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Cross cutting topic (3) – International trade in services by mode

Italian international trade in services by mode of supply

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Italian international trade in services by mode of supply¹

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Abstract

This study documents Italian international trade in services broken down by the four modes of supply defined by the General Agreement on Trade in Services (GATS): cross-border supply (mode 1); consumption abroad (mode 2); commercial presence (mode 3); and presence of natural persons (mode 4).

Keywords: international trade in services, modes of supply, FATS.

1. International trade in services: the different modes of supply

Trade in services statistics by Modes of Supply (MoS) aim to answer the question of how and where services are provided to foreign customers. These statistics are essential for understanding the drivers and consequences of international trade in services and fulfilling the demand from business analysts and policymakers for more complete data in the context of interconnected economies. These statistics have in fact become necessary to better understand the effect of trade in services on economic development and globalization.

Services differ from goods in relation to the immediacy of the relationship between supplier and consumer. Many services are non-transportable, i. e. they often require the physical proximity of the supplier and the customer (for example for accommodation services). While the classification of services offers valuable information on the types of services exchanged, the approach for MoS tends to identify where and how services are provided considering the position of the supplier and the customer (Annex 1).

The General Agreement on Trade in Services (GATS), the first multilateral agreement for trade in services, defines trade in services as providing a service in one of four modes of supply:

- Cross-border supply (Mode 1), where both the supplier and the consumer remain in their respective territories (which would correspond to the traditional notion of trade and cover, for example, services supplied by telephone or the Internet);
- Consumption abroad (Mode 2), where the consumer consumes the service outside his or her home territory (as is the case, typically, for international tourist activities and amusement parks abroad);
- Commercial presence (Mode 3), where service suppliers establish (or acquire) an affiliate, branch or representative office in another territory through which they provide their services (as is the

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case, for example, when a foreign bank investing in a host economy creates a subsidiary in order to supply banking services);

- Presence of natural persons (Mode 4), where an individual (either the service supplier himself if he or she is a self-employed person or his or her employees) is present abroad in order to supply a service (as is the case, for example, when an independent architect oversees a construction project abroad or a computer specialist is sent abroad by his employer to supply an information technology (IT) service).

At international level, the estimate of trade flows of services for MoS is obtained with the simplified allocation methodology from the UN Manual of Statistics of International Trade in Services (MSITS 2010) and takes into account both International Trade in Services Statistics (ITSS) and Foreign Affiliate Statistics (FATS).

The statistics of international trade in services (ITSS), generally produced by national banks, record the international commercial flows of services between residents and non-residents and, following the indications of the MSITS, the values of the different categories of services can be distributed in the MoS 1,2, and 4.

On the other hand the services sold by the affiliated companies within the host country, registered through the FATS statistics, can, to a certain extent, replace cross-border exports and consequently the value of these services becomes the primary statistical indicator of mode 3.

2. Italian International trade in services by mode of supply

The development of this experimental dataset on Trade in Services by Mode of Supply has been made possible due to the generous grant of the European Commission.

In order to estimate services trade flows by modes of supply, the Italian approach has used the Eurostat Mos Model based on the MoS simplified allocation methodology from the UN Manual of Statistics of International Trade in Services (MSITS) and has improved it to the Italian context.

The service items have been allocated to either one dominant mode or to several modes, based on Eurostat assumption of how specific service items are likely to be supplied to consumers (Annex 2).

The primary data sources for estimating MoS are International Trade in Services Statistics (ITSS) and Foreign Affiliates Statistics (FATS).

Concerning to the two main sources, the first phases of the activity were the following:

- a) Recognition of main sources: ITSS and FATS (Inward / Outward) in terms of classification, variables and geographical distribution;
- b) Data extraction according to the classifications adopted and by geographical distribution (Rest of the world, Intra UE28 and extraUE28);
- c) Reclassification of FATS according to the Eurostat proposed matrix conversion NACE to EBOPS.

The purpose of the Italian action was to test in practice the possibility of estimating the four modes of supply with the available data of International Trade in Services Statistics (ITSS), Foreign Affiliates Statistics (FATS) and other Italian data sources such as Structural Business Statistics (SBS),

Tourism Satellite Accounts (TSA) and Supply-Use tables (SUT).

The Italian action produced 6 MoS Tables with reference year 2015, according with Eurostat Template, in million euros; 3 for Export in Modes 1,2,3 and 4 for counterparts rest of the world, Intra-EU and Extra-EU and the other 3 for Import, following the Figure 1 scheme.

Furthermore, the Italian project has been able to produce estimates not only for the twelve main EBOPS items but also for the voluntary services category.

2.1 Modelling modes 1,2 and 4

The ITSS source is used to estimate the methods 1,2 and 4. The starting data base was taken from the Italian Balance of Payments (BoP) data on credit/debit disseminated by the Bank of Italy following the articulation of Annex 2 and making the aggregations for the geographical areas belonging countries to the EU and non-EU countries for the year 2015 in millions of euros. The Italian ITSS data has been divided between modes 1, 2 and 4 using Eurostat ITSS distribution by MoS .The percentages have been applied to the lowest possible levels of Italian BoP items (Annex 3).

2.2 Modelling mode 3

Mode 3 (FATS data) was integrated to the ITSS services items by using a correspondence table from NACE (activity based classification) to EBOPS (product based classification). The correspondence table assigns the NACE activity code to the most probable ITSS service code(s).

It has been acknowledged that mode 3 is becoming more important: "Services suppliers may choose to set up affiliates as a means of selling their services in foreign markets as an alternative or complement to exporting through other modes. On the grounds that such sales/output may, to a certain extent, substitute for cross-border exports, MSITS 2010 chooses to view domestic sales/output of foreign affiliates as the primary statistical indicator of Mode 3." (MSITS paragraph 5.64).

To estimate mode 3, the variable is the turnover/sales of the foreign affiliates and following the indications of the manual, it is necessary to isolate the part sold in the country where the company is located: "One such breakdown entails distinguishing among sales within the host country (local sales), sales to the country of the parent enterprise (that is, the immediate investor) and sales to third countries". All three types of sales result from the commercial presence of the home country in the host country. However, only the local sales represent the delivery of output within host economies (MSITS paragraph 4.49).

In Italian outward FATS, the turnover is split into three components, the one realized on the local market (variable that affects), the one on the market of origin of the affiliate and that on the other third markets. The turnover that falls within the country of origin is excluded because this part is already captured by ITSS, it would be in Italy's imports in this case. Therefore, in the Italian approach,

only outward local turnover part is used to estimate export mode 3.

In Italian inward FATS, all Structural Business Statistics (SBS) variables are present but the turnover/production is not broken down on the customer's residence.

To obtain domestic turnover for inwards FATS, local turnover is estimated from SBS data through the merge between inward FATS data and SBS large companies data.

In particular, Italian method is based on micro-data linking (MDL) techniques: in Italian SBS questionnaire for large companies, in section 6, the export value of services item is split into EU and Extra-EU parties. We have subtracted the total value of services exports from turnover to derive the domestic turnover sold in Italy because we have used this information on Inward Fats turnover.

Then we have done the merge between the common companies of two dataset (SBS and Inward Fats). For each area, EU and Extra EU, we have applied the domestic turnover quota from SBS data to Inward Fats data at 2 digit Nace, which is necessary to make the transcoding in Ebops. In this way, we have calculated the domestic part of turnover for Inwards Fats.

Moreover "Overlaps may exist between the two statistical frameworks presented in MSITS 2010. For instance, the supply of services may be accounted for twice in the case of the supply of services through foreign affiliates: the first transaction being between a parent enterprise and its affiliate (intra-enterprise trade, which is recorded under trade in services between residents and non-residents) and the second occurring when this affiliate sells services to consumers in its country of location (the foreign affiliate's sales of services). Furthermore, sales of services of foreign affiliates can include exports by the affiliate to third economies or to the economy of the parent enterprise" (MSITS paragraph 5.8).

Concerning this issue, in case of duplication between modes 2 and 3, for the trade of accommodation and food activities (NACE I), we have adopted Eurostat modelling and we have reduced by 50% import mode 3 because it is already included in ITSS travel item of BoP.

In the case of distribution services, given that there is not an exact correspondence between NACE and EBOPS, MSITS suggests leaving the G class of Nace. For this reason, we have added the G item, Distribution services, in all the tables to be filled (Figure 1).

3. Special cases solved with alternative sources (SBS, Supply-Use table, Tourism Satellite Account)

3.1 Distribution services under Mode 3

Distribution services are supplied by affiliates abroad such as every other service. Although wholesale and retail distribution is dealing with the sales of goods, the output is defined as a service, equal not to the total value of sales but to the trade margins realized on goods purchased for resale. As a result, in order to estimate distribution services in Mode 3, we have used the production value from Italian inward FATS as recommended by MSITS 2010 (paragraph 5.65), since it is an available variable in FATS statistics and is also considered a superior measure of activity for most purposes (MSITS 2010, paragraph 5.65). However, in Italian outward FATS, the production value is not available and then this is estimated from the inward FATS as a ratio of production and turnover. In

2015, the Italian ratio of production and turnover for inward was 30% for EU and 28% for Extra EU.

3.2 Distribution services under Mode 1

Distribution services are included in FATS statistics (production value of the wholesalers and retailer, NACE G) and have been incorporated in the Italian MOS estimation into Mode 3. Nevertheless, part of distribution services is supplied already through Mode 1, as they are typically associated with cross-border transaction. These services are not captured by ITSS while in the Balance of Payment framework they are already covered under the merchandise trade statistics since distribution services are included in the goods value that are traded across borders.

The “Trade-related services” item does not include distribution margins but only commissions or transaction values due to sales of boats, aircraft, etc.

For the estimation of the distribution margins on exports is used the Italian Supply-Use framework for 2015. In particular, the Trade margins existing table is directly used, not available in the public database.

In 2015, the value of the margins on the Italian exports of goods was 13.766 million of euros in the world. Then the distributions margins on export value between EU and extra EU has been assigned on the base of the values of exportations of goods in EU (55%) and extra EU (45%).

No data are available for the share of import arranged by foreign wholesalers and therefore is adopted the same rate of distribution margins on export. While imports of goods have represented 59% for EU and 41% extra EU.

It is important to stress that in Italy the trade margins table is estimated each year for the annual economic national accounts data.

3.3 Exclusion of goods from Travel under Mode 2

The Italian approach to remove the goods included in travel is reached from the Italian Tourism Satellite Accounts. In Italy, international shopping expenditure is based on Bank of Italy frontier survey that collects, through face-to-face interviews, the breakdown of the expenditure abroad, including the distinction between goods and services. Tourism Value Added in TSA refers to the value of the services that each touristic industry supplies to visitors, then, in the case of retail trade activity only the distribution margin is used to estimate the value of the output of the service provider who makes the good available to the visitor.

In practice, a distribution services margin is derived for the “shopping” item from Italian TSA Table 6 where touristic supply and use is balanced and where the tourism value added (TVA) is calculated. Then, this approach estimates the value of shopping without the retail trade margins and uses it to subtract goods expenditure net of distribution services from the total value of travel. In Italy, shopping expenses net of retail trade margins on inbound expenditure was 17% while the retail trade margins, that is left into mode 2, was 15% of shopping value in 2015. Same adjustments

to account for retail trade margins are applied on export/import shopping by geographical area.

3.4 Manufacturing services under Mode 3

For mode 3 has been done a first estimation to include the manufacturing services activity.

- a) Concerning “Manufacturing services on physical inputs owned by others”, the incidence value of turnover from Manufacturing services on physical inputs owned by others on all manufacturing turnover has been calculated by SBS 2015 source. Then, this share has been applied on the total FATS manufacturing sector (C) to obtain the Fats manufacturing services part. It is used the same incidence value to inward and outward FATS data.
- b) Instead to estimate “Maintenance and repair services n.i.e.” part done by other manufactures industries it has been used Supply-Use framework 2015 by Italian National Accounts source. The production value of Maintenance and repair services n.i.e. supplied from all manufacturing sector (without the specific industry) has been isolated in order to calculate its incidence. This incidence was applied to FATS manufacturing sector net Maintenance and repair services n.i.e activity. Same incidence value to inward and outward FATS data has been used.

3.5 Construction services

- a) In order to have the part of the Construction services in mode 3, the incidence of the turnover of “development of real estate projects” activity on total construction turnover has been calculated by SBS 2015 source. Then this quota has been applied to inward and outward FATS construction data to obtain a first estimate of construction services part.
- b) For Mode 1, relating the Construction sector, Italian BoP records the value of projects lasting less than a year as construction services. In the case of construction services, on the import side, the value of goods, services and labor purchased abroad is reported by the companies. Exports relating to construction abroad are calculated on the basis of total contract value. In the case of construction services in Italy, because it is impossible to have access to foreign company costs, it is assumed that the structure and composition of costs in Italy and abroad are similar.

3.6 Government good and services n.i.e

This is a residual category, which includes public administration transactions (including international organizations) in goods and services that cannot be classified under other headings. All operations carried out in an enclave are included, such as embassies, consulates, military bases and international organizations, with residents in the economy in which they are located. For MoS

purpose, we have extracted records Governments imports and exports good and services for geographical areas by Italian BoP. Then the percentage of 75% has been assigned to mode 1 and the percentage of 25% to mode 4.

4. Additional sources for Italian MoS

4.1 Italian Tourism Satellite Account

The Tourism Satellite Account (TSA) for Italy is built on the basis of the Recommended Methodological Framework (QMR 2008) by the European Commission (Eurostat), the Organization for Economic Cooperation and Development (OECD) and the World Tourism Organization (OMT).

The aggregation scheme used in the Italian TSA, both for products and for activities, coincides with that suggested by the QMR for the first ten categories. In the Italian TSA it was possible to identify only one eleventh category of product which consists in purchases of goods made by tourists, defined as shopping. All the remaining expenditure is placed in the other item (in particular the fuel and various services). On the production side, instead, in addition to the ten main categories, the retail trade of specific and non-specific goods was identified. All the remaining economic sectors, united in other industries, complete the Italian economic system.

The last Italian TSA was compiled with reference to 2017, the year for which most of the sources are available. In particular, in addition to the main source of National Accounts, the information was obtained by reworking the data from the monthly survey on Occupancy on tourism accommodation, from the quarterly survey of Trips and Holidays and from the monthly sample survey conducted by the Bank of Italy, called International tourism Survey of Italy.

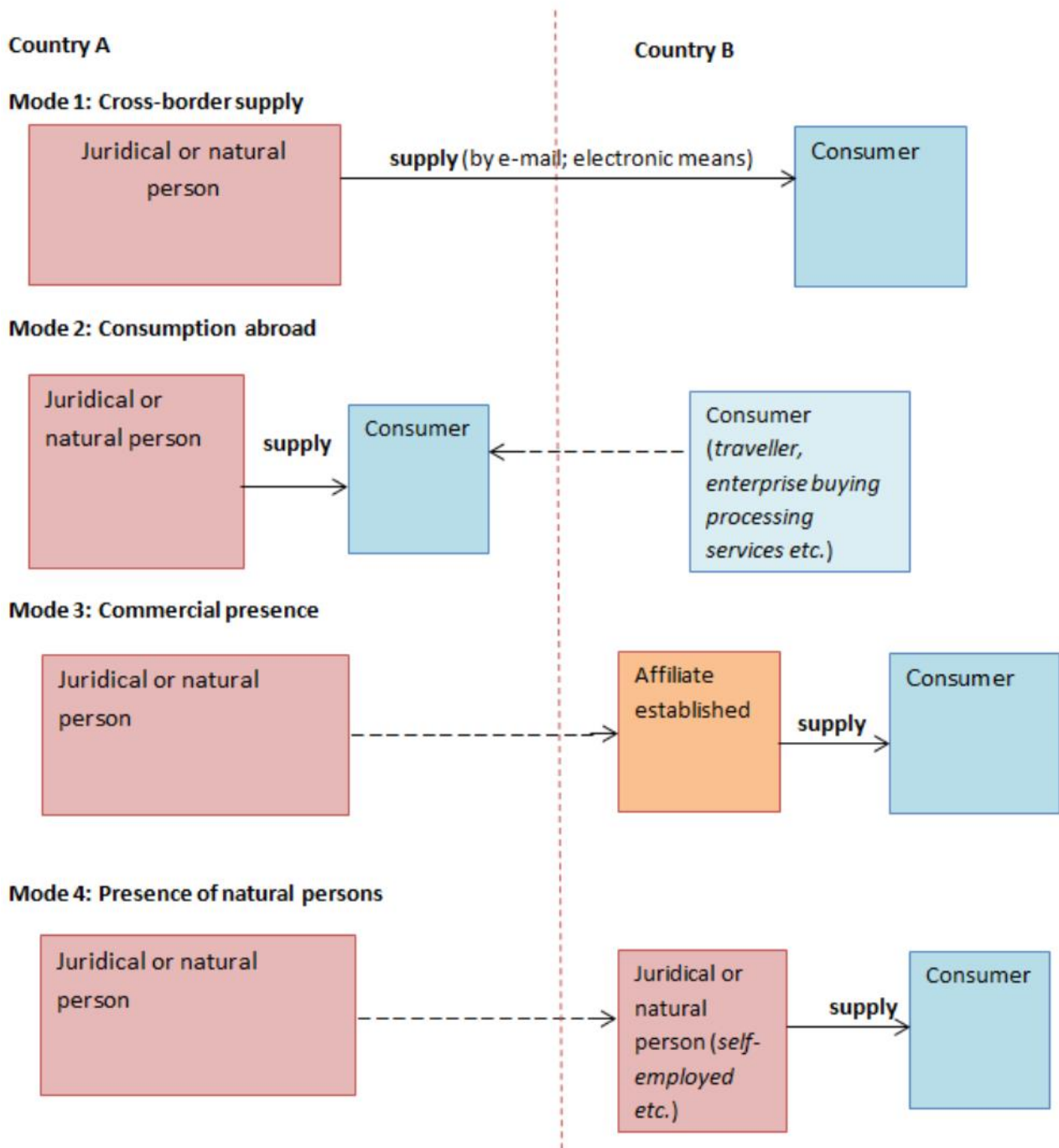
4.2 Italian Supply and Use (SUT) framework

Italy, in accordance with the European Transmission Program, annually disseminates the Supply and Use tables organized in 64 homogeneous production branches and 64 branches of economic activity consistent with the new NACE Rev. 2 classification. The not public internal version of the Supply and Use Tables, however, provides an articulation in 256 lines, which identify the branches of homogeneous production, and 98 columns that indicate the branches of economic activity. The classification that is used for the products is the CPA, while the classification used for the branches of economic activity is ATECO 2007 (Italian version of NACE Rev. 2). The two classifications are completely compatible: for each level of aggregation the CPA classification shows the main products of the branches of economic activity envisaged by NACE Rev. 2.

Figure 1: Modes of Supply tables scheme

Modes 1, 2, 3 and 4			Reference Year: 2015			
<i>(in million €)</i>						
BOP Item	BOP sub-item	Bop item name	Mode 1	Mode 2	Mode 3	Mode 4
S	S	Services:				
SA	SA	Manufacturing services on physical inputs owned by others				
SB	SB	Maintenance and repair services n.i.e.				
SC	SC	Transport				
	SC1*	<i>Sea transport</i>				
	SC2*	<i>Air transport</i>				
	SC3*	<i>Other modes of transport</i>				
SD	SD	Travel				
SE	SE	Construction				
SF	SF	Insurance and pension services				
SG	SG	Financial services				
SH	SH	Charges for the use of intellectual property n.i.e.				
SI	SI	Telecommunications, computer, and information services				
SJ	SJ	Other business services				
	SJ1*	<i>Research and development services</i>				
	SJ2*	<i>Professional and management consulting services</i>				
	SJ3*	<i>Technical, trade-related, and other business services</i>				
SK	SK	Personal, cultural, and recreational services				
SL**	SL**	Government goods and services n.i.e.				
G	G	Distribution (wholesale, retail trade) services				
	(*)	<i>Sub items in italic to be filled in on a voluntary basis</i>				
	(**)	<i>SL: Government goods and services n.i.e are not relevant for Exports</i>				

Annex 1. Simplified descriptions of how services are supplied, from country A to B



Annex 2. An extraction of services allocation according to MSITS

	FATS (sales or output) ^b	Balance of payments trade in services					
		Mode(s)					
		Mode 3	1	2	4	1 and 4	2 and 4
Manufacturing services on physical inputs owned by others	X		X				
Maintenance and repair services n.l.e.	X		X				
Transport	X	X					
Passenger	X	X					
Freight	X	X					
Other	X						
– Postal and courier services	X	X					
– Service to domestic carriers in foreign ports (and vice versa)	X		X				
– Other	X	X					
Travel			X				
Goods							
Local transport services	X		X				
Accommodation services	X		X				
Food-serving services	X		X				
Other services	X		X				
Construction	X						X
Goods							
Services	X						X
Insurance and pension services	X	X					
Financial services	X	X					
Charges for the use of Intellectual property n.l.e. ^c	X	X					
Telecommunications, computer, and information services	X				X		
Telecommunications services	X	X					
Computer services	X				X		
Information services	X	X					
Other business services	X				X		
Research and development services	X				X		
Professional and management consulting services	X				X		
Technical, trade-related and other business services	X						
– Architectural, engineering, scientific and other technical services	X				X		
– Waste treatment and de-pollution, agricultural and mining services	X						
• Waste treatment and de-pollution	X					X	
• Services incidental to agriculture, forestry and fishing	X			X			
• Services incidental to mining, and oil and gas extraction	X			X			
– Operating leasing services	X	X					
– Trade-related services	X	X					
– Other business services n.l.e.	X				X		

	FATS (sales or output) ^b	Balance of payments trade in services					
		Mode(s)					
		Mode 3	1	2	4	1 and 4	2 and 4
Personal, cultural and recreational services	X					X	
Government goods and services n.i.e.							
<i>Government goods n.i.e., credits and debits</i>							
<i>Government services n.i.e. credits</i>							
<i>Government services n.i.e. debits</i>							
– <i>Commercial services purchased in host economies</i>							
• <i>Government units in diplomatic and similar enclaves</i>						X	
• <i>Personnel from home economy and dependents</i>			X				
– <i>Other commercial services n.i.e. purchased by government</i>						X	
– <i>Non-commercial services acquired by government</i>							
<i>Distribution (wholesale, retail trade) services</i>	X	X					

^a The allocation may vary from country to country (in respect of general needs as well as for specific sectors, data-collection system, resources, etc.).

^b In the economic territory where the affiliate is established. If it is not possible to break down sales or output by product using EBOPS 2010, then provide sales or output of services, broken down by activity using ICFA, Rev.1.

^c There is a certain degree of uncertainty with respect to the coverage of certain *charges for the use of intellectual property n.i.e.* (see para. 5.43).

Annex 3: Proportional allocation of EBOPS categories by mode of supply

level	BOP Item	BOP sub-item	Bop item name	Mode type	Mode 1 (%)	Mode 2 (%)	Mode 3 (ITSS)	Mode 4 (%)
1	S	S	Services:					
2	SA	SA	Manufacturing services on physical inputs owned by oth	2		100		
2	SB	SB	Maintenance and repair services n.i.e.	2		100		
2	SC	SC	Transport	1;2				
3	SC	SC1	Sea transport	1;2				
4	SC	SC11	Sea transport; Passenger	1	100			
4	SC	SC12	Sea transport; Freight	1	100			
4	SC	SC13	Sea transport; Other than passenger and freight	2		100		
3	SC	SC2	Air transport	1;2				
4	SC	SC21	Air transport; Passenger	1	100			
4	SC	SC22	Air transport; Freight	1	100			
4	SC	SC23	Air transport; Other than passenger and freight	2		100		
3	SC	SC3	Other modes of transport	1;2				
4	SC	SC31	Other modes of transport; Passenger	1	100			
4	SC	SC32	Other modes of transport; Freight	1	100			
4	SC	SC33	Other modes of transport; Other than passenger and fre	2		100		
4	SC	SC3E	Pipeline transport	1	100			
4	SC	SC3F	Electricity transmission	1	100			
4	SC	SC3G	Other supporting and auxiliary transport services	2		100		
3	SC	SC4	Postal and courier services	1	100			
2	SD	SD	Travel	2		100		
2	SE	SE	Construction	3;4			10	90
2	SF	SF	Insurance and pension services	1	100			
2	SG	SG	Financial services	1	100			
2	SH	SH	Charges for the use of intellectual property n.i.e.	1	100			
2	SI	SI	Telecommunications, computer, and information servic	1;4				
3	SI	SI1	Telecommunications services	1	100			
3	SI	SI2	Computer services	1;4	50			50
3	SI	SI3	Information services	1	100			
2	SJ	SJ	Other business services	1;4				
3	SJ	SJ1	Research and development services	1;4	75			25
3	SJ	SJ2	Professional and management consulting services	1;4	75			25
3	SJ	SJ3	Technical, trade-related, and other business services					
5	SJ	SJ311	Architectural services	1;4	75			25
5	SJ	SJ312	Engineering services	1;4	75			25
5	SJ	SJ313	Scientific and other technical services	1;4	75			25
4	SJ	SJ32	Waste treatment and de-pollution, agricultural and mining services					
5	SJ	SJ321	Waste treatment and de-pollution	2;4		75		25
5	SJ	SJ322	Services incidental to agriculture, forestry and fishing	4				100
5	SJ	SJ323	Services incidental to mining, and oil and gas extraction	4				100
4	SJ	SJ33	Operating leasing services	1	100			
4	SJ	SJ34	Trade-related services	1	100			
4	SJ	SJ35	Other business services n.i.e.	1;4	75			25
5	SJ	SJ35Z	Other business services n.i.e.; Of which: Employment s	1;4	75			25
2	SK	SK	Personal, cultural, and recreational services	1;4	75			25