Chapter 2 Japan growing with Asia's development – Asia –Pacific framework toward sustainable growth

Section 2 East Asia: Development from production networks into production/sales network

It is considered that the Asian Economy has been growing by developing the production network. With this network, Asian countries and regions share the processes of processing and assembling by trading parts and supply final products to developed countries such as the U.S. and Europe. Concerning the production network that supports East Asia to act as world's factor, this section will confirm the flow of intermediate goods and final products. It will also verify Japan's position and its changes across the global financial crisis. Moreover, it will analyze the trend that the East Asia started expanding its production network into the combination of production and sales network.

1. Production network in East Asia and the expanding presence of China

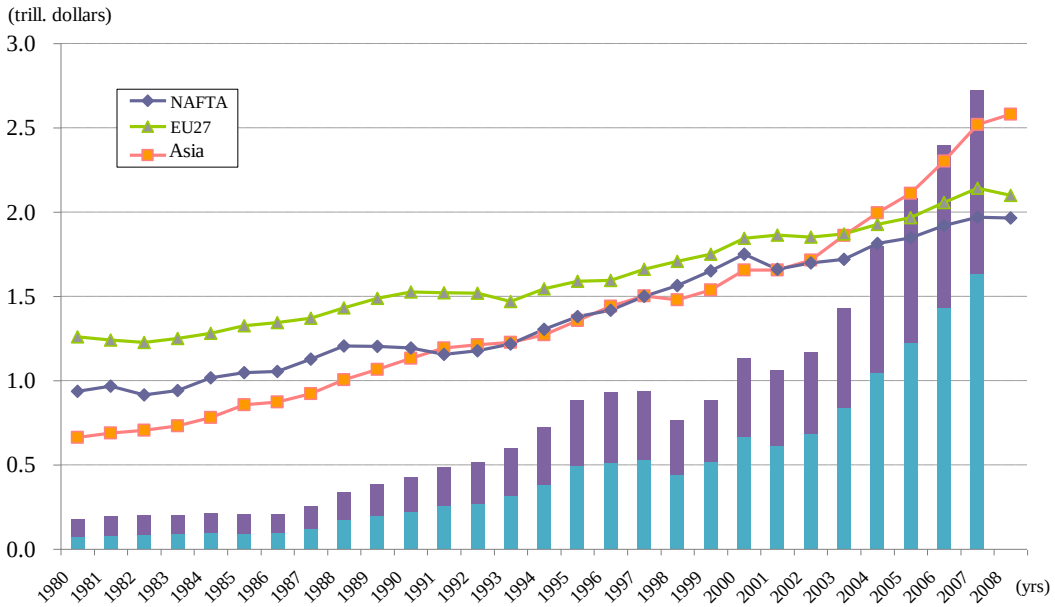
(1) Establishment of the East Asia production network and increasing manufacturing production in China

In Asia region, foreign direct investment led by Japanese companies triggered the progress of fragmentation of production processes and resulted in the development of regional production network ("East Asia production network") In 2004, Asia's real value-added in manufacturing sector exceeded that of EU and Asia and Asia became the world's largest production base (see Figure 2-2-1-1). In 2007, China's real value-added in manufacturing sector superseded that of Japan. It shows the shift of world manufacturing center for processing and assembling from Japan to China (see Figure 2-2-1-2).

(2) Asia with a large share in the world total production

The world production by product such as electric devices, automobiles and crude steel shows the Asia's dominant presence in the world.

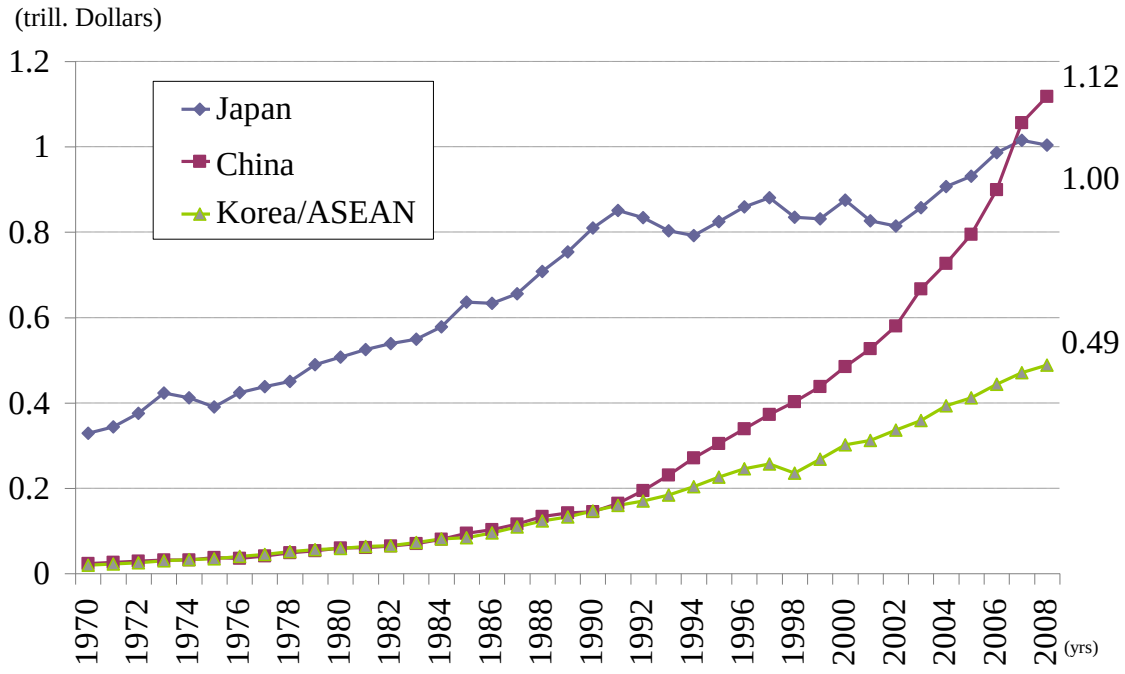
Figure 2-2-1-1: Trend of world major area's real value-added in manufacturing sector and total value of export within Asia



Note: Asia is ASEAN+6
Source: Created from UN "National Accounts Main Aggregates Database".

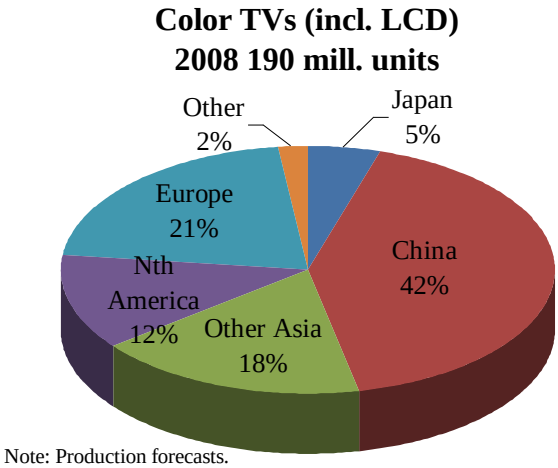
In the area of electric devices, China has the largest production share of final products such as personal computer while Japan has larger share of electric parts. It is considered to be the result of the production network that produces parts in Japan and exports them from Japan and conducts final assembly in China (see Figure 2-2-1-3).

Figure 2-2-1-2: Trend of major Asian countries and regions' real value-added in manufacturing sector

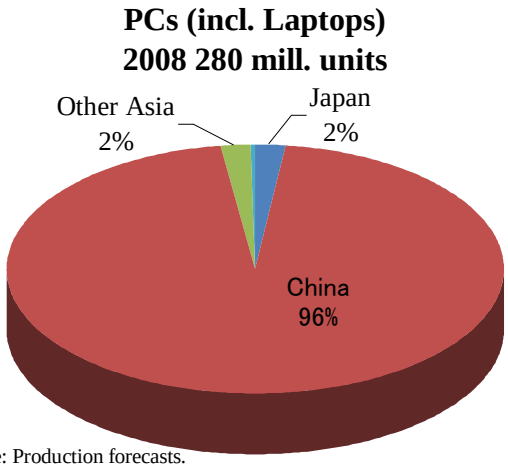


Source: Created from UN "National Accounts Main Aggregates Database".

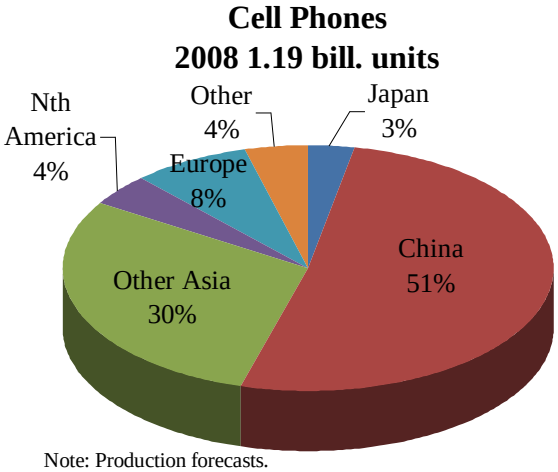
Figure 2-2-1-3: Production share by countries and regions



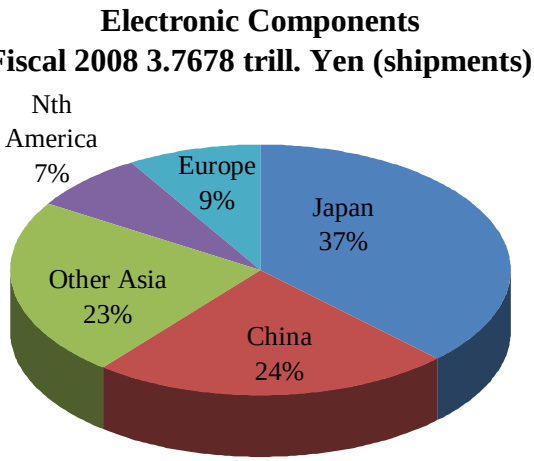
Note: Production forecasts.
Source: Electronics and IT Industries Association



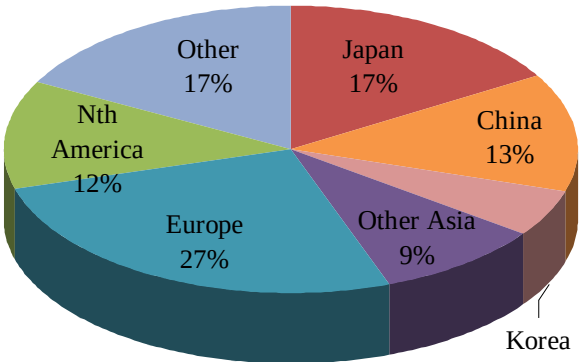
Note: Production forecasts.
Source: Electronics and IT Industries Association



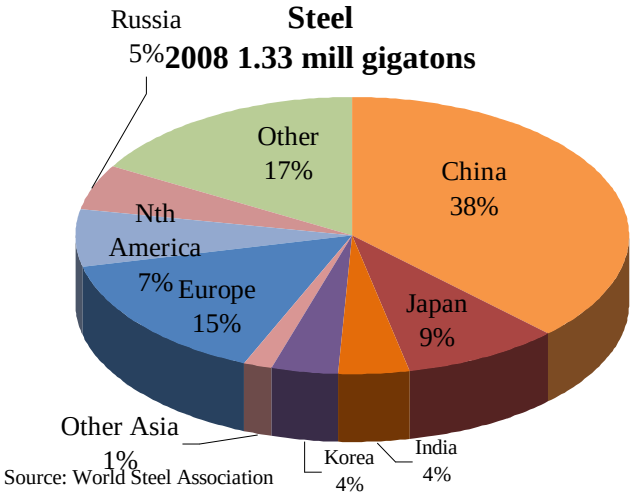
Note: Production forecasts.
Source: Electronics and IT Industries Association



Source: Electronics and IT Industries Association



Source: Federation of International Automobie Manufcaturers



Source: World Steel Association

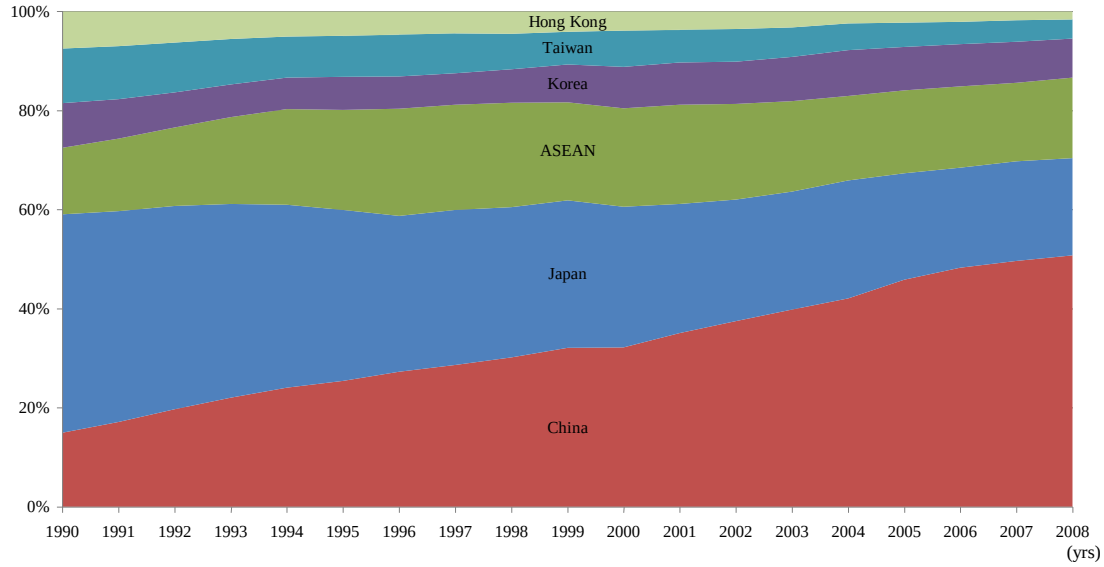
(3) China's trade structure that made China the world's factory

Final product exports from East Asia which is world's factory, by country and region (see Figure 2-2-1-4) indicates the largest importer of final products from East Asia has changed

from Japan to China. Moreover, the data of importers of East Asia's final products by country and region shows that the combination of the U.S. and EU accounts for about 50% and East Asia-bound export is about 30% of total. In short, East Asia is the world's largest production center, but the final consumption destinations of its produced goods are mainly the U.S. and Europe.

Moreover, the trend of intermediate goods trade within East Asia in 10 years from 1998 to 2008 (see Figure 2-2-1-6) shows that Japan's exports to most of ASEAN and NIES countries doubled. On the hand, it also indicates the expansion of China-bound exports such as Japan's China-bound exports of $100.5 billion which was increased by about 5 times from $20.8 billion, NIEs' China-bound exports of $159.3 billion which is about 7-fold increase from $22.4 billion and ASEAN4's China-bound exports of $58.6 billion jumped by some 9 times from $6.2 billion in the 10 years. Moreover, China marked its NIEs-bound exports of $157.5 billion showing about 5.5 times increase from $28.5 billion, its ASEAN4-bound exports of $35.5 billion indicating about a 10-fold expansion from $3.2 billion and its Japan-bound exports of $50.4 billion which leaped by around 5 times from $9.2 billion. Each country and region increased both imports and exports with China and the presence of China as a production site in East Asia became more dominant.

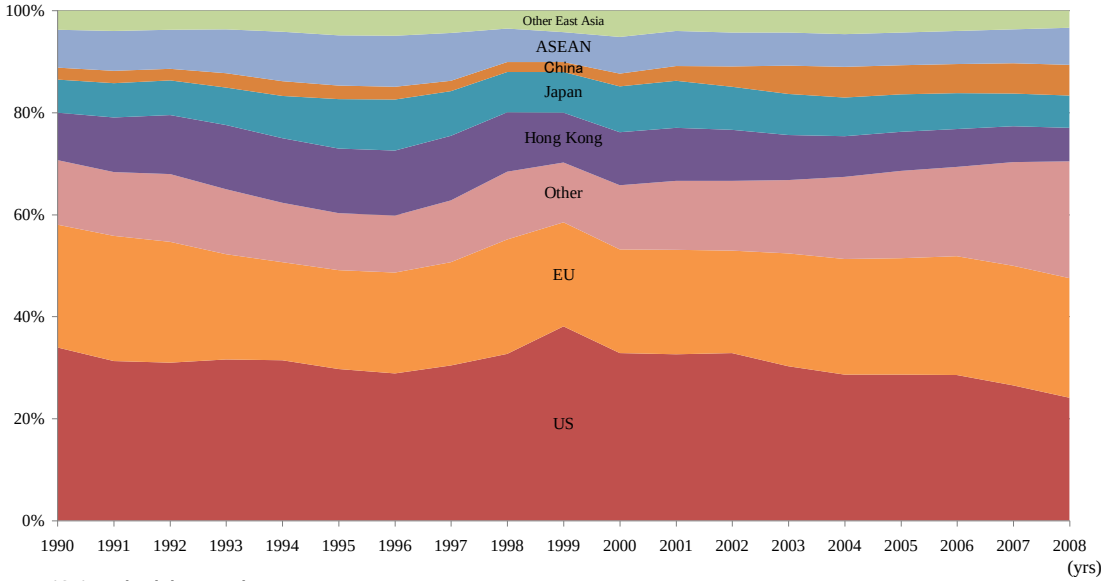
Figure 2-2-1-4: Share of final products exports in East Asia



Note: ASEAN total excludes Laos and Myanmar.
Source: Created from RIETI-TID2009.

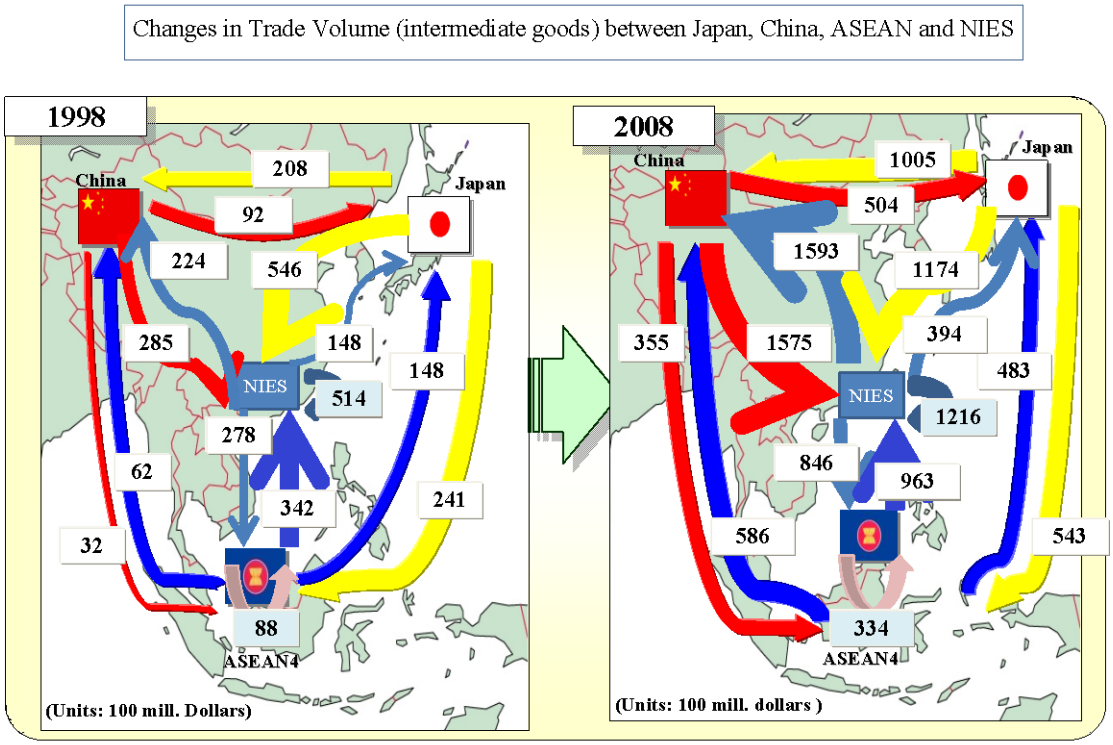
Figure 2-2-1-5: Share of final products imports in East Asia

Country/Regional Import Trends



Note: ASEAN total excludes Laos and Myanmar.
Source: Created from RIETI-TID2009.

Figure 2-2-1-6: Changes in Trade Volume (intermediate goods) between Japan, China, ASEAN and NIEs



Source: Created from National Institute of Economy Research Institute "RIETI-TID 2009".

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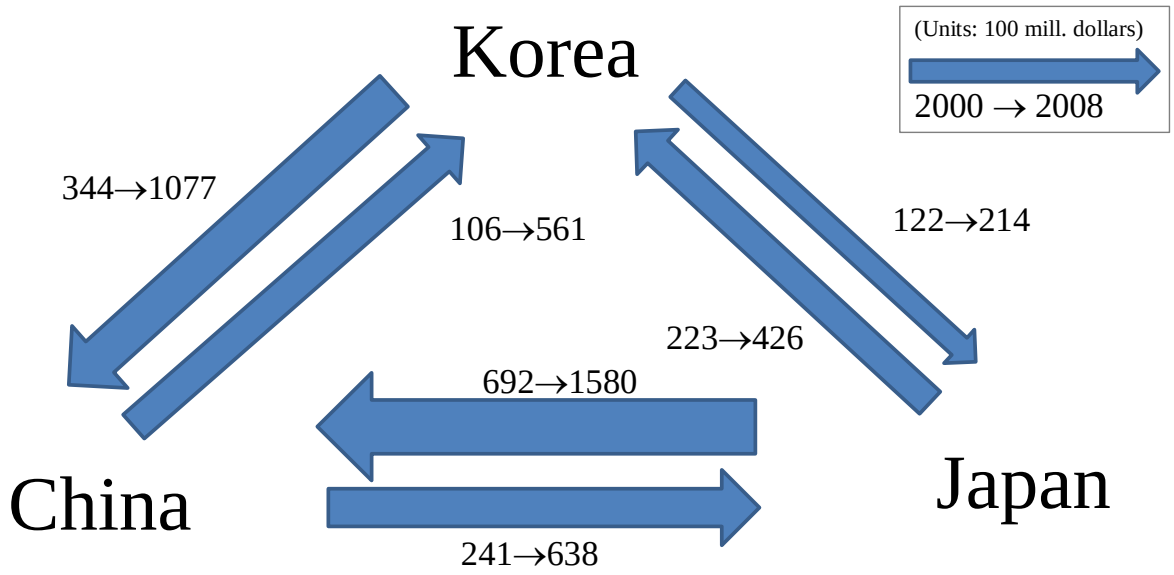
As for the trend of intermediate goods trade among Japan, China and Korea in 10 years from 1998 to 2008 (see Figure 2-2-1-7), both Japan's China-bound exports and Korea's China-bound exports exceeded $100.0 billion in 2008 showing 2.3-fold and 3.1 fold increase, respectively. These data also confirmed the enhanced presence of China as production base.

Furthermore, as for the trend of intermediate goods trade by sector in East Asia, the ratio of electric machinery and general machinery increased. However, the items other than electric machinery and general machinery still account more than 60% of trade in 2008. This shows the export structure which focuses on light industries including miscellaneous goods, toys and textile products that have world-class competitiveness with low-cost labor ad low-priced products (see Figure 2-2-1-8).

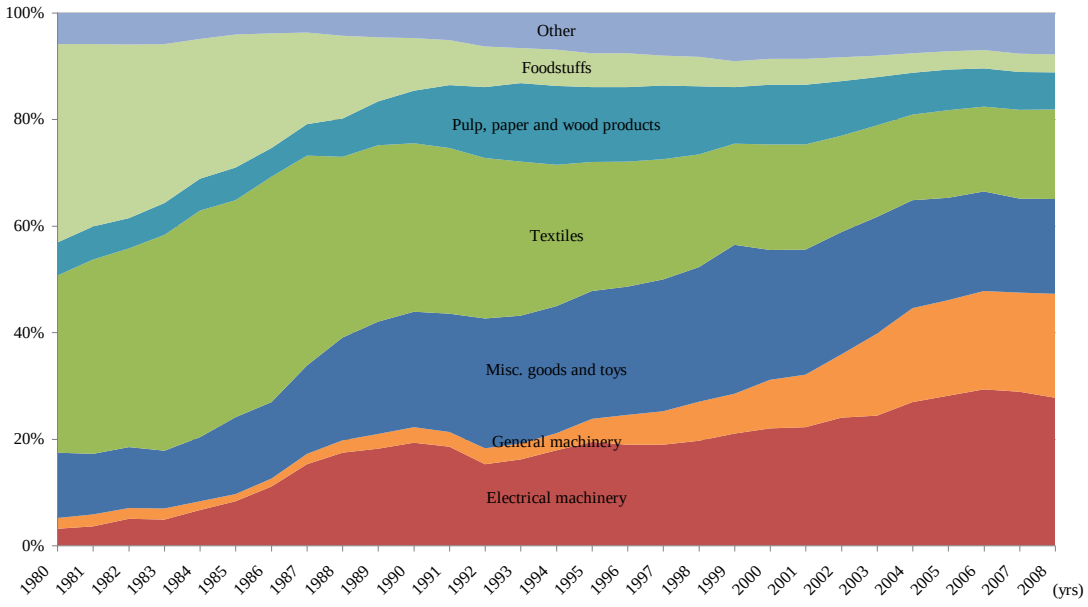
Intermediate goods trade by sector in East Asia demonstrates the largest share of electric machinery which is about 70% of total in 2008. The share of the combination of three sectors adding general machinery, transport machinery will reach about 90% (see Figure 2-2-1-9). Then, we would like to present an overview of both intermediate goods and final goods for three sectors, electric machinery, general machinery and transport machinery.

Figure 2-2-1-7: Changes in Trade Volume between Japan, China and Korea



Source: Created from RIETI-TID2009.

Figure 2-2-1-8: Changes in China's imports of final products



Source: Created from RIETI-TID2009.

(4) Electric machinery to utilize East Asia production network, general machinery to increase local procurement, and transport machinery to be sold in the local markets

The trade by sector in East Asia shows two main trends. One is electric machinery and general machinery which import intermediate goods from other countries in East Asia and export final products to the world, primary to the U.S. and Europe. The other is transport machinery that procures intermediate goods in East Asia or production country and sells the final products in the production country.

As for transport machinery, Japan remains the world largest importer. However, as for electric machinery and general machinery, China started taking the position of Japan as the

center to supply intermediate goods as well as final products (see Figure 2-2-1-10).

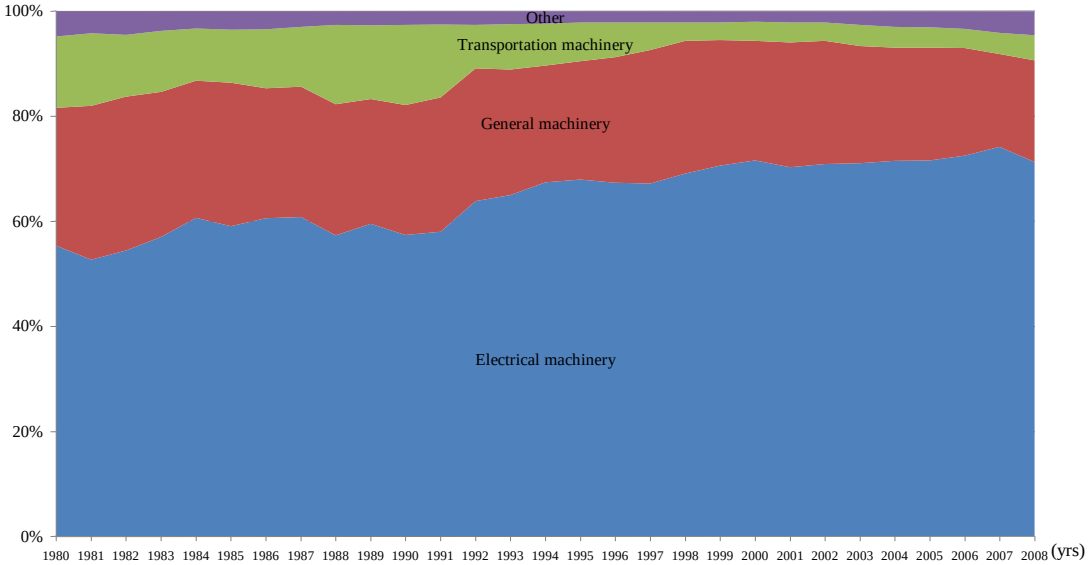
(A) Electric machinery

With regards to electric machinery, imports of immediate goods imports from East Asia area accounts for about 60% in 1990. Due to the swell of exports of immediate goods from East Asia to China, imports of immediate goods imports from East Asia area increased to about 80%.

On the other hand, the share of East Asia exports of intermediate goods to Japan dropped to less than 10% in 2008. Instead, China has expanded its presence as intermediate goods importing county/region. The share of East Asia exports of intermediate goods to ASEAN and China total increase to 56% in 2008.

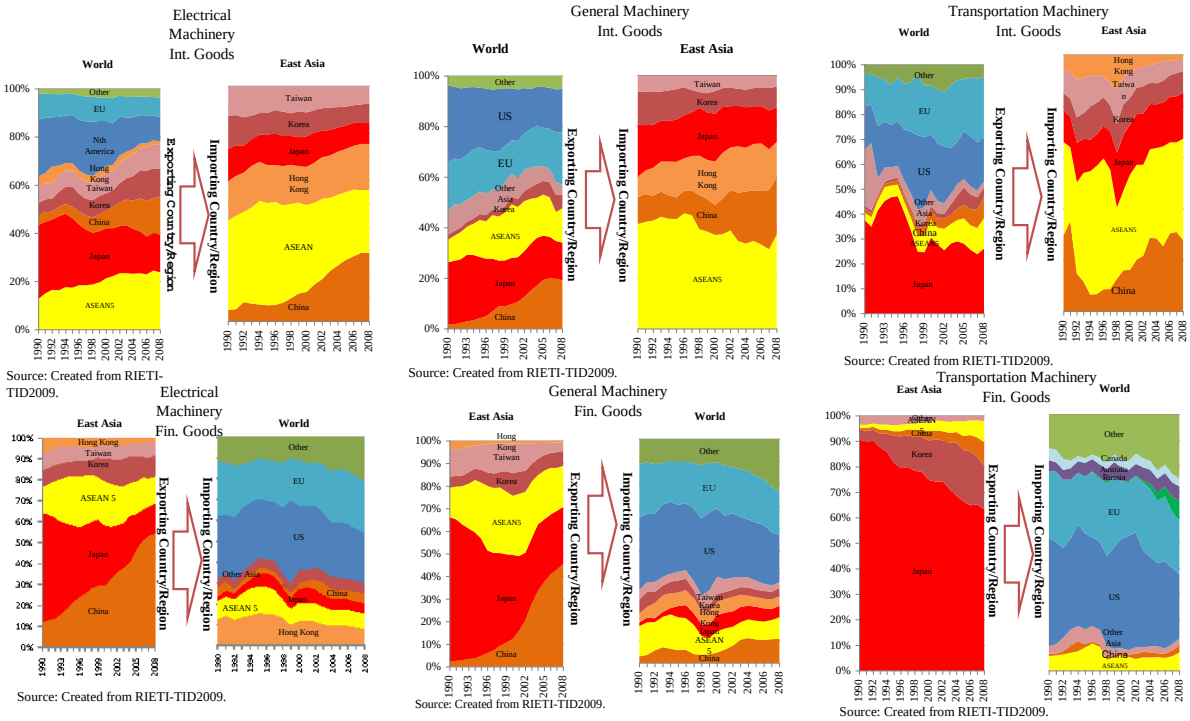
On the other hand, the breakdown of East Asia exports of final goods to the world shows that Japan's share which was more than 50% in 1990 rapidly dropped to about 10% in 2007. Instead of Japan, China is enhancing its presence. China's share was 15% in 1990, but grew to hold more than 50% of East Asia's final goods exports.

Figure 2-2-1-9: Changes in trade value (intermediate goods) within East Asia



Source: Created from RIETI-TID2009.

Figure 2-2-1-10: Changes in share of trade (intermediate goods and final products) in East Asia



Major export destinations of final goods of electric machinery are the U.S. and Europe. From 1990 to 2007, the combination of share of the U.S. and EU is hovering around 50%. Electric machinery exports to East Asia is about 30% of total in 2007 and this number is recently rather shrinking.

(B) General machinery

As for general machinery, instead of Japan, China is increasing its presence as the importer of intermediate goods and final goods. China has about 20% of the world's intermediate goods exports to East Asia being the largest intermediate goods importer.

Moreover, with regards to the importing country and region of intermediate goods from East Asia, while ASEAN hovers around 30 to 40 % of share, China increased its share of 10% to more than 20% from 1990 to 2008.

As for East Asia's final goods exports, Japan's share declined from over 60% to about 14% from 1990 to 2008 and China accounts for more than 50%.

(C) Transport machinery

The main flow of transportation machinery in East Asia is that China and ASEAN imports intermediate goods from the U.S., Europe and Japan to process, assemble and sell the final products in the country.

The structure related to final goods is to export the goods produced mainly in Japan to the U.S. and Europe. In these years, countries such as Korea and China are also expanding the

final goods export

In this way, main flow of transport machinery is based on local production and local sales rather than the production style which utilizes East Asia production networks.

For electric machinery of which intermediate trade values is the largest in East Asia, Figure 2-2-1-11 summarized main flow of the trade from the point of view of exports of intermediate goods and final goods in East Asia production networks.

According to export values in 2008, the main flow of trade in East Asia production networks is that Japan, Korea, Taiwan and ASEAN export intermediate goods to China and Hong Kong and China and Hong Kong process, assemble and export final products to the U.S. and Europe. On the hand, Japan also supplies intermediate goods to Korea, Taiwan and ASEAN. Intermediate goods trade within ASEAN area is invigorating. As for final goods exports to the U.S. and Europe in 2008, Japan exported 27.4 billion and ASEAN recorded $23.3 billion. They are about one fifth of the amount of China and Hong Kong which is $124.4 billion.

Korea showed strong growth both in intermediate goods and final goods export from 1998 to 2008 marking a 10.9-fold expansion of China and Hong Kong-bound exports of intermediate goods and a 6.5-fold increase of the U.S and Europe-bound exports of final goods. It is obvious that Korea is increasing its presence in the area of electric machinery within the production networks.

Figure 2-2-1-11: Trade of intermediate goods and final products within Asia (electronics)