

Using Business Functions to Measure International Trade and Economic Globalization

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DGINS 2014, Riga

Riga Memorandum

Towards better measurement of the globalised economy

As adopted by the ESSC on 26th September 2014

acknowledge that the framework for measuring economic globalisation should be built from:

- i. the regular production of consistent and harmonised primary statistics on international transactions and structural business statistics;
- ii. the EuroGroups Register as a backbone for globalised business statistics;
- iii. the efficient re-use of existing information through data integration methodologies, yielding valuable insight on international sourcing and international trade by enterprise characteristics, but also taking into account cost-effectiveness, feasibility of data linking and burden on NSIs;

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- iv. the measurement of trade in value added based on the exploitation of world input-output tables should be improved in order to increase the accuracy of these estimates. Improved reliability is necessary to create additional insights into the economic and social characteristics of global value chains;
- v. the joint use of classifications throughout business and international transaction statistics accompanied by the modernisation of classifications towards services and new initiatives, like the definition of Business Functions.

Introduction

New definitions and tools are being developed to capture the features, dynamics and impacts GVCs

- Macro: Trade in Value Added (TiVA) and other international input-output datasets
- Micro: enterprise and establishment level statistics business function surveys and improvements to business registers and administrative data

The macro and micro can and should be connected.

- Business function surveys should be designed in such a way that they can feed into and help improve international input-output datasets such as TiVA
- International input-output datasets should aim to capture issues critical to GVC analysis: ownership, value capture, characteristics of business linkages

The Concept of Business Functions

A set of generic, easy-to-understand categories that describe the various activities carried out by enterprises, irrespective of their main economic activity

- Core/Primary:
 - Goods and services intended for the market
 - Have costs but also produce revenues for the enterprise
 - Can be associated with the activity (industry) of the enterprise
 - E.g., making footwear, producing software products for the market

The Concept of Business Functions

- Support Business Functions:
 - Business support services not intended for the market
 - Only represent costs for the enterprise
 - Cannot be associated with the activity (industry) of the enterprise
 - To be considered a support function, the function must commonly be carried out by enterprises in-house
 - E.g., IT, R&D, or freight transport services for internal use
- Excluded from support services (note: can be core function):
 - Services requiring large external scale such as telecommunications and passenger transport
 - Infrastructure services such as waste water treatment
 - Cultural and recreational services

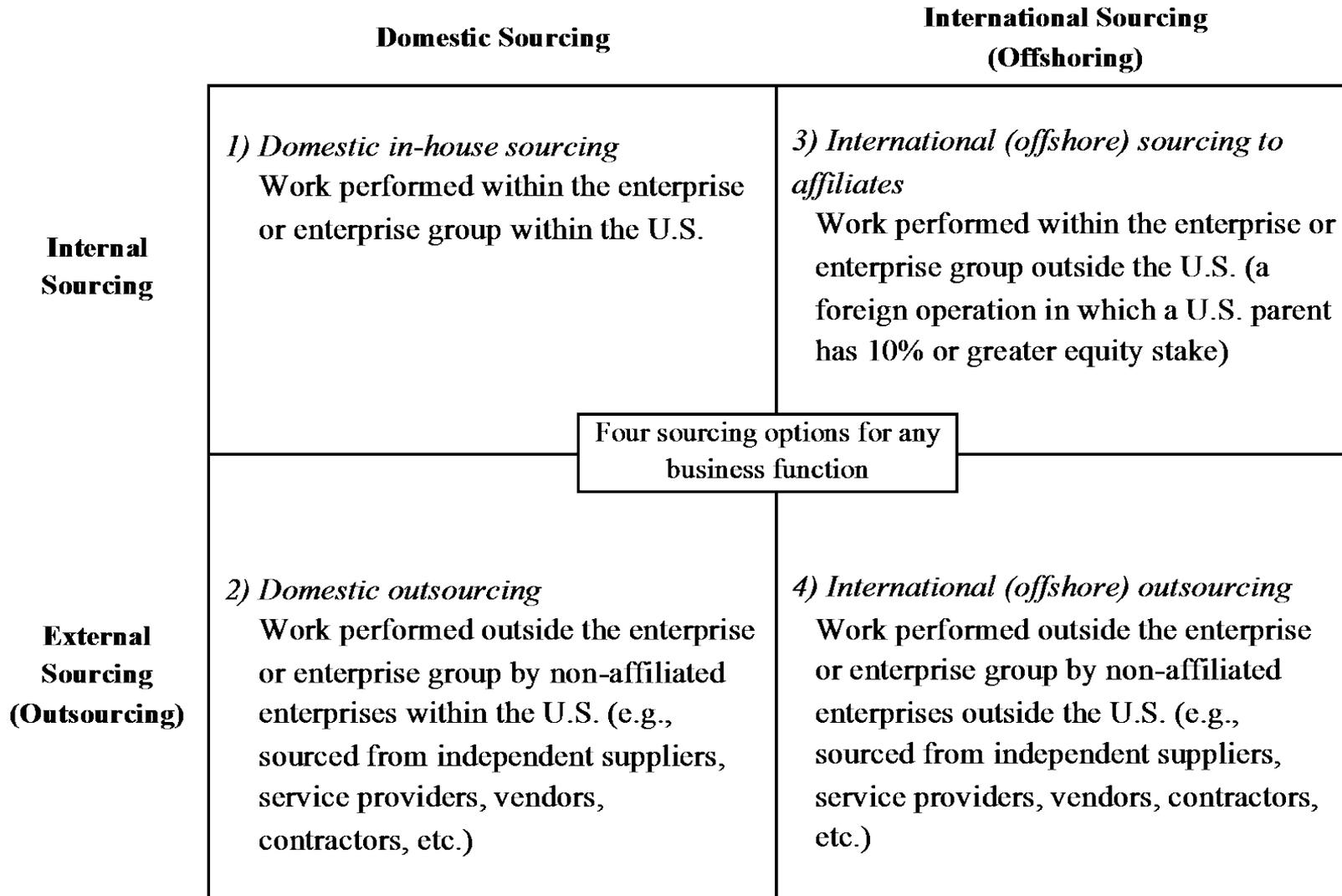
Business Function Lists

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)
(7 functions : 1 core and 6 support)	(6 functions: 1 core and 5 support)	(8 functions : 1 core and 7 support)	(14 functions: 2 core and 12 support)	(11: 2 core and 9 support)
Core business function	Core business function	Primary business function	Provision of goods	1. Core business functions 1.1 Production of goods (for the market) 1.2 Provision of services (for the market)
			Production of services	
Distribution and logistics	Distribution and logistics	Transportation, logistics, and distribution	Distribution and logistics	2. Transport, logistics, and distribution support functions
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	3. Marketing, sales, after sales service support function
		Sales and marketing	Marketing, sales and after sales service	
ICT services	ICT services	Information technology systems	Data processing	4. IT services and software support functions 4.1 IT Services 4.2 Software services <i>Note: telecommunications no longer included</i>
			Software development	
			Information & comm. Tech. (ICT) services	
Administrative and management functions	Administrative and management functions	Management, administration, and back office functions	Legal services	5. Management, administration, and back-office support functions
			Accounting and book-keeping	
			Human resource management	
			Financial management	
Research & Development	R&D, engineering and related technical services	Research and Development of Products, Services, or Technology	Engineering and related technical services	6. R&D, Engineering and related technical services and R&D support functions 6.1 Research and development services (R&D) 6.2 Engineering and related technical services (except R&D)
Engineering and related technical services			Research and development (R&D)	
Other	Other	Facilities Maintenance	Other	7. Other business functions 7.1 Maintenance and repair services 7.2. Education and training 7.3 Other
		Other		

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			Accounting and book-keeping	
			Human resource management	
			Financial management	
			Engineering and related	6. R&D, Engineering and related

Implementing Business Functions in International Sourcing Surveys

Four Sourcing Options for Business Functions (from 2010 NOS)



Implementing Business Functions in International Sourcing Surveys

2010 NOS Business Function Sourcing Data Collection Grid

NATIONAL ORGANIZATIONS SURVEY

Thinking about the same functions, now we're going to ask you some questions about how your organization is structured. Within each functional category, we'd like to know about where the work takes place, whether within your organization or by an outside supplier either in the U.S. or in a foreign country. For each function, please indicate the percentage of costs for each location during calendar year 2010. Please indicate the **percentage of costs** (click definitions link below for an explanation) incurred during calendar year 2010 for PLG Retail in each of the following locations.

(The locations for each function should total 100%)

	...by your organization?	...by an independent supplier or suppliers (no ownership of 10% or more)?	...by a foreign affiliate of your organization (ownership of 10% or more)?	...by an independent supplier or suppliers (no ownership of 10% or more)?	TOTAL	Not Applicable
	DOMESTICALLY	DOMESTICALLY	INTERNATIONALLY	INTERNATIONALLY		
Primary business function	<input type="text" value="100"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="100"/>	<input type="checkbox"/>
Research and development of products, services, or technology	<input type="text" value="100"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="100"/>	<input type="checkbox"/>
Sales and marketing	<input type="text" value="100"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="100"/>	<input type="checkbox"/>
Transportation, logistics, and distribution	<input type="text" value="100"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="100"/>	<input type="checkbox"/>
Customer and after sales service	<input type="text" value="90"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="10"/>	<input type="text" value="100"/>	<input type="checkbox"/>
Management, administration, and back office functions	<input type="text" value="100"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="100"/>	<input type="checkbox"/>
Information technology systems	<input type="text"/>	<input type="text" value="100"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="100"/>	<input type="checkbox"/>
Facilities maintenance and repair	<input type="text" value="100"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="100"/>	<input type="checkbox"/>

[View Business Function & Other Definitions Here](#)

Progress - 50%

If you have any questions please call 1-877-737-5782 ext. 286 between 9am to 5pm Pacific Time Mon. - Fri.

[Frequently Asked Questions](#)

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(The locations for each function should total 100%)

	...by your organization? DOMESTICALLY	...by an independent supplier or suppliers (no ownership of 10% or more)? DOMESTICALLY	...by a foreign affiliate of your organization (ownership of 10% or more)? INTERNATIONALLY	...by an independent supplier or suppliers (no ownership of 10% or more)? INTERNATIONALLY	TOTAL	Not Applicable
Primary business function	<input type="text" value="100"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="100"/>	<input type="checkbox"/>
Research and development of products, services, or technology	<input type="text" value="100"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="100"/>	<input type="checkbox"/>
Sales and marketing	<input type="text" value="100"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="100"/>	<input type="checkbox"/>
Transportation, logistics, and distribution	<input type="text" value="100"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="100"/>	<input type="checkbox"/>
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Management, administration, and back office functions	<input type="text" value="100"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="100"/>	<input type="checkbox"/>
Information technology systems	<input type="text"/>	<input type="text" value="100"/>	<input type="text"/>	<input type="text"/>	<input type="text" value="100"/>	<input type="checkbox"/>
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Progress - 50%

Implementing Business Functions in International Sourcing Surveys – Some Results

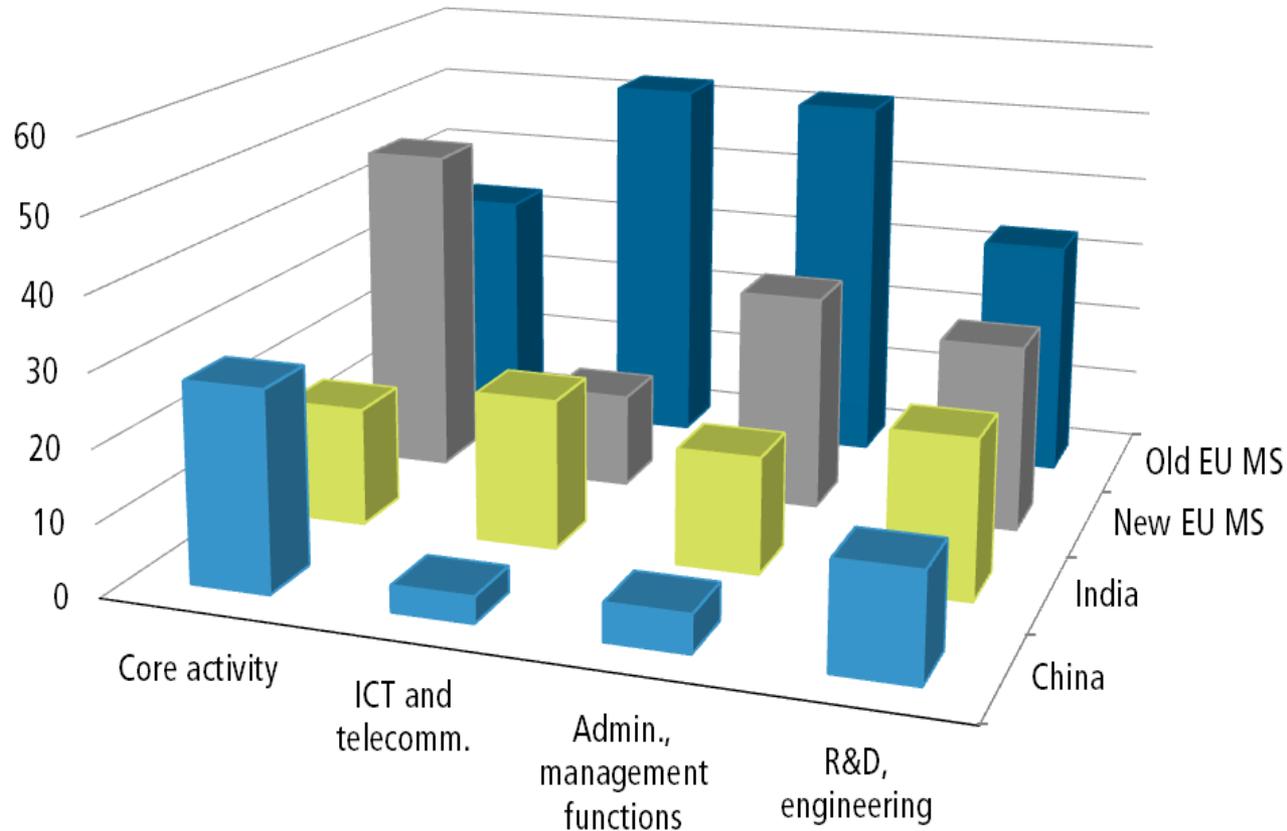
Frequency of Sourcing Practices* and Distribution of Sourcing Costs for U.S. Organizations

<u>Business Function</u>	Domestic In House	Domestic External	Intl. Affiliate	Intl. External	Intl. Sourcing	N
<u>Primary Business Function</u> ...engaging in practice	100.0%	18.4%	13.8%	8.0%	16.4%	317
...share of costs for function	93.3%	3.0%	2.9%	0.8%	3.7%	
<u>Research and Development</u> ...engaging in practice	99.2%	19.7%	16.9%	5.1%	19.2%	190
...share of costs for function	91.8%	3.4%	3.9%	0.9%	4.8%	
<u>Sales and Marketing</u> ...engaging in practice	99.5%	22.0%	17.3%	6.0%	19.2%	222
...share of costs for function	91.5%	4.2%	4.0%	0.3%	4.3%	
<u>Transportation Services</u> ...engaging in practice	98.1%	30.2%	15.0%	8.8%	18.6%	210
...share of costs for function	82.6%	12.6%	3.2%	1.7%	4.8%	
<u>Customer & After-sales Service</u> ...engaging in practice	100.0%	12.4%	15.2%	5.4%	17.5%	220
...share of costs for function	92.9%	2.3%	4.2%	0.6%	4.8%	
<u>Mgmt, Admin, and Back-office</u> ...engaging in practice	99.7%	13.8%	13.3%	3.9%	14.5%	292
...share of costs for function	94.9%	1.8%	3.0%	0.4%	3.4%	
<u>Information Technology Systems</u> ...engaging in practice	96.2%	33.9%	12.2%	9.3%	17.6%	253
...share of costs for function	83.2%	12.4%	3.1%	1.4%	4.5%	
<u>Facilities Maintenance</u> ...engaging in practice	93.5%	34.1%	12.5%	4.5%	13.3%	243
...share of costs for function	81.6%	14.5%	3.4%	0.5%	3.9%	

Source, Brown et al, 2013. Note: "International sourcing" combines sourcing to foreign affiliates and international sourcing to suppliers.
This material is based upon work supported by the National Science Foundation under Grant No. 0926746

Implementing Business Functions in International Sourcing Surveys – Some Results

Source Location Shares of Danish Enterprises Sourcing Internationally, 2009-2011;
Selected Functions and Destinations



Source: Statistics Denmark: Survey on International Organisation and Sourcing of Business Functions 2012

Business Functions Can Be Used for Purposes Other Than Measuring International Sourcing

Business function lists have already been used to collect information on:

- Employment:
 - Employment by business function (2010 NOS, EU GVC/IS Survey)
 - Related to occupations but business functions contain multiple and overlapping occupations

Business Functions Can Be Used for Purposes Other Than International Sourcing

Business function lists have already been used to collect information on:

- Wages:
 - 2010 NOS Survey collected distribution of domestic wages by business function
 - Less than 40k per year
 - 40k-60k
 - 60k-90k
 - More than 90k

Business Functions Can Be Used for Purposes Other Than International Sourcing

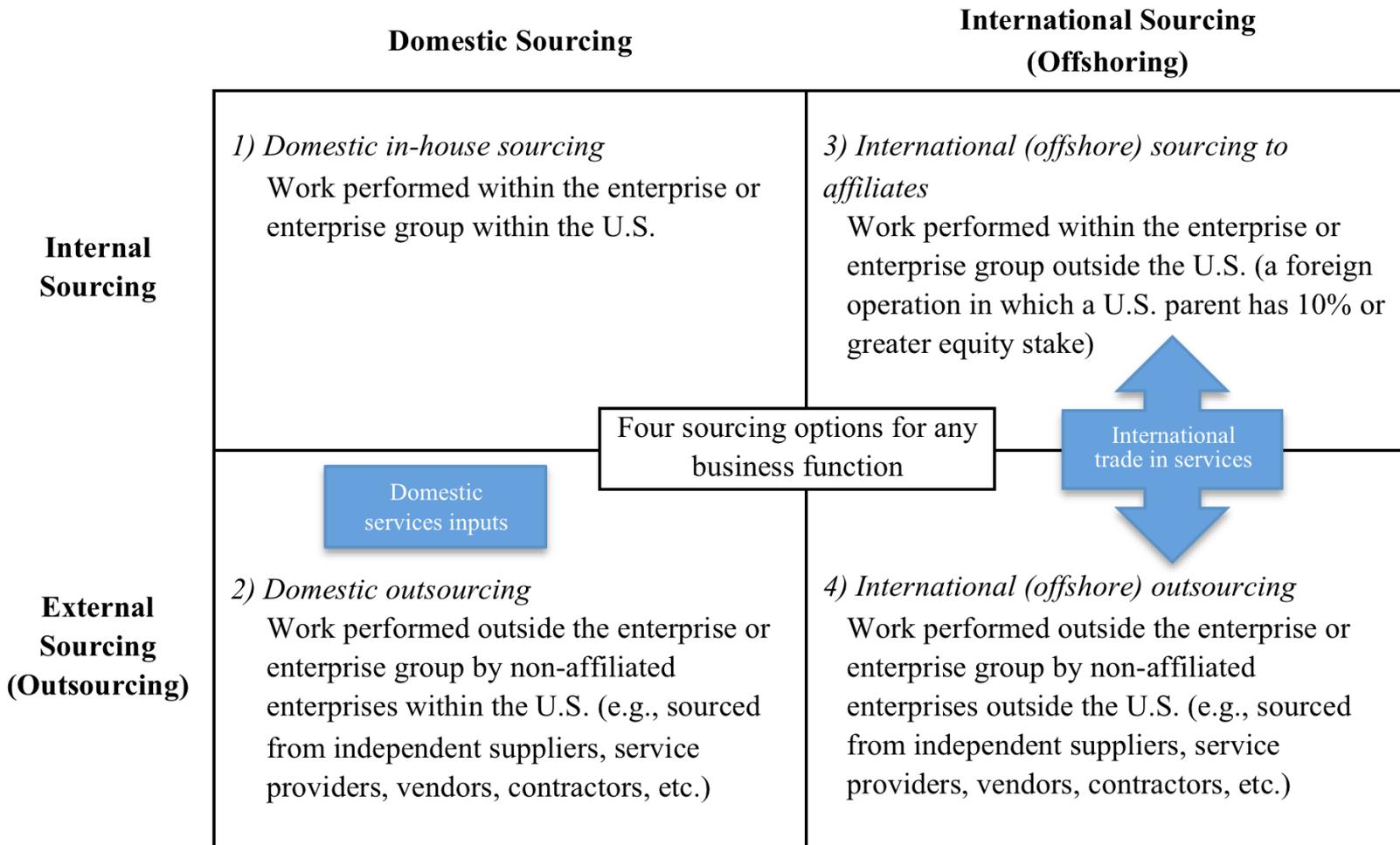
Business function lists have already been used to collect information on:

Questions for the FOC group: Can business functions be useful as a parsimonious framework for:

- Collecting and reporting statistics on international trade?
- For recording services inputs in supply-use tables?

Business Functions Can Be Used for Purposes Other Than International Sourcing

Four Sourcing Options for Business Functions



Proposed Business Function List (grey different from 2012 Eurostat IS/GVC survey)	S-TOD correspondence	# of EBOPS 2010 codes	# of CPC 2.0 codes	# of ISIC Rev.4 codes
1. Core business functions 1.1 Production of goods (for the market) 1.2 Provision of services (for the market)	Not applicable			
Support business functions (business services)				
2. Transport, logistics, and distribution support functions	S-TOD 2.2	9	13	8
3. Marketing, sales, after sales service support function	S-TOD 1.4	3	5	5
4. IT services and software support functions <i>Note: telecommunications no longer included</i> 4.1 IT Services 4.2 Software services	S-TOD 1.2 and 1.3	2	10	5
	1.2	1	4	1
	1.3	1	6	4
5. Management, administration, and back-office support functions	S-TOD 1.6	17	45	26
6. R&D, Engineering and related technical services and R&D support functions 6.1 Research and development services (R&D) 6.2 Engineering and related technical services (except R&D)	S-TOD 1.7 and 1.8	9	21	10
	1.8	2	5	3
	1.7	7	16	7
7. Other business functions (all other services)	S-TOD 1.1, 1.5, 2.1, 2.3, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.8	43	118	71