

Korea

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1. Introduction

This chapter describes the procedure and considerations underlying the construction of the Korean Input-Output (I-O) Table for version 9 of the Global Trade Analysis Project (GTAP) Data Base. The document is organized as follows. Section 2 provides a short description of general characteristics of the Korean I-O table. Section 3 shows how the Korean I-O table is mapped to the GTAP concordance. Section 4 explains how negative values in the initial Korean I-O table are adjusted and Section 5 shows how commodity taxes on domestic products and imports are calculated. In the final section, information not available from the Korean I-O table is mentioned.

2. Data source

The Korean I-O table used for the GTAP Data Base version 9 was compiled by the Bank of Korea in Seoul (The Bank of Korea, 2014). The reference year of the Korean I-O table is 2010 and the unit of accounts is Korean million won. The Korean I-O table for 2010 is the first I-O table of Korea generated using the supply and use tables compiled according to the system of national accounts (SNA) of 2008. In other words, the supply and use tables were first compiled based on the SNA (2008), and the Korean I-O table for 2010 was calculated by multiplying the supply table by the use table. The Korean I-O table is grouped commodity by commodity and includes 384 sectors.¹

The Korean I-O table includes three different tables: a transactions table of domestically produced goods and services, a transactions table of imported goods and services and a transactions table of composite goods and services composed of domestic and imported goods and services. These three tables are evaluated at three different prices: purchaser prices, producer prices, and basic prices. The differences between a transactions table of domestic goods and services at purchaser prices and a transactions table of domestic goods and services at producer prices are trade margins and transportation costs. The differences between the transactions table of domestic products at producer prices and the transactions table of domestic products at basic prices are net commodity tax on products. Since no information on trade margins and transportation costs of foreign countries is available, the transactions table of imports at purchaser prices and the transactions table of imports at producer prices are the same. The differences between the transactions table of imports at producer prices and the transactions table of imports at basic prices are commodity tax on imports.

Four transactions tables of the Korean I-O table are used to generate the data set for the GTAP Data Base version 9: the transactions table of domestic products at producer prices, the transactions table of domestic products at basic prices, the transactions table of imports at producer prices and the transactions table of imports at basic prices.

¹ The previous Korean I-O table used for GTAP Data Base version 8.1 whose reference year is 2007 comprises 403 sectors.

The matrix of final demand in the transactions table of domestic products and the matrix of final demand of the transactions table of imports include private consumption expenditure, government consumption expenditure, gross private fixed capital formation, gross government fixed capital formation, change in stocks, valuables consisting of works of art, precious metals and stones and articles of jewelry, and exports (of course, the transactions table of imports doesn't include a column of exports). Valuables consisting of works of art, precious metals and stones and articles of jewelry were added to private consumption expenditure to get a vector of household consumption of domestic products and a vector of household consumption of imports. Gross government fixed capital formation was added to gross private fixed capital formation to get a vector of investment usage of domestic products and a vector of investment usage of imports.

The matrix of value added in the transactions table at producer prices includes compensation of employees, operating surplus, depreciation of fixed capital, and net indirect taxes. Depreciation of fixed capital was added to operating surplus to obtain a vector of employment of capital. Subsidies were subtracted from indirect taxes to get a vector of net non-commodity indirect taxes.

3. Mapping the Korean I-O table to the GTAP sectoral classification

Table A.1 in the appendix shows how 384 sectors of the Korean I-O table are mapped to the GTAP sectoral classification (GSC2). The Korean I-O table does not include sugar cane and sugar beet (sector 6 of the GTAP data base) and includes 7 sectors which should be split into more than one sector of the GTAP data base: sector 2 (wheat and other crops), sector 18 (other livestock breeding), sector 25 (agriculture, forestry and fishing services), sector 35 (slaughtering and meat processing), sector 42 (polished rice, barley and others), sector 50 (animal and marine fats and oils), and sector 340 (services auxiliary to finance and insurance) of the Korean I-O table.

Sector 2 (wheat and other crops²) of the Korean I-O table includes wheat and other crops and is split into sector 2 (wheat) and sector 3 (cereal grains nec) of the GSC2, as seen in Tables 1 and 2. The * signifies the Korean I-O table sector affected by the split. 33.92 percent and 66.08 percent of sector 2 (wheat and other crops) of the Korean I-O table were assigned to sector 2 (wheat) and sector 3 (cereal grains nec) of the GSC2, respectively, as shown in Table 2.

Table 1. Splits of sector 2 (wheat and other crops) of the Korean I-O table in accordance with GSC2

GTAP (GSC2)	Korean I-O table
02 Wheat	2* Wheat and other crops
03 Cereal grains nec	2* Wheat and other crops

² Wheat was sector 3 of the Korean I-O table for 2007 used for GTAP Data Base version 8.1, which includes 403 sectors, whereas wheat is part of sector 2 (wheat and other crops) of the Korean I-O table for 2010 used for GTAP Data Base version 9.

Table 2. Shares of components of sector 2 (wheat and other crops) of the Korean I-O table

Commodity	Domestic production (mil. won)	Imports (mil. won)	Total supply (mil. won)	Share (%)
Wheat	34,216	1,241,547	1,275,763	33.92
Other crops	158,892	2,325,913	2,484,805	66.08
Total	193,108	3,567,460	3,760,568	100.0

Sector 18 (other livestock breeding) of the Korean I-O table is split into sector 9 (bovine cattle, sheep and goats, horses), sector 10 (animal products nec), and sector 12 (wool, silk-worm cocoons) of the GSC2. The splits of sector 18 (other livestock breeding) of the Korean I-O table are presented in Tables 3 and 4. The splits of sector 18 of the Korean I-O tables (the transactions tables of domestic products and imports) were done using the shares of total supply consisting of domestic output and imports of goats, goat milk, deer, antlers of the deer, other livestock, honey, nectar, dog, rabbit, other livestock products, fur, green skin and pelt, silk-worm cocoons, and by-products.

Table 3. Splits of sector 18 (other livestock breeding) of the Korean I-O table in accordance with GSC2

GTAP (GSC2)	Korean I-O table
09 Bovine cattle, sheep and goats, horses	15 Beef cattle
	18* Other livestock breeding
10 Animal products nec	16 Swine
	17 Poultry and eggs
	18* Other livestock breeding
12 Wool, silk-worm cocoons	18* Other livestock breeding

21.66 percent, 55.42 percent and 22.92 percent of sector 18 (other livestock breeding) of the Korean I-O table were assigned to sector 9 (bovine cattle, sheep and goats, horses), sector 10 (animal products nec), and sector 12 (wool, silk-worm cocoons) of the GSC2, respectively, as shown in Table 4.

Table 4. Shares of components of sector 18 (other livestock breeding) of the Korean I-O table

Commodity	Domestic production (mil. won)	Imports (mil. won)	Total supply (mil. won)	Share (%)
Goats	50,245	0	50,245	4.86
Goat milk	47,890	0	47,890	4.64
Deer	23,051	0	23,051	2.23
Antlers of the deer	72,980	28,035	101,015	9.78
Other livestock	532	1,050	1,582	0.15
Subtotal	194,698	29,085	223,783	21.66
Honey	433,193	3,549	436,742	42.28
Nectar	59,597	7,404	67,001	6.49
Dog	0	2,308	2,308	0.22
Rabbit	14,834	107	14,941	1.45
Other livestock products	15,957	35,568	51,525	4.99
Subtotal	523,581	48,936	572,517	55.42
Fur	292	73,295	73,587	7.12
Green skin and pelt	0	142,154	142,154	13.76
Silk-worm cocoons	5,630	965	6,595	0.64
By-products	9,193	5,235	14,428	1.40
Subtotal	15,115	221,649	236,764	22.92
Total	733,394	299,670	1,033,064	100.00

Sector 25 (agriculture, forestry and fishing services) of the Korean I-O table is split into sectors 1-14 of the GSC2, as shown in Table 5. The splits of sector 25 of the Korean I-O table were done using the shares of domestic output of sectors 1-24 of the Korean I-O table, as presented in Table 6. For final contribution, GTAP, sectors ctl and oap were merged as per recommendation of GTAP staff.

Table 5. Splits of sector 25 (agriculture, forestry and fishing services) of the Korean I-O table in accordance with GSC2

GTAP (GSC2)	Korean I-O table
01 Paddy rice	01 Unmilled rice 25* Agriculture, forestry and fishing services
02 Wheat	02* Wheat and other crops 25* Agriculture, forestry and fishing services
03 Cereal grains nec	02* Wheat and other crops 25* Agriculture, forestry and fishing services
04 Vegetables, fruit, nuts	05 Vegetables 06 Fruits 03 Pulses 25* Agriculture, forestry and fishing services
05 Oil seeds	08 Other edible crops 25* Agriculture, forestry and fishing services
06 Sugar cane, sugar beet	Not existent
07 Plant-based fibers	13 Other inedible crops 25* Agriculture, forestry and fishing services
08 Crops nec	04 Potatoes 07 Cultivated medicinal herbs 09 Leaf tobacco 10 Ornamental floriculture 11 Natural rubber 12 Seeds and seedlings 25* Agriculture, forestry and fishing services
09 Bovine cattle, sheep and goats, horses	15 Beef cattle 18* Other livestock breeding 25* Agriculture, forestry and fishing services
10 Animal products nec	16 Swine 17 Poultry and eggs 18* Other livestock breeding 25* Agriculture, forestry and fishing services
11 Raw milk	14 Dairy farming 25* Agriculture, forestry and fishing services
12 Wool, silk-worm cocoons	18* Other livestock breeding 25* Agriculture, forestry and fishing services
13 Forestry	19 Forest planting and conservation 20 Raw timber 21 Edible forestry products 22 Misc. forestry products 25* Agriculture, forestry and fishing services
14 Fishing	23 Fishing 24 Aquaculture 25* Agriculture, forestry and fishing services

Table 6. Shares of sectors 1-24 of the Korean I-O table for the split of sector 25 (agriculture, forestry and fishing services) of the Korean I-O table

GTAP (GSC2)	Korean I-O table	Domestic production (mil. won)	Share (%)
01 pdr	01 Unmilled rice	6,970,742	13.51
02 wht	02* Wheat and other crops	65,502	0.13
03 gro	02* Wheat and other crops	127,606	0.25
04 v_f	05 Vegetables	9,297,279	18.03
	06 Fruits	3,580,672	6.94
	03 Pulses	562,846	1.09
05 osd	08 Other edible crops	349,233	0.68
06 c_b	Not existent	0.0	0.00
07 pfb	13 Other inedible crops	3,703	0.01
08 ocr	04 Potatoes	534,630	1.04
	07 Cultivated medicinal herbs	2,015,550	3.91
	09 Leaf tobacco	92,677	0.18
	10 Ornamental floriculture	1,535,706	2.98
	11 Natural rubber	0.0	0.00
	12 Seeds and seedlings	47,797	0.09
09 ctl	15 Beef cattle	4,701,208	9.11
	18* Other livestock breeding	158,853	0.31
10 oap	16 Swine	4,863,727	9.43
	17 Poultry and eggs	4,660,846	9.04
	18* Other livestock breeding	406,447	0.79
11 rmk	14 Dairy farming	1,806,517	3.50
12 wol	18* Other livestock breeding	168,094	0.33
13 for	19 Forest planting and conservation	707,230	1.37
	20 Raw timber	259,619	0.50
	21 Edible forestry products	1,140,732	2.21
	22 Misc. forestry products	100,700	0.20
14 fsh	23 Fishing	5,343,287	10.36
	24 Aquaculture	2,077,930	4.03
Total		51,579,133	100.00

Sector 35 (slaughtering and meat processing) of the Korean I-O table is split into sector 19 (bovine cattle, sheep and goats, horse meat products) and sector 20 (meat products nec) of the GSC2, as shown in Tables 7 and 8. For final contribution, GTAP, sectors cmt and omt were merged as per recommendation of GTAP staff.

The splits of sector 35 of the Korean I-O table were done using the shares of total supply consisting of domestic output and imports of slaughtered meat, beef, other slaughtered meat, pig meat, green skin, other by-products, chicken, poultry except chicken, poultry by-products, ham and bacon, sausage, canned meat products, poultry processed products, and other processed meat products, as shown in Table 8. 33.04 percent and 66.96 percent of sector 35 (slaughtering and meat processing) of the Korean I-O table were assigned to sector 19 (bovine cattle, sheep and goats, horse meat products) and sector 20 (meat products nec) of the GSC2, respectively.

Table 7. Splits of sector 35 (slaughtering and meat processing) and sector 50 (animal and marine fats and oils) of the Korean I-O table in accordance with GSC2

GTAP (GSC2)	Korean I-O table
19 Bovine cattle, sheep and goats, horse meat products	35* Slaughtering and meat processing
20 Meat products nec	35* Slaughtering and meat processing
	36 Poultry slaughtering and processing
	37 Prepared meat products
	50* Animal and vegetable fats and oils
21 Vegetable oils and fats	50* Animal and vegetable fats and oils

Table 8. Shares of components of sector 35 (slaughtering and meat processing) of the Korean I-O table

Commodity	Domestic production (mil. won)	Imports (mil. won)	Total supply (mil. won)	Share (%)
Slaughtered meat	0	11,288	11,288	0.06
Beef	5,072,722	1,243,291	6,316,013	32.87
Other slaughtered meat	292	21,562	21,854	0.11
Subtotal	5,073,014	1,276,141	6,349,155	33.04
Pig meat	5,275,676	768,563	6,044,239	31.46
Green skin	34,764	468,685	503,449	2.62
Other by-products	87,415	224,196	311,611	1.62
Chicken	2,450,111	183,341	2,633,452	13.71
Poultry except chicken	637,000	5,374	642,374	3.34
Poultry by-products	150,565	52,231	202,796	1.06
Ham and bacon	708,071	4,941	713,012	3.71
Sausage	482,356	24,272	506,628	2.64
Canned meat products	13,424	14,073	27,497	0.14
Poultry processed products	386,680	63,558	450,238	2.34
Other processed meat products	815,195	14,309	829,504	4.32
Subtotal	11,041,257	1,823,543	12,864,800	66.96
Total	16,114,271	3,099,684	19,213,955	100.00

Sector 50 (animal and vegetable fats and oils) of the Korean I-O table is split into sector 20 (meat products nec) and sector 21 (vegetable oils and fats) of the GSC2, as shown in Tables 7 and 9.

The splits of sector 50 of the Korean I-O table were done using the shares of total supply consisting of domestic output and imports of edible animal fats, inedible animal fats, fish fats, animal oil cake, sesame oil, perilla oil, raw corn oil, rapeseed oil, other vegetable oils, soy bean oil, corn oil, olive oil, other edible refined oil, margarine, shortening, other oils, and other vegetable oil cake, as shown in Table 9. 9.28 percent and 90.72 percent of sector 50 (animal and vegetable fats and oils) of the Korean I-O table were assigned to sector 20 (meat products nec) and sector 21 (vegetable oils and fats) of the GSC2, respectively.

Table 9. Shares of components of sector 50 (animal and vegetablefats and oils) of the Korean I-O table

Commodity	Domestic production (mil. won)	Imports (mil. won)	Total supply (mil. won)	Share (%)
Edible animal fats	114,700	0	114,700	2.52
Inedible animal fats	35,188	78,098	113,286	2.49
Fish fats	5,107	24,289	29,396	0.65
Animal oil cake	165,059	0	165,059	3.63
Subtotal	320,054	102,387	422,441	9.28
Sesame oil	266,149	1,905	268,054	5.89
Perilla oil	31,685	1,834	33,519	0.74
Raw corn oil	14,762	444	15,206	0.33
Rapeseed oil	27,251	391	27,642	0.61
Other vegetable oils	46,092	441,775	487,867	10.72
Soy bean oil	537,567	338,107	875,674	19.23
Corn oil	69,720	185	69,905	1.54
Olive oil	26,450	43,282	69,732	1.53
Other edible refined oil	597,640	284,034	881,674	19.37
Margarine	81,542	3,763	85,305	1.87
Shortening	101,800	3,699	105,499	2.32
Other oils	37,714	21,860	59,574	1.31
Other vegetable oil cake	344,801	805,775	1,150,576	25.27
Subtotal	2,183,173	1,947,054	4,130,227	90.72
Total	2,503,227	2,049,441	4,552,668	100.0

Sector 42 (polished rice, barley and others) of the Korean I-O table is split into sector 23 (processed rice) and sector 25 (food products nec) of the GSC2, as shown in Tables 10 and 11. The splits of sector 42 of the Korean I-O table were done using the shares of total supply consisting of domestic output and imports of processed rice, processed barley, other processed grains, and processed by-products, as seen in Table 11. 95.53 percent and 4.47 percent of sector 42 (polished rice, barley and others) of the Korean I-O table were assigned to sector 23 (processed rice) and sector 25 (food products nec) of the GSC2, respectively.

Table 10. Splits of sector 42 (polished rice, barley and others) of the Korean I-O table in accordance with GSC2

GTAP (GSC2)	Korean I-O table
23 Processed rice	42* Polished rice, barley and others
25 Food products nec	42* Polished rice, barley and others 40 Processed fish and sea foods 41 Frozen, salted, dried and smoked fish and sea foods 43 Flour and cereal preparations 46 Starches, glucose, glucose syrup and maltose 47 Bakery and confectionery products 48 Noodles 49 Seasonings 51 Canned or cured fruits and vegetables 52 Coffee and tea 53 Ginseng products 54 Miscellaneous foodstuffs 55 Prepared livestock feeds

Table 11. Shares of components of 42 (polished rice, barley and others) of the Korean I-O table

Commodity	Domestic production (mil. won)	Imports (mil. won)	Total supply (mil. won)	Share (%)
Processed rice	6,787,222	286,240	7,073,462	95.53
Processed barley	66,185	0	66,185	0.89
Other processed grains	237,623	48	237,671	3.21
Processed by-products	21,291	5,880	27,171	0.37
Subtotal	325,099	5,928	331,027	4.47
Total	7,112,321	292,168	7,404,489	100.00

Sector 340 (services auxiliary to finance and insurance) of the Korean I-O table is split into sector 52 (financial services nec) and sector 53 (insurance) of the GTAP data base, as shown in Table 12. Shares of the splits of sector 340 are presented in Table 13, i.e., 77.03 percent and 22.97 percent of domestic production of sector 340 were assigned to sector 52 (financial services nec) and sector 53 (insurance) of the GTAP data base, respectively.

Table 12. Splits of sector 340 (services auxiliary to finance and insurance) of the Korean I-O table in consistence with GSC2

GTAP (GSC2)	Korean I-O table
52 Financial services nec	335 Central bank and banking institutions
	336 Financial investment institutions
	337 Other financial intermediaries
	340* Services auxiliary to finance and insurance
53 Insurance	338 Life insurance
	339 Casualty insurance
	340* Services auxiliary to finance and insurance

Table 13. Shares of the splits of sector 340 (services auxiliary to finance and insurance) of the Korean I-O table

Sector	Domestic production (mil. won)	Share (%)
Securities organizations	10,371,829	66.66
Other financial organizations	916,026	5.89
Financial holding companies	447,571	2.88
Non-financial holding companies	26,488	0.17
The Financial Supervisory Service	222,986	1.43
Subtotal	11,984,900	77.03
Insurance agents and brokers	3,369,304	21.65
Insurance appraisal	204,882	1.32
Subtotal	3,574,186	22.97
Total	12,207,886	100.00

4. Adjustment of negative values

There were some negative values in the intermediate usage of domestic products, household consumption of domestic products, and investment usage of domestic products in the Korean I-O tables used for the previous versions 5 (Ko and Cheong, 2002), 6 (Ko, 2006), 7 (Ko, 2008), and 8 (Ko, 2012) of the GTAP database, while there is no negative value in the intermediate usage of domestic products, household consumption of domestic products, and investment usage of domestic products in the Korean I-O tables used for GTAP Data Base version 9. It is because a 'new' row vector of scraps which includes negative values is in the Korean I-O table for 2010 used for GTAP Data Base version 9, which does not belong to either the matrix of intermediate inputs or the matrix of value-added. The negative values of the vector of scraps were set to zeroes and the sectoral balance was restored by adjusting "non-commodity indirect taxes".

There are negative values of operating surplus in the Korean I-O table: sector 26 (anthracite), sector 304 (railroad passenger transportation), and sector 305 (railroad freight transportation).

Before correcting the negative values, 384 sectors of the Korean I-O table were aggregated into 57 sectors in concordance with the GTAP sectoral classification (GSC2). Then, the still offending cells in operating surplus were set to zeroes and the sectoral balance was restored by adjusting “non-commodity indirect taxes”.

5. Calculating commodity taxes on domestic products and imports

Commodity tax on intermediate usage of domestic products, by commodity and commodity (AI16), commodity tax on household consumption of domestic products, by commodity (AI18), commodity tax on investment usage of domestic products, by commodity (AI20), and commodity tax on change in stocks of domestic products, by commodity (AI25) are computed by subtracting the corresponding matrix or vector of the transactions table of domestic products at basic prices from the corresponding matrix or vector of the transactions table of domestic products at producer prices. For instance, the matrix of commodity tax on intermediate usage of domestic products (AI16) is calculated by subtracting the matrix of intermediate usage of domestic products (AI01) at basic prices from the matrix of intermediate usage of domestic products (AI01) at producer prices. The vector of commodity tax on household consumption of domestic products (AI18) is calculated by subtracting the vector of household consumption of domestic products (AI05) at basic prices from the vector of household consumption of domestic products (AI05) at producer prices. The vector of commodity tax on investment usage of domestic products (AI20) is calculated by subtracting the vector of investment usage of domestic products (AI03) at basic prices from the vector of investment usage of domestic products (AI03) at producer prices. The vector of commodity tax on change in stocks of domestic products (AI25) is calculated by subtracting the vector of change in stocks of domestic products (AI09) at basic prices from the vector of change in stocks of domestic products (AI09) at producer prices.

Commodity tax on intermediate usage of imports, by commodity and commodity (AI17), commodity tax on household consumption of imports, by commodity (AI19), commodity tax on investment usage of imports, by commodity (AI21), and commodity tax on change in stocks of imports, by commodity (AI26) are computed by subtracting the corresponding matrix or vector of the transactions table of imports at basic prices from the corresponding matrix or vector of the transactions table of imports at producer prices.

For instance, the matrix of commodity tax on intermediate usage of imports (AI17) is calculated by subtracting the matrix of intermediate usage of imports (AI02) at basic prices from the matrix of intermediate usage of imports (AI02) at producer prices. The vector of commodity tax on household consumption of imports (AI19) is calculated by subtracting the vector of household consumption of imports (AI06) at basic prices from the vector of household consumption of imports (AI06) at producer prices. The vector of commodity tax on investment usage of imports (AI21) is calculated by subtracting the vector of investment usage of imports (AI04) at basic prices from the vector of investment usage of imports (AI04) at producer prices. The vector of commodity tax on change in stocks of imports (AI26) is calculated by subtracting the vector of change in stocks of imports (AI10) at basic prices from the vector of change in stocks of imports (AI10) at producer prices.

Commodity tax on government consumption of domestic products, by commodity (AI22), commodity

tax on government consumption of imports, by commodity (AI23), commodity tax on exports, by commodity (AI24) are zeroes in the Korean I-O table.

6. Information not available from the Korean I-O table

Of the information mentioned in Table 2 of GTAP Technical Paper No. 1, “Contributing Input-Output Tables to the GTAP Data Base”, Release 4.2, January 2000, only employment of land, by industry (AI15) is not available from the Korean I-O table. This array is filled with zeroes.

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Appendix

Table A.1 A mapping of 384 sectors of Korean I-O table to GTAP sectoral classification

GTAP sectoral classification (GSC2)		Korean I-O table sectoral classification		
1	pdr Paddy rice	1 Unmilled rice		
		25* Agriculture, forestry and fishing services		
2	wht Wheat	2* Wheat and other crops		
		25* Agriculture, forestry and fishing services		
3	gro Cereal grains nec	2* Wheat and other crops		
		25* Agriculture, forestry and fishing services		
4	v_f Vegetables, fruit, nuts	5 Vegetables		
		6 Fruits		
		3 Pulses		
		25* Agriculture, forestry and fishing services		
5	osd Oil seeds	8 Other edible crops		
		25* Agriculture, forestry and fishing services		
6	c_b Sugar cane, sugar beet	Not existent		
7	pfb Plant-based fibers	13 Other inedible crops		
		25* Agriculture, forestry and fishing services		
8	ocr Crops nec	4 Potatoes		
		7 Cultivated medicinal herbs		
		8 Other edible crops		
		9 Leaf tobacco		
		10 Ornamental floriculture		
		11 Natural rubber		
		12 Seeds and seedlings		
		25* Agriculture, forestry and fishing services		
		9	ctl Bovine cattle, sheep and goats, horses	15 Beef cattle
				18* Other livestock breeding
				25* Agriculture, forestry and fishing services
		10	oap Animal products nec	16 Swine
17 Poultry and eggs				
18* Other livestock breeding				
25* Agriculture, forestry and fishing services				
11	rmk Raw milk	14 Dairy farming		
		25* Agriculture, forestry and fishing services		
12	wol Wool, silk-worm cocoons	18* Other livestock breeding		
		25* Agriculture, forestry and fishing services		
13	for Forestry	19 Forest planting and conservation		
		20 Raw timber		
		21 Edible forestry products		
		22 Misc. forestry products		
		25* Agriculture, forestry and fishing services		

GTAP sectoral classification (GSC2)			Korean I-O table sectoral classification
14	fish	Fishing	23 Fishing 24 Aquaculture 25* Agriculture, forestry and fishing services 26 Anthracite
15	col	Coal	27 Bituminous coal 28 Crude petroleum
16	oil	Oil	29 Natural gas
17	gas	Gas	30 Iron ores
18	omn	Minerals nec	31 Other nonferrous metal ores 32 Sand and stones 33 Limestone 34 Misc. nonmetallic minerals
19	cmt	Bovine cattle, sheep and goat, horse meat products	35* Slaughtering and meat processing
20	omt	Meat products nec	36 Poultry slaughtering and processing 37 Prepared meat products 50* Animal and vegetable fats and oils
21	vol	Vegetable oils and fats	50* Animal and vegetable fats and oils
22	mil	Dairy products	38 Milk 39 Dairy products
23	pcr	Processed rice	42* Polished rice, barley and others
24	sgr	Sugar	44 Raw sugar 45 Refined sugar
25	ofd	Food products nec	40 Processed fish and sea foods 41 Frozen, salted, dried and smoked fish and sea foods 42* Polished rice and barley and others 43 Flour and cereal preparations 46 Starches, glucose, glucose syrup and maltose 47 Bakery and confectionery products 48 Noodles 49 Seasonings 51 Canned or cured fruits and vegetables 52 Coffee and tea 53 Ginseng products 54 Miscellaneous foodstuffs 55 Prepared livestock feeds
26	b_t	Beverages and tobacco products	56 Ethyl alcohol for beverages 57 Distilled spirits (soju) 58 Beer 59 Other liquors 60 Nonalcoholic drinks and ice 61 Tobacco products
27	tex	Textiles	62 Natural yarn 63 Chemical fiber yarn 64 Other fiber yarns

GTAP sectoral classification (GSC2)		Korean I-O table sectoral classification
		65 Natural fabrics
		66 Chemical fiber fabrics
		67 Other fiber fabrics
		68 Knitted fabrics
		69 Fiber bleaching and dyeing
		70 Textile products
28	wap Wearing apparel	71 Cordage, rope, and fishing nets
		72 Misc. textile products
		73 Textile wearing apparels
		74 Knitted wearing apparels
		75 Leather wearing apparels
		76 Fur wearing apparels and products
		77 Clothing accessories
29	lea Leather products	78 Leather
		79 Fur
		80 Luggage and handbags
		81 Footwear
		82 Other leather products
30	lum Wood products	83 Lumber
		84 Plywood
		85 Reconstituted and densified wood
		86 Wooden products for construction
		87 Wooden containers
		88 Other wooden products
		89 Pulp
31	ppp Paper products, publishing	90 Printing paper
		91 Other raw paper and paperboard
		92 Corrugated paper and solid fiber boxes
		93 Paper containers
		94 Stationery paper and office paper
		95 Sanitary paper products
		96 Other paper products
		97 Printing
		98 Publishing and reproduction of recorded media
		331 Newspapers
		332 Publishing
32	p_c Petroleum, coal products	99 Coke and other coal products
		100 Coal briquettes
		101 Naphtha
		102 Gasoline
		103 Jet oil
		104 Kerosene
		105 Light oil
		106 Heavy oil
		107 Liquefied petroleum gas
		108 Refined mixed oil
		109 Lubricants and grease

GTAP sectoral classification (GSC2)		Korean I-O table sectoral classification				
33	crp	Chemical, rubber, plastic products	110 Misc. petroleum refinery products			
			111 Aliphatic petrochemical basic products			
			112 Aromatic petrochemical basic products			
			113 Petrochemical intermediate products			
			114 Coal chemicals			
			115 Other basic organic chemicals			
			116 Industrial gases			
			117 Basic inorganic chemicals			
			118 Dyes, pigments, and tanning materials			
			119 Synthetic resins			
			120 Synthetic rubber			
			121 Chemical fibers			
			122 Medicaments			
			123 Fertilizers and nitrogen compounds			
			124 Pesticides			
			125 Paints, varnishes, and allied products			
			126 Printing ink			
			127 Soap, detergents and dentifrices			
			128 Cosmetics			
			129 Adhesives, gelatin and sealants			
			130 Photographic chemical products			
			131 Misc. chemical products			
			132 Primary plastic products			
			133 Plastic products for construction			
			134 Plastic products for package			
			135 Plastic products for assembly			
			136 Misc. plastic products			
			137 Tires and tubes			
			138 Industrial rubber products			
			139 Misc. rubber products			
			34	nmm	Mineral products nec	140 Sheet glass and primary glass products
						141 Glass products for electronics
						142 Industrial glass products except 141
						143 Other glass products
						144 Pottery, china and earthenware for home use
						145 Industrial pottery products
						146 Clay refractories
						147 Clay products for construction
						148 Cement
149 Ready mixed concrete						
150 Concrete blocks, bricks, and other concrete products						
151 Lime, gypsum, and plaster products						
152 Cut stone & stone products						
155 Asbestos and mineral wool products						
153 Abrasives						

GTAP sectoral classification (GSC2)		Korean I-O table sectoral classification
		154 Asphalts
		156 Misc. nonmetallic mineral products
35	i_s Ferrous metals	157 Pig iron
		158 Ferroalloys
		159 Steel ingots and semifinished products
		160 Steel rods and bars
		161 Section steel
		162 Rails and wires
		163 Hot rolled steel plates and sheets
		165 Steel pipe and tubes, except foundry iron pipe and tubes
		166 Cold rolled steel sheet, strip, and bars
		167 Coated steel plates
		168 Misc. primary iron and steel products
36	nfm Metals nec	169 Copper smelting, refining and alloy
		170 Aluminium smelting, refining and alloy
		171 Lead and zinc smelting, refining and alloy
		172 Gold and silver ingots
		173 Other nonferrous metal ingots
		174 Primary copper products
		175 Primary aluminium products
		176 Other nonferrous metal castings and forgings, and primary nonferrous metals
		177 Metal foundries
		182 Metal forgings and metallurgical products
		164 Fabricated wire products
37	fmp Metal products	178 Metal products for construction
		179 Structural metal products
		180 Metal tanks and reservoirs
		183 Metal pressed products
		184 Treatment and coating of metals
		185 Products made of coated metals
		186 Household metallic utensils
		187 Fastening metal products
		188 Hand tools
		189 Bolts, nuts, screws, rivets, and washers
		190 Metal cans, barrels, and drums
38	mvh Motor vehicles and parts	249 Passenger automobiles
		250 Buses and vans
		251 Trucks
		252 Motor vehicles with special equipment
		254 Motor vehicle engines
		253 Trailers and containers
		255 Motor vehicle chassis, bodies and parts
39	otn Transport equipment nec	256 Steel ships
		257 Other ships
		258 Ship repairing and ship parts

GTAP sectoral classification (GSC2)		Korean I-O table sectoral classification
		259 Railroad vehicles and parts
		260 Aircraft and parts
		261 Motorcycles and parts
		262 Bicycles and parts and misc. transportation
40	ele Electronic equipment	199 Office machines and devices
		214 Motors and generators
		215 Electric transformers
		216 Capacitors and rectifiers
		217 electric circuit switch and connection equipment
		218 Panel boards and automatic control panels
		219 Batteries
		220 Insulated wires and cables
		221 Electric bulbs and lamps
		222 Electric lighting fixtures
		223 Misc. electric equipment and supplies
		224 Semiconductor devices
		225 Integrated circuits
		226 LCD flat display
		227 Misc. electronic display equipment
		228 Printed circuit boards
		229 Electric resistors, storage batteries, electric coils, and transformers
		230 Misc. electronic components
		231 Computers
		232 Computer memory storage
		233 Computer and peripheral equipment
		234 Wire telephone and telegraph equipment
		235 Mobile communications equipment
		236 Misc. communication and broadcasting equipment
		237 Television receiving sets
		238 Film production equipment
		239 Audio and sound equipment
		240 Household refrigerators and freezers
		241 Cooking appliances and heating apparatus
		242 Other household electronic appliances
		181 Industrial boiler and steam generator
		192 Engines and turbines
41	ome Machinery and equipment nec	193 Pumps and compressors
		194 Valves
		195 Bearings, gears, gearing and driving elements
		196 Conveyors and conveying equipment
		197 Air-conditioning equipment and industrial refrigeration equipment
		198 Filtering or purifying machinery for liquid and gases
		200 Misc. machinery and equipment of general

GTAP sectoral classification (GSC2)		Korean I-O table sectoral classification
		purpose
		201 Agricultural implements and machines
		202 Construction and mining machines
		203 Metal cutting equipment
		204 Metal forming machine tools
		205 Metal molds and industrial patterns
		206 Semiconductor machines
		207 Display machines
		208 Food processing machines
		209 Textile and apparel machines
		210 Industrial robots
		211 Printing machines
		212 Rubber and plastic surgery equipment
		213 Misc. special purpose equipment
		243 Medical instruments and supplies
		245 Industrial automatic regulators
		244 Measuring and analytical instruments
		246 Cinematograph cameras and projectors
		247 Other photographic and optical instruments
		248 Watches and clocks
		263 Wood furniture
		264 Metal furniture
		265 Other furniture
42	omf Manufactures nec	266 Toys and games
		267 Sporting and athletic goods
		268 Musical instruments
		269 Pens, pencils, and other artists' materials
		270 Jewelry and plated ware
		271 Models and decorations
		272 Misc. manufactured products
		273 Manufacturing and processing services
43	ely Electricity	274 Water power generation
		275 Thermal power generation
		276 Atomic power generation
		277 In-house power generation
		278 Renewable energy generation
44	gdt Gas manufacture, distribution	279 Manufactured gas supply
		280 Steam and hot water supply
45	wtr Water	281 Water supply
		287 Residential building construction
46	cns Construction	288 Nonresidential building construction
		289 Building repairs
		290 Road construction
		291 Railroad construction
		292 Breakwater, pier, and harbor construction
		293 Dam, levee, and flood control project construction

GTAP sectoral classification (GSC2)			Korean I-O table sectoral classification
			294 Water main line and drainage project construction
			295 Land clearing and reclamation, and irrigation project construction
			296 Land leveling and athletic field construction
			297 Environment purification facilities
			298 Communications line construction
			299 Electric power plant construction
			300 Industrial plant construction
47	trd	Trade	301 Miscellaneous construction
			302 Wholesale trade
			303 Retail trade
			318 General eating places
			319 Drinking places
			320 Misc. eating and drinking places
			321 Hotels and other lodging places
			378 Motor repair services
48	otp	Transport nec	304 Railroad passenger transportation
			305 Railroad freight transportation
			306 Road passenger transportation
			307 Road freight transportation
			308 Parcel delivery service
			312 Services incidental to road transportation
			315 Cargo loading or unloading operations
			316 Warehousing and storage
			317 Other services incidental to transportation
49	wtp	Water transport	309 Coastal and inland water transportation
			310 Deep sea transportation
			313 Services incidental to water transportation
50	atp	Air transport	311 Air transportation
			314 Airports, flying, fields and airport terminal services
51	cmn	Communication	322 Postal services
			323 Wire communication services
			324 Wireless communication services
			325 Misc. communication services
			326 Terrestrial broadcasting
			327 Cable and satellite broadcasting
			328 Information service
52	ofi	Financial services nec	335 Central bank and banking institutions
			336 Financial investment institutions
			337 Other financial intermediaries
			340* Services auxiliary to finance and insurance
53	isr	Insurance	338 Life insurance
			339 Casualty insurance
			340* Services auxiliary to finance and insurance

GTAP sectoral classification (GSC2)		Korean I-O table sectoral classification
54	obs Business services nec	329 Computer software development and supply 330 Computer programming, data processing, and other computer related services 342 Non-residential building rental 343 Real estate development and supply 344 Real estate agents and managers 345 Renting of machinery and goods 350 Legal and accounting services 351 Market survey and management consulting services 352 Advertising services 353 Architectural and civil engineering services 354 Engineering-related services 355 Science and technology services 356 Misc. special services 357 Cleaning and disinfection services 358 Manpower supply services 359 Misc. business services
55	ros Recreational and other services	333 Movie and audio production and distribution 334 Showing of movies 371 Culture services (public) 372 Theatrical producers, bands, and entertainers 373 Other culture services 374 Sports services 375 Amusement and recreation services 376 Business associations and professional membership organizations 377 Religious, political, labor, and other social organizations 381 Barber and beauty shops 382 Laundry and cleaning services 383 Domestic services 384 Other personal services
56	osg Public administration and defence, education, and health	360 Public government 361 Local government 362 Education services (public) 363 Education services (non-profit) 364 Education services (commercial) 365 Medical and health services(public) 366 Medical and health services (non-profit) 367 Medical and health services (commercial) 368 Social insurance (public) 369 Social welfare services (public) 282 Treatment of sewage, waste water, and night soil(public)

GTAP sectoral classification (GSC2)	Korean I-O table sectoral classification
	283 Treatment of sewage, waste water, and night soil (commercial)
	346 Research and development(public)
	347 Research and development (non-profit)
	348 Research and development (commercial)
	349 Research and development in enterprise
57 dwe Dwellings	341 Owner-occupied dwellings(imputed rent)

The * signifies the sectors of the Korean I-O table affected by the splits.