

G.1 Introduction

This document describes the adaptation of the 2018 Supply Use Tables (SUT) for input to the Global Trade Analysis Project (GTAP). We first transform the SUT data into a typical ORANI-G style database (Dixon et al. 1982; Horridge 2014) and then transform the database into the required GTAP format. In transforming the SUT to the required format we follow:

1. Horridge et al. 2008 Exercises in contributing I-O Tables to the GTAP Data Base.
2. Horridge 2019 contains a TABLO program to convert a standard ORANI-G data file into the format required to contribute data to GTAP.²⁶

The paper is organised as follows. Section 2 briefly describes the source data. Section 3 discusses strengths and limitations of the published input-output (I-O) data. Section 4 discusses the processing to correct anomalies in the raw data. Section 5 presents the mapping between the Jordanian sectors and the 65 GTAP sectors.

G.2 Data Sources

The primary input is an 84 commodity and 40 industry SUT published by the Jordanian Department of Statistics (DOS n.d.(a); DOS n.d.(c); DOS n.d.(b); DOS n.d.(d)).²⁷

The 2018 data was measured in thousands of Jordanian dinar (JD). We converted this to millions of JD by dividing all values by 1000.

Prima facie, the 2018 DOS data satisfy the sectoral balance condition, and contain most of the data ready for conversion to the GTAP format (Huff et al. 2000). These data include:

1. Supply and Use tables at purchasers' prices for 40 sectors. The Supply table shows the total outputs of 84 domestic commodities, imports of goods and services, transport and trade margins, and net taxes on domestic and imported goods, by commodity. The Use table shows the demand for those commodities by industries, private households, government, investment, changes in inventories, and exports.
2. A MAKE matrix of domestic production at basic prices, commodity by activity. The matrix shows the output of 84 commodities by 40 industries. This matrix is not diagonal with many

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²⁶TABLO program is part of the GEMPACK suite of programs (J. and Pearson 1996; J.M. et al. 2018).

²⁷Available at: [link](#).

industries producing more than one commodity, and many commodities are produced by more than one industry.

3. Use matrix at purchases prices showing the use of 84 commodities, sourced domestically and imported, by 40 industries and by five final users (private consumption, government consumption, investment, exports, and changes in stocks).
4. At the bottom of the Use matrix, value added by industry is presented. This table shows values of compensation of employees, gross operating surplus and net production tax for each industry.
5. Use matrix at basic prices showing the use of 84 commodities, sourced domestically and imported, by 40 industries and by five final users (private consumption, government consumption, investment, exports, and changes in stocks). The table shows row values for net commodity taxes and customs paid by each user.

G.3 Strengths and Limitations of the Original Input- Output Data

We have conducted a number of checks on the data. They include checks of the non-negativity condition and the balancing conditions of the tables. We also check the plausibility of tax rates, margin rates implied in the data, and the structure of industries' costs and sales. This section discusses the strengths and limitations of the data. The procedures that we used to address these limitations are discussed in the next section.

Strengths

The primary data contain detailed supply and use data for 84 commodities and 40 activities. A strength of the SUT is that we have both the Use Table at purchasers' price and basic price. This allows us to determine a matrix, for non-margin commodities by user, showing the sum of indirect tax and margins required to facilitate the flow of commodity c to user u . We split this matrix into separate matrices, namely the tax matrices showing the tax revenue by commodity and users and margin matrices showing the use of margin commodity m , in facilitating the flow of commodity c from source s to user u . Another strength is that the tables are balanced.

Limitations

- The SUT contains information by 84 commodities by 40 industries. It would suit our purposes better if the industry dimension were extended as to conform to the GTAP specification. We therefore extend our IO database by increasing 40 industries to 84. Thereafter we map the commodities and industries to the GTAP classification.

- There are two columns showing the customs and other tax revenue by commodity. There is no distinction between who pays tax on the commodities or on the source dimension i.e. VAT on domestically produced and imported goods.
- Payments to labour are not distinguished by occupation or gender. We use additional employment data to split the labour payments into payments for different occupations.
- There are no separate values for capital and land rentals. They are grouped together in one vector in the GVA namely operating surplus. We split operating surplus into two matrices using a separate set of data on capital and land rentals adopted from the Jordan database in GTAP.
- There are no detailed data on the structure of capital creation for each of the industries. There is only one investment column in the Use Table showing the total use of commodities into investment. This vector will need to be split into investment for 84 industries.
- The investment column further shows negative values. The use of commodities for investment purposes cannot be negative.
- Exports in the Use Table includes 4 columns namely, (1) Exports of goods (2) Exports of Services, (3) Exports of Travel and (4) Re-Exports. Re-Exports implies that goods are imported and then re-exported. Traditional CGE models do not have a source dimension for Exports and therefore we cannot accommodate the imported of export commodities. One way to handle Re-exports is to following the UN recommends that “Goods that are imported or returned unprocessed are omitted from exports and deducted from imports” (UN 2009; UN 2018). Instead of removing the imports of exported commodities, we create a dummy industry that imports commodities and exports these commodities.

G.4 Data Processing

In this section we discuss the adjustments procedures, the additional data sources, and the assumptions that we adopted to address the data issues described in the previous section.

1. Step1: With regard to negative investment values in the Use table, we move these values to the change in inventories column. In the investment column these values are then zero.
2. Step 2: For the export of imported commodities (Re-export column), we create a dummy industry and commodity in the SUT. In the Use table we move the values in the re-exports column to this newly created dummy industry. This column then represents the imports of commodities. We assume there are no capital and labour used in this dummy industry. In the Supply Table we allocate in the multi-production matrix, the total value of the costs of this industry. We then adjust the use of this commodity by allocated the value to the export column. In this way do to not disturb the commodity balance or the GDP balance.

3. Step 3: In this step, we extend the industry dimension that the multi-production matrix (in the Supply table) and the intermediate use of commodities by industries (in the Use tables) are square. For example, the multi-production matrix in the supply table shows that the industry called crops produces five agricultural commodities (Figure 8.6 Panel A). The commodities are; (1) Wheat, (2) Other cereals, (3) Vegetables, (4) Fruits and nuts and (5) Other products of agriculture. Our task is to disaggregate the single agricultural industry into five industries, each industry producing a unique agricultural commodity (Figure 8.6 Panel B). Thus, the wheat industry produces a commodity called wheat while the vegetables industry produces a commodity called vegetables.

Figure 8.6: Production of agricultural products (JD million)

Panel A

		Wheat industry
1	Wheat	14.7
2	Other cereals	52.1
3	Vegetables	637.0
4	Fruits and nuts	261.2
5	Other products of agriculture	120.8

Panel B

		Wheat	Other cereals	Vegetables	Fruits and nuts	Other agric products
1	Wheat	14.7				
2	Other cereals		52.1			
3	Vegetables			637.0		
4	Fruits and nuts				261.2	
5	Other agric products					120.8

First, we adjust the multi-production matrix in the Supply Table and split the Wheat industry into the above mentioned 5 industries. We then move the production value of each commodity to the associated industry. Thus, for the 5 commodities and industries, we fill in the diagonal values as in Panel B.

$$MAKE_{(c,c)} = SUP_{(c,c)} = SUP_{(c, "wheat''')}^{initial} \forall c \in AGRIC^{28} \quad (8.2)$$

where

- $SUP_{(c,c)}$ is a matrix of 5 commodities and industries with zero non-diagonal values. The diagonal values are filled in. This matrix is also the MAKE matrix.
- $SUP_{(c, "wheat''')}$ is the commodity value of the 5 agricultural commodities produced by the Wheat industry as presented in the initial SUT.

We then calculate the share of each industries output in total agriculture output.

$$MAKESHR_{(i)} = \frac{MAKE_{(i)}}{\sum_{i \in CROPS} MAKE_{(i)}} \quad (8.3)$$

For all agricultural industries (or commodities) i .

²⁸The SET AGRIC includes (1) Wheat, (2) Other cereals, (3) Vegetables, (4) Fruits and nuts and (5) Other products of agriculture.

We now adapt the Use Tables to show the intermediate use of each of the commodities by the agricultural commodities. We do not have any additional information on the use of agricultural commodities by the agricultural industries and therefore assume that each industry uses their own commodity.

$$USE_{(c,c)} = USE_{(c, "wheat")}^{initial} \forall c \in AGRIC \quad (8.4)$$

where

- $USE_{(c,c)}$ (for both matrices valued as basic and purchaser's price) is a matrix of 5 commodities and industries with diagonal values filled in; and
- $USE_{(c, "wheat")}$ (for both matrices valued as basic and purchaser's price) is the commodity value of the 5 agricultural values use by the industry called Wheat as presented in the *initial* Use tables.

The Use table further shows the use of non-agricultural commodities by the Wheat industry. We distribute these non-agricultural commodities over the agricultural industries by multiplying the intermediate use of non-agricultural commodities by the Wheat industry with the MAKESHR.

We then multiply the share with the appropriate use values.

$$USE_{(c,i)} = USE_{(c,i)}^{initial} \times MAKESHR_{(i)} \forall c \in NONAGRIC \quad (8.5)$$

NONAGRIC is defined as COM – AGRIC²⁹

In creating the source dimension for the flow of commodities to the different users, we assume that all commodities in the newly created industry.

We follow the same procedure as explained above to disaggregate the following industries in the initial database to include new industries. After this step, we have square multi-production matrix.

	Initial industry	New industries
1	Animal production	(1) Live animals, (2) Raw Milk, (3) Eggs of hens or other birds, (4) Other animal products, (5) Fish and other fishing products
2	Mining and quarrying	(1) Crude petroleum and natural gas, (2) Stone, sand and clay, (3) Ores, fertilizer minerals
3	Processing and reserving of meat and fish	(1) Meat and meat products, (2) Prepared and preserved fish
4	Manufacture of other food products	(1) Animal and plant fats and oils, (2) Dairy products and egg products, (3) Other food products
5	Manufacture of beverages and tobacco	(1) Beverages and (2) Tobacco products

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²⁹Non-agricultural commodities for example includes Electricity, Water and a number of service commodities. For a complete list see the initial Use Tables.

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	Initial industry	New industries
6	Manufacture of wood and paper and printing	(1) Products of wood, cork, straw and plaiting materials, (2) Pulp, paper and paper products
7	Manufacture of chemicals and chemical products	(1) Basic chemicals, (2) Other chemical products
8	Manufacture of other non-metallic mineral products	(1) Glass and ceramic and refractory products, (2) Articles of concrete, cement, and plaster , (3) Building stone and Other non-metallic mineral products
9	Manufacture of basic metals and fabricated metal products	(1) Basic metals, (2) Fabricated metal products, except machinery and equipment, (3) Special-purpose machinery
10	Manufacture of other products	(1) General-purpose machinery, (2) Electrical machinery and apparatus, (3) Furniture, (4) Jewellery and related articles, (5) Musical instruments, sports goods, toys, and games, (6) Other manufactured articles n.e.c, (7) Radio, television and communication equipment and apparatus, (8) Motor Vehicles and Parts (9) Other transportation equipment
11	Construction	(1) Residential buildings, (2) Non-residential buildings, (3) Civil engineering works, (4) Construction services
12	Water supply; sewerage, waste management and remediation activities	(1) Water, (2) Sewerage and waste management
13	Financial and insurance activities	(1) FISIM, (2) Insurance services, (3) Other financial services
14	Professional, scientific and technical activities	(1) Legal and accounting services, (2) Professional, technical and business services
15	Administrative and support service activities	(1) Leasing or rental services without operator, (2) Support services
16	Wholesale trade	(1) Wholesale trade, (2) Maintenance and repair (except construction) services
17	Transportation by air, rail, pipeline, and water	(1) Passenger Air transport, (2) Passenger Rail transport, (3) Passenger Water transport, (4) Freight Air transport, (5) Freight Rail transport, (6) Freight Water transport
18	Transport by road	(1) Passenger Road transport, (2) Freight Road Transport

4. Step 4: In this step we create the four core matrices required by the CGE database. These matrices are:

- The use of domestically produced commodity c by user u , valued at basic prices;
- The use of imported commodity c by user u valued at basic prices;
- The use of margin commodity m , to facilitate the flow of commodity c from source s to user u ;
- The indirect taxes paid on commodity c , from source s by user u .

We begin by creating a matrix showing the use of commodity c , from source s , used by user u valued at basic prices. To do so, we begin by assuming that the values in the newly created Re-exports industry are all imported. We then calculate imports by commodity (as

in the Supply table) adjusted for by the values in the Re-exports industry. We then calculate the share of imports in total use and multiply this share with the use table valued at basic price. The output of this step is a matrix showing the value of imported commodity c used by user u valued at basic price. Sum over user yields the import value as shown in the Supply Table. The value of commodity c to user u that is domestically sourced is calculated as the difference between the use table at basic price and the import table.

The Supply Table shows, for each commodity, the value of customs duties, commodity tax and other taxes. The task is to create a tax matrix showing the tax paid on each commodity, from source s by user u . We do not have any additional information and allocate taxes over source and user by creating a tax factor (TAXFACT). TAXFACT is a weighting matrix that indicates the weight assigned to each tax by user. In creating the TAXFACT, we make the following assumptions:

- All users of imported commodities pay customs duties (tariffs) and assign a weight of 1.
- There are no customs duties payable on domestically produced commodities.

The incidence to pay commodity taxes (e.g., VAT and other taxes) falls on the final users of commodities e.g. households and is paid on domestically produced and imported commodities.

- For all intermediate (industrial) users, we assign an initial factor of 1.
- Commodity taxes are mainly paid by households on the consumption of commodities and services. Thus, the tax burden falls on households and we assign a factor of 4.
- No taxes are paid on commodities that are exported.
- No taxes are paid on inventories.
- Other taxes include taxes on beverages, tobacco and petroleum. We allocate the taxes on the commodities proportionately over users.

To create a tax matrix showing the tax by commodity, source and user we multiply the tax factor by the use table at basic prices.

Margin rates on commodity flows should be plausible. For example, it is likely that the rates of trade margin on commodities sold to producers are not higher than those on the same commodities sold to households. This is because the commodities sold to producers are often transacted in wholesale markets, whereas commodities sold to households are often transacted through retail markets.

The Supply table shows the total value of trade and transport margins used to facilitate the flow of commodity c from source s to user u . In creating the margins matrix, we create MARFACT which distributes margins over users. We assume that:

- Commodity-specific margins are allocated proportionately over user and source.

To create a margins matrix showing the value of margin m used to facilitate the flow of commodity c , from source s to user u , we multiply the margin factor by the use table at basic prices.

5. Step 5: In this step we scale the matrices created in Step 4 so that the sum of the VBAS, VMAR and VTAX matrices yields the values in the Use Table. We assume the following: The conditions are:
 - for each commodity and user the margins + basic + tax is equal to the use value at purchasers.
 - sum over the users of domestically sourced commodities valued at basic price is equal to the sum over industries in the MAKE matrix.
 - sum over users of the of imported commodities valued at basic price is equal to the sum over the import columns in the Supply table.
 - for each non-margin commodity, sum over source and user of the margin matrices is equal to the positive value of the margins in the supply table
 - For margin commodities the sum over commodity, user and source of the margin matrices is equal to the margin commodities in the supply table (these values are negative in the supply table)
 - The sum over source and user for all tax matrices is equal to the numbers in the net tax columns in the supply table

Then we RAS the matrices (Horridge 2009). This process is automated, and the program is available from Horridge 2024.

6. Step 6: In this step we create land rental values for agricultural and mining industries. The data suggests that the average share of capital in factor costs for the agricultural industries was 89.6 per cent. This seems too high and it is likely that this payment includes returns to land. As a result, we use the Gross Operating Surplus (GOS) data in the SUT and split the values for agriculture and mining between return to capital and returns to land. In the absence of any data, we borrow the factor shares from the GTAP Data Base for Jordan (Aguiar et al. 2019).
7. Step 7: In this step we split labour payments by industry over occupations. The SUT provides information on the total value of labour payments by industry. We require labour payments to be disaggregated by occupation and industry. To split the aggregate labour payments for each industry, we use employment data from the DOS as well as data from the Statistical Yearbook (2017). Specifically, we use data on the number of people employed in 9 occupations by 22 main sectors to inform on this distribution of 9 occupations by industries.

Based on the employment data from DOS, we first calculate the occupational share of 9 occupations in 22 main industries. We then map the database industries to the 22 main sectors and multiply the share with the labour payments by industries. For example, one of the main sectors is Agriculture, Forestry and Fishing. We map all the Agricultural, Forestry and Fishing industries in the database, to the main industry called Agriculture, Forestry and Fishing. As a consequence, all Agricultural, Forestry and Fishing industries in the database has the same occupational distribution.

G.5 Converting the Jordanian database into GTAP Format

The 88 sectors were aggregated to 65 sectors in the GTAP's standard classification. This mapping is presented in Table 8.15.

Table 8.15: Concordance between 88 Jordan I-O sectors and the Contributed table

Jordan database		GTAP	
Sectors	Code	Description	
1 Wheat	wht	Wheat: seed, other	
2 Other cereals	gro	Other Grains: maize (corn), sorghum, barley, rye, oats, millets, other cereals	
3 Vegetables	v_f	Veg & Fruit: vegetables, fruit and nuts, edible	
4 Fruits and nuts	v_f	roots and tubers, pulses	
5 Other products of agriculture	oap	Other Animal Products: swine; poultry; other live animals; eggs of hens or other birds in shell, fresh; reproductive materials of animals; natural honey; snails, fresh, chilled, frozen, dried, salted or in brine, except sea snails; edible products of animal origin n.e.c.; hides, skins and furskins, raw; insect waxes and spermaceti, whether or not refined or coloured	
6 Live animals, Other animal products	oap		
7 Eggs of hens or other birds in shell, fresh	oap		
8 Other animal products	oap		
9 Raw milk	rmk	Raw milk	
10 Forestry and logging products	frs	Forestry: forestry, logging and related service activities	
11 Fish and other fishing products	fish	Fishing: hunting, trapping and game propagation including related service activities, fishing, fish farms; service activities incidental to fishing	
12 Coal and peat	coa	Coal: mining and agglomeration of hard coal, lignite and peat	
13 Crude petroleum and natural gas	oil	Oil: extraction of crude petroleum, service activities incidental to oil and gas extraction excluding surveying (part)	
14 Stone, sand and clay	oxt	Other Mining Extraction (formerly omn): mining of metal ores;	
15 Ores and chemical and fertilizer minerals	oxt	other mining and quarrying	
16 Electricity, town gas, steam and hot water	ely	Electricity; steam and air conditioning supply	
17 Natural water	wtr	Water supply; sewerage, waste management and remediation activities	
18 Meat and meat products	cmt	"Cattle Meat: fresh or chilled; meat of buffalo, fresh or chilled; meat of sheep, fresh or chilled; meat of goat, fresh or chilled; meat of camels and camelids, fresh or chilled; meat of horses and other equines, fresh or chilled; other meat of mammals, fresh or chilled; meat of mammals, frozen; edible offal of mammals, fresh, chilled or frozen"	

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Jordan database		GTAP	
Sectors		Code	Description
19	Prepared and preserved fish	ofd	"Other Food: prepared and preserved fish, crustaceans, molluscs and other aquatic invertebrates; prepared and preserved vegetables, pulses and potatoes; prepared and preserved fruits and nuts; wheat and meslin flour; other cereal flours; groats, meal and pellets of wheat and other cereals; other cereal grain products (including corn flakes); other vegetable flours and meals; mixes and doughs for the preparation of bakers' wares; starches and starch products; sugars and sugar syrups n.e.c.; preparations used in animal feeding; lucerne (alfalfa) meal and pellets; bakery products; cocoa, chocolate and sugar confectionery; macaroni, noodles, couscous and similar farinaceous products; food products n.e.c."
20	Animal and plant fats and oils	vol	"Vegetable Oils: margarine and similar preparations; cotton linters; oil-cake and other residues resulting from the extraction of vegetable fats or oils; flours and meals of oil seeds or oleaginous fruits, except those of mustard; vegetable waxes, except triglycerides; degreas; residues resulting from the treatment of fatty substances or animal or vegetable waxes; animal fats"
21	Dairy products and egg products	mil	Milk: dairy products
22	Bakery products	ofd	"Other Food: prepared and preserved fish, crustaceans, molluscs and other aquatic invertebrates; prepared and preserved vegetables, pulses and potatoes; prepared and preserved fruits and nuts; wheat and meslin flour; other cereal flours; groats, meal and pellets of wheat and other cereals; other cereal grain products (including corn flakes); other vegetable flours and meals; mixes and doughs for the preparation of bakers' wares; starches and starch products; sugars and sugar syrups n.e.c.; preparations used in animal feeding; lucerne (alfalfa) meal and pellets; bakery products; cocoa, chocolate and sugar confectionery; macaroni, noodles, couscous and similar farinaceous products; food products n.e.c."
23	Beverages	b_t	Beverages and
24	Tobacco products	b_t	Tobacco products
25	Knitted or crocheted fabrics; wearing apparel	wap	Manufacture of wearing apparel
26	Leather and leather products; footwear	lea	Manufacture of leather and related products
27	Other food products	ofd	See above

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Jordan database		GTAP	
Sectors	Code	Description	
28 Yarn and thread; Textile articles other than apparel	tex	Manufacture of textiles	
29 Products of wood, cork, straw and plaiting materials	lum	Lumber: manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	
30 Pulp, paper and paper products	ppp	Paper & Paper Products: includes printing and reproduction of recorded media	
31 Coke oven products; refined petroleum products; nuclear fuel	p_c	Petroleum & Coke: manufacture of coke and refined petroleum products	
32 Basic chemicals	chm	Manufacture of chemicals and chemical products	
33 Pharmaceutical products	bph	Manufacture of pharmaceuticals, medicinal chemical and botanical products	
34 Other chemical products	chm	Manufacture of chemicals and chemical products	
35 Rubber and plastics products	rpp	Manufacture of rubber and plastics products	
36 Glass and ceramic and refractory products	nmm	Manufacture of other non-metallic mineral products	
37 Articles of concrete, cement, and plaster	nmm		
38 Building stone and Other non-metallic mineral products	nmm		
39 Furniture	omf	Other Manufacturing: includes furniture	
40 Jewellery and related articles	omf		
41 Musical instruments, sports goods, toys, and games	omf		
42 Other manufactured articles n.e.c	omf		
43 Basic metals	i_s	Iron & Steel: basic production and casting	
44 Fabricated metal products, except machinery and equipment	fmp	Manufacture of fabricated metal products, except machinery and equipment	
45 General-purpose machinery	ome	Manufacture of machinery and equipment n.e.c.	
46 Special-purpose machinery	ome		
47 Office, accounting and computing machinery	ome		
48 Radio, television and communication equipment and apparatus	ome		
49 Electrical machinery and apparatus	eeq	Manufacture of fabricated metal products, except machinery and equipment	
50 Medical appliances and other precision instruments	omf	Other Manufacturing: includes furniture	
51 Motor vehicles, trailers and parts thereof	mvh	Manufacture of motor vehicles, trailers and semi-trailers	
52 Aircraft and spacecraft, and parts thereof	otn	Manufacture of other transport equipment	
53 Other transportation equipmint	otn		
54 Residential buildings	cns	Construction: building houses factories offices and roads	
55 Non-residential buildings	cns		
56 Civil engineering works	cns		
57 Construction services	cns		

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Jordan database		GTAP	
Sectors	Code	Description	
58 Wholesale trade services	trd	Wholesale and retail trade; repair of motor vehicles and motorcycles	
59 Retail trade services	trd		
60 Accommodation services	afs	Accommodation, Food and service activities	
61 Food and bevarage services	afs		
62 Passenger transport by road	otp	Land transport and transport via pipelines	
63 Freight transport by road	otp		
64 Passenger transport by air, rail, pipeline, and water	atp	Air transport	
65 Freight transport by air, rail, pipeline, and water	atp		
66 Other transportation services	whs	Warehousing and support activities	
67 Telecommunications, broadcasting and information services	cmn	Information and communication	
68 FISIM	ofi	Other Financial Intermediation: includes auxiliary activities but not insurance and pension funding	
69 Insurance services	ins	Insurance (formerly isr): includes pension funding, except compulsory social security	
70 Other financial services	ins		
71 Real estate services	rsa	Real estate activities	
72 Leasing or rental services without operator	obs	Other Business Services nec	
73 Legal and accounting services	obs		
74 Professional, technical and business services	obs		
75 Support services	obs		
76 Maintenance and repair (except construction) services	obs		
77 Other services	obs		
78 Domestic services	obs		
79 Re-exports	obs		
80 Recreational, cultural and sporting services	ros	Recreation & Other Services: recreational, cultural and sporting activities, other service activities; private households with employed persons (servants)	
81 Public administration services	osg	Other Services (Government): public administration and defense; compulsory social security, activities of membership organizations n.e.c., extra-territorial organizations and bodies	
82 Sewage and waste collection services	osg		
83 Services of membership organizations	osg		
84 Private Education services	edu	Education	
85 Public Education services	edu		
86 Private Human health and social care services	hht	Human health and social work	
87 Public Human health and social care services	hht		
88 Imputed rent	dwe	Dwellings: ownership of dwellings (imputed rents of houses occupied by owners)	

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