

11.F

Southeast Asia

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11.F.1 Introduction

The objective of this document is to explain the characteristics and construction procedure behind the Asian International Input-Output Table 1995 (AIO) compiled by the Institute of Developing Economies, Japan External Trade Organization (IDE-JETRO), which is partly included in the GTAP 6 Data Base. The original AIO is designed to depict the industrial network extended over ten countries in the Asia-Pacific region, i.e., China, Indonesia, Japan, Korea, Malaysia, the Philippines, Singapore, Taiwan, Thailand, and the United States. The AIO represents each domestic industry with its input composition from and output distribution to domestic industries as well as industries overseas. The AIO series are fully available for the years 1985, 1990, and 1995, and partly available for the year 1975 during which China and Taiwan are excluded. The table for the year 2000 will be available in the near future. The GTAP 6 Data Base includes I-O data for five countries from AIO – Indonesia, Malaysia, the Philippines, Singapore, and Thailand¹.

The main differences of the AIO from the input-output tables and trade flow matrices included in the GTAP Data Base are: (1) values of international shipping margin and trade protection are not presented by commodity in the AIO, but given as row vectors; (2) the AIO includes import matrices by commodity, by industry, and by country of origin, so that one may capture the input structure of imported commodities from every country included in the table.

The structure of the rest of the document is as follows. In the next section, we present the general outline of AIO, and the relationships between the original AIO and the I-O tables contributed to GTAP. A schematic diagram of the original AIO may help one to understand the two differences mentioned above. Section 11.F.3 provides the concordance between the AIO and the GTAP sectoral classification. The procedures adopted in constructing import matrices by commodity, by industry, and by country of origin, and export matrices by commodity and by country of destination in the AIO are explained in section 11.F.4.

¹Editor's Note: The tables for five Southeast Asian countries from the AIO were first incorporated in the publicly-released GTAP 5.4 Data Base. The I-O table for Singapore was replaced by a more recent I-O table documented in Chapter 11.G.

11.F.2 *General Outline of the Asian International Input-Output Table*

A schematic diagram of the AIO is given in figures 11.F.1a to 11.F.1c. As seen column-wise, each cell in the table shows input compositions of the industries of the respective countries. A^I , for instance, shows the input compositions of Indonesian industries vis-a-vis domestically produced goods and services. A^{MI} , on the other hand, shows input compositions of Indonesian industries for the imported goods and services from Malaysia. The cells A^{PI} , A^{SI} , A^{TI} , A^{CI} , A^{NI} , A^{KI} , A^{JI} , and A^{UI} allow the similar interpretation for the imports from other countries.

The transaction values thus tabulated are all given at producers' prices of the origin countries. International freight and insurance paid by Indonesian industries for these imported transactions are all recorded in the row vector BA^I . HA^I and WA^I are input compositions of Indonesian industries vis-a-vis imported goods and services from Hong Kong and those from the rest of the world, and they are given in *cif* values. Import duties and import sales taxes levied on all Indonesian imports are recorded in the row vector DA^I .

The value-added items of Indonesian industries are shown in V^I . The bottom of the column, X^I , is the gross output of Indonesian industries.

The first column in figure 11.F.1b shows the composition of goods and services that have gone to final demand sectors of Indonesia. F^{II} and F^{MI} , for example, respectively map the flow of goods and services produced domestically and imported from Malaysia into final demand sectors of Indonesia. The "Rest of the World" column is read in the similar manner as done for the 1st column of the table.

As seen in row-wise direction, the table shows the output distributions of the commodities produced by domestic industries, to Malaysian industries, the Philippines industries, and so on. F^{II} is the distribution of Indonesian goods and services to final demand sectors of Indonesia, and F^{MI} is to the final demand sectors of Malaysia, and so on.

In figure 11.F.1c, LH^I , LE^I , LF^I , LG^I , and LW^I are Indonesian exports to Hong-Kong, the United Kingdom, France, Germany, and the Rest of the World. Q^I is the statistical discrepancies and X^I shows the gross output of Indonesian industries.

All the columns and rows for the other countries can be read in the same manner as the Indonesian example above.

11.F.3 Concordance Between the AIO and GTAP Sectors

While GTAP Data Base maintains agricultural and services sectors at relatively disaggregated levels, the AIO does so for manufacturing sectors. The original AIO includes 50 manufacturing sectors out of 78 industries/commodities, and we aggregated them into 40 sectors to meet the GTAP classification. Since the GTAP Data Base includes comparatively detailed agricultural and services sectors, the Center of Global Trade Analysis performs estimation based on the 40-sector AIO to obtain more disaggregated agricultural and services sectors, before stacking it into the data base. The concordance between the original 78-sector AIO and the 40-sector AIO is given in table 11.F.A1 in the appendix. Table 11.F.A2 provides the mapping between the 40-sector AIO and the GTAP sectoral classification.

11.F.4 Compilation of the AIO Table

The compilation of the AIO is just like a patchwork using the pieces from each national input-output table (NIO). The steps followed in the construction of the original AIO are:

- updating the national input-output tables,
- adjustment of the national I-O tables,
- compilation of import matrices by commodity, by industry, and by country of origin,
- compilation of export matrix by commodity and by country of destination,
- price conversion for endogenous imports to producers' prices,
- conversion from national I-O classifications to the uniform AIO classification,
- conversion from local currency units to US dollars, and
- linking the processed national I-O tables and final reconciliation.

11.F.4.1 Updating the National Input-Output Tables

The AIO have been prepared for the years 1975, 1985, 1990, and 1995, but there are countries that do not release their benchmark NIOs for the target years. For the 1995 table, these countries include China, Malaysia, the Philippines, Singapore, and Taiwan. Since the latest available benchmark table of Malaysia is for the year 1987, we updated the Malaysian I-O table based on the input-output structure given by our 1990 table, instead of using their NIO. The Singapore I-O table was also updated in a similar way.

The data for updating, such as sectoral gross output (Control Total, CT), sectoral value-added, final demand by commodity, are collected by our local counterparts, i.e., State Information Center and State Statistical Bureau (China), Department of Statistics (Malaysia), National Statistics Office (the Philippines), The National University of Singapore (Singapore), and

Taiwan Research Institute (Taiwan). Using the collected data, we apply the RAS method to obtain the estimated NIOs that are included in our AIO.

11.F.4.2 Framework Adjustment of National I-O Tables

Prior to the compilation, the styles of the national tables have to be modified to the uniform format, so that each constituent table becomes consistent when they are linked to one another. The adjustments include the treatment of public administration, education and medical services, imputed interest, state-based and national (resident)-based accounts, re-exports, dummy sectors, business consumption, repair of machinery, scraps and by-products and valuation at producers' prices. Appendix table 11.F.A3 provides a summary of the adjustments made to the national I-O tables.

11.F.4.3 Compilation of Import Matrices

The import matrices, by commodity, by industry, and by country of origin are constructed by first compiling a matrix of special imports, a matrix of commodity imports, and then by dividing the import matrix by country of origin. The steps involved are as follows:

Compilation of a Matrix of Special Imports

- the vector of direct purchases by commodity is defined by subtracting commodity imports, presented by trade statistics with NIO classification, from the vector of sectoral total of import excluding services sectors, obtained by summing-up row-wise the original import matrix of NIO.
- a matrix of special imports is compiled by putting the direct purchases by commodity into the private consumption part of the original import matrix of NIO, which includes only services sectors
- the value on the transacting point of the private consumption and petroleum products in the matrix of special imports is divided and moved to the sea transportation and air transportation sectors.
- the matrix of special imports is included in the matrix of imports from the Rest of the World.

Compilation of a Matrix of Commodity Imports

- a modified import matrix is obtained by subtracting the matrix of special imports from the original import matrix of NIO.
- an import duties and sales taxes matrix is compiled by distributing the column vectors of import tariff and sales taxes, which is included in the original NIO, using the distribution ratio by industry, which is calculated from the modified import matrix

- a matrix of commodity imports at *cif* prices is compiled by subtracting the import duties and sales taxes matrix from the modified import matrix
- the import duties and sales taxes matrix is summed-up column-wise to be a row vector.

Compilation of Basic Import Matrices by Commodity, by Industry, and by Country of Origin

- using the trade statistics converted to the NIO classification, proportions of source countries of imports are calculated.
- using the source country shares, the matrix of commodity imports at *cif* prices is divided into import matrices consisting of 12 countries (10 countries listed in the first section, plus Hong-Kong and the Rest of the World). The supplementary surveys conducted in some countries, such as Thailand, and the superior data collected in some countries, such as China, are used in the final reconciliation work of constructing import matrices.
- the matrix of special imports is added to the import matrix for the Rest of the World, to be a part of AIO.

11.F.4.4 Compilation of Export Matrix

An export matrix by commodity and by country of destination is compiled using the following steps:

- using the trade statistics converted to the NIO classification, a basic export matrix by commodity and by country of destination is obtained.
- multiplying the domestic trade margin rate to the basic export matrix, we obtain a matrix of domestic trade margins on exports. Then, summing it up column-wise, a row vector of domestic trade margins by destination country is compiled.
- in the same way, a matrix of domestic transportation cost on exports and a row vector of domestic transportation cost are made.
- subtracting the matrix of domestic trade margins and domestic transportation cost on exports from the basic export matrix, an export matrix at producers' prices is made.
- two row vectors, the vector of domestic trade margins and the vector of domestic transportation cost, are respectively added to the trade services and transportation services sectors in the export matrix at producers' prices, and the export matrix is compiled and utilized in the AIO.
- the discrepancies between the row-wise total of the export matrix and the export vector in the NIO is included into the part of the Rest of the World in the export matrix.

11.F.4.5 Price Conversion for Endogenous Imports to Producers' Prices

Using the domestic trade margin rates and domestic transportation cost rates, the endogenous part (consists of 10 countries) of the import matrices are converted to import matrices at producers' prices. When both import data at *FOB* prices and at *CIF* prices are available in the trade statistics, international freight and insurance rates are also calculated.

11.F.4.6 Converting National I-O Classifications to the Uniform AIO Classification

The following parts compiled in the previous steps are converted from the NIO classification to the uniform AIO classification. The concordance between AIO and NIOs for 5 countries, adopted in the GTAP Data Base, is shown in appendix table 11.F.A4.

- the row vector of import duties and sales taxes
- the import matrix at *CIF* prices for Hong Kong
- the import matrix for the Rest of the World that includes special imports
- the export matrix at producers' prices
- the export matrix at producers' prices for the Rest of the World (includes discrepancies)
- the import matrices at producers' prices for the 10 countries

11.F.4.7 Currency Units

Since the AIO is valued at thousands of US\$, the values should be converted from local currency units. For most of the countries, the Period Averages (rf.) in the International Financial Statistics Yearbook (IFS), International Monetary Fund, are employed. For Malaysia and Thailand, Official Rates in IFS are employed. For Taiwan, the period average in Key Indicators of Developing Asian and Pacific Countries, Asian Development Bank, is employed².

² The exchange rates between U.S. dollar and local currencies of 5 countries used in the conversion are: Indonesia (market rate): Rp. 2,248.6 / US\$; Malaysia (official rate): Rg. 2.5044 / US\$; Philippines (market rate): Pesos 25.714 / US\$; Singapore (market rate): S\$ 1.4174 / US \$; Thailand (official rate): bahts 24.915 / US \$.

11.F.4.8 Linking the Processed National I-O Tables and Final Reconciliation

A preliminary AIO is formed replacing the exports part of every NIO with the unit converted import matrices. For the 10 countries, the unit converted export matrix is utilized as important information in the final reconciliation work. When available, we also utilize the results of surveys on input structure which presents the proportion of each commodity used as intermediate input and the source country of the imported commodity. Suggestions given by the local specialists also play important roles in our final adjustment process.

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Figure 11.F.1c Layout of the Original Asian International Input-Output Table

		Exports (L) to:					Stat.	Total	
					DEU				
	code	(LH)	(LE)	(LF)	(LG)	(LW)	(QX)	(XX)	
	Indonesia	(AI)	LH ^I	LE ^I	LF ^I	LG ^I	LW ^I	Q ^I	X ^I
	Malaysia	(AM)	LH ^M	LE ^M	LF ^M	LG ^M	LW ^M	Q ^M	X ^M
	Philippines	(AP)	LH ^P	LE ^P	LF ^P	LG ^P	LW ^P	Q ^P	X ^P
	Singapore	(AS)	LH ^S	LE ^S	LF ^S	LG ^S	LW ^S	Q ^S	X ^S
	Thailand	(AT)	LH ^T	LE ^T	LF ^T	LG ^T	LW ^T	Q ^T	X ^T
	China	(AC)	LH ^C	LE ^C	LF ^C	LG ^C	LW ^C	Q ^C	X ^C
	Taiwan	(AN)	LH ^N	LE ^N	LF ^N	LG ^N	LW ^N	Q ^N	X ^N
	Korea	(AK)	LH ^K	LE ^K	LF ^K	LG ^K	LW ^K	Q ^K	X ^K
	Japan	(AJ)	LH ^J	LE ^J	LF ^J	LG ^J	LW ^J	Q ^J	X ^J
	U.S.A.	(AU)	LH ^U	LE ^U	LF ^U	LG ^U	LW ^U	Q ^U	X ^U
Freight and Insurance		(BF)							
Import from Hong Kong		(CH)							
Import from the R.O.W.		(CW)							
Import Duty and Sales Tax		(DT)							
Value Added		(VV)							
Total Inputs		(XX)							

Table 11.F.A1 Mapping from IDE's Unified I-O Table to New Aggregation

IDE Unified I-O			New Aggregation	
No.	Code	Description	Code	Description
1	1	Paddy	1	Paddy rice
2	2	Cassava	5	Vegetables, oil seeds, crops nec
3	3	Natural rubber	5	Vegetables, oil seeds, crops nec
4	4	Sugar cane and beet	3	Sugar cane, sugar beet
5	5	Oil palm and coconuts	12	Vegetable oils and fats
6	6	Fiber crops	4	Plant-based fibers
7	007A	Other grain	2	Wheat, cereal grains nec
8	007B	Other food crops	5	Vegetables, oil seeds, crops nec
9	8	Other commercial crops	5	Vegetables, oil seeds, crops nec
10	9	Livestock and poultry	6	Animal products, raw milk, wool nec
11	10	Forestry	7	Forestry
12	11	Fishery	8	Fishing
13	12	Crude petroleum and natural gas production	9	Oil, gas
14	13	Copper ore	10	Minerals
15	14	Tin ore	10	Minerals
16	015A	Iron ore	10	Minerals
17	015B	Other metallic ore	10	Minerals
18	16	Non-metallic ore and quarrying	10	Minerals
19	17	Oil and fats	12	Vegetable oils and fats
20	18	Milled rice	13	Processed rice
21	19	Other milled grain and flour	15	Food products nec
22	20	Sugar	14	Sugar
23	021A	Fish products	15	Food products nec
24	021B	Slaughtering, meat products and dairy products	11	Meat and dairy products
25	021C	Other food products	15	Food products nec
26	022A	Beverage	16	Beverages and tobacco products
27	022B	Tobacco	16	Beverages and tobacco products
28	23	Spinning	17	Textiles
29	24	Weaving and dyeing	17	Textiles
30	25	Knitting	17	Textiles
31	26	Wearing apparel	18	Wearing apparel
32	27	Other made-up textile products	17	Textiles
33	28	Leather and leather products	19	Leather products
34	29	Timber	20	Wood products
35	030A	Wooden furniture	32	Manufacturers nec
36	030B	Other wooden products	20	Wood products
37	31	Pulp and paper	21	Paper products, publishing
38	32	Printing and publishing	21	Paper products, publishing
39	033A	Synthetic resins and fiber	23	Chemical, rubber, plastic products
40	033B	Other basic industrial chemicals	23	Chemical, rubber, plastic products

Continued

Table 11.F.A1 Mapping from IDE's Unified I-O Table to New Aggregation (Contd)

IDE Unified I-O			New Aggregation	
No.	Code	Description	Code	Description
41	34	Chemical fertilizers and pesticides	23	Chemical, rubber, plastic products
42	035A	Drugs and medicine	23	Chemical, rubber, plastic products
43	035B	Other chemical products	23	Chemical, rubber, plastic products
44	36	Refined petroleum and its products	22	Petroleum, coal products
45	37	Tires and tubes	23	Chemical, rubber, plastic products
46	38	Other rubber products	23	Chemical, rubber, plastic products
47	39	Cement and cement products	24	Mineral products nec
48	40	Glass and glass products	24	Mineral products nec
49	41	Other non-metallic miner products	24	Mineral products nec
50	42	Iron and steel	25	Ferrous metals
51	43	Non-ferrous metal	26	Metals nec
52	44	Metal products	27	Metal products
54	045B	Specialized industrial machinery	31	Machinery and equipment nec
55	045C	Ordinary industrial machinery	31	Machinery and equipment nec
56	045D	Heavy Electric machinery	30	Electronic equipment
57	045E	Engines and turbines	31	Machinery and equipment nec
58	046A	Electronics and electronic products	30	Electronic equipment
59	046B	Other electric machinery and	30	Electronic equipment
60	047A	Motor vehicles	28	Motor vehicles and parts
61	047B	Motor vehicles and bicycles	28	Motor vehicles and parts
62	048A	Aircraft	29	Transport equipment nec
63	048B	Shipbuilding	29	Transport equipment nec
64	048C	Other transport equipment	29	Transport equipment nec
65	49	Precision machines	31	Machinery and equipment nec
66	050A	Plastic products	23	Chemical, rubber, plastic products
67	050B	Other manufacturing products	32	Manufacturers nec
68	51	Electricity, gas and water supply	33	Electricity, gas, water
69	052A	Building construction	34	Construction
70	052B	Other construction	34	Construction
71	053A	Wholesale and retail trade	35	Trade
72	053B	Transportation	36	Transports
73	054A	Telephone and telecommunication	37	Communication
74	054B	Finance and insurance	38	Financial services and Insurance
75	054C	Education and research	40	Public administration and defense,
75	054C	Education and research	40	Education, health
76	054D	Other services	39	Other services
77	55	Public administration	40	Public administration and defense, education, health
78	56	Unclassified	39	Other services

Table 11.F.A2 Mapping of New IDE Aggregation to GTAP Sectors

IDE New		
Aggregation	GTAP Sectors	
1	pdr	Paddy rice
2	wht, gro	Wheat, cereal grains nec
3	c_b	Sugar cane, sugar beet
4	Pfb	Plant-based fibers
5	v_f, osd, ocr	Vegetables, oil seeds, crops nec
6	oap, ctl, rmk, wol	Animal products, raw milk, wool nec
7	frs	Forestry
8	fsh	Fishing
9	oil, gas	Oil, gas
10	coa, omn	Minerals
11	cmt, omt, mil	Meat and dairy products
12	vol	Vegetable oils and fats
13	pcr	Processed rice
14	sgr	Sugar
15	ofd	Food products nec
16	b_t	Beverages and tobacco products
17	tex	Textiles
18	wap	Wearing apparel
19	lea	Leather products
20	lum	Wood products
21	ppp	Paper products, publishing
22	p_c	Petroleum, coal products
23	crp	Chemical, rubber, plastic products
24	nmm	Mineral products nec
25	i_s	Ferrous metals
26	nfm	Metals nec
27	fmp	Metal products
28	mvh	Motor vehicles and parts
29	otn	Transport equipment nec
30	ele	Electronic equipment
31	ome	Machinery and equipment nec
32	omf	Manufacturers nec
33	ely, gdt, wtr	Electricity, gas, water
34	cns	Construction
35	trd	Trade
36	otp, wtp, atp	Transports
37	cmn	Communication
38	ofi, isr	Financial services and Insurance
39	ros, obs, dwe	Other services
40	osg	Public administration and defence, education, health

Table 11.F.A3 Adjustments to National Input-Output Tables

AIO Account Categories	Direction of Adjustment	National I-O Tables Adjusted	Adjustment Methodology
Public Administration	Gross output (CT) is defined as the total amount of expenditure for producing governmental services, with no element of Operating Surplus.	Thailand and Indonesia	If the country concerned has back data of government expenditure, they are utilized to enumerate the intermediate transactions of Public Administration sector. If not, the following treatment is applied: Each element in the vector of Government Consumption Expenditure (final demand), except those in the cells intersecting with Public Administration, Public Education, and Public Medical Services, is transplanted to the corresponding cell on the column vector of Public Administration (intermediate input). The total input (CT) of Public Administration is increased accordingly. For the output distribution, the same amount as total input is allocated to the intersection with Government Consumption Expenditure as a sole output.
Education and Medical Services	Any educational activities, public or private, should be classified into Education/Research sector, and any medical services, public or private, should be classified into Other Services.	Singapore	The sectors of Public Education and of Public Medical Services are separated from Producers of Government Services, the former is classified into Education/Research sector and the latter is classified into Other Services.
Imputed Interest (Column Vector)	Intermediate sectors should have an input from Imputed Interest activity of financial services sector.	Malaysia and Singapore	The column vector of Imputed Interest is distributed proportionally to the rows of financial services sectors using the ratio of each sector's value-added to the total value-added of all industry. The increase in the total input of each sector is neutralized by subtracting the same amount from the corresponding sector's Operating Surplus. For the sector whose Operating Surplus is bound to be negative as a result of this operation, the amount must instead be subtracted from the value-added item showing the largest record.

Table 11.F.A3 Adjustments to National Input-Output Tables

AIO Account Categories	Direction of Adjustment	National I-O Tables Adjusted	Adjustment Methodology
Imputed Interest (Row Vector)	The sector of Imputed Interest should produce its services to intermediate sectors only.	Philippines and Thailand	First, the amount of Imputed Interest on Housing Loans is removed from the cell intersecting with Private Consumption Expenditure, and added to the intersection with the Ownership of Dwelling sector. The same amount is subtracted from the Operating Surplus of Ownership of Dwelling. Next, the rest of the Imputed Interest given to the final demand sectors is all weeded away. Since the gross output is reduced as a result, the same amount should be subtracted from the Operating Surplus of corresponding financial services sector in order to achieve row-column balances.
State-based Account and National (Resident)-based Account	Private Consumption Expenditure should be estimated on the national-based account. All the rest should be estimated on the state-based account.	Malaysia	Private Consumption Expenditure is re-estimated in the national-based account by using the following conversion formula: PCE (national-based) = PCE (state-based) + Direct Purchase (import) - Direct Purchase (export). For the Malaysian table, the totals of Direct Purchases (both import and export) are given in the fourth quadrant of the input-output table, and hence the figures are distributed to each sector.
Re-exports	The amount of re-exports should be subtracted from total import, making it composed of retained import only.	Malaysia	The domestic trade margins and transportation cost on the re-exported goods, shown in the intersection between the Re-export vector (column) and the domestic trading/transportation sectors, are removed, and added respectively, after the job of separating the Export vector by country of destination, over to the corresponding cells in the vector of Export to the Rest of the World. The amount of Re-exports should be subtracted from the total import.
Valuation	All figures should be valued at producers' prices	Malaysia and Singapore	The matrix of commodity taxes is added to the matrix of intermediate transactions, element by element, and (the transpose of) the vector of row totals of commodity taxes will replace the vector of Indirect Taxes. Gross output and gross input of each sector are increased by the corresponding amount.

Table 11.F.A4 Concordance Table between Uniform I-O Classification and National I-O Classifications

UIO Code	Description	National I-O Classification				
		Indonesia	Malaysia	Philippines	Singapore	Thailand
001	Paddy	001	001A	001		001
			005A			
002	Cassava	003	001B	003		004
			005B			
003	Natural rubber	012	002	014		016
		104				
004	Sugar cane and beet	013	001C	010		009
			005C			
005	Oil palm and coconuts	014	003	009		010
		015	004			011
006	Fiber crops	016	001D	012		012
			005D			013
007A	Other grain	002	001E	002		002
		011	005E	015		003
007B	Other food crops	004	001F	003A		005
		005	005F	004		006
		006		005		007
		007		006		008
		008		007		015
		009		008		
		010		013		
		020				
		021				
		022				
		023				
		055				
008	Other commercial crops	017	001G	011	002	014
		018	005G	056	003	017
		019		015A		
		024				
009	Livestock and poultry	025	001H	016	001	018
		026	005H	017		019
		027	006	018		020
		028		019		021
				020		022
						023
010	Forestry	029	007	024		025
		030				026
		031				027
011	Fishery	032	008	022	004	028
		033		023	005	029
		034				
012	Crude petroleum and natural gas production	037	009	031		031
		038				
		103				

Continued

Table 11.F.A4 Concordance Table between Uniform I-O Classification and National I-O Classifications (Contd)

UIO Code	Description	National I-O Classification				
		Indonesia	Malaysia	Philippines	Singapore	Thailand
013	Copper ore	042	010A	026		
014	Tin ore	039	010B	029		033
015A	Iron ore	045A	010C	029A		032
015B	Other metallic ore	040	010D	025		034
		041		027		035
		043		028		
		044		029		
		045B				
016	Non-metallic ore and quarrying	036	011	030	006	030
		046		032		036
		047		034		037
		048				038
						039
					040	
					041	
017	Oil and fats	056	016	040	012	047
				041		048
018	Milled rice	057	017A	042		049
019	Other milled grain and flour	058	017B	043	013	050
		059				051
						052
020	Sugar	062	020A	045	017	055
			021A			
021A	Fish products	053	015	039	011	046
		054				
021B	Slaughtering, meat products and dairy products	049	012	035	007	042
		050	013	036	008	043
		051		037	009	044
021C	Other food products	052	014	033	010	045
		060	018	038	014	053
		061	019	044	015	054
		063	020B	046	016	056
		066	021B	047	018	057
		067	022	049	020	058
		068		050	021	060
		070A				022
022A	Beverage	064	023	048	019	059
		065	024	051	024	062
		069		052	025	063
		070B		053		064
022B	Tobacco	071	025	054	026	065
		072		055		066
023	Spinning	073	026A	057	027	067
024	Weaving and dyeing	074	026B	057A	028	068
025	Knitting	076	027	058	029	071

Continued

Table 11.F.A4 Concordance Table between Uniform I-O Classification and National I-O Classifications (Contd)

UIO Code	Description	National I-O Classification				
		Indonesia	Malaysia	Philippines	Singapore	Thailand
026	Wearing apparel	077	029	064 065	030 031 033	072
027	Other made-up textile products	075 078	028	059 060 061 062 063 066	032 034	070 073 074
028	Leather and leather products	079 080 081A	030 031	067 068	035 036	075 076 077
029	Timber	082	032	069	037	078
030A	Wooden furniture	085	034	076	042	080
030B	Other wooden products	083 084 086 087	033	070 071 072 073 074 075	038 039 040 041	079
031	Pulp and paper	088 089 090	035	077 078 079	043 044	081 082
032	Printing and publishing	091	036	080 081 082	045 046 047 048	083
033A	Synthetic resins and fiber	095	037A 038A 039A 040A 041A 046A	085	064	086
033B	Other basic industrial chemicals	092	037B 038B 039B 040B 041B 046B	083	049 050	084
034	Chemical fertilizers and pesticides	093 094	037C 038C 039C 040C 041C 046C	084 086		085

Continued

Table 11.F.A4 Concordance Table between Uniform I-O Classification and National I-O Classifications (Contd)

UIO Code	Description	National I-O Classification				
		Indonesia	Malaysia	Philippines	Singapore	Thailand
035A	Drugs and medicine	097	037D	088	052	088
		098	038D			
			039D			
			040D			
			041D			
			046D			
035B	Other chemical products	096	037E	087	051	087
		099	038E	089	053	089
		100	039E	090	054	090
		101	040E		055	091
			041E		056	092
			046E		057	
036	Refined petroleum and its products	102	042	091	058	093
				092	059	094
037	Tires and tubes	105	043A	093	062	096
			044A			
038	Other rubber products	106	043B	094	060	095
			044B	095	063	097
039	Cement and cement products	111 112A	048	099	071	102 103
040	Glass and glass products	109	047A	098	069	100
			049A		070	
041	Other non-metallic mineral products	108 110 112B	047B	097	068	099
			049B	100	072	101
				101	073	104
				102	074	
042	Iron and steel	113 114	050	103	075	105
				076	106	
043	Non-ferrous metal	115 116	051	104	077	107
				110		
044	Metal products	117	052	105	078	108
		118	053	106	079	109
		119	054	107	080	110
		120		108	081	111
				109	082	
				110	083	
				130	084	
					085	
			086			
			087			
			088			
			089			
			119			

Continued

Table 11.F.A4 Concordance Table between Uniform I-O Classification and National I-O Classifications (Contd)

UIO Code	Description	National I-O Classification				
		Indonesia	Malaysia	Philippines	Singapore	Thailand
045A	Agricultural machinery and equipment	122A	055A	111		113
045B	Specialized industrial machinery	122B	056A 055B	112	094 095	114
045C	Ordinary industrial machinery	122C	055C 056C	114 115	092 093 096	115
045D	Heavy electric machinery	123 124	057A 058A 059A	115A	097 098 099	117
045E	Engines and turbines	121 122D	057B 058B 059B	114A 106A		112
046A	Electronics and electronic products	122E 125	057C 058C 059C	113 116 119	090 091 100 101 102 103 104 105 106 107	116 118 119
046B	Other electric machinery and appliance	126	057D	117	108	120
		127	058D	118	109	121
		128	059D	120	111	122
047A	Motor vehicles	131 170A	061	122 123 124	171 112 113	125 127
047B	Motor vehicles and bicycles	132 133A	062A	125	114	126
048A	Aircraft	134	062B	126A	120	128
048B	Shipbuilding	129	060	121	115 116 117 118	123
048C	Other transport equipment	130 133B 170B	063	126		124
049	Precision machines	135	064	127 128 129 134	121 122 123	129 130 131

Continued

Table 11.F.A4 Concordance Table between Uniform I-O Classification and National I-O Classifications (Contd)

UIO Code	Description	National I-O Classification				
		Indonesia	Malaysia	Philippines	Singapore	Thailand
050A	Plastic products	107	045	096	065 066 067	098
050B	Other manufacturing products	081B 136 137 138 139	065	131 132 133 135 136 137	124 125 126 127 128	132 133 134
051	Electricity, gas, and water supply	140 141	066 067	139 140	129 130 131	135 136 137
052A	Building construction	142	068A	138	132	138 139
052B	Other construction	143 144 145 146	068B	138A	133	140 141 142 143
053A	Wholesale and retail trade	147	069	141	134	145 146
053B	Transportation	150 151 152 153 154 155	071	142 143 144 145 146 147	137 138 139 140 141 142 143 144	149 150 151 152 153 154 155 156 157 158
054A	Telephone and telecommunication	156	072	148 149 150	145	159
054B	Finance and insurance	157 158	073 074 075	151 152 153 154	146 147 148 149 150	160 161 162
054C	Education and research	162 165	079 092	163 175	163	167 168
054D	Other services	035 148 149 159 160 163	070 076 077 078 080 081	021 155 156 157 158 159	135 136 151 152 153 154	024 147 148 163 164 166

Continued

Table 11.F.A4 Concordance Table between Uniform I-O Classification and National I-O Classifications (Contd)

UIO Code	Description	National I-O Classification				
		Indonesia	Malaysia	Philippines	Singapore	Thailand
054D	Other services (Contd)	164	082	160	155	169
		166	083	161	156	170
		167	084	162	157	171
		168	085	164	158	172
		169	086	165	159	173
		170C	087	166	160	174
		171	088	167	162	175
			093	168	164	176
			094	169	165	177
				170	166	178
					171	167
					172	168
					173	169
					174	170
			176	172		
			173			
055	Public administration	161	089	177	161	165
			090			
			091			
			095			
			096			
056	Unclassified	172			174	180
Value Added						
VV001	Wages and salaries	201	098	C	3178	201
			100			
			104			
VV002	Operating surplus	202		OS	3179	202
VV003	Depreciation of fixed capital	203		D	3180	203
VV004	Indirect Taxes less subsidies	204		IT-S	3177	204
		205			3181	
Final Demand						
FX001	Private consumption	301	101	PCE	4177	301
FX002	Government consumption	302	102	GCE	4178	302
			103			
			104			
FX003	Gross fixed capital formation	303	106	GFCF	4179	303
FX004	Changes in stock	304	105	CS	4180	304

*1 Converter table is compiled based on the classifications of the following national input-output tables.

Indonesia: TABEL INPUT-OUTPUT INDONESIA 1995, Badan Pusat Statistik, Jakarta - Indonesia, March 1998

Malaysia: Malaysia Input-Output Table 1990, Asian International Input-Output Series No.48, Institute of Developing Economies, March 1997

Philippines: Philippines Input-Output Table 1990, Asian International Input-Output Series No.35, Institute of Developing Economies, March 1995

Singapore: Singapore Input-Output table 1990, Asian International Input-Output Series No.47, Institute of Developing Economies, March 1997

Thailand: Input-Output Table of Thailand 1995, Office of the National Economic And Social Development Board, Office of The Prime Minister, September 2000

*2 For Malaysia, Philippines, and Singapore, parts are updated from the above 1990 national input-output tables.