

## RIETI-TID2020 (SITC Classification)

### 1. Basic concept

The RIETI Trade Industry Database (RIETI-TID) is based on the United Nations Comtrade and classifies all trade goods based on the integrated broad categories of the Japanese Input-Output table, and further organizes them by production process for each industry. In creating this database, we have focused on industries with active trade transactions within the region in order to understand the manufacturing activities in East Asia.

Figure1: Overview of RIETI-TID2020

Country and region (73)	<p>[Asia] Japan, China, Hong Kong, Taiwan, Korea, Singapore, Thailand, Malaysia, Indonesia, Philippines, Vietnam, Brunei (Darussalam), Cambodia, India</p> <p>[North America] USA, Canada, Mexico</p> <p>[Europe] United Kingdom, Germany, France, Italy, Spain, Netherlands, Austria, Belgium, Greece, Luxembourg, Finland, Sweden, Ireland, Portugal, Denmark, Poland, Czech Rep., Slovakia, Hungary, Lithuania, Latvia, Slovenia, Estonia, Cyprus, Malta, Romania, Bulgaria, Russian Federation, Turkey, Norway, Croatia</p> <p>[South America] Argentina, Brazil, Paraguay, Uruguay, Chile, Venezuela, Colombia, Ecuador, Peru, Bolivia</p> <p>[Oceania] Australia, New Zealand</p> <p>[Middle East] Iran, Iraq, Israel, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates</p> <p>[Africa] Egypt, Gabon, Equatorial Guinea, Nigeria, Republic of South Africa</p>
Period	1980-2020 (Data of some countries for certain years are missing.)
Content	The export value and import value of the countries and regions are organized by partner country (including group and global total), industry (13 sectors), production process (five stages), and year.
留意点	<ul style="list-style-type: none"> <li>● Trade values have been converted from the national currency into U.S. dollars using nominal exchange rates. (The exchange rate of the target country by year can be found on the UN Comtrade website.) ⇒ <a href="http://comtrade.un.org/db/mr/daExpNotebyRepYear.aspx">http://comtrade.un.org/db/mr/daExpNotebyRepYear.aspx</a></li> <li>● All values of exports and imports in RIETI-TID are cost insurance and freight (CIF)-based apart from Taiwan. For each country's imports from Taiwan, the value of each country's exports as announced by The Directorate General of Customs of Taiwan is multiplied by 1.1 and is converted to CIF.</li> <li>● The data for Taiwan includes re-imports and re-exports.</li> <li>● Trade value with countries other than the 73 target countries and regions has been categorized as the "RoW" (Rest of the World).</li> <li>● Newly added countries are included in the RoW for the period 1980-1994.</li> <li>● Due to data limitations, Belgium and Luxembourg are treated as one country for data purposes. This also applies to the Czech Republic and Slovakia.</li> <li>● Data of the following countries from 1995 to 2020 are available: Croatia, Iran, Iraq, Israel, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates, Egypt, Gabon, Equatorial Guinea, Nigeria, Republic of South Africa For Taiwan, the data from 2008 to 2020 are available.</li> <li>● For 2020 data, reported data for Gabon, Equatorial Guinea, Iran, Iraq, Oman, and Venezuela have not yet been published and are therefore not reflected.</li> </ul>

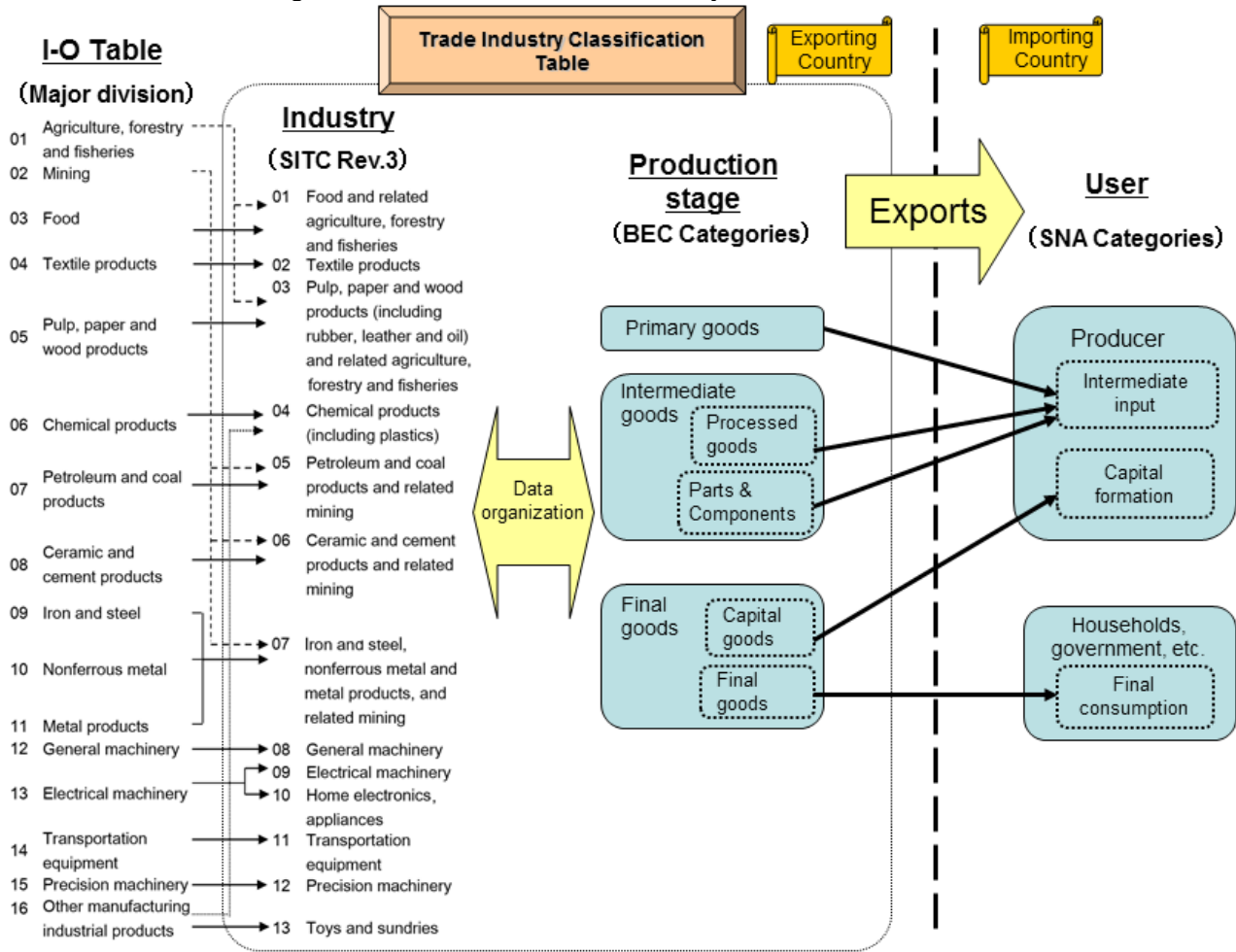
## Updates and corrections for 2019 data

The following is a list of countries that have had changes in their total imports for 2019 data. The figures at the time of release of RIETI-TID2019 are replaced with the figures after the recent RIETI-TID2020 update.

	2019 (RIETI-TID2019)	2019 (RIETI-TID2020)
<b>Argentina</b>	46,196,518,769	46,096,040,422
<b>Australia</b>	208,163,507,479	208,103,885,531
<b>Austria</b>	168,953,190,414	165,709,875,947
<b>Belgium-Luxembourg</b>	440,442,171,497	333,710,688,518
<b>Bolivia</b>	6,420,448,636	9,450,692,636
<b>Brazil</b>	163,047,310,338	183,251,469,096
<b>Brunei Darussalam</b>	4,314,599,674	4,232,904,534
<b>Bulgaria</b>	34,920,428,892	34,527,389,256
<b>Cambodia</b>	19,469,807,264	19,498,497,025
<b>Canada</b>	431,262,652,380	427,948,739,354
<b>Chile</b>	68,071,038,923	66,245,384,257
<b>China</b>	1,901,896,267,603	1,754,393,914,558
<b>China, Hong Kong SAR</b>	530,609,699,711	502,538,122,773
<b>Colombia</b>	50,521,314,212	49,754,359,566
<b>Croatia</b>	26,816,058,224	26,641,879,439
<b>Cyprus</b>	8,901,902,169	8,821,913,627
<b>Czechoslovakia</b>	256,539,750,642	231,034,961,061
<b>Denmark</b>	92,190,913,258	91,800,176,717
<b>Ecuador</b>	19,854,243,335	19,727,632,544
<b>Egypt</b>	77,456,347,957	77,245,877,011
<b>Equatorial Guinea</b>	962,715,552	1,930,042,614
<b>Estonia</b>	16,746,868,140	16,041,126,637
<b>Finland</b>	64,317,038,248	64,257,608,476
<b>France</b>	619,511,930,185	607,271,670,741
<b>Gabon</b>	2,195,576,195	2,164,080,469
<b>Germany</b>	1,135,993,461,504	1,097,048,353,189
<b>Greece</b>	58,553,268,399	58,350,802,842
<b>Hungary</b>	106,211,782,037	105,903,615,055
<b>India</b>	461,524,113,748	461,339,790,497
<b>Indonesia</b>	162,959,176,029	162,450,980,122
<b>Iran</b>	34,161,560,132	34,426,023,905
<b>Iraq</b>	43,985,823,550	44,852,582,187
<b>Ireland</b>	94,970,988,456	88,092,825,005
<b>Israel</b>	72,822,150,000	64,794,418,300
<b>Italy</b>	459,055,737,674	458,186,150,463
<b>Japan</b>	685,261,562,600	676,585,450,138

<b>Kuwait</b>	32,798,301,860	32,761,200,717
<b>Latvia</b>	16,308,687,656	16,281,003,552
<b>Lithuania</b>	33,206,980,841	32,879,363,432
<b>Malaysia</b>	195,373,706,508	190,555,160,498
<b>Malta</b>	8,052,893,753	8,050,661,243
<b>Mexico</b>	405,201,434,063	404,265,366,701
<b>Netherlands</b>	481,353,309,008	475,035,531,082
<b>New Zealand</b>	40,671,688,779	40,614,354,887
<b>Nigeria</b>	46,657,509,456	45,081,753,098
<b>Norway</b>	82,528,727,489	82,498,541,925
<b>Oman</b>	29,710,278,954	48,435,113,697
<b>Paraguay</b>	11,936,706,705	11,892,830,263
<b>Peru</b>	41,338,706,357	41,250,154,180
<b>Philippines</b>	115,064,518,809	112,538,281,833
<b>Poland</b>	233,725,107,836	231,970,524,036
<b>Portugal</b>	87,229,934,185	87,161,797,970
<b>Qatar</b>	26,425,751,564	26,425,545,854
<b>Rep. of Korea</b>	479,571,535,049	470,429,738,646
<b>Rest of the World</b>	807,536,598,834	1,031,834,316,910
<b>Romania</b>	93,306,436,869	93,075,647,879
<b>Russian Federation</b>	234,774,430,926	234,046,325,464
<b>Saudi Arabia</b>	132,493,727,330	132,203,287,640
<b>Singapore</b>	328,580,981,746	314,999,597,935
<b>Slovenia</b>	36,910,845,735	36,417,452,984
<b>South Africa</b>	77,585,275,309	75,743,613,675
<b>Spain</b>	352,476,117,300	348,320,929,747
<b>Sweden</b>	148,151,549,607	147,942,620,620
<b>Taiwan</b>	259,490,092,000	227,907,052,000
<b>Thailand</b>	204,353,973,347	202,947,306,435
<b>Turkey</b>	179,972,532,619	179,615,034,587
<b>United Arab Emirates</b>	282,396,384,010	240,602,782,459
<b>United Kingdom</b>	655,674,201,520	655,352,465,372
<b>Uruguay</b>	8,172,639,732	8,067,338,105
<b>USA</b>	2,357,465,150,827	2,347,874,744,285
<b>Venezuela</b>	5,478,334,702	17,574,281,546
<b>Viet Nam</b>	223,380,139,207	222,749,169,707

Figure 2: Structure of Trade Industry Classification Table



## 2. Industry classification:

In order to understand the trade structures whereby the production process has been divided, merely grouping the trade goods by production stage is insufficient. Classification for each industry is also required since the extent of division and the economic characteristics of production for all goods are diverse. Industries were organized into 13 sectors based on the classification of the manufacturing businesses, including “Agriculture, forestry and fisheries,” and “Mining” in the integrated classification (32 sectors) of Japan’s input-output (I-O) table (Figure 3). The classification is detailed below to reflect the progress toward the inter-process division of labor in East Asia more accurately.

- “Agriculture, forestry and fisheries” and “Mining,” which represent the production of primary goods and materials, are not classified as independent industries as they are in the Japanese I-O table, but are organized as industries upstream of each respective manufacturing industry. More specifically, “Food” and “Pulp, paper and wood products” are categorized as “products related to agriculture, forestry and fishery.” Also, “Chemical products,” “Petroleum and coal products,” “Ceramic and cement products,” “Iron and steel,” “Nonferrous metal,” and “Metal products” are categorized as “products related to mining.”
- “Nonferrous metal” and “Metal products” were combined into one category as their production processes have numerous similarities. In addition, “Iron and steel” is also included in the same industry as it can only be categorized as “Processed goods” in the Broad Economic Categories (BEC) classification.
- “Electrical machinery” was divided into “Electrical machinery” and “Home electronics, appliances,” considering the circumstances of the inter-process division of labor in East

Asia.

- D) “Other manufacturing industrial products” was renamed as “Toys and sundries” to show the specific goods in this industry. Although plastics are classified in “Other manufacturing products” in the I-O table, they are included in “Chemical products” and not in “Toys and sundries,” in view of the production process.

**Figure 3: Trade Industry Classification Table**

Industry	Production stage				
	Primary	Intermediate goods		Final goods	
		Processed goods	Parts & Components	Capital goods	Consumption goods
01 Food and related agriculture, forestry and fisheries	●	●		●	●
02 Textile products	●	●	●		●
03 Pulp, paper and wood products (including rubber, leather and oil) and related agriculture, forestry and fisheries	●	●	●		●
04 Chemical products (including plastics)	●	●			●
05 Petroleum and coal products, related mining	●	●			
06 Ceramic and cement products, related mining	●	●			●
07 Iron and steel, nonferrous metal and metal products, related mining	●	●	●	●	●
08 General machinery		●	●	●	●
09 Electrical machinery		●	●	●	
10 Home electronics, appliances		●	●	●	●
11 Transportation equipment	●		●	●	●
12 Precision machinery		●	●	●	●
13 Toys and sundries		●	●	●	●

Source: Classification by Broad Economic Categories (BEC), UN Statistics Division

### 3. Classification of trade goods by production stage:

We employ the BEC classification system in order to classify all of the trade goods by production stage. According to the UN Statistics Division’s website, “BEC was developed in such a way as to provide elements which enable the construction of aggregates approximately comparable to those for the three basic classes of goods in the 1968 System of National Account (SNA).<sup>1</sup> A number of sub-categories were established to supplement these main categories. The sub-categories reflect the various end-uses of commodities.” Based on the classification of BEC, we organized trade goods into three categories (five subcategories) which are further classified according to the SNA standard. Figure 4 shows the profile of the classification. Below we briefly describe the classification of each category.<sup>2</sup>

“Primary goods” are materials to be used for food and beverages and in industrial supplies. These goods mainly turn into “Intermediate goods” through the first stage of the manufacturing process in the respective industry. Defined as materials for intermediate input, primary goods cover only goods for industrial use, excluding those used in household consumption. This is due to the main objective of the grouping seen in Figure 4, which is to distinguish trade goods according to the production stage.

“Intermediate goods” are trade goods that represent the intermediate input along the path toward becoming the final product. These goods are manufactured goods (processed or assembled) that are produced from primary goods but still are not yet final products. This category has two subcategories, “Processed goods” and “Parts & Components,” each respectively defined on the

<sup>1</sup> The BEC classification corresponds to the classification based on the “use of basic products” in the 1968 SNA (Intermediate Consumption, Final Consumption and Gross Capital Formation).

<sup>2</sup> Please refer to “China’s Integration in Asian Production Networks and its Implications,” (F. Lemoine. et. al., (2004)) for the classification by production stage.

basis of BEC. These two subcategories have been created since the goods in each subcategory are considered to have undergone different extents of manufacturing, experienced different production processes, and tend to have different shares in specific industries.

“Final goods” is defined here as goods used by the producer (as the intermediate input) and goods consumed by households and the government. The two types of goods in this category are “Capital goods” and “Consumption goods,” which are listed as separate categories under SNA since this standard classifies commodity goods according to the main user. They both fall within the one category of “Final goods” because, under the Trade Industry Classification, the primary focus is on the stages of the manufacturing process, not on the end-users of the goods. Even so, this classification is considered convenient for subsequent studies such as analyzing the relationships among domestic production, consumption, and trade, as the classification is associated with SNA and can identify the end-users. Figure 3 shows the structure of Trade Industry Classification Table.

**Figure 4: Classification Table of Trade Goods by Production Stage<sup>3</sup>**

Category	Sub-category	BEC code	BEC Title
Primary goods		111	Food and beverages, primary, mainly for industry
		21	Industrial supplies, n.e.s., primary
		31	Fuels and lubricants, primary
Intermediate goods	Processed goods	121	Food and beverages, processed, mainly for industry
		22	Industrial supplies, n.e.s., processed
		32	Fuels and lubricants, processed
	Parts & Components	42	Parts and accessories of capital goods, except transport equipment
		53	Parts and accessories of transport equipment
Final goods	Capital goods	41	Capital goods, except transport equipment
		521	Other industrial transport equipment
	Consumption goods	112	Food and beverages, primary, mainly for household consumption
		122	Food and beverages, processed, mainly for household consumption
		51	Passenger motor cars
		522	Other non-industrial transport equipment
		61	Durable consumer goods n.e.s.
		62	Semi-durable consumer goods n.e.s.
		63	Non-durable consumer goods n.e.s.

#### 4. About SITC Classification

RIETI-TID2020 used the Standard International Trade Classification (SITC) data of the UN Comtrade. Although the classification is a bit rougher,<sup>4</sup> it has the characteristic of reflecting the raw materials used in production, production stages, product descriptions, technological progress, and other factors, which is appropriate for reflecting the inter-process division of labor.<sup>5</sup>

<sup>3</sup> This classification table represents the traded goods in BEC categories that are linked to the criteria of the System of National Account (SNA) and classified by process stage (cf. the research results of CEP II). Since SNA divides the data by user (producer, household, etc.), “capital goods (capital formation)” and “consumption goods (final consumption)” are separated; however, “capital goods” are considered part of “final goods” in this case, based on the idea that international trade is organized by stage of production process. For BEC code 32, 321-motor spirits may be divided into “household consumption” and “use of other industrial transport equipment”; however, this distinction is not made in this case.

<sup>4</sup> While the Harmonized Commodity Description and Coding System (HS) uses a six-digit classification, SITC only uses up to a five-digit classification.

<sup>5</sup> The characteristics of the SITC classification are described on the UN website as follows: “The commodity groupings of SITC reflect (a) the materials used in production, (b) the processing stage, (c) market practices and uses of the products, (d) the importance of the commodities in terms of world trade, and (e) technological changes.” The characteristics of the HS classification are as follows: “The HS contributes to the harmonization of customs and trade procedures and the non-documentary trade data interchange in connection with such procedures, thus reducing the costs related to international trade” (World Customs Organization). “In the HS, goods are classified by what they are, and not according to their stage of fabrication, their use, or origin. The Harmonized System nomenclature is logically structured by economic activity or component material” (University of British Columbia). HS is commonly used for economic analysis because it comprises about 5,000 commodity groups (each identified by a six digit code), greatly exceeding the SITC’s approximately 3,100 groups.