

11.D

Japan

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11.D.1 Input-Output Tables in Japan

Several kinds of input-output tables can be used for Japan. The most basic and detailed tables are the ones prepared by a joint project of 11 governmental agencies. The former Management and Coordination Agency coordinates the project. The tables are compiled every five years and the latest table is for 1995. We used the 1995 table as basis for the Japan I-O table for GTAP data base version 5.

The other tables are: “Linked Input Output Tables” compiled by the same agencies, “Updated Tables” by the Ministry of International Trade and Industry (*MITI*), and “SNA Tables” by the Economic Planning Agency (*EPA*). In “Linked Tables,” figures are revised for time-series comparison based on the above-mentioned tables. They are adjusted for classification differences among different years’ tables. A three-year comparison is available. The latest tables are for 1985-1990-1995. “Updated Tables” by MITI have been compiled every year since 1973. They are based on the 11 agencies’ basic tables updated for inter-industry analysis based on the latest economic structure. “SNA Tables” by the EPA are also published every year. They are estimated as one of the System of National Accounts statistics. They are available in nominal and real values each year, but the classification is rougher than that of the other I-O tables.

11.D.2 The 1995 Japanese I-O Table

The “1995 Input-Output Tables for Japan,” published in 1999, compiled by a joint project of 11 governmental agencies was used as basis for the I-O table submitted for the GTAP version 5 data base. They are commodity-by-commodity tables, as were their predecessors, and valued at producers’ prices and purchasers’ prices. They are recorded in 519-row, 403-column matrices and based on the most detailed commodity classification. Since the tables we used are single product tables, information on multi-products cannot be obtained from those tables.

Since we have very detailed I-O tables for Japan, we did not have to estimate sector splits in order to match the GTAP sectoral classification. Nevertheless, some adjustments still had to be done. Aside from preparing the commodity concordance with the GTAP data base, we also had to estimate sales taxes and make some other adjustments for the Japanese table for GTAP. The Japanese I-O tables do not include tax arrays. They include producers’ price and purchasers’ price tables but there are no “basic tables.” Furthermore, some concepts differ from textbook I-O tables. That is, producers’ price and purchasers’ price tables in the Japanese I-O tables are adjusted to share the same column and row totals.

In preparing the Japanese I-O table for GTAP, we proceeded as follows: First we made the commodity concordance between the Japanese I-O classification and the GTAP data base classification. Then, we prepared the domestic and imported products array. We then estimated the sales tax for each array and separated them from the original arrays to generate the basic price arrays. We then gathered margin transactions. By adding sales taxes and margins to the basic arrays, we obtained purchasers’ price arrays. We adjusted the concept for margins arrays.

11.D.3 Commodity Concordance

We used the very detailed commodity classification in the Japanese I-O table and prepared the concordance with the GTAP sectors. Table 11D.A1 presents the commodity concordance between the Japanese I-O table commodities and GSC2 commodities. Compared to the GTAP classification, Japanese I-O tables have very detailed classification on the service sectors and manufacturing sectors, but not as detailed for the agricultural sector. This reflects the characteristics of the Japanese economy. According to this concordance, we revised the Japanese I-/O tables for both domestic and imported products.

11.D.4 Estimation for Commodity Taxes

Commodity taxes on transactions are needed in the GTAP data base. As mentioned above, in any I-O tables in Japan available now, commodity tax tables are not available. So we had to estimate commodity taxes and separate them from the original transactions arrays. We estimated them based on actual consumption taxes for domestic and imported goods. The total value is derived from tax statistics, about seven trillion yen in 1995. Tax-exempt commodities and services are excluded. The tax-exempt items are: transfer and loan of land and houses, transfer of securities, insurance premiums, stamps and postcards, social insurance, social welfare, and school fees and entrance examination fees. For the rest, we basically distributed the taxes in proportion to the transaction values. The base tax rate from 1989 to 1997 was 3%. Hence, many commodity tax rates are around 3%.

11.D.5 Estimating Margins

There are two kinds of margins, namely: trade margins and domestic freight. We have both margins in the Japanese I-O tables. The trade margins belong to the commerce sector. The domestic margins are railway transport, road freight transport, coastal and inland water transport, port transport service, domestic air transport, freight forwarding, and storage facility service.

The margins reported in the producers' price table is computed as the total at the intersection between the respective sectors of the intermediate and final demand and the margins column sectors. The margin tables and purchasers' price tables in the Japanese I-O table are a bit different from other I-O tables. To equalize the total values between the producers' price tables and the purchasers' price tables, negative total values in the respective sectors are recorded in margin sectors rows in the margin tables. That means that the column totals in margin tables are zeroes. We adjusted this treatment.

11.D.6 Other Adjustments

There are some items that we did not address in preparing the Japanese I-O table for GTAP. We didn't estimate the skilled and unskilled labor split. Nor did we estimate the distribution of value-added to land. The I-O tables also contain some negative values. Although they are mainly due to the original statistics, they are not allowed for CGE analysis. We didn't fix these figures and relied on GTAP staff to do the required adjustments using standard methods.

References

Management and Coordination Agency. 2000. 1995 Input-Output Tables for Japan: Summary in English. March.

National Tax Agency web site. "An Outline of Japanese Tax Administration," <http://www.nta.go.jp/>

Appendix 1

Table 11.D.A1 Concordance Table for Japanese I-O Table and GTAP GSC2

Japanese I-O Tables Basic Classification	GTAP Classification
0111011 Rice	1 Paddy rice
0111012 Rice straw	
0111021 Wheat (domestic)	2 Wheat
0111022 Wheat (imported)	
0111023 Barley (domestic)	3 Cereal grains n.e.c
0111024 Barley (imported)	
0112011 Sweet potatoes	4 Vegetable, fruit, nuts
0112012 Potatoes	
0112021 Soybeans (domestic)	8 Crops n.e.c.
0112022 Soybeans (imported)	
0112029 Other pulses	
0113001 Vegetables	4 Vegetable, fruit, nuts
0114011 Citrus fruits	
0114012 Apples	
0114019 Other fruits	
0115011 Sugar crops	6 Sugar cane, sugar beet
0115021 Coffee and cocoa beans (imported)	8 Crops n.e.c.
0115029 Other crops for beverages	
0115091 Miscellaneous cereals	
0115092 Oil seeds	5 Oil seeds
0115093 Edible industrial crops, n.e.c.	8 Crops n.e.c.
0116011 Crops for feed and forage	
0116021 Seeds and seedlings	
0116031 Flowers and plants	
0116091 Leaf tobacco	
0116092 Raw rubber (imported)	
0116093 Raw cotton (imported)	
0116099 Crops for inedible agricultural products, n.e.c.	
0121011 Raw milk	11 Raw milk
0121019 Other dairy farming products	
0121021 Hen eggs	10 Animal products n.e.c.
0121031 Fowls and broilers	
0121041 Hogs	
0121051 Beef cattle	
0121091 Sheep and lamp wool	12 Wool, silk-worm cocoons
0121099 Other livestock	
0122011 Sericulture	

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Table 11.D.A1 Concordance Table for Japanese I-O Table and GTAP GSC2 (continued)

Japanese I-O Tables Basic Classification	GTAP Classification
0131011 Veterinary service	8 Crops n.e.c.
0131021 Agricultural services (except veterinary service)	
0211011 Silviculture	13 Forestry
0212011 Logs (domestic)	
0212012 Logs (imported)	
0213011 Special forest products (inc. hunting)	
0311001 Marine fisheries (domestic)	14 Fishing
0311002 Marine fisheries (imported)	
0311041 Marine culture	
0312001 Inland water fisheries	
0611011 Iron ores	18 Minerals n.e.c.
0611012 Non-ferrous metallic ores	
0621011 Limestone	
0621019 Other materials for ceramics	
0622011 Gravel and quarrying	
0622021 Crushed stones	
0629099 Other non-metallic ores	
0711011 Coking coal	15 Coal
0711012 Steam coal, lignite and anthracite	
0721011 Crude petroleum and natural gas	16 Oil
0721012 Natural gas	17 Gas
1111011 Beef meat (bone meat)	19 Bovine cattle, sheep and goat, horse meat products
1111012 Pork (bone meat)	
1111013 Poultry meat	
1111014 Other meat (bone meat)	
1111015 By-products of slaughtering and meat processing	
1112011 Processed meat products	20 Meat products nec
1112021 Bottled or canned meat products	
1112031 Animal oils and fats	19 Bovine cattle, sheep and goat, horse meat products
1112041 Dairy farm products	22 Dairy products
1112042 Drinking milk	
1113011 Frozen fish and shellfish	25 Food products n.e.c.
1113021 Salted, dried or smoked seafood	
1113031 Bottled or canned seafood	
1113041 Fish paste	
1113051 Fish oil and meal	
1113099 Other processed seafood	
1114011 Milled rice	23 Processed rice
1114019 Other grain milling	

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Table 11.D.A1 Concordance Table for Japanese I-O Table and GTAP GSC2 (continued)

Japanese I-O Tables Basic Classification	GTAP Classification
1114021 Flour and other grain milled products	25 Food products n.e.c.
1114029 Other grain milled products	
1115011 Noodles	
1115021 Bread	
1115031 Confectionery	
1116011 Bottled or canned vegetables and fruits	
1116021 Preserved agricultural foodstuffs (other than bottled or canned)	
1117011 Refined sugar	24 Sugar
1117019 Other sugar and by-products of sugar manufacturing	
1117021 Starch	25 Food products n.e.c.
1117031 Dextrose, syrup and isomerized sugar	
1117041 Vegetable oil	21 Vegetable oils and fats
1117042 Cooking oil	
1117043 Vegetable meal	
1117051 Condiments and seasonings	25 Food products n.e.c.
1119011 Prepared frozen foods	
1119021 Retort foods	
1119031 Dishes, sushi and lunch boxes	
1119041 School lunch (public)	
1119051 School lunch (private)	
1119099 Other foods	
1121011 Refined sake	26 Beverages and tobacco products
1121021 Beer	
1121031 Ethyl alcohol for liquor manufacturing	
1121041 Whiskey and brandy	
1121099 Other liquors	
1129011 Tea and roasted coffee	
1129021 Soft drinks	
1129031 Manufactured ice	
1131011 Feeds	25 Food products n.e.c.
1131021 Organic fertilizers, n.e.c.	
1141011 Tobacco	26 Beverages and tobacco products
1511011 Raw silk	27 Textiles
1511021 Fiber yarns	
1512011 Cotton and staple fiber fabrics (inc. fabrics of synthetic spun fibers)	
1512021 Silk and artificial silk fabrics (inc. fabrics of synthetic filament fibers)	
1512031 Woolen fabrics, hemp fabrics and other fabrics	
1513011 Knitting fabrics	
1514011 Yarn and fabric dyeing and finishing (processing on commission only)	28 Wearing apparel

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Table 11.D.A1 Concordance Table for Japanese I-O Table and GTAP GSC2 (continued)

Japanese I-O Tables Basic Classification	GTAP Classification
1519011 Ropes and nets	27 Textiles
1519021 Carpets and floor mats	
1519031 Fabricated textiles for medical use	
1519099 Other fabricated textile products	
1521011 Woven fabric apparel	28 Wearing apparel
1521021 Knitted apparel	
1522099 Other wearing apparel and clothing accessories	
1529011 Bedding	27 Textiles
1529099 Other ready-made textile products	
1611011 Timber	30 Wood products
1611021 Plywood	
1611031 Wooden chips	
1619091 Wooden products for construction	
1619099 Other wooden products, n.e.c.	
1711011 Wooden furniture and fixtures	42 Manufacturers n.e.c.
1711021 Wooden fixtures	
1711031 Metallic furniture and fixtures	
1811011 Pulp	31 Paper products, publishing
1811012 Waste paper	
1812011 Foreign paper and Japanese paper	
1812021 Paperboard	
1813011 Corrugated cardboard	
1813021 Coated paper and building (construction) paper	
1821011 Corrugated card board boxes	
1821099 Other paper containers	
1829011 Paper textile for medical use	
1829099 Other pulp, paper and processed paper products	
1911011 Newspapers	
1911021 Printing, plate making and book binding	
1911031 Publishing	
2011011 Ammonia	33 Chemical, rubber, plastic products
2011021 Chemical fertilizer	
2021011 Soda ash	
2021012 Caustic soda	
2021013 Liquid chlorine	
2021019 Other industrial soda chemicals	
2029011 Titanium oxide	
2029012 Carbon black	
2029019 Other inorganic pigments	
2029021 Compressed gas and liquefied gas	
2029031 Crude salt	
2029032 Salt	
2029099 Other industrial inorganic chemicals	
2031011 Ethylene	

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Table 11.D.A1 Concordance Table for Japanese I-O Table and GTAP GSC2 (continued)

Japanese I-O Tables Basic Classification	GTAP Classification
2031012 Propylene	33 Chemical, rubber, plastic products(contd)
2031019 Other petrochemical basic products	
2031021 Pure benzene	
2031022 Pure toluene	
2031023 Xylene	
2031029 Other petrochemical aromatic products	
2032011 Synthetic alcohol	
2032012 Acetic acid	
2032013 Ethylene dichloride	
2032014 Acrylonitrile	
2032015 Ethylene glycol	
2032016 Acetic acid vinyl monomer	
2032019 Other aliphatic intermediates	
2032021 Styrene monomer	
2032022 Synthetic phenol	
2032023 Terephthalic acid (high purity)	
2032024 Capro lactam	
2032029 Other cyclic intermediates	
2033011 Synthetic rubber	
2039011 Methane derivatives	
2039021 Oil and fat industrial chemicals	
2039031 Plasticizers	
2039041 Synthetic dyes	
2039099 Other industrial organic chemicals	
2041011 Thermo-setting resins	
2041021 Polyethylene (low density)	
2041022 Polyethylene (high density)	
2041023 Polystyrene	
2041024 Polypropylene	
2041025 Vinyl chloride resins	
2041031 High functionality resins	
2041099 Other resins	
2051011 Rayon and acetate	
2051021 Synthetic fibers	
2061011 Medicaments	
2071011 Soap and synthetic detergents	
2071012 Surface active agents	
2071021 Cosmetics, toilet preparations and dentifrices	
2072011 Paint and varnishes	
2072021 Printing ink	
2073011 Photographic sensitive materials	
2074011 Agricultural chemicals	
2079011 Gelatin and adhesives	
2079091 Catalyzer	
2079099 Other final chemical products, n.e.c.	

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Table 11.D.A1 Concordance Table for Japanese I-O Table and GTAP GSC2 (continued)

Japanese I-O Tables Basic Classification	GTAP Classification
2111011 Gasoline	32 Petroleum, coal products
2111012 Jet fuel oils	
2111013 Kerosene	
2111014 Light oils	
2111015 Heavy oil A	
2111016 Heavy oils B and C	
2111017 Naphtha	
2111018 LPG (liquefied petroleum gas)	
2111019 Other petroleum refinery products	
2121011 Coke	
2121019 Other coal products	33 Chemical, rubber, plastic products
2121021 Paving materials	
2211011 Plastic films and sheets	
2211012 Plastic plates, pipes and bars	
2211013 Foamed plastic products	
2211014 Industrial plastic products	
2211015 Reinforced plastic products	
2211016 Plastic containers	
2211017 Plastic table ware, kitchen ware and other	
2211019 household articles	
2311011 Other plastic products	
2319011 Tires and inner tubes	
2319021 Rubber footwear	
2319099 Plastic footwear	
Other rubber products	
2411011 Leather footwear	29 Leather products
2412011 Leather and fur skins	
2412021 Miscellaneous leather products	
2511011 Sheet glass	34 Mineral products n.e.c.
2511012 Safety glass and multilayered glass	
2512011 Glass fiber and glass fiber products, n.e.c.	
2519091 Glass processing materials	
2519099 Other glass products, n.e.c.	
2521011 Cement	
2522011 Ready mixed concrete	
2523011 Cement products	
2531011 Pottery, china and earthenware for construction	
2531012 Pottery, china and earthenware for industry	
2531013 Pottery, china and earthenware for home use	
2599011 Clay refractories	
2599021 Other structural clay products	
2599031 Carbon and graphite products	
2599041 Abrasive	
2599099 Miscellaneous ceramic, stone and clay products	

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Table 11.D.A1 Concordance Table for Japanese I-O Table and GTAP GSC2 (continued)

Japanese I-O Tables Basic Classification	GTAP Classification
2611011 Pig iron	35 Ferrous metals
2611021 Ferro alloys	
2611031 Crude steel (converters)	
2611041 Crude steel (electric furnaces)	
2612011 Scrap Iron	
2621011 Section steel (ordinary steel)	
2621012 Steel plate (ordinary steel)	
2621013 Steel strip (ordinary steel)	
2621014 Steel bar (ordinary steel)	
2621015 Other hot rolled steel (ordinary steel)	
2621016 Hot rolled steel (special steel)	
2622011 Steel pipes and tubes (ordinary steel)	
2622012 Steel pipes and tubes (special steel)	
2623011 Cold-finished steel	
2623021 Coated steel	
2631011 Forged steel	
2631012 Cast steel	
2631021 Cast iron pipes and tubes	
2631031 Cast materials (iron)	
2631032 Forged materials (iron)	
2649011 Iron and steel shearing and slitting	36 Metals n.e.c.
2649099 Other iron or steel products	
2711011 Copper	
2711021 Lead and Zinc (inc. regenerated lead)	
2711031 Aluminum (inc. regenerated aluminum)	
2711099 Other non-ferrous metals	
2712011 Non-ferrous metal scrap	
2721011 Electric wires and cables	
2721021 Optical fiber cables	
2722011 Rolled and drawn copper and copper alloys	
2722021 Rolled and drawn aluminum	
2722031 Non-ferrous metal castings and forgings	
2722041 Nuclear fuels	
2722099 Other non-ferrous metal products	
2811011 Metal products for construction	37 Metal products
2812011 Metal products for architecture	
2891011 Gas and oil appliances and heating and cooking apparatus	
2899011 Bolts, nuts, rivets and springs	
2899021 Metal containers, fabricated plate and sheet metal	
2899031 Plumber's supplies, powder metallurgy products and tools	
2899032 Powder metallurgy products	
2899033 Cutlery and tools	
2899091 Other metal products	
2899092 Stamped and pressed metal products	
2899099 Other metal products, n.e.c.	

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Table 11.D.A1 Concordance Table for Japanese I-O Table and GTAP GSC2 (continued)

Japanese I-O Tables Basic Classification	GTAP Classification
3011011 Boilers	41 Machinery and equipment n.e.c.
3011021 Turbines	
3011031 Engines	
3012011 Conveyors	
3013011 Refrigerators and air conditioning apparatus	
3019011 Pumps and compressors	
3019021 Machinists' precision tools	
3019099 Other general industrial machinery and equipment	
3021011 Mining, civil engineering and construction machinery	
3022011 Chemical machinery	
3023011 Industrial robots	
3024011 Metal machine tools	
3024021 Metal processing machinery	
3029021 Agricultural machinery	
3029031 Textile machinery	41 Machinery and equipment n.e.c.
3029041 Food processing machinery	
3029091 Semiconductor making equipment	
Sawmill, wood working, veneer and plywood machinery	
3029092 Pulp equipment and paper machinery	
3029093 Printing, bookbinding and paper processing machinery	
3029094 Casting equipment	
3029095 Plastic processing machinery	
3029099 Other special industrial machinery, n.e.c.	
3031011 Metal molds	
3031021 Bearings	
3031099 Other general machines and parts	
3111011 Copy machine	40 Electronic equipment
3111091 Electronic calculator	
3111092 Word processing machine	
3111099 Other office machines, n.e.c.	
3112011 Vending machines	41 Machinery and equipment n.e.c.
3112012 Amusement machinery	
3112019 Other machinery for service industry	
3211011 Electric audio equipment	40 Electronic equipment
3211021 Radio and television sets	
3211031 Video recording and playback equipment	
3212011 Household electric appliances	
3311011 Electric computing equipment(main parts)	
3311021 Electric computing equipment(accessory equipment)	
3321011 Wired communication equipment	
3321021 Radio communication equipment	

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Table 11.D.A1 Concordance Table for Japanese I-O Table and GTAP GSC2 (continued)

Japanese I-O Tables Basic Classification	GTAP Classification
3321099 Other communication equipment	40 Electronic equipment (contd)
3331011 Applied electronic equipment	
3332011 Electric measuring instruments	
3341011 Semiconductor devices and integrated circuits	
3341012 Integrated circuits	
3359011 Electron tubes	
3359021 Liquid crystal devices	
3359031 Magnetic tapes and discs	
3359099 Other electronic components	
3411011 Generators	
3411012 Electric motors	
3411021 Relay switches and switchboards	
3411031 Transformers and reactors	
3411099 Other industrial heavy electrical equipment	
3421011 Electric lighting fixtures and apparatus	
3421021 Batteries	
3421031 Electric bulbs	38 Motor vehicles and parts
3421041 Wiring devices and supplies	
3421051 Electrical equipment for internal combustion engines	
3421099 Other electrical devices and parts	
3511011 Passenger motor cars	
3521011 Trucks, buses and other cars	
3531011 Two-wheel motor vehicles	39 Transport equipment n.e.c.
3541011 Motor vehicle bodies	
3541021 Internal combustion engines for motor vehicles and parts	
3541031 Motor vehicle parts and accessories	
3611011 Steel ships	
3611021 Ships except steel ships	
3611031 Internal combustion engines for vessels	
3611101 Repair of ships	
3621011 Rolling stock	
3621101 Repair of rolling stock	
3622011 Aircrafts	
3622101 Repair of aircrafts	
3629011 Bicycles	
3629091 Transport equipment for industrial use	41 Machinery and equipment n.e.c.
3629099 Other transport equipment, n.e.c.	
3711011 Camera	
3711099 Other photographic and optical instruments	
3712011 Watches and clocks	
3719011 Professional and scientific instruments	
3719021 Analytical instruments, testing machine, measuring instruments	
3719031 Medical instruments	

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Table 11.D.A1 Concordance Table for Japanese I-O Table and GTAP GSC2 (continued)

Japanese I-O Tables Basic Classification	GTAP Classification
3911011 Toys	42 Manufactures n.e.c.
3911021 Sporting and athletic goods	
3919011 Musical instruments	
3919021 Audio and video records, other information recording materials	
3919031 Writing instruments and stationery	
3919041 Small personal adornments	
3919051 ?Tatami?(Straw matting) and straw products	
3919061 Ordnance	
3919099 Miscellaneous manufacturing products	
4111011 Residential construction(wooden)	46 Construction
4111021 Residential construction(non-wooden)	
4112011 Non-residential construction(wooden)	
4112021 Non-residential construction(non-wooden)	
4121011 Repair of constructions	
4131011 Public construction of roads	
4131021 Public construction of rivers, drainages and others	
4131031 Agricultural public construction	
4132011 Railway construction	
4132021 Electric power facilities construction	
4132031 Telecommunication facilities construction	
4132099 Other civil engineering and construction	
5111001 Electric power for enterprise use	43 Electricity
5111041 Self-power generation	
5121011 Gas supply	44 Gas manufacture, distribution
5122011 Steam and hot water supply	
5211011 Water supply	45 Water
5211021 Industrial water supply	
5211031 Sewage disposal	56 Public administration and defense, education, health
5212011 Waste disposal services(public)	
5212021 Waste disposal services(industrial)	
6111011 Wholesale trade	47 Trade
6112011 Retail trade	
6211011 Financial service(imputed interest), public	52 Financial service n.e.c.
6211012 Financial service(imputed interest), private	
6211013 Financial service(commission), public	
6211014 Financial service(commission), private	
6212011 Life insurance	53 Insurance
6212021 Non-life insurance	
6411011 Real estate agencies and managers	54 Business service n.e.c.
6411021 Real estate rental service	
6421011 House rent	57 Dwellings

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Table 11.D.A1 Concordance Table for Japanese I-O Table and GTAP GSC2 (continued)

Japanese I-O Tables Basic Classification	GTAP Classification
7111011 Railway transport by JR (passengers)	48 Transport n.e.c.
7111012 Railway transport except JR (passengers)	
7112011 Railway transport (freight)	
7121011 Bus transport service	
7121021 Hired car and taxi transport	
7122011 Road freight transport	
7131011 Transport by private cars (passengers)	
7132011 Transport by private cars(freight)	49 Water transport
7141011 Ocean transport	
7142011 Coastal and inland water transport (passengers)	
7142012 Coastal and inland water transport (freight)	
7143011 Port transport service	
7151011 International air transport	51 Communication
7151012 Domestic air transport(passengers)	
7151013 Domestic air transport(freight)	
7151014 Aircraft service except air transport	
7161011 Freight forwarding	48 Transport n.e.c.
7171011 Storage facility service	
7181011 Packing service	
7189011 Facility service for road transport	
7189021 Port and water traffic control	
7189031 Services relating to water transport	
7189041 Airport and air traffic control (public)	
7189051 Airport and air traffic control (industrial)	
7189061 Services relating to air transport	
7189099 Travel agency and other services relating to transport	
7311011 Postal service	51 Communication
7312011 Domestic telecommunication (except mobile communication)	
7312021 Mobile communication	
7312031 International telecommunication	
7319099 Other services relating to communication	
7321011 Public broadcasting	
7321021 Private broadcasting	
7321031 Cable broadcasting	56 Public administration and defence, education, health
8111011 Public administration(central)	
8112011 Public administration(local)	
8211011 School education(public)	
8211021 School education(private)	
8213011 Social education(public)	
8213021 Social education(private, non-profit)	
8213031 Other educational and training institutions (public)	
8213041 Other educational and training institutions (profit-making)	

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Table 11.D.A1 Concordance Table for Japanese I-O Table and GTAP GSC2 (continued)

Japanese I-O Tables Basic Classification		GTAP Classification
8221011	Research institutes for natural sciences (public)	56 Public administration and defence, education, health (contd)
8221021	Research institutes for cultural and social science(public)	
8221031	Research institutes for natural sciences (private, non-profit)	
8221041	Research institutes for cultural and social science(private, non-profit)	
8221051	Research institutes for natural sciences (profit-making)	
8221061	Research institutes for cultural and social science (profit-making)	
8222011	Research and development (intra-enterprise)	
8311011	Medical service (public)	
8311021	Medical service (non-profit foundations, etc.)	
8311031	Medical service (medical corporations, etc.)	
8312011	Health and hygiene (public)	
8312021	Health and hygiene (private, non-profit)	
8312031	Health and hygiene (profit-making)	
8313011	Social insurance (public)	
8313021	Social insurance (private, non-profit)	
8313031	Social welfare (public)	
8313041	Social welfare (private, non-profit)	
8411011	Private non-profit organizations serving enterprises	
8411021	Private non-profit organizations serving households, n.e.c.	
8511011	Television and radio advertising services	54 Business service n.e.c.
8511012	Newspaper, magazine and other advertising services	
8512011	Computer programming and other software services	
8512012	Data processing and research and information services	
8512021	News syndicates and private detective agencies	
8513011	Industrial equipment and machinery rental and leasing(except construction machinery)	
8513012	Construction machine rental and leasing	
8513013	Electronic computing equipment rental and leasing	
8513014	Office machines rental and leasing (except electronic computing equipment)	
8513015	Sports goods, recreation goods and other goods rental and leasing	
8514011	Car rental and leasing	
8515101	Repair of motor vehicles	
8516101	Repair of machine	
8519011	Building maintenance services	

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Table 11.D.A1 Concordance Table for Japanese I-O Table and GTAP GSC2 (continued)

Japanese I-O Tables Basic Classification		GTAP Classification
8519021	Judicial, financial and accounting services	54 Business service n.e.c. (contd)
8519031	Civil engineering and construction services	
8519041	Worker dispatching services	
8519099	Other business services	
8611011	Motion picture and video production, and supply	55 Recreational and other service
8611021	Movie theaters	
8611031	Theater and entertainment facilities	
8611041	Amusement and recreation facilities	
8611051	Stadiums and companies of bicycle, horse motorcar and motorboat races	
8611061	Sport facility service, public gardens and amusement parks	
8611071	Theatrical companies	
8611099	Other amusement and recreation services	
8612011	General eating and drinking place (except coffee shop)	47 Trade
8612021	Coffee shops	
8612031	Eating and drinking places for pleasures	
8613011	Hotel and other lodging places	
8619011	Cleaning, laundry and dyeing services	55 Recreational and other service
8619021	Barber shops	
8619031	Beauty shops	
8619041	Public baths	
8619051	Photographic studios	
8619061	Ceremonial occasions	
8619071	Miscellaneous repairs, n.e.c.	
8619081	Places for private lessons	
8619099	Other personal services	
8900000	Office supplies	54 Business service n.e.c.
9000000	Activities not elsewhere classified	
9099000	Total of intermediate sectors	Total