

Korea

Jong-Hwan Ko

1. Introduction

This chapter documents the procedure and considerations underlying the construction of the Korean input-output (I-O) table for version 7 of the Global Trade Analysis Project (GTAP) Data Base. The documentation 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 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 version 7 of the GTAP Data Base is compiled by the Bank of Korea in Seoul (The Bank of Korea, 2007). The reference year of the Korean I-O table is 2003 and the units of accounts are million Korean won. The Korean I-O table is grouped commodity by commodity and includes 404 sectors,¹ the same as those of the Korean I/O table of 2000 used for version 6 of the GTAP data base.

Three different kinds of tables are available in the original Korean I-O table: a transactions table at producers' prices, a transactions table of domestically produced goods and services, and a transactions table of imported goods and services.

The matrix of final demand in the transactions table of domestic products and that 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, and exports (of course, the transactions table of imports doesn't include a column of exports). Gross government fixed capital formation was added to gross private fixed capital formation to create 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 producers' prices includes compensation of employees, operating surplus, depreciation of fixed capital, indirect taxes and

¹ There are five computer and information technology related sectors which were introduced for the first time in the Korean I-O table of 2000 used for version 6 of the GTAP Data Base: Semiconductor machinery (sector 244 of 404 sectors), Flat-panel digital display equipment (sector 255), Computer software development and supply (sector 364), Computer programming, data processing, and other computer related services (sector 365), and information provision services (sector 368).

(less) subsidies. Depreciation of fixed capital was added to operating surplus in order 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 the sectoral classification of the Korean I-O table is mapped to the GTAP sectoral classification (GSC2). Since the Korean I-O table is in all sectors except for three sectors (sector 6: sugar cane, sugar beet; sector 9: bovine cattle, sheep and goats, horses; sector 12: wool, silk-worm cocoons) more disaggregated than the GTAP sectoral classification, it relatively easily fulfills the requirements of GSC2.

While there are neither domestic production of sugar cane and sugar beet, nor their imports in Korea, wool and silk-worm cocoons are included in sector 22 (other livestock breeding) of 404 sectors of the Korean I-O table. Beef cattle are treated as a sector (sector 19) in the Korean I-O table, but sheep and goats, and horses are included in the sector 22 (other livestock breeding). Therefore, sector 22 (other livestock breeding) of the Korean I-O table had to be split in consistence with the GSC2.

The splits of sector 22 (other livestock breeding) of the Korean I-O table are shown in table 1 below. The * signifies the Korean I-O table sector affected by the split.

Table 1. Splits of sector 22 (other livestock breeding) in consistence with GSC2

GTAP (GSC2)	Korean I-O table
09 Bovine cattle, sheep and goats, horses	19 Beef cattle 22* Other livestock breeding
10 Animal products nec	20 Swine 21 Poultry and eggs 22* Other livestock breeding
12 Wool, silk-worm cocoons	22* Other livestock breeding

The splits of sector 22 of the Korean I-O table (the transactions table of domestic products and that of imports) were estimated on the basis of the shares of domestic output and imports of sheep and goats, horses, wool, silk-worm cocoons, and other livestock products (see Table 2).

Table 2. Shares of splits of sector 22 (other livestock breeding)

	Domestic production		Imports	
	Value (million won)	Share (%)	Value (million won)	Share (%)
Sheep and goats	17,090	4.80	543	0.25
Horses	3,816	1.07	7,658	3.49
Wool	64	0.02	171,052	77.99
Silk-worm cocoons	14,124	3.97	179	0.08
Other livestock products	320,865	90.14	39,899	18.19
Value of sector 22 of Korean I-O table	355,959	100.0	219,331	100.0

Slaughtering and meat processing (sector 46 of the Korean I-O table) which includes the processing of bovine cattle, pig meat and other meat products had to be split in consistence with the GSC2. The splits of sector 46 (slaughtering and meat processing) of the Korean I-O table are shown in Table 3 below. The * signifies the Korean I-O table sector affected by the split.

The splits of sector 46 (slaughtering and meat processing) of the Korean I-O table were calculated on the basis of the shares of domestic output and imports of bovine cattle, pig meat, and other meat products (see Table 4).

Table 3. Splits of sector 46 (slaughtering and meat processing) in consistence with GSC2

GTAP (GSC2)	Korean I-O table
19 Bovine cattle, sheep and goats, horse meat products	46* Slaughtering and meat processing
20 Meat products nec	46* Slaughtering and meat processing 47 Poultry slaughtering and processing 48 Prepared meat products 71 Animal and marine fats and oils

Table 4. Shares of splits of sector 46 (slaughtering and meat processing)

	Domestic production		Imports	
	Value (million won)	Share (%)	Value (million won)	Share (%)
Bovine cattle	2,463,569	42.95	1,551,472	55.40
Other meat products	4,434	0.08	9,849	0.35
Pig meat	3,000,207	52.30	266,633	9.52
Other meat processing	268,254	4.68	972,305	34.72
Value of sector 46 of Korean I-O table	5,736,464	100.0	2,800,259	100.0

In addition, services auxiliary to finance and insurance (sector 357 of the Korean I-O table) were split into Financial services nec (sector 52 the GTAP Data Base) and Insurance (sector 53 of the GTAP Data Base) as shown in Table 5. Shares of splits of sector 357 in Table 6 were used for their calculation, i.e., 70.35 percent and 29.65 percent of domestic production of sector 357 were added to Financial services nec and Insurance, respectively, and 74.16 percent and 25.84 percent of imports of sector 357 were added to Financial services nec and Insurance, respectively.

Table 5. Splits of sector 357 (services auxiliary to finance and insurance) in consistence with GSC2

GTAP (GSC2)	Korean I-O table	
52 Financial services nec	352	Central bank and banking institutions
	353	Non-bank depository institutions
	354	Other financial intermediates
	357*	Services auxiliary to finance and insurance
53 Insurance	355	Life insurance
	356	Casualty insurance
	357*	Services auxiliary to finance and insurance

Table 6. Shares of splits of sector 357 (services auxiliary to finance and insurance)

	Domestic production		Imports	
	Value(mil. won)	Share(%)	Value(mil. won)	Share(%)
352 Central bank and banking institutions	26,943,559		879,403	
353 Non-bank depository institutions	7,668,347		238,932	
354 Other financial intermediates	11,698,697		172,240	
Sum	46,310,603	70.35	1,290,575	74.16
355 Life insurance	11,813,705		9,903	
356 Casualty insurance	7,704,179		439,767	
Sum	19,517,884	29.65	449,670	25.84
Total	65,828,487	100.0	1,740,245	100.0

4. *Adjustment of Negative Values*

In the initial Korean I-O table, there are negative values in the intermediate usage of domestic products, household consumption of domestic products, and investment usage of domestic products due to the scraps which are registered as negative values according to the Stone's method. Sectors where there are negative values in the intermediate usage of domestic products (in rows), household consumption of domestic products, and investment usage of domestic products include sector 43 (materials for ceramics), sector 124 (pulp), sector 154 (synthetic resins), sector 194 (pig iron), sector 207 (copper ingots), sector 208 (aluminum ingots), sector 209 (lead and zinc ingots), and sector 211 (other nonferrous metal ingots) of 404 sectors.

The differences in the prices of unmilled rice (sector 1), barley (sector 2), miscellaneous cereals (sector 4), pulses (sector 7), cotton and hemp (sector 12), leaf tobacco (sector 13), polished rice (sector 57), and polished barley (sector 58) that the government pays and receives in its price support policy are treated as subsidies for these products traded in wholesale sector (sector 329) and registered as negative values in the cells of wholesale trade (sector 329) and the individual products in the matrix of intermediate usage of domestic products.

In addition, there are negative values of operating surplus in the Korean I-O table: sector 47 (poultry slaughtering and processing), sector 49 (milk), sector 53 (canned sea foods), sector 56 (miscellaneous processed sea foods), sector 72 (vegetable fats and oils, and processed edible refined oil), sector 87 (silk yarn), sector 88 (woolen yarn), sector 95 (woolen fabrics), sector 108 (fur wearing apparels), sector 133 (newspapers), sector 144 (heavy oil), sector 195 (ferroalloys), sector

209 (lead and zinc ingots), sector 293 (motorcycles and parts), sector 333 (railroad passenger transportation), and sector 334 (railroad freight transportation).

Before correcting the negative values, 404 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 intermediate usage of domestic products (in rows), household usage of domestic products, and investment usage of domestic products were set to zeroes and sectoral balance was restored by adjusting "changes in stocks". The offending cells in intermediate usage of domestic products (in columns) and operating surplus were also set to zeroes and sectoral balance was restored by adjusting "non-commodity indirect taxes".

5. Calculating Commodity Taxes on Imports

A column vector reporting commodity tax on total imports by commodity is available in the initial Korean I-O table. In order to create the matrix of commodity tax on intermediate usage of imports, by commodity and industry, the vector of commodity tax on household usage of imports, by commodity, the vector of commodity tax on investment usage of imports, by commodity, the vector of commodity tax on government usage of imports, by commodity, and the vector of commodity tax on change in stocks of imports, by commodity, first their percentages of the column total of imports were computed. Then the matrix of commodity tax on intermediate usage of imports, the vector of commodity tax on household commodity of imports, that of commodity tax on investment usage of imports, that of commodity tax on government usage of imports, and that of commodity tax on change in stocks of imports were calculated by multiplying the vector of commodity tax on total imports by the percentage matrix of intermediate usage of imports, and the appropriate vectors of percentages of imports for final uses, respectively.

6. Information Not Available from the Korean I-O Table

Among the information cited in Table 2 of GTAP Technical Paper No. 1, "Contributing Input-Output Tables to the GTAP Data Base", Release 4.2, January 2000, employment of land, by industry (AI15), commodity tax on intermediate usage of domestic products, by commodity and industry (AI16), commodity tax on household consumption of domestic products, by commodity (AI18), commodity tax on investment usage of domestic products, by commodity (AI20), commodity tax on government usage of domestic products, by commodity (AI22), commodity tax on exports, by commodity (AI24), and commodity tax on change in stocks of domestic products, by commodity (AI25) are not available from the initial Korean I-O table. These arrays are filled with zeroes.

Reference

Huff, K., R. McDougall, and T. Walmsley. 2000. "Contributing Input-Output Tables to the GTAP Data Base," Technical Paper No. 1, Center for Global Trade Analysis, Purdue University.

Ko, Jong-Hwan. 2006. "Korea," Chapter 11.D in Betina V. Dimaranan (ed.), *Global Trade, Assistance, and Production: The GTAP 6 Data Base*, Center for Global Trade Analysis, Purdue University.

The Bank of Korea. 2007. *Input-Output Tables of Korea 2003*. Seoul.

Appendix

Table A.1. A mapping of the 404 sector Korean I-O table to the GTAP sectoral classification

GTAP sectoral classification (GSC2)			Korean I-O table sectoral classification	
01	pdr	Paddy rice	1	Unmilled rice
02	wht	Wheat	3	Wheat
03	gro	Cereal grains nec	2	Barley
04	v_f	Vegetables, fruit, nuts	4	Miscellaneous cereals
			5	Vegetables
			6	Fruits
			7	Pulses
05	osd	Oil seeds	9	Oleaginous crops
06	c_b	Sugar cane, sugar beet	Not existent	
07	pfb	Plant-based fibers	12	Cotton and hemp
08	ocr	Crops nec	8	Potatoes
			10	Cultivated medicinal herbs
			11	Other edible crops
			13	Leaf tobacco
			14	Ornamental floriculture
			15	Natural rubber
			16	Seeds and seedlings
			17	Other Inedible crops
			19	Beef cattle
			22*	Other livestock breeding
			20	Swine
			21	Poultry and eggs
			22*	Other livestock breeding
09	ctl	Bovine cattle, sheep and goats, horses	18	Dairy farming
			22*	Other livestock breeding
10	oap	Animal products nec	23	Forest planting and conservation
			24	Raw timber
11	rmk	Raw milk	25	Edible forestry products
12	wol	Wool, silk-worm cocoons	26	Misc. forestry products
13	for	Forestry	27	Marine fishing
			28	Fresh water fishing
			29	Marine culture
			30	Fresh water culture
			31	Anthracite
			32	Bituminous coal
			23	Forest planting and conservation
14	fsh	Fishing	24	Raw timber
			25	Edible forestry products
15	col	Coal	26	Misc. forestry products
			27	Marine fishing

GTAP sectoral classification (GSC2)			Korean I-O table sectoral classification	
16	oil	Oil	33	Crude petroleum
17	gas	Gas	34	Natural gas
18	omn	Minerals nec	35	Iron ores
			36	Copper ores
			37	Lead and zinc ores
			38	Misc. nonferrous metal ores
			39	Sand and gravel
			40	Crushed and broken stone
			41	Other bulk stones
			42	Limestone
			43	Materials for ceramics
			44	Crude salt
			45	Misc. nonmetallic minerals
19	cmt	Bovine cattle, sheep and goat, horse	46*	Slaughtering and meat processing
20	omt	meat products Meat products nec	46*	Slaughtering and meat processing
			47	Poultry slaughtering and processing
			48	Prepared meat products
21	vol	Vegetable oils and fats	71	Animal and marine fats and oils
			72	Vegetable fats and oils, and processed edible refined oil
22	mil	Dairy products	49	Milk
			50	Milk products
			51	Ice cream
23	pcr	Processed rice	57	Polished rice
24	sgr	Sugar	60	Raw sugar
			61	Refined sugar
25	ofd	Food products nec	52	Fish fillets and fish cake products
			53	Canned sea foods
			54	Frozen fish and sea foods
			55	Salted, dried and smoked sea foods
			56	Misc. processed sea foods
			58	Polished barley
			59	Flour and cereal preparations
			62	Starches
			63	Glucose, glucose syrup and maltose
			64	Bakery products
			65	Confectionery products
			66	Noodles
			67	Refined salt
			68	Fermented seasonings
			69	Other seasonings
			70	Soy sauce and bean paste
			73	Canned or cured fruits and vegetables
			74	Coffee and tea
			75	Ginseng products
			76	Malt and yeast
			77	Bean curd
			78	Miscellaneous foodstuffs
			85	Prepared livestock feeds
26	b_t	Beverages and tobacco products	79	Ethyl alcohol for beverages
			80	Distilled spirits (soju)
			81	Beer
			82	Other liquors
			83	Soft drinks

GTAP sectoral classification (GSC2)			Korean I-O table sectoral classification	
			84	Mineral water & manufactured ice
			86	Tobacco products
27	tex	Textiles	87	Silk yarn
			88	Woolen yarn
			89	Cotton yarn
			90	Hempen yarn
			91	Regenerated fiber yarn
			92	Synthetic fiber yarn
			93	Thread and other fiber yarns
			94	Silk fabrics
			95	Woolen fabrics
			96	Cotton fabrics
			97	Hempen fabrics
			98	Regenerated fiber fabrics
			99	Synthetic fiber fabrics
			100	Other fiber fabrics
			101	Knitted fabrics
			102	Fiber bleaching and dyeing
			109	Textile products
			110	Misc. textile products
			111	Cordage, rope, and fishing nets
28	wap	Wearing apparel	103	Knitted wearing apparels
			104	Knitted clothing accessories
			105	Textile wearing apparels
			106	Other clothing accessories
			107	Leather wearing apparels
			108	Fur wearing apparels
29	lea	Leather products	112	Leather
			113	Fur
			114	Luggage and handbags
			115	Leather footwear
			116	Textile footwear and other shoes
			117	Other leather products
30	lum	Wood products	118	Lumber
			119	Plywood
			120	Reconstituted and densified wood
			121	Wooden products for construction
			122	Wooden containers
			123	Other wooden products
31	ppp	Paper products, publishing	124	Pulp
			125	Newsprint
			126	Printing paper
			127	Other raw paper and paperboard
			128	Corrugated paper and solid fiber boxes
			129	Paper containers
			130	Stationery paper and office paper
			131	Sanitary paper products
			132	Other paper products
			133	Newspapers
			134	Publishing
			135	Printing
			136	Publishing and reproduction of recorded media
32	p_c	Petroleum, coal products	137	Coal briquettes
			138	Coke and other coal products
			139	Naphtha

GTAP sectoral classification (GSC2)			Korean I-O table sectoral classification
			140 Gasoline
			141 Jet oil
			142 Kerosene
			143 Light oil
			144 Heavy oil
			145 Liquefied petroleum gas
			146 Lubricants
			147 Misc. petroleum refinery products
33	crp	Chemical, rubber, plastic products	148 Petrochemical basic products
			149 Petrochemical intermediate products
			150 Coal chemicals
			151 Other basic organic chemicals
			152 Industrial gases
			153 Basic inorganic chemicals
			154 Synthetic resins
			155 Synthetic rubber
			156 Regenerated cellulose fibers
			157 Synthetic fibers
			158 Nitrogen compounds
			159 Fertilizers
			160 Pesticides and other agricultural chemicals
			161 Medicaments
			162 Cosmetics and dentifrices
			163 Soap and detergents
			164 Dyes, pigments, and tanning materials
			165 Paints, varnishes, and allied products
			166 Printing ink
			167 Adhesives, gelatin and sealants
			168 Explosives and fireworks products
			169 Recording media for electronic equipments
			170 Photographic chemical products
			171 Misc. chemical products
			172 Primary plastic products
			173 Industrial plastic products
			174 Household articles of plastic material
			175 Tires and tubes
			176 Industrial rubber products
			177 Misc. rubber products
34	nmm	Mineral products nec	178 Sheet glass and primary glass products
			179 Industrial glass products
			180 Household glass products and others
			181 Industrial pottery products
			182 Pottery, china and earthenware for home use
			183 Clay refractories
			184 Clay products for construction
			185 Cement
			186 Ready mixed concrete
			187 Concrete blocks, bricks, and other concrete products
			188 Lime, gypsum, and plaster products
			189 Cut stone & stone products
			190 Asbestos and mineral wool products
			191 Abrasives
			192 Asphalts
			193 Misc. nonmetallic mineral products

GTAP sectoral classification (GSC2)			Korean I-O table sectoral classification	
35	i_s	Ferrous metals	194	Pig iron
			195	Ferroalloys
			196	Steel ingots and semifinished products
			197	Steel rods and bars
			198	Section steel
			199	Rails and wires
			200	Hot rolled steel plates and sheets
			201	Steel pipe and tubes, except foundry iron pipe and tubes
			202	Cold rolled steel sheet, strip, and bars
			203	Iron foundries and foundry iron pipe and tubes
			204	Forgings
			205	Coated steel plates
36	nfm	Metals nec	206	Misc. primary iron and steel products
			207	Copper ingots
			208	Aluminium ingots
			209	Lead and zinc ingots
			210	Gold and silver ingots
			211	Other nonferrous metal ingots
			212	Primary copper products
			213	Primary aluminium products
			214	Other nonferrous metal castings and forgings, and primary nonferrous metals
37	fmp	Metal products	215	Metal products for construction
			216	Structural metal products
			217	Metal tanks and reservoirs
			218	Metal cans, barrels, and drums
			219	Hand tools
			220	Bolts, nuts, screws, rivets, and washers
			221	Fabricated wire products
			222	Fastening metal products
			223	Treatment and coating of metals
			224	Household metallic utensils
			225	Misc. fabricated metal products
38	mvh	Motor vehicles and parts	281	Passenger automobiles
			282	Buses and vans
			283	Trucks
			284	Motor vehicles with special equipment
			285	Motor vehicle engines
			286	Motor vehicle chassis, bodies and parts
			287	Trailers and containers
39	otn	Transport equipment nec	288	Steel ships
			289	Other ships
			290	Ship repairing and ship parts
			291	Railroad vehicles and parts
			292	Aircraft and parts
			293	Motorcycles and parts
			294	Bicycles and parts and misc. transportation
40	ele	Electronic equipment	262	Television receiving sets
			263	Video cassette recorders and players
			264	Electric household audio equipment
			265	Other audio and visual equipment
			266	Wire telephone and telegraph equipment
			267	Wireless communications equipment
			268	Wireless systems and radio and television

GTAP sectoral classification (GSC2)			Korean I-O table sectoral classification
			broadcasting and equipment
			269 Computer and peripheral equipment
			270 Office machines and devices
41	ome	Machinery and equipment nec	226 Engines and turbines
			227 Valves
			228 Bearings, gears, gearing and driving elements
			229 Conveyors and conveying equipment
			230 Air-conditioning equipment and industrial refrigeration equipment
			231 Boiler
			232 Heating apparatus and cooking appliances
			233 Pumps and compressors
			234 Filtering or purifying machinery for liquid and gases
			235 Misc. machinery and equipment of general purpose
			236 Metal cutting type machine tools
			237 Metal forming machine tools
			238 Agricultural implements and machinery
			239 Construction and mining machinery
			240 Food processing machinery
			241 Textile machinery
			242 Metal molds and industrial patterns
			243 Printing machinery
			244 Semiconductor machinery
			245 Misc. machinery and equipment of special purpose
			246 Motors and generators
			247 Electric transformers
			248 Capacitors and rectifiers
			249 Electric transmission and distribution equipment
			250 Insulated wires and cables
			251 Batteries
			252 Electric lamps and electric lighting fixtures
			253 Misc. electric equipment and supplies
			254 Electron tubes
			255 Flat-panel digital display equipment
			256 Semiconductor devices
			257 Integrated circuits
			258 Electric resistors and storage batteries
			259 Electric coils, transformers and other inductors
			260 Printed circuit boards
			261 Misc. electronic components
			271 Household refrigerators and freezers
			272 Household laundry equipment
			273 Household electric cooking and heating equipment
			274 Other household electrical appliances
			275 Medical instruments and supplies
			276 Industrial automatic regulators
			277 Measuring and analytical instruments
			278 Cinematograph cameras and projectors
			279 Other photographic and optical instruments
			280 Watches and clocks
42	omf	Manufactures nec	295 Wood furniture

GTAP sectoral classification (GSC2)			Korean I-O table sectoral classification	
			296	Metal furniture
			297	Other furniture
			298	Toys and games
			299	Sporting and athletic goods
			300	Musical instruments
			301	Pens, pencils, and other artists' materials
			302	Jewelry and plated ware
			303	Models and decorations
			304	Misc. manufactured products
43	ely	Electricity	305	Water power generation
			306	Thermal power generation
			307	Atomic power generation
			308	Self-Power generation
44	gdt	Gas manufacture, distribution	309	Manufactured gas supply
45	wtr	Water	310	Steam and hot water supply
			311	Water supply
46	cns	Construction	312	Steel concrete residential building construction
			313	Wooden and other residential building construction
			314	Steel concrete nonresidential building construction
			315	Wooden and other nonresidential building construction
			316	Building repairs
			317	Road construction
			318	Railroad construction
			319	Subway construction
			320	Breakwater, pier, and harbor construction
			321	Airport construction
			322	Dam, levee, and flood control project construction
			323	Water main line and drainage project construction
			324	Land clearing and reclamation, and irrigation project construction
			325	Land leveling and athletic field construction
			326	Electric power plant construction
			327	Communications line construction
			328	Misc. construction
47	trd	Trade	329	Wholesale trade
			330	Retail trade
			331	Eating and drinking places
			332	Hotels and other lodging places
48	otp	Transport nec	333	Railroad passenger transportation
			334	Railroad freight transportation
			335	Road passenger transportation
			336	Road freight transportation
			340	Services incidental to road transportation
			343	Cargo loading or unloading operations
			344	Warehousing and storage
			345	Other services incidental to transportation
49	wtp	Water transport	337	Coastal and inland water transportation
			338	Deep sea transportation
			341	Services incidental to water transportation
50	atp	Air transport	339	Air transportation

GTAP sectoral classification (GSC2)			Korean I-O table sectoral classification	
			342	Airports, flying, fields and airport terminal services
51	cmn	Communication	346	Postal services
			347	Telephone
			348	High-speed network services
			349	Value added communication
			350	Terrestrial broadcasting
			351	Cable broadcasting
52	ofi	Financial services nec	352	Central bank and banking institutions
			353	Non-bank depository institutions
			354	Other financial intermediates
			357*	Services auxiliary to finance and insurance
53	isr	Insurance	355	Life insurance
			356	Casualty insurance
			357*	Services auxiliary to finance and insurance
54	obs	Business services nec	359	Real estate rental
			360	Real estate agents and managers
			361	Legal and accounting services
			362	Architectural engineering services
			363	Other engineering services
			364	Computer software development and supply
			365	Computer programming, data processing, and other computer related services
			366	Renting of machinery and goods
			367	Advertising services
			368	Information provision services
			369	Cleaning and disinfection services
			370	Agriculture and fishing services
			371	Misc. business services
55	ros	Recreational and other services	388	Culture services (public)
			389	Culture services (other)
			390	Motion picture production and distribution
			391	Theatrical producers, bands, and entertainers
			392	Sports organizations and sports facility operation
			393	Misc. amusement and recreation services
			394	Business associations and professional membership organizations
			395	Religious, political, labor, and other social organizations
			396	Motor repair services
			397	Other personal repair services
			398	Laundry and cleaning services
			399	Barber and beauty shops
			400	Domestic services
			401	Other personal services
			402	Office supplies
			403	Business consumption expenditures
			404	Nonclassifiable activities
56	osg	Public administration and defense, education, and health	372	Public government
			373	Local government
			374	School education (public)
			375	School education (private, non-profit)
			376	School education (commercial)
			377	Research institutes(public)

GTAP sectoral classification (GSC2)			Korean I-O table sectoral classification	
			378	Research institutes (private, non-profit)
			379	Research institutes (commercial)
			380	Research and experiment in enterprise
			381	Medical and health services(public)
			382	Medical and health services (private, non-profit)
			383	Medical and health services (commercial)
			384	Social welfare services (public)
			385	Social welfare services (private, non-profit)
			386	Sanitary services(public)
			387	Sanitary services (commercial)
57	dwe	Dwellings	358	Owner-occupied dwellings (imputed rent)

* Requirements of the GTAP sectoral classification are not fulfilled.