

Japan

Susumu Suzuki

1. *Introduction*

Input-Output Tables for Japan have been compiled every five years by a joint project of 10 governmental agencies under the coordination of the Ministry of Internal Affairs and Communications. The latest ones are the 2005 I-O Tables published in 2009. They are commodity-by-commodity tables and include 520-row and 407-column sectors. Transactions are valued at both producers' prices and purchasers' prices and various supplementary tables such as tables on import, trade margin and domestic freight are available.

Basically a transactions table of domestic products is obtained by extracting a transaction table on import from a transaction table at producers' prices. But data processing is necessary to get I-O tables for the GTAP database, e.g. on adjusting negative values and consumption taxes. Data processing for removing negative values and subtracting consumption taxes is applied before aggregating data on the basis of commodity concordance.

2. *Commodity Concordance*

Table A1 shows the commodity concordance between the sectoral classification of the Japanese I-O table and the GTAP sectoral classification (GSC2). Compared to the GTAP classification, the Japanese I-O table has very detailed classification on manufacturing and service sectors, but not so detailed for agriculture and mining products. This reflects the characteristics of the Japanese economic structure.

The final demand matrix includes (1) consumption expenditure outside households, (2) household consumption expenditure, (3) general government consumption expenditure, (4) public gross domestic fixed capital formation, (5) private gross domestic fixed capital formation, (6) increase in stocks, and (7) exports. As (1) consumption expenditure outside households includes corporate social expenses etc., we move it to the endogenous sectors (54. Business services n.e.c.). We add (4) to (5) to create a vector of investment usage.

The value-added matrix includes (1) consumption expenditure outside households, (2) compensation of employees, (3) operating surplus, (4) depreciation of fixed capital, (5) indirect taxes, and (6) (less) current subsidies. As explained before, we move (1) to the endogenous sectors. We add (4) to (3) to obtain a vector of capital employment. (6) Subsidies are subtracted from (5) to get a vector of net non-commodity indirect taxes.

3. Adjustment of Negative Values

In the original I-O Tables for Japan, there are some negative values in the intermediate usage, household consumption and investment usage. This is mainly due to the scrap and by-products which are recorded as negative values on the basis of the Negative Input Method or the Stone Method. To remove negative values, we adopt the Transfer Method for the intermediate usage, that is, to transpose their row number and column one and in turn to change their signs, which does not affect the matrix balance. As to household consumption and investment usage, we move such negative items to “change in stocks”.

In addition, there are several negative values in the general government consumption. Several government consumption items calculated by the cost-add method become negative on the disaggregated level as the government sector does not have operating surplus by definition. However, the capital employment of the government sector is not zero, because it includes both operating surplus and capital depreciation. Thus we change negative items of the government consumption into zero and adjust the capital employment.

4. Estimation of Commodity Taxes

In relation to commodity taxes, there is the General Consumption Tax (GCT) in Japan. GCT is a non-cumulative multi-indirect tax imposed on each and every process of transactions. In addition, GCT imposed on purchase is deducted in order that GCT may not be accumulated in the intermediate transaction stages.

The Japanese I-O Tables record transactions in gross value, that is, including GCT even in such tax deducted transactions as intermediate usage. However, it is suitable to estimate net values of tax deductible for the GTAP pre-commodity-tax table and commodity tax table. Thus we have to estimate GCT values and separate them from the original transaction table to make the pre-commodity-tax table. Then we compile the commodity tax table by estimating net values of tax deductible.

We estimated them by applying the base GCT rate, which is 5% from 1997, to gross values of the original I-O table except tax-exempt goods and services. Tax-exempt goods and services are dwellings, education, health, financial services (excluding financial fees) and the like. The commodity tax table is net values of tax deductible, where most intermediate usage net taxes are zero and GCT is mainly imposed on consumption expenditures. In addition, as the original indirect tax data include net GCT payments, we subtract them from the indirect taxes to get the non-commodity indirect tax (net).

5. Information Not Available from the Japanese I-O

Tables

There is no available information from the Japanese I-O tables for employment of land. Zero values are assigned to this array.

References

Statistics Bureau, the Ministry of Ministry of Internal Affairs and Communications (2009).
“2005 Input-Output Tables for Japan.”

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification	
111011	Rice	1	Paddy rice
111012	Rice straw	1	
111021	Wheat (domestic)	2	Wheat
111022	Wheat (imported)	2	
111023	Barley (domestic)	3	Cereal grains nec
111024	Barley (imported)	3	
112011	Sweet potatoes	4	Vegetables, fruit, nuts
112012	Potatoes	4	
112021	Soybeans (domestic)	5	Oil seeds
112022	Soybeans (imported)	5	
112029	Other pulses	5	
113001	Vegetables	4	Vegetables, fruit, nuts
114011	Citrus fruits	4	
114012	Apples	4	
114019	Other fruits	4	
115011	Sugar crops	6	Sugar cane, sugar beet
115021	Green coffee and cocoa beans (imported)	8	Crops nec
115029	Other crops for beverages	8	
115091	Miscellaneous cereals	3	Cereal grains nec
115092	Oil seeds	5	Oil seeds
115093	Edible industrial crops, n.e.c.	3	Cereal grains nec
116011	Crops for feed and forage	8	Crops nec
116021	Seeds and seedlings	8	
116031	Flowers and plants	8	
116091	Leaf tobacco	8	
116092	Raw rubber (imported)	8	
116093	Raw cotton (imported)	7	Plant-based fibers
116099	Crops for inedible agricultural products, n.e.c.	8	Crops nec
121011	Raw milk	11	Raw milk
121019	Other dairy farming products	11	
121021	Hen eggs	10	Animal products nec
121031	Fowls and broilers	10	
121041	Hogs	10	

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification	
121051	Beef cattle	9	Bovine cattle, sheep and goats, horses
121091	Sheep and lamb wool	12	Wool, silk-worm cocoons
121099	Other livestock	12	
131011	Veterinary service	8	Crops nec
131021	Agricultural services (except veterinary service)	8	
211011	Silviculture	13	Forestry
212011	Logs (domestic)	13	
212012	Logs (imported)	13	
213011	Special forest products (inc. hunting)	13	
311001	Marine fisheries (domestic)	14	Fishing
311002	Marine fisheries (imported)	14	
311041	Marine culture	14	
312001	Inland water fisheries and culture	14	
611011	Iron ores	18	Minerals nec
611012	Non-ferrous metallic ores	18	
621011	Limestone	18	
621019	Other materials for ceramics	18	
622011	Gravel and quarrying	18	
622021	Crushed stones	18	
629099	Other non-metallic ores	18	
711011	Coal mining	15	Coal
711012	Crude petroleum	16	Oil
711013	Natural gas	17	Gas
111011	Beef meat (bone meat)	19	Bovine cattle, sheep and goat, horse meat products
111012	Pork (bone meat)	19	
111013	Poultry meat	19	
111014	Other meat (bone meat)	19	
111015	By-products of slaughtering and meat processing	19	
112011	Processed meat products	20	Meat products nec
112021	Bottled or canned meat products	20	
112031	Drinking milk	22	Dairy products

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification	
1112032	Dairy products	22	
1113011	Frozen fish and shellfish	25	Food products nec
1113021	Salted, dried or smoked seafood	25	
1113031	Bottled or canned seafood	25	
1113041	Fish paste	25	
1113099	Other processed seafood	25	
1114011	Milled rice	23	Processed rice
1114019	Other grain milling	23	
1114021	Wheat flour	25	Food products nec
1114029	Other grain milled products	25	
1115011	Noodles	25	
1115021	Bread	25	
1115031	Confectionery	25	
1116011	Bottled or canned vegetables and fruits	25	
1116021	Preserved agricultural foodstuffs (other than bottled or canned)	25	
1117011	Refined sugar	24	Sugar
1117019	Other sugar and by-products of sugar manufacturing	24	
1117021	Starch	25	Food products nec
1117031	Dextrose, syrup and isomerized sugar	25	
1117041	Vegetable oil	21	Vegetable oils and fats
1117042	Cooking oil	21	
1117043	Vegetable meal	21	
1117051	Animal oils and fats	19	Bovine cattle, sheep and goat, horse meat products
1117061	Condiments and seasonings	25	Food products nec
1119011	Prepared frozen foods	25	
1119021	Retort foods	25	
1119031	Dishes, sushi and lunch boxes	25	
1119041	School lunch (public) **	56	Public administration and defense, education,health
1119051	School lunch (private) *	56	
1119099	Other foods	25	Food products nec

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification	
1121011	Refined sake	26	Beverages and tobacco products
1121021	Beer	26	
1121031	Whiskey and brandy	26	
1121099	Other liquors	26	
1129011	Tea and roasted coffee	26	
1129021	Soft drinks	26	
1129031	Manufactured ice	26	
1131011	Feeds	25	Food products nec
1131021	Organic fertilizers, n.e.c.	25	
1141011	Tobacco	26	Beverages and tobacco products
1511011	Fiber yarns	27	Textiles
1512011	Cotton and staple fiber fabrics (inc. fabrics of synthetic spun fibers)	27	
1512021	Silk and artificial silk fabrics (inc. fabrics of synthetic filament fibers)	27	
1512031	Woolen fabrics, hemp fabrics and other fabrics	27	
1513011	Knitting fabrics	27	
1514011	Yarn and fabric dyeing and finishing (processing on commission only)	27	
1519011	Ropes and nets	27	
1519021	Carpets and floor mats	27	
1519031	Fabricated textiles for medical use	27	
1519099	Other fabricated textile products	27	
1521011	Woven fabric apparel	28	Wearing apparel
1521021	Knitted apparel	28	
1522099	Other wearing apparel and clothing accessories	28	
1529011	Bedding	28	
1529099	Other ready-made textile products	28	
1611011	Timber	30	Wood products
1611021	Plywood	30	
1611031	Wooden chips	30	
1619091	Wooden products for construction	30	

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification	
1619099	Other wooden products, n.e.c.	30	
1711011	Wooden furniture and fixtures	42	Manufactures nec
1711021	Wooden fixtures	42	
1711031	Metallic furniture and fixture	42	
1811011	Pulp	31	Paper products, publishing
1811021	Used paper	31	
1812011	Paper	31	
1812021	Paperboard	31	
1813011	Corrugated cardboard	31	
1813021	Coated paper and building (construction) paper	31	
1821011	Corrugated card board boxes	31	
1821099	Other paper containers	31	
1829011	Paper textile for medical use	31	
1829099	Other pulp, paper and processed paper products	31	
1911011	Printing, plate making and book binding	31	
2011011	Chemical fertilizer	33	Chemical, rubber, plastic products
2021011	Soda ash	33	
2021012	Caustic soda	33	
2021013	Liquid chlorine	33	
2021019	Other industrial soda chemicals	33	
2029011	Titanium oxide	33	
2029012	Carbon black	33	
2029019	Other inorganic pigments	33	
2029021	Compressed gas and liquefied gas	33	
2029031	Crude salt	33	
2029032	Salt	33	
2029099	Other industrial inorganic chemicals	33	
2031011	Ethylene	33	
2031012	Propylene	33	
2031019	Other petrochemical basic products	33	
2031021	Pure benzene	33	
2031022	Pure toluene	33	

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification
2031023	Xylene	33
2031029	Other petrochemical aromatic products	33
2032011	Synthetic alcohol	33
2032012	Acetic acid	33
2032013	Ethylene dichloride	33
2032014	Acrylonitrile	33
2032015	Ethylene glycol	33
2032016	Acetic acid vinyl monomer	33
2032019	Other aliphatic intermediates	33
2032021	Styrene monomer	33
2032022	Synthetic phenol	33
2032023	Terephthalic acid (high purity)	33
2032024	Capro lactam	33
2032029	Other cyclic intermediates	33
2033011	Synthetic rubber	33
2039011	Methane derivatives	33
2039021	Oil and fat industrial chemicals	33
2039031	Plasticizers	33
2039041	Synthetic dyes	33
2039099	Other industrial organic chemicals	33
2041011	Thermo-setting resins	33
2041021	Polyethylene (low density)	33
2041022	Polyethylene (high density)	33
2041023	Polystyrene	33
2041024	Polypropylene	33
2041025	Vinyl chloride resins	33
2041031	High function resins	33
2041099	Other resins	33
2051011	Rayon and acetate	33
2051021	Synthetic fibers	33
2061011	Medicaments	33
2071011	Soap and synthetic detergents	33
2071012	Surface active agents	33
2071021	Cosmetics, toilet preparations and	33

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification	
	dentifrices		
2072011	Paint and varnishes	33	
2072021	Printing ink	33	
2073011	Photographic sensitive materials	33	
2074011	Agricultural chemicals	33	
2079011	Gelatin and adhesives	33	
2079091	Catalyzer	33	
2079099	Other final chemical products, n.e.c.	33	
2111011	Gasoline	32	Petroleum, coal products
2111012	Jet fuel oils	32	
2111013	Kerosene	32	
2111014	Light oils	32	
2111015	Heavy oil A	32	
2111016	Heavy oil B and C	32	
2111017	Naphtha	32	
2111018	LPG (liquefied petroleum gas)	32	
2111019	Other petroleum refinery products	32	
2121011	Coke	32	
2121019	Other coal products	32	
2121021	Paving materials	32	
2211011	Plastic films and sheets	33	Chemical, rubber, plastic products
2211012	Plastic plates, pipes and bars	33	
2211013	Foamed plastic products	33	
2211014	Industrial plastic products	33	
2211015	Reinforced plastic products	33	
2211016	Plastic containers	33	
2211017	Plastic table ware, kitchen ware and other household articles	33	
2211019	Other plastic products	33	
2311011	Tires and inner tubes	33	
2319011	Rubber footwear	33	
2319021	Plastic footwear	33	
2319099	Other rubber products	33	
2411011	Leather footwear	29	Leather products

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification
2412011	Leather and fur skins	29
2412021	Miscellaneous leather products	29
2511011	Sheet glass	34 Mineral products nec
2511012	Safety glass and multilayered glass	34
2512011	Glass fiber and glass fiber products, n.e.c.	34
2519091	Glass processing materials	34
2519099	Other glass products, n.e.c.	34
2521011	Cement	34
2522011	Ready mixed concrete	34
2523011	Cement products	34
2531011	Pottery, china and earthenware for construction	34
2531012	Pottery, china and earthenware for industry	34
2531013	Pottery, china and earthenware for home use	34
2599011	Clay refractories	34
2599021	Other structural clay products	34
2599031	Carbon and graphite products	34
2599041	Abrasive	34
2599099	Miscellaneous ceramic, stone and clay products	34
2611011	Pig iron	35 Ferrous metals
2611021	Ferro alloys	35
2611031	Crude steel (converters)	35
2611041	Crude steel (electric furnaces)	35
2612011	Scrap iron	35
2621011	Section steel (ordinary steel)	35
2621012	Steep plate (ordinary steel)	35
2621013	Steel strip (ordinary steel)	35
2621014	Steel bar (ordinary steel)	35
2621015	Other hot rolled steel (ordinary steel)	35
2621016	Hot rolled steel (special steel)	35
2622011	Steel pipes and tubes (ordinary steel)	35

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification
2622012	Steel pipes and tubes (special steel)	35
2623011	Cold-finished steel (ordinary steel)	35
2623012	Cold-finished steel (special steel)	35
2623021	Coated steel	35
2631011	Forged steel	35
2631012	Cast steel	35
2631021	Cast iron pipes and tubes	35
2631031	Cast materials (iron)	35
2631032	Forged materials (iron)	35
2649011	Iron and steel shearing and slitting	35
2649099	Other iron or steel products	35
2711011	Copper	36 Metals nec
2711021	Lead and zinc (inc. regenerated lead)	36
2711031	Aluminum (inc. regenerated aluminum)	36
2711099	Other non-ferrous metals	36
2712011	Non-ferrous metal scrap	36
2721011	Electric wires and cables	36
2721021	Optical fiber cables	36
2722011	Rolled and drawn copper and copper alloys	36
2722021	Rolled and drawn aluminum	36
2722031	Non-ferrous metal castings and forgings	36
2722041	Nuclear fuels	36
2722099	Other non-ferrous metal products	36
2811011	Metal products for construction	37 Metal products
2812011	Metal products for architecture	37
2891011	Gas and oil appliances and heating and cooking apparatus	37
2899011	Bolts, nuts, rivets and springs	37
2899021	Metal containers, fabricated plate and sheet metal	37
2899031	Plumber's supplies	37
2899032	Powder metallurgy products	37
2899033	Cutlery and tools	37

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification
2899091	Stamped and pressed metal products	37
2899092	Fabricated wire products	37
2899099	Other metal products, n.e.c.	37
3011011	Boilers	41 Machinery and equipment nec
3011021	Turbines	41
3011031	Engines	41
3012011	Conveyors	41
3013011	Refrigerators and air conditioning apparatus	41
3019011	Pumps and compressors	41
3019021	Machinists' precision tools	41
3019099	Other general industrial machinery and equipment	41
3021011	Machinery and equipment for construction and mining	41
3022011	Chemical machinery	41
3023011	Industrial robots	41
3024011	Metal machine tools	41
3024021	Metal processing machinery	41
3029011	Machinery for agricultural use	41
3029021	Textile machinery	41
3029031	Food processing machinery and equipment	41
3029041	Semiconductor making equipment	41
3029051	Vacuum equipment and vacuum component	41
3029091	Sawmill, wood working, veneer and plywood machinery	41
3029092	Pulp equipment and paper machinery	41
3029093	Printing, bookbinding and paper-converting machinery	41
3029094	Casting equipment	41
3029095	Plastic processing machinery	41
3029099	Other special machinery for industrial	41

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification
use, n.e.c.		
3031011	Metal molds	41
3031021	Bearings	41
3031099	Other general machines and parts	41
3111011	Copy machine	41
3111099	Other office machines	41
3112011	Vending machines	41
3112012	Amusement machinery	41
3112019	Other machinery for service industry	41
3211011	Generators	40 Electronic equipment
3211012	Electric motors	40
3211021	Transformers and reactors	40
3211031	Relay switches and switchboards	40
3211041	Wiring devices and supplies	40
3211051	Electrical equipment for internal combustion engines	40
3211099	Other electrical devices and parts	40
3221011	Applied electronic equipment	40
3231011	Electric measuring instruments	40
3241011	Electric bulbs	40
3241021	Electric lighting fixtures and apparatus	40
3241031	Batteries	40
3241099	Other electrical devices and parts	40
3251011	Household air-conditioners	40
3251021	Household electric appliances (except air-conditioners)	40
3311011	Video recording and playback equipment	40
3311021	Electric audio equipment	40
3311031	Radio and television sets	40
3321011	Wired communication equipment	40
3321021	Cellular phones	40
3321031	Radio communication equipment (except cellular phones)	40
3321099	Other communication equipment	40

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification	
3331011	Personal Computers	40	
3331021	Electronic computing equipment (except personal computers)	40	
3331031	Electronic computing equipment (accessory equipment)	40	
3411011	Semiconductor devices	40	
3411021	Integrated circuits	40	
3421011	Electron tubes	40	
3421021	Liquid crystal element	40	
3421031	Magnetic tapes and discs	40	
3421099	Other electronic components	40	Motor vehicles and parts
3511011	Passenger motor cars	38	
3521011	Trucks, buses and other cars	38	
3531011	Two-wheel motor vehicles	38	
3541011	Motor vehicle bodies	38	
3541021	Internal combustion engines for motor vehicles and parts	38	
3541031	Motor vehicle parts and accessories	38	
3611011	Steel ships	39	Transport equipment nec
3611021	Ships (except steel ships)	39	
3611031	Internal combustion engines for vessels	39	
3611101	Repair of ships	39	
3621011	Rolling stock	39	
3621101	Repair of rolling stock	39	
3622011	Aircrafts	39	
3622101	Repair of aircrafts	39	
3629011	Bicycles	39	
3629091	Transport equipment for industrial use	39	
3629099	Other transport equipment, n.e.c.	39	
3711011	Camera	41	Machinery and equipment nec
3711099	Other photographic and optical instruments	41	
3712011	Watches and clocks	41	
3719011	Professional and scientific instruments	41	

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification
3719021	Analytical instruments, testing machine, measuring instruments	41
3719031	Medical instruments	41
3911011	Toys and games	42 Manufactures nec
3911021	Sporting and athletic goods	42
3919011	Musical instruments	42
3919021	Audio and video records, other information recording media	42
3919031	Stationery	42
3919041	Jewelry and adornments	42
3919051	"Tatami" (straw matting) and straw products	42
3919061	Ordnance	42
3919099	Miscellaneous manufacturing products	42
3921011	Reuse and recycling	42
4111011	Residential construction (wooden)	46 Construction
4111021	Residential construction (non-wooden)	46
4112011	Non-residential construction (wooden)	46
4112021	Non-residential construction (non-wooden)	46
4121011	Repair of construction	46
4131011	Public construction of roads	46
4131021	Public construction of rivers, drainages and others	46
4131031	Agricultural public construction	46
4132011	Railway construction	46
4132021	Electric power facilities construction	46
4132031	Telecommunication facilities construction	46
4132099	Other civil engineering and construction	46
5111001	Electricity	43 Electricity
5111041	Private power generation	43
5121011	Gas supply	44 Gas manufacture, distribution
5122011	Steam and hot water supply	44

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification	
5211011	Water supply	45	Water
5211021	Industrial water supply	45	
5211031	Sewage disposal **	56	Public administration and defense, education,health
5212011	Waste management services (public) **	56	
5212021	Waste management services (private)	56	
6111011	Wholesale trade	47	Trade
6112011	Retail trade	47	
6211011	Financial service (imputed interest), public	52	Financial services nec
6211012	Financial service (imputed interest), private	52	
6211013	Financial service (commission), public	52	
6211014	Financial service (commission), private	52	
6212011	Life insurance	53	Insurance
6212021	Non-life insurance	53	
6411011	Real estate agencies and managers	54	Business services nec
6411021	Real estate rental service	54	
6421011	House rent	57	Dwellings
6422011	House rent (imputed house rent)	57	
7111011	Railway transport (passengers)	48	Transport nec
7112011	Railway transport (freight)	48	
7121011	Bus transport service	48	
7121021	Hired car and taxi transport	48	
7122011	Road freight transport(except Self-transport by private cars)	48	
7131011	Self-transport by private cars (passengers)	48	
7132011	Self-transport by private cars (freight)	48	
7141011	Ocean transport	49	Water transport
7142011	Coastal and inland water transport (passengers)	49	
7142012	Coastal and inland water transport (freight)	49	

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification	
7143011	Harbor transport service	49	
7151011	International air transport	50	Air transport
7151012	Domestic air transport (passengers)	50	
7151013	Domestic air transport (freight)	50	
7151014	Aircraft service except air transport	50	
7161011	Consigned freight forwarding	48	Transport nec
7171011	Storage facility service	48	
7181011	Packing service	48	
7189011	Facility service for road transport	48	
7189021	Port and water traffic control **	48	
7189031	Services relating to water transport	48	
7189041	Airport and air traffic control (public) **	48	
7189051	Airport and air traffic control (industrial)	48	
7189061	Services relating to air transport	48	
7189099	Travel agency and other services relating to transport	48	
7311011	Postal service and mail delivery	51	Communication
7312011	Fixed telecommunication	51	
7312021	Mobile telecommunication	51	
7312031	Other telecommunication	51	
7319099	Other services relating to communication	51	
7321011	Public broadcasting	51	
7321021	Private broadcasting	51	
7321031	Cable broadcasting	51	
7331011	Computer programming and other software services	54	Business services nec
7331012	Data processing and research and information services	54	
7341011	Internet based services	54	
7351011	Image information production and distribution industry	54	
7351021	Newspaper	54	
7351031	Publication	54	
7351041	News syndicates and private detective	54	

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification	
	agencies		
8111011	Public administration (central) **	56	Public administration and defense, education,health
8112011	Public administration (local) **	56	
8211011	School education (public) **	56	
8211021	School education (private) *	56	
8213011	Social education (public) **	56	
8213021	Social education (private, non-profit) *	56	
8213031	Other educational and training institutions (public) **	56	
8213041	Other educational and training institutions (profit-making)	56	
8221011	Research institutes for natural science (pubic) **	56	
8221021	Research institutes for cultural and social science (public) **	56	
8221031	Research institutes for natural sciences (private, non-profit) *	56	
8221041	Research institutes for cultural and social science (private,non-profit) *	56	
8221051	Research institutes for natural sciences (profit-making)	56	
8221061	Research institutes for cultural and social science (profit-making)	56	
8222011	Research and development (intra-enterprise)	56	
8311011	Medical service (public)	56	
8311021	Medical service (non-profit foundations, etc.)	56	
8311031	Medical service (medical corporations, etc.)	56	
8312011	Health and hygiene (public) **	56	
8312021	Health and hygiene (profit-making)	56	
8313011	Social insurance (public) **	56	

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification	
8313021	Social insurance (private, non-profit) *	56	
8313031	Social welfare (public) **	56	
8313041	Social welfare (private, non-profit) *	56	
8313051	Social welfare (profit-making)	56	
8314011	Nursing care (In-home)	56	
8314021	Nursing care (In-facility)	56	
8411011	Private non-profit institutions serving enterprises	56	
8411021	Private non-profit institutions serving households, n.e.c. *	56	
8511011	Television and radio advertising services	54	Business services nec
8511012	Newspaper, magazine and other advertising services	54	
8512011	Industrial equipment and machinery rental and leasing (except construction machinery)	54	
8512012	Construction machine rental and leasing	54	
8512013	Electronic computing equipment rental and leasing	54	
8512014	Office machines rental and leasing (except electronic computing equipment)	54	
8512015	Sports goods, recreation goods and other goods rental and leasing	54	
8513011	Car rental and leasing	54	
8514101	Repair of motor vehicles	54	
8515101	Repair of machine	54	
8519011	Building maintenance services	54	
8519021	Judicial, financial and accounting services	54	
8519031	Civil engineering and construction services	54	
8519041	Worker dispatching services	54	
8519099	Other business services	54	
8611011	Movie theaters	55	Recreational and other services

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification	
8611021	Performances (except otherwise classified), theatrical companies	55	
8611031	Amusement and recreation facilities	55	
8611041	Stadiums and companies of bicycle, horse, motorcar and motorboat races	55	
8611051	Sport facility service, public gardens and amusement parks	55	
8611099	Other amusement and recreation services	55	
8612011	General eating and drinking places (except coffee shops)	47	Trade
8612021	Coffee shops	47	
8612031	Eating and drinking places for pleasures	47	
8613011	Accommodations	47	
8614011	Cleaning	55	Recreational and other services
8614021	Barber shops	55	
8614031	Beauty shops	55	
8614041	Public baths	55	
8614099	Other cleaning, barber shops, beauty shops and public baths	55	
8619011	Photographic studios	55	
8619021	Ceremonial occasions	55	
8619031	Miscellaneous repairs, n.e.c.	55	
8619041	Supplementary tutorial schools, instruction services for arts, culture and technical skills	55	
8619099	Other personal services	55	
8900000	Office supplies	54	Business services nec
9000000	Activities not elsewhere classified	54	
9099000	Total of intermediate sectors		
9110010	Lodging expenses and daily allowances	54	
9110020	Social expenses	54	
9110030	Welfare expenses	54	
9311000	Wages and salaries	102	
9312000	Contribution of employers to social	102	

Table A1. Concordance Table between the Japanese I-O Table and the GTAP Classification (GSC2)

Japanese I-O Tables Basic Classification		GTAP Classification
	insurance	
9313000	Other payments and allowances	102
9401000	Operating surplus	103
9402000	Depreciation of fixed capital	103
9403000	Depreciation of fixed capital (Social fixed capital depreciation)	103
9404000	Indirect taxes (except custom duties and commodity taxes on imported goods)	101
9405000	(less) Current subsidies	101
9500000	Total of gross value added sectors	
9700000	Domestic production (gross inputs)	