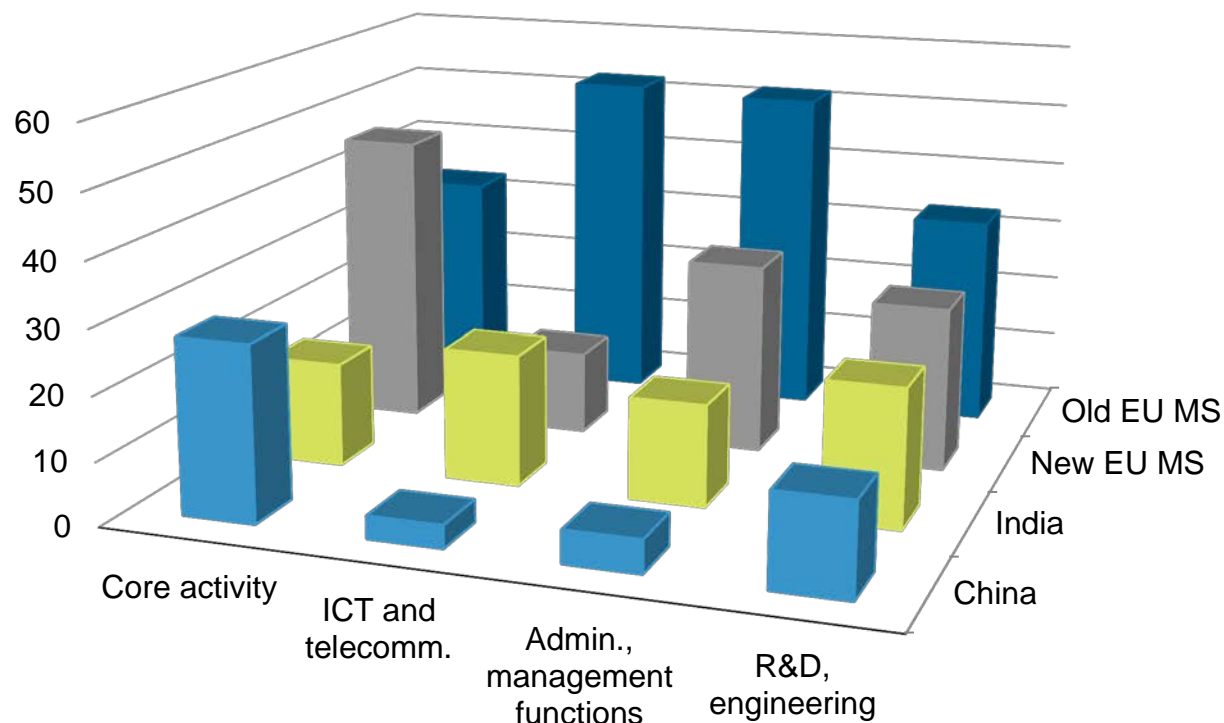
(% of enterprises sourcing internationally\*, 2009-2011)



\* Enterprises may source both core and support functions.

# Type of Business Function influences choice of destination

Destination shares of Danish enterprises sourcing internationally\*, 2009-2011.  
Selected functions



\* Enterprises may source more than one function and to more than one destination.

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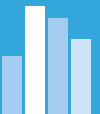
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# Possible sources for capturing Business Functions

- Dedicated surveys
- Utilising existing employment statistics:
  - Use occupational classification of employees to identify the organisation of enterprises by
- Utilising existing business statistics at micro level:
  - Use activity classification of (foreign/domestic) affiliates to understand the organisation of enterprise groups (Business Functions defined by main activity of affiliate)
  - Use trade information to identify international sourcing of business functions (especially support services)

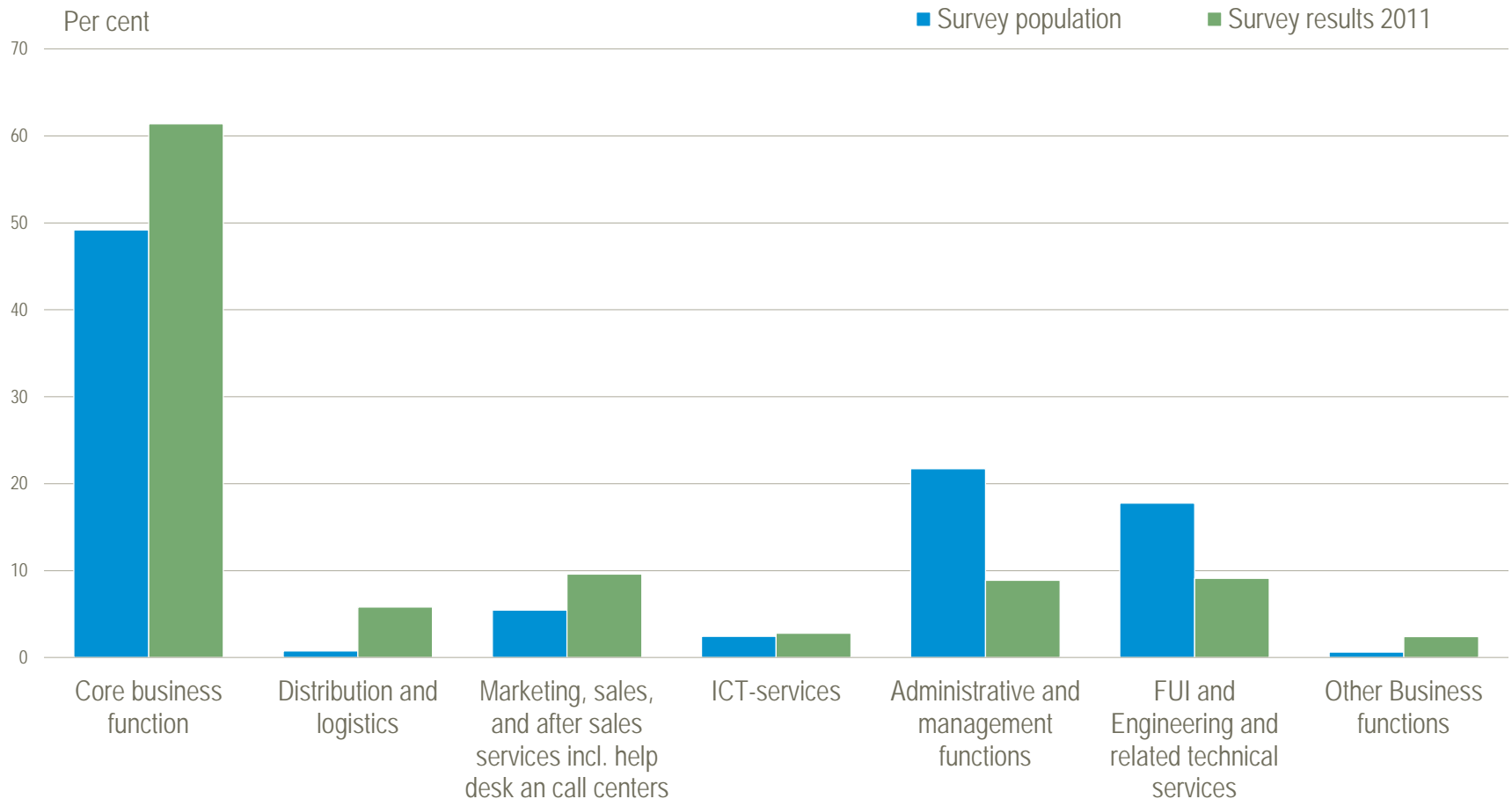




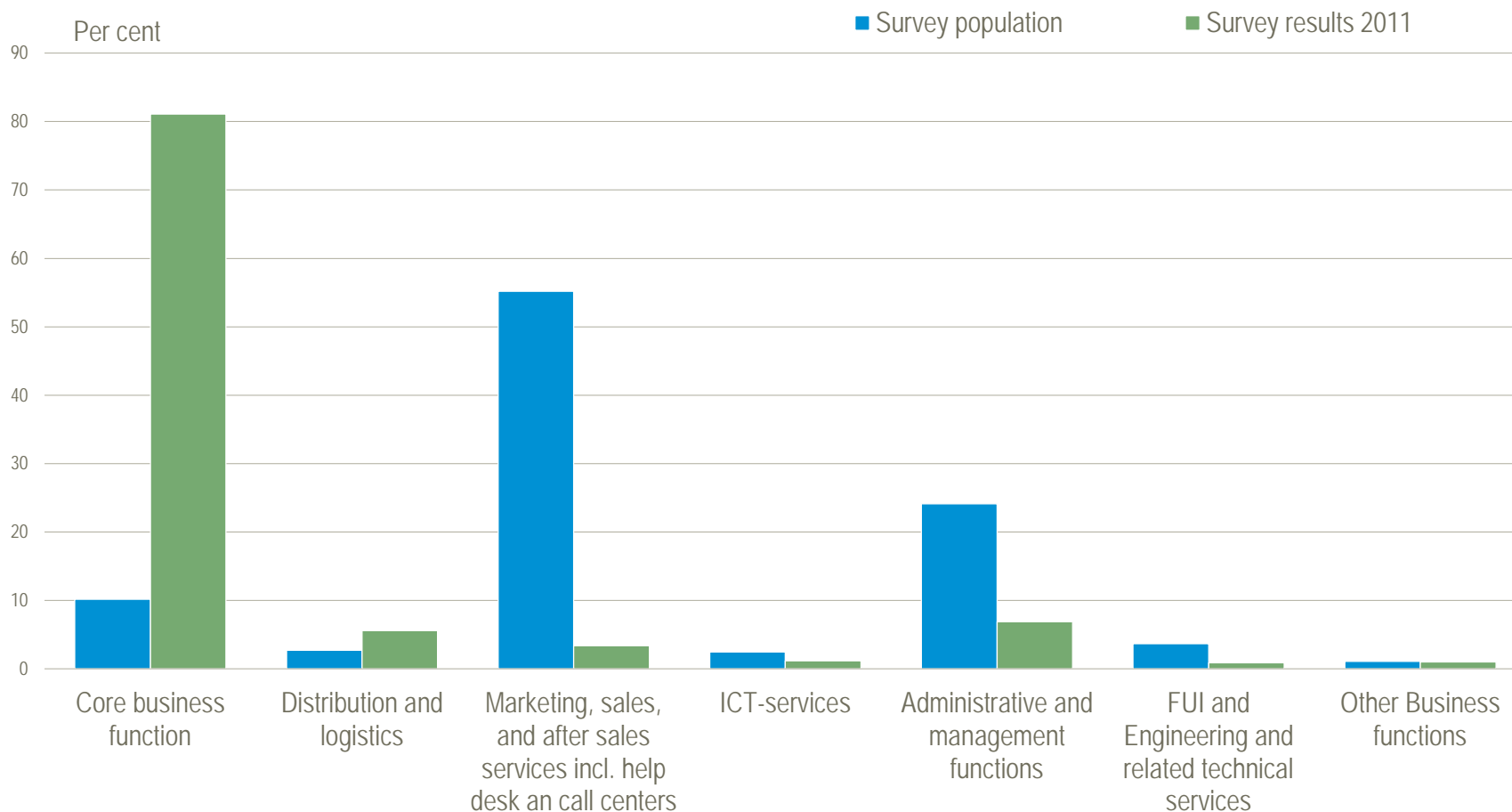
# Can occupations be used to identify Business Functions?

Business function	Examples of occupations (ISCO 2008)
<b>Core business functions</b>	Food processing and related trades workers; Wood processing and papermaking plant operators; Assemblers; Garment and related trades workers.
<b>Support Business Functions:</b> Transport, logistics and distribution support functions	Material-recording and transport clerks; Heavy truck and bus drivers; Transport and storage labourers.
Marketing, sales, after sales service support function	Sales, marketing and development managers; Sales, marketing and public relations professionals; Cashiers and ticket clerks; Client information workers; Machinery mechanics and repairers.
IT services and software support functions	Software and applications developers and analysts; Database and network professionals; Information and communications technology technicians.
Management, administration, and back-office support functions	Managing directors and chief executives; General office clerks; Administrative and specialised secretaries.
R&D, engineering and related technical services and R&D support functions	Mathematicians, actuaries and statisticians; Architects, planners, surveyors and designers; Engineering professionals; Life science technicians and related associate professionals; Ship and aircraft controllers and technicians.
Other business functions	Domestic, hotel and office cleaners and helpers; Protective services workers; Armed forces officers; legislators and senior officials; religious professionals.

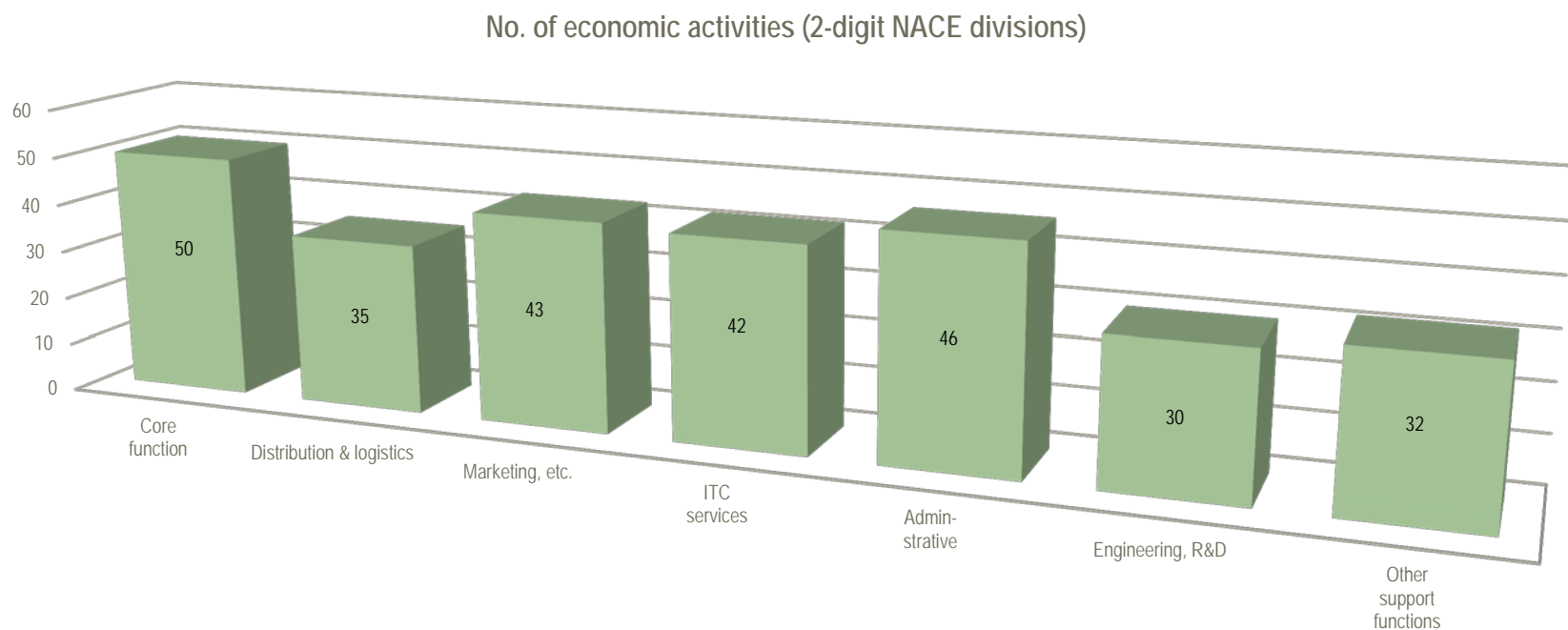
# Employment in Manufacturing in Denmark broken down by Business Functions



# Employment in Trade in Denmark broken down by Business Functions



# How widespread is international sourcing across activities?



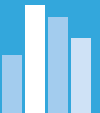
# Have we got the list of Business Functions right?

## Business functions sourced internationally. Share of all functions sourced

	Core function	Distribution & logistics support functions	Sales & marketing support functions	ICT services support functions	Administrative support functions	R&D, engineering support functions	Other support functions
	Per cent						
All activities	28	10	11	21	18	6	6
All activities > 1 instance of IS	29	10	11	18	18	7	6
Top 20 activities with International Sourcing	35	11	9	15	15	10	5
Top 10 activities with International Sourcing	34	9	7	17	16	11	5

# Proposal for revised list of Business Functions

- Starting point: keeping the existing list but disaggregate five and add one new functions
- Create a distinct business function category for R&D separated from Engineering
- Split Marketing, sales and after sales services into:
  - sales and marketing (higher wage, proximate-to-market) and
  - customer contact (lower wage, offshorable)
- Split Administrative and management functions into:
  - administrative and back-office functions (ICT-enabled and routine) and
  - management functions (higher wage, less routine)
- Split ICT services into:
  - Data processing (ICT-enabled and routine)
  - Other ICT services (ICT-enabled and less routine)
- Split Distribution and logistics into:
  - transportation services (not ICT-enabled) and
  - distribution and logistics services (mainly ICT-enabled).
- Create a new category for manufacturing services



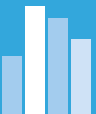
# Draft European proposal for a standardised list of Business Functions

- **Core business function**

- 1.1 Production of goods (for the market)
- 1.2 Production of services (for the market)

- **Support business functions**

- 2. Transport and distribution support functions
  - Transport services
  - Distribution, logistics and warehousing services
- 3. Marketing, sales and after sales services
  - Customer contact (call) centres
  - Marketing, sales and after sales services
- 4. ICT services
  - IT services
  - Software services
  - Network services
- 5. Administrative and management functions
  - Administrative and back office functions, incl. HR, education and training services
- 6. Engineering and related technical services and R&D
  - Engineering and related technical services
  - Research & Development
- 7. Other support functions
  - Ancillary manufacturing services
  - Ancillary maintenance and repair services





**Thank you!**