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Abstract

The “flying geese” (FG) pattern is one of the well-recognized models to be strongly considered in explaining economic development in the East Asian region. This paper scrutinizes the flying geese (FG) pattern in East Asia. *Firstly*, the evolution of FG concept starting from the original Akamatsu’s concept to the modern one is briefly discussed. *Secondly*, this paper develops an analytical tool namely “products mapping” which is constructed by combining two fundamental variables derived from the FG concept i.e. comparative advantage and trade balance. *Thirdly*, this paper applies the analytical tool in the case of Japan and Indonesia.

Keywords: Flying geese, Comparative advantage, Trade balance`

JEL classification: F10, F14, F17.

1. Introduction

The mainstream theory in international economics (for an example Heckscher-Ohlin model¹) imposes very strict assumptions that production of each commodity follows constant return to scale (CRS) and the markets for commodities and factors are perfect competitive ones. However, those assumptions are difficult to fulfill in the real world. Some new approaches relaxing several assumptions have emerged such as the imitation lag hypothesis (Posner, 1961), the flying geese paradigm (Akmatsu, 1961), the product cycle theory (Vernon, 1966), the Linder theory (1961), the gravity model (Tinbergen, 1962) the Krugman model (Krugman, 1979), and the reciprocal dumping model (Brander, 1981; Brander and Krugman, 1983), among others. The existence of

¹ Heckscher-Ohlin model assumes two countries-two homogenous goods-two homogenous factors of production (2x2x2 model), identical technology, constant return to scale (CRS), different factor intensities, identical tastes and preferences (utility functions), perfect competition markets, perfect mobility of factors of production within country and perfect immobility between two countries, zero transportation costs, and no trade barriers or any policy restrictions.

widespread economies of scale may be obtainable from different sizes of plants. Market distortions, which are represented by tariff and non-tariff barriers, still exist widely. Starting from the 1960-s, the discourse about economies of scale and imperfect competition in the theory of international trade has taken much attention. Verdoorn (1960), Balassa (1963, 1966) and Grubel (1967), among others, examined the effects of tariff reductions on the pattern of specialization.

The “flying geese” (FG) pattern is one of the well-recognized models to be strongly considered in explaining economic development in the East Asian region. The model was firstly introduced by Kaname Akamatsu in the 1930s, as an analogous sequential development or catching-up process of manufacturing industries in developing countries (Kojima, 2000; Ozawa, 2001; Kwan, 2002; Kasahara, 2004). In Japanese, the FG paradigm is called the *ganko keitai* (a flock of flying geese). The paradigm tries to explain the phenomenon of industrial development in the catching-up economies. The FG concept was originally coined by Kaname Akamatsu in 1930s and he wrote his works in Japanese so that the concept was not so popular among non-Japanese scholars. After his publication in English during 1960s together with the popularity of product life cycle (PLC) by Raymond Vernon (1966), the FG paradigm has become popular one. Afterward, the FG concept has been greatly developed and modified by some Japanese scholars including Kojima and Ozawa who were Akamatsu’s students (Kasahara, 2004). It is sometime referred as the modern “multi-sequentialist” FG model.

This paper is addressed to review the concepts of the FG theorem and to derive an analytical tool which is suitable to analyze the FG pattern. It is argued that there two crucial variables in the FG paradigm i.e. comparative advantage and catch-up level. By

using two corresponding indicators i.e. Revealed Symmetric Comparative Advantage (RSCA) (Laursen, 1998) and Trade Balance Index (TBI) (Laffay, 1992), this paper construct a analytical tool namely “products mapping”. The analytical tool is then applied to analyze Japan as the lead goose and Indonesia as one of the follower geese. The rest of this paper is organized as follows. Part 2 describes the Akamatsu’s original model of flying geese. Part 3 discusses the modern multi-sequentialist concept. Part 4 shows some previous empirical findings. Part 5 exhibits the proposed analytical tool for the FG paradigm. The analytical tool is then applied to analyze the Indonesian export groups of products and the results are presented in Part 6. Finally, some conclusions are presented in Part 7.

2. The Akamatsu’s original model of flying geese

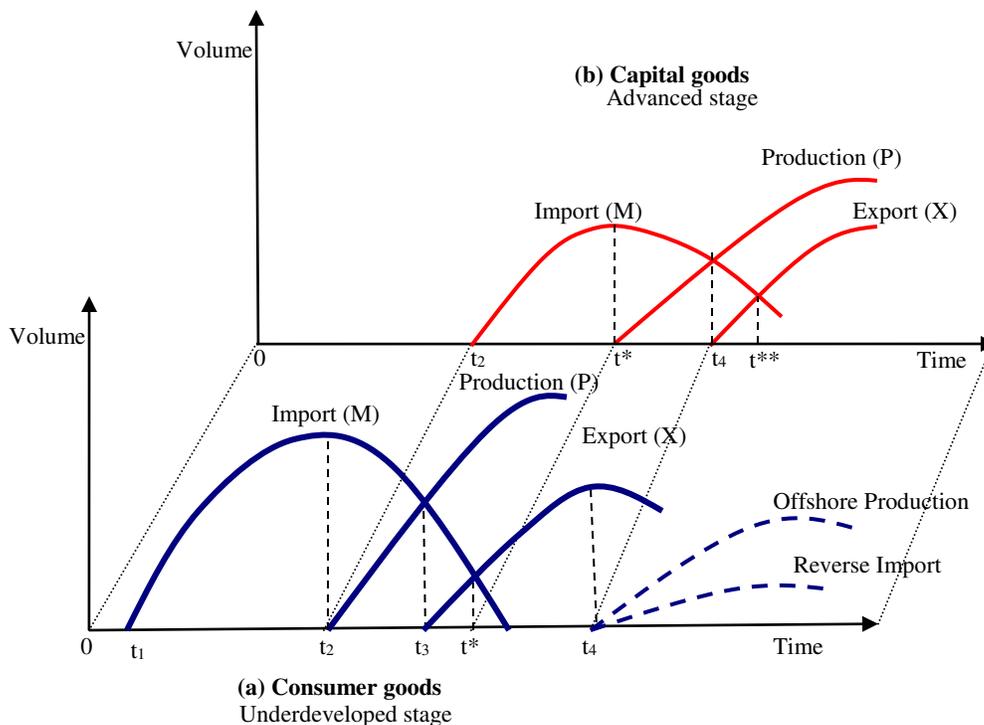
Akamatsu (1962) argued that the economic growth of developing countries must consider mutual interactions between developing countries and advanced countries. He mentioned seven historical stages of the economic growth in developing countries i.e. (a) the development of native (handicraft) industry, (b) the flow of manufactured goods from advanced countries, (c) the infiltration of capital and techniques for large-scale production of *primary* products, (d) the establishment modern industries including the industries processing raw materials, (e) the increased participation of native capital to run the industries processing native raw materials, (f) the native industries handling manufactured goods in general, and (g) the industrialization of the developing countries

becoming advanced. The essence of the FG model then might be given by directly citing the original Akamatsu's argument:

The wild-geese-flying pattern of industrial development denotes the development after the less-advanced country's economy enters into an international economic relationship with the advanced countries. This theory leaves out of consideration the period during which less-advanced countries are in the stage of a closed self-sufficient economy or during which there is no international trade of any significance with a neighboring country, since their economic structure are homogenous with each other. A sort of formula for the industrial development of less-advanced countries after they have opened trade ports and entered into large-scale trade relations with the advanced Western European countries is the hereby termed wild-geese-flying pattern of industrial development. (Akamatsu, 1962: p.11).

The basic pattern of development of industry is illustrated like the wild-geese-flying in orderly rank and forming an inverse V, just as airplane in shape. Figure 1 shows the Akamatsu's FG concept. Akamatsu mentioned four stages of the fundamental of FG pattern that was developed in the historical context of the Euro-American as leader and Asian as follower (Kasahara, 2004; Kojima, 2000). *First stage*: the industries might be classified into several categories. Manufactured consumer goods are imported from advanced countries (started from t_1 in Panel a). Some products (*primary* products for example) are exported by less-advanced countries. In this stage, imported manufactured product may have a negative consequence on the native handicraft industry of the less-advanced countries due to the substitution effect.

When an underdeveloped nation first enters the international economy, the primary products, which are her specialties, are exported and industrial products for consumption are imported from advanced nations. [Because the later's more advanced factory products are superior in quality and cheaper in price.] (Akamatsu, 1961, pp. 206)



Source: Author's modification from Kojima (2000).

Figure 1. The Akamatsu's Original FG Paradigm

Second stage: the actual production of the imported manufactured goods (import-substitution strategy) exists (started from time t_2 in Panel a). The import of consumer goods increases from time t_1 to t_2 . The domestic demand becomes large enough to reach the economies of scale. It is therefore possible for the domestic production to start (at t_2 in Panel a). At the same time, the country must also import capital goods (started from t_2 in Panel b). In the case of Japan, not only capital goods such as machinery but also raw materials must be imported (Akamatsu, 1962). In this stage, there will be competition between imported consumer goods and domestic production. By using infant industry arguments, the government sometimes must protect the domestic industry through subsidy, import tariff, etc.

In the process of recovering the domestic market, there will arise a struggle of economic nationalism in less-advanced countries. This presupposes the accumulation of capital and the technological adaptability of the people in those countries. Further, it calls for the government's protective policy to encourage and promote the consumer good industries. (Akamatsu 1962 pp.13).

Third stage: the domestic consumer goods industry develops into the export industry (started from t_3 in Panel a). At time t^* , trade in consumer goods is in the equilibrium or trade balance (Export=Import) and domestic production equals domestic demand (since domestic demand = domestic production – export + import). This stage implies a successful implementation of the catching-up process of the industry concerned along the sequential path import-production-export (M-P-E) which is the basic pattern of the FG model (Kojima, 2000)². In addition, the industry metamorphoses from import-substitution industry toward export-led growth industry. The consumer goods industry is already homogenized with that of advanced countries. Therefore, the country has not been less-advanced country in these goods.

Fourth stage: the advanced status in consumer goods industry is further elevated. It is shown by the decrease of export in consumer goods (started from t_4 in Panel a) meanwhile capital goods are started to be exported (started from t_4 in Panel b). The decrease export in consumer goods happens due to the fact that consumer goods production is put in other less-developed countries (Offshore production depicted by broken line in panel a). In addition, it is possible that the reverse import exists.

² This is why this research applies trade balance (net-importer or net-exporter) as one crucial variable in the analytical tool which is developed in part 3. By using trade balance, we can firmly assert the position of a specific country i.e. whether it lays in the period t_1t^* (net importer), t^*t_4 (net exporter) or beyond as a net importer (due to the reverse import).

.....due to the high wages make the import of consumer goods from less-advanced countries more profitable. Thereupon, what had been imported from advanced countries in the early development stages of less-advanced countries are now, conversely, exported to advanced countries from the less advanced countries. ...The wild-geese-flying pattern sees its completion in the fourth stage, with respect to capital goods such as machinery, by going through the importation beginning from the second stage, the initiation of domestic production in third stage, and switch over to export in the fourth stage. Here, domestic industrialization is also achieved for the capital goods industry. (Akamatsu, 1962, pp.16)

The FG pattern does not only happen in the capital goods industry following the consumer goods industry but also in the progression from crude and simple goods to complex and refined goods. According to Akamatsu (1962), the products (industries) diversification is then classifiable into two patterns i.e. intra-industry and inter-industry cycles. The former is created by the emergence of new product groups within each industrial sector, i.e. from cotton to woolen to synthetic textiles, or from crude and simple goods to complex and refined goods. The latter exhibits the development of new industry, for example from textiles to steel to shipbuilding to auto to computer, or from consumer goods to capital goods. The latter also shows the level of development of any national economy (Kasahara, 2004). Either intra-industry or inter-industry cycle repeats the FG pattern (import-production-export) enhancing competitiveness and efficiency of an industry through the “rationalization” of production. Meanwhile, a diversification of production through inter-industry cycle upgrades the structure of industries and exports. As a result, the parallel progress and interaction between rationalization and diversification of production could stimulate national development (Kojima, 2000).

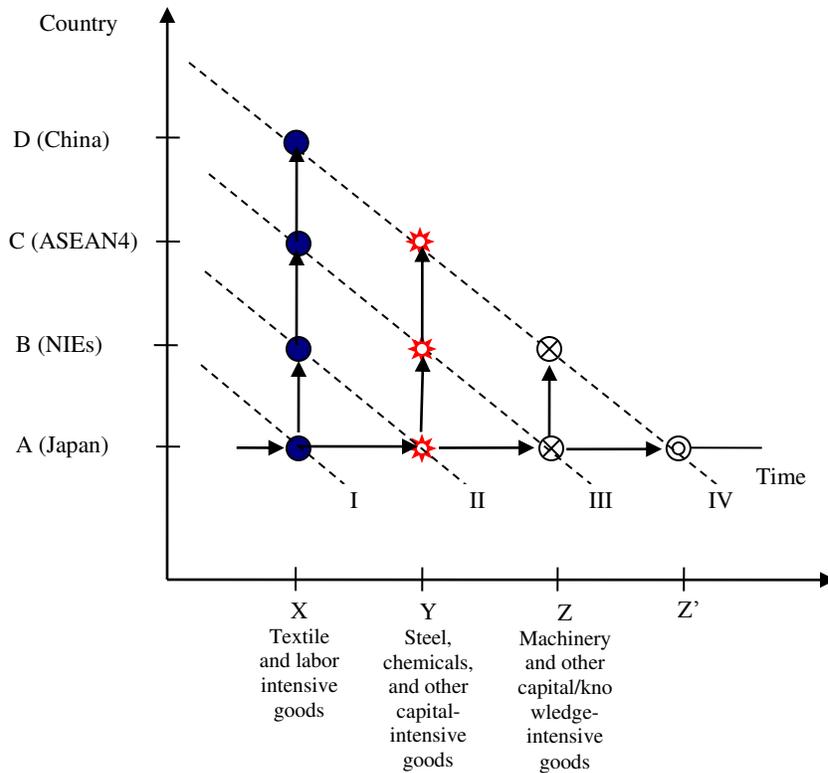
3. The modern “multi-sequentialist” concept

The modern FG paradigm considers the sequential transformation of economic activities from industrialized countries to less industrialized countries through the increasing role of transnational corporations (TNCs: by sub-contracting, licensing agreement, joint venture, foreign direct investment, etc.) in parallel with the dynamic shifting in comparative advantage pattern. Ozawa (1991) stated three types of orderly sequencing of economic activities –“multi-sequentialist”- within and among a group of national economies (as summarized by Kasahara (2004)). Product-cycle sequencing of a particular product (or a product group) is the first type. The national economy tracks the trade framework of a product life cycle, comprising four stages: (a) import, (b) import-substituting production, (c) export and (d) finally once again import (reverse import). In Figure 1, it is depicted by panel (a). Consumer goods are firstly imported, and then domestically produced, exported and again imported (M-P-E-M). Industry-cycle sequencing of economic development is the second type. The continuing development of industries together with national economy’s changing factor and technological endowments affects a country’s comparative advantage. It also means that the country changes its production activities (and export), from the lower value-added, more labor-intensive and less capital-intensive industries, to the higher value-added, less labor-intensive and more capital-intensive industries. In Figure 1, it is shown by the shift from panel (a) consumer goods to panel (b) capital goods. The shift shows a signal of the structured and orderly process to generate self-sustaining and self-propelling forces along the dynamic path of comparative advantage. Inter-economy sequencing related to the

orderly transfer of industrial activities among national economies along the regional hierarchy is the third type. These industrial transfers will be done in those following economies that have attained the resources and technological capacities most appropriate to the transfers.

For the lead goose country, the phase of post-catch-up situation exists (time t^* in Figure 1 panel a). Exports of consumer goods keep on rising up to a peak at t_4 and then decrease because such labor-intensive consumer goods are losing their comparative advantage due to wage increasing. Then, the production process of the labor-intensive consumer goods (including capital, superior technology, and managerial skill as a package) is transferred to another country, which has lower wage through foreign direct investment (FDI). As a result, the follower goose country can sell the products to domestic market or even export to other countries (including the lead goose country as reverse imports). Kojima (1995) called this FDI as “Pro-trade oriented type (PROT) of FDI”. He found that Japan’s FDI has been the Pro-Trade oriented investment. In this case, there is mutual relationship between the lead goose and follower geese as described by Kojima (2000):

FDI thus augments comparative advantages in both countries, resulting in an expanded basis for trade and a reinforce productivity growth. As long as this type of FDI is promoted, an FG stimulus of industrialization is transmitted sequentially from a lead goose to follower geese, bring about enlarged trade and co-prosperous economic growth. This is nothing else but the “FDI-led growth” of regional economies, which is a prime motive for building regional integration (p. 383)



Source: Kojima (2000)

Figure 2. The Modern “Multi-sequentialist” FG Paradigm

The modern “multi-sequentialist” FG paradigm is clearly presented in Figure 2. Kojima (2000) made two assumptions: (a) an economy’s industrial structure is diversified and upgraded in a sequence from industry X (textiles and other labor-intensive goods) to Y (steel, chemicals, and other capital-intensive goods), and further to Z (machinery and other capital/knowledge-intensive goods), this industrial shift happens horizontally over time, (b) the flying-geese pattern of industrialization is transmitted through Pro-trade type of FDI from economy, the lead goose (or Japan), to the follower geese B (or NIEs), C (or ASEAN 4) and D (or China) according to the order of industrialization stage or per capita income level. This geographical spread takes place vertically over time. The passages of time are indicated by broken lines I, II, III, and IV.

At period I, Japan has already achieved the catching-up process in X-industry, and there is no outward FDI yet. At period II, Japan has comparative advantage in Y-industry and invests in country B's X-industry. At period III, Japan upgrades its comparative advantage to industry Z, and invests in country B's Y-industry and country C's X-industry³. At period IV, the future progress of Japan's industrialization is yet unclear, but her investment has spread widely toward country B's Z industry, country C's Y-industry and country D's X-industry.

4. Some previous empirical findings

Kojima (2000) stated some empirical researches supporting the FG paradigm as follows. *First*, Tran (1992) examined the transfer of Japan's synthetic fiber industry serially to the NIEs, the ASEAN4, China and Vietnam, starting from downstream to upper stream. *Second*, Kosai and Tran (1994) found geographical extension of the FG pattern (industrialization⁴ has spread through FDI in the sequence of Korea-Thailand-Malaysia-Indonesia during 1960-1990) and industry structural upgrading of the FG pattern (production has upgraded in the sequence of textiles-synthetic fibers-steel-office equipment in each country). *Third*, the APEC Economic Committee (1995) found that direct investment and trade are complementary. Kojima (1995) called such kind of FDI as pro-trade oriented type (PROT) investment. *Fourth*, Shinohara (1976, 1982) added

³ Dynamic comparative advantage becomes a crucial variable in the FG pattern. This is why this research uses comparative advantage as one crucial variable in the analytical tool, which is developed in part 3. By using a comparative advantage measurement, we can firmly assert the position of the country's comparative advantage in the international market for a specific product.

⁴ Industrialization is measured by both a manufacturing/GDP ratio and a manufacturing share in total exports

another phase of the FG pattern, called the “boomerang effect”, which represents a reverse flow of imports from less advanced countries to the more advanced capital-exporting countries. The “boomerang effect” explains Japan’s declining share in the US export markets in the wake of rising exports of the Asian countries. Shinohara (1996) also found that there had been rapid increases in machinery trade (i.e. intra-industry horizontal trade) during the 1975 to 1992 period between (a) Japan and the Asian countries (NIEs, ASEAN4 and China), (b) the USA and the Asian countries and (c) the NIEs and the ASEAN4. *Fifth*, Watanabe (1997) found that the mutual FDI, mainly from the NIEs to the ASEAN and China, rose higher than FDI from Japan, the US and the EU. It was also accompanied by intra-regional trade.

Rana (1990) found some links between changes in the pattern of trade and economic development. He pointed out that the shifts in comparative advantage were significant from Japan to the NIEs and the ASEAN4 and from the NIEs to the ASEAN4. In addition, the shifts were “beneficial” in the sense that the gains increase export earnings and promoted economic development in these countries. Fukasaku (1992) examined the ability of the FG theory in explaining inter-industry trade as the mechanism for promoting growth across countries. By using trade data 1979-1988, Fukasaku found that the pattern of trade within Asia has gradually shifted away from inter-industry trade toward intra-industry trade. As far as the Asian economies become increasingly integrated and interdependent, the intra-industry trade has bigger opportunities to exist. Consequently, the doubt of the FG theory remaining applicable in the future might rise. Following technique used by Lutz (1987), Rana (1990) and Fukasaku (1992); Dowling and Cheang (2000) conducted a test on the existence of the FG pattern by using Revealed

Comparative Advantage (RCA) indices of all 22 industry groups for period of 1970-1995. They found that comparative advantage has shifted from Japan to the NIEs and the ASEAN4 during the period 1985 to 1995. In addition, Japanese FDI has been used to recycle comparative advantage and to tap the rich resources in the ASEAN4.

5. The proposed analytical tool

This subpart explained the “products mapping” which is developed to examine the FG pattern. As mentioned in the FG concept, there are two crucial variables engaged in the FG pattern i.e. comparative advantage and export-import (trade balance)⁵. Therefore, the analytical tool is constructed by combining the two variables. Accordingly, two indicators are chosen i.e. Revealed Symmetric Comparative Advantage (RSCA) as the indicator of comparative advantage and Trade Balance Index (TBI) as the indicator of export-import activities. The RSCA index is formulated as (Laursen, 1998):

$$RSCA_{ij} = (RCA_{ij} - 1) / (RCA_{ij} + 1) \quad (1)$$

RCA is the “Revealed” Comparative Advantage (Balassa) Index by Balassa (1965), which is formulated as $RCA_{ij} = (x_{ij} / x_{in}) / (x_{rj} / x_{rn})$. Where x_{ij} symbolizes total exports of country i in group of products (SITC) j . Subscript r denotes all countries without country i , and subscript n refers all groups of products (SITC) except group of product j . By excluding the country and group of products under consideration, double

⁵ It is argued that production is represented well by both export and import. In the early stage of import substitution, domestic production is low, there is no export and import is still high. When economies scale is reached, domestic production becomes efficient and product has comparative advantage in international market, export will increase and import will decrease. Beyond time t^* (after the catching-up process) at Figure 1 (panel a) for example, domestic production and export increase meanwhile import decreases. See Balance *et al.* (1987) for a good discussion.

counting is avoided and the nature of trade, which is always a bilateral exchange of goods between two countries, is nicely represented (Wörz, 2005; Vollrath, 1991). The $RSCA_{ij}$ index ranges from minus one to one (or $-1 \leq RSCA_{ij} \leq 1$). The $RSCA_{ij}$ greater than zero implies that country i has comparative advantage in group of products j . In contrast, the $RSCA_{ij}$ less than zero imply that country i has comparative disadvantage in group of products j .

Trade Balance Index (TBI) (Lafay, 1992) is applied to analyze whether a country has specialization in export (as net-exporter) or import (as net-importer) for a specific group of products (SITC). TBI is simply formulated as follows:

$$TBI_{ij} = (x_{ij} - m_{ij}) / (x_{ij} + m_{ij}) \quad (2)$$

where TBI_{ij} denotes trade balance index of country i for group of products (SITC) j ; x_{ij} and m_{ij} represents exports and imports of group of products j by country i , respectively. This index ranges from minus one to one. Extremely, the TBI equals to minus one if a country only imports, in contrast, the TBI equals to one if a country only exports. Indeed, the index is not defined when a country neither exports nor imports. In this case, this paper put zero since it shows either potentially to be exported or imported. Any values within minus one and one implies that the country exports and imports good j simultaneously, “net-importer” (if the TBI negative) or “net-exporter” (if the TBI positive). By using the RSCA and TBI indexes, the “products mapping” is constructed⁶.

Products (SITC) can be categorized into four groups A, B, C and D as depicted in Figure

⁶ This preliminary analytical tool has been presented by the author in the 10th International Conference Society for Global Business & Economic Development (SGBED) “Creativity & Innovation: Imperative for Global Business and Development”, Kyoto, Japan August 8-11, 2007. The author would like to thank Dr. Xu Ming (China Textile University), Dr. Katsuo C. Yamazaki (Shizuoka Sangyo University) and all participants in the conference for the valuable comments.

2. Group A consists of products which have both comparative advantage and export-specialization; Group B consists of products which have comparative advantage but no export-specialization; Group C consists of products which have export-specialization but no comparative advantage; and Group D consists of products which have neither comparative advantages nor export-specialization.

Revealed Symmetric Comparative Advantage Index (RSCA)	RSCA > 0	Group B: Have Comparative Advantage No Export-Specialization (net-importer) (RSCA > 0 and TBI < 0)	Group A: Have Comparative Advantage Have Export-Specialization (net-exporter) (RSCA > 0 and TBI > 0)
	RSCA < 0	Group D: No Comparative Advantage No Export-Specialization (net-importer) (RSCA < 0 and TBI < 0)	Group C: No Comparative Advantage Have Export-Specialization (net-exporter) (RSCA < 0 and TBI > 0)
		TBI < 0	TBI > 0
		Trade Balance Index (TBI)	

Figure 3 Product Classifications

The analytical tool, “products mapping” is used to examine the flying geese pattern. Figure 4 shows geese flying in panel (a), the analytical tool “product mapping” in panel (b) and geese flying framed in the analytical tool “product mapping” in panel (c). Imagine we are sitting in the room and there is a window (panel b) corresponding with the analytical tool Figure 3! There are geese flying outside. We are looking at the geese flying from the window (panel c). In this research, geese flying might be products (SITC), then the analytical tool is called “products mapping”. We can examine what products are the leading products based on their comparative advantage and the position of the country as a net-exporter or net-importer. The geese might be industries, then the analytical tool is called “industries mapping”. We can scrutinize what industries are the leading industries based on their comparative advantage and the position of the country as net-exporter or

net-importer. Additionally, the geese might also be countries, then the analytical tool is called “countries mapping”.

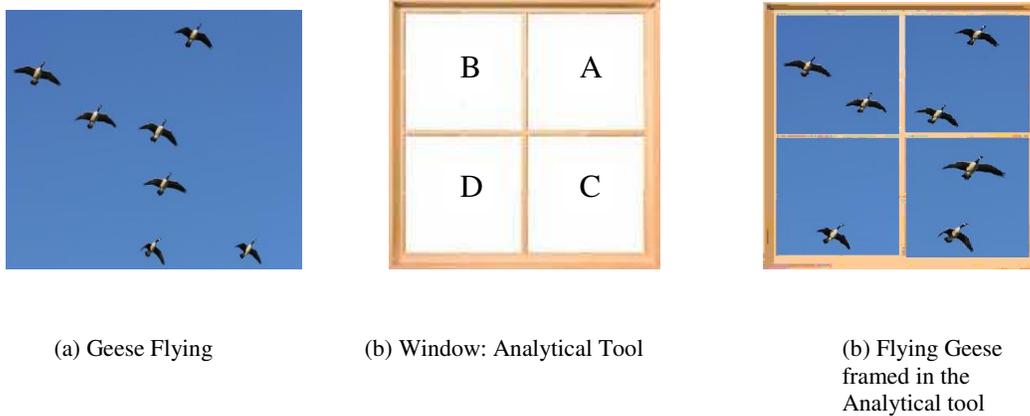


Figure 4. Geese Flying and “Product Mapping”

6. Case study of Japan and Indonesia

This paper applies data on export and import published by the United Nations (UN) namely United Nations Commodity Trade Statistics Database (UN-COMTRADE). This research uses 3-digit SITC Revision 2 and focuses on 237 groups of products SITC. There are still two groups of products (SITC) which are not covered i.e. SITC 675 (Hoop and strip of iron or steel, hot-rolled or cold-rolled) and 911 (Postal packages not classified according to kind) due to the unavailability of data. Most empirical analysis focuses on the 3-digit level of trade statistics, which is closely related to the conventional definition of an industry as a set of producers competing in the production of the same set of commodities⁷ (Grubel and Lloyd, 1975).

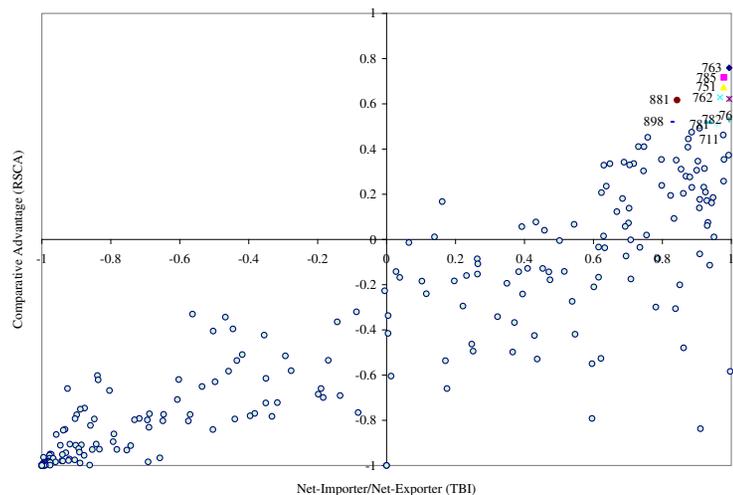
⁷ For this reason also, the terms industries and products are interchangeable in this research.

Table 1 exhibits the products mapping based on comparative advantage and trade balance previously explained. The first column represents the figure of products mapping. The objective of representing these figures is to give general picture of exported products for each country i.e. the distribution of exported products laying in groups A, B, C or D. The second column represents top-ten products in Group A. These products are considered as the best ten products in term of their comparative advantage and trade balance. They are in the position of having comparative advantage in the international trade and the country in the position of having positive trade balance (or as net-exporter). The figures show positive relationship between comparative advantage and trade balance. The higher comparative advantage, the higher trade balance will be. In contrast, the lower comparative advantage, the lower trade balance will be.

Table 1. Product Mapping: Japan and Indonesia

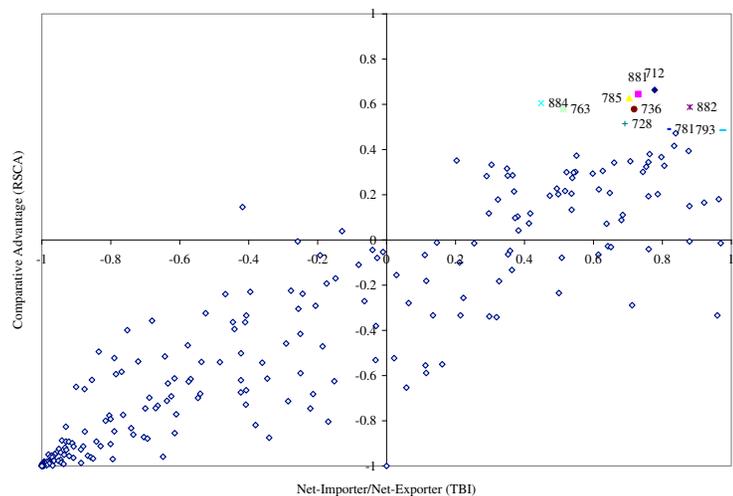
Products Mapping

Top-Ten Products



a.1. Japan 1985:

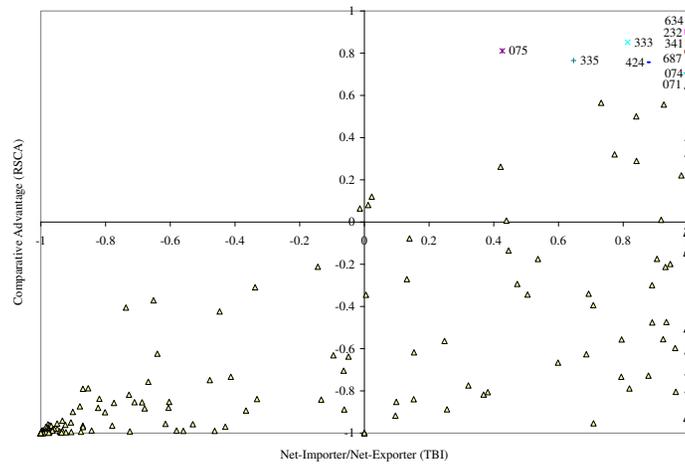
SITC	Commodity Description
763	Gramophones, dictating machines and other sound recorders
785	Cycles, scooters, motorized or not; invalid carriages
751	Office machines
762	Radio-broadcast receivers
761	Television receivers
881	Photographic apparatus and equipment, nes
782	Lorries and special purposes motor vehicles
898	Musical instruments, parts and accessories thereof
711	Steam boilers and auxiliary plant; and parts thereof, nes
781	Passenger motor vehicles (excluding buses)



a.2. Japan 2005:

SITC	Commodity Description
712	Steam engines, turbines
881	Photographic apparatus and equipment, nes
785	Cycles, scooters, motorized or not; invalid carriages
884	Optical goods nes
882	Photographic and cinematographic supplies
736	Metalworking machine-tools, parts and accessories thereof, nes
763	Gramophones, dictating machines and other sound recorders
728	Other machinery, equipment, for specialized industries; parts nes
781	Passenger motor vehicles (excluding buses)
793	Ships, boats and floating structures

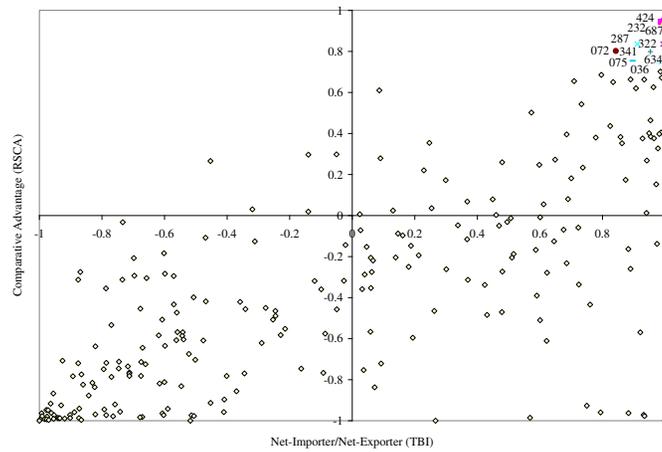
Products Mapping



Top-Ten Products

Indonesia 1985:

SITC	Commodity Description
634	Veneers, plywood, improved" wood and other wood worked nes"
232	Natural rubber latex; rubber and gums
341	Gas, natural and manufactured
333	Crude petroleum and oils obtained from bituminous minerals
075	Spices
687	Tin
335	Residual petroleum products, nes and related materials
424	Other fixed vegetable oils, fluid or solid, crude, refined
074	Tea and mate
071	Coffee and coffee substitutes



Indonesia 2005:

SITC	Commodity Description
424	Other fixed vegetable oils, fluid or solid, crude, refined
687	Tin
232	Natural rubber latex; rubber and gums
287	Ores and concentrates of base metals, nes
322	Coal, lignite and peat
072	Cocoa
634	Veneers, plywood, improved" wood and other wood worked nes"
341	Gas, natural and manufactured
075	Spices
036	Crustaceans and molluscs, fresh, chilled, frozen, salted, etc

7. Conclusions

This paper examines the FG pattern in the East Asia region. *First*, the evolution of FG concept starting from the original Akamatsu's one to the modern one is briefly described. There are two crucial variables in the FG model i.e. comparative advantage and trade balance (export-import). Industries will be transmitted from the lead-goose country to the follower-geese countries based on their comparative advantage. The successful catching process for a specific industry in specific country is reflected by the country's trade balance. *Second*, from the FG concept, this research develops an analytical tool namely the "products mapping" which is constructed by combining the two crucial variables. This paper uses the Revealed Symmetric Comparative Advantage (RSCA) index as the indicator of comparative advantage and the Trade Balance Index (TBI) as the indicator of export-import (implicitly also domestic production) activities. Then, the analytical tool is applied to examine empirically the Indonesian exports.

References

- Aiginger, K. (1999), "Do industrial structures convergence? A survey of the empirical literature on specialization and concentration of industries", *Austrian Institute of Economic Research (WIFO) – Working Paper* 116, Vienna.
- Akamatsu, K. (1961), "A theory of unbalanced growth in the world economy", *Weltwirtschaftliches Archiv*, Vol. 86, pp. 196-217.
- Akamatsu, K. (1962), "A historical pattern of economic growth in developing countries", *The Developing Economies*, Vol. 1, pp. 3-25.
- Athukorala, P. and Yamashita, N. (2006). "Production fragmentation and trade integration: East Asia in a global context". *North American Journal of Economic and Finance* Vol. 17 No. 3, pp. 233-256.
- APEC Economic Committee (1995), *Foreign Direct Investment and APEC Integration*, APEC Secretariat Singapore, Singapore.
- Balassa, B. (1965), "Trade liberalization and 'revealed' comparative advantage", *The Manchester School of Economics and Social Studies*, Vol. 33, pp. 99-123.

- Balance, R.H., Forstner, H. and Murray, T. (1987), "Consistency test of alternative measures of comparative advantage", *Review of Economics and Statistics*, Vol. 69 No. 1, pp. 157-161.
- Dowling, M., and Cheang, C.T. (2000), "Shifting comparative advantage in Asia: new tests of the "Flying Geese" model", *Journal of Asian Economics*, Vol. 11, pp. 443-463.
- Fukasaku, K. (1992), *Economic Regionalization and Intra-industry Trade Pacific-Asian Perspective*, Research Program on Globalization and Regionalization OECD.
- Grubel, H.G., and Lloyd, P.J. (1975), *Intra-industry Trade. The Theory and Measurement of International Trade in Differentiated Products*, The MacMillan Press Ltd., London.
- Kasahara, S. (2004), "The Flying Geese paradigm: a critical study of its application to East Asian regional development", *Discussion Papers* (169), United Nations Conference on Trade and Development.
- Kojima, K. (2000), "The 'Flying Geese' model of Asian economic development: origin, theoretical extensions, and regional policy implications", *Journal of Asian Economics*, Vol. 11, pp. 375-401.
- Kojima, K. (1995). "Dynamics of Japanese direct investment in East Asia", *Hitotsubashi Journal of Economics*, Vol. 36, pp. 93-124.
- Kosai, Y. and Tran, V.T. (1994). "Japan and industrialization in Asia an essay in memory of Dr Saburo Okita", *Journal of Asian Economics*, 5, pp. 155-176.
- Kwan, C.H. (2002), "The Rise of China and Asia's Flying-Geese pattern of economic development: an empirical analysis based on US import statistics". *Nomura Research Institute (NRI) Paper* (52).
- Lafay, G. (1992), "The Measurement of Revealed Comparative Advantages", in Dagenais, M.G. and P.A. Muet (Eds), *International Trade Modeling*, Chapman & Hill, London
- Laursen, K. (1998). "Revealed comparative advantage and the alternatives as measures of international specialization", *Danish Research Unit for Industrial Dynamics (DRUID) Working Paper* 98-30.
- Lutz, J.M., and Kihl, Y.W. (1990), "The NICs' shifting comparative advantage, and the product cycle", *Journal of World Trade*, 24, pp. 113-134.
- Masuyama, S., and Vandenbrink, D. (2001), "Industrial restructuring in East Asian economies for the twenty-first century", in Masuyama, S., D. Vandenbrink and C.S. Yue (Eds), *Industrial Restructuring in East Asia*, Nomura Research Institute, Tokyo.
- McClave, J.T, Benson, P.G. and Sincich, T. (2001), *Statistics for Business and Economics* 8th ed., International ed. Upper Saddle River, Prentice Hall International.
- Ng, F., and Yeats, A. (2003). "Major trade trends in East Asia: what are their implications for regional cooperation and growth?" *Policy Research Working Paper*. The World Bank, Development Research Group Trade, June.

- Ozawa, T. (1991), "The dynamics of Pacific Rim industrialization: how Mexico can join the Asian flock of "flying geese", in Roett, R. (Ed), *Mexico's External Relations in the 1990s*. Lynne Rienner Publications, Boulder and London.
- Ozawa, T. (2001), "The "hidden" side of the "Flying-Geese" catch-up model: Japan's dirigiste institutional setup and a deepening financial morass", *Journal of Asian Economics*, Vol. 12, pp. 471-491.
- Rana, P.B. (1990), "Shifting comparative advantage among Asian and Pacific countries", *The International Trade Journal*, Vol. 4, pp. 243-257.
- Shinohara, M. (1976), *Industrial Structure*, Chikuma Shobo, Tokyo.
- Shinohara, M. (1982), *Industrial Growth, Trade and Dynamic Patterns in the Japanese Economy*, University of Tokyo Press, Tokyo.
- Shinohara, M. (1996), "The Flying Geese model revisited foreign direct investment, trade in machinery and the boomerang effect", *Journal of the Asia Pacific Economy*, Vol. 1, pp. 411-419.
- Sumita, M., and Namiki, F. (1997), "Industrial policy in Japan", in Masuyama, S., D. Vandenbrink and C.S. Yue, *Industrial Policies in East Asia*, Institute of Southeast Asian Studies (Singapore) and Nomura Research Institute (Japan).
- Tran, V.T. (1992), *Sangyo hatten to takokuseki kigyō*, Tokyo Keizai, Tokyo.
- Woo, C. (2001), "Industrial upgrading of Korea. Process, prospects, and policies", in Masuyama, S., D. Vandenbrink and C.S. Yue (Eds), *Industrial Restructuring in East Asia*, Nomura Research Institute, Tokyo.
- Wörz, J. (2005), "Dynamic of trade specialization in developed and less developed countries", *Emerging Markets Finance and Trade* Vol. 41, pp. 92-111.
- Vernon, R. (1966), "International investment and international trade in the product cycle", *Quarterly Journal of Economics*, Vol. 80, pp. 190-207.
- Vollrath, T.L. (1991), "A theoretical evaluation of alternative trade intensity measures of revealed comparative advantage", *Weltwirtschaftliches Archiv*, Vol. 127, pp. 265-280.

Appendix: Products Mapping of Japan's Exports (1976-2005)

No.	HS/C	Commodity Description	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
1	001	Live animals chiefly for food	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
2	011	Meat and edible meat offal, fresh, chilled or frozen	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
3	012	Meat and edible meat offal, in brine, dried, salted or smoked	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
4	014	Meat and edible meat offal, prepared, preserved, non, fish extracts	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
5	022	Milk and cream	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
6	023	Butter	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
7	024	Cheese and curd	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
8	025	Eggs, birds, and egg yolks, fresh, dried or preserved	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
9	034	Fish, fresh, chilled or frozen	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
10	035	Fish, dried, salted or in brine, smoked fish	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
11	036	Crustaceans and molluscs, fresh, chilled, frozen, salted, etc	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
12	037	Fish, crustaceans and molluscs, prepared or preserved, non	A	A	A	A	A	A	A	A	A	A	A	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
13	041	Wheat and meslin, unmilled	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
14	042	Rice	D	D	D	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	A	D	D	D	
15	043	Barley, unmilled	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
16	044	Miscellaneous, unmilled	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
17	045	Cereals, unmilled	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
18	046	Mead and flour of wheat and flour of meslin	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
19	047	Other cereal meals and flour	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
20	048	Cereal, flour or starch preparations of fruits or vegetables	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
21	054	Vegetables, fresh or simply preserved, roots and tubers, non	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
22	056	Vegetables, roots and tubers, prepared or preserved, non	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
23	057	Fruit and nuts, fresh, dried	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
24	058	Fruit, preserved, and fruits preparations	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
25	061	Sugar and honey	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
26	062	Sugar confectionery and preparations, non-chocolate	D	D	D	D	D	D	D	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	
27	071	Coffee and coffee substitutes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
28	072	Cocoa	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
29	073	Chocolate and other preparations containing cocoa, non	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
30	074	Tea and mate	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
31	075	Spices	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
32	081	Feeding stuff for animals (not including unmilled cereals)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
33	091	Magnesium and shortening	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
34	099	Edible products and preparations, non	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
35	111	Non-alcoholic beverages, non	A	A	A	A	A	A	A	A	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
36	112	Alcoholic beverages	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
37	121	Tobacco unmanufactured, tobacco refuse	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
38	122	Tobacco, manufactured	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
39	211	Hides and skins, excluding fur, raw	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
40	212	Parhairs, raw	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
41	222	Seeds and oleaginous fruit, whole or broken, for 'cold' fixed oil	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
42	223	Seeds and oleaginous fruit, whole or broken, for other fixed oils	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
43	232	Natural rubber latex, rubber and gums	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
44	233	Synthetic rubber, latex, etc, waste, scrap of unhardened rubber	A	A	A	A	A	A	A	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
45	244	Cork, natural, raw and waste	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
46	245	Plant wood and wood charcoal	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
47	246	Pulpwood (including chips and wood waste)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
48	247	Other wood in the rough or roughly squared	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
49	248	Wood, simply worked, and railway sleepers of wood	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
50	251	Pulp and waste paper	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
51	261	Silk	D	D	D	B	D	D	D	D	B	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
52	263	Cotton	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
53	264	Jute, other textile bast fibres, non, raw, processed but not spun	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
54	265	Vegetable textile fibres, excluding cotton, jute, and waste	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
55	266	Synthetic fibres suitable for spinning	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
56	267	Other man-made fibres suitable for spinning, and waste	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C	A	A	A	A	A	A	A	A	A	A	A	A	
57	268	Wool and other animal hair (excluding tops)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
58	269	Old clothing and other old textile articles, rags	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	
59	271	Fertilizers, crude	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
60	273	Stones, sand and gravel	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	

Appendix: Products Mapping of Japan's Exports (1976-2005)

No.	HS7C	Commodity Description	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005		
61	274	Sulphur and unroasted iron pyrites	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C		
62	277	Natural asbestos, raw	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
63	278	Other crude minerals	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
64	281	Iron ore and concentrates	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
65	282	Waste and scrap metal of iron or steel	D	B	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	A	C	A	A	A	A	
66	286	Ores and concentrates of uranium and thorium	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
67	287	Ores and concentrates of base metals, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
68	288	Non-ferrous base metal waste and scrap, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
69	289	Ores and concentrates of precious metals, waste, scrap	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
70	291	Crude animal materials, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
71	292	Crude vegetable materials, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
72	322	Coal, lignite and peat	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
73	323	Bituminous, coke and semi-coke, lignite or peat, retort carbon	A	A	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	A	A	B	D	D	
74	333	Crude petroleum and oils obtained from bituminous materials	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
75	334	Petroleum products, refined	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
76	335	Residual petroleum products, nes and related materials	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
77	341	Ore, natural and manufactured	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
78	351	Electric current	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
79	411	Animal oils and fats	D	D	D	D	D	D	C	C	C	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
80	423	Food vegetable oils, soft, crude refined or purified	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
81	424	Other fixed vegetable oils, fixed or solid, crude, refined	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
82	431	Animal and vegetable oils and fats, processed, and wastes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
83	511	Hydrocarbons, nes, and derivatives	A	A	C	D	C	D	D	D	D	D	D	D	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
84	512	Alcohols, phenols etc. and their derivatives	A	A	A	A	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	A	D	D	D	D	D	D	D	
85	513	Carboxylic acids, and their derivatives	A	A	A	A	A	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
86	514	Nitrogen-function compounds	A	A	A	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	
87	515	Organic-inorganic and heterocyclic compounds	C	A	C	A	A	A	A	A	C	C	C	A	A	A	A	D	D	D	B	A	C	D	D	D	D	D	D	D	D	D	D	
88	516	Other organic chemicals	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
89	522	Inorganic chemical elements, oxides and halogen salts	A	A	C	D	C	C	D	C	D	D	D	D	D	D	D	D	C	C	D	D	D	D	A	B	A	A	B	B	B	B		
90	523	Other inorganic chemicals, compounds of precious metals	A	A	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
91	524	Radioactive and associated material	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
92	531	Synthetic dye, natural indigo, lakes	C	C	C	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
93	532	Dyeing and tanning extracts, and synthetic tanning materials	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
94	533	Pigments, paints, varnishes and related materials	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A	A	C	C	A	A	A	
95	541	Medicinal and pharmaceutical products	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
96	551	Essential oils, perfumes and flavour materials	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
97	553	Perfumes, cosmetics, toilet preparations, etc	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
98	554	Soaps, cleaning and polishing preparations	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
99	562	Fertilizers, manufactured	A	A	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
100	572	Explosives and pyrotechnic products	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
101	582	Condensation, polycondensation and polyaddition products	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
102	583	Polymerization and copolymerization products	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
103	584	Regenerated cellulose, derivatives of cellulose, vulcanized fibre	A	A	C	A	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	
104	585	Other artificial resins and plastic materials	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
105	591	Pesticides, disinfectants	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	C	C	D	D	C	C	C	
106	592	Starches, modified and wheat gluten, silico-metabolic substances, glues	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
107	599	Miscellaneous chemical products, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	A	A	A	A	A	A	A	A	A	A	
108	611	Leather	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	
109	612	Manufactures of leather or of composition leather, nes, etc	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
110	613	Parlure, tanned or dressed; pieces of furkin, tanned or dressed	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
111	621	Materials of rubber	A	C	C	C	C	C	C	C	C	C	C	C	C	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
112	625	Rubber tires, tire casing, inner and flaps, for wheels of all kinds	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
113	628	Articles of rubber, nes	A	A	A	A	A	A	A	A	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
114	633	Cork manufactures	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
115	634	Veneers, plywood, improved? wood and other wood worked nes*	C	C	C	C	D	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
116	635	Wood manufactures, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
117	641	Paper and paperboard	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	C	C	C	C	C	D	C	D	D	D		
118	642	Paper and paperboard, printed, and articles of paper or paperboard	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	
119	651	Textile yarns	A	A	C	C	A	A	A	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
120	652	Cotton fabrics, woven (not including narrow or special fabrics)	A	A	C	C	A	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	

Appendix: Products Mapping of Japan's Exports (1976-2005)

No	SITC	Commodity Description	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
121	653	Fabrics, woven, of man-made fibres (not narrow or special fabrics)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C	C	A	C	C	A	C	A	C	C	C	C
122	654	Textile fabrics, woven, other than cotton or man-made fibres	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C
123	655	Knitted or crocheted fabrics (including tulle, etc. fabrics)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C	C	C	C	C
124	656	Tulle, lace, embroideries, ribbons, trimmings and other small wares	C	A	C	A	A	C	C	C	C	C	C	C	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C
125	657	Special textile fabrics and related products	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
126	658	Made-up articles, wholly or chiefly of textile materials, nes	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
127	659	Floor coverings, etc	C	C	C	D	D	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
128	661	Lime, cement, and fabricated construction materials	C	C	A	A	A	A	A	A	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
129	662	Clay and refractory construction materials	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D
130	663	Mineral manufactures, nes	C	C	C	C	C	C	A	A	C	A	A	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
131	664	Glass	A	C	C	C	C	C	C	C	C	A	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A
132	665	Glassware	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
133	666	Pottery	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C	C	D	D	D	D	D	D	D	D	D	D
134	667	Pearl, precious and semi-precious stones, unworked or worked	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
135	671	Pig and sponge iron, spangolite, etc. and ferro-alloys	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
136	672	Ingot and other primary forms, of iron or steel	A	A	A	A	A	A	A	A	A	A	C	C	A	D	D	D	C	C	C	C	C	C	A	A	A	A	A	A	A
137	673	Iron and steel bars, rods, shapes and sections	A	A	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C	C	A	C	C	C	A	A	C
138	674	Unwelded, plates, and sheets, of iron or steel	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
139	675	Rails and railway track construction materials, of iron or steel	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C	A	A	A	A	A	A	A	A	A	A	A
140	677	Iron or steel wire (excluding wire rod), not insulated	A	A	A	A	A	A	A	A	A	A	A	A	A	C	A	C	C	C	A	A	A	C	C	A	A	A	A	A	C
141	678	Tube, pipes and fittings, of iron or steel	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
142	679	Iron, steel casting, forging and stamping, in the rough state, nes	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
143	681	Silver, platinum and other metals of the platinum group	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
144	682	Copper	D	C	C	D	A	D	D	C	D	D	C	C	D	D	D	D	C	C	C	C	C	C	C	A	C	A	A	C	C
145	683	Nickel	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
146	684	Aluminium	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
147	685	Lead	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
148	686	Zinc	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	C	C	C	C
149	687	Tin	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
150	688	Uranium depleted in U235, thorium, and alloys, nes; waste and scrap	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
151	689	Miscellaneous non-ferrous base metals, employed in metallurgy	D	D	D	B	A	A	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	B	D	D	B
152	691	Structures and parts, nes, of iron, steel or aluminium	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D
153	692	Metal containers for storage and transport	A	A	C	C	C	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
154	693	Wire products (excluding insulated electrical wire), fencing grills	A	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
155	694	Nails, screws, nuts, bolts, rivets, etc., of iron, steel or copper	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
156	695	Tools for use in the hand or in machines	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
157	696	Cutlery	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C	D	D	D	D
158	697	Household equipment of base metal, nes	A	C	C	C	C	A	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
159	699	Manufactures of base metal, nes	A	A	C	C	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
160	711	Steam boilers and auxiliary plant, and parts thereof, nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
161	712	Steam engines, turbines	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
162	713	Internal combustion piston engines, and parts thereof, nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
163	714	Engines and motors, non-electric, parts, nes; group 714, item 71888	B	B	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
164	716	Rotating electric plant and parts thereof, nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
165	718	Other power generating machinery and parts thereof, nes	A	B	A	A	C	C	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	C	A	C	C	A	A
166	721	Agricultural machinery (excluding tractors) and parts thereof, nes	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	C	C
167	722	Tractors (other than those falling in heading 7441 and 7832)	A	A	A	A	A	A	A	A	A	A	A	A	A	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A
168	723	Civil engineering, contractors' plant and equipment and parts, nes	A	A	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
169	724	Textile and leather machinery, and parts thereof, nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
170	725	Paper and paper manufacture machinery, and parts thereof, nes	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	C	C	C
171	726	Printing, bookbinding machinery, and parts thereof, nes	D	D	C	D	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
172	727	Food-processing machines (non-domestic) and parts thereof, nes	C	C	C	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	C	C	C	C	C	C
173	728	Other machinery, equipment, for specialized industries, parts nes	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
174	736	Metalworking machine-tools, parts and accessories thereof, nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
175	737	Metalworking machinery (other than machine-tools), and parts, nes	A	A	A	A	A	A	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
176	741	Heating and cooling equipment and parts thereof, nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
177	742	Pumps for liquids, liquid elevators, and parts thereof, nes	A	A	C	C	A	A	A	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
178	743	Pumps, compressors, centrifuges, filtering apparatus, etc, parts	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
179	744	Mechanical handling equipment, and parts thereof, nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
180	745	Other non-electric machinery, tools and mechanical apparatus, nes	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Appendix: Products Mapping of Japan's Exports (1976-2005)

No.	SITC	Commodity Description	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
181	749	Non-electric parts and accessories of machinery, nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
182	751	Office machines	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
183	752	Automatic data processing machines and units thereof	D	D	D	D	D	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	B	D	D	D		
184	759	Parts, nes of and accessories for machines of heading 751 or 752	A	A	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
185	761	Television receivers	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
186	762	Radio-broadcast receivers	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C	D	D	D	D	D		
187	763	Gramophones, dictating machines and other sound recorders	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
188	764	Telecommunication equipment, nes, parts and accessories, nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C	C		
189	771	Electric power machinery, and parts thereof, nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	D	D	D	D	D	
190	772	Electrical apparatus for making and breaking electrical circuits	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
191	773	Equipment for distribution of electricity	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	
192	774	Electro-medical and radiological equipment	C	B	C	D	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
193	775	Household type equipment, nes	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	
194	776	Thermionic, microelectronic, transistors, valves, etc	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
195	778	Electrical machinery and apparatus, nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
196	781	Passenger motor vehicles (excluding taxis)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
197	782	Trucks and special purpose motor vehicles	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
198	783	Road motor vehicles, nes	A	A	A	A	A	A	A	A	A	C	A	C	A	C	A	A	A	A	A	C	C	C	C	C	C	C	C	C	C	C	
199	784	Motor vehicle parts and accessories, nes	A	A	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
200	785	Cycles, scooters, motorized or not, invalid carriages	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
201	786	Tractors, and other vehicles, not motorized, nes	A	A	A	A	A	A	C	A	A	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	C	
202	791	Railway vehicles and associated equipment	A	A	A	C	C	C	C	C	A	C	C	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A	
203	792	Aircraft and associated equipment, and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
204	793	Ships, boats and floating structures	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
205	812	Sanitary, plumbing, heating, lighting fixtures and fittings, nes	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
206	821	Furniture and parts thereof	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
207	831	Travel goods, handbags etc, of leather, plastics, textile, others	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
208	842	Men's and boys' outerwear, textile fabrics not knitted or crocheted	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
209	843	Women, girls, infants outerwear, textile, not knitted or crocheted	D	D	D	D	D	D	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
210	844	Under garments of textile fabrics, not knitted or crocheted	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
211	845	Outerwear knitted or crocheted, not elastic nor ribbed	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
212	846	Under-garments, knitted or crocheted	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
213	847	Clothing accessories, of textile fabrics, nes	A	C	D	D	A	A	D	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
214	848	Articles of apparel, clothing accessories, non-textile, headgear	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
215	851	Footwear	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
216	871	Optical instruments and apparatus	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
217	872	Medical instruments and appliances, nes	A	A	A	A	A	A	A	A	A	C	A	A	A	A	A	A	A	C	D	D	D	D	D	D	D	D	D	D	D	D	D
218	873	Meters and counters, nes	C	C	A	A	A	A	A	A	A	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	C	C	C	C	C	C	
219	874	Measuring, checking, analysis, controlling instruments, nes, parts	C	A	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
220	881	Photographic apparatus and equipment, nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
221	882	Photographic and cinematographic supplies	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
222	883	Cinematograph film, exposed and developed	D	C	D	D	C	C	C	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
223	884	Optical goods nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
224	885	Watches and clocks	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	D	D	D	D	D	D	D	D	D
225	892	Printed matter	D	D	D	D	C	C	C	C	C	C	C	C	C	C	D	C	C	D	D	D	D	D	D	D	C	C	D	D	C	C	
226	893	Articles, nes of plastic materials	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D
227	894	Baby carriages, toys, games and sporting goods	A	A	A	A	A	A	A	A	A	A	C	C	D	D	D	D	D	D	D	D	D	D	D	D	A	D	D	D	D	D	
228	895	Office and stationary supplies, nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
229	896	Works of art, collector's pieces and antiques	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
230	897	Gold, silver ware, jewelry and articles of precious materials, nes	D	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
231	898	Musical instruments, parts and accessories thereof	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
232	899	Other miscellaneous manufactured articles, nes	A	A	A	A	A	A	A	A	A	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
233	931	Special transactions, commodity not classified according to class	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	
234	941	Animals, live, nes, (including zoo animals, pets, insects, etc)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
235	951	Armoured fighting vehicles, war firearms, ammunition, parts, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D
236	961	Corn (other than gold corn), not being legal tender	D	D	D	D	D	D	D	C	D	D	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
237	971	Gold, non-monetary (including gold ore and concentrates)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	C	C	C

Appendix: Products Mapping of Indonesia's Exports (1979-2005)

No	HS/C	Commodity Description	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
1	001	Live animals chiefly for food	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
2	011	Meat and edible meat offal, fresh, chilled or frozen	C	C	C	D	C	D	C	C	C	C	C	C	C	C	C	D	D	D	D	C	D	D	D	D	D	D	D	
3	012	Meat and edible meat offal, in brine, dried, salted or smoked	D	D	D	D	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	C	C	C	C	D	D	D	D	
4	014	Meat and edible meat offal, prepared, preserved, nes, fish extracts	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	C	D	D	
5	022	Milk and cream	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
6	023	Butter	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
7	024	Cheese and curd	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
8	025	Eggs, birds, and egg yolks, fresh, dried or preserved	D	D	D	D	D	D	D	D	D	C	C	C	C	D	D	D	D	D	D	D	D	D	D	A	D	D	D	
9	034	Fish, fresh, chilled or frozen	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
10	035	Fish, dried, salted or in brine, smoked fish	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
11	036	Crustaceans and molluscs, fresh, chilled, frozen, salted, etc	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
12	037	Fish, crustaceans and molluscs, prepared or preserved, nes	D	D	C	D	C	C	C	C	C	A	A	A	C	C	A	A	A	C	A	A	A	A	A	A	A	A	A	
13	041	Wheat and meslin, unrolled	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
14	042	Rice	D	D	D	D	D	A	A	A	D	D	D	D	D	D	A	D	D	D	D	D	D	D	D	D	D	D	D	
15	043	Barley, unrolled	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	C	C	
16	044	Misc, unrolled	D	D	C	D	D	C	D	D	D	D	C	D	C	D	D	D	D	D	D	D	C	D	D	D	D	D	D	
17	045	Cereals, unrolled	D	C	C	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
18	046	Misc and flour of wheat and flour of meslin	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
19	047	Other cereal meals and flour	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	D	D	D	D	D	D	D	
20	048	Cereal, flour or starch preparations of fruits or vegetables	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C	C	D	D	C	C	C	C	C	C	C	C	
21	054	Vegetables, fresh or simply preserved, roots and tubers, nes	A	C	C	C	C	C	C	C	A	A	A	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	
22	056	Vegetables, roots and tubers, prepared or preserved, nes	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
23	057	Fruit and nuts, fresh, dried	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	D	D	D	C	C	D	D	D	D	D	D	
24	058	Fruit, preserved, and fruits preparations	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A	C	C	C	C	C	
25	061	Sugar and honey	D	D	D	D	D	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
26	062	Sugar confectionery and preparations, non-chocolate	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	A	C	C	C	A	A	A	A	A	A	A	A	
27	071	Coffee and coffee substitutes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
28	072	Cocoa	C	A	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
29	073	Chocolate and other preparations containing cocoa, nes	D	D	C	C	C	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	
30	074	Tea and mate	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
31	075	Spices	B	A	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
32	081	Feeding stuff for animals (not including unrolled cereals)	A	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
33	091	Magnesia and shortening	D	D	D	D	D	D	C	C	D	C	C	C	D	D	C	C	C	A	A	A	A	A	A	A	A	A	A	
34	098	Edible products and preparations, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	D	
35	111	Non-alcoholic beverages, nes	D	D	D	D	D	D	D	C	C	C	C	C	C	C	D	D	D	D	C	D	C	C	C	D	D	D	D	
36	112	Alcoholic beverages	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C	C	
37	121	Tobacco unmanufactured, tobacco refuse	A	A	A	C	C	C	A	A	A	A	A	B	A	B	B	B	B	B	B	A	B	B	B	B	B	B	B	
38	122	Tobacco, manufactured	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	
39	211	Hides and skins, excluding furs, nes	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
40	212	Fur skins, raw	D	D	D	D	D	D	D	D	D	D	D	C	D	C	D	D	D	D	C	C	C	D	D	C	D	D	D	
41	222	Seeds and oleaginous fruit, whole or broken, for 'soff' fixed oil	D	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
42	223	Seeds and oleaginous fruit, whole or broken, for other fixed oils	A	A	A	D	B	D	B	D	B	D	D	C	A	A	A	A	C	D	D	A	A	A	C	A	A	A	A	
43	232	Natural rubber latex, rubber and gums	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
44	233	Synthetic rubber, latex, etc; waste, scrap of unhardened rubber	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
45	244	Cork, natural, raw and waste	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	C	C	C	D	C	
46	245	Fuel wood and wood charcoal	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
47	246	Pulpwood (including chips and wood waste)	C	C	C	C	C	C	C	C	C	C	A	A	A	C	A	C	C	C	C	C	C	C	A	A	A	A	A	
48	247	Other wood in the rough or roughly squared	A	A	A	A	A	A	C	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	A	D	D	D	
49	248	Wood, simply worked, and railway sleepers of wood	A	A	A	A	C	A	A	A	A	A	A	A	A	A	A	A	A	A	C	C	A	A	A	A	A	A	A	
50	251	Pulp and waste paper	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	B	B	B	B	B	B	B	A	A	B	A	
51	261	Silk	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	C	C	D	
52	263	Cotton	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
53	264	Jute, other textile bast fibres, nes, raw, processed but not spun	D	D	D	D	D	D	D	D	D	D	B	D	D	D	D	D	D	D	D	D	B	D	D	D	D	D	D	
54	265	Vegetable textile fibres, excluding cotton, jute, and waste	D	C	D	D	D	D	D	D	C	D	C	D	D	D	D	D	C	C	C	D	D	D	D	D	D	D	D	
55	266	Synthetic fibres suitable for spinning	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	B	D	D	B	B	B	B	B	
56	267	Other man-made fibres suitable for spinning, and waste	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	A	A	A	A	A	A	A	A	A	A	A	A	
57	268	Wool and other animal hair (excluding tops)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	C	D	D	D	
58	269	Old clothing and other old textile articles, rags	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	
59	271	Fertilizers, crude	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
60	273	Stones, sand and gravel	D	D	D	D	D	A	A	A	D	D	D	B	A	A	A	A	A	A	A	D	A	A	A	A	A	A	B	A

Appendix: Products Mapping of Indonesia's Exports (1979-2005)

No	SITC	Commodity Description	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
61	274	Sulphur and unroasted iron pyrites	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
62	277	Natural asbestos, nes	D	D	D	D	D	D	C	C	A	A	A	A	A	A	C	C	C	C	C	D	C	C	C	A	A	A	A	
63	278	Other crude minerals	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
64	281	Iron ores and concentrates	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
65	282	Waste and scrap metal of iron or steel	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
66	286	Ores and concentrates of uranium and thorium	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	C	
67	287	Ores and concentrates of base metals, nes	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
68	288	Non-ferrous base metal waste and scrap, nes	C	C	C	D	D	C	D	C	C	C	D	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	
69	289	Ores and concentrates of precious metals, waste, scrap	D	D	D	D	D	D	D	A	C	D	D	C	D	A	C	C	D	D	D	D	C	D	C	C	D	C	C	
70	291	Crude animal materials, nes	C	C	D	D	A	D	C	A	C	C	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
71	292	Crude vegetable materials, nes	A	A	A	A	A	A	A	D	A	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
72	322	Coal, lignite and peat	C	C	C	C	C	C	C	C	D	D	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
73	323	Briquettes, coke and semi-coke, lignite or peat, retort carbon	D	D	D	D	D	D	D	D	D	D	D	C	D	D	C	D	D	D	D	D	D	C	D	C	C	D	D	
74	333	Crude petroleum and oils obtained from bituminous minerals	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
75	334	Petroleum products, refined	A	A	A	D	B	B	C	A	A	A	A	A	B	A	B	B	B	B	B	B	D	D	D	D	D	B	D	
76	335	Residual petroleum products, nes and related materials	D	D	D	D	D	A	A	A	A	D	D	D	D	D	D	D	D	D	D	A	A	D	D	D	D	A	A	
77	341	Gas, natural and manufactured	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
78	351	Electric current	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	
79	411	Animal oils and fats	D	D	D	D	D	C	C	C	D	C	C	A	C	D	D	D	D	D	C	D	D	D	D	D	D	D	D	
80	423	Fixed vegetable oils, soft, crude refined or purified	D	D	C	C	D	C	D	D	D	C	C	C	C	C	C	C	C	D	D	D	D	D	D	C	D	D	D	
81	424	Other fixed vegetable oils, fixed or solid, crude, refined	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
82	431	Animal and vegetable oils and fats, processed, and waxes	D	D	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
83	511	Hydrocarbons, nes, and derivatives	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
84	512	Alcohols, phenols etc. and their derivatives	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	B	D	B	B	B	B	B	B	B	B	B	
85	513	Carboxylic acids, and their derivatives	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	B	B	A	A	A	A	A	A	A	A	A	
86	514	Nitrogen-function compounds	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
87	515	Organic-inorganic and heterocyclic compounds	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
88	516	Other organic chemicals	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
89	522	Inorganic chemical elements, oxides and halogen salts	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	B	B	B	A	A	
90	523	Other inorganic chemicals, compounds of precious metals	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
91	524	Radioactive and associated material	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	
92	531	Synthetic dye, natural indigo, lakes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	B	B	B	
93	532	Dyeing and tanning extracts, and synthetic tanning materials	D	D	D	D	D	D	D	D	D	D	D	D	D	D	B	B	D	A	A	D	A	D	D	D	D	A	A	
94	533	Pigments, paints, varnishes and related materials	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
95	541	Medicinal and pharmaceutical products	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
96	551	Essential oils, perfumes and flavour materials	C	C	C	C	C	A	A	B	B	B	B	A	D	D	D	D	D	D	B	D	D	D	D	D	D	D	D	
97	553	Perfumery, cosmetics, toilet preparations, etc	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
98	554	Soaps, cleaning and polishing preparations	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	D	C	A	C	C	A	A	A	A	A	A	A	
99	562	Fertilizers, manufactured	D	D	D	D	D	D	C	A	A	A	A	A	A	A	A	A	A	A	A	A	B	A	D	D	B	D	D	
100	572	Explosives and pyrotechnic products	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
101	862	Condensation, polycondensation and polyaddition products	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	A	A	A	A	A	
102	863	Polymerization and copolymerization products	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
103	884	Regenerated cellulose, derivatives of cellulose, vulcanized fibre	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
104	885	Other artificial resins and plastic materials	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
105	991	Pesticides, disinfectants	D	D	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	C	C	C	C	C	C	C	C	D	D	
106	992	Starches, inulin and wheat gluten, albuminoidal substances, glues	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
107	998	Miscellaneous chemical products, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
108	611	Leather	C	C	C	C	C	C	C	C	A	A	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	
109	612	Manufactures of leather or of composition leather, nes, etc	D	D	A	D	D	D	D	D	D	D	D	D	D	D	D	D	B	B	D	D	B	B	D	D	D	A	A	
110	613	Fur skins, tanned or dressed; pieces of fur skin, tanned or dressed	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	C	D	D	C	C	C	D	C	C	C	C	C	
111	621	Materials of rubber	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	
112	625	Rubber tires, tire cases, inner and flaps, for wheels of all kinds	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	A	C	C	A	A	A	A	A	A	A	A	
113	628	Articles of rubber, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	C	
114	633	Core manufactures	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	D	D	
115	634	Veneers, plywood, improved* wood and other wood worked nes*	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
116	635	Wood manufactures, nes	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
117	641	Paper and paperboard	D	D	D	D	D	D	D	D	C	D	D	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	
118	642	Paper and paperboard, printed, and articles of paper or paperboard	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	C	
119	651	Textile yarn	D	D	D	D	D	D	D	D	D	D	D	D	D	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
120	652	Cotton fabrics, woven (not including macrow or special fabrics)	D	D	D	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	

Appendix: Products Mapping of Indonesia's Exports (1979-2005)

No	SITC	Commodity Description	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
121	653	Fabrics, woven, of man-made fibres (not narrow or special fabrics)	D	D	D	D	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
122	654	Textile fabrics, woven, other than cotton or man-made fibres	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
123	655	Knitted or crocheted fabrics (including tubular, etc. fabrics)	C	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
124	656	Tulle, lace, embroidery, ribbons, trimmings and other small wares	D	D	D	D	C	C	C	A	A	A	A	A	A	A	A	A	A	B	A	D	A	A	A	A	A	C	C	
125	657	Special textile fabrics and related products	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
126	658	Made-up articles, wholly or chiefly of textile materials, nes	D	D	D	D	D	C	D	C	C	C	C	A	A	A	A	A	A	C	C	A	A	A	A	A	A	C	C	
127	659	Floor coverings, etc	C	C	D	C	C	C	A	A	C	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
128	661	Lime, cement, and fabricated construction materials	C	D	D	D	D	D	C	A	A	A	A	A	C	A	C	D	D	D	D	C	A	A	A	A	A	A	A	
129	662	Clay and refractory construction materials	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C	
130	663	Mineral manufactures, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C	
131	664	Glass	D	D	D	D	D	D	D	D	D	C	C	C	C	D	C	C	C	C	C	D	C	A	A	A	A	A	A	
132	665	Glassware	D	D	D	D	C	C	D	D	C	A	C	A	A	A	A	A	A	A	C	C	A	A	A	A	A	A	A	
133	666	Pottery	D	D	D	D	D	D	D	D	D	C	C	C	C	A	C	A	A	A	C	A	A	A	A	A	A	A	A	
134	667	Steel, precious and semi-precious stones, unworked or worked	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
135	671	Iron and sponge iron, agglomerates, etc. and ferro-alloys	D	D	D	D	D	D	D	D	D	B	B	D	D	D	D	D	D	D	D	D	C	A	D	D	D	D	D	
136	672	Ingot and other primary forms, of iron or steel	D	D	D	D	D	D	D	C	A	D	B	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
137	673	Iron and steel bars, rods, shapes and sections	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
138	674	Unfinished, plates, and sheets, of iron or steel	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
139	676	Rails and railway track construction materials, of iron or steel	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
140	677	Iron or steel wire (excluding wire rod), not insulated	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
141	678	Tube, pipes and fittings, of iron or steel	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
142	679	Iron, steel casting, forging and stamping, in the rough state, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
143	681	Silver, platinum and other metals of the platinum group	D	C	D	D	D	D	D	D	D	C	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
144	682	Copper	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	A	A	A	A	A	A	A	
145	683	Nickel	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
146	684	Aluminium	D	D	D	D	C	A	A	A	A	A	C	D	C	D	D	D	D	D	D	C	D	D	D	D	D	D	D	
147	685	Lead	D	D	D	D	D	B	D	D	D	D	B	B	B	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
148	686	Zinc	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
149	687	Tin	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
150	688	Unscrap depleted in U235, thorium, and alloys, nes; waste and scrap	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
151	689	Miscellaneous non-ferrous base metals, employed in metallurgy	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
152	691	Structures and parts, nes, of iron, steel or aluminium	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	B	D	D	C	C	C	D	C	D	
153	692	Metal containers for storage and transport	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	A	A	A	A	A	A	A	
154	693	Wire products (excluding insulated electrical wire), fencing grills	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
155	694	Nails, screws, nuts, bolts, rivets, etc., of iron, steel or copper	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
156	695	Tools for use in the hand or in machines	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
157	696	Cutlery	D	D	D	D	D	D	D	D	D	D	D	C	C	A	A	A	A	A	A	A	A	A	A	C	C	C	C	
158	697	Household equipment of base metal, nes	D	D	D	D	D	D	D	D	D	C	C	C	A	A	A	A	A	A	C	A	A	A	A	C	C	C	C	
159	699	Manufactures of base metal, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
160	711	Steam boilers and auxiliary plant, and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	A	B	D
161	712	Steam engines, turbines	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
162	713	Internal combustion piston engines, and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
163	714	Engines and motors, non-electric; parts, nes; group 714, item 71488	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
164	716	Rotating electric plant and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	B	C	A	C	A	A	A	C
165	718	Other power generating machinery and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
166	721	Agricultural machinery (excluding tractors) and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
167	722	Tractors (other than those falling in heading 7441 and 7832)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
168	723	Civil engineering, contractor's plant and equipment and parts, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
169	724	Textile and leather machinery, and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
170	725	Paper and paper manufacture machinery, and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
171	726	Printing, bookbinding machinery, and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
172	727	Food-processing machines (non-domestic) and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
173	728	Other machinery, equipment, for specialized industries, parts nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
174	736	Metalworking machine-tools, parts and accessories thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
175	757	Metalworking machinery (other than machine-tools), and parts, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
176	741	Heating and cooling equipment and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
177	742	Pumps for liquids, liquid elevators, and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
178	743	Pumps, compressors, centrifuges, filtering apparatus, etc. parts	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
179	744	Mechanical handling equipment, and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
180	745	Other non-electric machinery, tools and mechanical apparatus, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D

Appendix: Products Mapping of Indonesia's Exports (1979-2005)

No	SITC	Commodity Description	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
181	749	Non-electric parts and accessories of machinery, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
182	751	Office machines	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	C	C	C	D	C	C	C	C
183	752	Automatic data processing machines and units thereof	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	C	C	C	D	C	C	D	C	C	C	C
184	759	Parts, nes of land accessories for machines of headings 751 or 752	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C
185	761	Television receivers	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C
186	762	Radio-broadcast receivers	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C
187	763	Gramophones, dictating machines and other sound recorders	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	A	A	A	A	A	A	A	A	A	A	A	A
188	764	Telecommunication equipment, nes; parts and accessories, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	D
189	771	Electric power machinery, and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	A	A	A
190	772	Electrical apparatus for making and breaking electrical circuits	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C
191	773	Equipment for distribution of electricity	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	A	C	C	A
192	774	Electro-medical and radiological equipment	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
193	775	Household type equipment, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	D	D	D
194	776	Thermionic, microelectronic, transistor, valves, etc	C	C	D	C	D	C	C	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C
195	778	Electrical machinery and apparatus, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	C	C	C	C	C
196	761	Passenger motor vehicles (excluding taxis)	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
197	762	Tractors and special purpose motor vehicles	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
198	763	Road motor vehicles, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D
199	764	Motor vehicle parts and accessories, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
200	765	Cycles, scooters, motorized or not, tri-wheel carriages	D	D	D	D	D	D	D	D	D	D	D	D	D	D	B	B	B	B	B	B	B	B	B	B	B	B	B
201	766	Trailers, and other vehicles, not motorized, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	D	D	D	D	D	C	C	C
202	791	Railway vehicles and associated equipment	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
203	792	Aircraft and associated equipment, and parts thereof, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
204	793	Ships, boats and floating structures	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	D	D	D	D	D
205	812	Sanitary, plumbing, heating, lighting fixtures and fittings, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	D	D	D	D	C	C	C	C	C	D
206	821	Furniture and parts thereof	D	D	D	D	D	D	D	D	C	C	C	A	A	A	A	A	A	A	A	A	C	A	A	A	A	A	A
207	831	Travel goods, handbags etc, of leather, plastics, textile, others	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A	C	A	C	C
208	842	Men's and boys' outerwear, textile fabrics not knitted or crocheted	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
209	843	Women, girls, infants outerwear, textile, not knitted or crocheted	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
210	844	Undergarments of textile fabrics, not knitted or crocheted	D	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
211	845	Outerwear knitted or crocheted, not elastic nor rubberized	C	C	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	C	A	A	A	A	A	A	A
212	846	Undergarments, knitted or crocheted	D	D	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
213	847	Clothing accessories, of textile fabrics, nes	D	D	D	D	D	C	C	C	C	C	C	C	C	A	A	A	A	A	C	C	A	A	A	A	A	A	
214	848	Articles of apparel, clothing accessories, non-textile, headgear	D	D	D	D	D	C	C	C	C	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A
215	851	Footwear	D	D	D	D	D	C	C	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
216	871	Optical instruments and apparatus	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
217	872	Medical instruments and apparatus, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
218	873	Meters and counters, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	D	D	C	C
219	874	Measuring, checking, analysis, controlling instruments, nes, parts	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
220	881	Photographic apparatus and equipment, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	A	A	A	A	C	A	A	C	C	C	C	C	C	C
221	882	Photographic and cinematographic supplies	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
222	883	Cinematograph film, exposed and developed	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
223	884	Optical goods nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	C	D	C	C	C	C	C	C
224	885	Watches and clocks	D	D	D	D	D	D	C	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C	D	D	D	D	D
225	892	Printed matter	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
226	893	Articles, nes of plastic materials	D	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C
227	894	Baby carriages, toys, games and sporting goods	D	D	D	D	D	D	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
228	895	Office and stationary supplies, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
229	896	Works of art, collectors' pieces and antiques	C	C	C	C	C	C	C	C	C	C	C	C	C	C	D	C	D	D	D	D	C	D	D	C	C	C	C
230	897	Gold, silver ware, jewelry and articles of precious materials, nes	D	D	D	C	C	C	C	C	C	C	A	A	C	C	C	A	A	A	A	A	A	C	C	C	C	C	C
231	899	Musical instruments, parts and accessories thereof	C	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	A
232	899	Other miscellaneous manufactured articles, nes	D	D	D	D	D	D	D	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
233	931	Special transactions, commodity not classified according to class	C	C	C	C	C	C	C	D	C	D	D	D	D	D	D	D	D	D	A	A	C	C	C	C	C	C	C
234	941	Animals, live, nes, (including zoo animals, pets, insects, etc)	C	C	D	D	D	D	C	A	D	D	A	C	C	C	C	A	A	D	C	A	C	A	C	C	C	C	C
235	951	Armoured fighting vehicles, war firearms, ammunition, parts, nes	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
236	961	Coins (other than gold coin), not being legal tender	D	C	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
237	971	Gold, non-monetary (including gold ore and concentrates)	D	D	D	D	D	D	C	A	A	A	A	A	A	C	C	C	C	C	C	C	A	A	A	A	A	A	C