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White Paper on International Economy and Trade 2011

~ Overcoming the earthquake disaster, and restoring and strengthening global the economic networks ~

1 Current Status and problems of the world economy

■ The recovering world economy involves structural volatility

- The world economy has been gradually recovering since the spring of 2010, driven by emerging economies. However, with advanced economies failing to narrow the gap of growth rate with emerging economies in 2011, the emerging economies have further increased their presence.
- Global imbalances were temporarily improved through the world financial crisis, but were increasing again in 2010. Factors such as default by unsustainable budget deficit, instability of financial institutions, and further inflation by increased capital inflow to emerging economies could exert downward pressure on the world economy.

■ Risks involved in the world economy (rises in prices of food and resources and the financial crisis in Europe)

- In the background of monetary relaxation environment worldwide, multiple factors such as (1) increase in real demand, (2) weather conditions, (3) political conditions in export countries, and (4) money inflows had negative impacts on rises in prices of food and resources, which led to the downturn of world economy.
- In 2010, the European economy as a whole recovered moderately. However, current account imbalances within the euro zone are gradually increasing. In this circumstance, concerns over the worsening European debt crisis have not been eliminated. And there is uncertainty over self-reliant fiscal reconstruction of other European countries facing difficult fiscal conditions. Establishment of a reliable relief system will be essential.

■ Aiming at the sustainable and balanced economic growth

- Gap of the growth rate between the developed and emerging economies became sharper since the world economic crisis. The monetary policies of each country the currency exchange rates and trade issues are sometimes inconsistent, thereby becoming factors for instability of the world economy.
- In order to achieve the sustainable and balanced growth of the world economy for the future, cooperation is needed to build consensus within the international community such as G20, APEC, etc. to solve issues such as rectifying the imbalances, securing a stable international currency exchange system, resisting protectionism and promoting free trade.

■ East Japan Great Earthquake Disaster: The World Economy, Stabilization efforts by Coordination of Nations

- Since the earthquake disaster, with orderly cooperation from many countries in monetary policy, and matters of international significance, the world economy, focusing on the monetary market, has been generally maintaining orderly behavior.

2 Changes in the trade structures of the world and Japan

■ World trading structure changed after experiencing the world economic crisis

- Japan had been one of the poles in the world trade structure together with EU and NAFTA in 1990, but in 2008, China became one of the poles of the world trade structure taking the Japanese position.
- While the production networks in East Asia have continued to make progress in depth and extent, the authorities concerned are developing such a new aspect as ASEAN's expansion of trade within the area and enhancing its independence.
- In the near future, China, ASEAN and India will increase their presence as demand areas, while East Asian production networks display the prospects of becoming "East Asian production/ demand center" as an independent economic zone.

■ A new trade partner for Japan: MERCOSUR

- Entering the 2000's, presence of MERCOSUR in the world trade structure becomes significantly important.
- Especially, as the consumer market in Brazil has been growing drastically bigger, it offers a great opportunity for Japanese business to enter the market. Japanese government's promotional activities to consolidate the market environment are urgently needed.

■ Changes in Japanese economic/ industrial structure and "spillover effects"

- Japan has been changing its economic/ industrial structure from the "full set" type, where everything was procured domestically, to a type where various assets and services are to be imported.
- As Japan's domestic industry strengthened its ties with overseas, policy is needed to further increase exports and profit from the direct investment destinations in order to secure domestic employment and production activities.

3 Toward new overseas development of Japanese economy

~ To overcome a world economy crisis (its aftermath) and an earthquake disaster shock ~

■ Japanese strategic field contributes to problem of growth in the emerging countries

- The emerging countries in the world including Asia with remarkable economic growth continues expanding rapidly in quantity and quality as a "market".
- It is important for Japanese enterprise to establish the standing position for admiration from the middle income class in the emerging countries, mainly on high value added products.
- Japanese technology having advantage in the world contributes to the solution of problems of growth which the emerging countries are facing worldwide.

■ The localization of the Japanese enterprise entering into a new stage

- In late years direct investment to Asian emerging countries increases significantly, and the sales amount of Japanese enterprises in the local countries increase, too.
- While localization to emerging countries progresses, intermediate commodity export from Japan and also repatriation of dividend from overseas countries is increased.
- In the future, the support is required for enhancement of competitiveness of export in the intermediate commodity and further facilitation of the dividend repatriation by means of economic collaboration.

4 Trade and economic relation between Japan and the world which can be seen through Great East Japan Earthquake damage

■ The impact that the earthquake can give on Japanese production and trade

- The export of Japan was on the track to recovery until just before the earthquake disaster, but the production/export just after that is decreasing considerably.
- However, the production of April is already likely to recover, and further recovery is anticipated in the future.

■ Importance of the global supply-chain originating from Japan

- After the earthquake disaster, importance of product supply from Japan to the world was recognized once more, and the impact on industry and item that disaster-stricken area was involved directly and indirectly in production/export of the Japan were especially big.
- Just after the earthquake disaster, supply disruptions from Japan was worried in various regions, but in line with the effort for recovery by industry and region, the production activity is improving promptly. As for the government side, it is important to back up to enhance collaboration of upstream and downstream industries, and further expand competitive power of the intermediate commodity industry while strengthening and solidifying the global supply-chain further.

■ Utilizing the experience of the earthquake disaster

- After the earthquake disaster, the reputation damage through unfounded rumors for the Japanese export goods is increased due to the nuclear plant accident, and Japan has combined the public and private sectors for transmitting correct and prompt information to settle the problem.
- In the future, it is important to promote the sharing of Japanese experience and the lesson toward the recovery from this earthquake disaster with the global community, and evaluate countermeasures and cooperation system by multinational cooperation in the state of emergency.

5 Overcoming the earthquake disaster and revitalizing the Japanese economy

■ Towards Japan's revitalization

- We have to take measures toward new growth, with a view to overcome the earthquake disaster's negative impacts on the Japanese economy, revive the growth potential, and at the same time to solve the structural problems that have existed since before the earthquake.
- In May 2011, the Japanese government adopted the “Guideline on Policy Promotion” at a Cabinet meeting, setting forth policies for reconstruction from the earthquake disaster and revitalization of Japan.
- We aim to contribute to the international community through future-oriented restoration/reconstruction and also by creating a vision of what the new society should be like, based on these guidelines.

■ Promotion of multilateral free trade regime and establishment of strategic external economic relationships

- Japanese companies have multilayered relationships with companies of the world within global

supply chains, so it is important for those, which are capable of exporting competitive intermediate goods, to keep upholding their supply responsibility.

- Therefore, with a view to removing various obstacles to overseas business operations/trade and reducing the costs (as defined in a broad sense) for cross-border economic activities, we have to make efforts to build strategic external economic relationships. And, the timing of a decision on whether to join negotiations for the Trans-Pacific Partnership (TPP) will be considered from an overall perspective.

■ Efforts to recover and enhance Japan's locational competitiveness

- Although we have taken measures to cope with the impacts of the earthquake disaster to a certain extent thus far, we cannot say for sure that all the concerns about Japan's locational competitiveness were wiped out. It is undeniable that there is a possibility of the earthquake disaster causing further worsening the problem of hollowing-out.

- In order for our country to continue to achieve self-sustaining growth, we have to enhance the domestic locational attractiveness, and keep producing highly competitive goods, services and systems. It's also necessary to be proactive in attracting foreign companies' regional headquarters and R&D centers to Japan

Explanatory Notes

1. Abbreviations

The main abbreviations used are as follows.

ADB: Asian Development Bank

APEC: Asia-Pacific Economic Cooperation

ASEAN: Association of South-East Asian Nations

BIS: Bank for International Settlements

ECLAC: UN Economic Commission for Latin America and the Caribbean

EFTA: European Free Trade Area

EPA: Economic Partnership Agreement

ERIA: Economic Research Institute for ASEAN and East Asia

EU: European Union

FAO: Food and Agriculture Organization of the United Nations

FRB: Board of Governors of the Federal Reserve System

FTA: Free Trade Agreement

GATS: General Agreement on Trade in Service

GATT: General Agreement on Tariffs and Trade

GCC: Gulf Cooperation Council

GDP: Gross Domestic Product

GNI: Gross National Income

IEA: International Energy Agency

IEC: International Electrotechnical Commission

ILO: International Labour Organization

IMF: International Monetary Fund

ISO: International Organization for Standardization

JBIC: Japan Bank for International Cooperation

JETRO: Japan External Trade Organization

JOGMEC: Japan Oil, Gas and Metals National Corporation

M&A: Merger and Acquisition

NAFTA: North American Free Trade Agreement

NEDO: New Energy and Industrial Technology Development Organization

NEXI: Nippon Export and Investment Insurance

OECD: Organization for Economic Co-operation and Development

PPP: Purchasing Power Parity

TFP: Total Factor Productivity

UNCTAD: United Nations Conference on Trade and Development

USDA: United States Department of Agriculture

USTR: Office of the United States Trade Representative

WTO: World Trade Organization

UN: United Nations

World Bank: an abbreviation for the International Bank for Reconstruction and Development and the International Development Association.

* FTAs/EPAs

A “Free trade agreement (FTA)” is an agreement which proposes to abolish tariffs and other restrictive trade laws between the contracting countries. An “Economic partnership agreement (EPA)” is a wide-ranging series of agreements seeking to integrate market systems and economic activities into the elements of an FTA. Unless otherwise specified, this White Paper uses the FTA/EPA as a collective term inclusive of the tariff agreements under both the EPAs and FTAs (agreements to abolish tariffs and other restrictive trade laws within the region, and to establish the region as a uniform tariff region which applies the same tariffs and other restrictive trade laws toward countries outside the region).

2. Materials

The abbreviations of the main foreign statistics used are as follows.

(1) World Bank statistics

WDI: World Development Indicators

(2) IMF statistics

BOP: Balance of Payments Statistics

DOT: Direction of Trade Statistics

IFS: International Financial Statistics

BOP: Balance of Payments Statistics

(3) Other statistics

PS&D: Production, Supply and Distribution Database (United States Department of Agriculture)

3. Figures/ mathematical expressions, etc.

(1) A year, written within the text or within a statistical table, is a calendar year (January-December) unless stated otherwise. Likewise, a financial year (FY) is the 12-month period from April 1 to March 31 of the following year, unless stated otherwise.

(2) Figures are rounded, as a general rule. Therefore, there are cases where figures are not consistent with the corresponding total.

(3) When used alone, with no values following it, the symbol “-” indicates that a value is unclear, cannot be reported, or does not exist for the relevant item, unless stated otherwise. A “0” indicates a value of less than one.

(4) This White Paper is based on the statistics, etc. available at the time of the writing. Later revisions, etc. are not reflected in this document.

4. Classification of countries and regions

(1) In some cases, the term “country” includes regions.

(2) The definitions of NIEs and ASEAN are as follows:

(a) NIEs are four countries/regions: South Korea, Taiwan, Hong Kong and Singapore.

(b) The first three of these countries/ region (South Korea, Taiwan and Hong Kong) are referred to

as “NIEs3” in this White Paper.

(c) ASEAN is 10 countries: Thailand, the Philippines, Indonesia, Malaysia, Singapore, Vietnam, Brunei, Laos, Myanmar and Cambodia.

(d) The first four of these countries (Thailand, the Philippines, Indonesia, and Malaysia) are referred to as “the ASEAN 4” in this White Paper

The first four of these countries (Thailand, the Philippines, Indonesia, and Malaysia) are specially referred to as “the ASEAN 4”, and the first six countries/ region (Thailand, the Philippines, Indonesia, Malaysia, Singapore and Vietnam) are specially referred to as “ASEAN 6” in this White Paper.

(3) The European Union (EU) was founded when the Treaty on European Union came into effect in November 1993. The 12 countries of the EU at the time of foundation are referred to as “the EU12”; the 15 countries from January 1995, as “the EU15”; the 25 countries from May 2004, as “the EU25”; and the 27 countries from January 2007, as “the EU27.”

(4) In some cases, the term “Germany” indicates West Germany before the unification of the country. Because of this, there are cases where the figures for each year are not consistent.

(5) OPEC has 11 members: Iraq, Iran, Kuwait, Saudi Arabia, Venezuela, Qatar, Indonesia, Libya, the United Arab Emirates (UAE), Algeria and Nigeria. In many cases, however, the statistics from Iraq are lacking. Therefore, OPEC is deemed to include only 10 countries, excluding Iraq, in the analyses of statistics, as a general rule.

(6) GCC indicates 6 countries/regions: Saudi Arabia, Kuwait, Bahrain, Qatar, UAE and Oman.

Chapter 1 Current status and problems of the world economy

In 2009, shortly after the beginning of the world economic crisis, the world economy was deteriorating on a global scale. But ever since the spring of 2010, it continued to recover gradually. However, this recovery process varied sharply by countries and regions. The gap of economic growth between the advanced and emerging economies further increased in 2011 and the imbalance in growth in various forms is emerging.

Chapter 1 presents an overview of the world economic situation 3 years after the last world economic crisis. Specifically speaking:

- 1) The world economy has been recovering moderately, but the gaps and imbalances are found, which are still volatile.
- 2) The risk factors related to the world economy must be addressed in order to achieve stronger and self-sustaining recovery;
- 3) Accompanying the widening of gaps and imbalances, friction among countries and regions has been heightened. Efforts have been made to solve these problems by G20, APEC, WTO and other world organization.
- 4) After the Great East Japan Earthquake, the world economy has shown largely stable upward movement through cooperative support provided by various countries. (Details of the earthquake disaster will be discussed later in Chapter 4 and Chapter 5).

Section 1 The recovering world economy involves structural volatility

The world economy has been moderately recovering, but the rates of recovery between advanced and emerging economies are not evenly balanced. The world economy involves structural factors such as disinflationary (a situation where the rate of price increase falls) / deflationary (a situation where prices continuously fall) trend and increases in financial deficit in the advanced economies and economic overheating in some of emerging economies, which act to raise the prices of resources, further widening the global imbalance, and implying that the economic recovery is still unstable.

1. Emerging economies gaining power and advanced economies experiencing sluggish economic recovery

(1) Increasing presence of emerging economies

According to IMF forecast on world economy as announced in April 2011, it indicated that growth rate of the world economy in 2010 registered a 5.0% increase over that of the previous year following a record -0.5% decrease in 2009. It said that there was no double-dip recession. However, while growth of the world economy as a whole was accelerated again, the gap in the recovery rate between the advanced and emerging economies still remained great. It indicated that many of the advanced economies are still sluggish in their recovery while the emerging economies are achieving strong economic growth leading to overheating of their economy. According to IMF, while advanced economies including U.S.A., euro zone countries, U.K. and others registered a 3.0% increase over that of the previous year in 2010 compared to a -3.4% decrease in 2009, the emerging economies achieved a 2.7% higher growth in 2009 and a 7.3% increase over the previous year in 2010 (Table 1-1-1-1). The emerging economies were having a higher proportion of world nominal GDP. Especially, China's nominal GDP outran the Japanese one in 2010. It is forecast that China's nominal GDP will largely

outrun those of major advanced economies in 2011 and continue to do so thereafter (Figure 1-1-1-2).

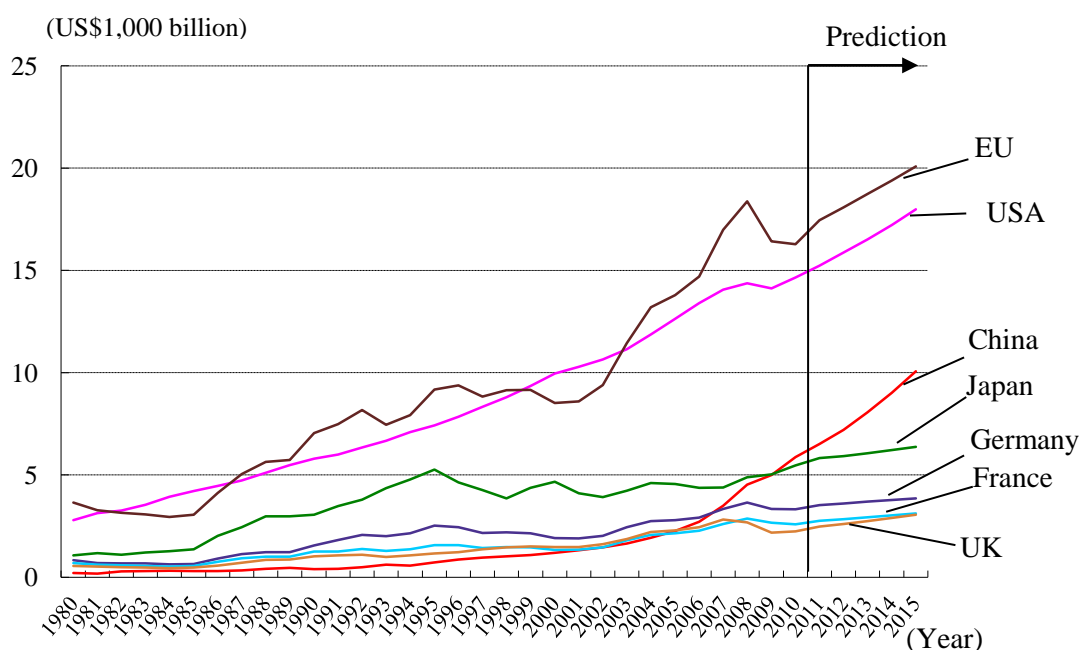
Table 1-1-1-1 World economy outlook (real)

	2009	2010	2011	2012
World economy	-0.5	5.0	4.4	4.5
Advanced economies	-3.4	3.0	2.4	2.6
United States of America	-2.6	2.8	2.8	2.9
Euro zone	-4.1	1.7	1.6	1.8
Japan	-6.3	3.9	1.4	2.1
United Kingdom	-4.9	1.3	1.7	2.3
Canada	-2.5	3.1	2.8	2.6
Emerging economies	2.7	7.3	6.5	6.5
Central and East Europe	-3.6	4.2	3.7	4.0
Russia	-7.8	4.0	4.8	4.5
Asian emerging economies	7.2	9.5	8.4	8.4
China	9.2	10.3	9.6	9.5
India	6.8	10.4	8.2	7.8
ASEAN5	1.7	6.9	5.4	5.7
Central and South America	-1.7	6.1	4.7	4.2
Middle East and North Africa	1.8	3.8	4.1	4.2
Sub-Sahara Africa	2.8	5.0	5.5	5.9

Notes: ASEAN5 is Indonesia, Malaysia, Philippine, Thailand and Vietnam.

Sources: IMF "WEO April 2011"

Figure 1-1-1-2 Transition of nominal GDP of major countries



Notes: Value is predicted after 2011.

Sources: IMF "WEO April 2011"

Meanwhile, IMF forecasts that economic downward fluctuation risk may exceed the upward

fluctuation probability in the future¹, and the growth rates in 2011 and in 2012 will moderately change at rates of 4.4% and 4.5% respectively compared with 5.0% in 2010. Examining the advanced and emerging economies separately, the growth rate of the former was 3.0% in 2010 and will be 2.4% and 2.6% in 2011 and 2012 respectively, and those of the emerging economies was 7.3% in 2010 and will be 6.5% in 2011 and 2012 respectively. The recovery rates of 2011 to 2012 in both the economies are forecast to be moderate compared to that of 2010. But it is forecast that the emerging economies will continue to achieve twice as much or more economic growth than those of the advanced economies, and the trend will gather strength with the emerging economies growing 2.4 times larger than that of the advanced economies in 2010 and 2.7 times in 2011 (Figure 1-1-1-3). The structural ratio in world GDP of the emerging economies was 31.2% in 2010 and it is forecast to further expand to 34% in 2011, and it may be even 39.9% of the world economy in 2014 (Figure 1-1-1-4)².

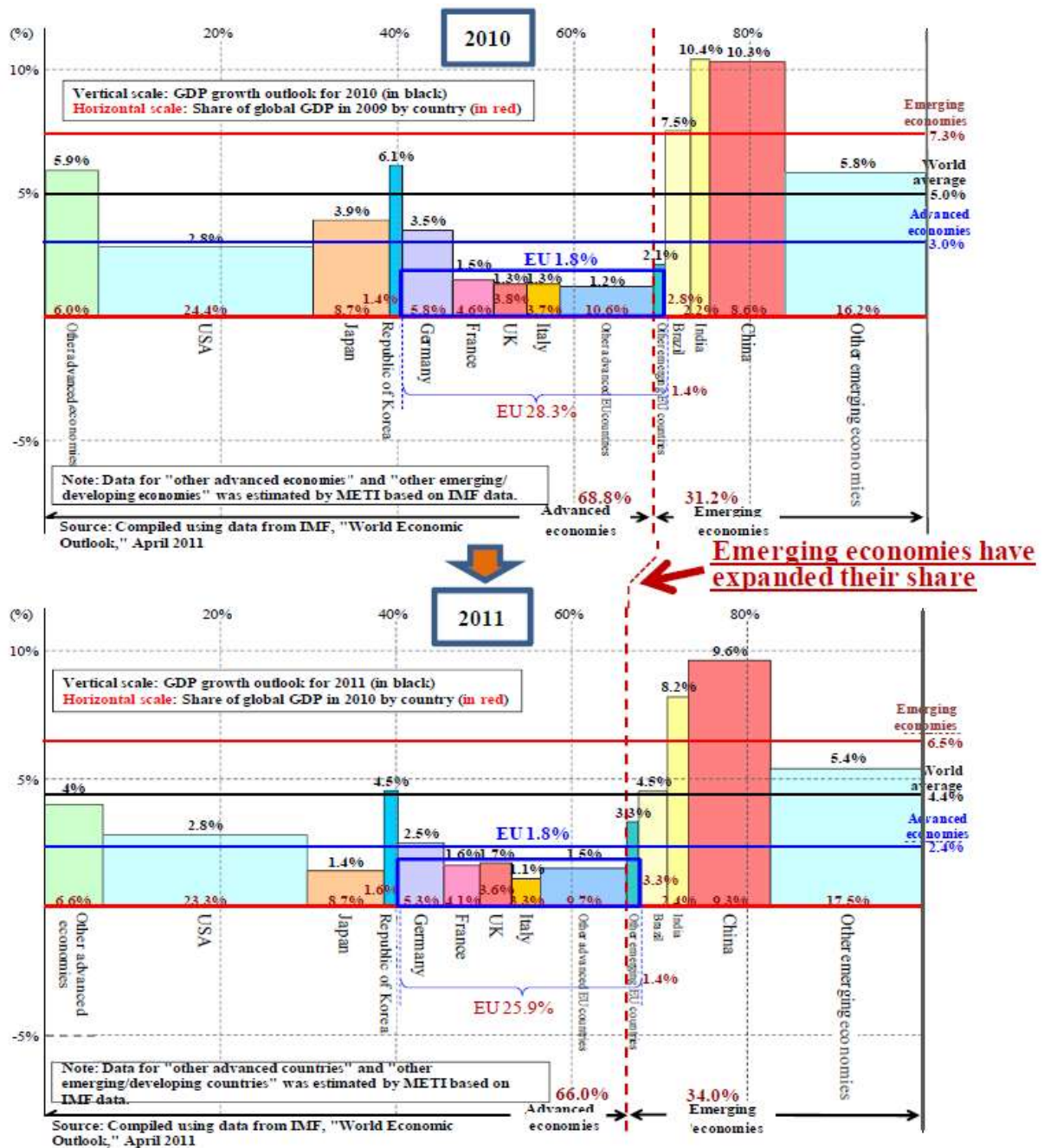
¹ IFM indicates EU financial issues such as unhealthy balance sheets and stagnation of real estate markets as the downward fluctuation risks in the advanced economies. It also indicates political geographic instability, overheat in the real estate markets as well as raises in prices of goods, especially oil price as the downward fluctuation risks in the emerging economies.

² <Reference> The revised forecast published by IMF in June 17, 2011.

- It recognizes that the world economy will continue to be growing, but the growth will be decelerated moderately as the downward fluctuation risks increase. World economic growth rate in 2011 is revised downward from that of April (from 4.4 to 4.3), but the rate for 2012 remains unchanged.
- The advanced economies growth rate in 2011 is revised downward from that of April (from 2.4 to 2.2) and that of 2012 remains unchanged.
 - Growth of United States of America in 2011 is expected to be slower (from 2.8 to 2.5).
 - As a result of the earthquake disaster, the Japanese growth rate is revised downward by -2.1% (from 1.4% to -0.7%). The growth rate for 2012 is expected to rise.
 - Growth rate in the Euro zone in 2011 is revised upward (from 1.6% to 2.0%), but the growth rate for 2012 is expected to be decelerated.
- Most of the emerging economies are recognized to continue growing strongly. The growth in 2011 is revised upward from the estimation in April (from 6.5 % to 6.6%). The growth rate of 2012 is revised downward.
 - Growth rate of China, India and ASEAN countries in 2011 and 2012 remains unchanged, but the growth rate of Central and South American countries in 2011 and 2012 are both revised downward. By -0.1%.
 - Growth of Central and East Europe in 2011 is revised upward by 1.6% (from 3.7% to 5.3%), but the growth rate of 2012 is revised downward by -0.8%.
- It indicates an unexpected vulnerability of US economic activities, destabilization of financial markets caused by the debt crisis in Euro zone, sharpening the signs of overheating in the emerging economies and lengthening the imbalances in financial and monetary sectors in the advanced economies, which are taken as factors to cause downward fluctuation world economic situation.

Figure 1-1-1-3 GDP structural ratio and growth rate of all global nations by area

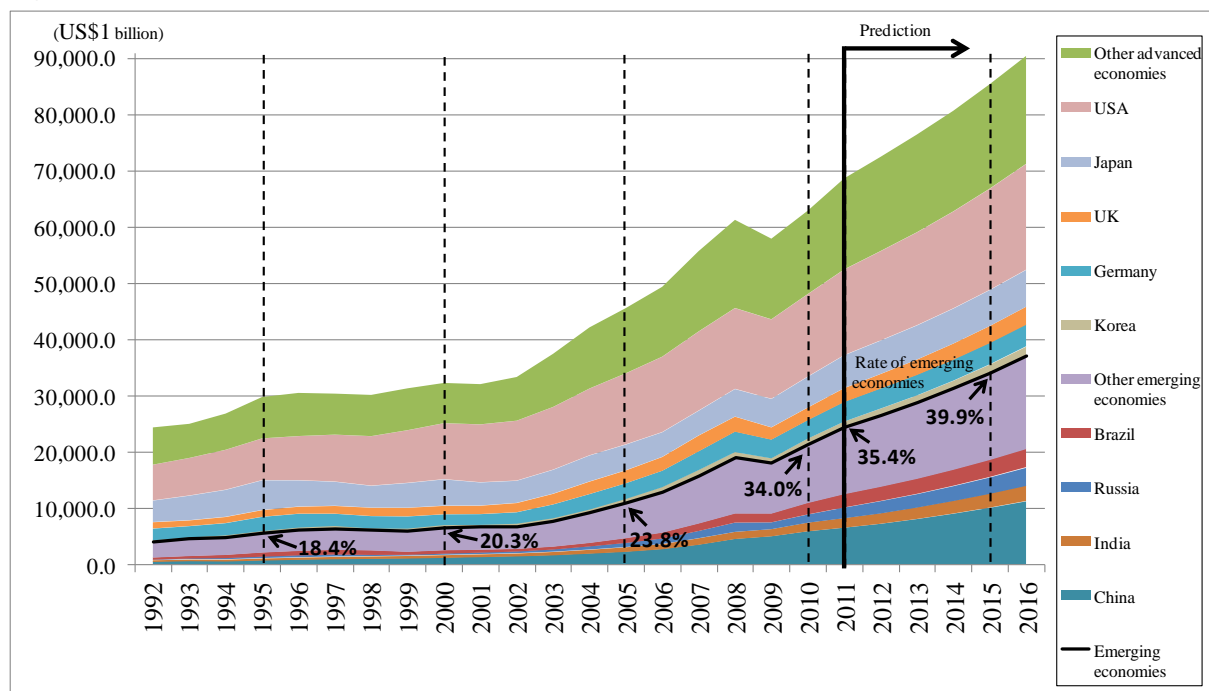
GDP structural ratio: Expanding in emerging countries (from 31.2% in 2010 to 34.0% in 2011)
 GDP growth rates: On average, twice or more for emerging countries than figures for developed countries (From 2.4 times in 2010 to 2.7 times in 2011)



Notes: There are no data on "other developed countries" and "other emerging countries". The Ministry of Economy, Trade and Industry estimated them based on the IMF data.

Sources: "World Economic Outlook, April 2011" IMF

Figure 1-1-1-4 Transition of the world real GDP



Notes: Real GDP in US dollar based on that of 2005 was calculated from real GDP growth rate of each country's currency in each year and nominal GDP in US dollar.

Sources: IMF "WEO, April 2011"

Thus, the volume of growth rates in China and other emerging economies is expected to be more important.

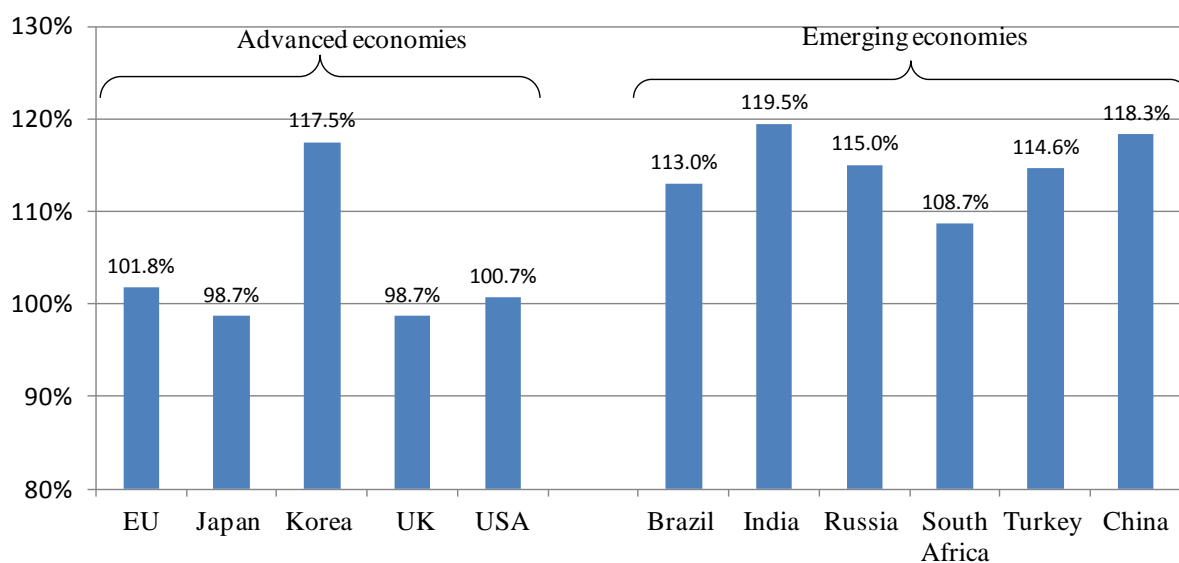
However, concerns over inflation and higher currency values of these countries are increasing. This is caused by injection of huge amount of money into the emerging economies by advanced countries due to the easing of monetary policy in their countries. As countermeasures, the emerging economies are taking measures such as strengthening the monetary policy, such as raising the interest rate and reserve deposit rate, restricting the capital inflow. If the economy in the emerging economies shows unexpected deceleration due to policy shifts from "monetary easing" to "monetary tightening", it may cause delay in the world economic recovery process, which depends on the growth of the emerging economies.

(2) Economic trends in advanced and emerging economies

Movement of the world economy in one year is reviewed below focusing on economic trends in the advanced and emerging economies.

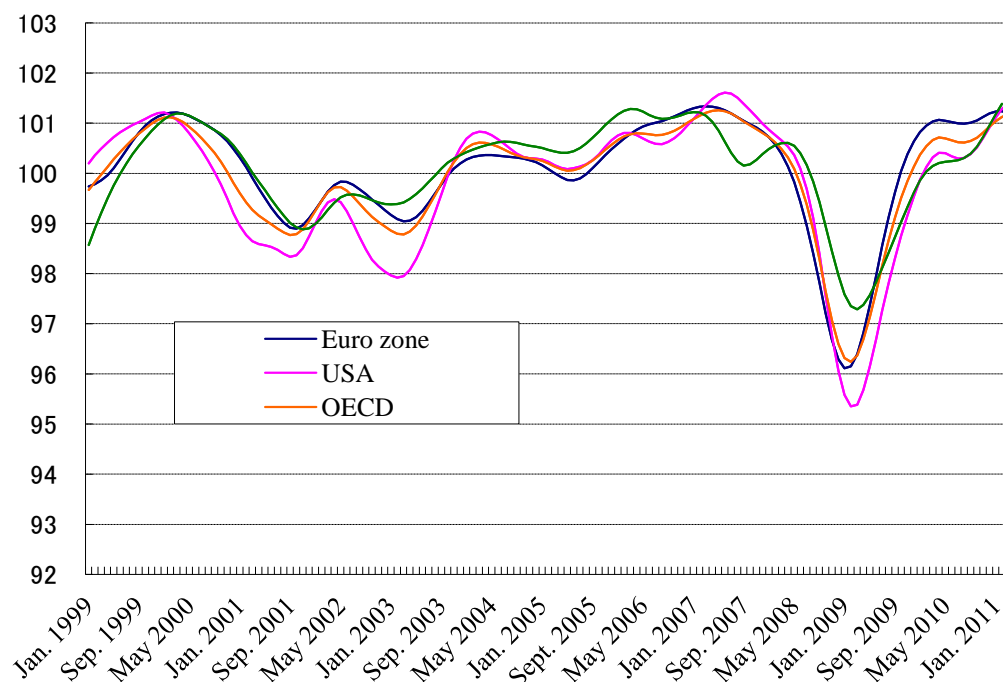
In 2010, economy in the advanced economies eventually recovered its pre-financial crisis levels. Real GDP in United States of America, EU and Korea recovered to exceed the level in the first quarter of 2008 before the financial crisis supported by growth in consumer spending backed by high stock prices as well as recovery in capital investment. The GDP in Japan and U.K. recovered to the levels of 98.7% of their peak time (Figure 1-1-1-5). OECD's leading economic indicator, centering on United States of America, was improved before the end of 2010 (Figure 1-1-1-6). Thus, the advanced economies were maintaining or strengthening their recovery paces toward the end of 2010. Still, they had various problems.

Figure 1-1-1-5 Comparison of recovery to the level existed before the monetary crisis in the major advanced economies and emerging



Notes: In case the real GDP at the time of the first quarter of 2008 is the level existed before the monetary crisis, the recovery rates of real GDP of countries at the time of the fourth quarter of 2010 (the first quarter of 2011 for Korea and USA) are shown.
Sources: Ministry of Internal Affairs and Communications, the United States Department of Commerce, Korea Central Bank, Africa Statistics Agency, IMF, Brazil Geographic and Statistics Board, Russia Federal National Statistics Bureau, India Central Statistics Bureau, South Africa Statistics Agency and Turkey Statistics Bureau

Figure 1-1-1-6 OECD economy leading indicator in the advanced economies

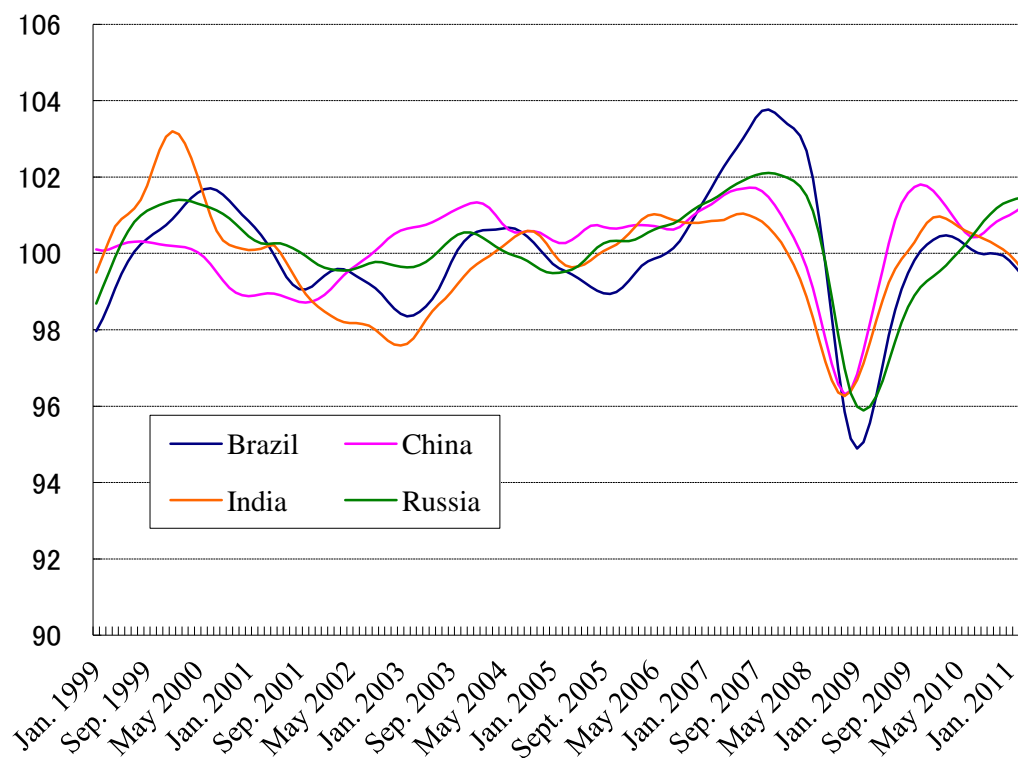


Notes: Long-term moving average = 100

Sources: OECD "Composite Leading Indicators (MEI)"

Meanwhile, most of the emerging economies such as China, India and Brazil continued their economic growth and recovered to a level over the first quarter of 2008 before the financial crisis (Figure 1-1-1-5). However, due to the tight monetary policy implemented in the second half 2010 to control overheating of the economy and inflation, some of the emerging economies including China and India showed decrease in the leading economic indicators (Figure 1-1-1-7).

Figure 1-1-1-7 OECD economy leading indicator in the emerging economies



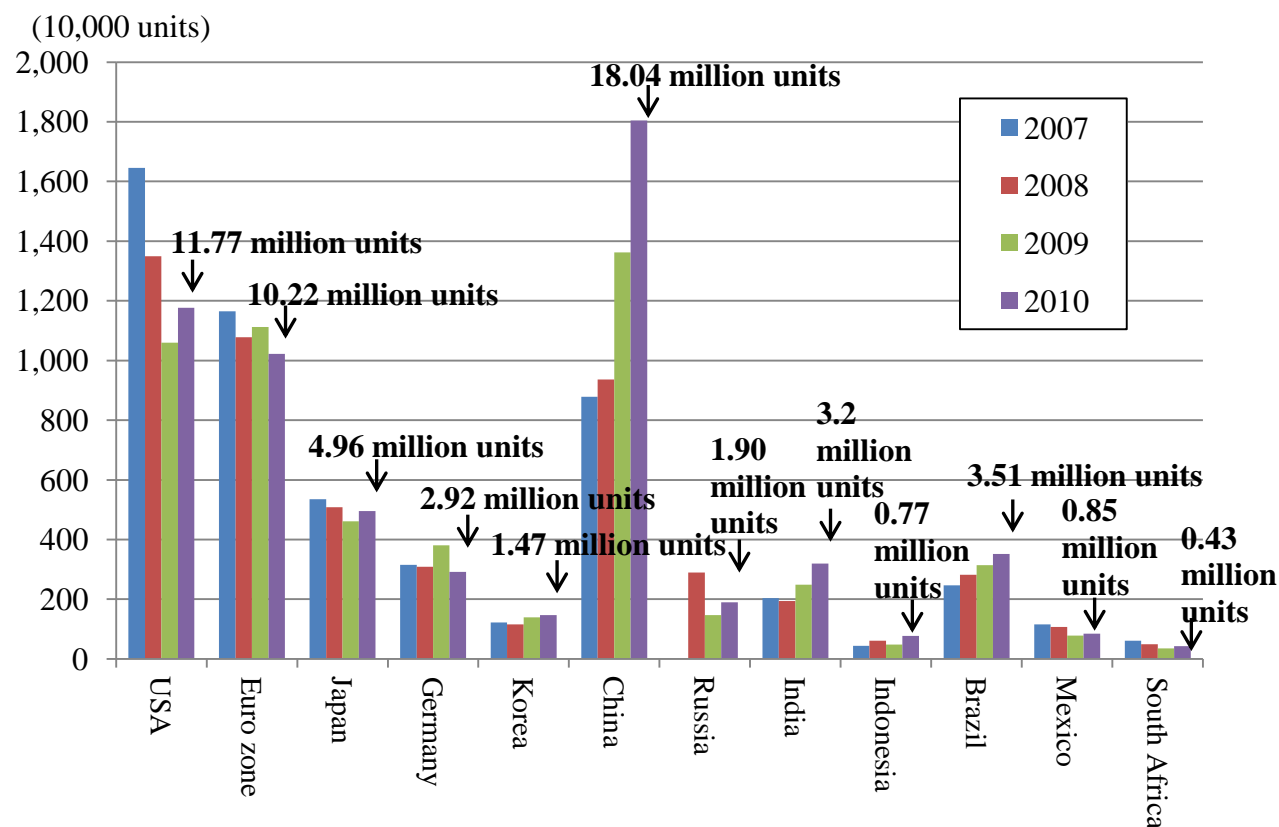
Notes: Long-term moving average = 100

Sources: OECD "Composite Leading Indicators (MEI)"

The auto and truck sales in United States of America, where economy is recovering, expanded from 10,600,000 in 2009 to 11,770,000 in 2010, but in the Euro zone, the sales were reduced from 11,120,000 in 2009 to 10,220,000 in 2010 reflecting weak recovery of the economy. In Japan, 4,960,000 automobiles and trucks were sold in 2010. It was a 7.5% increase over that of the previous year, but for two consecutive years, it could not reach 5,000,000 (Figure 1-1-1-8). Meanwhile, the auto and truck sales were expanding in the emerging economies, continuing their higher growth rate. Especially in China, the number of autos and trucks sold were 13,620,000 in 2009 and 18,040,000 in 2010, a significant increase of 32.5%. In Brazil, the sales reached the record high of 3,510,000 through the year of 2010, an 11.9% increase over that of the previous year. Moreover, the auto and truck sales in India and Russia significantly increased due to the strong consumer confidence of their citizens. In India, the sales reached the record high of 3,200,000 in 2010, a 28.7% increase over that of the previous year, and in Russia, the sales were 1,900,000 in 2010, a 29.6% increase over that of the

previous year.

Figure 1-1-1-8 Transition of number of automobiles sold in the advanced and emerging economies



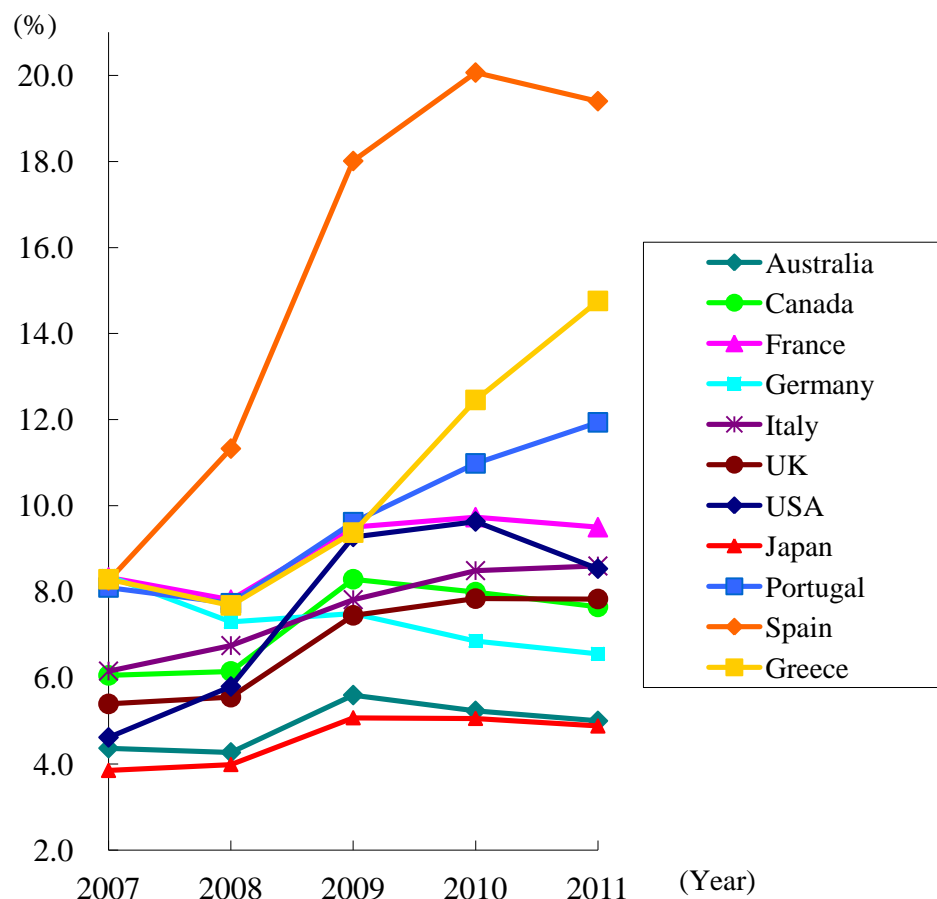
Notes: Russia's data are in 2008 and later

Sources: The United States Department of Commerce, European Automobile Industry Association, European Business Association, Mexico National Statistics and Geographic Information Bureau and Automobile Industry Association of each country

Examining the household sector, it was discovered that the recovery conditions in the employment market largely differed in each country and region. The unemployment rates in major advanced economies remained high through 2010 (Figure 1-1-1-9). The unemployment rate in United States of America was lowered due to the improved business performances at the end of 2010. But the pace of job recovery was slow, and the unemployment rate remained high at 9%. Within Euro zone, the unemployment rate differed by countries and regions. In Germany, the unemployment rate improved to the historic low of 6.9% in 2010 due its continuous business recovery. Meanwhile, the recovery of unemployment rates in France (9.7%) and Italy (8.5%) were slow. And high unemployment rates existed in Greece (14.8%), Spain (19.4%) and Portugal (11.9%) mainly due to the financial crisis in the Euro zone. Examining the emerging economies, it was found that the unemployment rates in China (4.1%) and Korea (3.7) were low, supported by the strong economic recovery there. Also, in Brazil (6.7%), Indonesia (7.1%) and other emerging economies, the unemployment rates in 2010 had a tendency toward improvement (Figure 1-1-1-10). IMF estimate that the unemployment rates in the

advanced economies will show signs of improvement in 2011 compared to those in 2010. However, the unemployment rates in Portugal and Greece are expected to be worsening in 2011 due to their financial problems.

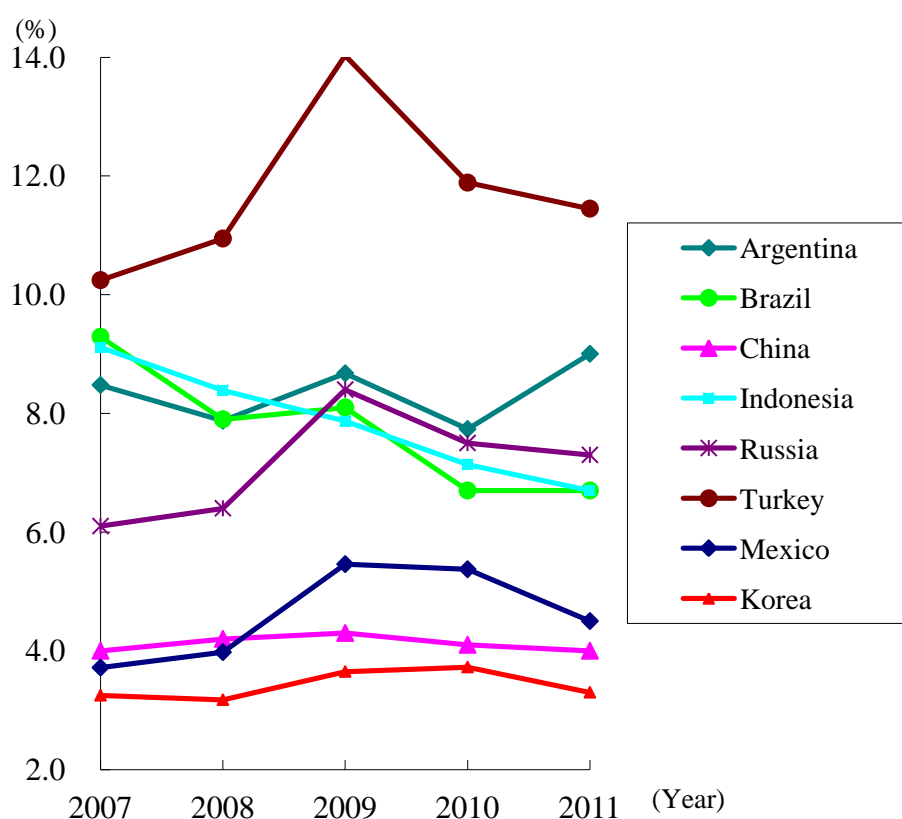
Figure 1-1-1-9 Transition of unemployment rates in the advanced economies



Notes: Data after 2010 are predicted by IMF for France, Italy, United Kingdom and Brazil and data after 2011 are predicted for the other

Sources: IMF "WEO April 2011"

Figure 1-1-1-10 Transition of unemployment rates in the emerging economies

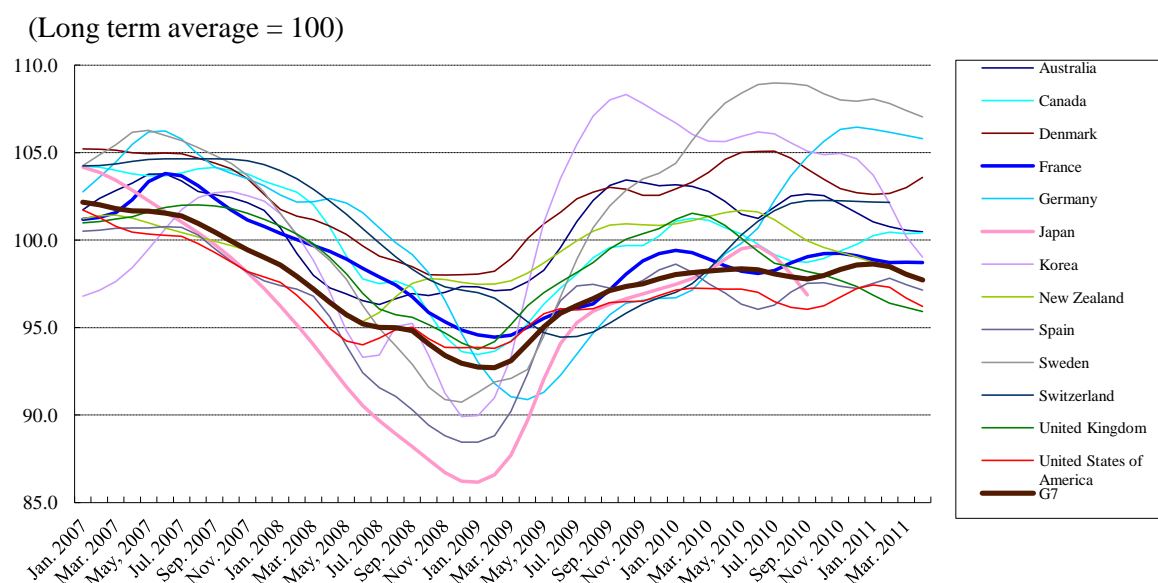


Notes: Data after 2010 are predicted by IMF for France, Italy, United Kingdom and Brazil and data after 2011 are predicted for the other countries.

Sources: IMF “WEO April 2011”

The consumer confidence index, as a whole, is presently improving in G7 countries, but still remaining at a level lower than 100, the long-term average, in difficult circumstances concerning severe employment environment (Figure 1-1-1-11).

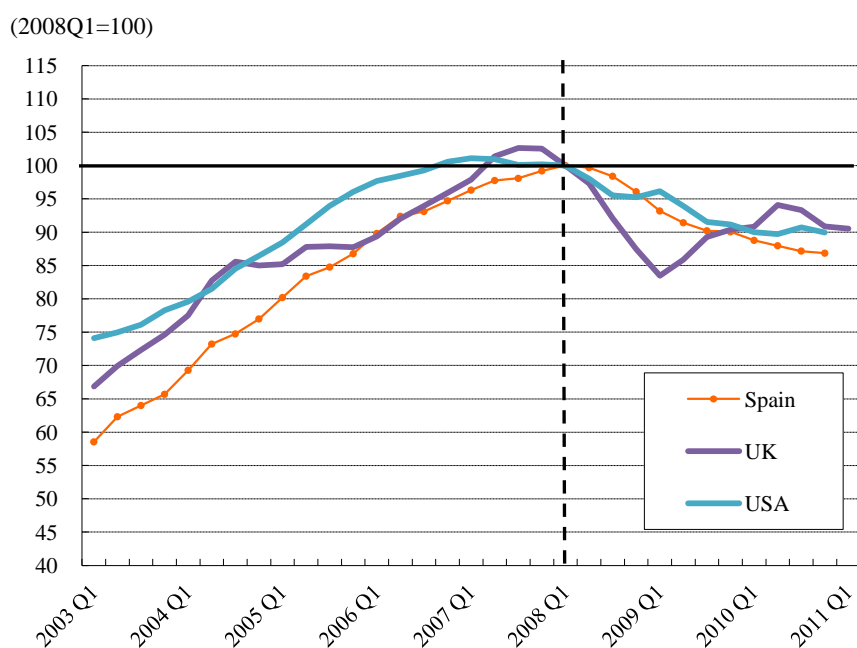
Figure 1-1-1-11 Transition of consumer confidence index in the advanced economies



Sources: OECD Stat

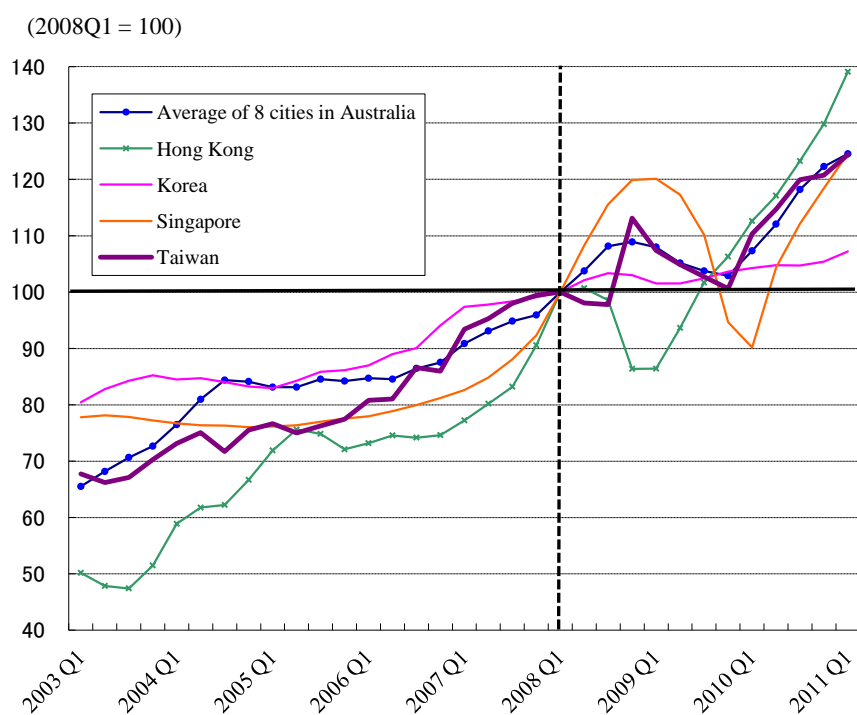
The house price situations differed by countries/ regions. The house prices in countries such as United States of America, UK and Spain, which suffered most from the financial crisis triggered by the bursting bubble of the real estate markets, are still hovering at a level lower than the peak existing before the world economic crisis due to their severe employment/ lower income environment. Asset impairment caused by destabilizing housing market prices is a factor to lengthen the balance sheet adjustment in the household sector (Figure 1-1-1-12). Meanwhile, real estate prices are soaring in resource-rich countries like Australia as well as emerging economies and regions such as China, Hong Kong and Singapore due to the increase in population and shortage in housing, booming economy and inflow of overseas funds. Policy makers are being cautious about the overheating housing markets (Figure 1-1-1-13 and Figure 1-1-1-14).

Figure 1-1-1-12 Transition of housing prices in the major advanced economies (quarterly)



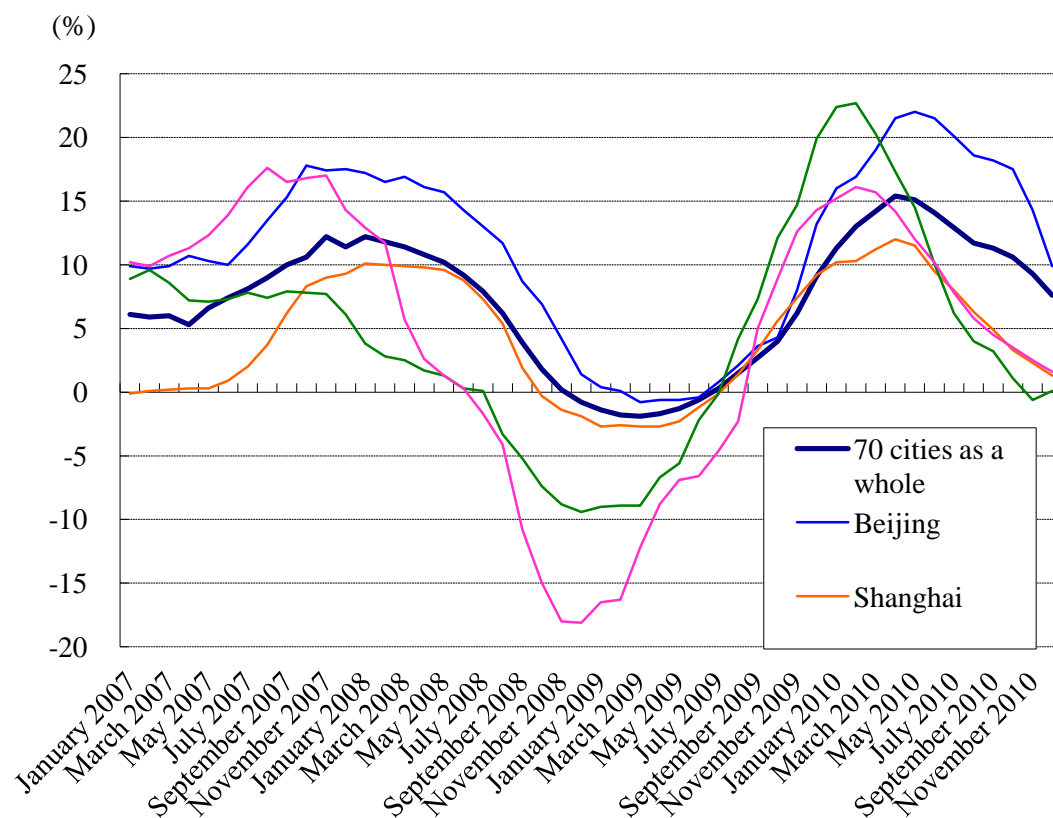
Sources: CEIC Data Base

Figure 1-1-1-13 Transition of housing prices in the emerging economies/regions and resource-rich countries (quarterly)



Sources: CEIC Data Base

Figure 1-1-1-14 Transition of housing prices in China



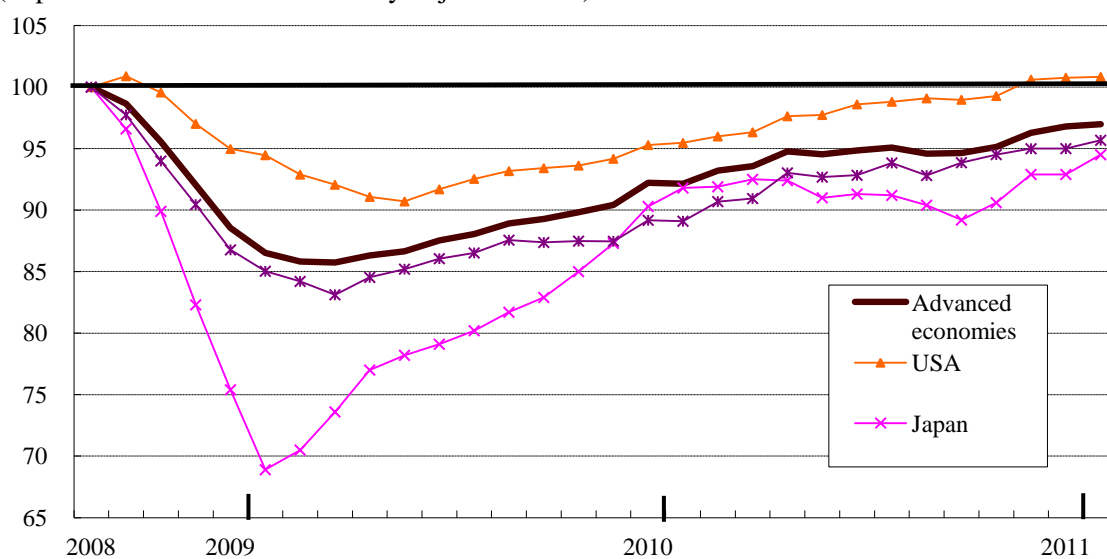
Sources: CEIC Data Base

In China, the price regulating measure was tightened to control the rise in real estate prices at the beginning of 2010. As a result, the real estate market recovered its composure and rises in real estate prices in major 70 cities slightly slowed down after the end of 2010 as shown in Figure 1-1-1-14. However, as prices were still increasing over that of the previous month, the government of China might still continue to maintain the price regulating measures.

Observing transition of the industrial production index on business sectors, it displays, as a whole, a tendency toward the recovery. But in the advanced economies, recovery has been delayed. At the end of 2010, the United States of America eventually recovered to the level existing before the world economic crisis, but Japan and Euro zone countries did not yet recover to - that level even in the period leading to the beginning of 2011 (Figure 1-1-1-15). Meanwhile, the emerging economies/regions in Asia including China recovered to the said level during the period starting from the spring to the middle of 2009. And the production activities expanded well over the said level in 2010. In other countries in Central and South America and Central and East Europe recovered to the said level during the spring and autumn of 2010 respectively (Figure 1-1-1-16).

Figure 1-1-1-15 Transition of industrial production index in the advanced economies

(September 2008 = 100 seasonally-adjusted index)

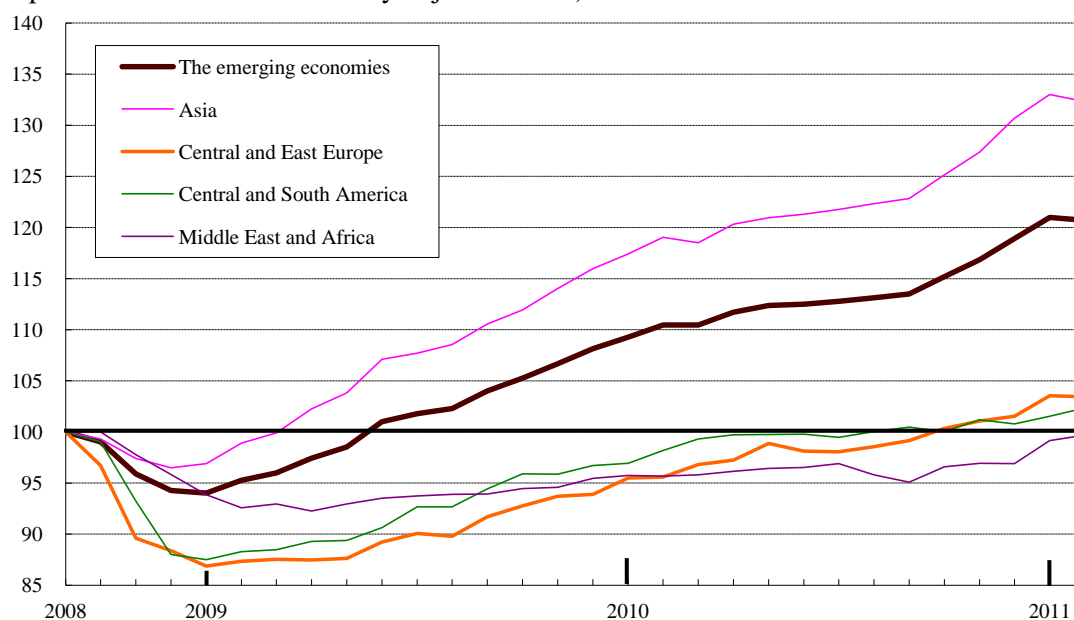


Notes: The advanced economies are the member countries of OECD excluding Turkey, Mexico, Korea and Central and East European countries.

Sources: CPB “Netherland Bureau for Economic Policy and Analysis”

Figure 1-1-1-16 Transition of industrial production index in the emerging economies

(September 2008 = 100 seasonally-adjusted index)

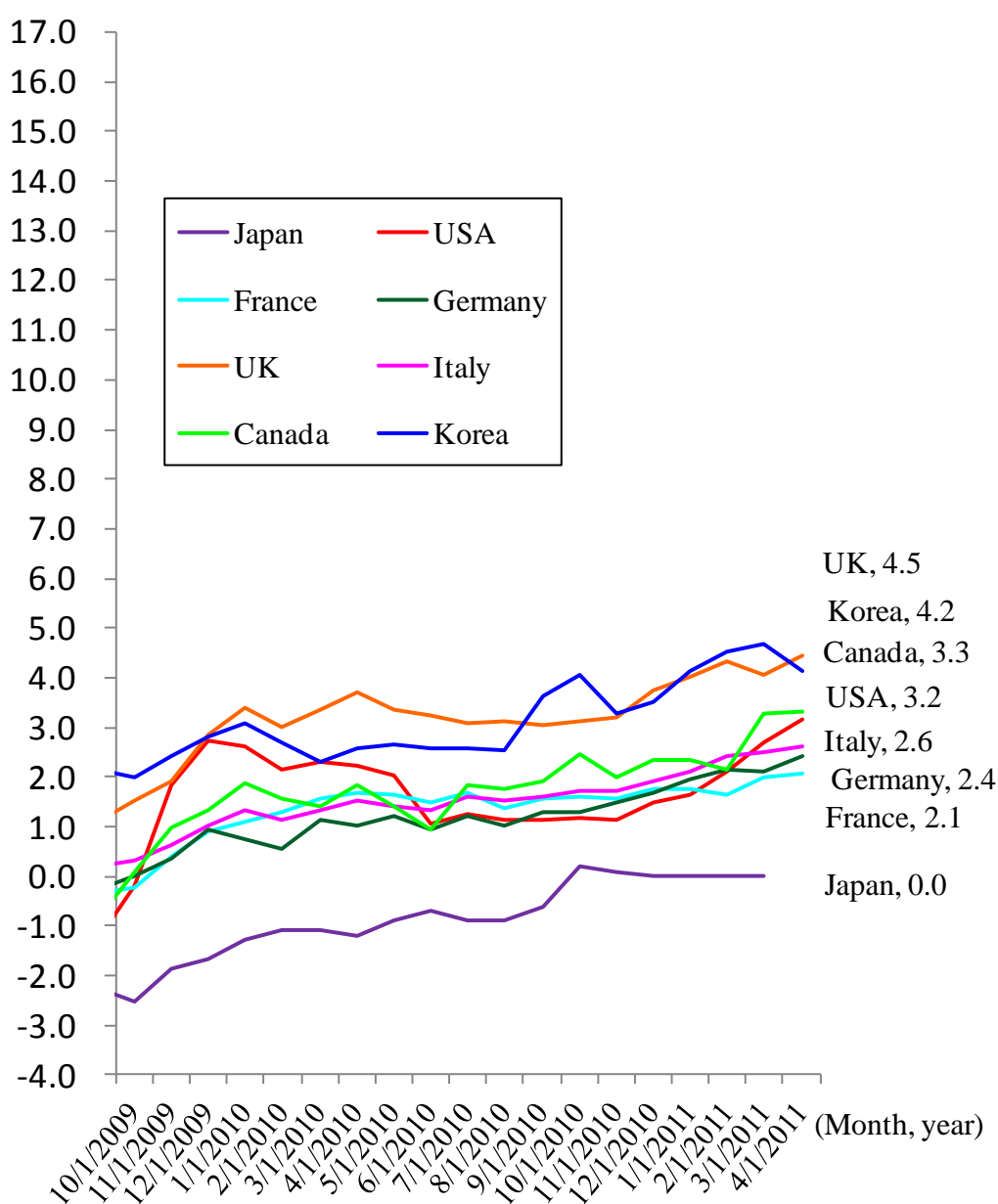


Sources: CPB “Netherland Bureau for Economic Policy and Analysis”

Examining price trends, many advanced economies continued balance sheet adjustment in 2010, which is being affected by such factors as the collapsing real estate prices. With weaker domestic economic environment represented by lower levels of the employment and income, the price increase rate remained low (Figure 1-1-1-17) with a tendency of deflation or disinflation ever present. Meanwhile, in the emerging economies, mainly in China and Brazil, the economy was overheated with vast inflow of overseas funds; and consequently, the consumer price index was raised and the inflation concerns increased (Figure 1-1-1-18). Since summer of 2010, the consumer price index increase rates have been accelerated in many of the emerging economies, and also, the inflationary forces became stronger in some of the advanced economies.

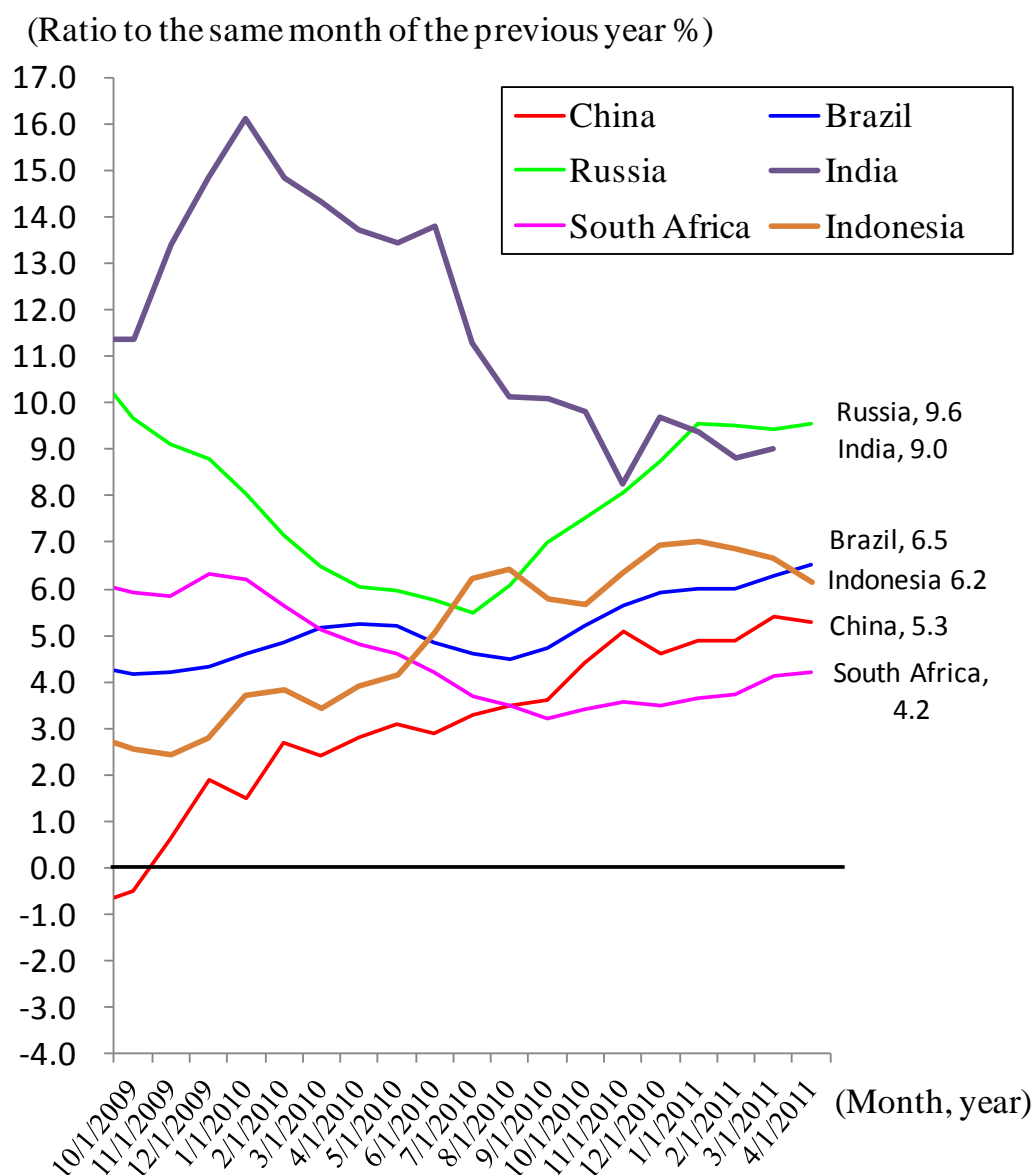
Figure 1-1-1-17 Consumer price index in the advanced economies

(Ratio to the same month of the previous year %)



Sources: DATASTREAM

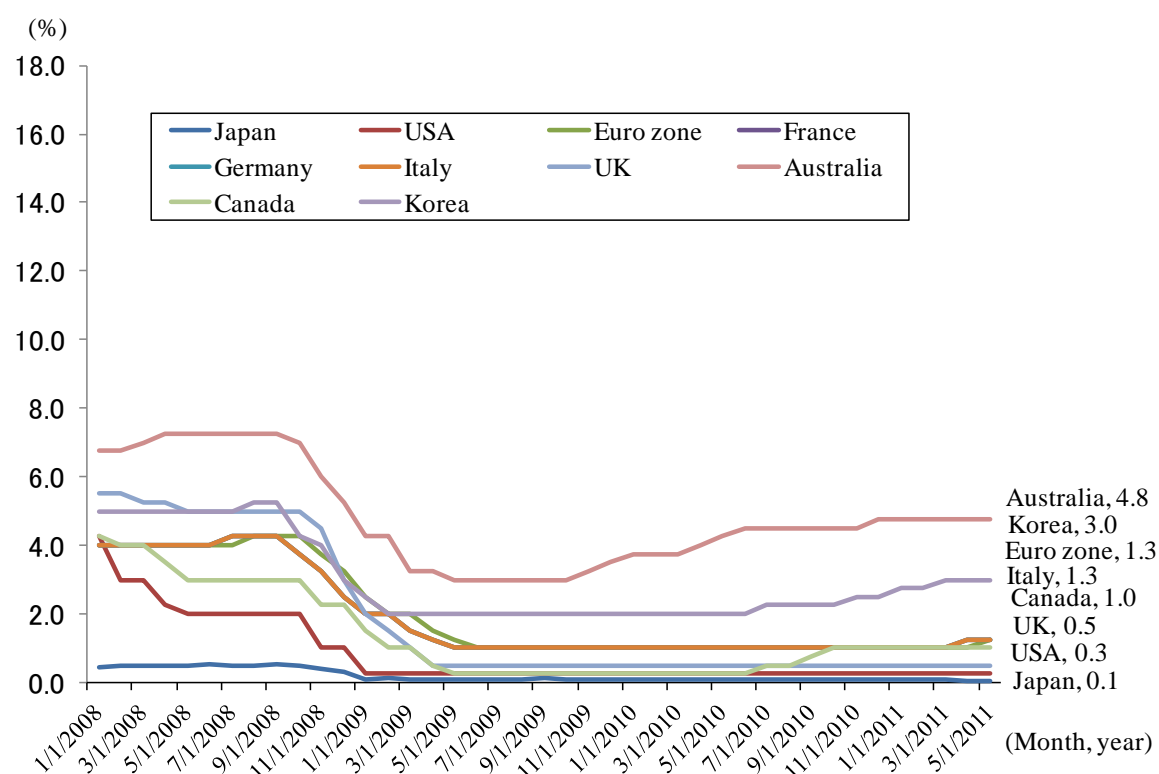
Figure 1-1-1-18 Consumer price index in the emerging economies



Sources: DATASTREAM

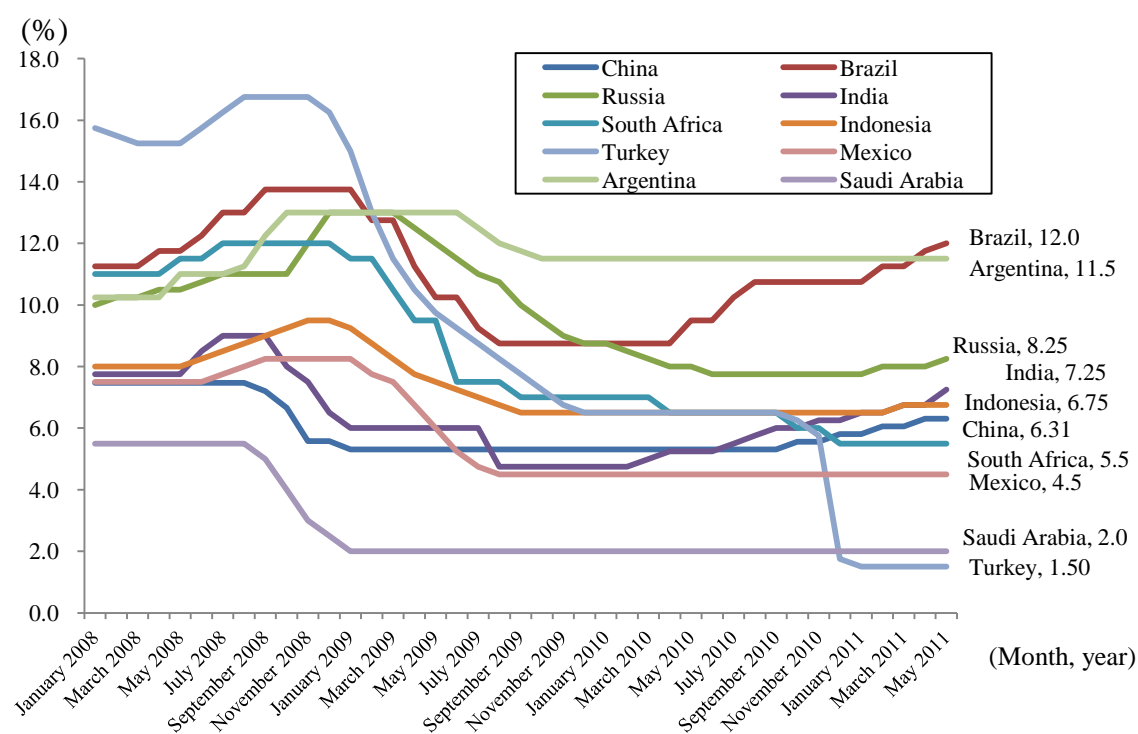
Examining monetary policies, it was found that since the Lehman shock in September 2008, the central bank of each country reduced interest rates (Figure 1-1-1-19 and 1-1-1-20), and offset the economy through monetary easing such as purchase of assets. However, being affected by recent rises in prices of food and resources, appropriate policy initiatives were undertaken to tighten the monetary flow mainly in emerging economies where remarkable economic recovery had been made (Figure 1-1-1-21 and Table 1-1-1-22).

Figure 1-1-1-19 Policy interest rates in the advanced economies



Sources: DATASTREAM

Figure 1-1-1-20 Policy interest rates in the emerging economies





Sources: DATASTREAM

As shown in Figures 1-1-1-21 and Table 1-1-1-22, the central banks of advanced economies such as Japan, United States of America, Europe and UK, continued to implement untraditional monetary policies like quantitative easing, asset purchase and maintenance of low-interest policy. In this situation, at the beginning of 2011, the stance of being cautious on increased inflationary force became stronger in Europe. On April 7, European Central Bank (ECB) made a decision to raise the interest rate for the first time since the financial crisis. But unbalanced progress in economic growth was noted in countries in the Euro zone, and the countries in South Europe, which were shaken by financial crisis, lapsed into negative economic growth. ECB may continue to steer out of this difficult situation by controlling the inflation concerns caused by the rising crude oil prices. United States of America was still suffering from high unemployment rate and continued economic downturn in the real estate market. Due to this reason, the Federal Reserve Board (FRB) terminated its additional monetary easing policy³ at the end of June as initially planned, but any immediate effect on its hitherto tightened monetary policy is not expected⁴. In UK, while the inflation rate continued to exceed the target value set by the Bank of England (BOE), it hesitated to change its monetary tightening policy as there were concerns that it could make the economic recovery slower and weaker. In Japan, it was said that taking the serious impact of East Japan earthquake disaster on its domestic economy into consideration, the Bank of Japan, as the central bank of the country, should patiently continue to implement its current monetary easing policy.

³ This is also generally called Quantitative Easing 2 (QE2).

⁴ Ben S. Bernanke, chairman of Federal Reserve Board (FRB) clearly expressed his desire to continue to implement the monetary easing policy at a press conference on April 28, 2011. This was done after the Federal Open Market Committee (FOMC) meeting, showing that the funds providing program by purchasing \$600 billion medium and long-term U.S. government bonds continued from November 2010 would be terminated at the end of June as scheduled. However, maintenance of the extraordinarily low interest policy is expected to be continued for a long period; while the FRB balance sheet would be kept at its current level by reinvesting the MBS maturity redemption money into the long-term U.S. government bonds continuously after July.

Figure 1-1-1-21 Movement of policy interest rates and nontraditional monetary policies in countries/ regions

 Policy interest-rate raise
  Policy interest rate reduction
 ... Unchanged to the previous month
 ⊙ Nontraditional policy (quantitative easing, purchase of assets etc.)

	2009												2010												2011				
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
EU	↓	↓	↓	↓	↓	↓	⊙	⊙
China
Brazil	↓	...	↓	↓	...	↓	↓	↑	↑	↑	↑	↑
India	↓	...	↓	↑	↑	↑	↑	↑
Korea	↓	↓
Vietnam	...	↓	↓	↓
Philippine	↓	↓	↓
Thailand	↓	↓	...	↓
Malaysia	↓	↓
Indonesia	↓	↓	↓	↓	↓	↓	↓
Taiwan	↓	↓
Turkey	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Russia
Denmark	↓	...	↓	↓	↓	↓	↓	↓
Norway	↓	...	↓	↓	↓	↓	↓
Canada	↓	...	↓	↓
Australia	...	↓	...	↓
Peru	...	↓	↓	↓	↓	↓	↓
Hungary	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Romania	...	↓	↓	↓	↓
Iceland	↓	↓
Japan	⊙	⊙	⊙	⊙
USA	⊙	...	⊙
UK	↓	⊙	⊙	⊙	⊙

Sources: Data published by governments of the countries/ regions

Table 1-1-1-22 Outlines of nontraditional monetary policies in major advanced economies

<i>United Kingdom (Bank of England: BOE)</i>	
February 2009	Implementation of assets purchase facilities (purchase of corporate bond and commercial paper)
March	Expansion of subject of the said facilities to medium and long term national bond (upper limit of purchase frame is L150 billion)
August	Expansion of the purchase frame of the medium and long term national bond of the said facilities (the upper limit L175 billion)
November	Expansion of the purchase frame of the medium and long term national bond of the said facilities (the upper limit L200 billion)
<i>Europe (European Central Bank: ECB)</i>	
July 2009	Implementation of purchase of covered bond (maximum EUR60 billion)
May 2010	Decision was made to intervene to the aftermarkets for dysfunctional national bond and corporate bond.
<i>United States of America (Federal Reserve Bank: FRB)</i>	
January 2009	Purchase of agency bond and MBS (maximum US\$1,425 billion)
• March 2009	Purchase of national bond (maximum US\$300 billion) Loan to holders of asset backed security (ABS) (TALF)
August 2010	Reinvestment of refund of principal of MBS to medium and long term national bond
November	Purchase of medium and long term national bond (a size of US\$600 billion) (QE2)
<i>Japan Bank of Japan (BOJ)</i>	
January 2009	Implementation of operation to purchase commercial paper
February 2009	Implementation of operation to purchase corporate bond
December 2009	Introduction of funds supply operation of term funds (3 months) with 0.1% interest rate at the same level of policy interest rate as a new funds supply measure (a size of ¥10,000 billion)
March 2010	Expansion of size of the 3 months funds supply operation from ¥10,000 billion to ¥ 20,000 billion
August 2010	Introduction of funds supply operation of term funds (6 months) with 0.1% interest rate at the same level of policy interest rate and expansion of the size of funds from ¥20,000 billion to ¥30,000 billion
October 2010	Decision was made to implement "comprehensive monetary easing policy".
March 2011	Strengthening the monetary easing policy to cope with the earthquake disaster →expansion of assets purchase funds to ¥40,000 billion with additional ¥500 billion

Sources: Data published by governments of countries and various news reports

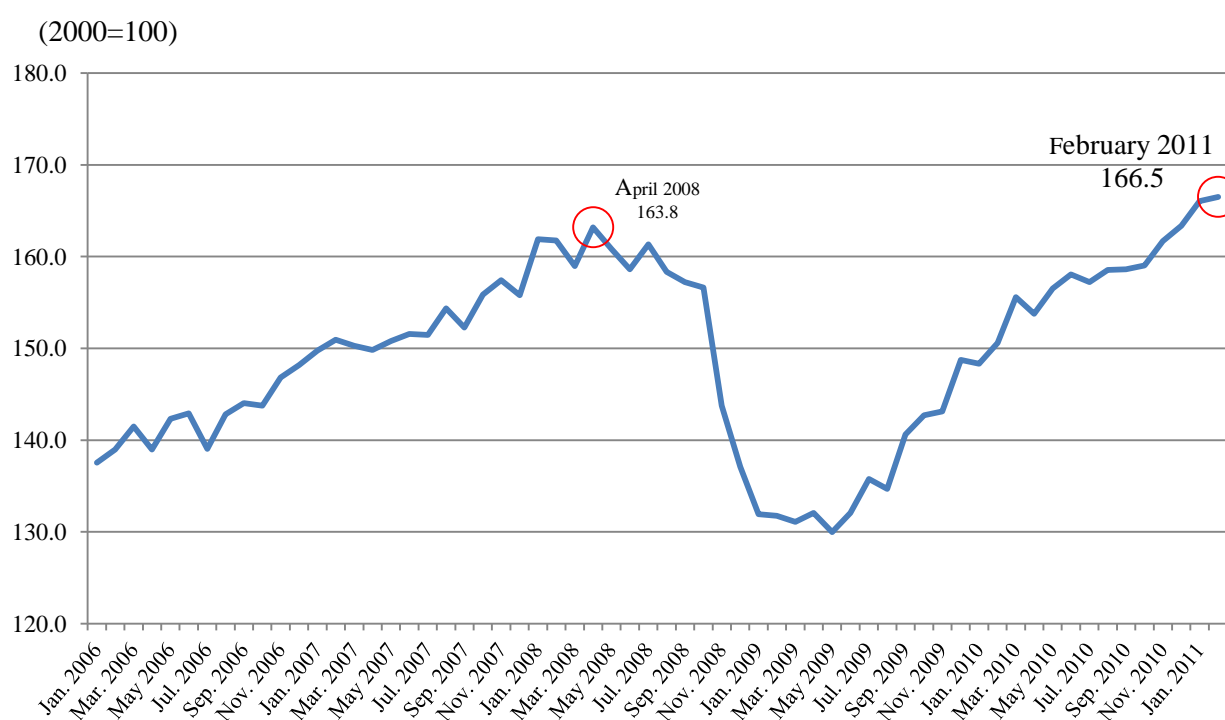
Contrarily, in resource-rich countries such as, Australia, Canada and Norway where economic recovery was solid, the interest rates were raised in early autumn of 2009 to deal with inflation concerns.

Additionally, strong economic recovery was achieved in many of the emerging economies, and some of them showed overheating economic tendency and inflation concerns surfaced since the last half of 2009. In this situation, upward pressure on prices heightened due to increase in prices of food and resources. Consequently, interest rates were increased in emerging economies mainly in Asia after the

middle of 2010.

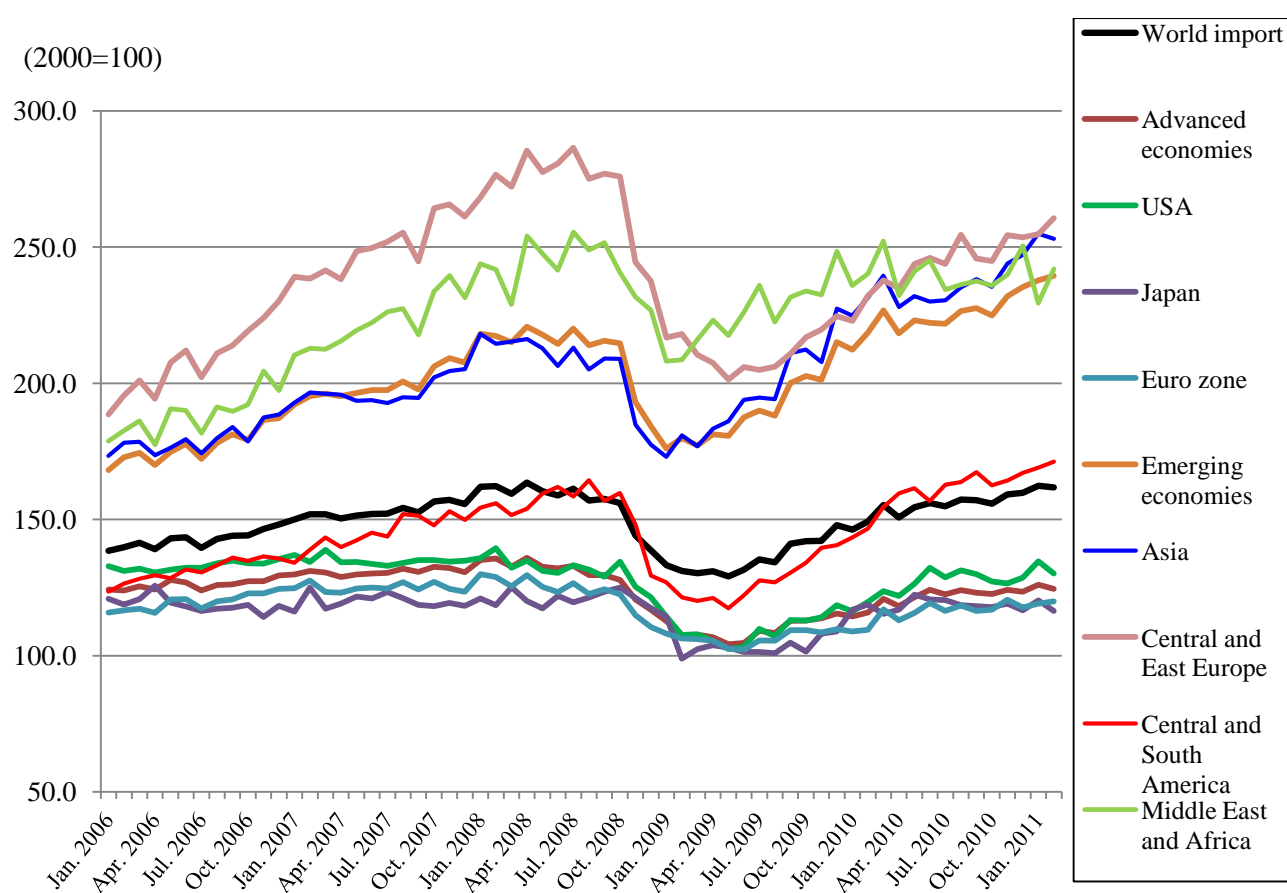
Examining trade trends on quantitative basis, it is revealed that by February 2011, the world trade recovered to the level slightly over the peak before the financial crisis struck in April 2008 (Figure 1-1-1-23). Growth rate through the year of 2010 was as high as 15.1% over the previous year. Comparing by countries/ regions, each country and region in Asia, as well as Central and South America achieved high growth rates of 20.7% and 25.9% over those of the previous year in terms of import, and 23.1% and 14.1% respectively in terms of export. Among the advanced economies, the United States of America achieved about the same growth rate in the world trade both in terms of export and import. Rates of both export and import in the Euro zone remained low (Figure 1-1-1-24 and 1-1-1-25).

Figure 1-1-1-23 Transition of the world trade volume



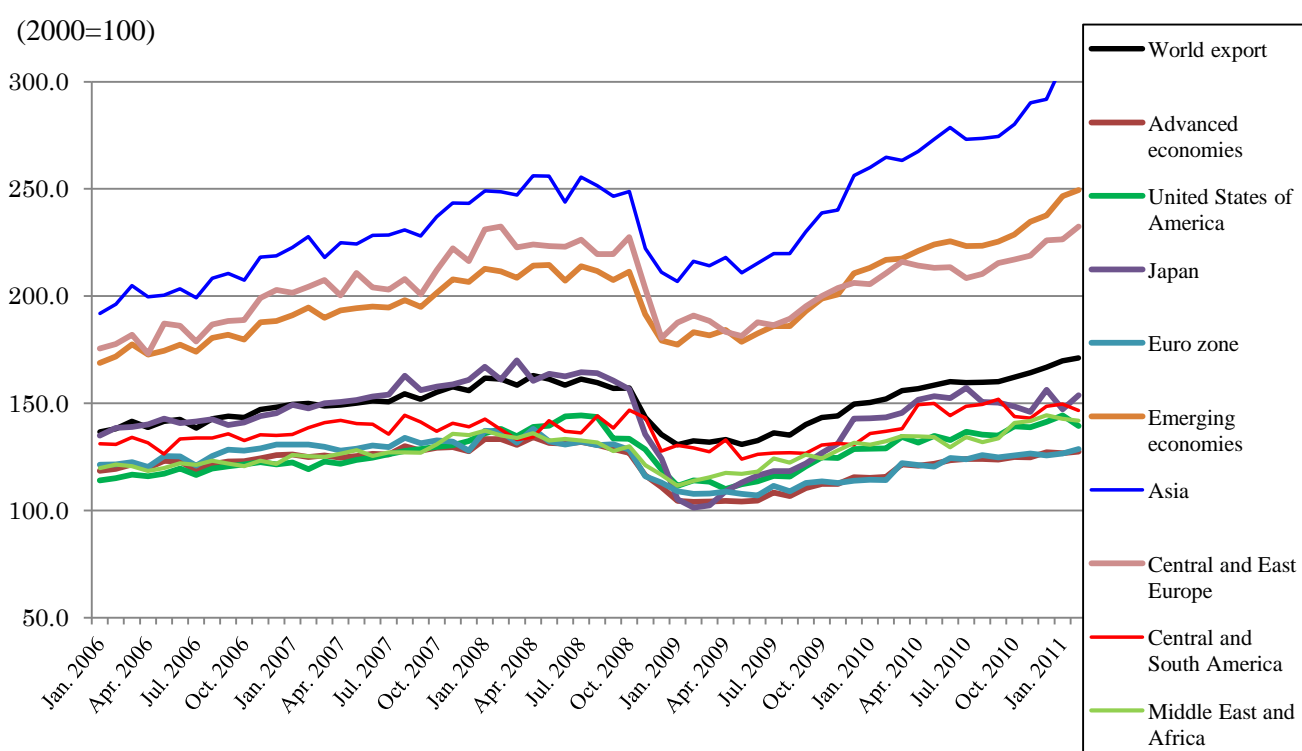
Sources: CPB "Netherland Bureau for Economic Policy and Analysis"

Figure 1-1-1-24 Transition of import volume by counties/ regions



Sources: CPB "Netherland Bureau for Economic Policy and Analysis"

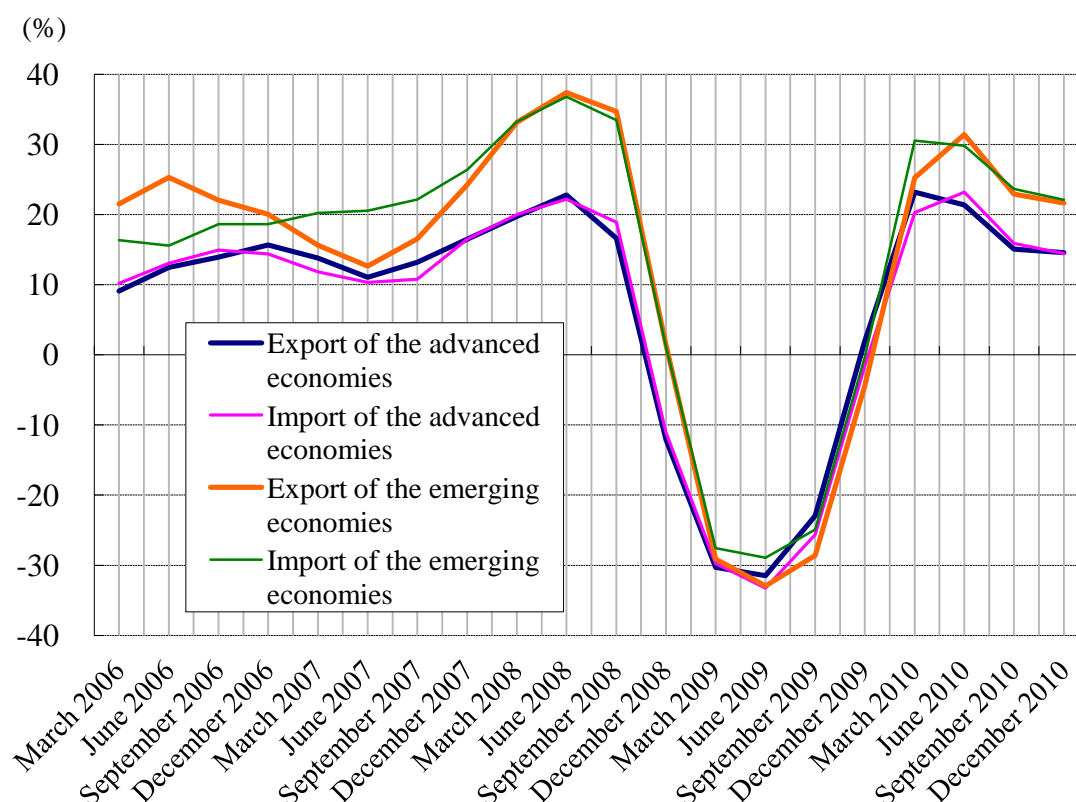
Figure 1-1-1-25 Transition of export volume by counties/ regions



Sources: CPB “Netherland Bureau for Economic Policy and Analysis”

Examining the trade trends on the basis of the amount of money earned, the advanced economies experienced a 30% decrease in the amount of money gained during the second quarter of 2009 from that of the previous year both in terms of export and import. However, shifting to growth afterward during the first half year of 2010, the advanced economies recorded a growth rate of 20% level both in their exports and imports. In the last half of 2010, the growth rates decreased to the level of 10% from the same period of the previous year. In terms of growth rates in exports and imports, the emerging economies achieved a high level of 20% increase during the last half of 2010 (Figure 1-1-1-26). Throughout the 2000s, the growth rates in the volume of trade achieved by the emerging economies exceeded those of the advanced economies both in arena of exports and imports, and the trade volume of the emerging economies increased from 22.9% of the total world trade (amount of export plus import) in the first quarter of 2000 to 37.5% in the last quarter of 2010 (Figure 1-1-1-27).

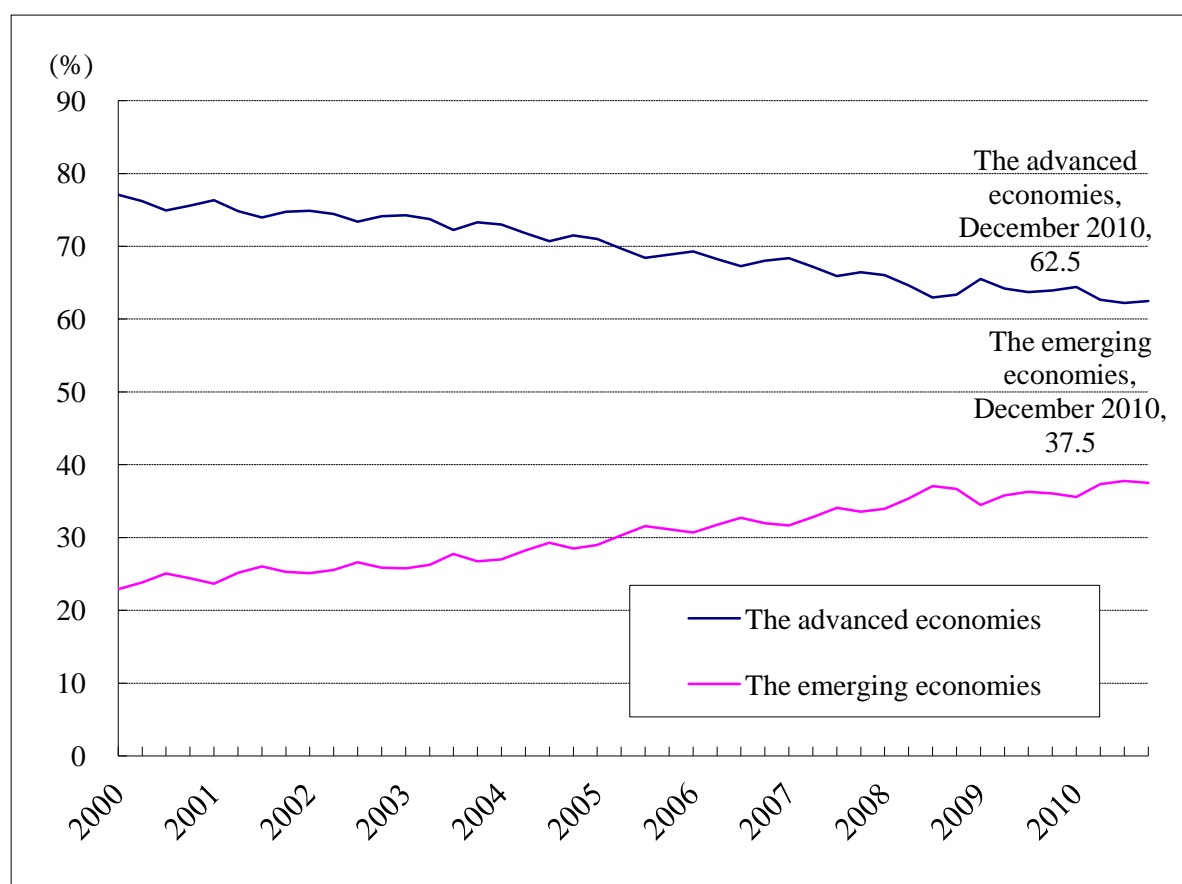
Figure 1-1-1-26 Transition of export and import amount of the advanced and emerging economies (ratio to the same period of the previous year)



Notes: The advanced and emerging economies are defined by IMF standard.

Sources: IMF “IFS”

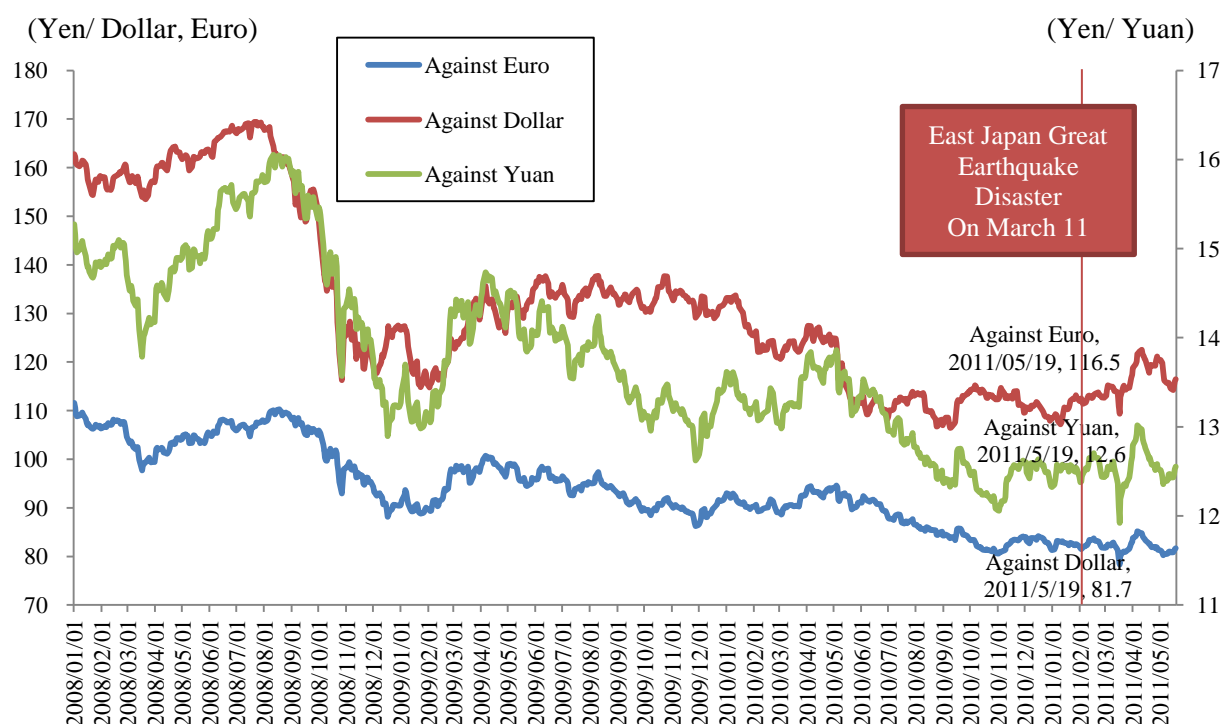
Figure 1-1-1-27 Share of the advanced and emerging economies account for the world trade



Sources: IMF “IFS”

Although it was necessary to note that exchange rates tended to fluctuate due to officially announced economic trend and monetary policy, the yen appreciated against all major currencies through the year of 2010 (Figure 1-1-1-28).

Figure 1-1-1-28 Transition of the exchange rate of Yen (against Dollar, Euro and Yuan)



Sources: Reuters 3000 Xtra

On the exchange rate of yen and dollar, appreciation of the value of yen against US dollar was expanding due to uncertainty about the United States future economic outlook, expected monetary easing by FRB and narrowing gap in the interest rates between Japan and United States of America. On September 15, 2010, after about 3 months and 15 years since May 1995, the level of appreciation of yen was renewed with a price tag of ¥82.92. Responding to this situation, the Government and Bank of Japan intervened in the yen-selling market first time after a period of 6 years from 2004. The appreciation of dollar against yen halted temporarily after the intervention, but the effect of the intervention did not last long and the exchange rate of yen and dollar continued to hover around ¥80 against the dollar afterward.

On the exchange rate of yen and euro, the yen became stronger against the euro starting from the end of 2009. It was due to financial risk in Europe especially in Greece. The appreciation of yen against the euro rapidly progressed to the level of ¥112 commencing from the last 10 days of April through May in 2010. Again, it was due to increase in debt concerns in Greece.

On the exchange rate of yen and Chinese Yuan, after it was announced by the People's Bank of China that it would make the exchange rate of Chinese Yuan, which was actually pegged to the US dollar, flexible in June 2010, the exchange rate of Chinese Yuan and US dollar gradually grew higher. With this, the exchange rate of the yen and Chinese Yuan also grew higher with the yen rising from ¥13 to ¥12 to a Chinese Yuan.

In 2011, after East Japan Great Earthquake Disaster hit Japan on March 11, the yen value suddenly rose to ¥76.25 against the dollar on March 17, the highest value recorded since ¥79.75 in April 1995. The yen value also rose against the euro and consequently, a higher yen situation against other

currencies occurred. For reasons against the background of the sudden rise in the value of yen, several factors like buying yen for avoiding the risk of large drop in share prices following the earthquake disaster, concerns over Middle East situation, and speculation on moving overseas assets into Japan by Japanese insurance companies to prepare for the payment of insurance for damages related to the earthquake disaster can be given.⁵ On March 18, responding to the sudden rise in the value of yen, the G7 countries took coordinated intervention steps to prevent the overheated appreciation Japanese yen. It was done for the first time in ten and a half years⁶. Afterward, the market became conscious of the coordinated intervention, and due to increase in the interest rate in Europe in April and gap of viewpoints regarding monetary policies between Japan and United States of America where economy was on a firmer footing, the exchange rate of yen grew lower.

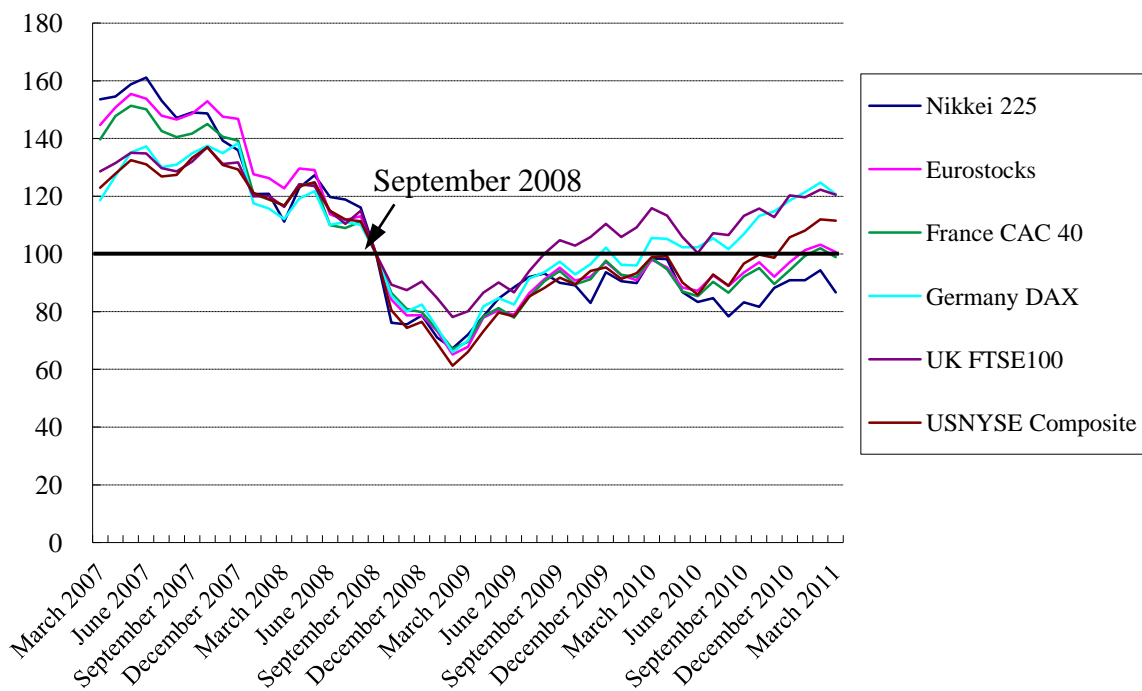
Examining trends of stock prices in the advanced economies, it was revealed that stock prices in United States of America, UK and Germany were recovered to the levels higher than those existing before the world economic crisis at the end of 2010. Stock prices in France and Japan were also recovered at the said levels at the beginning of 2011, and the markets appeared to become firmer with the expected economic recovery being supported by economic measures in the United States of America (Figure 1-1-1-29).

⁵ However, actually, there is no such fact that Japanese insurance companies have sold their overseas assets to prepare the payment of insurance claim relating the great earthquake disaster.

⁶ The previous coordinated intervention by G7 was implemented on September 22, 2000. Reason for the intervention was the sudden drop in the value of euro, which was caused by a monetary clause (decentralization of the percentage of investment in currencies outside the euro zone by investors belonging to the euro zone) set when the euro system was started in 1999.

Figure 1-1-1-29 Transition of share prices in the advanced economies

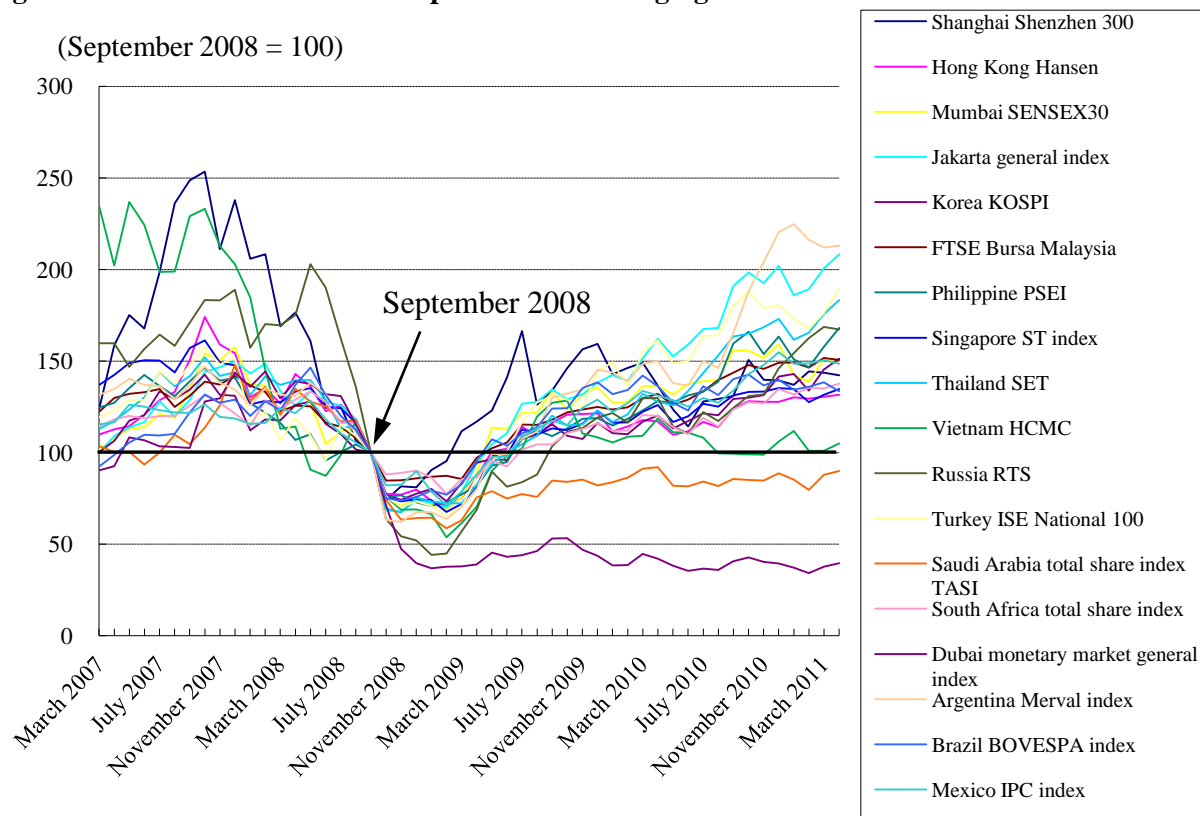
(September 2008 = 100)



Sources: CEIC Data Base

Recovery in stock prices was much faster in the emerging economies compared to the advanced economies. And by the middle of 2009, the countries other than Saudi Arabia and UAE, recovered their stock prices to levels before the world economic crisis. Some countries achieved stock prices amounting to 1.5 times higher than those in the said levels by the end of 2010. The reasons for the high stock prices can be attributed to the inflow of investment funds from the advanced economies for higher profits since slower economic recovery rates in the advanced economies was not conducting to making easy money (Figure 1-1-1-30).

Figure 1-1-1-30 Transition of share prices in the emerging economies



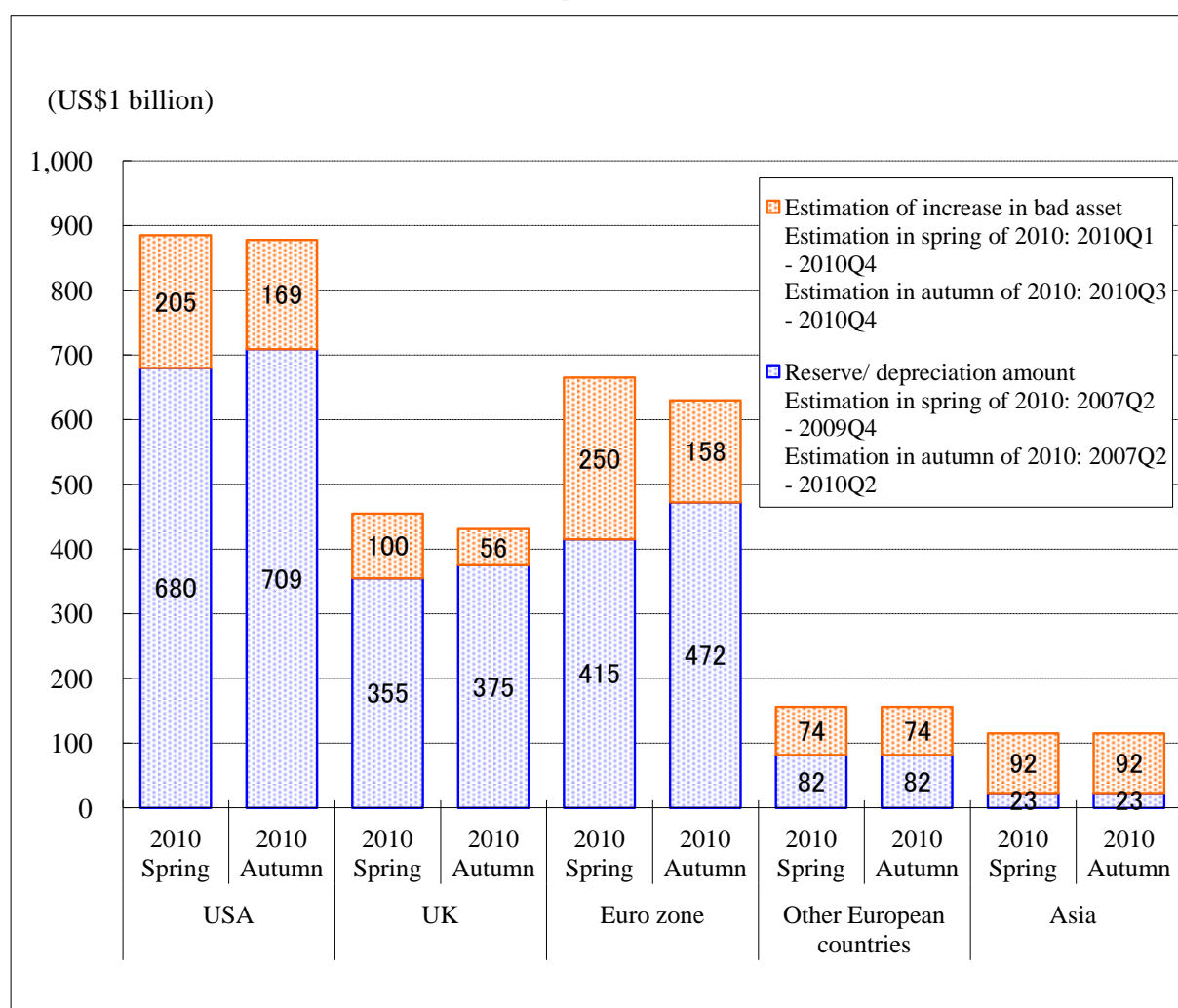
Sources: CEIC Data Base

Being supported by the world economic recovery from 2009 to 2010, the problems concerning the issue of nonperforming loans was improved. According to IMF, the amount of loss prediction recorded by the banking institutions worldwide from 2007 to 2010 was US\$2,800 billion as of autumn of 2009; and US\$2,300 billion as of spring of 2010, and it was reduced to US\$2,200 billion as of autumn of 2010⁷. Examining the estimations as of spring and autumn of 2010 by countries/ regions, the amounts of reserve allowance and charge-off were expanding and disposal of nonperforming loans was accelerated in United States of America, euro zone and UK (Figure 1-1-1-31). However, estimated amount of nonperforming assets were still large in size in the United States of America and euro zone, and adjustment of household balance sheets and low tone in the real estate market became a risk factor to the recovery of the banking sector⁸.

⁷ IMF, Global Financial Stability Report, October 2010.

⁸ However, IMF cautioned that these amounts of disposal and estimation contained uncertainty caused by data restriction by subject nations and difference in accounting rules.

Figure 1-1-1-31 Transition of the bad debt disposal in major countries



Sources: IMF “Global Financial Stability Report, October 2010”

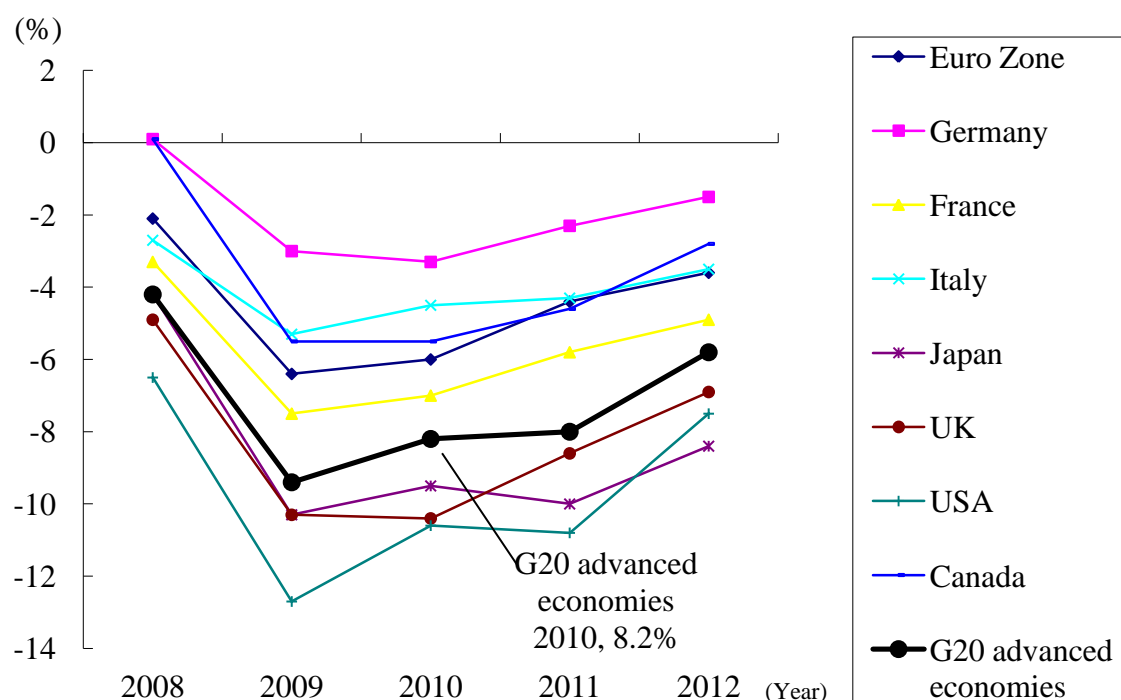
Examining financial situations, after the world economic crisis, each country supported the economy by taking various economic measures such as tax reduction (purchasing automobile, housing acquisition, etc.), initiating public works (transportation infrastructure, energy/environmental concerns, etc.) and making benefit payments (unemployment/ suspension of employment, etc.). In the spring of 2010 and afterward, the world economy was steadily recovering, but debt issues grew into serious problems in Europe and the necessity was recognized to shift the emphasis to the fiscal soundness as means of responding to the economic crisis in the countries where financial expansion policy had been implemented.

Among the advanced economies, the budget deficit in Japan, U.S.A., UK and others were noticeable⁹. According to IMF, the budget deficit in United States of America reached 10.6% in relation to GDP in 2010. This was due to implementation of additional economic-stimulus measures. In Europe, some of the countries having debt problems were increasingly inclined to adopting tight fiscal policy, and mainly in South Europe, budget deficits exceeded the 7% level in relation to GDP. The budget deficit

⁹ Data from IMF, Fiscal Monitor April 2011. The budget deficits are in “General government”, which include the local governments.

in Japan was 9.5% in relation to GDP. This was due to decrease in tax revenues caused by prolonged economic downturn and increased government spending in economic measures. The budget deficit in the advanced economies of G20 as a whole reached 8.2% in relation to GDP in 2010¹⁰ (Figure 1-1-1-32). Governments, and central banks of major advanced countries were terminating or reducing their economic-stimulus measures implemented after the crisis, as the private sector demands such as personal spending and business investment were rising. However, it is believed that repayment of the outstanding obligation accumulated by the economic-stimulus policy and normalization of vast budget deficit takes very long time. If the expanded budget deficit causes rise in the interest rate, the government's funding costs will increase. For example, medium and long term commitment on restoring fiscal health for future debt repayment is indispensable for such countries as Japan, Greece and Ireland, where government's vast outstanding obligations remain.

Figure 1-1-1-32 Transition of financial deficits in the advanced economies

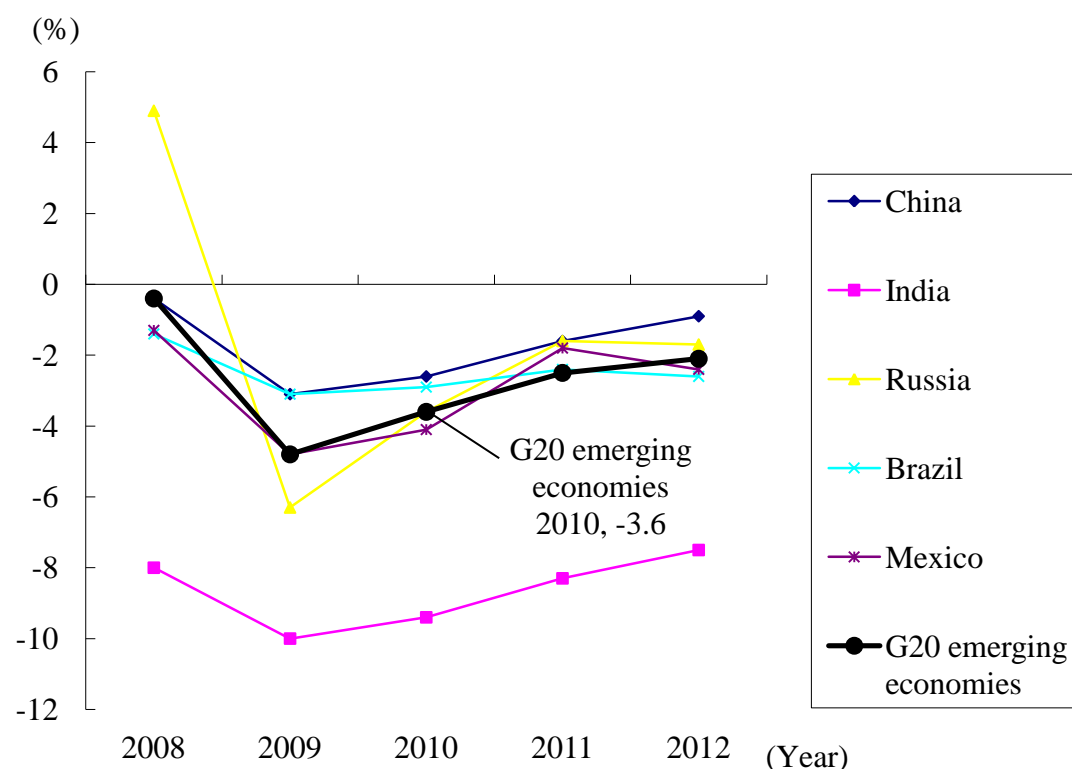


Sources: IMF "Fiscal Monitor, April 2011"

On the other hand, the budget deficits in relation to GDP were within 3% to 5% in 2010 in most of the emerging economies, and the said percentage for the emerging economies of G 20 as a whole was 3.6%. Measures to improve the fiscal revenue and expenditure during the past high-growth period, and increased revenue from recent rises in prices of resources for the resource-rich countries enable the emerging economies to heighten the financial reserve capacity and to control the worsening of balance within limited ranges (Figure 1-1-1-33).

¹⁰ IMF, Fiscal Monitor April 2010.

Figure 1-1-1-33 Transition of financial deficits in the emerging economies



Sources: IMF “Fiscal Monitor, April 2011”

(3) Monetary easing policies by advanced economies and the flow of international financial resources

Under background of concern about decelerating economy, most of the advanced economies continued to adopt a stance of easing their monetary policies during 2010. For example, in United States of America, FRB lowered the target rate of the Federal Fund (FF) to 0 to 0.25% in December 2008 and maintained it at the same level afterward, and the credit easing and quantitative easing were continued to be implemented¹¹. Also in Europe, European Central Bank (ECB) maintained its refinancing rate to 1.00% level, which was the lowest level since the euro was introduced in 2009¹².

In Japan, zero interest policy was retained and the quantitative easing was implemented¹³. (Figure

¹¹ An example of easing credit in mortgage-backed securities (MBS), i.e. purchase of assets with relatively high risk, and that of the quantitative easing is purchase of US\$600 billion medium and long term national bonds. Ben S. Bernanke, chairman of the Federal Reserve Board (FRB) clearly expressed his stance to continue the current monetary easing policy at a press conference on April 28, 2011, which was held after the Federal Open Market Committee (FOMC) meeting was arranged earlier.

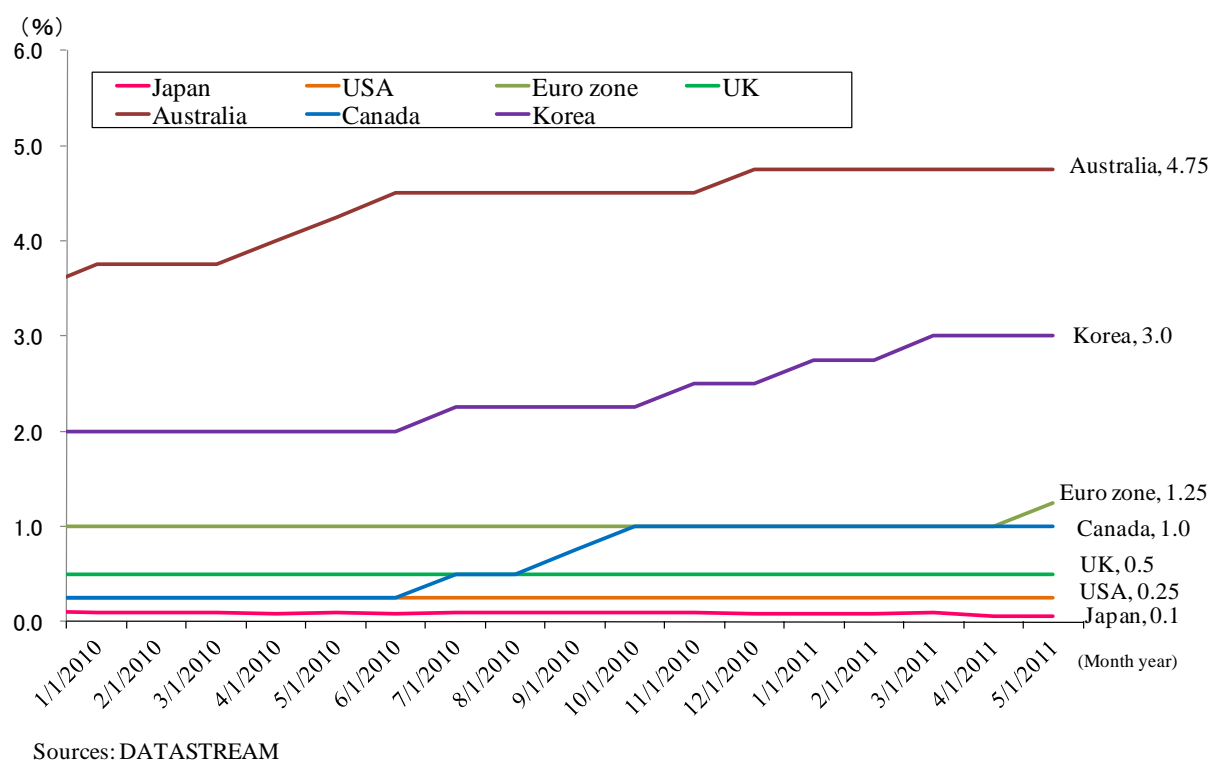
¹² European Central Bank started to raise the interest rate on April 7, 2011. This was done for the first time since the financial crisis as the vanguard of other advanced economies.

¹³ Bank of Japan announced “Comprehensive Monetary Easing Measure” on October 5, 2010. The details are as follows:

- 1) Reduction of policy interest rate (acceptance of close-to-zero interest rate policy);
 - Reduction of target rate of overnight call rate from “0.1% level” to “0 to 0.1% level”;
- 2) Definition of “time axis” of the ultralow interest rate policy;
 - Continuing the close-to-zero interest rate policy until situation is judged suitable for any change and

1-1-1-34)

Figure 1-1-1-34 Policy interest rates in the advanced economies (short term)



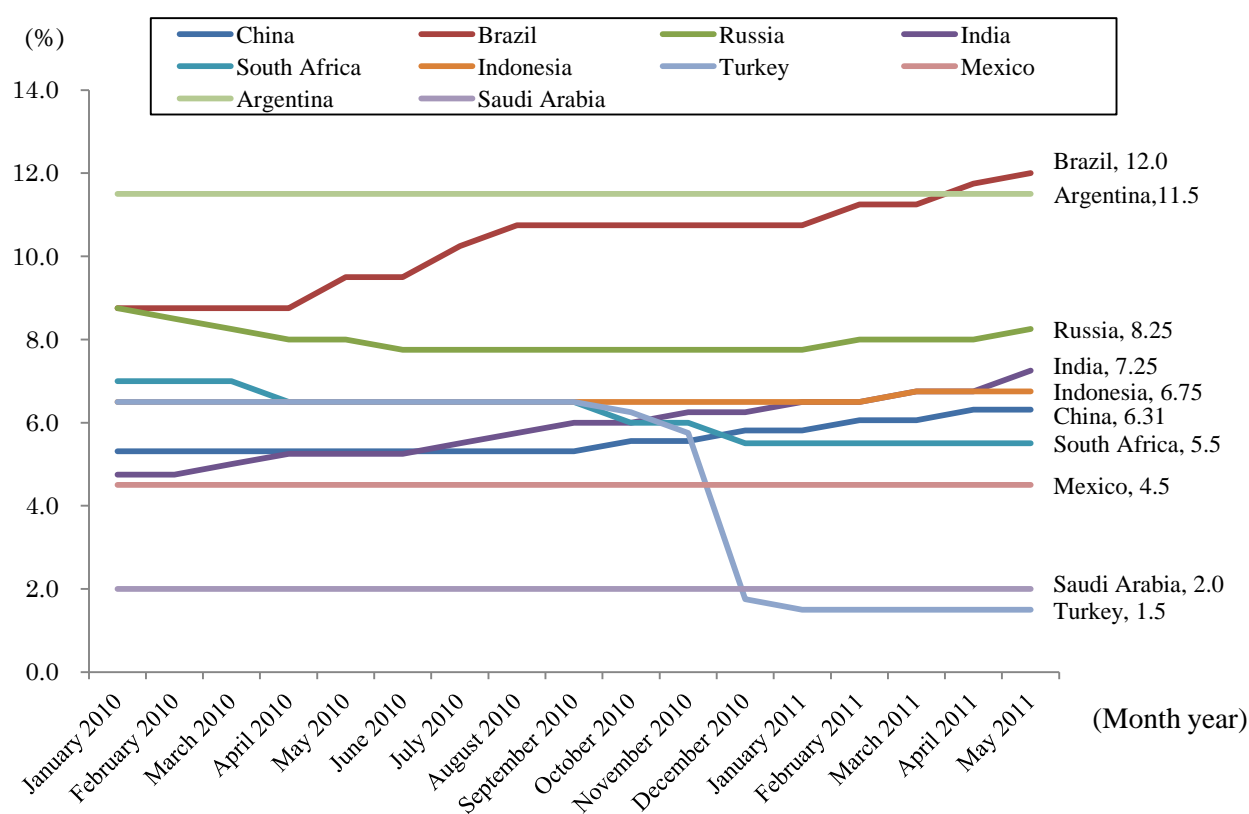
Contrarily, most of the emerging economies implemented the monetary tightening policies intermittently in the background of basic tone of rising inflation rates (Figure 1-1-1-35).

price stability can be confirmed;

3) Establishment of funds in the amount of ¥35 trillion in size to purchase such monetary assets as national bonds;

- New establishment of funds consisting of a funds supply frame (¥5 trillion level) by purchasing various monetary assets such as national bonds, corporate bonds, exchange-trade funds (ETF), real-estate investment trust (JREIT), and creating a funds supply frame (¥30 trillion level) by executing a common collateral funds supply operation with a fixed interest rate of 0.1%.

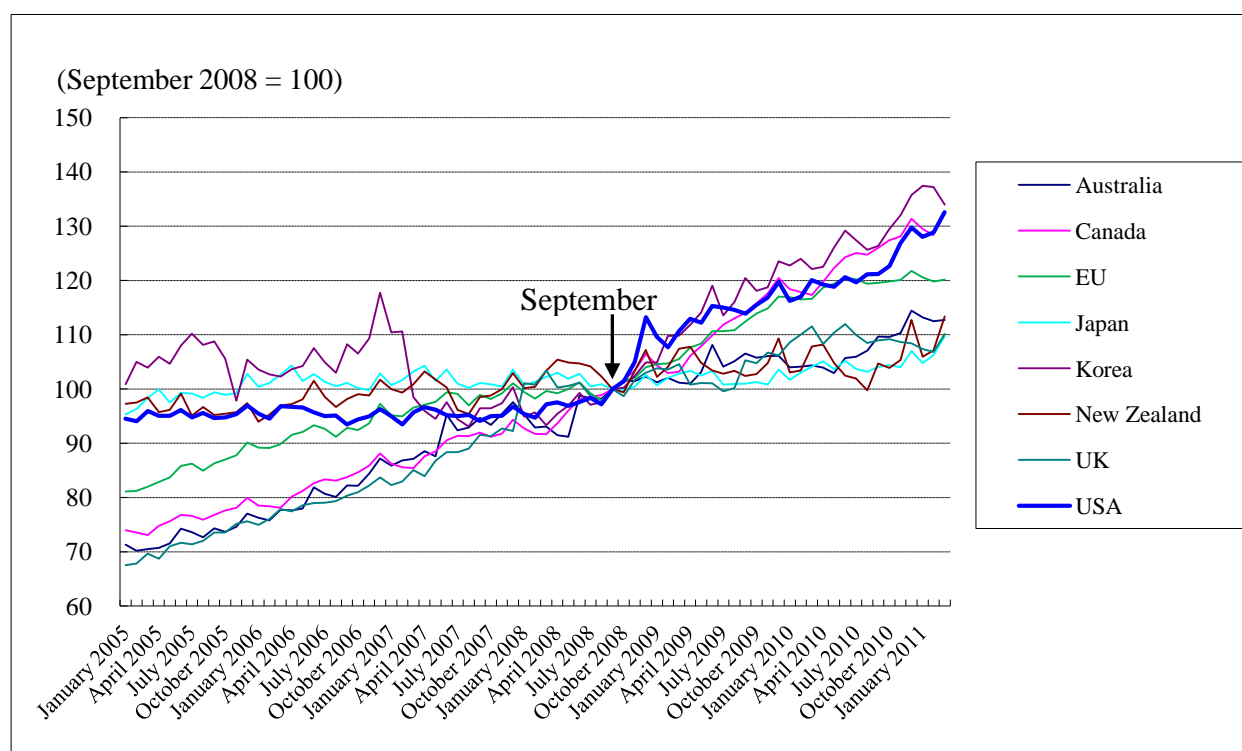
Figure 1-1-1-35 Policy interest rates in the emerging economies (short term)



Sources: DATASTREAM

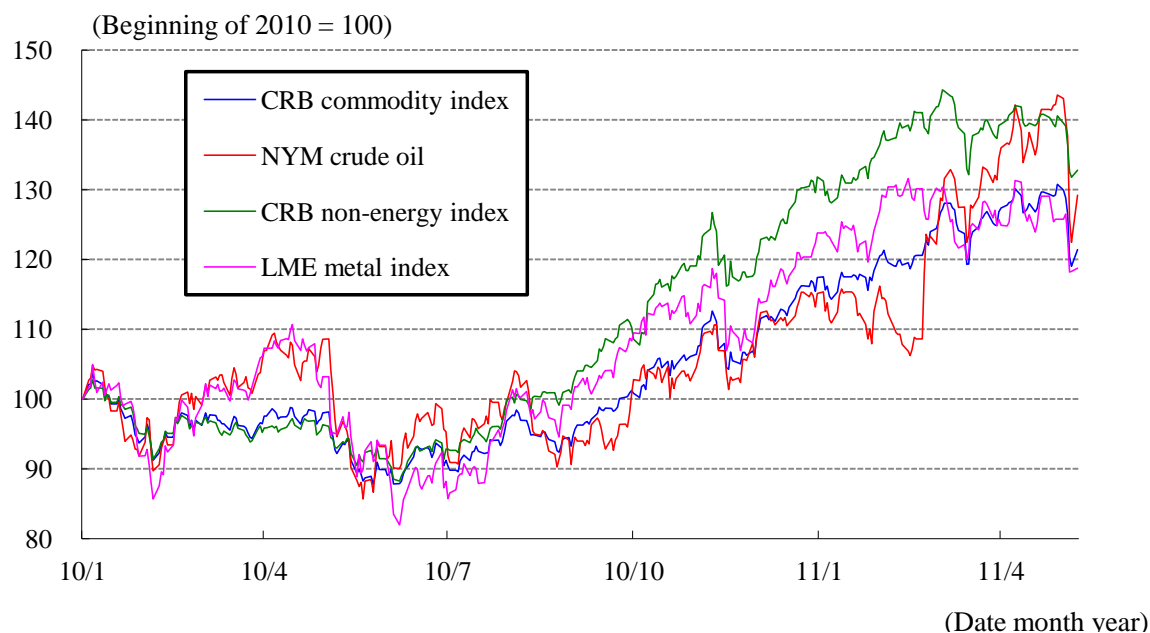
These monetary easing measures implemented by the advanced economies had their effects on the flow of funds worldwide. Specifically, the money supply in the advanced economies was increased by such monetary easing measures (Figure 1-1-1-36). These funds were becoming obvious as a financial structure that increased the flow of money from the monetary markets, concentrating on high risk assets with high-yield before having a significant effect on stimulating the economy in order to increase lending and borrowing practices and to activate business activities (Figure 1-1-1-37). Prices in international commodity markets have been rapidly rising since the middle of 2010. It was pointed out that price increments in agricultural markets were caused by not only adverse weather conditions worldwide such as droughts and famines and others, but also by funds inflow from monetary markets expecting tight supply and demand conditions caused by increasing demands mainly in the emerging economies.

Figure 1-1-1-36 Transition of money supply (M1) in major advanced economies



Sources: CEIC Database

Figure 1-1-1-37 Transition of market conditions of international commodities



Notes:

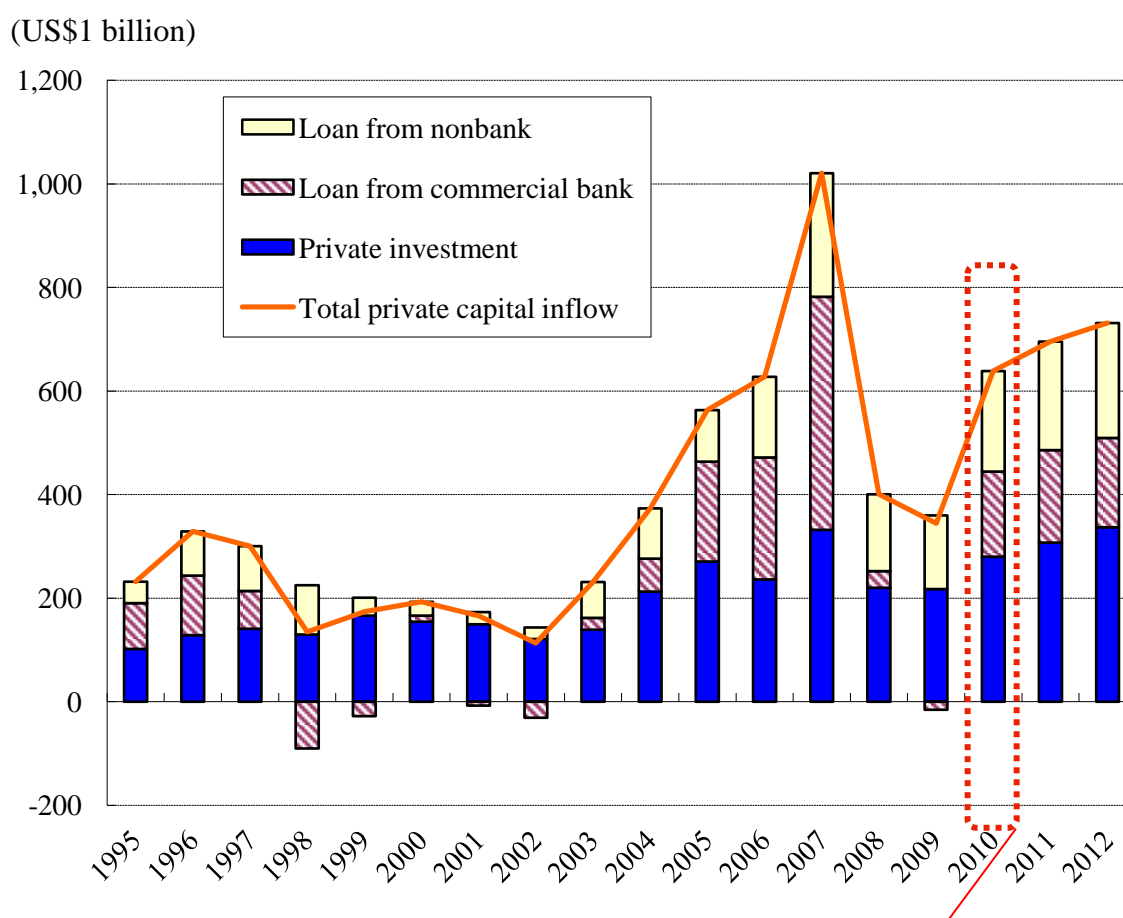
1. Compositions of commodity index of Commodity Research Bureau (CRB) are 19 commodities including gold, silver, copper, aluminum, nickel, crude oil, heating oil, unleaded gasoline, natural gas, corn, soy bean, wheat, cotton, beef, pork, cocoa, coffee, orange juice and sugar.
2. New York Mercantile Exchange (NYM) crude oil is price of the WTI futures
3. Compositions of commodities of London Metal Exchange (LME) metal index are 6 commodities including aluminum, copper, nickel, lead, tin and zinc.

Sources: Bloomberg

Rises in prices of resources / energy became a factor in increasing prices of imported goods, which might delay the recovery of advanced economies. It could be said that rises in prices of food/ energy led to price inflation, and strengthened the inflationary pressure in combination with strong domestic economic performances in the emerging economies.

Capital flow into the emerging economies was also increasing. The amount of the inflow of private capital into the emerging economies (net basis) was about US\$1 trillion in 2007, but significantly decreased to US\$ 344.4 billion in 2009 due to the world economic crisis. This was about 1/3 of the capital inflow level in 2007. However, it was estimated that the amount of capital inflow was increased again at a level over US\$600 billion in 2010 (Figure 1-1-1-38)¹⁴.

Figure 1-1-1-38 Private capital flow to the emerging economies (whole)



Notes: The emerging countries are 30 countries including 7 countries in Asia, 8 countries in Europe, 8 countries in Central and South America and 7 countries in Middle East and Africa.

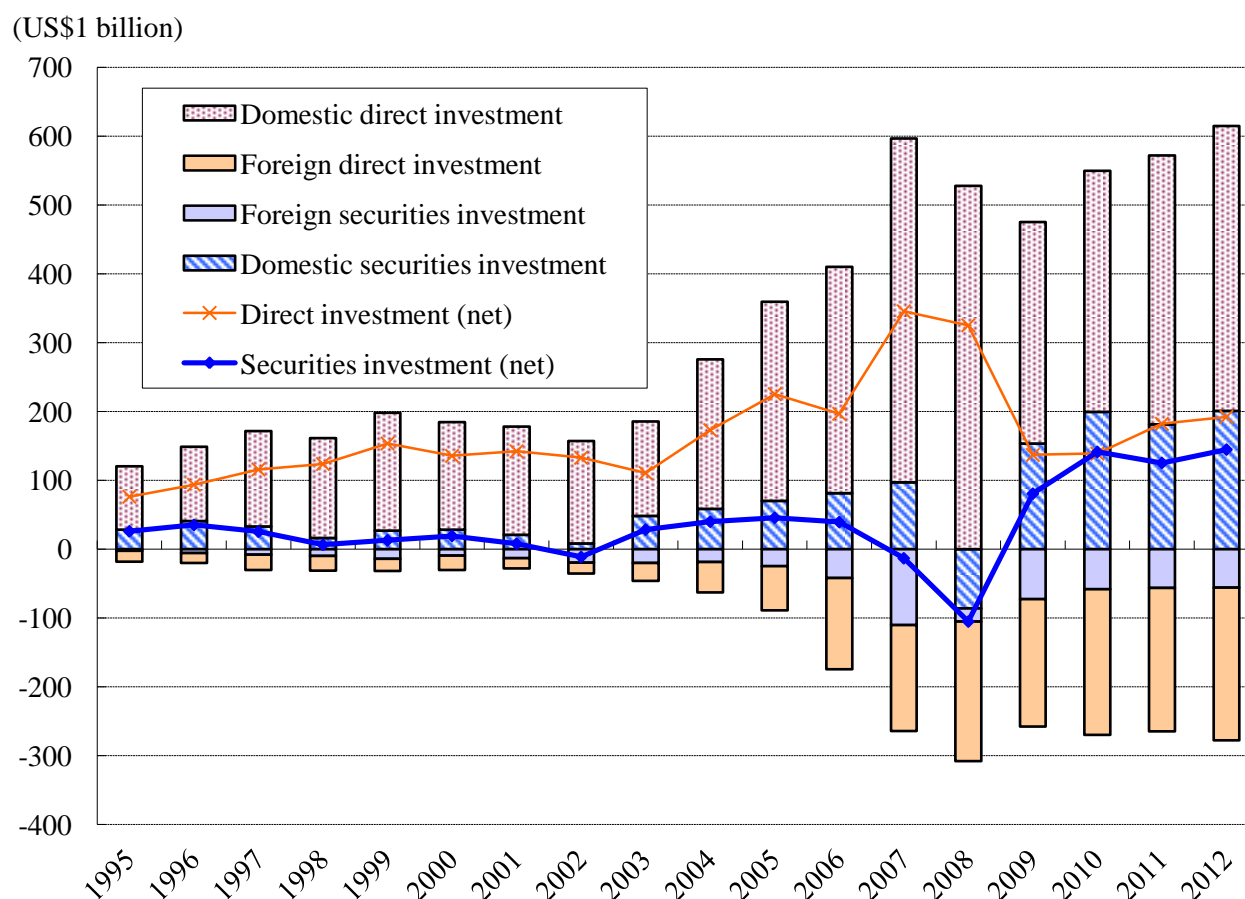
Sources: IIF “Capital Flows to Emerging Market Economies”

Examining the private capital invested into the emerging economies, the private investment continued to increase, but financing from commercial banks and non-banking sources largely fluctuated. Examining investment from private sectors, the amount of direct private investment was as

¹⁴ Estimation by IIF: “Capital Flows to Emerging Market Economies”.

large as about US\$350 billion, and the private stock investment was also US\$200 billion in 2010. Comparing to the minus US\$86 billion in 2008, the private stock investment amount was rapidly growing in 2009 and afterward (Figure 1-1-1-39).

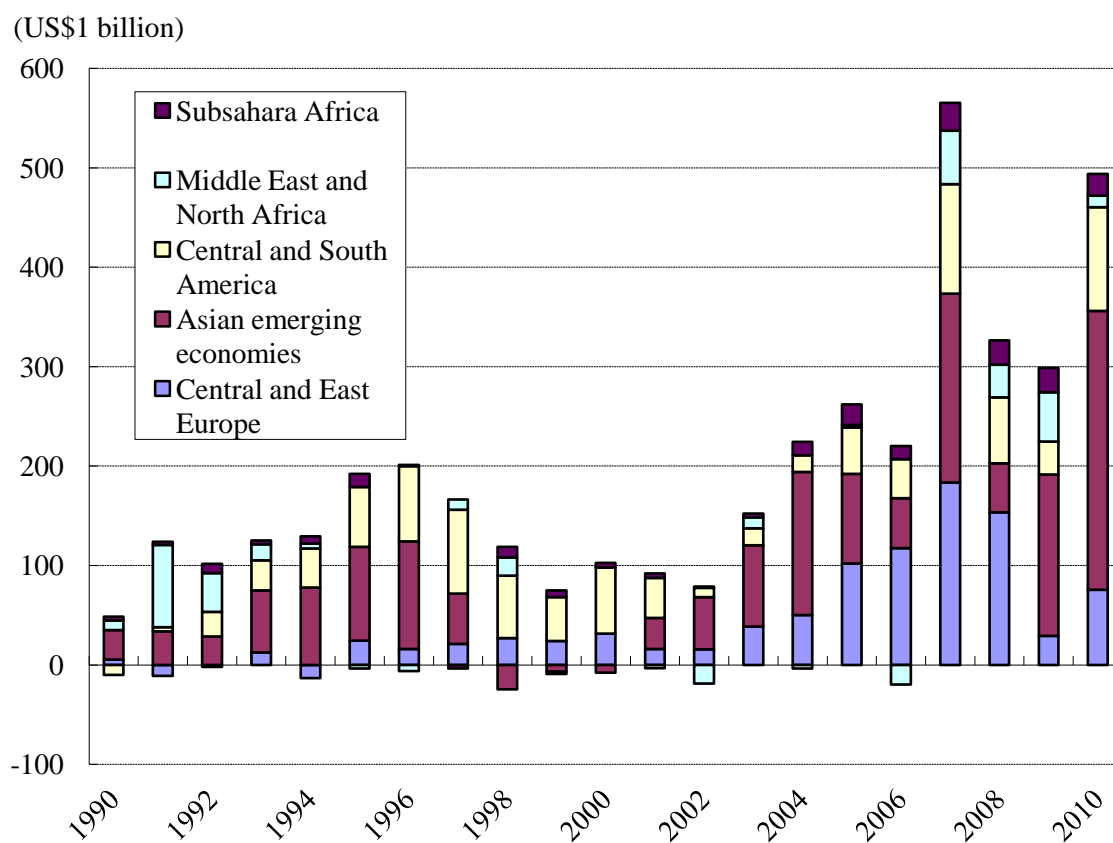
Figure 1-1-1-39 Private capital flow to the emerging economies (details of private investment)



Sources: IIF “Capital Flows to Emerging Market Economies”

Examining the capital inflow to the emerging economies by regions, the inflow of capital in Asia was dominant, but large proportion of the inflow of money was also found to be invested in many countries in Central and South America in 2010 (Figure 1-1-1-40). It could be said that the outside capital was actively invested in the emerging economies, thereby contributing to their continued high growth (Figures 1-1-1-41 and 1-1-1-42).

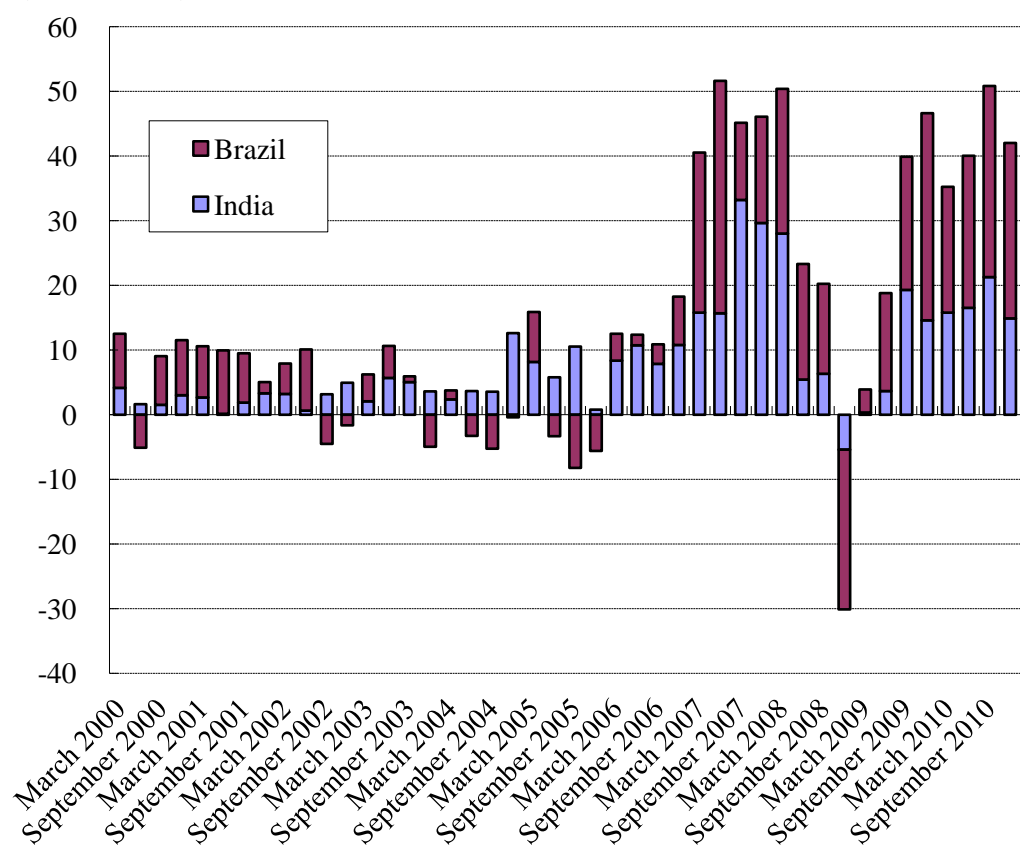
Figure 1-1-1-40 Capital flow to the emerging economies (by regions)



Sources: IMF "WED April 2011"

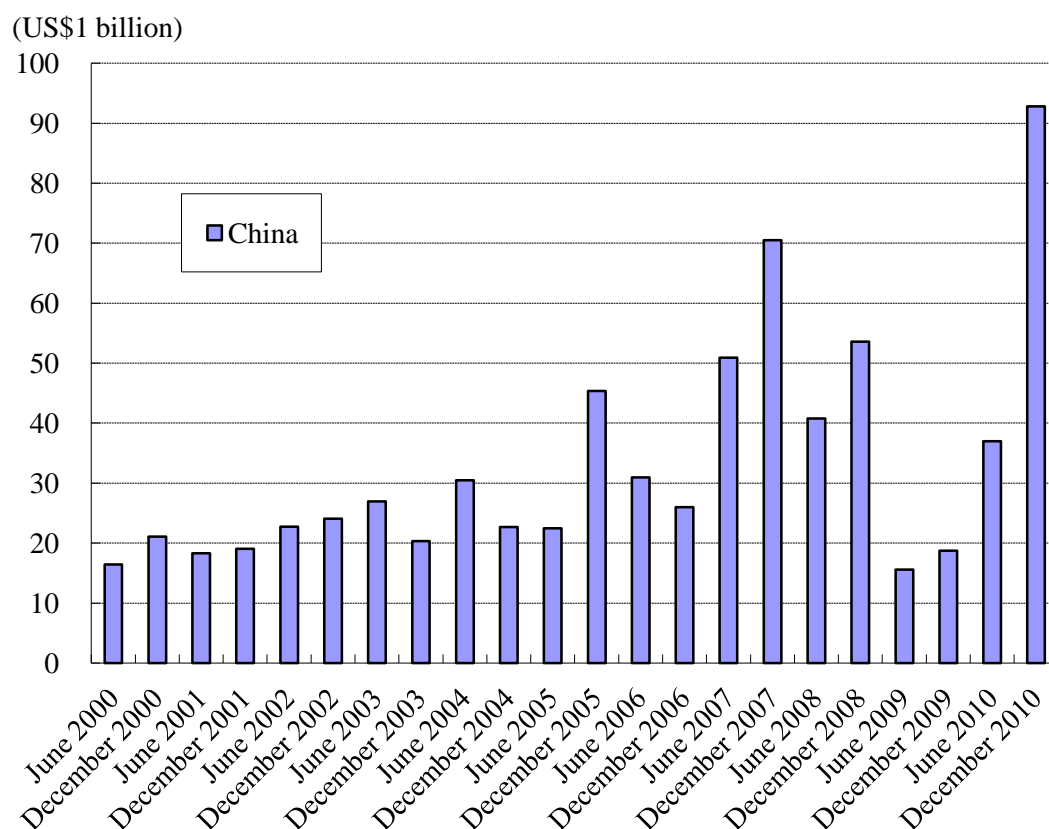
Figure 1-1-1-41 Capital flow to the emerging economies (Brazil and India)

(US\$1 billion)



Sources: CEIC Data Base

Figure 1-1-1-42 Capital flow to the emerging economies (China)

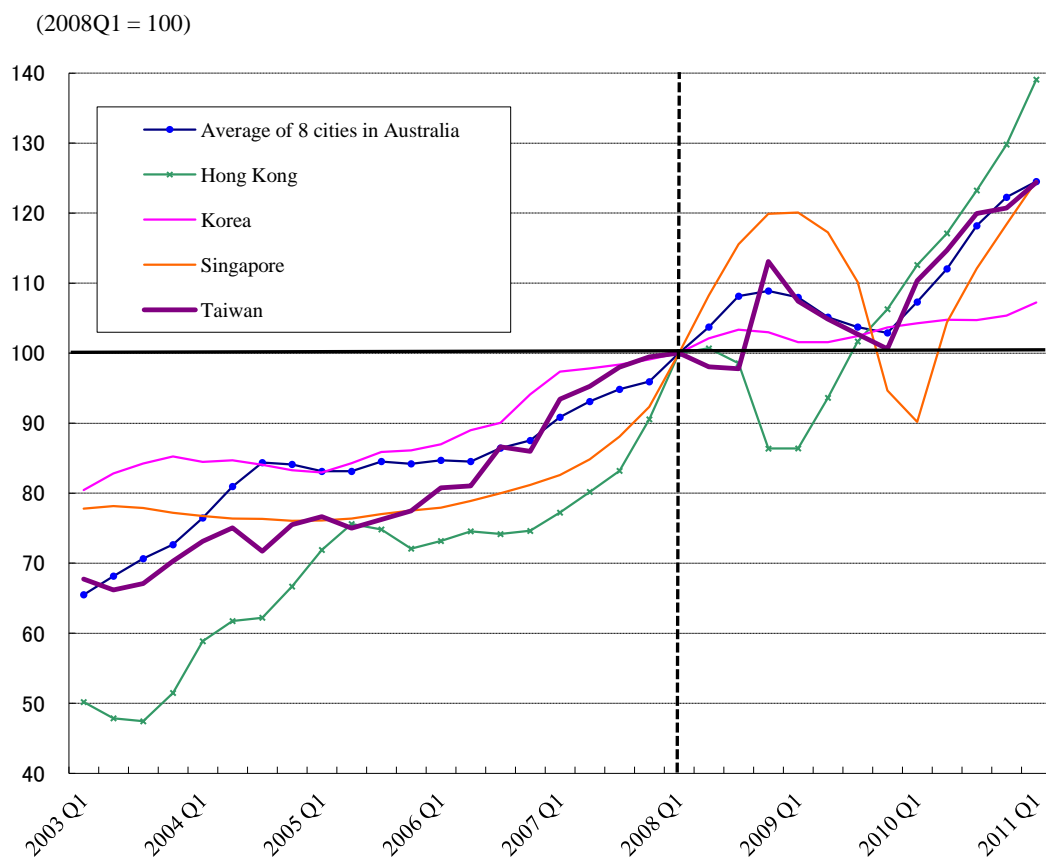


Sources: CEIC Data Base

Thus, the increase in capital inflow from private sectors supported high economic growth in the emerging economies, and it also partly contributed to rises in stock prices in middle of 2010 and afterward. This was done by net buying of stocks by foreign investors in the emerging markets¹⁵. At the same time, there were concerns that it might cause sudden rise in real estate values, overheating in emerging economies and create bubble effect in asset values as described above (Figures 1-1-1-13 and 1-1-1-14 as quoted again).

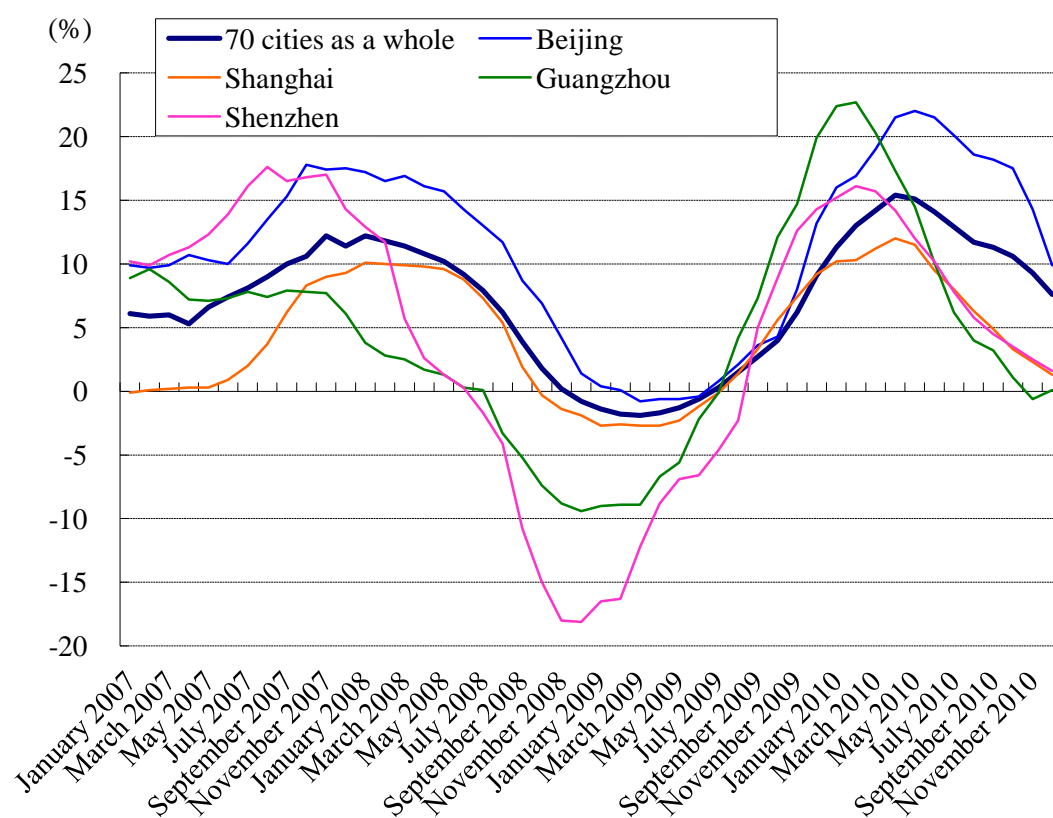
¹⁵ Kobayashi S. and K. Yoshino (December 2010) “SHINKOUKOKU HENO SHIHON RYUNYU TO BEIKOKU HENO SHIKIN KANRYU NI TSUITE”, (NICHIGIN REVIEW, December, 2010)

Figure 1-1-1-13 Transition of housing prices in the emerging economies/regions and resource-rich countries (quarterly)



Sources: CEIC Data Base

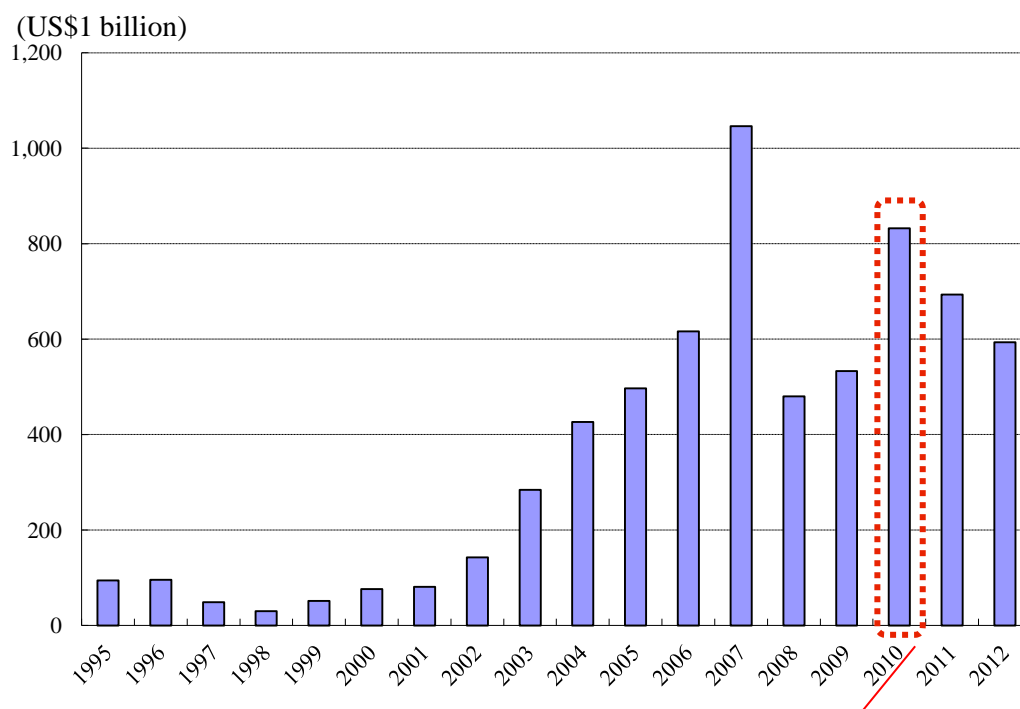
Figure 1-1-1-14 Transition of housing prices in China



Sources: CEIC Data Base

As a result of increased capital inflow into emerging economies and international commodity markets, the emerging economies could face difficulties in their monetary/ exchange policies. Specifically, as a consequence of this kind of capital inflow, the emerging economies faced upward pressure in their currency exchange rates. And this might even cause rises in interest rates backed by this artificial economic growth. In this situation, the emerging economies had to expand their foreign currency reserves again in 2010, which had once been reduced by the financial crisis (Figure 1-1-1-43). It showed that they undertook measures to counter the upward pressures on their currency exchange rates by active intervention in the currency exchange markets.

Figure 1-1-1-43 Foreign currency reserves in the emerging economies



Notes: The emerging countries are 30 countries including 7 countries in Asia, 8 countries in Europe, 8 countries in Central and South America and 7 countries in Middle East and Africa.

Sources: IIF “Capital Flows to Emerging Market Economies”

With high domestic economic growth, infusion of foreign capital in the market, and sudden rises in commodity markets, inflationary pressure grew high in the emerging economies. Therefore, they were forced to take steps to mitigate the upward pressure on their currency exchange rates. And the same time, they were unable to avoid taking steps to implement monetary tightening policy. As the advanced economies’ monetary easing and lower currency exchange rates caused these upward pressures to the emerging economies’ currencies, the “lower currency exchange rates” competition increased worldwide in the middle of 2010.

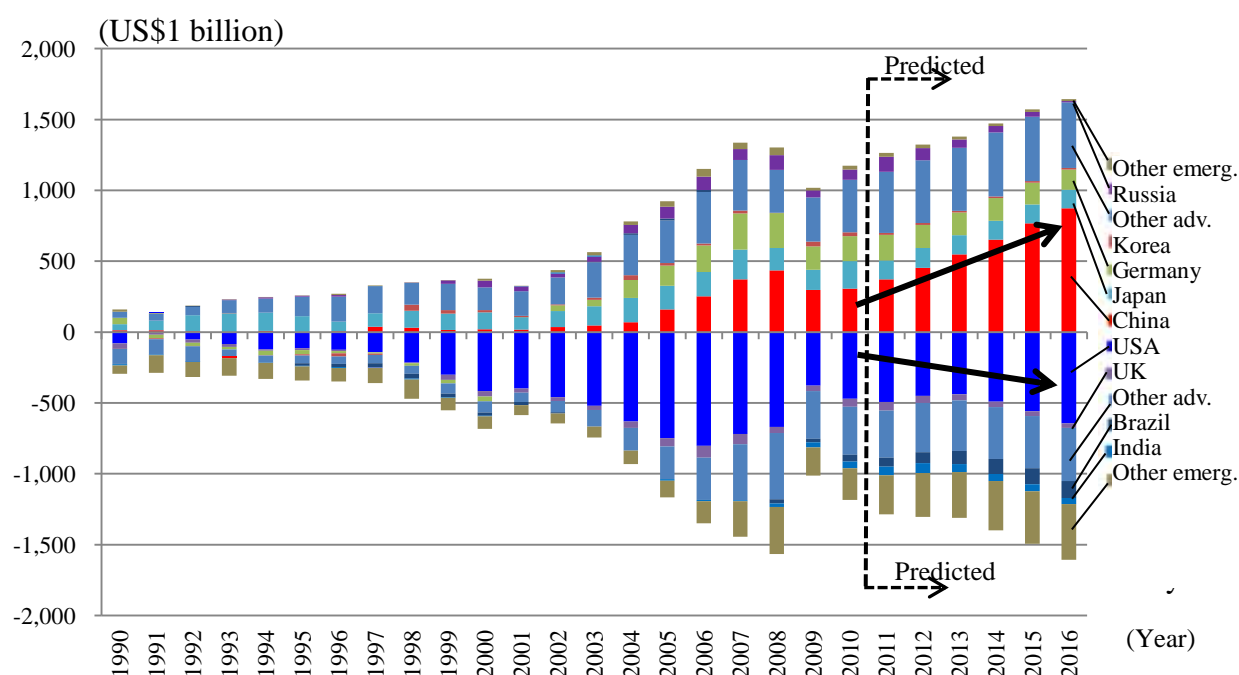
(4) Global imbalance to expand again

(A) Multilayered expansion of the global imbalance

Since the speed of economic recovery between the advanced and emerging economies is different, this again led to expansion of global imbalance.

Backed by trade value reduction by worldwide financial crisis, the global imbalance was reduced temporarily in 2009. Changes from the previous concept of “overconcentration of consumption in the United States of America” to “multipolarization of consumption” were expected. But in 2010, it turned for expansion again (Figure 1-1-1-44). According to the prospect envisioned by IMF, the current balance deficit of the United States will spread 1.4 times starting from 2010 through 2016. On the other hand, the Chinese current balance surplus will expand 2.9 times in the same period, and any medium-term reduction cannot be anticipated.

Figure 1-1-1-44 Transition of current account imbalance in major countries/regions



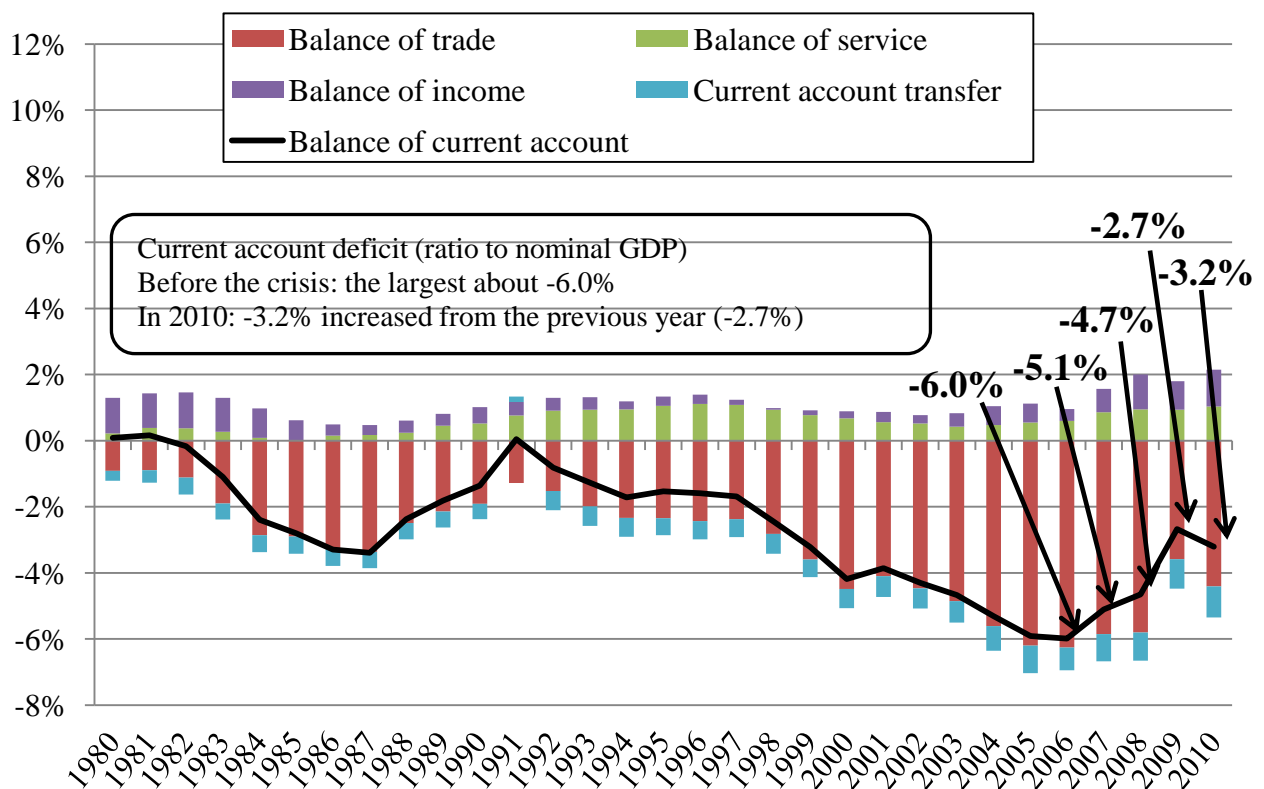
Sources: IMF “WEO, April 2011”

Now, external fiscal dimensions in the economic activities are to be confirmed focusing on United States of America and China, which represent current balance deficit and current balance surplus of global economic imbalance respectively.

<United States of America>

Watching the transition of current balance of the United States, it is found that recently the current balance deficit rate in relation to GDP has decreased. On the other hand, seen on a quarterly basis, the deficit has increased again from the third-quarter of 2009 due to aggravation of the trade balance, and also, on an annual basis, it enlarged to -3.2% in 2010 from -2.7% of the previous year (2009) (Figure 1-1-1-45).

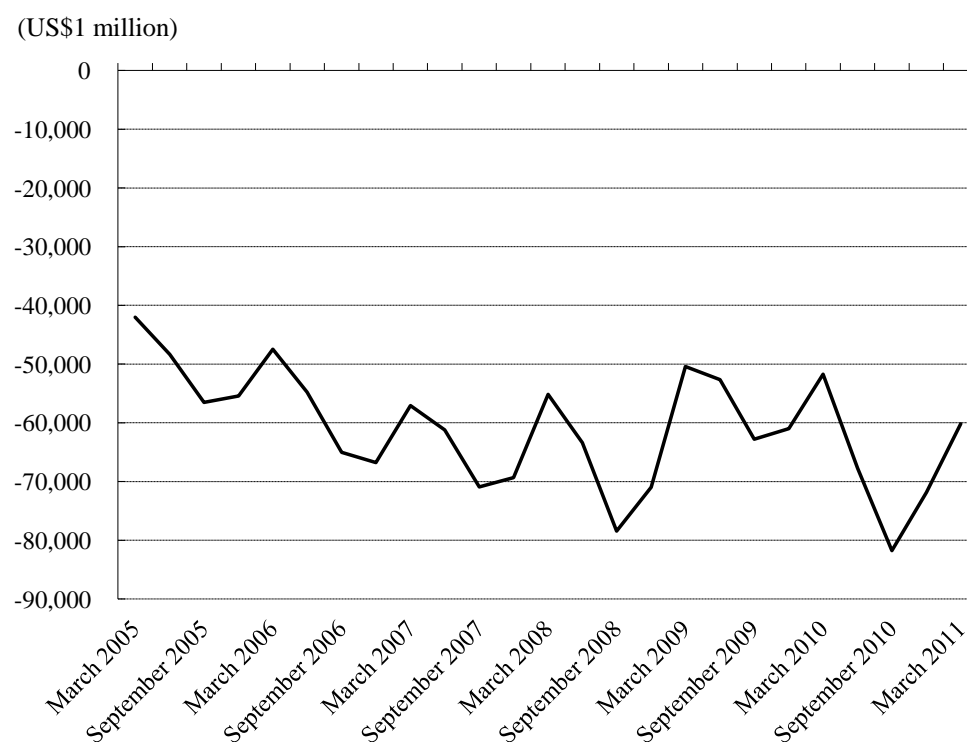
Figure 1-1-1-45 Transition of United States of America's current account deficits



Sources: US Department of Commerce

Watching the trend of the trade balance, it has been discovered that the deficit in US trade with China particularly increased both in scale and breadth (Figure 1-1-1-46).

Figure 1-1-1-46 Transition of balance of goods trade balance of United States of America (with China, Quarterly basis)

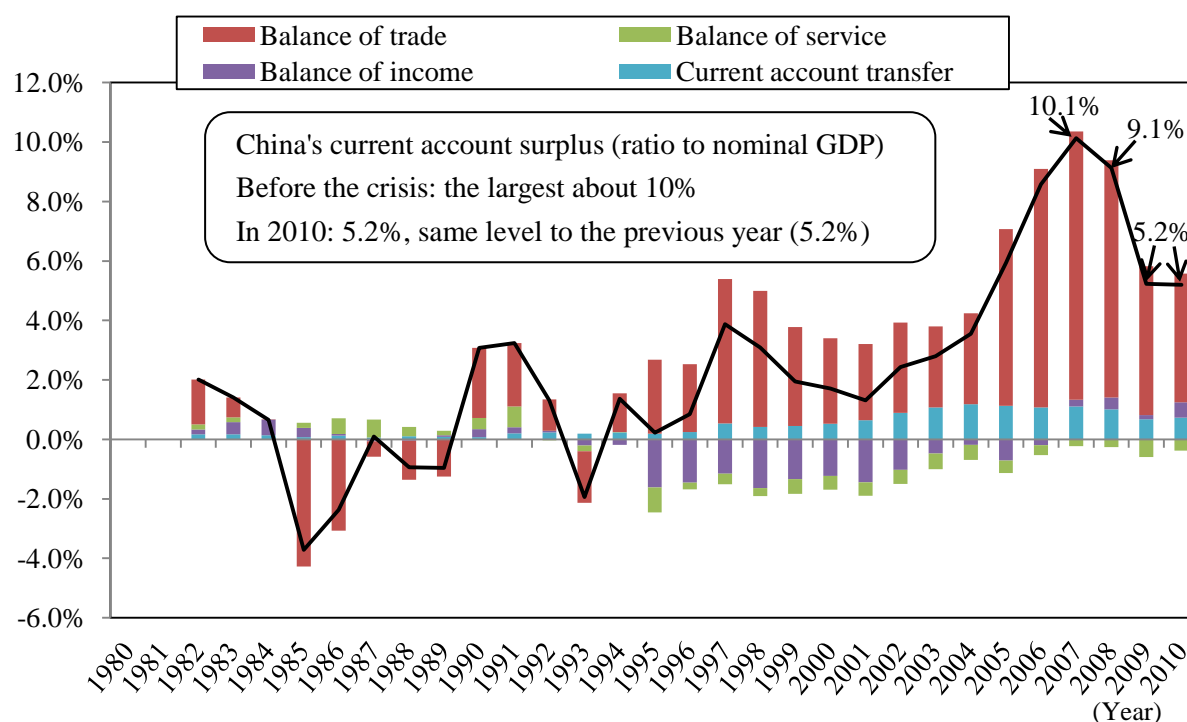


At his State of the Union Address in January 2010, President Obama disclosed his intention to let US exports double in the next 5 years, but presently, as mentioned above, it did not lead to any meaningful improvement in the trade imbalance (refer to Section 1.2 of Chapter 1 “Current status and problems of the US economy”).

<China>

Watching the transition of current balance of China, it has been found that at the beginning of the 2000s, the surplus in China’s current balance increased rapidly, and the ratio for nominal GDP increased to 10.1% in 2007. It displayed a tendency of later reduction and reached 5.2% in 2010, while remaining at the same level of the previous year (2009). Watching the details of current balance, it shows that after middle of the 1990s, the service balance had deficits throughout, but the trade balance registered a great surplus (Figure 1-1-1-47).

Figure 1-1-1-47 Transition of China's current account surplus



Sources: China National Foreign Exchange Administration Bureau, IMF, CEIC

Judging from the current balance of China from the viewpoint of investment saving (IS) balance from 2003 through 2007, the saving/ investment rate in China soared, and this might suppress the consumption in the household sector¹⁶ (Table 1-1-1-48). China's saving level exceeded OECD saving tendency in every sector, especially saving ratio to GDP in the household sector largely exceeded that of OECD (Figure 1-1-1-49).

¹⁶ Ohashi, H. (2011) "KEIZAI KYOUSHITSU, KAJOUCHOCHIKU NO KAISYOU KAGINI" Nihon Keizai Shinbun date on February 24,2011

Table 1-1-1-48 Transition of China's IS balance (ration to nominal GDP) by sectors

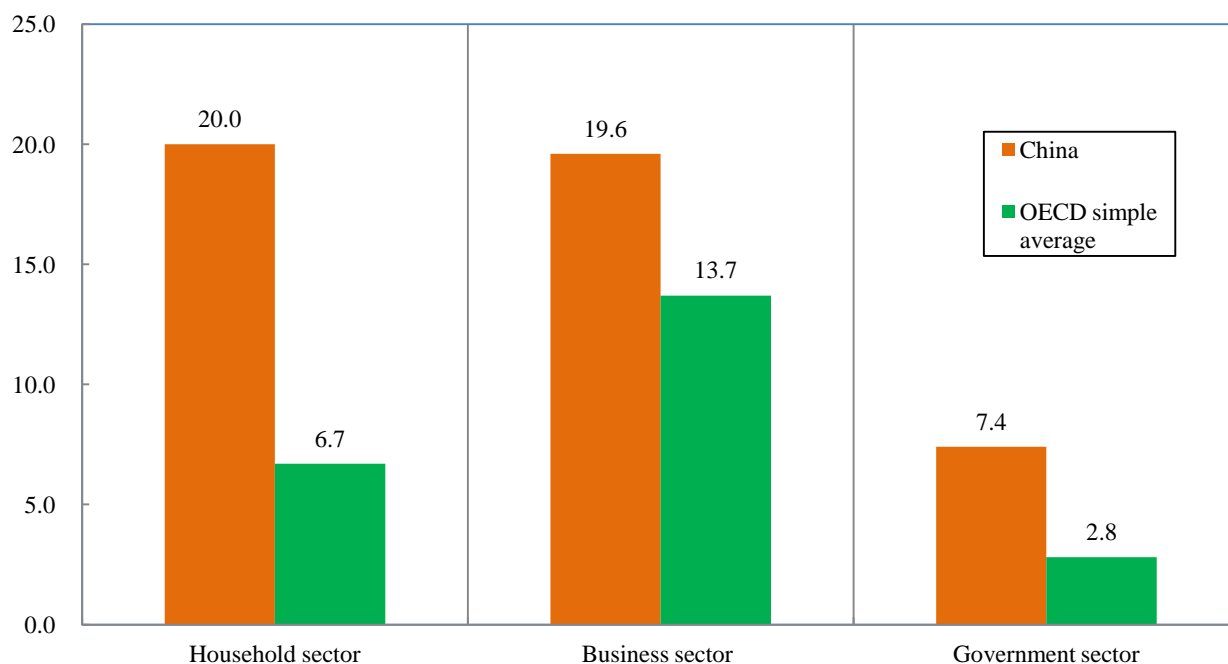
		From 1993 to 1997	From 1998 to 2002	From 2003 to 2007	<i>Changes in (% point) from (1998-2002) to (2003-2007)</i>
Economy as a whole	Saving	37.0	37.3	46.9	9.6
	Investment	36.1	36.0	42.3	6.3
	IS balance	0.9	1.3	4.6	3.3
Household sector	Saving	19.6	18.6	20.0	1.4
	Investment	7.6	7.7	8.4	0.7
	IS balance	12.0	10.9	11.6	0.7
Business sector	Saving	14.1	15.3	19.6	4.3
	Investment	25.5	25.3	29.1	3.8
	IS balance	▲ 11.4	▲ 10.0	▲ 9.5	0.5
Government sector	Saving	3.2	3.3	7.4	4.1
	Investment	3.0	3.0	4.8	1.8
	IS balance	0.3	0.3	2.6	2.3
Overseas sector (reference)		▲ 2.6	▲ 1.9	▲ 6.7	▲ 4.8

Notes: Banking institution sector is added to the business sector.

Sources: OECD (2010), "OECD Economic Surveys; China 2010"

Figure 1-1-1-49 China and OECD member countries' saving ratio to nominal GDP

(Ratio to nominal GDP, %)



Notes: Values of China are from 2003 to 2007, of OECD from 2003 to 2008.

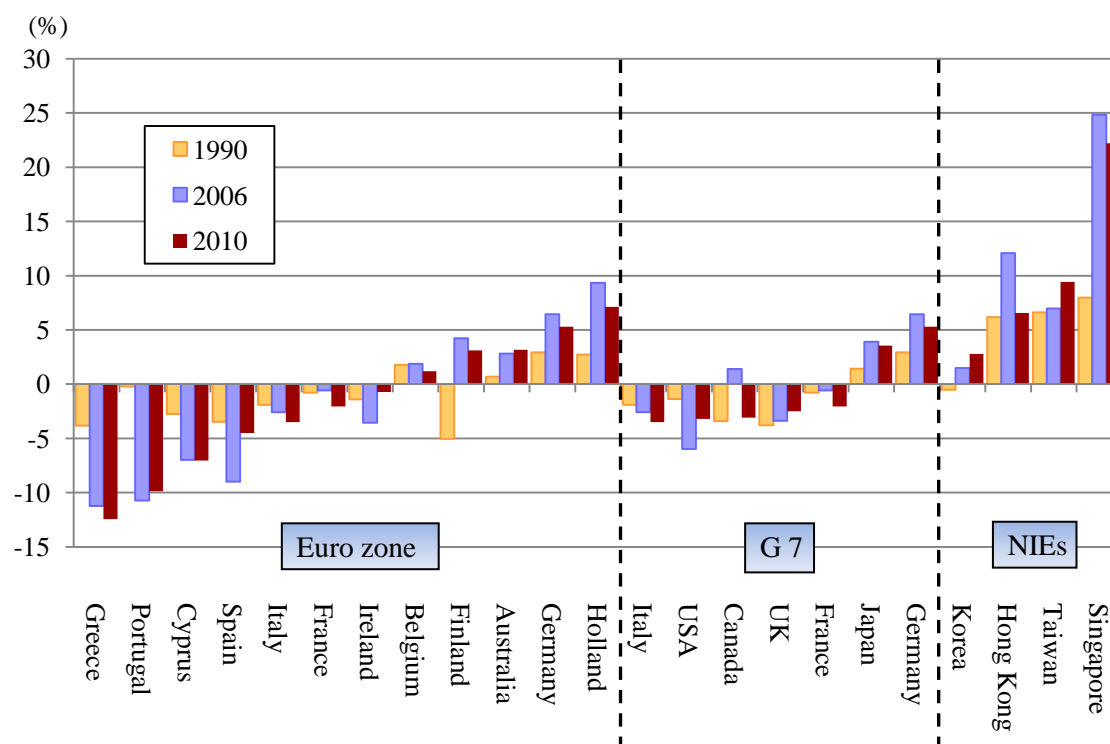
Sources: OECD (2010), "OECD Economic Surveys; China 2010"

From the viewpoint of IS balance, China should transfer its economic development model by planning growth by expanding and spreading out domestic demand mainly in terms of consumption and reduce the excess saving standard in the household sector. It is thought that it lead to reduction of surplus, achieving the much needed balance in the economic sector.

Thus, looking mainly at the disproportional current account imbalances between United States of America and China, the said imbalances exist not only between USA and China, but also with many other countries in the world.

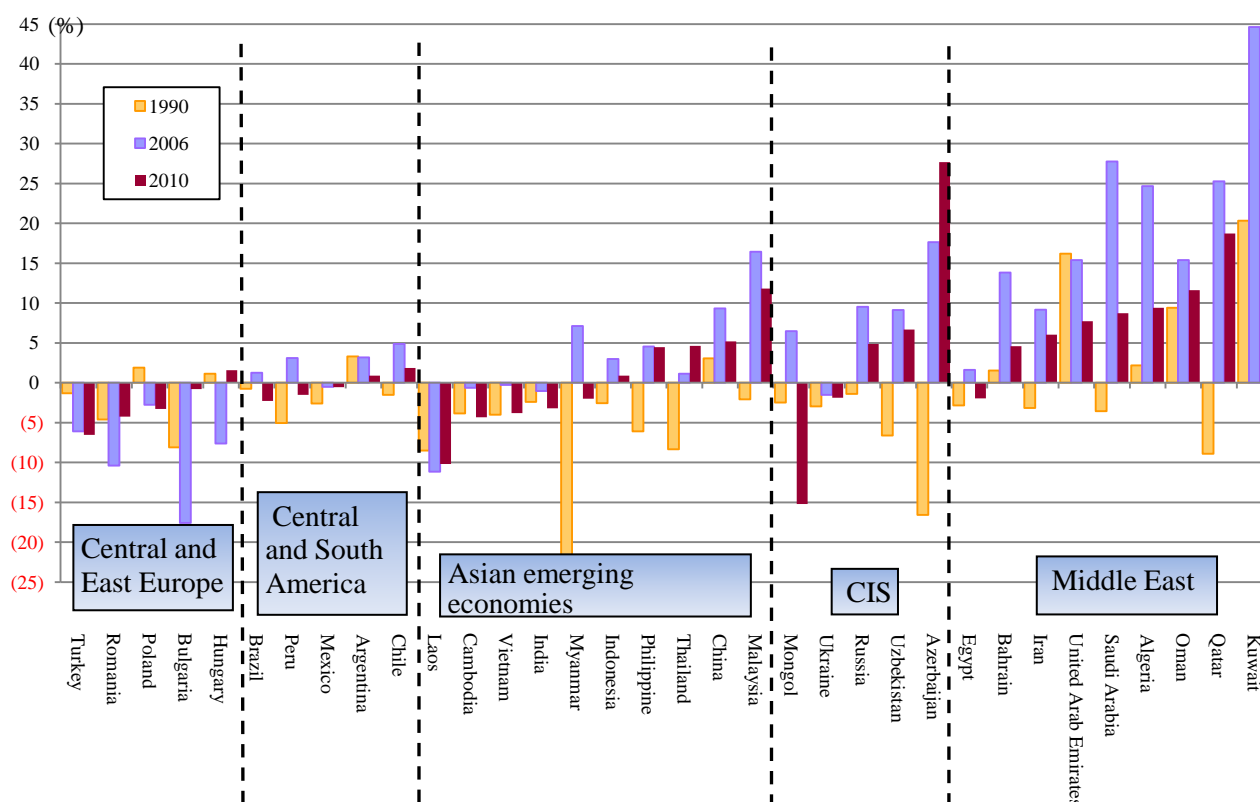
Examining the ratio of current balance in relation to GDP of major advanced and emerging countries / regions it was found that during the time span from 1990 through 2006 or 2010, there were large imbalances in trade with such countries/ regions as NIEs and Middle East country which let the scale of current-account surplus increase. The same thing happened in case of South European countries in the euro zone, which also allowed the current-account deficit to widen (Figures 1-1-1-50 and 1-1-1-51).

Figure 1-1-1-50 Expansion of imbalance in the major advanced economies/regions shown by the ratio of current account to GDP



Sources: IMF “WED Database, April 2011”

Figure 1-1-1-51 Expansion of imbalance in the major emerging economies shown by the ratio of current account to GDP



Notes: No data of 1990 are found for CIS, and data of 1992 are used.

Sources: IMF "WEO Database, April 2011"

Thus, surpluses in the size of current account balance or deficits increased not only between United States of America and China but also between other countries. It can be said - that global imbalances increased as a result of piling up these deficits and account surpluses.

(B) The durability of the global imbalance

<Medium-term prospect>

As discussed above, following the economic crisis, the ratios for GDP of the current balance deficit in United States of America temporarily decreased from -4.7% of 2008 to -2.7% of 2009, but increased again to -3.2% in 2010. On the other hand, in China, the ratio to the nominal GDP of the current balance surplus was -5.2% in 2010, remaining at the same level from 2009. The movements after 2011 should be watched.

Generally, the surplus and deficit in current account balance occur as a result of voluntary selection of the economic model, which always exists historically. The existence of deficit in current balance is not wrong in itself, but only when it becomes hard to last, it is thought that it causes problem^{17, 18}.

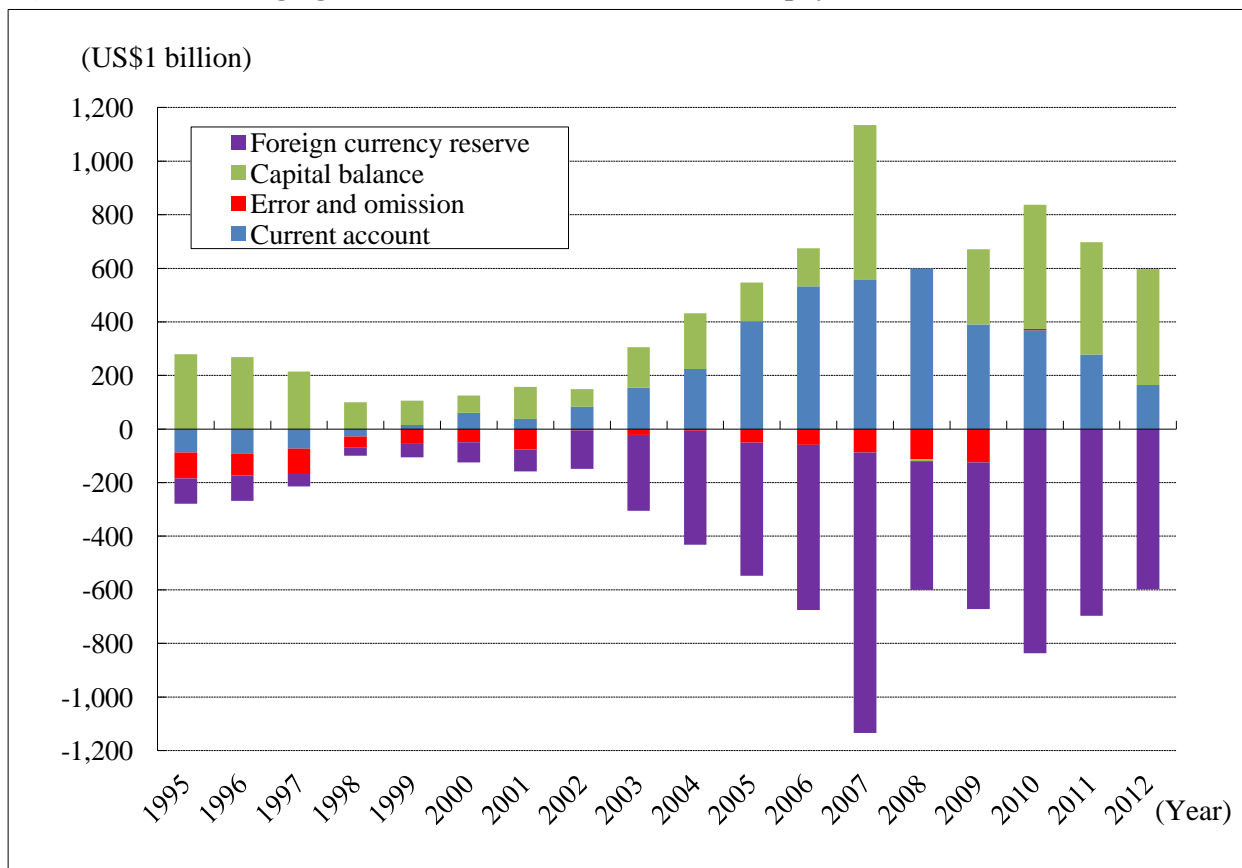
¹⁷ White Paper on International Economy and Trade in 2010.

¹⁸ Masaaki Shirakawa, Governor of the Bank of Japan pointed out that the trend of the current balance reflected a long-term trend of the saving/ investment balance, and it was strongly influenced by the developmental stage of the economy and population dynamics. As surplus and deficit in current balance occur as a result of voluntary selection of economic models, the existence of deficit itself should not be

Will the current global imbalance really enter into a sustainable state?

Now, examining movements of the international trade balances in the emerging economies, the current balance and balance of capital account are in the black, and the foreign currency reserves are piled up greatly (Figure 1-1-1-52). It is thought that these foreign reserves may be invested in highly fluid and safe assets like the United States national bond. Being led by United States of America, the monetary easing policy was advanced in the advanced economies, and abundant supply of money were flowing into the emerging economies, which were maintaining a high growth rate. Then, the foreign reserve increased in the emerging economies, and soon they started to invest in National Bonds circulated by advanced economies, mainly by the United States of America. This created a reverse cycle as funds from the emerging economies flowed back to the advanced economies. And it strengthened downward pressure to their long-term interest rate. With it, deficits of the current balance of the developed country (United States of America) were covered¹⁹ (Figure 1-1-1-53). If circulation of this type of international capital flow continues unabated, further expansion of the global imbalance cannot be avoided.

Figure 1-1-1-52 Emerging economies' international balance of payments



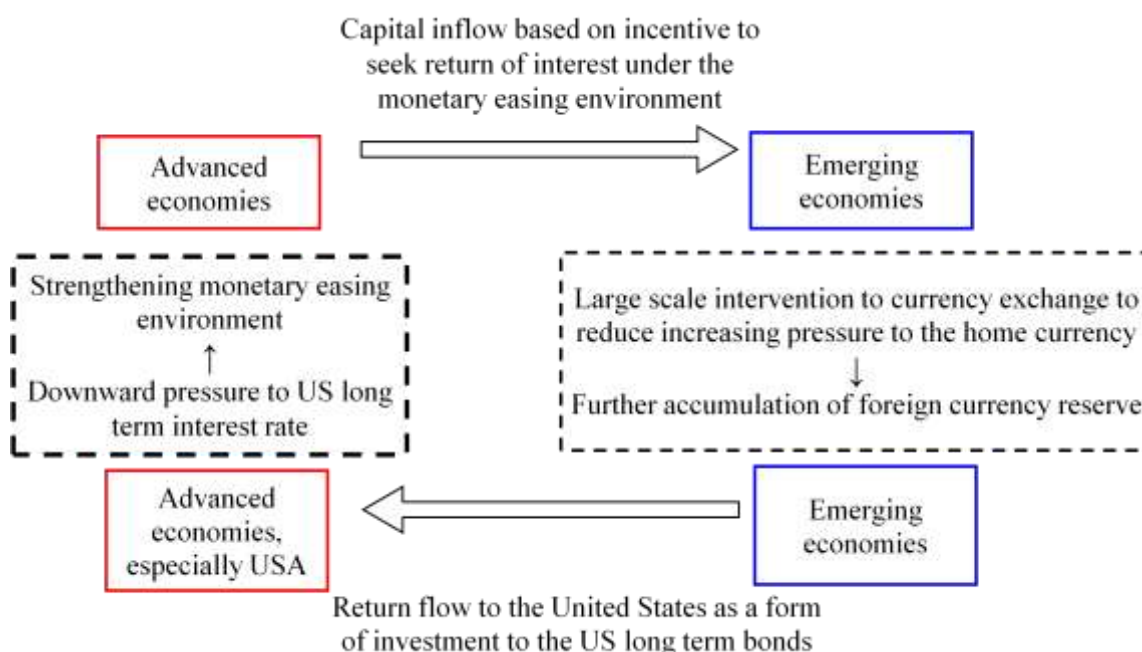
Notes: The emerging countries are 30 countries including 7 countries in Asia, 8 countries in Europe, 8 countries in Central and South America and 7 countries in Middle East and Africa.

regarded as wrong one. And only when it becomes hard to eliminate, it causes problems in “GLOBAL IMBALANCE TO KEIJOU SHUUSHI FUKINKOU” (Japanese translation of a lecture given at an event to publish “Financial Stability Review” by Bank of France, Bank of Japan, February 18, 2011).

¹⁹ Kobayashi, S. and K. Yoshino (December 2010) “SHINKOKOKU HENO SHIHON RYUNYU TO BEIKOKU HENO SHIKIN KANRYU NI TSUITE” (NICHIGIN REVIEW)

Sources: IIF “Capital Flows to Emerging Market Economies”

Figure 1-1-1-53 Circulation of international capital flow



Sources: Kobayashi, S. and Yoshino, K. “Capital flow to the emerging economies and return flow to the United States” (“Nichigin Review” December 2010)

In addition, according to the viewpoint of IMF, as medium-term reduction of global imbalance cannot be anticipated²⁰, it is thought that factors such as, default by the unsustainable budget deficit, destabilization of financial institutions, higher inflation by increased capital inflow into emerging economies will create insurmountable problems exerting downward pressure to the world economy.

<Long-term prospect>

(a) Possibility of re-balancing

In this way, the global imbalance is maintained over the medium term, but there is a viewpoint suggesting that any kind of reduction of imbalance cannot be anticipated at this point in time. On the other hand, another viewpoint points out that on a long term basis, the global imbalance can be reduced by taking the following factors into consideration.

At first, as the number of emerging economies increases in the midst of growing investment demand worldwide, there will arise a situation in the realm of saving and investment balance in which investment will fall short of its demand. Then, the situation would look especially favorable to the emerging economies. Because, in the aftermath of the world economic crisis, the emerging economies succeeded in achieving higher economic growth than the advanced economies. In this circumstance, it is predicted that in view of the growing investment prospects, the newly emerging economies would increase more and more in number in the future, provided that the emerging economies grow faster to surpass the advanced economies. In addition, there is also another viewpoint that in the long term, the

²⁰ IMF, World Economic Outlook, April 2011.

preliminary saving in the emerging economies will decrease. Besides, considering the prospect of future economic development the emerging economies will need to invest in the improvement of safety net functions, such as social welfare and the medical insurance, development of the money market including the improvement of the foreign exchange market, and expand consumption by regulating the population dynamics (population growth). Speaking from such a background, it is thought that “saving excess” is improved by decreasing preliminary saving of the past in the family budget and increasing the portion transferred to consumption²¹.

If a possibility to reduce the global imbalance can be found in the movements of the world economy that we surveyed till now, those are: a) Changes from “overconcentration on United States of America for consumption” to “multipolarization of consumption” should be advanced; for this “multipolarization of consumption”, b) The Transfer of economic development models from export-led to domestic demand-led growth focusing on the individual consumption should be planned in China; and c) by a surge of consumption in China, autonomous consumption in the East Asia area becomes active, as the ratio of the exports to Europe and America decrease. Re-balancing of global imbalance may be advanced by these structural changes.

In addition, it is pointed out that “the current balance provides useful information about the status of the economy” on the relation between the current balance and the global imbalance. However, at the same time, experiences from the past and present financial crisis show that it is at a potential risk just to simply use the current balance for an index to determine existence of unsustainable global imbalance²².

(b) Concerns for durability of current balance deficit of the United States

Although the argument is divided into whether the emerging economies can or cannot continue to finance United States of America’s large amount of current balance deficit for a long term, it is pointed out that it has some concerns that the current balance deficit might continue to increase for a long term in future.

First, the concern is due to constitution of the United States of America for foreign assets and the foreign debt. Though the United States of America is a pure foreign debtor country, the income balance (income gain) is in the black, and furthermore, according to the preceding study, the country gains a large amount of profit (capital gain) by the rise in property value. In a situation in which total foreign assets and total foreign debts increased rapidly after the 1990s, as most of American total foreign assets are held in the form of direct investment or stock acquisition. On the other hand, a high percentage of total foreign debts exist in the form of treasury notes, bonds and bank loan. It is a

²¹ Alan Taylor, and Manoj Pradhan, “Great Re-balance of the World Economy”, (Morgan Stanley Research, “The Global Monetary Analyst”, February 18, 2011). Additionally, the paper pointed out that expansion of the foreign reserve advanced in the emerging economies, and decreased pace to reserve foreign currency in the future will be one of the factors of the long-term reduction of the global imbalance.

²² Masaaki Shirakawa, Governor of the Bank of Japan pointed out that “the current balance provides useful information about the situation of the economy. However, at the same time, experiences from the past and present financial crisis show that it is at a potential risk to just simply use the current balance for an index to determine existence of the unsustainable global imbalance” in the “GLOBAL IMBALANCE TO KEIJOU SHUUSHI FUKINKOU” (Japanese translation of a lecture given at an event to publish “Financial Stability Review” by Bank of France, Bank of Japan, February 18, 2011) under the title of “Evaluation of the Global Imbalance”.

composition for obtaining capital gain by differences in risk / rate of return between debt and assets. Besides, the foreign debts are not affected by the exchange fluctuations, because large portions of it are on a dollar basis. On the other hand, as for the foreign assets, the value increases in dollar denomination in the situation that weak dollar progresses because most of foreign assets are denominated in foreign currency. It is said that the aggravation of the foreign position of United States of America has been relieved or improved by the capital gain provided in this way²³.

Such “success” in foreign assets operation cannot be necessarily continued. For example, as a large amount of capital loss was recorded at the world economy crisis of 2008, it has high volatility and a weak aspect. In addition, it leads to the increase of external debts in the high dollar situation. When taking such relatively high-risk assets operation into consideration, United States of America may be pressed to improve the continued large amount of current balance deficit in the future²⁴.

Secondly, examining changes in possession rate of the U.S. government bonds by the overseas foreign countries, it showed an upward trend from 2000 and afterward, but after having recorded the peak (51.3%) in the fourth-quarter of 2008, it had a tendency to decline and decreased to 46.6% in the second-quarter of 2010 (Figure 1-1-1-54). It recovered once in the next third-quarter, but decreased again in the fourth-quarter and became 46.9%. This was because the government bond possession rate in the United States rose backed by a rise of the savings rate in the United States. At the same time, it might suggest that the foreign reserve operation was diversified by transferring it from conventional dollar basis to other currencies backed by deepening recognition that status of dollar as a key currency was weakened after the financial crisis²⁵. There may be no problem if such movements can be covered by the high domestic savings rate. However, when diversification of the foreign reserve operation further advances in future, concern thereby arises whether various foreign countries such as Japan, Germany, euro zone, Middle East oil-producing countries and emerging Asian economies including China, purchase the U.S. government bonds as in the past or not, and concern thereby occurs whether United States of America’s budget deficit (current balance deficit) can continued to be financed by the funds in the way that is done before or not²⁶.

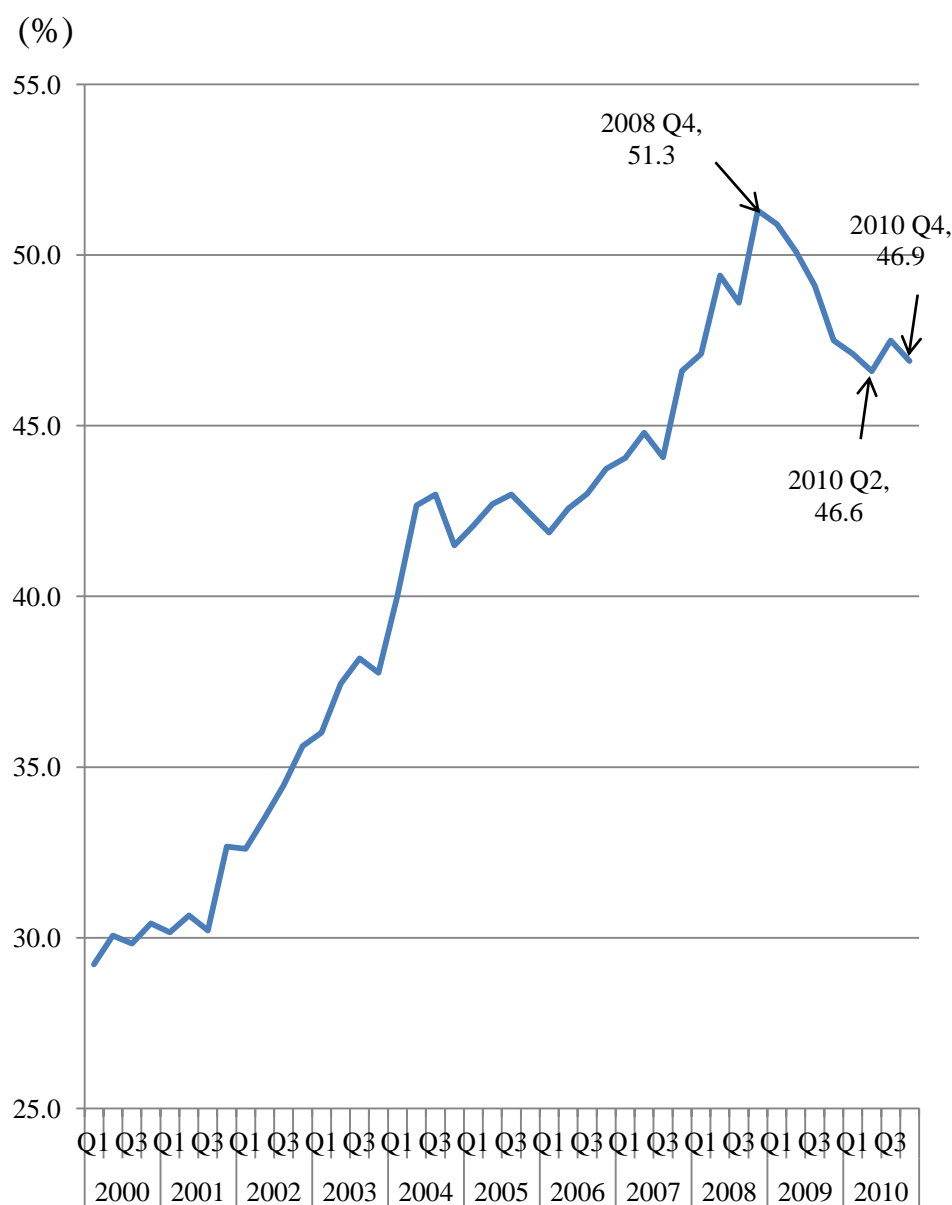
²³ Iwamoto, T. “Monetary Crisis and Global Imbalance – focusing on vulnerability of the United States of America’s high leveraged type foreign position-” (Kokusai Chosashitsuho, No.3, November 2009).

²⁴ Takekazu Iwamoto points out in his paper of “Monetary Crisis and Global Imbalance – focusing on vulnerability of the United States of America’s high leveraged type foreign position-” (Kokusai Chosashitsuho, No.3, November 2009) that “the sustainability of the American foreign disproportion, which has been depending on a capital gain, is the vulnerability that the United States of America has in the balance sheet of the whole country as it is clear from a large amount of capital loss that has been recorded after the financial crisis”. “If there is a nation target called “finance-oriented nation”, and if it hangs high leverage not only to individual financial institution but also to the foreign position of the whole country and aims at the foreign position that depend on not only the income balance (income gain) but also the capital gain, there is doubt from a viewpoint of the soundness of foreign balance sheet”.

²⁵ *White Paper on International Economy and Trade in 2010*.

²⁶ There is a viewpoint that when a central bank of the emerging economies judges that “The foreign reserve has been saved to an appropriate standard”, then growth of the foreign reserve of the emerging economies becomes dull. (Alan Taylor, and Manoj Pradhan, “Great Re-balance of the World Economy”, (Morgan Stanley Research, “The Global Monetary Analyst”, February 18, 2011).

Figure 1-1-1-54 Transition of ratio of US national bonds held outside the country



Sources: FRB “Flow of Funds Accounts of the United States”

Today, as the financial globalization progresses, the global imbalance is not a local issue whether or not the relation lasts between some of the advanced economies and emerging economies that are financing the current balance deficit of the United States of America. It is an issue on the world economy, which involves other part of the advanced and emerging economies as well as the developing countries. For this reason, the re-expansion of the global imbalance causes concern for growth of the world economy in the future. If, as previously mentioned, the “circulation of the international funds flow” is once discontinued, the world economy may be greatly destabilized²⁷.

²⁷ When disproportion of the current balance is adjusted, for adjustment of the U.S. dollar exchange rate in the process, the preceding study points out to classify it in two analysis such as a) The current account

(C) Expectation on emerging Asian economies for re-balancing

As discussed above, taking risk accompanied by expansion of global imbalance into consideration, the conventional economic growth in countries/regions, which excessively depend on the United States of America for consumption, cannot be expected in future.

Therefore, as an engine (consumption market) driving growth of the world economy in the future, the expectations placed on the emerging Asian economies including China and India increasingly rises.

However, in an economic scale, the advanced economies account for higher proportion (66%) of the world GDP, and the emerging economies have only 34%. The difference is rather large. Examining the economic scales of the countries, United States of America account for 23.3% of the world GDP, while China and India respectively account for only 9.3% and 2.4% (Figure 1-1-1-3, as shown above). Therefore, the economic recovery of the United States of America and other advanced economies is essential for overall recovery of world economy, and the economic growth of both advanced and emerging economies is desirable so that the world economy achieves the powerful, sustainable and well balanced economic development.

In the emerging economies including China, the middle classes and higher socioeconomic groups are rapidly increasing backed by high economic development of their country and high degree of consumption²⁸. Following this situation, the autonomous and sustainable economic growth mainly on the domestic demand is desirable in near future. And also it is desired that timely import by the emerging economies contribute to correct the re-expansion of global imbalance.

imbalance eventually goes to the zero balance and is associated with the large adjustment of the dollar rate, and b) The current account imbalance lasts for some period and the adjustment of the dollar rate remains moderate. (Hagiwara, K. “KEIJOUSHUUSHI FUKINKOU NO CHOUSEI KATEI: KINNEN NO RIRONTEKI BUNSEKI NO TENBOU”, “KINYU KENKYU” Institute for Monetary and Economic Studies, Bank of Tokyo, December 2008).

²⁸ *White Paper on International Economy and Trade 2010.*

2. Current status and problems of US economy

The United States economy in 2010 moderately recovered backed by the global economic recovery and supported by the government's fiscal stimulus package and the monetary easing policy by the Federal Reserve Board (hereinafter referred to FRB). However, there was a delay in recovery of employment market and the housing market, and problem remained in the sustainable growth of the future. The current status and problem of the United States economy are reviewed from viewpoints of (1) actual economy and (2) monetary policy in the following section.

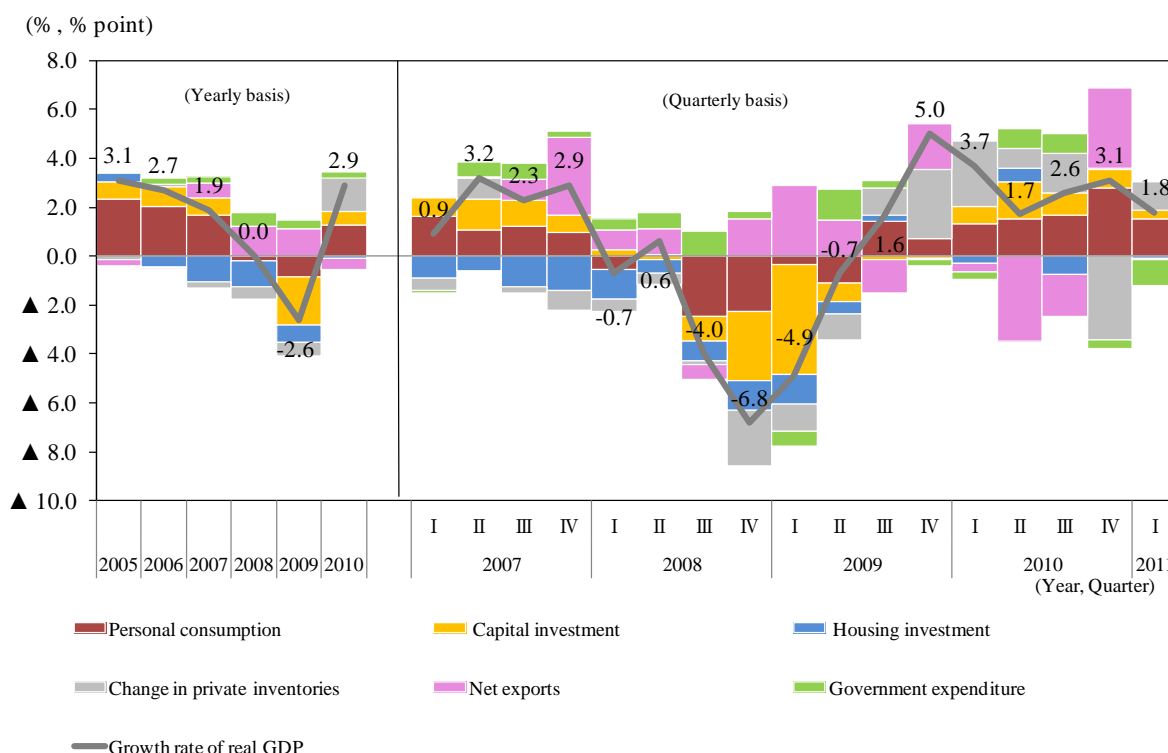
(1) The United States economy, breaking through the double-dip concern

(A) The economy hovered at a low level in the first half and recovered in the second half

The real GDP growth rate in early 2010 achieved a plus growth of 3.7% at an annual rate increase from the previous quarter in the first quarter, and gained a 1.7% increase in the second quarter supported by recovery of personal consumption which account for approximately 70% of the real GDP, but the growth rate slowed down (Figure 1-1-2-1). In this situation, the double-dip concern was pointed out about economy of the United States, which was recovering from the bottom²⁹ after the world economic crisis in 2008, might retrogress again due to delay of the recovery of the employment, the high unemployment rate and slumped housing/ real estate markets. However, the United States economy slowly recovered in the last half of 2010 with 2.6% increase in the third quarter and 3.1% increase in the last quarter.

²⁹ In September 20, 2010, National Bureau of Economic Research (NBER) which judges economic cycle of the United States economy, made a judgment by stating "The United States economy has transcended from the recession in June 2009". The recession started in December 2007 continued for 18 months, the longest recession after the World War 2.

Figure 1-1-2-1 Transition of growth rate of the real GDP and contribution degrees by demand items in the United States of America



Notes: Seasonally adjusted value; Annual rate compared with the previous year; Value of the first quarter of 2011 is revised value.

Sources: US Department of Commerce

Also in annual basis, it achieved record high of 2.9% increase over the previous year since 2005 (3.1%). It can be said that the United States economy in 2010 has broken through the double-dip concern³⁰.

The growth rate in first-quarter of 2011 (second-estimate) showed an annual rate of 1.8% plus from the previous quarter and achieved consecutive 7 quarters positive growth, but the recovery pace became slower³¹ and uncertainty of the future still remained.

Examining rate of contribution according to demand items comprising GDP (Figure 1-1-2-1, previously shown), in 2010, personal consumption increased its rate of contribution quarterly. On the other hand, rates of contribution of the housing investment were plus in the second and the fourth-quarter but minus in the first and the third-quarter. From the first to the third-quarter, the rates of contribution of the net export continued to be minus, and it greatly switched to plus in the fourth-quarter. In this way, while economy of the United States was restored moderately in 2010, some

³⁰ IMF pointed out in “The World Economy Outlook” published on April 11, 2011 that “ In advanced economies, the hand-off from public to private demand is advancing, reducing concerns that diminishing fiscal policy support might cause a “double-dip” recession.”.

³¹ IMF made a downward revision on estimate of the United States economic growth rate in 2011 from 3.0% at the time of January to 2.8% in “The World Economy Outlook” (previously shown) published on April. And FRB also made a downward revision on estimated economic growth rate in 2011 from 3.4%~3.9% at the time of January to 3.1% ~ 3.3% at FOMC meeting held on April 26 and 27, 2011.

items were not growing uniformly. Each item is discussed in the following section.

(a) Personal consumption, having supported the growth through the year

The personal consumption recovered through 2010 and contributed to improve the growth rate backed by the rises in stock prices. The real personal consumption exceeded the level before the world economy crisis of 2008 since the latter half of 2010 (Figure 1-1-2-2). In the first-quarter of 2011, growth slowed from the previous year due to rise in the gas price (Figure 1-1-2-3) and bad weather conditions, and it became a factor to make the growth rate slow down, but moderate growth continued (Figure 1-1-2-4). In addition, the sales amount of the retail continued to increase compared with the previous month since July 2010, which represents steady consumption activities in the last half of 2010 and afterward (Figure 1-1-2-5).

Figure 1-1-2-2 Transition of real individual consumption and saving ratio in the United States of America

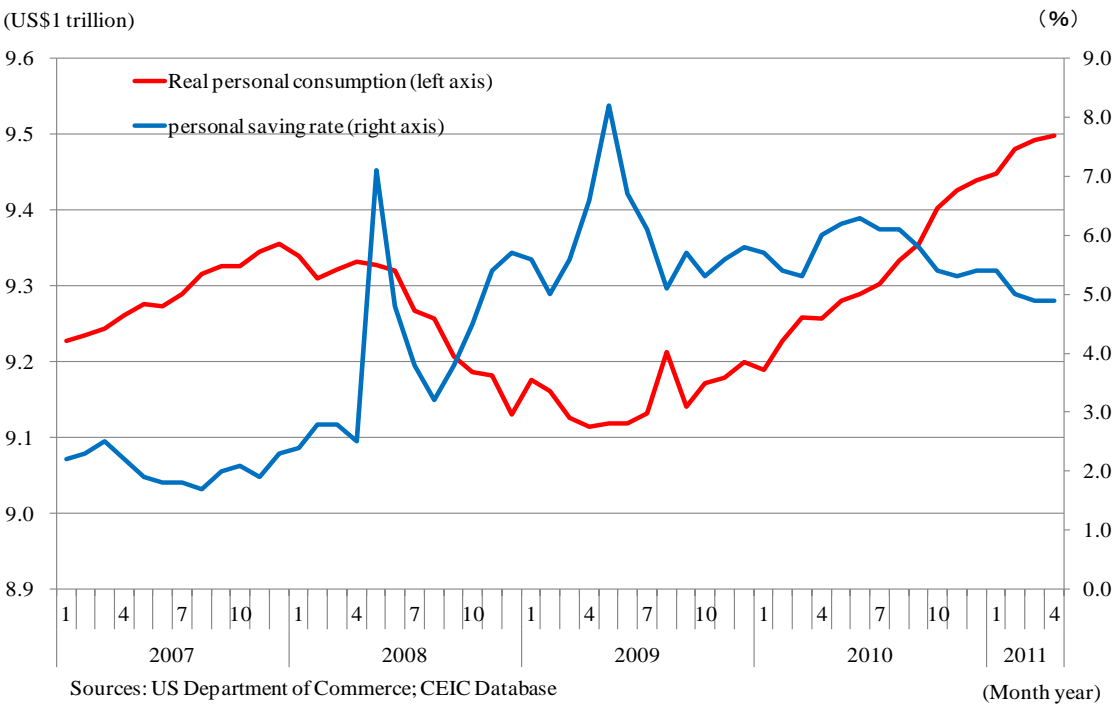


Figure 1-1-2-3 Transition of retail prices of regular gasoline in United States of America

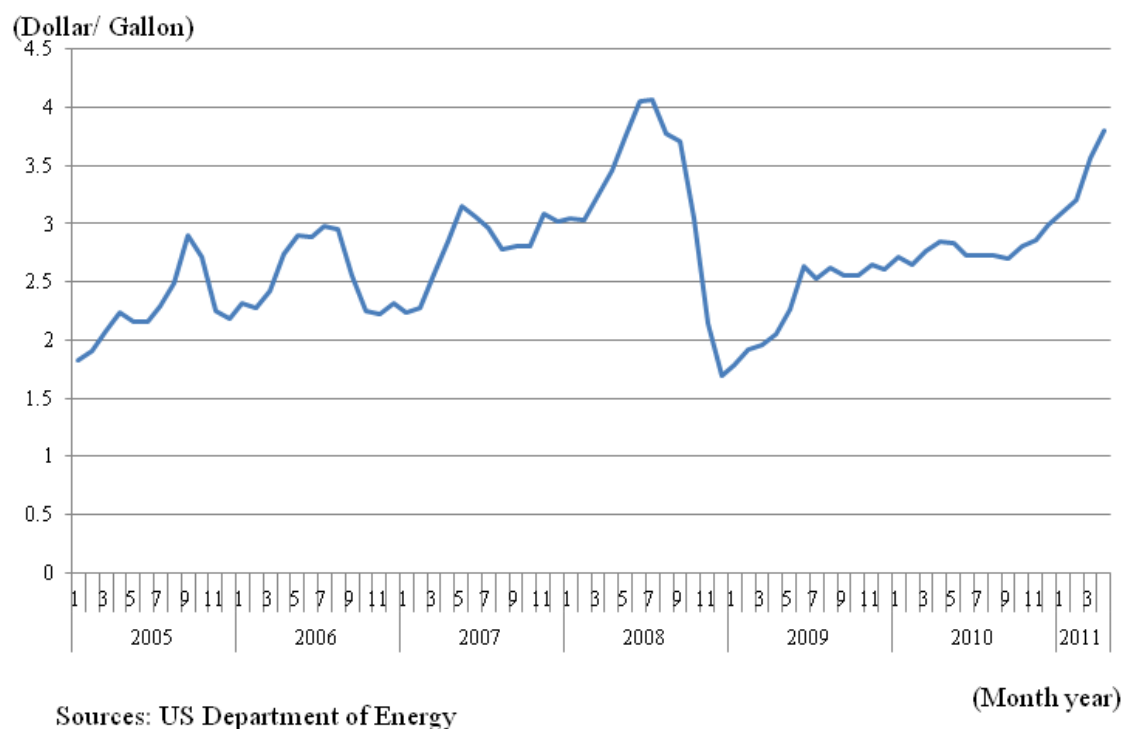


Figure 1-1-2-4 Transition of real personal consumption and contribution degree by expenditure items in United States of America

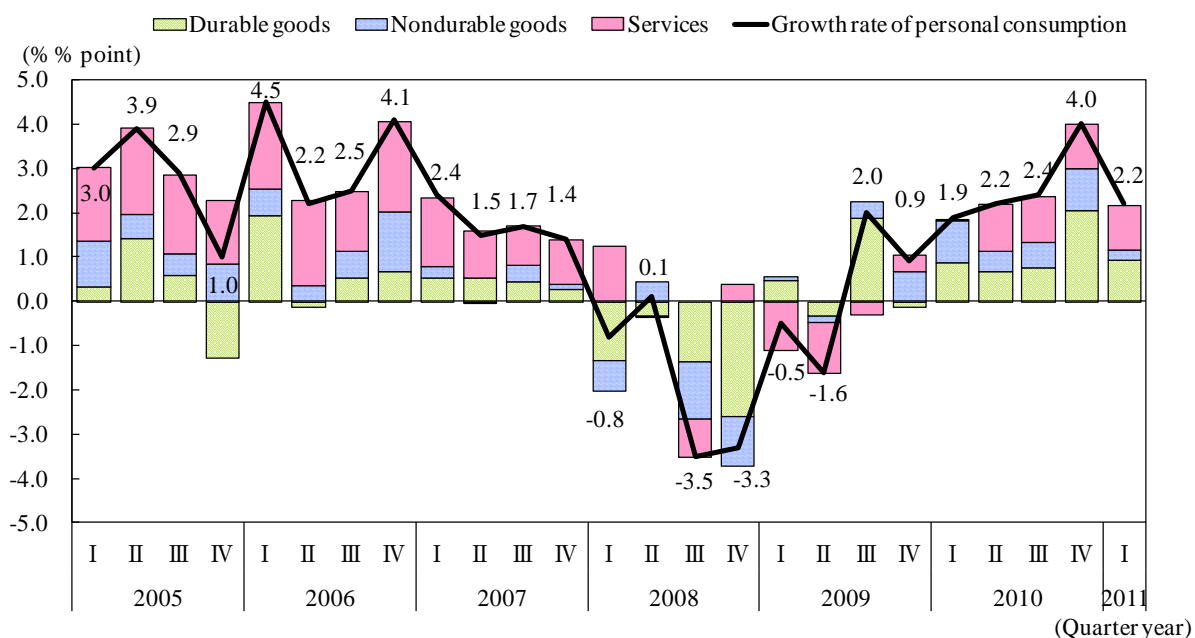
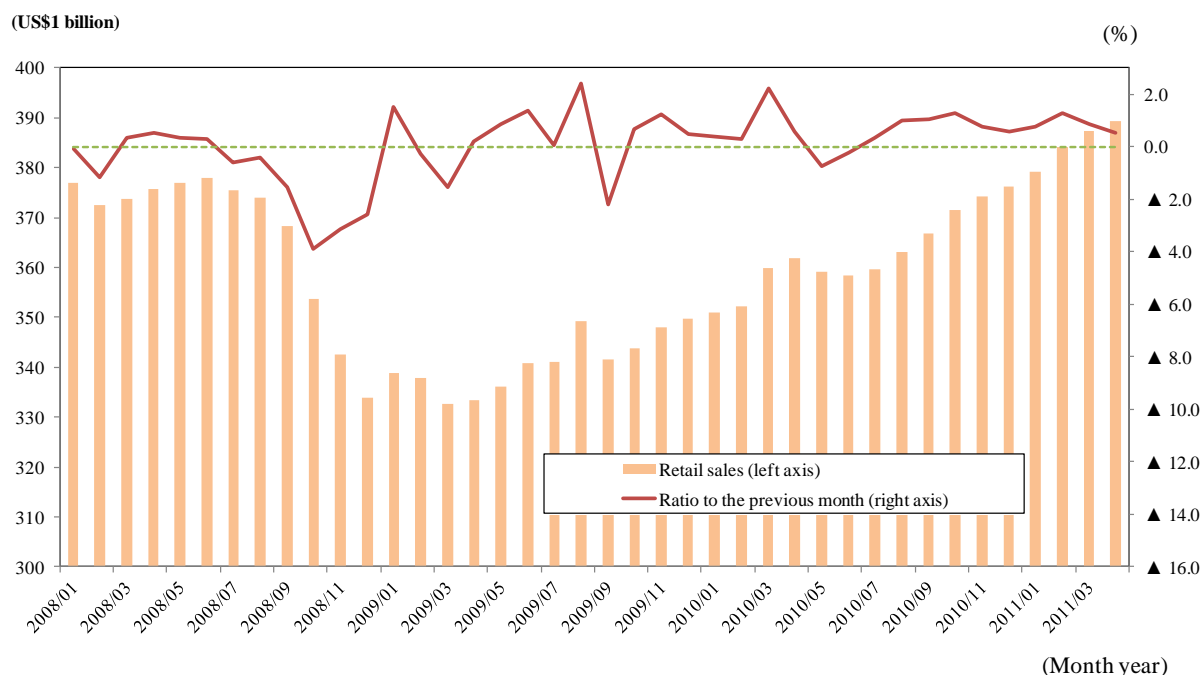


Figure 1-1-2-5 Transition of retail sales in United States of America



Notes: Seasonally adjusted value
Sources: US Department of Commerce; CEIC Database

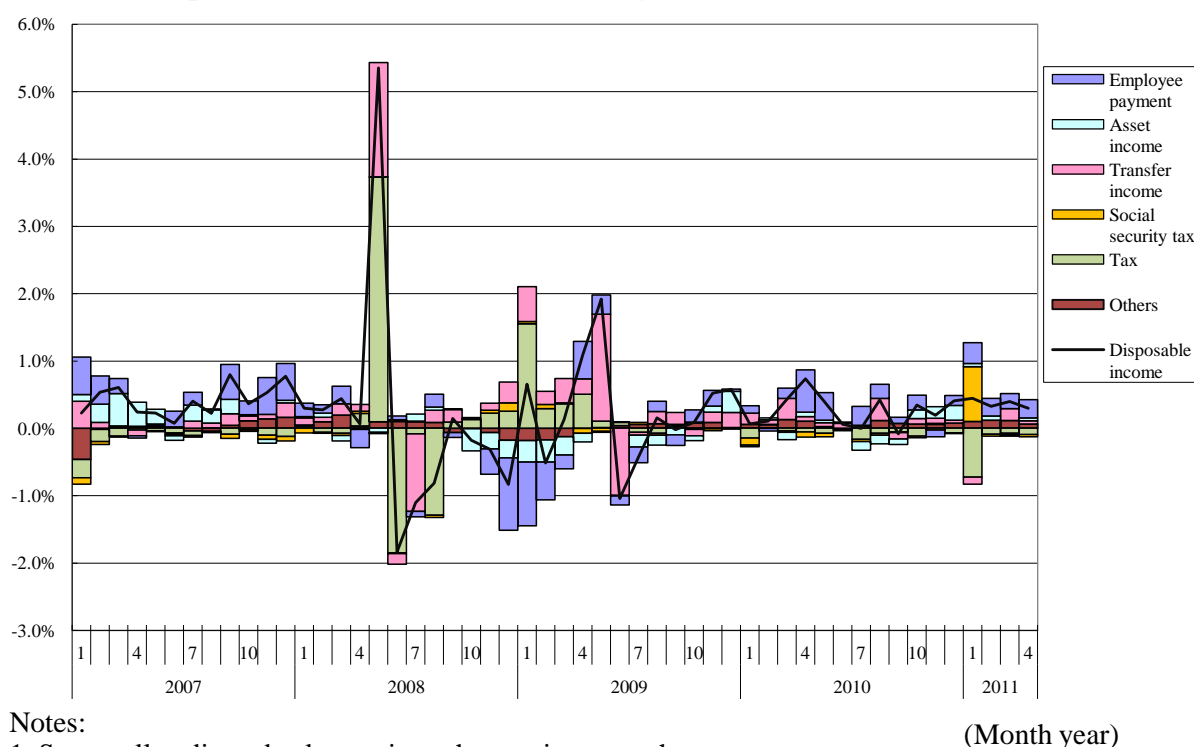
The disposable income to support consumption increased gently through the year. Examining the details, it shows that the transfer income such as tax reduction or unemployment benefits propped it up (Figure 1-1-2-6). Under a situation which the growth of the employees pay was not improved greatly³², it was thought that there was an aspect that large size tax reduction (Bush tax reduction) such as income tax reduction introduced under the Bush administration, and unemployment benefits from the unemployment insurance extension payment program implemented from July 2008 supported the personal consumption. Such prop up support by policy continued until 2011 by large-scale additional economic measure³³ (refer to (f) the government expenditure which pushed up the growth rate of early 2010) established at the end of 2010³⁴.

³² The employees payments changed more or less by a 5% increases over the previous years from 2004 through 2007, but it was 2.6% in 2008, -3.2% in 2009 and 2.3% in 2010.

³³ Above mentioned Bush tax reduction and the unemployment insurance extension payment program were also expanded as the additional economic measures.

³⁴ In January 2011, the reduction of the social security tax (society premium) became the factor of the income up-thrust.

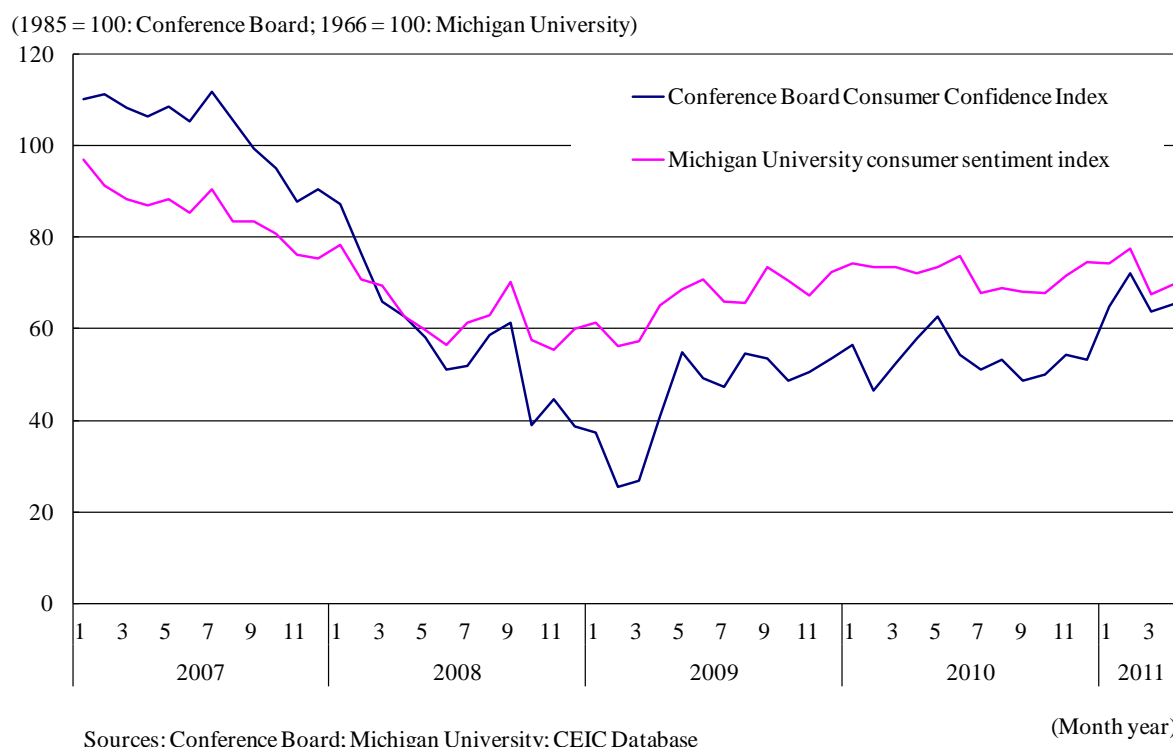
Figure 1-1-2-6 Disposable income and contribution degree by factors in United States of America



The consumers' mind of 2010 did not get out of slump situation after the economic recession aspect, but it showed recovery after October 2010 (Figure 1-1-2-7). However, employment environment was still in hard situation. While the growth of employees pay remained at low level, unemployment rate in 2010 changed at high levels around 10%, and it still remains high at present (refer to (2). (B) Employment)³⁵.

³⁵ The employment rate recorded 9.8% in November 2010, the highest level since April 2010. Then, it had tendency to be improved and lowered to 8.8% in March 2011, but rose again to 9.0% in April 2011.

Figure 1-1-2-7 Transition of US Conference Board consumer confidence index and Michigan University consumer sentiment index



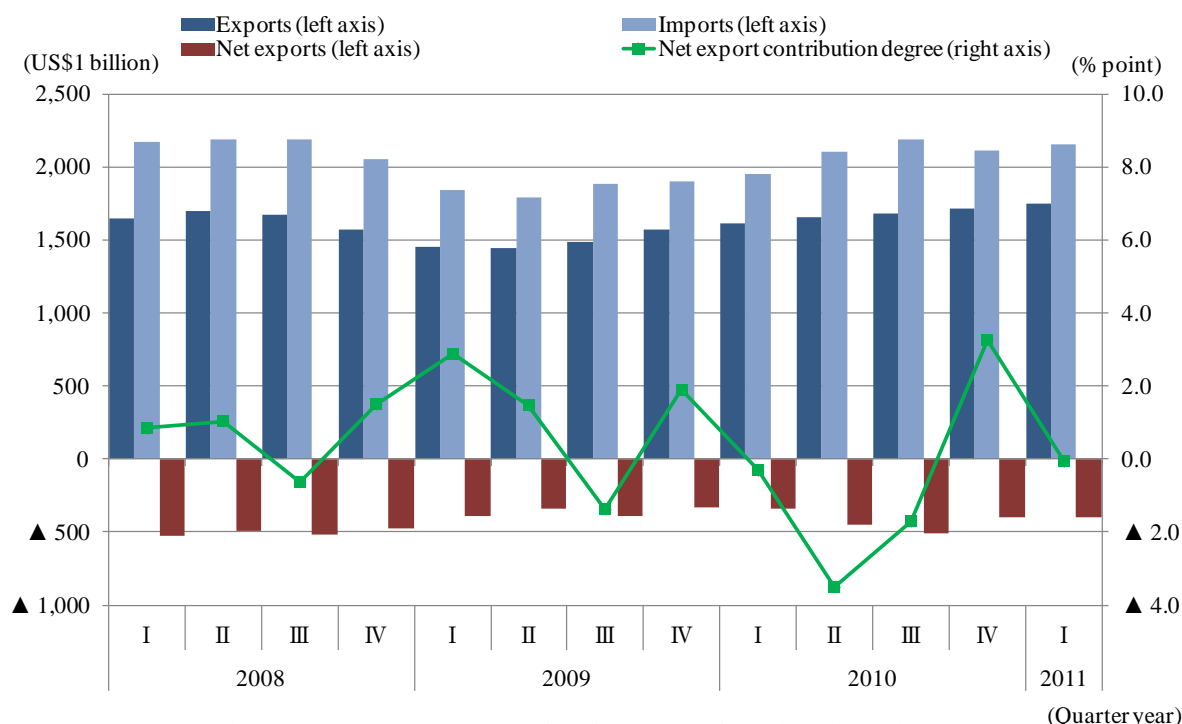
It may be necessary to wait for further improvement of the employment environment by the activation of enterprises activities together with the rise of the employees pay for full-scale recovery of the personal consumption of the future.

(b) Foreign demand that pushed the economy lower in early 2010

Since the world economic crisis of 2008, the quantity of world trade had been dropped, but it increased again with recovery of the world economy in 2010 (refer to 1. (2) Economic movement in the advanced and emerging economies, Section 1, Chapter 1) and both the annual value of exports and imports of the United States increased³⁶. In the real amount basis, growth of the import exceeded the growth of the export from the first-quarter to the third-quarter in 2010. Eventually, the minus amount of the net export (foreign demand) expanded and became a factor to push down the growth rate (Figure 1-1-2-8). While amount of the export in fourth quarter of 2010 continued to increase, the amount of import decreased. As a result, the minus amount of net export was reduced and it contributed to raise the growth rate. Because the amount of import increased again for the first quarter of 2011, the net export contributed to the negative growth rate.

Figure 1-1-2-8 Transition of US real export and import amount and contribution degree of net export to real GDP growth rate

³⁶ The amount of nominal export in 2010 was US\$1.8376 trillion (16.7% increases over the previous year), the amount of nominal import was US\$2.3376 trillion (19.5% increases). The real amount of export was US\$1.6655 trillion (11.7% increases over the previous year) and the real amount of import was US\$2.088 trillion (12.6% increases).



(c) Extremely sluggish housing market

The housing market investment increased by 25.7% at an annual rate over the prior quarter in the second-quarter of 2010, which turned into plus after an interval of 3 quarters. But it was a weak move with -27.3% in the third-quarter and 3.3% in fourth-quarter of 2010. First quarter of 2011 was -3.3% (second estimate). This indicated that the United States housing market was still in severe situation³⁷.

The number of housing sales in 2010 was at a historic low level (Figure 1-1-2-9). As for the sales of the existing-home, which accounted for approximately 90% of the number of sales, a reactionary decrease phenomenon occurred in July after rush demand by the housing tax reduction system³⁸ from 2009 to 2010³⁹. From late 2010 through January 2011, a tendency to recovery was seen, but currently, the movement becomes weak again. The new housing sales also remained on the same level since May 2010 due to the competition intensification by existing-home and a large quantity of seized housing⁴⁰.

³⁷ FRB pointed out on the housing and real estate market that “real estate markets for single family homes for the most part either were little changed from low levels or continued to weaken across all Districts.” in the Summary of commentary on current economic conditions by Federal Reserve District (Beige Book) published on April 13, 2011.

³⁸ This is a system being applied to new homebuyer, which exempts them from tax of maximum US\$8,000. Initially, application period was until June 2009, but in February, the application expiration was extended until November. The expiration was further extended in early November that “the system is applied to cases that are contracted before April 2010, and the housing has been delivered before the end of June (extended to the end of September, later)”, and also the tax deduction of maximum US\$6,500 was permitted to apply to homebuyer other than new homebuyer (residing over 5 years).

³⁹ The number of existing-home sales of July 2010 was 3,860,000 at the annual rate. This was a record-high decrease of 26.2% compared with the month before. The number of existing-home sales of the whole year was 4,907,000 in 2010, and this is a minus figure for the first time in 2 years with the decrease of 4.8% compared with the previous year.

⁴⁰ As for the number of new housing sales of the whole year of 2010, it was 3,230,000, which was the

Reflecting the slump, the number of housing starts was a poor movement too (Figure 1-1-2-10). In December, the building permits number largely increased by a rush of application caused by the Building Standard Act Revision in 3 states including California, but the reaction decreased afterward.

Figure 1-1-2-9 Transition of sales of housing (new housing and resale housing) in United States of America

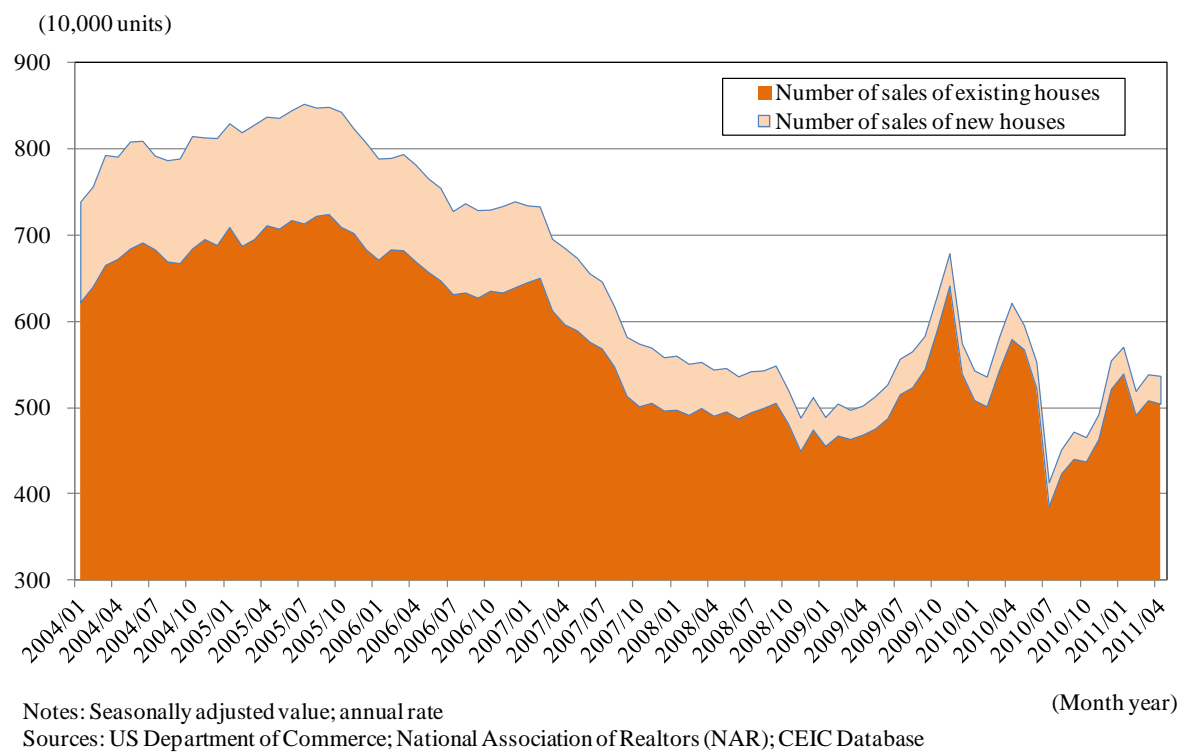
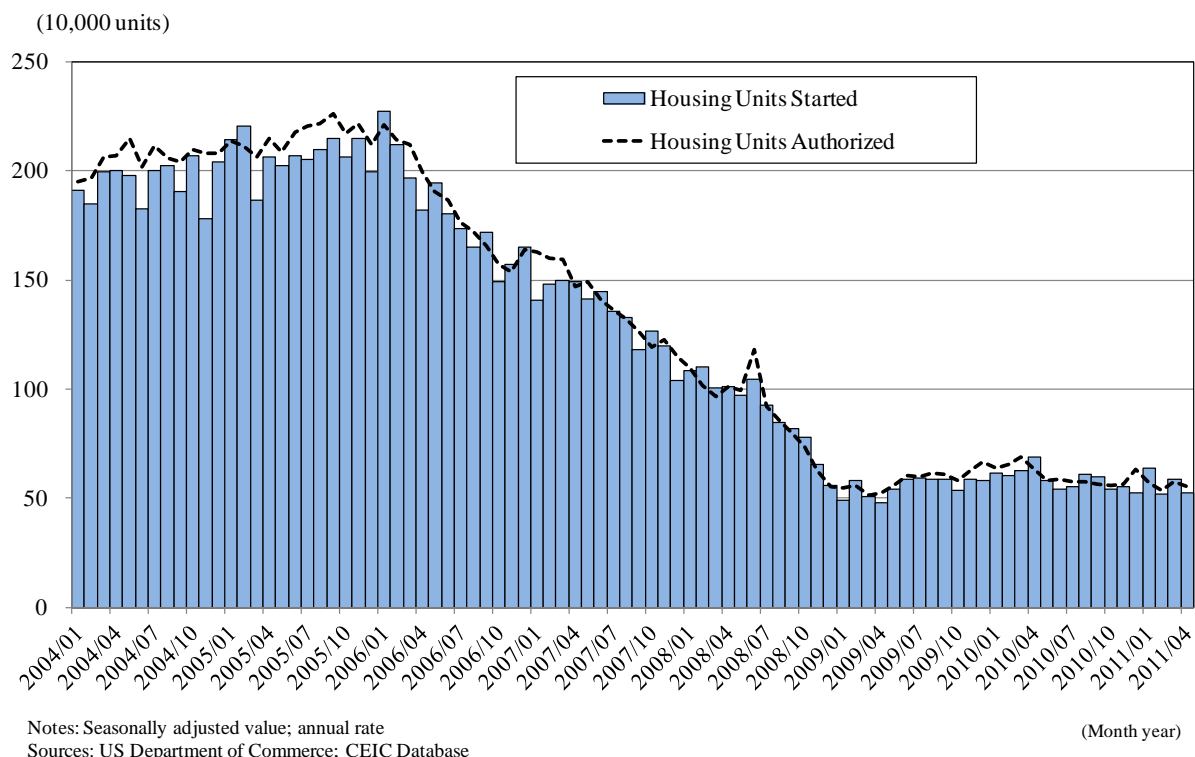


Figure 1-1-2-10 Transition of number of house building and number of authorization to build house in United States of America

lowest of this statistics since 1963. The stock of the number of new construction housing of April announced in May 2011 was 1,750,000, the lowest number in the past and it showed decreases in the housing construction.



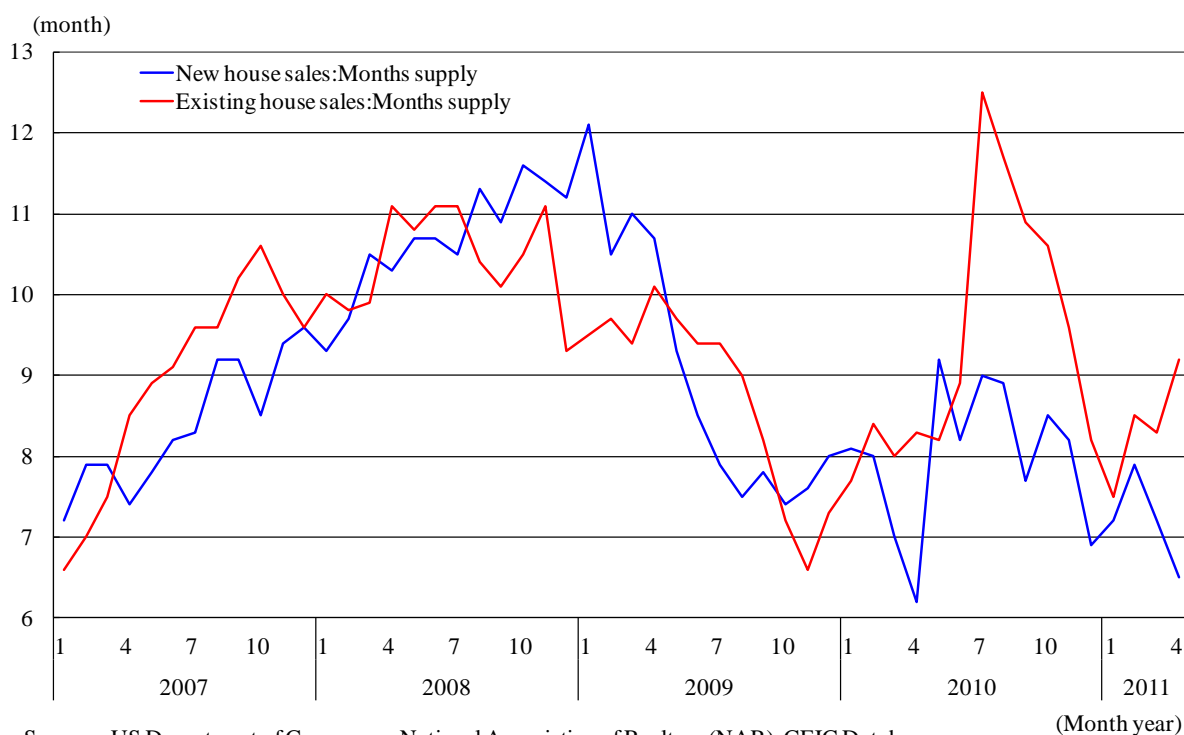
Ratio of houses for sale to houses sold ⁴¹ (hereinafter referred to as stock rate) was also still at high level (Figure 1-1-2-11). The stock rate of the existing-home decreased towards the end of 2010, but it increased again in 2011 and currently at a level of 8 to 9 months⁴². After having changed from 7 to 9 months in late 2010, the stock rate of the new construction housing is presently in a tendency to decline now⁴³.

⁴¹ It is an index to show whether housing stock for how many months exists against the current housing sales at that point when there is no additional supply of the housing.

⁴² The existing-home stock rate of the past 10 years (from January 2001 to December 2010) is an average of 6.7 months.

⁴³ The stock of the new construction housing decreases gently from 2007, but the stock rates may rise due to falls of the sales.

Figure 1-1-2-11 Transition of housing sales to stock ratio (new houses/Existing houses) in United States of America



Reflecting such situation, the house price fails to rise too. S&P/ Case-Shiller home price indices on 20 cities slightly increased over June, 2010, but decreased again afterwards (Figure 1-1-2-12). The median of the existing-home sales price was US\$156,000 in February 2011, became at the lowest level since February, 2002⁴⁴. In addition, it is considered that the newly built housing is also in the severe situation, because it faces the competition with existing-home, particularly with seized housing, which must be offered at lower prices. Such severe situation as the housing market had an influence on the balance sheet adjustment of the family budget. In other words, the household sector was carrying on the debt reduction while it was propped up by the transfer income such as the tax reduction or the unemployment benefits, but overburden debt feeling of the family budget was increased by the decline of the property value caused by the slump of the housing market, delay in the recovery of the flow income, and the hovering high unemployment rate, etc. The delinquency rate of the home loan and the charge off rate are still at a high level (Figure 1-1-2-13). Therefore, it is thought that balance sheet adjustment in the household sector continues for the time being (Table 1-1-2-14).

⁴⁴ Increasing rate of purchase (37% in April announced by National Association of Realtor (NAR)) of low price seized housing real property and houses, which were sold voluntarily after negotiation between debtors and creditors before seizure stage might cause the low level as the background.

Figure 1-1-2-12 Transition of Case-Shiller U.S. National Home Price Index: 20-City Composite

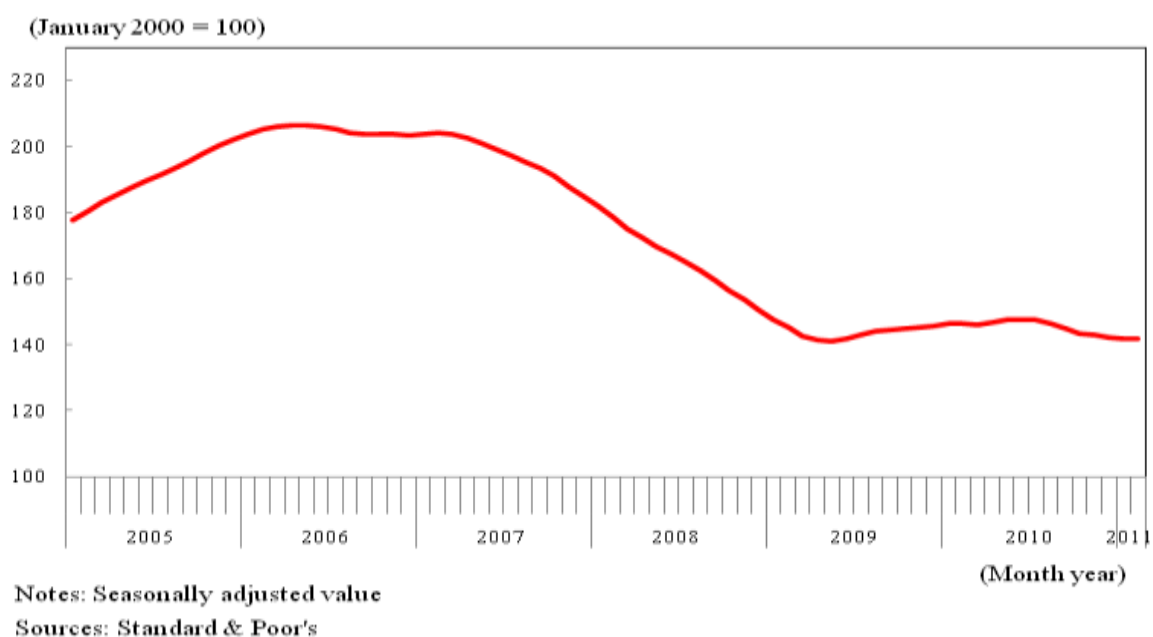


Figure 1-1-2-13 Transition of rate of housing loan in arrear and percentage of credit losses in United States of America

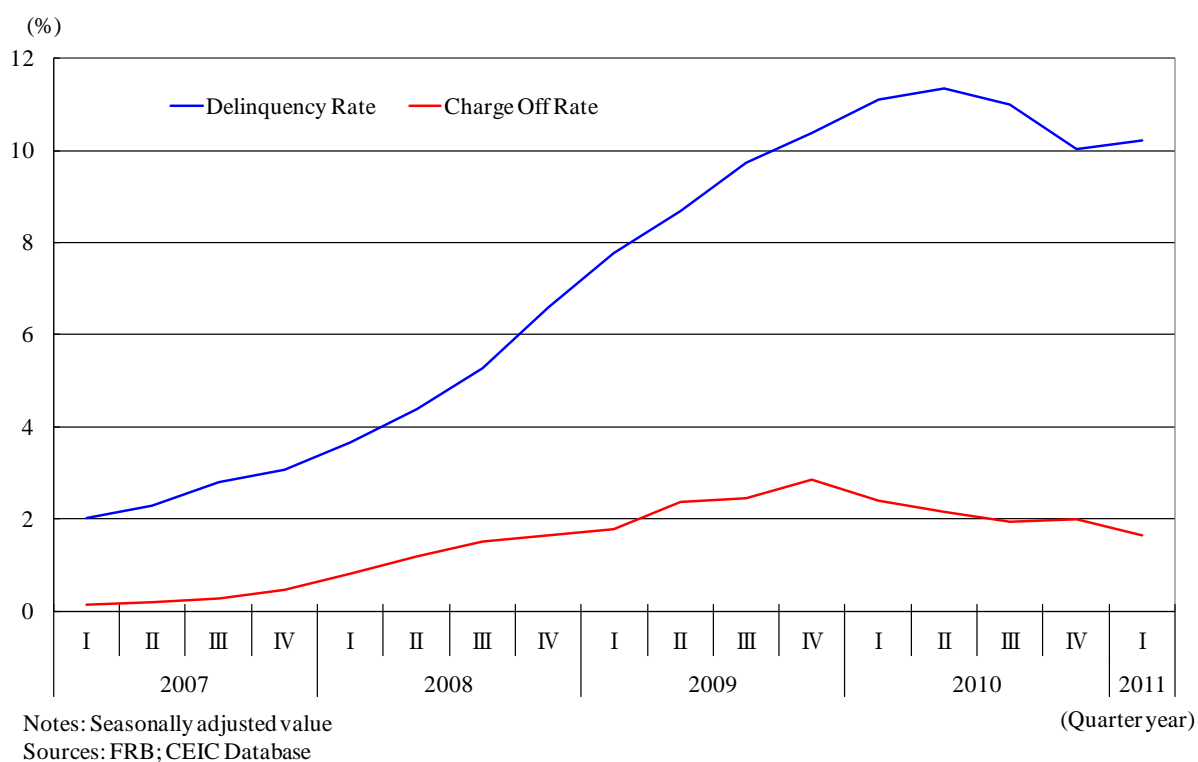


Table 1-1-2-14 Transition of balance sheet (major items) of household sector in United States of America

(Unit: US\$1 billion)

	End of 2006	End of 2007	End of 2008	End of 2009	End of the first quarter of 2010	End of the second	End of the third quarter	End of the fourth quarter	End of the first quarter of 2011
Total assets	77,605.1	78,538.9	65,635.7	68,161.5	69,253.8	67,954.3	68,645.9	71,062.7	71,932.4
Nonfinancial assets	29,523.2	27,972.4	24,397.3	23,678.6	23,850.7	23,973.8	23,381.1	23,379.8	23,085.3
Real estate	25,031.0	23,297.4	19,601.3	18,844.0	19,004.7	19,105.6	18,495.4	18,465.8	18,117.0
Financial assets	48,081.9	50,566.5	41,238.3	44,482.9	45,403.1	43,980.5	45,264.8	47,682.9	48,847.1
Corporate eq	9,643.7	9,627.0	5,738.8	7,429.3	7,676.2	6,955.9	7,500.8	8,239.9	8,791.9
Total liabilities	13,458.1	14,369.6	14,265.8	14,077.4	13,963.3	13,930.8	13,916.0	13,948.4	13,874.7
home mortgages	9,866.5	10,540.2	10,495.7	10,342.1	10,221.9	10,173.7	10,106.1	10,055.4	9,987.9
Percentage accounting for the total debts (%)	73.3%	73.4%	73.6%	73.5%	73.2%	73.0%	72.6%	72.1%	72.0%
consumer credit	2,416.0	2,555.3	2,594.1	2,478.9	2,406.1	2,387.5	2,407.8	2,434.7	2,404.0
Net assets	64,147.1	64,169.3	51,369.8	54,084.1	55,290.4	54,023.5	54,729.8	57,114.3	58,057.7
Disposable income ratio	6.5	6.2	4.7	4.9	4.9	4.8	4.8	5.0	5.0

Sources: FRB

(d) Production activities of the enterprises to maintain the recovery tendency

Reflecting on improvement of personal consumption and growth of foreign demand led by the emerging economies, the production activities of enterprises were showing a tendency to recover. From late 2009, a stock surplus decreased and industrial production and capacity utilization were maintaining a tendency to recover (Figure 1-1-2-15). However, the stock of the manufacturing industry continued to increase basically and as entering the destocking situation, it should be necessary to watch out for the pace to increase the production, which would have the possibility to slow down (Figure 1-1-2-16).

Figure 1-1-2-15 Transition of industrial production index and Capacity utilization in United States of America

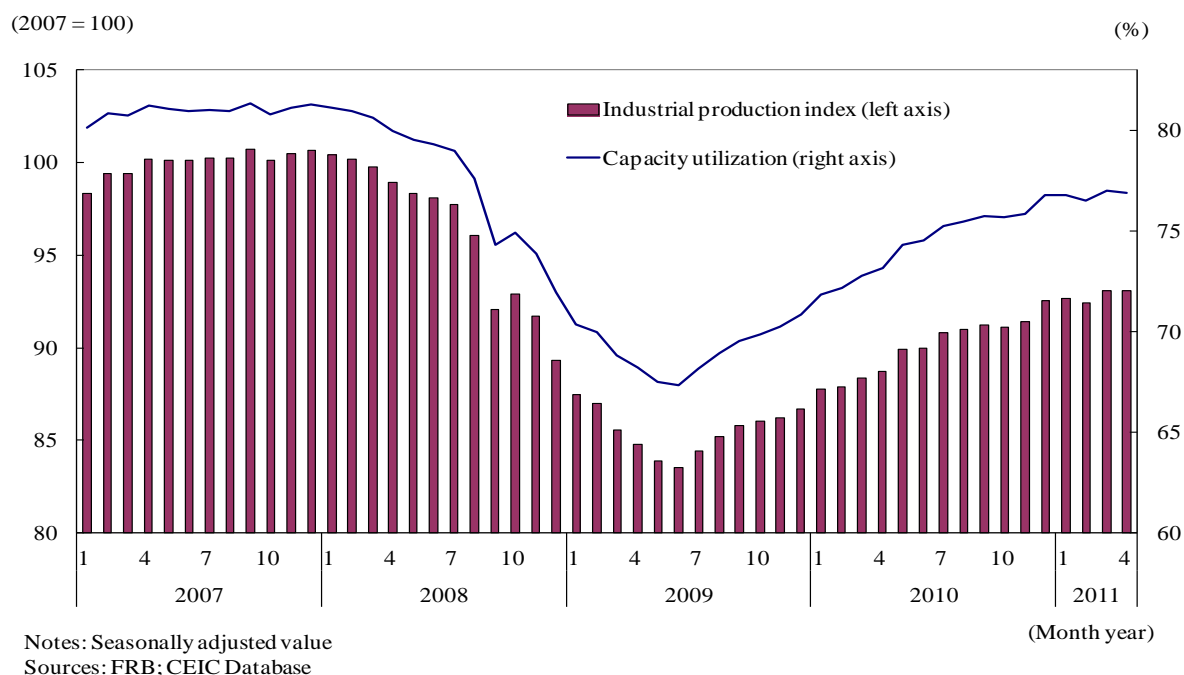
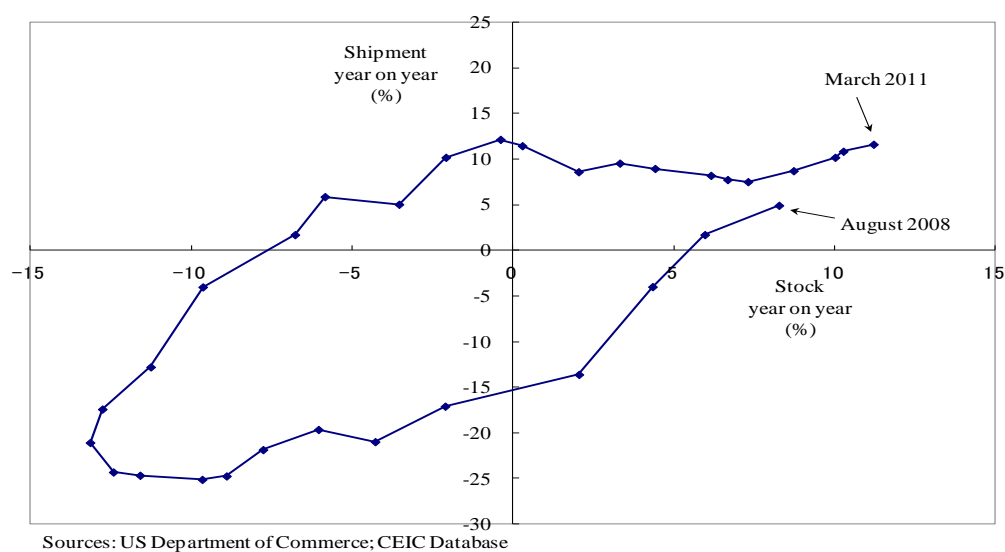
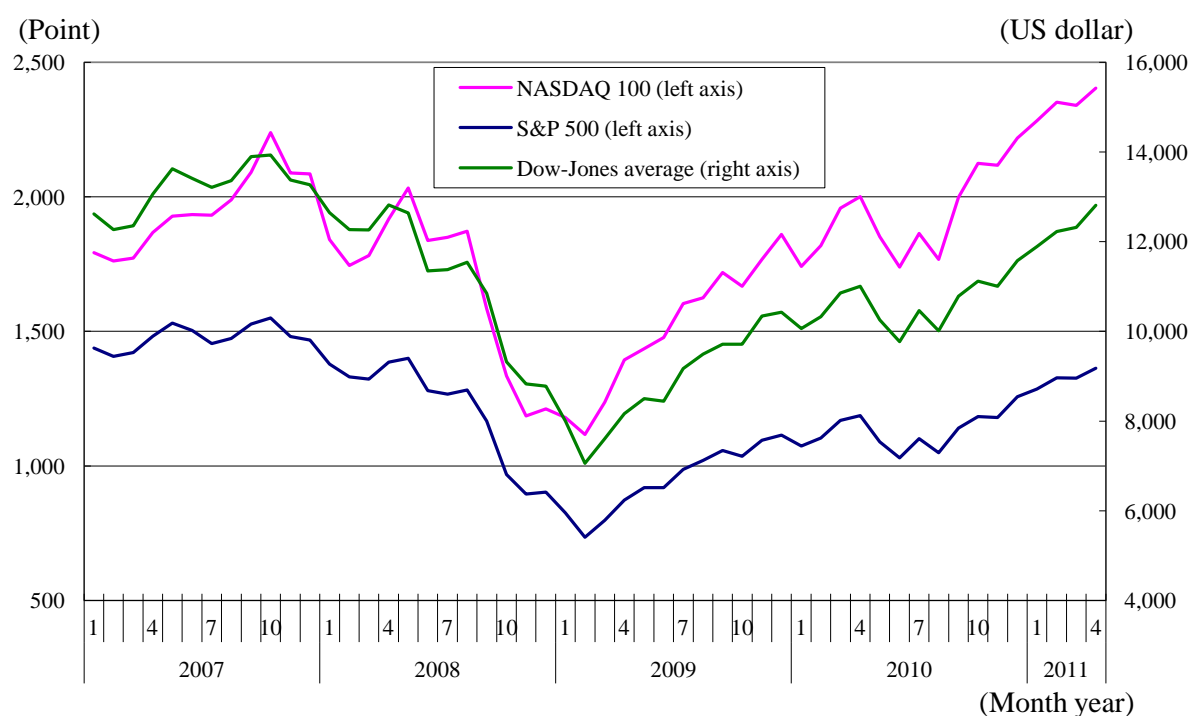


Figure 1-1-2-16 Stock circulation chart of United States of America



The maintained good production activities were reflected in the market. After having fallen under the influence of Greece financial crisis, the stock prices turned over and maintained an upward trend after August. Backed by economic expansion and improvement in business performance, the Dow Jones Average was restored to the 12,000 dollars level at the beginning of 2011, which was a level since June 2008 before the world economic crisis (Figure 1-1-2-17).

Figure 1-1-2-17 Transition of share prices in United States of America



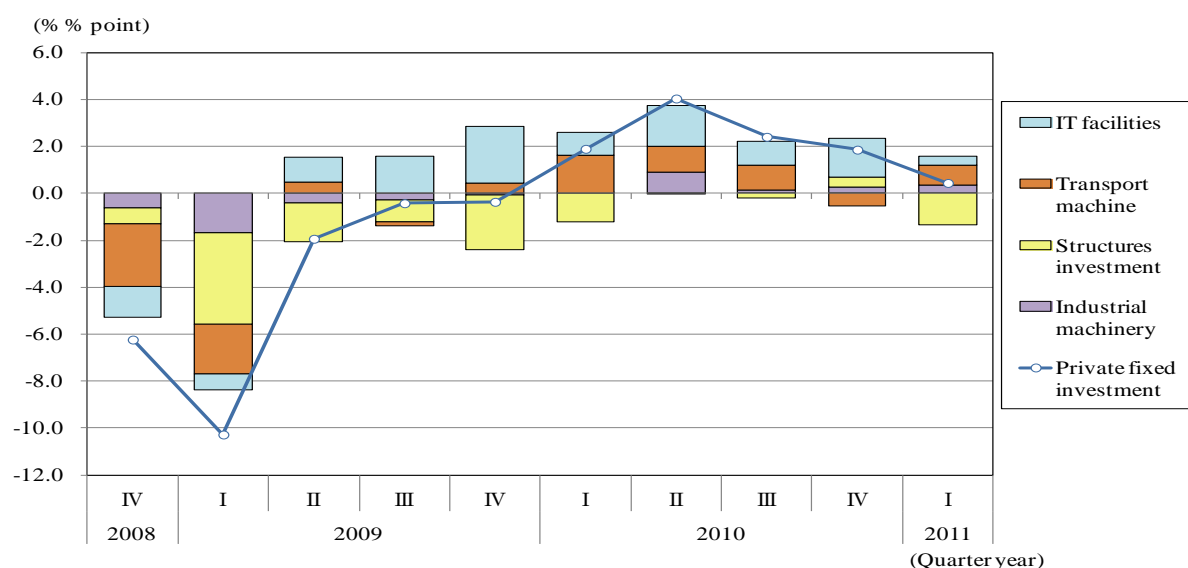
Sources: The NASDAQ Stock Market; Standard & Poor's; Dow Jones; CEIC

(e) Private capital investment, a decreasing pace of recovery

The private fixed investment increased gently in early 2010. However, the recovery pace continued to decrease in the last half of the same year. Examining the details, IT investment steadily increased, and recovery expanded in other sectors, but slump of the structures investment continued (Figure 1-1-2-18)⁴⁵. As for the capital goods shipment that is leading indicator of the equipment investment, movement of the recovery was interrupted shortly at the beginning of 2011 and afterward. If the cost rising continues by remarkable rises in resources and energy prices, it may become cause of the concern that fixed investment fluctuates downward (Figure 1-1-2-19).

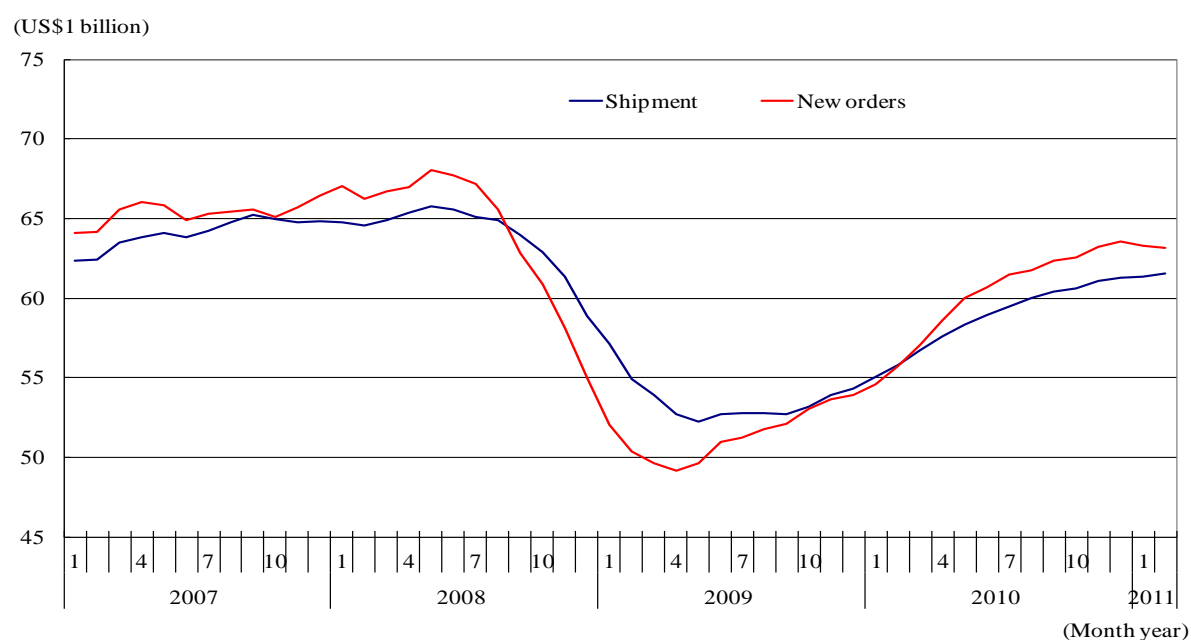
⁴⁵ The structures investment (a preliminary report level) of January - March period 2011 was 21.7% lower from the prior quarter at annual rate. That was a considerable decline from the previous quarter, which turned in a plus after an interval of 10 quarters. It is considered that the weather factors such as heavy snows influenced this.

Figure 1-1-2-18 Real private fixed investment and contribution degree by major items in United States of America



Notes: Seasonally adjusted value; Ratio to the previous quarter; Value of the first quarter of 2011 is the first estimation.
Sources: US Department of Commerce; CEIC Database

Figure 1-1-2-19 Transition of shipment and new orders received of non-defense capital goods (excluding aircraft) in United States of America (three months moving average)

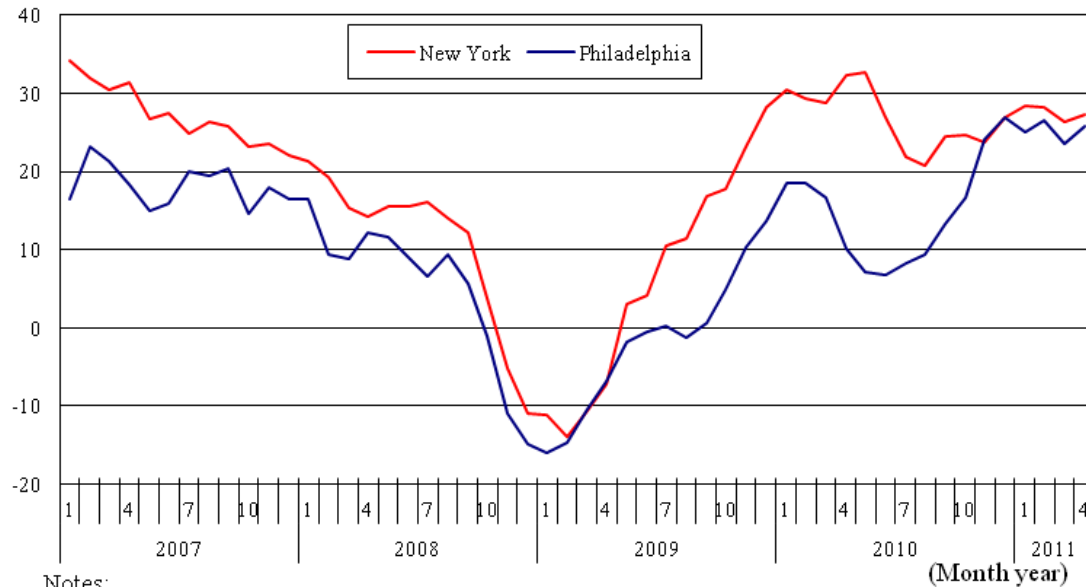


Sources: US Department of Commerce; CEIC Database

However, the business sentiment for the capital investment of the future maintained a high level. Having examined indices about the investment attitude of companies after 6 months shown by Federal Reserve Bank of New York and Federal Reserve Bank of Philadelphia, slight decrease was found at the end of 2010, but it still maintained the high level and suggested possible underlying strength of the capital investment (Figure 1-1-2-20). The capital investment tax reduction (refer to (f) the government expenditure which pushed up a growth rate of early 2010), one of the additional economic measures implemented at the end of 2010, is considered to have positive effect on sentiment of the capital

investment.

Figure 1-1-2-20 Transition of Federal Reserve Bank of New York's diffusion index and Federal Reserve Bank of Philadelphia's diffusion index in United States of America (future capital expenditures, three months moving average)

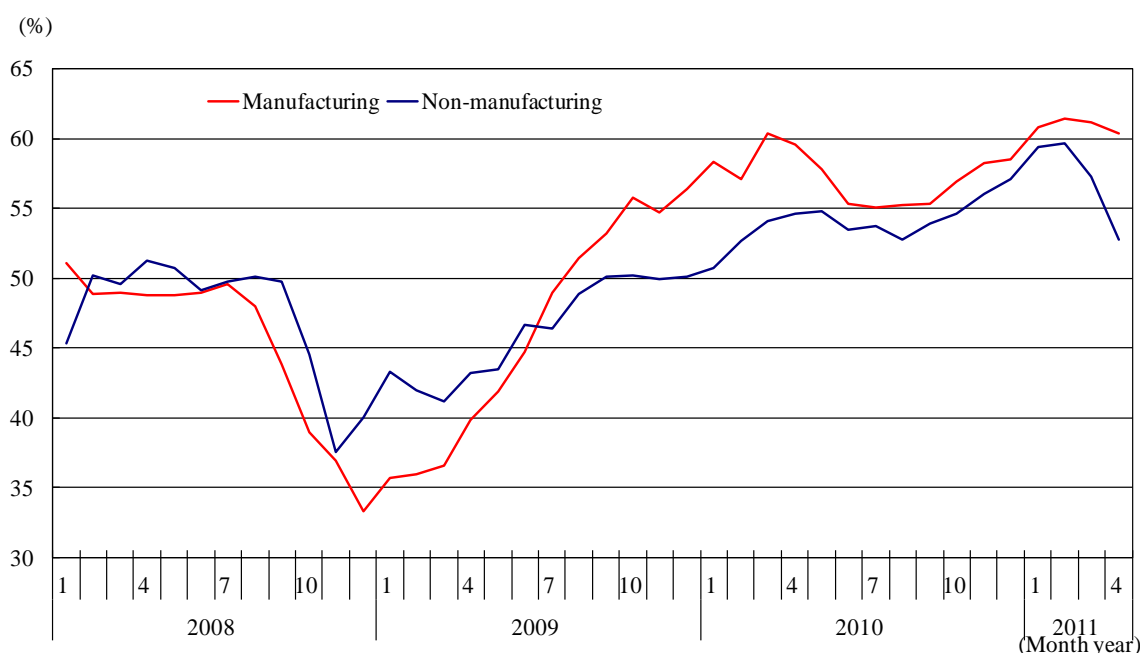


Notes:

1. State of New York is subject to the Federal Reserve Bank of New York's index; States of Pennsylvania, New Jersey and Delaware are subject to the Federal Reserve Bank of Philadelphia's index.
2. Survey sending questionnaire to companies on prospects of facilities investment after 6 months; Zero is the increase and decrease breakeven point.

However, according to the indices shown by Institute for Supply Management (ISM) that compared the situation in one month before with the current situation on items such as production, new orders received, inventory level and employment, it was improved towards the end of 2010, but presently the manufacturing industry remains at a level same as before in spite of being a high level, and the non-manufacturing industry is decreasing. It should be noted that the future situation of the business activities cannot be optimistic (Figure 1-1-2-21).

Figure 1-1-2-21 Transition of ISM purchasing managers index in United States of America (manufacturing and non- manufacturing)



Notes: Survey sending questionnaire to business persons in charge of purchase on comparison of items such as production, new orders and employment with those of one month before

2. Fifty is the increase and decrease breakeven point.

Sources: Institute for Supply Management (ISM); CEIC Database

(f) The government expenditure, which pushed up the growth rate of early 2010

The government Expenditure increased by the economic stimulus package based on the American Recovery and Reinvestment Act (ARRA)⁴⁶ enacted in February 2009 that contributed to the growth rate. The expenditure became largest in early 2010 due to the economic stimulus package with a total of US\$787.2 billion, and it is thought that it pushed up the real GDP of 2010 (Figure 1-1-2-22). In fact, according to the estimation by Congressional Budget Office (CBO), it was said that the economic stimulus package by ARRA was effective in pushing up the real GDP of early 2010 up to 4.6% (Table 1-1-2-23). However, as the peak of the government spending has been already passed, the up-thrust effect is estimated to slow down in 2011.

⁴⁶ Refer to “Ministry of Economy, Trade and Industry, (2010), “White Paper on International Economy and Trade 2010, Chapter 1, Section 2, (2) The United State Economy”

Table 1-1-2-22 Transition of fiscal stimulus by function category of the American Recovery and Reinvestment Act (ARRA)

(Unit: US\$ 1 billion)

	2009				2010			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Individual tax cuts	2.3	28.6	42.8	58.5	101.4	123.9	133.7	142.4
Alternative Minimum Tax (AMT) relief	0.0	7.8	13.8	17.3	28.7	76.2	83.4	83.4
Business tax incentives	0.1	10.4	19.0	26.6	32.5	36.6	34.4	33.4
State fiscal relief	8.5	28.2	43.8	59.3	75.5	92.1	107.1	121.7
Aid to directly impacted individuals	0.0	9.6	31.8	55.2	71.4	76.6	81.3	86.0
Public investment outlays	0.0	7.4	25.1	41.6	59.3	86.3	119.2	141.6
Total	11.0	92.1	176.3	258.6	368.7	491.6	559.1	608.5
Change in total (from end of previous quarter)	11.0	81.1	84.2	82.3	110.1	122.9	67.4	49.5

Sources: Council of Economic Advisers (2011), "The Economic Impact of the American Recovery and Reinvestment Act of 2009 Sixth Quarterly Report"

Figure 1-1-2-23 Estimated effect for real GDP by the American Recovery and Reinvestment Act (ARRA)

(Unit: %)

	2009				2010				2011			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
High estimate	0.1	1.4	2.5	3.4	4.3	4.6	4.2	3.5	3.3	2.5	2.0	1.2
Low estimate	0.1	0.8	1.2	1.5	1.8	1.6	1.4	1.1	1.2	0.8	0.6	0.3

Sources: Congressional Budget Office (2011), "Estimated Impact of the American Recovery and Reinvestment Act on Employment and Economic Output from October 2010 Through December 2010"

The Obama government pledged to achieve equalization of primary balance and set up a nonpartisan committee to examine specific measures. As the economic recovery slowed down after 2010, the additional economic measure focusing on infrastructure investment and corporate tax reduction was proposed in September 2010. Furthermore, "Tax Relief, Unemployment Insurance Reauthorization and Job Creation Act⁴⁷" was enacted in December 2010, and it became a large-scale additional economic measure with a total of US\$857.8 billion (Table 1-1-2-24).

⁴⁷ The Act includes the 2 years extension of the 2001 and 2003 Bush tax reduction plan which were to expire at the end of 2010, the 13 months extension of the unemployment insurance extension program expiring at the end of November 2010, the social security tax relief and the immediate depreciation measure on capital investment, etc.

Table 1-1-2-24 Outline of additional economic stimulus measures

(Unit: US\$100 million)

Content		Amount
Extension of Bush tax reduction		5,443
	Deferment of income tax rate	2,075
	Continuing mitigation measures	1,561
	Matters related to Obama tax reduction	441
	Others	1,367
Tax reduction of inheritance duty		681
Easing social security tax (social insurance premium)		1,117
Implementation of immediate depreciation of facilities investment		218
Extension of special measure to issue unemployment insurance		565
Others		554
Total		8,578

Notes:

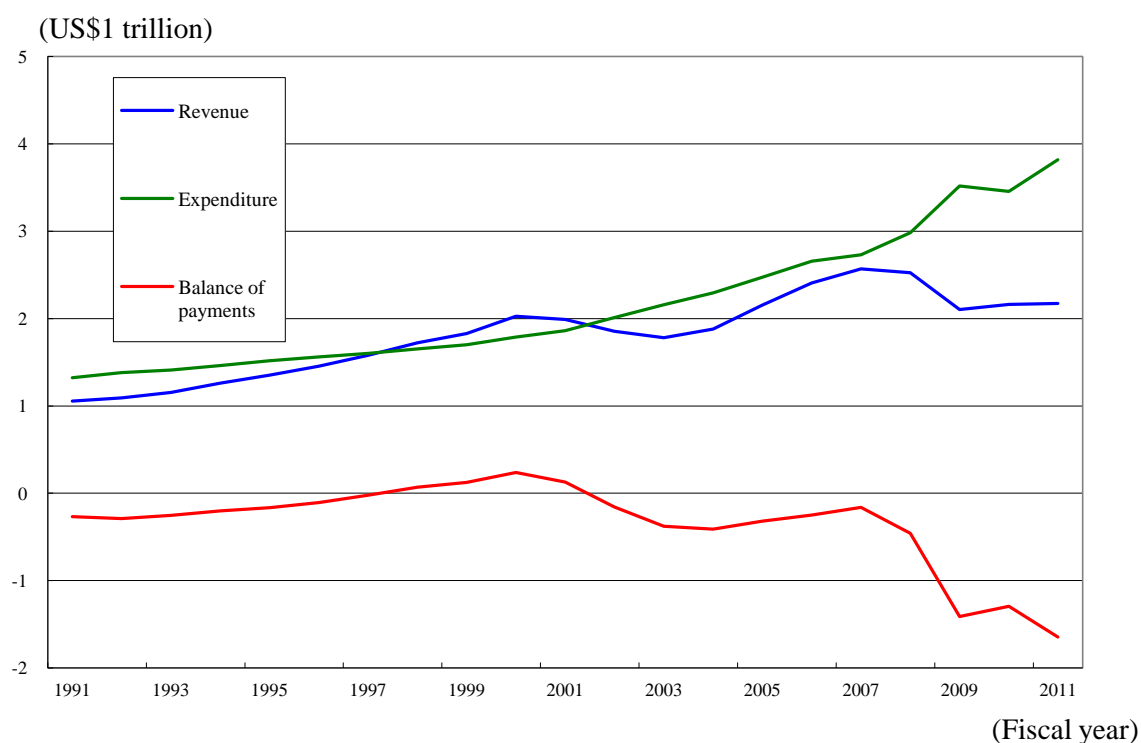
1. Obama tax reduction is a tax reduction measure included in measures in 2009.
2. The amount is an accumulated total from 2011 to 2020.

Sources: Data from Joint Committee of both Houses

While such economic measures advanced, the budget deficit increased. The federal budget deficit of 2010 was US\$1,239 billion and the amount of deficit was less than the record-high deficit in 2009, but over US\$1,000 billion deficit continued to be recorded (Figure 1-1-2-25). President Obama proposed an austere fiscal policy in the Budget Message of 2012 submitted on February 14, 2011 for restraint and reduction of the budget deficit. In this Message, the worst-ever budget deficit of US\$1,645 billion was estimated for fiscal 2011(started from October, 2010). Obama government aims to control the accumulated budget deficit from fiscal 2012 to 2021 within US\$7,200 billion by measures such as, changes in the revenue structure, reduction of obligatory expenditure and freezing discretionary spending for 5 years⁴⁸.

⁴⁸ The 2011 budget approved in April 2011 reduced approximately US\$78.5 billion from the original annual expenditure budget.

Figure 1-1-2-25 Transition of US federal fiscal revenue and expenditure



Notes: Amount in 2011 is a predicted value (Budget Message 2012).

Sources: US Office of Management and Budget; CEIC Database

The financial difficulties continue to exist not only in the federal government but also in the local governments⁴⁹. The government Expenditure (second estimate) of the first-quarter in 2011 accounts at an annual rate of -5.1% reduction from the prior quarter and record-low size of decrease since the fourth-quarter in 1983, and this becomes a factor to push down the growth rate.

(B) Progress in export doubling plan and current account deficit to increase again

(a) Progress in the export-doubling plan

President Obama announced “the national export initiative” in his State of the Union Address on January 27, 2010 (Table 1-1-2-26). This initiative aims to increase export double in the next 5 years and to create the new employment of 2,000,000 people. In September, 2010, Export Promotion Cabinet announced action and progress in 6 months since the start of the nation export initiative, and showed performance such as dispatch of the trade mission, support for trade expansion to the medium and small-sized business, the expansion of the export credit through the export and import bank.

Table 1-1-2-26 Outline of United States of America’s national export strategy

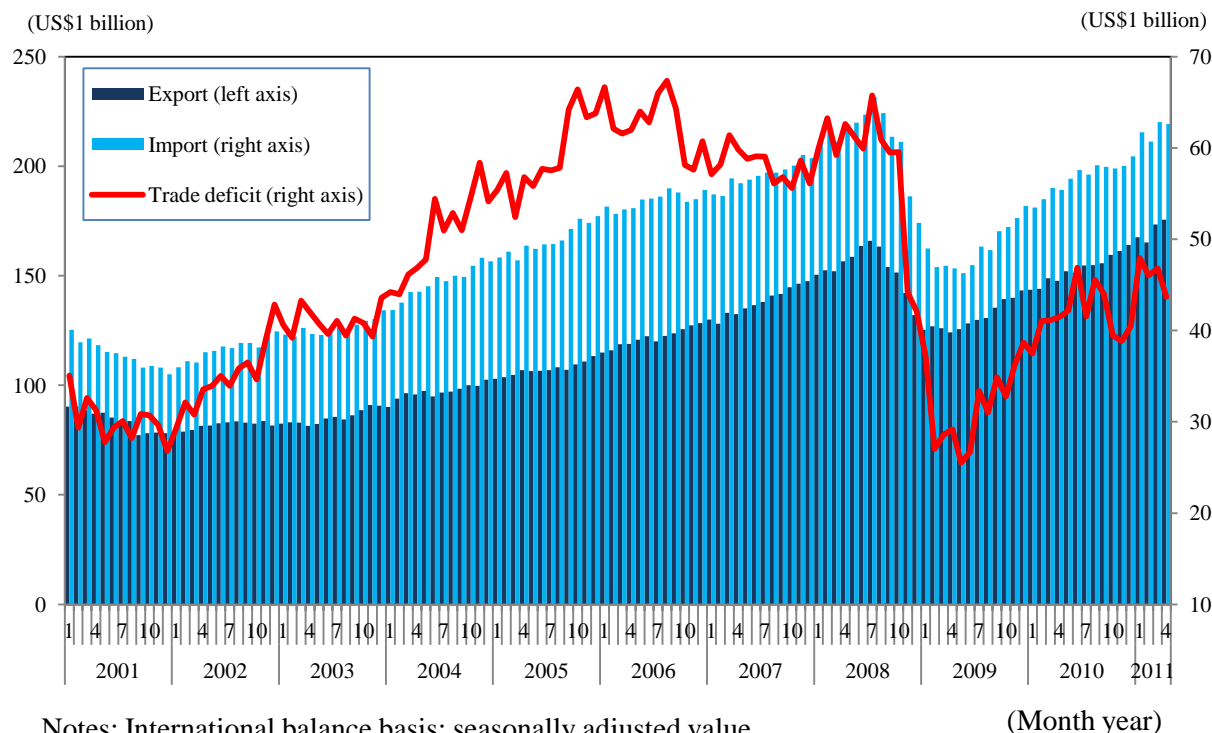
⁴⁹ According to the estimation provided by Center on Budget and Policy Priorities (CBPP), a think tank of the United States, 44 of 50 states in the United States anticipate revenue shortfall in 2012. The revenue deficiency of the state government is expected to gradually reduce after a peak in 2010, but the revenue deficiencies of the states which the state governments must cover will increase because the financial assistance based on the ARRA, provided from the federal government to the state governments is to be terminated in 2011. As a result, as of February 2011, resident services have been already reduced in 46 states, and a tax increase has been conducted in more than 30 states.

Target	Doubling the export and creating two million domestic new jobs within 5 years
Concrete measures	1. Coordination of high level export promotion policy <ul style="list-style-type: none"> • Creation of Export Promotion Cabinet • Resuming the President's Export Council (PEC)
	2. Financial support for export business <ul style="list-style-type: none"> • Doubling the fund frame of Export Import Bank within 5 years (currently US\$21 billion) • New establishment of trade financial support system for small and medium sized enterprises (US\$2 billion per year)
	3. Export support across the government: Participation of high level government officials to promote export <ul style="list-style-type: none"> • Dispatching trade mission • Export strategy for new markets (Department of Commerce in charge) • International business partnership program (USTDA in charge) • Strengthening commercial diplomacy by the diplomatic mission abroad
	4. Providing resources for candidates of future export companies <ul style="list-style-type: none"> • Providing one stop services for the export promotion
	5. Ensuring access to the free and fair markets <ul style="list-style-type: none"> • Strict enforcement of the Trade Act • Opening new markets • Forming foundation for strong, sustainable and balanced growth
	6. Reformation of the export management system: National security and strengthening the competitiveness of principal industry <ul style="list-style-type: none"> • Accelerating the examination on export for encrypted export products • Coordination of restriction with export partner countries

Sources: The White House, "President Obama Details Administration Efforts to Support Two Million New Jobs by Promoting New Exports" (March 11, 2010)

The United States annual export is approximately US\$1,600 billion as of 2009. To increase this double in 5 years, the exports of 2014 will be over US\$3,000 billion and high growth rate of over 15% at an annual rate must be maintained. Report from said Cabinet Council showed that export in January- April 2010 period was 17% increase over the same period in the previous year and stated that the accomplishment of the goal should be possible with the growth rate. In addition, the annual export of 2010 was US\$1,800 billion, and it was 17% increase over the previous year. It can be said that the United States export performance in 2010 grow at the rate that can almost achieve the target. Currently, the export has tendency to increase, and in April, 2011, it reached record-high of US\$175.6 billion on monthly basis (Figure 1-1-2-27).

Figure 1-1-2-27 Transition of US trade balance



Addition to the steady demand from the emerging economies, and backed by the export doubling plan based on “the nation export initiative” that government promotes, it is expected that recovery of the export continues and support the business activities.

In 2010, a recovery basic tone continued also in the import. With recovery of the domestic demand supported by improvement of personal consumption and the business sector, the amount of import also increased, and the trade deficit of June, 2010 became US\$46.9 billion, the highest level since October 2008. Afterward, the trade deficit had a tendency to reduce, but increased again⁵⁰ from December through January 2011 (Figure 1-1-2-27).

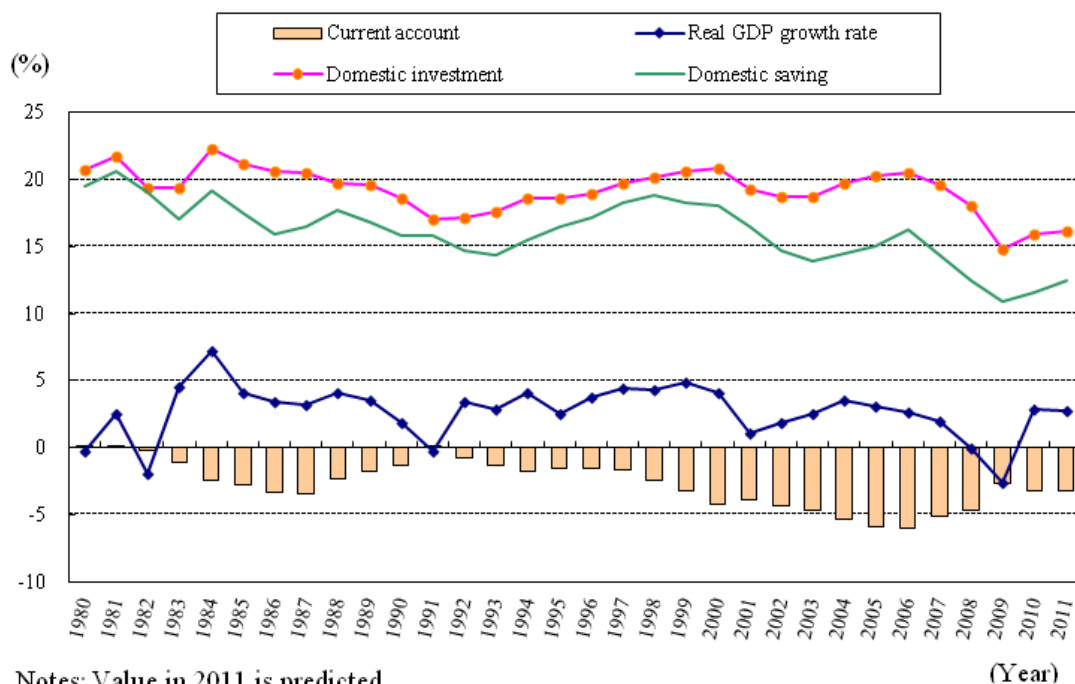
(b) The current-account deficit to increase again, the main reason is the goods trade deficit

As mentioned above, President Obama stated the policy to double export in the next 5 years in the State of the Union Address of January 2010. However, remarkable improvement of the trade balance is not found at present, and this becomes the main reason of the current-account deficit increase after the third quarter of 2009.

Watching the transition of the current balance of the United States, after the current-account deficit increased temporarily at the mid-1980s, it turned to decrease and moved into the surplus in 1991. However, the balance worsened again, afterward and the current-account deficit increased mostly throughout until the mid-2000s. In 2006, it recorded -6.0% in ratio to the GDP (Figure 1-1-2-28).

Figure 1-1-2-28 Transition of US real GDP growth rate and ratios of saving, investment and current account to GDP

⁵⁰ The trade deficit of April 2011 reduced to US\$43.7 billion. It was a 6.7% decrease from the previous month.

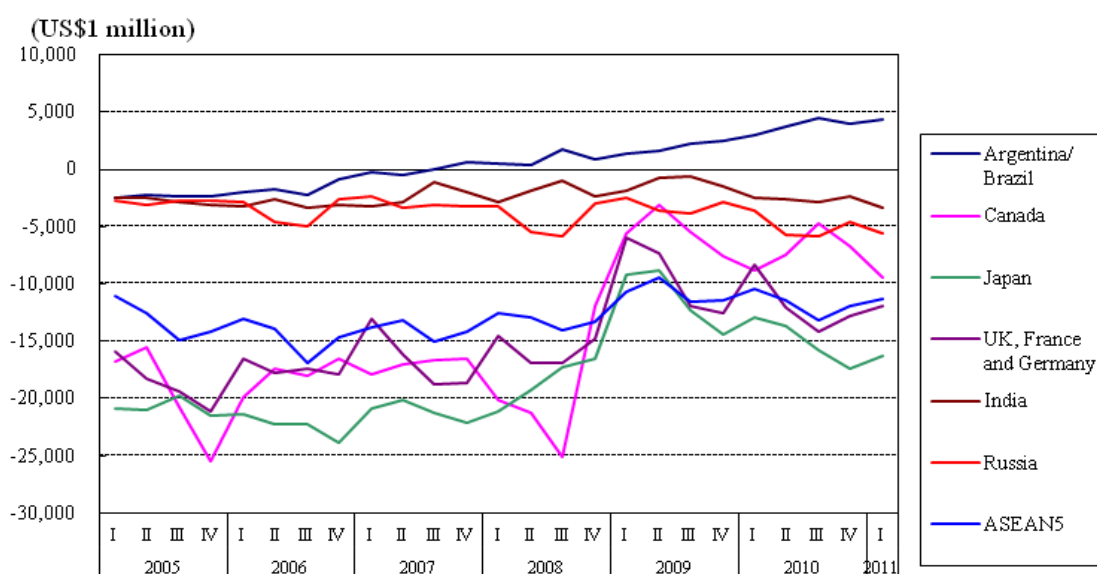


In recent years, the current-account deficit ratio to GDP decreased, but deficits in quarterly basis increased again from the third quarter of 2009, and deficits in annual basis became -3.2% in 2010. During this period, the balance on services and the balance on income were consistently the surplus, but the balance on goods and the net unilateral current transfers had deficits. Because there are little changes in the deficit of the balance of transfer account, the increase of the current-account deficit after the third-quarter of 2009 was caused by the aggravation of the balance on goods.

Examining the movements in the trade balance according to major countries/ regions, while trade with Argentina and Brazil registered the surplus, the trade with China, Japan, sum of UK, France and German, ASEAN5, India and Russia fell into the red. Especially, deficits in the trade with China have been at higher level (Figure 1-1-2-29).

Figure 1-1-2-29 Transition of United States trade balance (quarterly basis, by countries/ regions)⁵¹

⁵¹ Figure 1-1-1-46 is shown again on China.



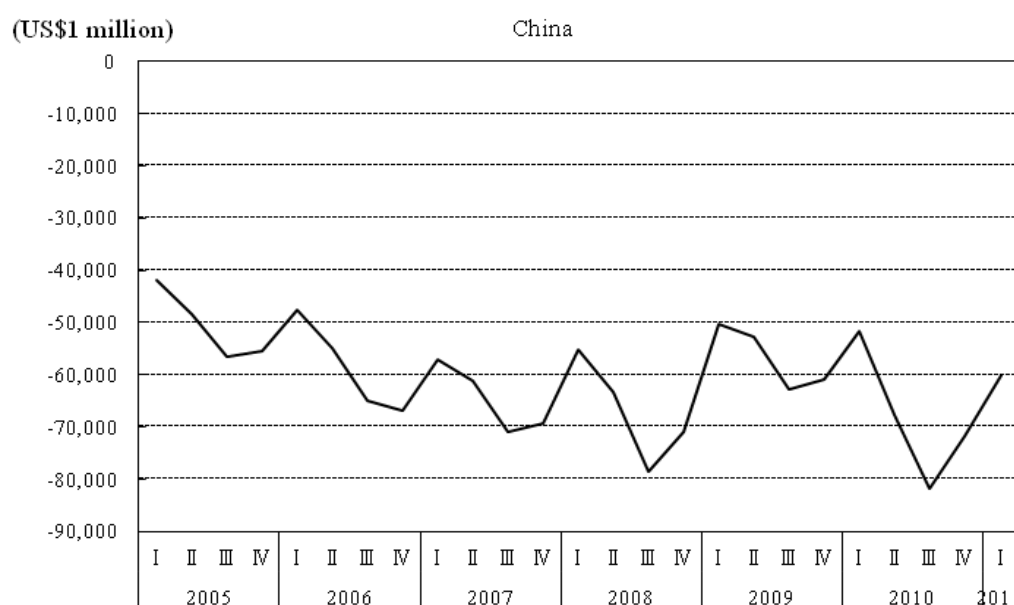
Notes:

1. Customs clearing basis

2. ASEAN5 is Thailand, Philippine, Indonesia, Malaysia and Vietnam.

Sources: US Department of Commerce; CEIC Database

(Quarter year)



Notes: Customs clearing basis

Sources: US Department of Commerce; CEIC Database

(Quarter year)

(2) The employment and Commodity prices to control FRB monetary policy

(A) FRB monetary easing policy

While inflation rate continued at the historic low level, FRB reduced the target rate of the federal funds to 0 to 0.25% in December, 2008, and left it unchanged to continue the ultra-low interest policy (Table 1-1-2-30).

Table 1-1-2-30 Transition of US official discount rate and federal funds target rate

	Official discount rate	Federal funds target rate
2007 8/17	5.75	4.75
9/18	5.25	4.75
10/31	5.00	4.50
12/11	4.75	4.25
2008 1/22	4.00	3.50
1/30	3.50	3.00
3/16	3.25	3.00
3/18	2.50	2.25
4/30	2.25	2.00
10/8	1.75	1.50
10/29	1.25	1.00
12/16	0.50	0.00 - 0.25
2010 2/19	0.75	0.00 - 0.25

Sources: FRB

In addition, FRB performed various nontraditional monetary policies including the purchase of bonds and securities such as agency bonds of 2009, residential mortgage-backed securities (MBS), the long-term national bond, but adopted the exit strategy to terminate them once by June, 2010 (Table 1-1-2-31).

Table 1-1-2-31 Transition of non-traditional monetary policy by US FRB

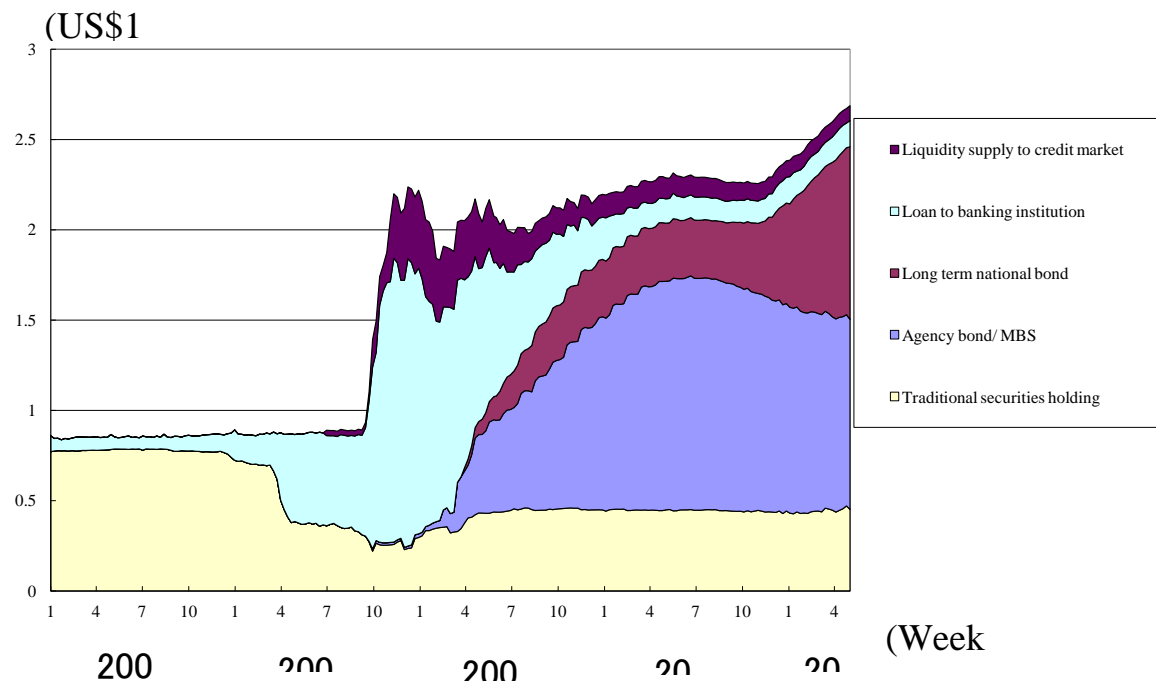
<ul style="list-style-type: none">• Term Auction Facility (TAF) : From December 2007 to March 2010• Term Securities Lending Facility (TSLF) : March 2008 to February 2010• Primary Dealer Credit Facility (PDCF) : From March 2008 to February 2010• Asset-Backed Commercial Paper Monetary Market Fund Liquidity Facility (AMLF) : From September 2008 to February 2010• Commercial Paper Funding Facility (CPFF) : From September 2008 to February 2010• Money Market Investor Funding Facility (MMIFF) : From October 2008 to October 2009• Term Asset-Backed Security Loan Facility (TALF) : From March 2009 to June 2010• Purchase of agency bond and Mortgage-Backed Security (MBS) : From January 2009 to March 2010• Purchase of long term national bond : From March 2009 to October 2009• Resuming purchase of long term national bond : From August 2010 Purchase of refund of principal of Mortgage-Backed Security (MBS) and others : From November 2010 to June 2011 Purchase of US\$600 billion (QE2)

Sources: FRB; Data from various news reports

However, the reduction of the size of increase in the number of private sector employees, continued declining tendency of the core consumer prices index and decline in expected inflation rate were seen after May 2010 due to slowdown of the economic recovery by the exfoliation of the policy effect after spring of 2010, and decline of the market sentiment beginning with Greek financial crisis. As having dual mandate of “the maximum employment and prices stability”, FRB decided on the second monetary easing policy. In November 2010, Federal Open Market Committee (hereinafter referred to FOMC) decided additional purchase⁵² of the long term national bonds totaling US\$600 billion before the end of June 2011 (approximately US\$7.5 billion per month) for the additional monetary easing (Figure 1-1-2-32 and Table 1-1-2-33).

Figure 1-1-2-32 Transition of balance sheet of US FRB (asset side)

⁵² Also generally known as QE2 (Quantitative Easing 2).



Sources: FRB

Table 1-1-2-33 FMOC Statements, FRB high officials' remarks and market viewpoints before the invocation of US additional monetary easing measures

August 10, 2010

Federal Open Market Committee (FOMC)

- FRB showed its deliverance on US economy that “the pace of recovery in production and employment was decelerated over the past several months”. This was rather cautious comment compared with previous one in June that “the economic recovery was in progress and the labor market was improved gradually”. And it made a downward revision on the forecast that the pace of economic recovery could be rather moderate than expected before”. It decided that the holding of securities was maintained at current level by reinvesting redemption funds of agency bond and MBS to the long term national bonds”.
- The decision suspends the exit strategy to return the monetary policy to normal conditions through asset shrinkage by natural reductions and it is called as “a virtual additional monetary easing measure”.

August 27, 2010

Lecture given by Bernanke, Chairman of FRB (Symposium held by Kansas City Federal Reserve Bank)

- The chairman pointed out that “speed of recovery in the production and employment were slightly slower than expected one over the past several months and its background was stagnation in the consumption and delay in improvement of the labor market. He made remarks that “FOMC was ready to implement additional monetary easing measures to maintain the stability in prices and economic recovery if needed.
- The comment triggered the markets' strong expectation for additional monetary easing measures.

September 21, 2010 FOMC

- FRB showed concerns about prices of commodities and low inflation rate first time in its statement that index showing underlying inflation was slightly lower than a level of which FOMC deemed as the most suitable for the FOMC responsibility to promote expansion of job opportunities and stability in prices”. And it expressed possibility of the future additional monetary easing measures that “watching the economic prospects and movement of monetary markets, we were ready to implement the additional monetary easing measures if needed to support the economic recovery and to gradually return the inflation rate to the level suitable to our responsibility”.
- The market increasingly expected decision of implementation of the additional monetary easing measures at FOMC meeting in November due to number of employees in the employment statistics in September, which was fewer than previously expected one (*1) announced by Department of Labor later on October 8 and FRB officials including Chairman Bernanke repeatedly made positive remarks (*2) on the additional monetary easing in lectures.

*1: Number of employees in non-agricultural sectors in September decreased 95,000 compared with the previous month and the unemployment rate was 9.6%. The number of employees decreased for consecutive four months and it largely decreased from the number expected by the markets (decrease of 5,000) (Later the number was revised and reduced to 29,000 decrease compared with the previous month).

*2: For examples, “We are ready to implement the additional monetary easing if needed” said Chairman Bernanke (on October 15); “From the viewpoint of two responsibilities of the maximizing employment and stability in prices which are borne by FRB, the current status is entirely unsatisfactory” said Dudley, President of New York Federal Reserve Bank (on October 19).

November 2 and 3, 2010, FOMC

- FRB made judgments that “currently unemployment rate was at high level and index showing the underlying inflation was at slightly lower level compared with the level of which FOMC deemed suitable to achieve two responsibilities for a long term. We forecast that utilization of resources gradually would reach the higher level relating to the stability in prices, but progress toward the target was disappointingly late”. We decided the additional monetary easing measures (purchase of the long term national bond of total US\$600 billion until the end of June 2011 (approximately US\$ 75 billion per month)) to promote economic recovery in a faster pace and to ensure the inflation rate reaching at the level consistent to the responsibilities of FOMC as time goes on.
- As the contents of this monetary easing measure are within the market expectation, the exchange rate and share prices fluctuated modestly.

Sources: FRB; Data from various news reports

The pace of purchase and the total sum were reviewed at each FOMC meeting and discussion was held on reduction of the amount of purchase after December and, as a result, the additional monetary easing was continued. FOMC meeting held in April 2011 decided complete the purchase of the

long-term national bond at the end of June as schedule⁵³ while the growth rate from October, 2010 to December improved, and the tendency of economic recovery increased.

(B) Employment

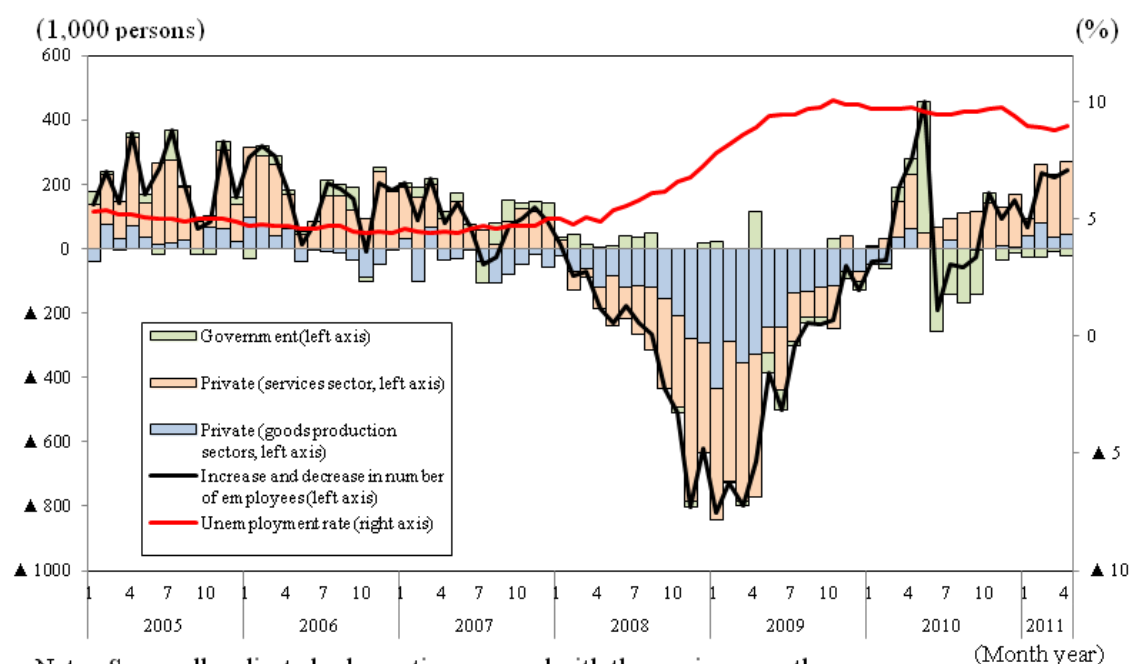
The employment market was in severe situation in 2010. The non-agriculture sector employees increased by 940,000 through the year, but the size of recovery was smaller compared to the number of decrease from 2008 through 2009 (totaled 8,660,000). After having rapidly increased in May, on a monthly basis⁵⁴, due to government's just-in-time employment for the census, the number of employees decreased in a consecutive 4-month period (Figure 1-1-2-34). Reflecting on the economic recovery, the number of employees was increasing over the previous months following October, and a sign of improvement was now seen entering the market in 2011. Examining according to types of business, it was seen that while employment decrease in the private goods production sectors (mainly construction industry) and government sector inhibited the overall growth⁵⁵, the number of employers was increasing moderately as supported by job increases in the private service sector.

⁵³ As the policy to reinvest the capital redemption funds of the holding bonds as determined in August 2010 was continued as it is, the balance sheet of FRB would not be reduced.

⁵⁴ The employment statistics are one of the indexes that the money market looks most at, and the dissociation between a predicted value by market and a value announced by the Department of Labor may move the market for some months.

⁵⁵ The type of business in which the number of employees decreased in 2010 through the year was construction industry (decrease of 149,000 persons) and related government offices (decrease of 233,000 persons).

Figure 1-1-2-34 Increase and decrease in number of non-agricultural sectors employees and transition of unemployment rate in United States of America



The unemployment rates fluctuated at around 10%. While the labor participation rate was decreasing⁵⁶, the unemployment rate also had a tendency to decrease⁵⁷ from the end of 2010, but the unemployment rate in April 2011 increased by 9.0% (Figure 1-1-2-35). If there is no remarkable improvement in the employment environment, the unemployment rate may hover high in the future⁵⁸. The number of new unemployment insurance application, considered to be the leading indicator of employment statistics had a tendency to decrease from August, 2010. It was less than 400,000⁵⁹ after an interval of approximately 2 and a half years in February, 2011 (Figure 1-1-2-36). However, this exceeded 400,000 people again in succession from the beginning of April 2011, which suggested that the employment recovery market was still taking time.

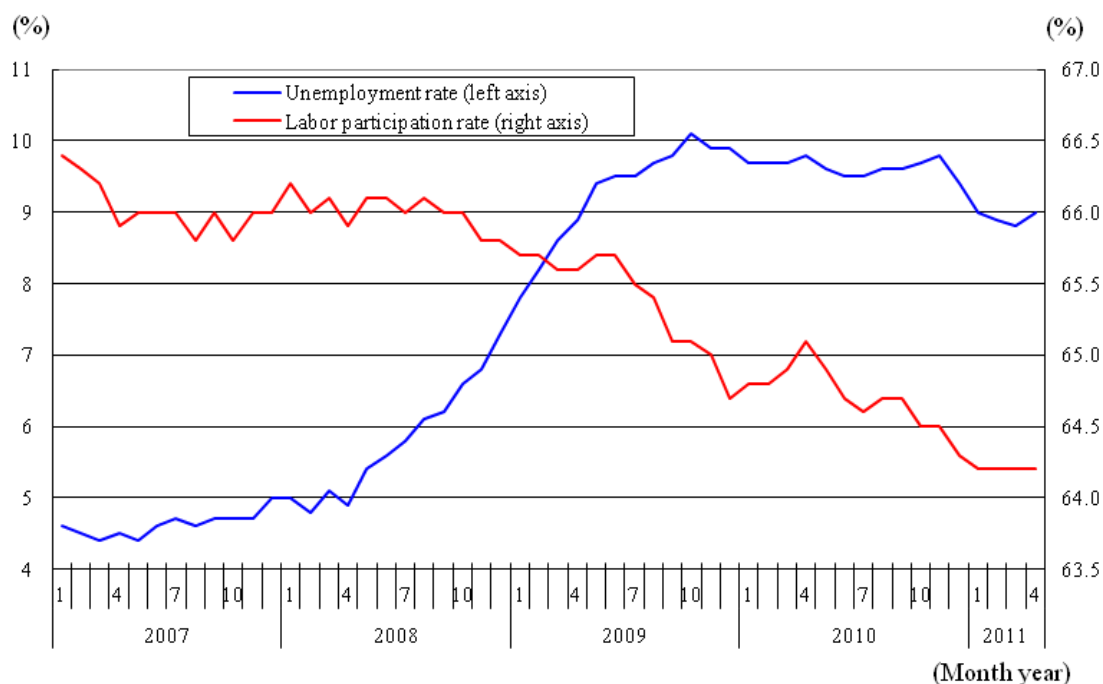
Figure 1-1-2-35 Transition of unemployment rate and labor participation rate in United States of America

⁵⁶ Labor participation rate = labor force population (employed and unemployed) / productive age population (ordinary citizen over age of 16 except persons institutionalized or militarized). Unemployed workers decreased at a pace to largely exceed the increase in the number of employees from December 2010 to January 2011 while the labor participation rate decreased. Large part of the unemployed workers gave up the job search and left the labor markets, and this was considered to be the main factor for the decline in the unemployment rate.

⁵⁷ The unemployment rate in March 2011 was 8.8%, the lowest rate since March 2009.

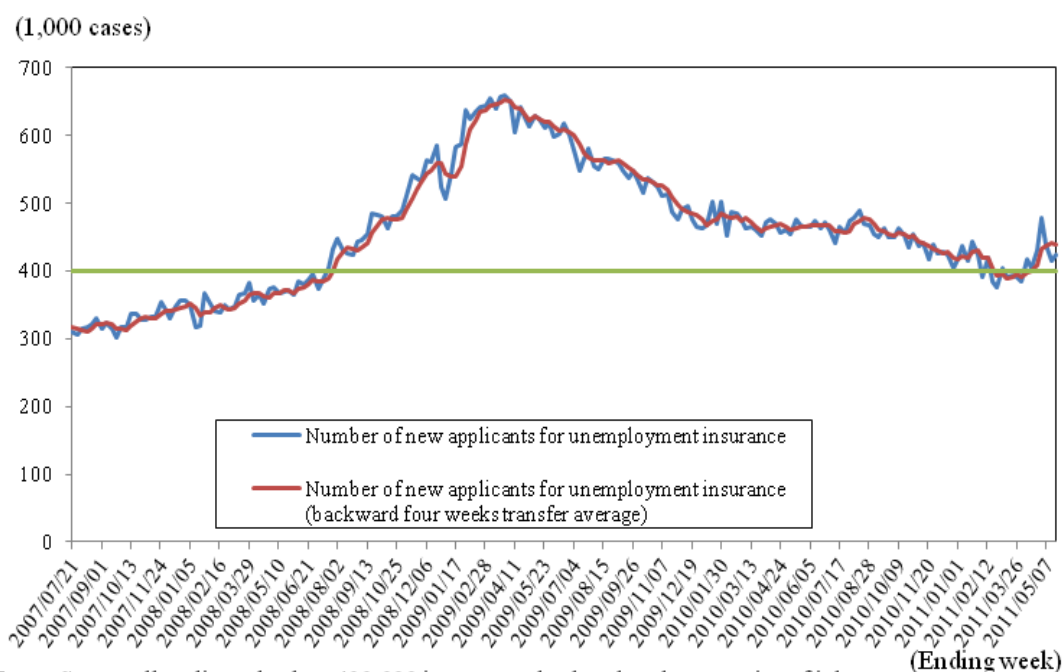
⁵⁸ Ben S. Bernanke, chairman of Federal Reserve Board (FRB) stated at the press conference after FOMC on April 27, 2011 that “the improvement pace of employment is still moderate and further job creation efforts should be continued”.

⁵⁹ It is the number of people used as a target for the turning point of job creation and the decrease.



Sources: US Department of Labor; CEIC Database

Figure 1-1-2-36 Transition of number of new applicants for unemployment insurance in United States of America



Notes: Seasonally adjusted value; 400,000 is supposed to be a breakeven point of job creation and decrease.

Sources: US Department of Labor; CEIC Database

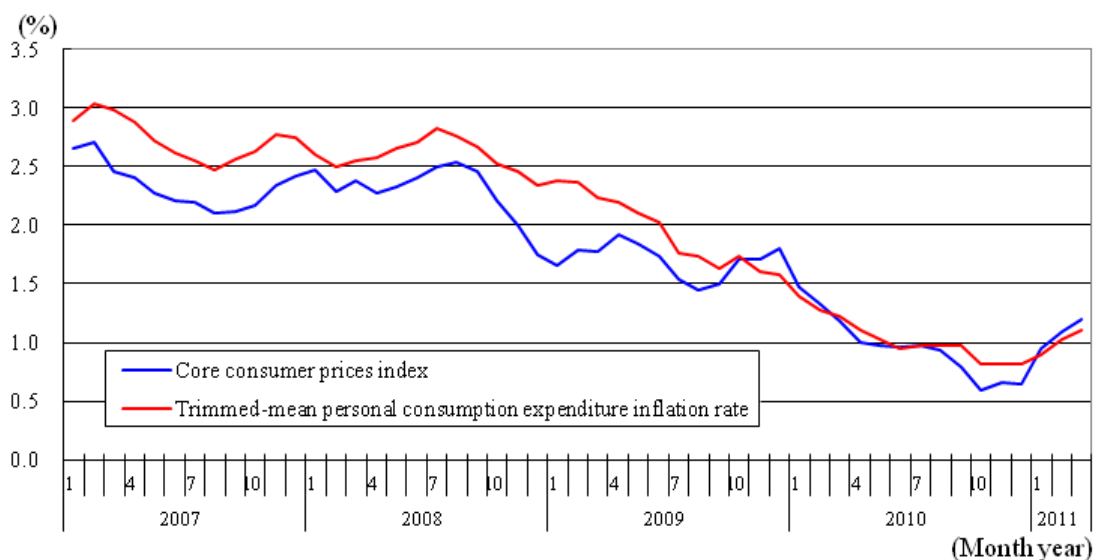
(C) Prices

The inflation rate of 2010 was at a low level. The core consumer prices except food and energy were low in inflationary tendency and the trimmed average index from which the abnormal changes in part of constituted commodities were removed, also continued to be at a low level, and in the meanwhile,

the basic tone of disinflation⁶⁰ continued since the middle of 2008 (Figure 1-1-2-37).

On the other hand, the current rate of consumer price general index was accelerated to rise affected by the worldwide rises in prices of food and resources since summer of 2010 (refer to “Chapter 1, Section 2, 1. The factors and influence of the remarkable rises in prices of food and resources”) (Figure 1-1-2-38).

Figure 1-1-2-37 Transition of US inflation index

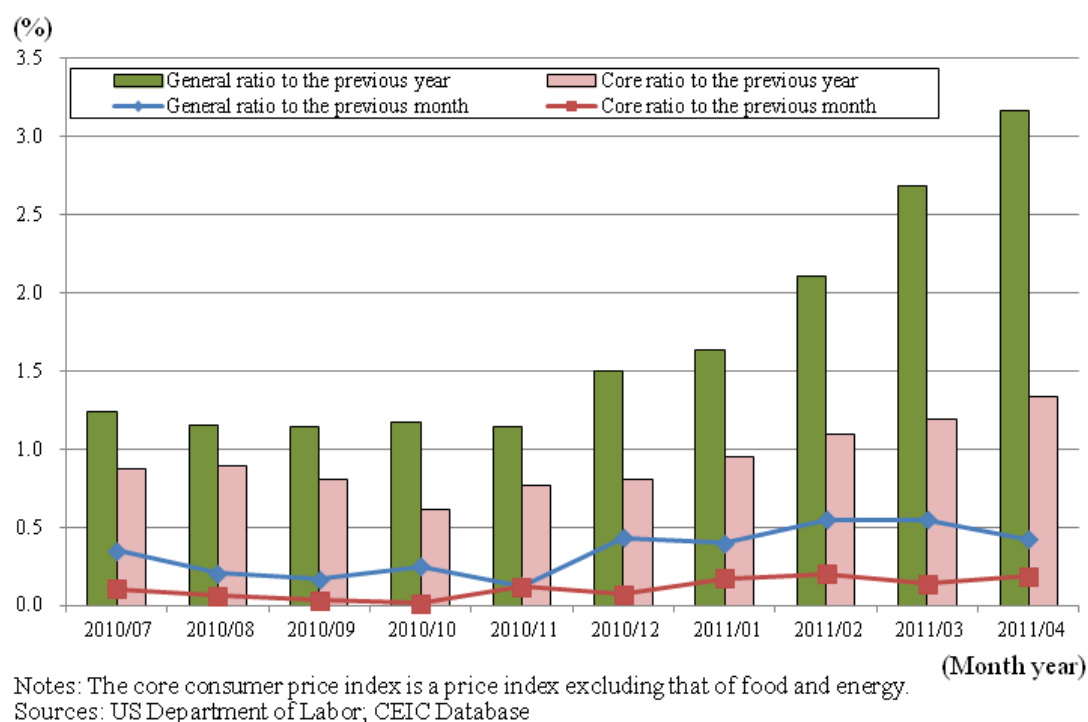


Notes:

1. Ratio to the same month of the previous year
2. Core consumer prices index is calculated by using increase rate of the remained expenditure items and relative weight. The remained expenditure items are remained ones after expenditure items with large monthly fluctuation of increase rate are omitted in a certain rate from the prices indices of goods and services which consist of the individual

⁶⁰ This refers to a situation in which inflation rates are declining and the situation is different from the deflation where prices are continuously declining.

Figure 1-1-2-38 Transition of US consumer price index



The core consumer prices index also continued to be picked up despite its low level, and the deflation risk, which was previously anticipated, seemed to have retrogressed⁶¹.

⁶¹ Ben S. Bernanke, chairman of Federal Reserve Board (FRB) testified that “most forecasters see the economic outlook as having improved since our actions in August; downside risks to the recovery have receded, and the risk of deflation has become negligible” at the United States Senate Committee on Banking, Housing and Urban Affairs on March 1 2011.

3. Current status and problem of China's economy

(1) The current status of China's economy to pull the world economy

(A) Importance of the presence of China in the world economy

After the world economic crisis, the China's economy rapidly got rid of its influence, while most of the developed economies fell into serious recession, and accomplished rapid recovery and played the role of an engine for the world economic recovery. In 2010, Chinese nominal GDP reached US\$5,900 billion, and exceeded Japan (US\$5,500 billion), coming at the second place in the world next to United States (Figure 1-1-3-1). The Chinese nominal GDP was only 364.5 billion yuan in 1978 when the reformation and opening policy began, but after the high growth for 30 years, it became “the world's factory” and afterward, transformed the figure to “the world market” with high growth rate. In 2010, the nominal GDP reached 39,800 billion Yuan (or US\$5,900 billion), 110 times larger than the amount in 1978, and accounted for 9.5% of the whole world. In the trade side, The total amount of the trade was only approximately US\$20 billion in 1978, but it expanded to approximately US\$3,000 billion in 2010 or approximately 150 times larger than the amount in 1978 and the export was the world largest and the import was the world second largest (Table 1-1-3-2). China has been rapidly gaining importance with its presence in the world economy.

Figure 1-1-3-1 Changes in nominal GDP in the world top 3 countries

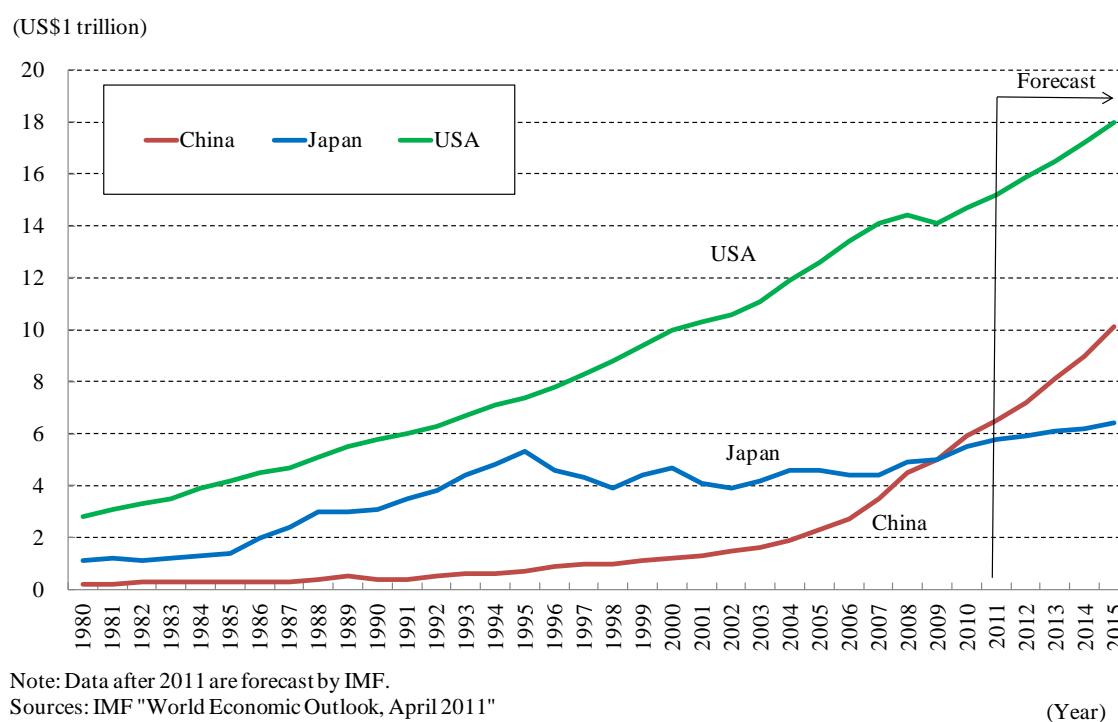


Table 1-1-3-2 Ranking of the major world exporters and importers in 2010

Ranking	Exporter	Amount (US\$100 million)	Share (%)	Ranking	Importer	Amount (US\$100 million)	Share (%)
	World total	148,533	100.0%		World total	153,847	100.0%
1	China	15,804	10.6%	1	USA	19,681	12.8%
2	USA	12,776	8.6%	2	China	13,939	9.1%
3	Germany	12,061	8.1%	3	Germany	10,543	6.9%
4	Japan	7,717	5.2%	4	Japan	6,940	4.5%
5	Netherlands	5,671	3.8%	5	France	5,947	3.9%
6	France	5,104	3.4%	6	UK	5,367	3.5%
7	Korea	4,422	3.0%	7	Netherlands	5,130	3.3%
8	Italy	4,412	3.0%	8	Italy	4,759	3.1%
9	Russia	4,038	2.7%	9	Hong Kong	4,335	2.8%
10	Belgium	4,027	2.7%	10	Korea	4,303	2.8%

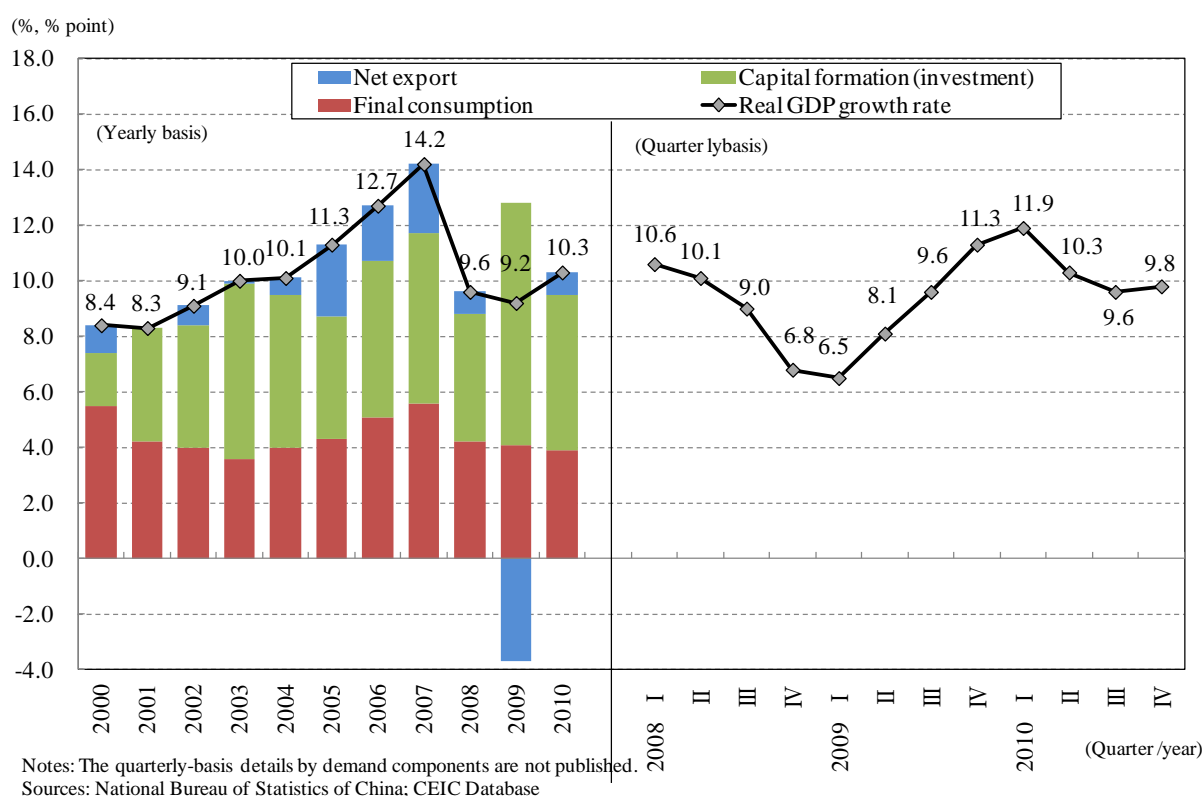
Sources: IMF "DOT"

(B) China's economy in 2010

(a) Movement of GDP and indices related to each demand components

From the end of 2008 through early 2009, China's economy that slowed under the influence of the world economic crisis, strengthened the recovery tendency after the bottom in the first-quarter in 2009, and, as for the real growth rate in 2010, it was 10.3% increase over the previous year. It achieved a double digit growth after 3 years since 2007 (Figure 1-1-3-3). The contribution of degrees according to demand components was 3.9% points for “final consumption”, 5.6% points for “capital formation” (investment) and 0.8% points for “net export. It continued to be the type of growth led by “capital formation” (investment).

Figure 1-1-3-3 Changes in nominal GDP growth and contribution by demand components

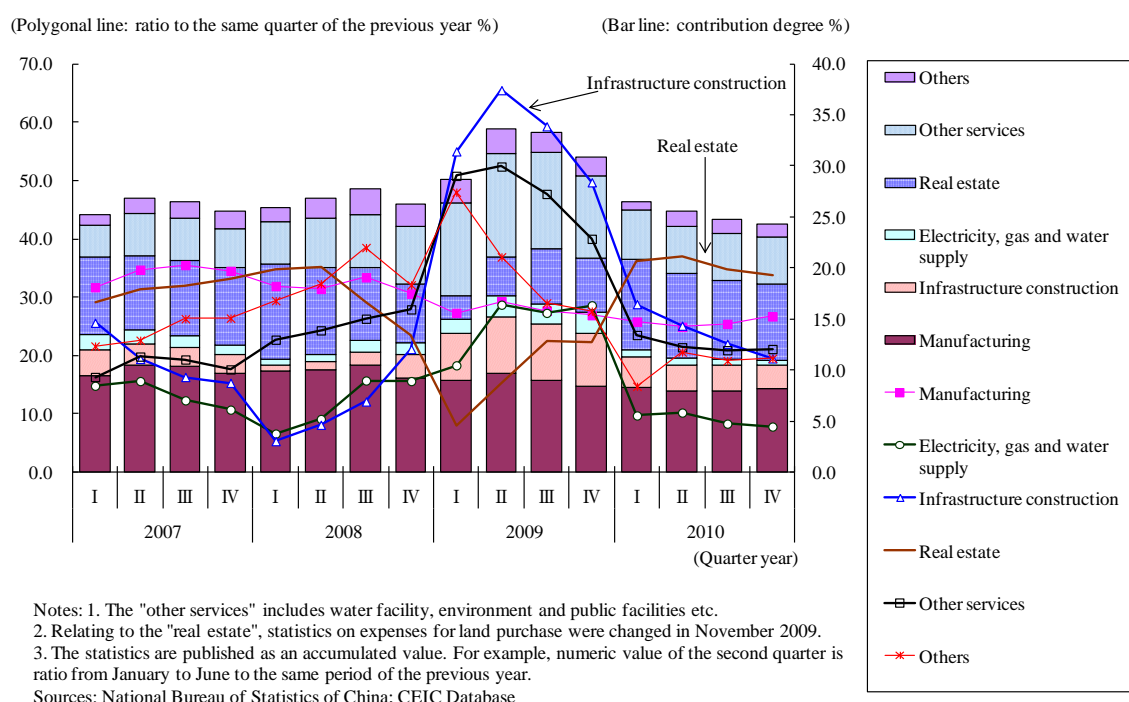


Examining the movement of each demand component from a related index, and as of investment, fixed assets investment in urban area which occupied approximately 90% of all society fixed assets investment increased by 24.5% compared with the previous year⁶². Although the growth was less than the growth in 2009 (30.4% increase over the previous year) which greatly increased by implementation of the “4 trillion Yuan” domestic demand stimulus policy⁶³, it still maintained a high level. Examining according to each industry, the “infrastructure construction” which was closely related to the public investment was slowing down after 1 years from starting the of “4 trillion Yuan” domestic demand stimulus policy. Contrarily, “real estate” continued high growth (Figure 1-1-3-4).

⁶² This based on data from National Bureau of Statistics of China. The urban area fixed assets investment is implemented by government offices at the prefectural level or higher and enterprises and it account for 86.8% (in 2010) of the fixed assets investment in whole China.

⁶³ This is an economic stimulus measure focusing on the infrastructure investment taken by the government of China after the world economic crisis.

Figure 1-1-3-4 Changes in growth rate of fixed-assets investment in urban area and contribution of individual sector



About the consumption, the total amount of retail sales of consumer goods increased 18.4% over the previous year⁶⁴. Examining by items, under the influence of the consumption stimulus policy⁶⁵, growth of "automobile" which accounted for approximately 30% of the total amount of retail sale⁶⁶ raised the overall growth (Figure 1-1-3-5). In addition, like automobile, the "household electrical appliances" which was the object of the consumption stimulus measure showed high growth⁶⁷. 2010 was a year during which the effect of the consumption stimulus measures appeared extremely great. As discussed in Section 1.1, the auto sales number rose 32.5% compared with the previous year by reaching 18,040,000 and became the first place of the world for consecutive 2 years. Furthermore, sales of products targeted for "household appliance to rural areas" campaign (the subsidy for purchase of

⁶⁴ This based on data from National Bureau of Statistics of China.

⁶⁵ Apart from the "4 trillion Yuan" domestic demand stimulus policy, the government implemented consumption stimulus measures such as "household appliance to rural areas", a nationwide campaign to issue 13% subsidy to rural consumers when they purchase household appliance (from February 2009 to January 2013), "old replaced by new", issuing subsidy when new household appliance are purchased to replace old one (from June 2009 to the end of 2011), "trucks to rural areas", issuing subsidy when people living in rural areas purchase light trucks or micro trucks to replace three-wheeled trucks or old type trucks (for commercial vehicles from March 2009 to the end of 2010; for motorcycles from March 2009 to January 2013), and policy to issue subsidy for purchasing downsized vehicles (from June 2010). As the reduction of taxes of the carts acquisition tax on cars less than 1.6 liters cubic centimeter displacement (usual 10% tax rate was discounted to 5% within 2009 and to 7.5% within 2010), and the "old replaced by new" cars measure were terminated by the end of 2010, it can be thought that there was rush purchase before the expiration.

⁶⁶ The amount of retail sales of companies with annual sale over 5,000,000 Yuan.

⁶⁷ Sales amount of "household appliance" accounted for 7.0% of the total retail sales in 2010.

household appliance in the rural areas), achieved 77,180,000 units, or 2.3 times increase over the previous year and the sales amount was 173.23 billion Yuan, or 2.7 times increase over the previous year⁶⁸. It is thought that the consumption was propped up by the improvement of employment and the increase of income. On the employment, the registered unemployment rate in urban areas was 4.1% and this is improved 0.2% point over the previous year⁶⁹. On the income, both the disposable income per capita in urban areas and the net income per capita in rural areas were increased, but the growth rate of the income in rural areas exceeded that of the urban areas due to large increase of wage income and net income of agriculture for the first time after 1997⁷⁰ (Figure 1-1-3-6).

Figure 1-1-3-5 Changes in growth rate of retail sales (by commodities) in China

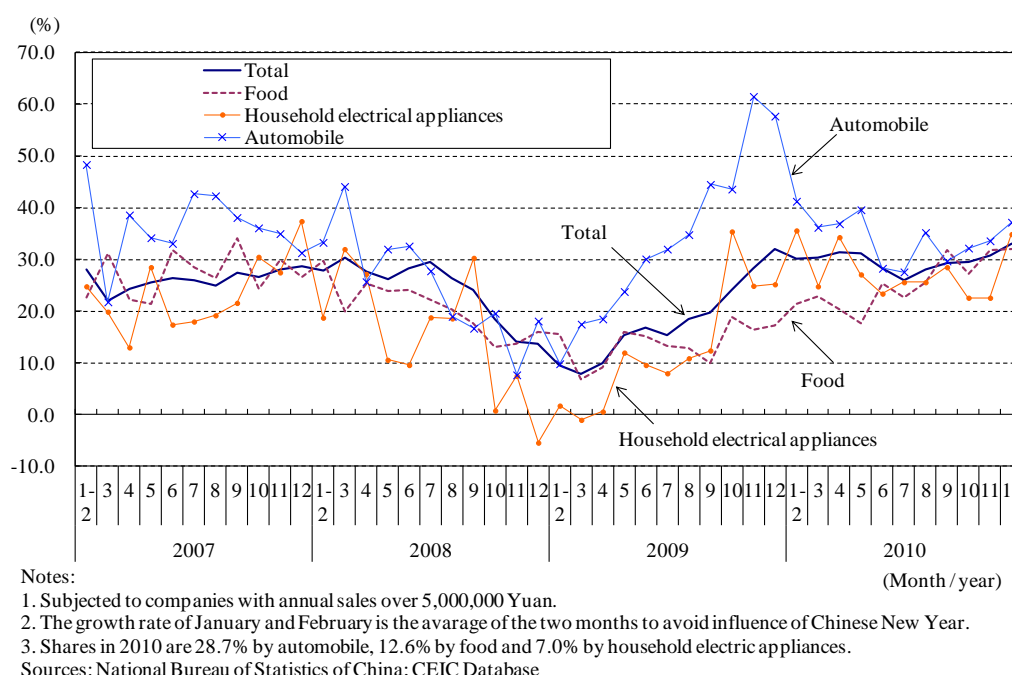
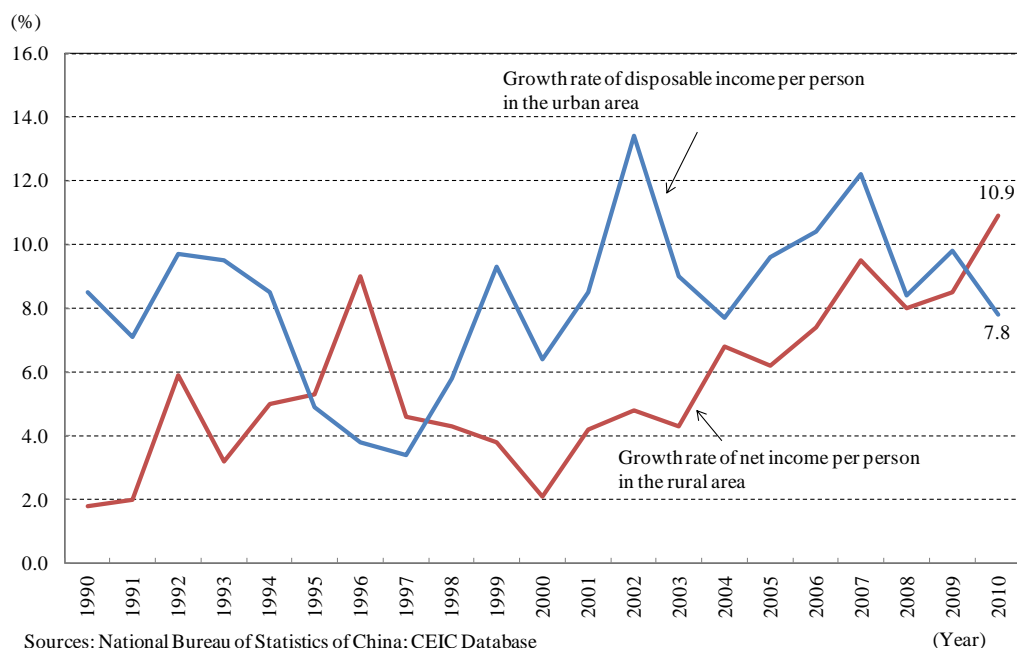


Figure 1-1-3-6 Change in income growth rates of urban and rural areas in China

⁶⁸ This is data from Ministry of Commerce of China. Examining the sales amount by items, the first place was the refrigerator and the second, color television, and these high ranked 2 items accounted for 61% of the sales amount of whole items.

⁶⁹ This is data from Ministry of Human Resources and Social Security of China. Number of registered unemployment in urban areas was 9,080,000 in 2010 decreased from 9,210,000 in 2009.

⁷⁰ According to National Bureau of Statistics of China, the wage income of the rural areas in 2010 increased 17.9% and enlarged increase width 6.7 points, and the contribution rate to increased income reached 48.3%. The agriculture net income per farmer rose 15.1% in response to the sudden rise of the main agricultural price including cereals, vegetables and raw cotton, and the increase width enlarged 10.1 points from the previous year. The farmer's net income per capita rose 20.7%, 16.4%, 16.0%, 15.0% and 14.0% in low income group, middle low income group, middle income group, middle high income group and high income group respectively. The ratio of high income group and the low income group reduced to 1:7.5 from 1:8.0 of the previous year. The disposable income of urban dweller per capita increased in all the groups by 13.1%, 13.0%, 11.8%, 10.3% and 9.9% respectively, and the ratio of high income group to low income group was reduced from the previous year's 1:5.6 to 1:5.4 (SHIN KAMOU News, dated February 9, 2011).



On the foreign demand, the amount of both export and import became record-high due to increase of “machine/ electricity” which account for approximately 60% of the total export and 50% of total import, and “crude oil” which account for approximately 10% of import amount⁷¹ (Figure 1-1-3-7). As the growth of the import exceeded the growth of the export, the amount of trade surplus decreased. Watching the trend of trade according to the countries/ regions, China had large surplus in trade with EU and United States, and large deficits in trade with Japan, Korea and Taiwan. It seemed that China continued to be a processing trade base, procuring parts and intermediate goods from East Asia, exporting finished products to advanced economies (Figure 1-1-3-8). In 2010, China’s trade was characterized by the increase in trade amount with Asian countries and the emerging economies. Amount of trade with Japan, United States and Europe increased more or less 30% over the previous years. Contrarily, total amount of trade with ASEAN, Taiwan, India, Australia and Brazil increased 40 to 50% over the previous years (Figure 1-1-3-9). The background for this development was the FTA concluded with ASEAN became fully effective in January 2010, and “Economic Cooperation Framework Agreement” (ECFA) with Taiwan enabled both China and Taiwan to lower their customs duty from January 2011. China is seemed to plan the relation reinforcement with the Asian countries and the emerging economies, which have much potential for growth (Figure 1-1-3-10).

⁷¹ According to General Administration of customs of China, the export of “machine/electricity” in 2010 increased 30.9% over the previous year, and, the import of “crude oil” increased 51.4% over the previous year.

Figure 1-1-3-7 Changes in China's trade balance

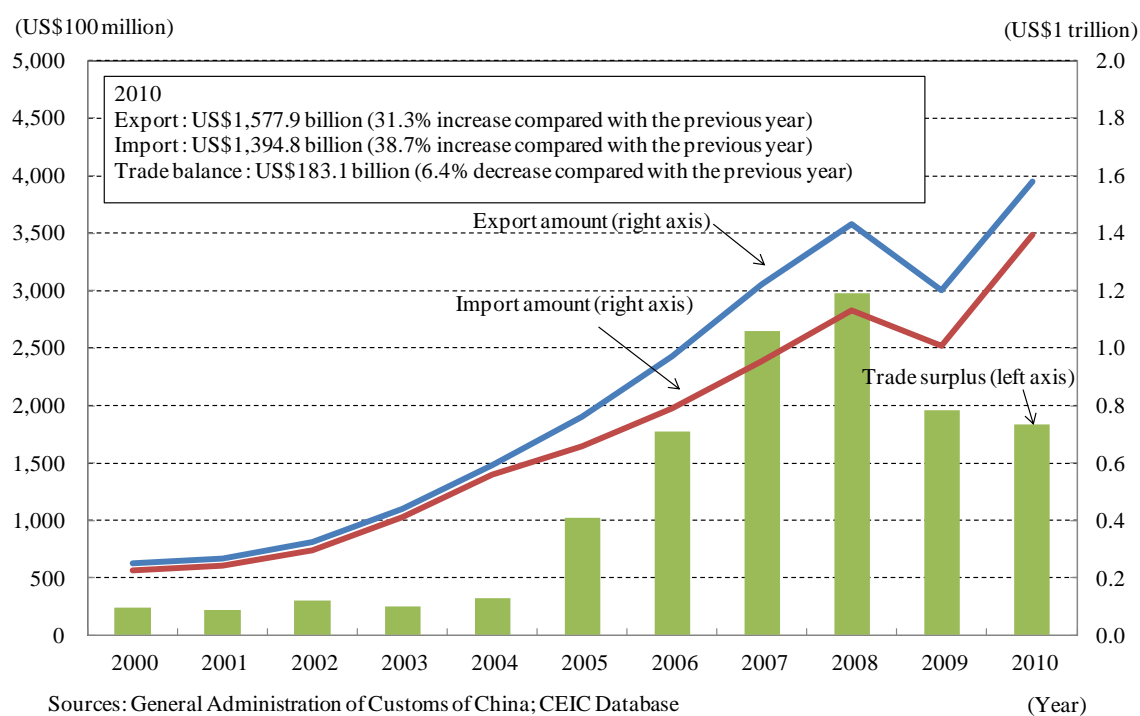


Figure 1-1-3-8 Changes in trade balance by China's trade partners

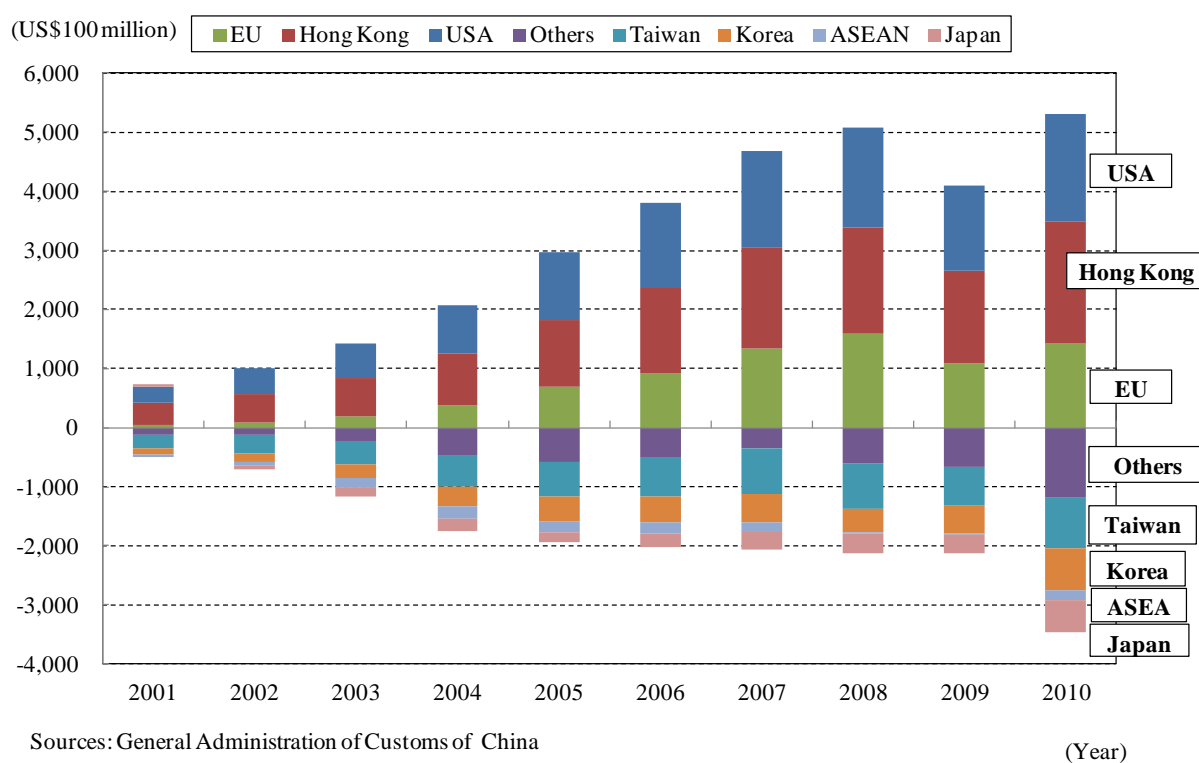


Figure 1-1-3-9 Changes in trade amount by China's trade partners (top 10 countries/ regions)

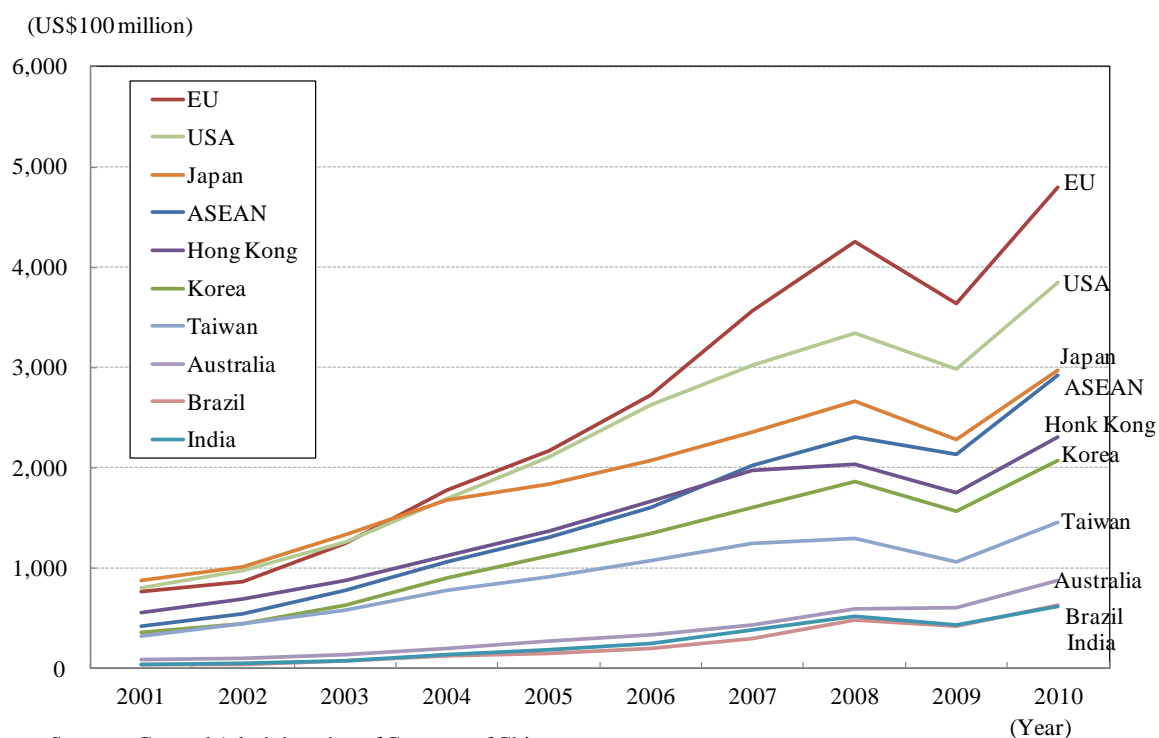
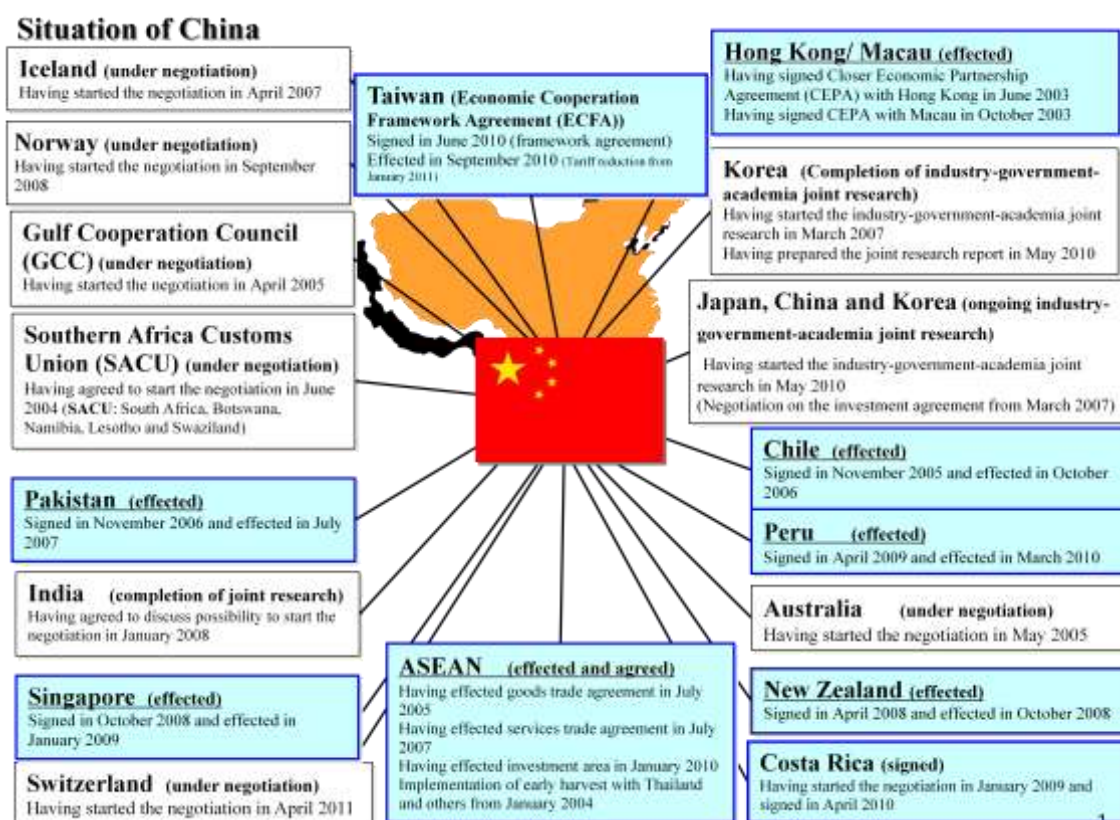


Figure 1-1-3-10 Situation of China's approach for economic partnership



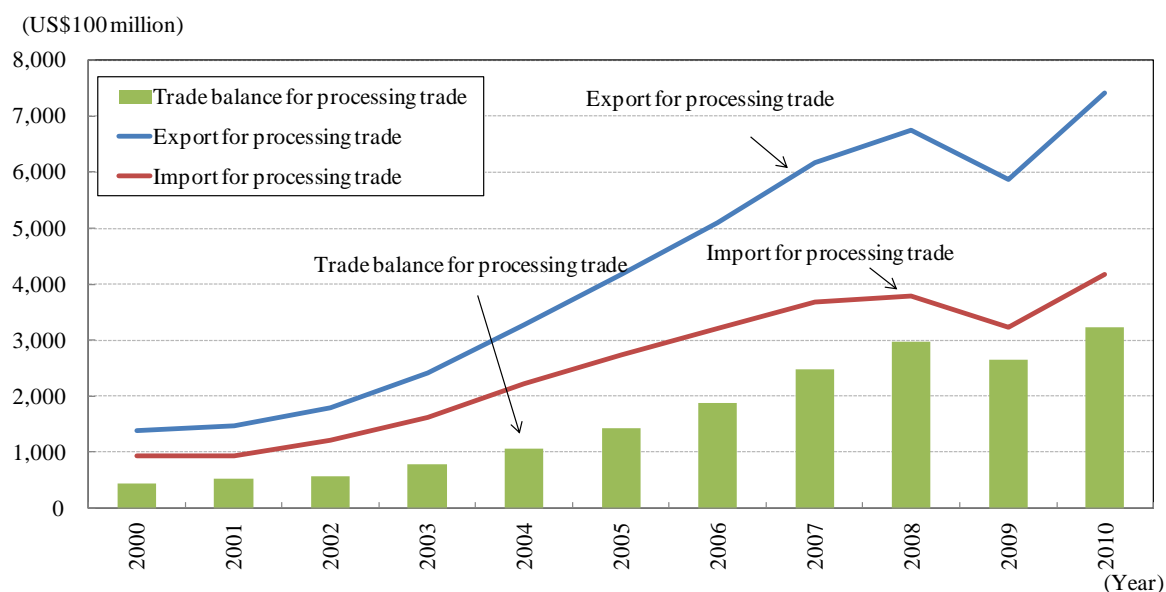
Sources: Ministry of Economy, Trade and Industry of Japan

Examining the trade trend by classifying it into the “processing trade”⁷² and “ordinary trade”, in 2010, the surplus in the “processing trade” increased, but deficit in the “ordinary trade” increased (Figure 1-1-3-11 and Figure 1-1-3-12). Hike in such prices as resources caused the increase of import in the “ordinary trade”, but it was considered that expansion of the domestic demand also became its background. Examining the ratio of the processing trade in China’s export and import value, in 2010, both ratios of export and import of the processing trade decreased compared to the previous year (Figure 1-1-3-13). And the ratio of the export and import amount of the foreign companies, being a main leading figure of the processing trade of China in total trade amount, had a decline tendency after its peak in 2006⁷³ (Figure 1-1-3-14).

Figure 1-1-3-11 Changes in China’s processing trade balance

⁷² The processing trade value is a total value of 2 categories of custom regime: “processing and assembling” and “processing with imported materials”. The “processing trade”, using parts/ intermediate goods procured from foreign countries, processing and assembling them in domestic plants and shipping the finished products abroad, forms a key of China's trade structure. The export of the processing trade accounts for approximately 50% of the total export, and the import of the processing trade accounts for approximately 30% of the total import (the year 2000 basis).

⁷³ The China government has been controlling over the processing trade since September, 2006 to restrict the export of products with large energy consumption and the products which have low technical standards. After a world economic crisis, the government took a measure to stop processing trade regulation temporarily in consideration of the influence, but, in November 2010, the government newly added 44 items including the hot rolling steel sheet to the processing trade prohibition goods based on demand of energy saving and the pollution gas discharge reduction (number of the processing trade prohibition goods was a total of 1,803 as of November 2010). The State Council government activities report of March 2010 stated that “it is encouraged to work on optimization of the utilization structure of the foreign capital and the foreign capital is input to advanced manufacturing industry, high-tech industry, modern service industry, new energy, energy saving and eco business”.



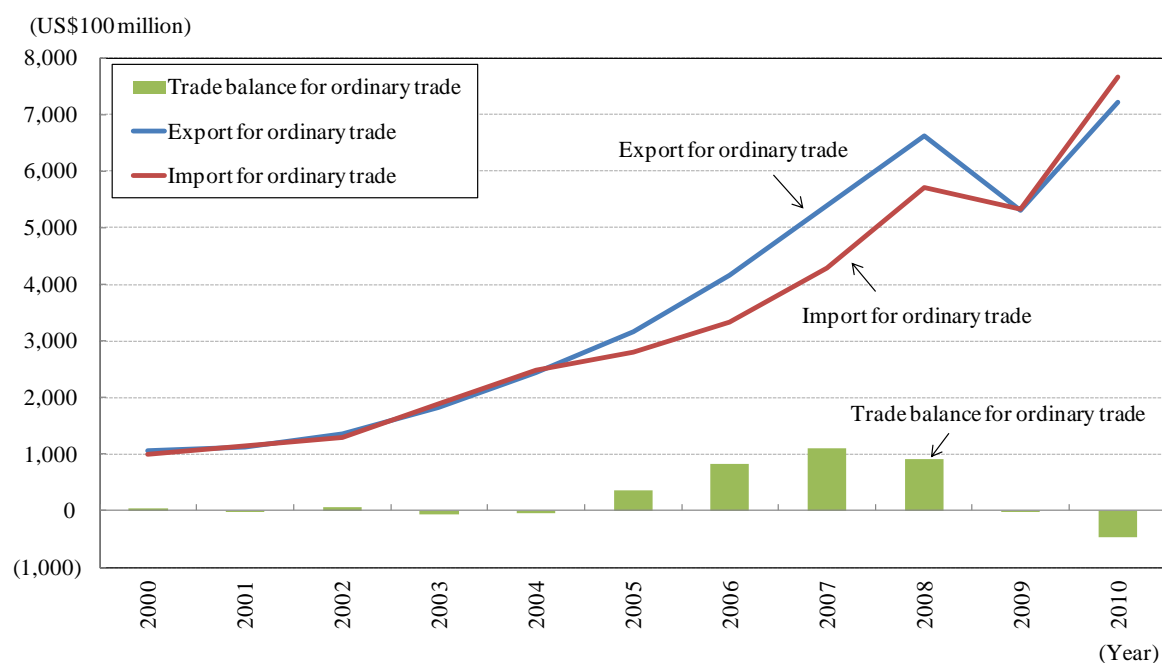
Notes:

1. The amount for processing trade is a total of 2 categories of custom regime: "processing and assembling" and "processing with imported materials".

2. The processing trade accounted for 46.9% and 29.9% of the total export and import, respectively, in 2010.

Sources: General Administration of Customs of China; CEIC Database

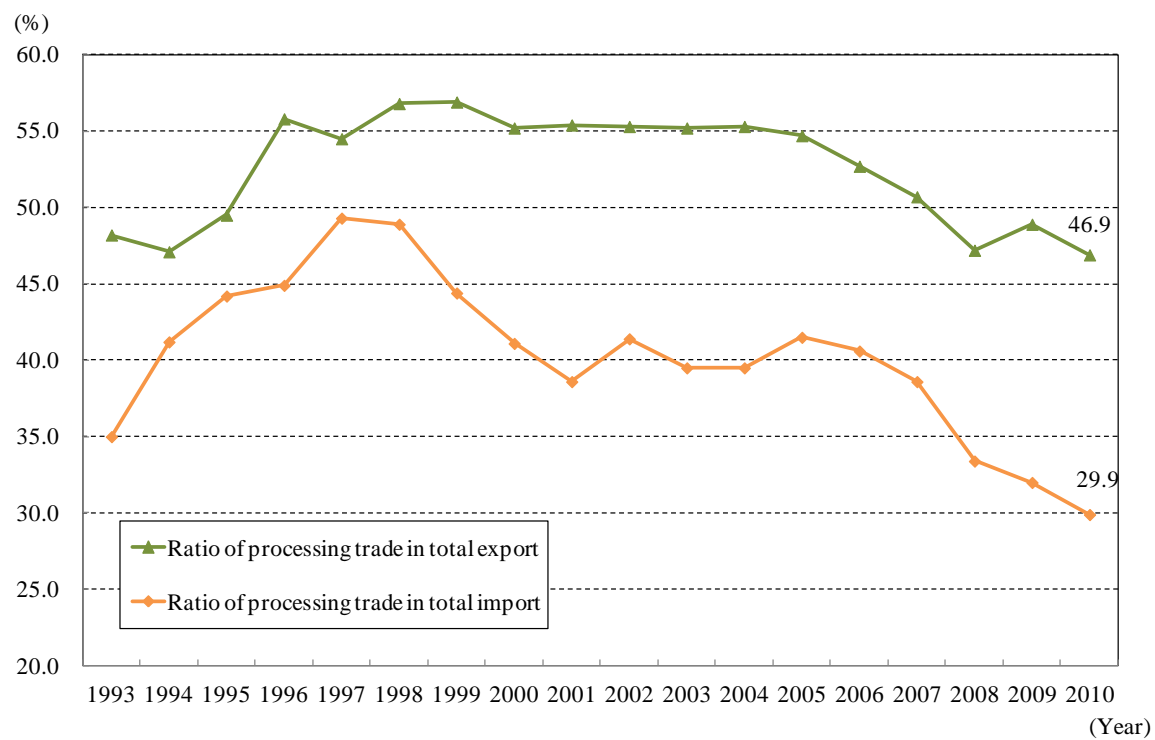
Figure 1-1-3-12 Changes in China's ordinary trade balance



Notes: The ordinary trade accounted for 45.7% and 54.9% of the total export and import, respectively, in 2010.

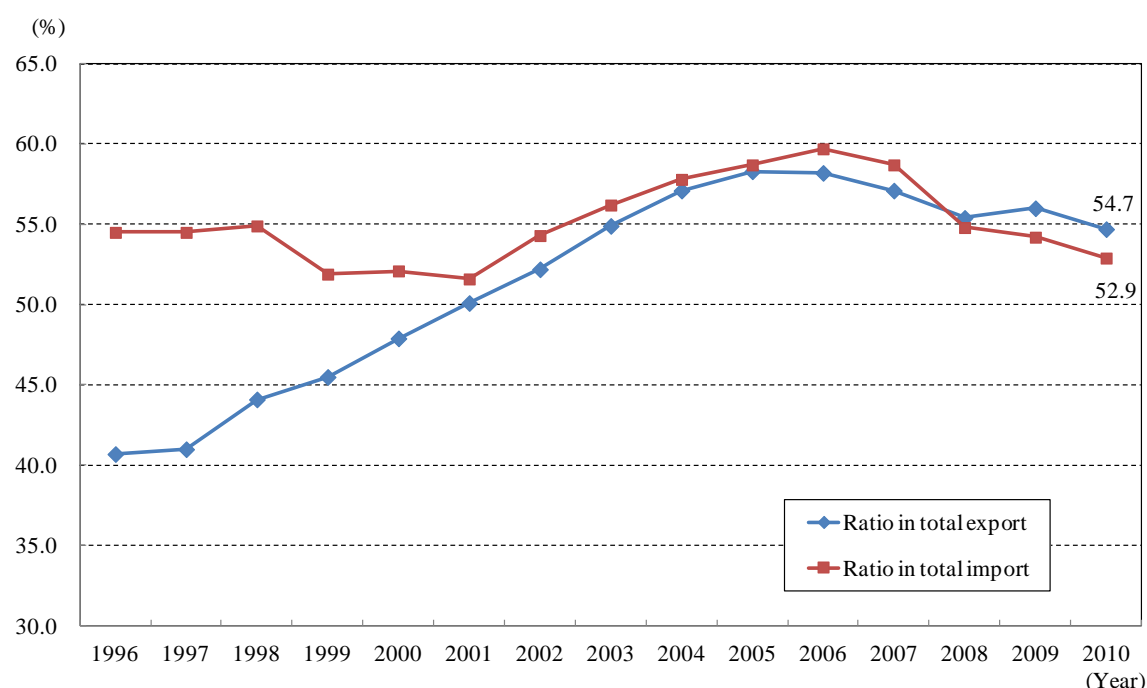
Sources: General Administration of Customs of China; CEIC Database

Figure 1-1-3-13 Changes in ratio of processing trade in China's total trade



Sources: General Administration of Customs of China; CEIC Database

Figure 1-1-3-14 Changes in ratio of foreign companies in China's total trade amount



Sources: General Administration of Customs of China; CEIC Database

(b) Changes in the labor market

In 2010, strike to demand wage increase and treatment improvement occurred in various places in China especially at factories of foreign companies in the coastal areas. In its background, there may be some factors such as labor shortage, the pay gap between the managerial class and farmer mechanics⁷⁴, the improvement of sense of rights for labors with the work contract law enforced in 2008, changes in the consciousness by the appearance of “the new generation of farmer mechanic” and rises in living costs as housing expense. “The new generation of farmer mechanics” mainly refers to farmer mechanics born after 1980. Presently, the number of farmer mechanics going away from home to work at the other places in China is 150 million, and that of the new generation farmer mechanics is 100 million which account for approximately 70% of the whole farmer mechanics population. The new generation of farmer mechanics have much higher education than farmer mechanics of the past⁷⁵. The purposes to be farmer mechanics are changed from “to earn money” to “to train oneself” and “to gain skills and technique”. The importance shifts from the economic factor to non-economic factors⁷⁶.

In China, there are large social and economic gaps between urban and rural areas which have been divided by its family registration system and agrarian system. Although wages of farmer mechanics

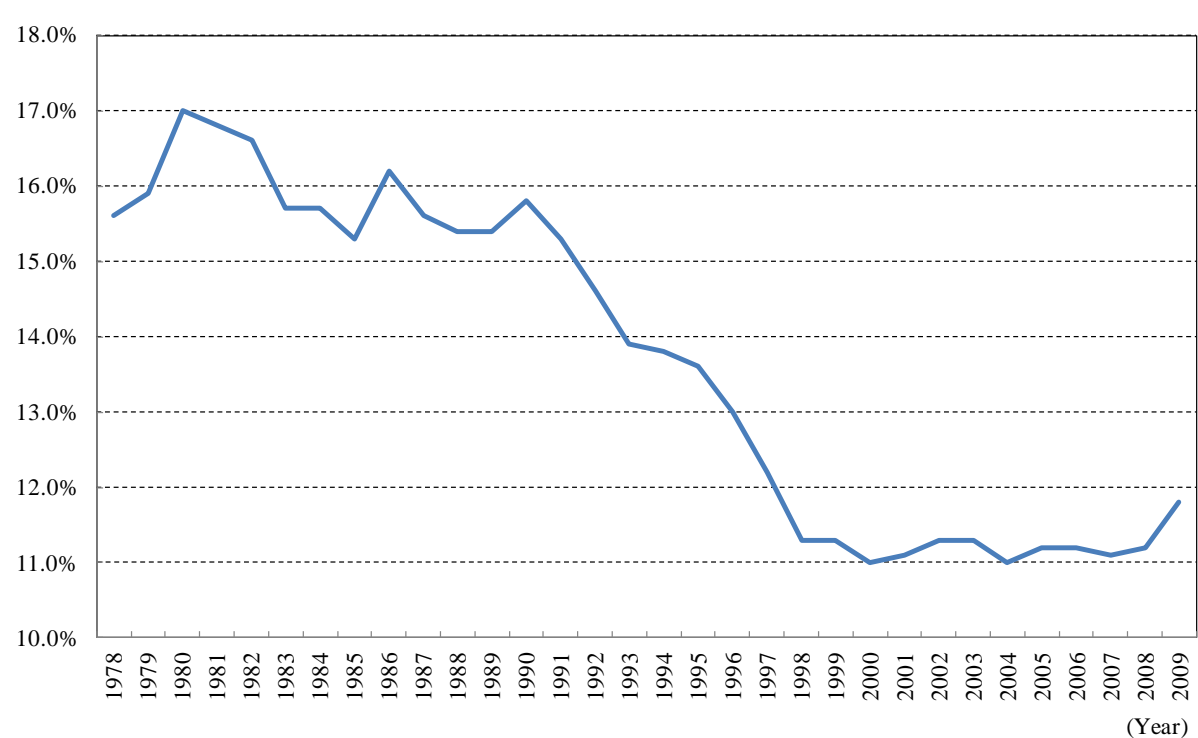
⁷⁴ This means labors with rural districts family register, working in fields of non-agricultural industry such as manufacturing, construction or service industry. A total number of the farmer mechanics was 230 million in 2009 (approximately 30% of the employed workers) and the migrant workers were 150 million.

⁷⁵ Among farmer mechanics going for work away from home, the ratio of a person having educational background higher than high-school graduate level is 23.5% altogether, but among farmer mechanics younger than 30 years old, it is more than 26%, and those of age 21 to 25-year-old age group is 31.1%. The lower the age becomes the higher the ratio rise (China National Statistics Administration 2010 [Monitoring survey on famer mechanics in 2009]).

⁷⁶ Suzuki, T. (2010), “CHUGOKU DE TSUYOMARU KOUJOU ROUDOUSHA NO CHINAGE ATSURYOKU”, (Mizuho Asia Oceania Insight, August 6, 2010, Mizuho Research Institute

are rather low in a standard of urban areas, but it becomes higher wages when they use it in rural areas because prices in rural areas are very low. This condition is sufficient incentive for farmer mechanics to work in the urban areas. The existence of divided urban rural system unique to China has created the China-specific numerous “farmer mechanics” with very low wages. China’s low wage labor intensive export industry and initial growth of China’s economy has been supported by these workers. However, this kind of structure has been getting difficult to continue. Percentage of total wage in China’s nominal GDP has been largely reduced since the reform and liberalization, but it has recently turned to a rising tendency. Now, the labor structure may come to a turning point (Figure 1-1-3-15).

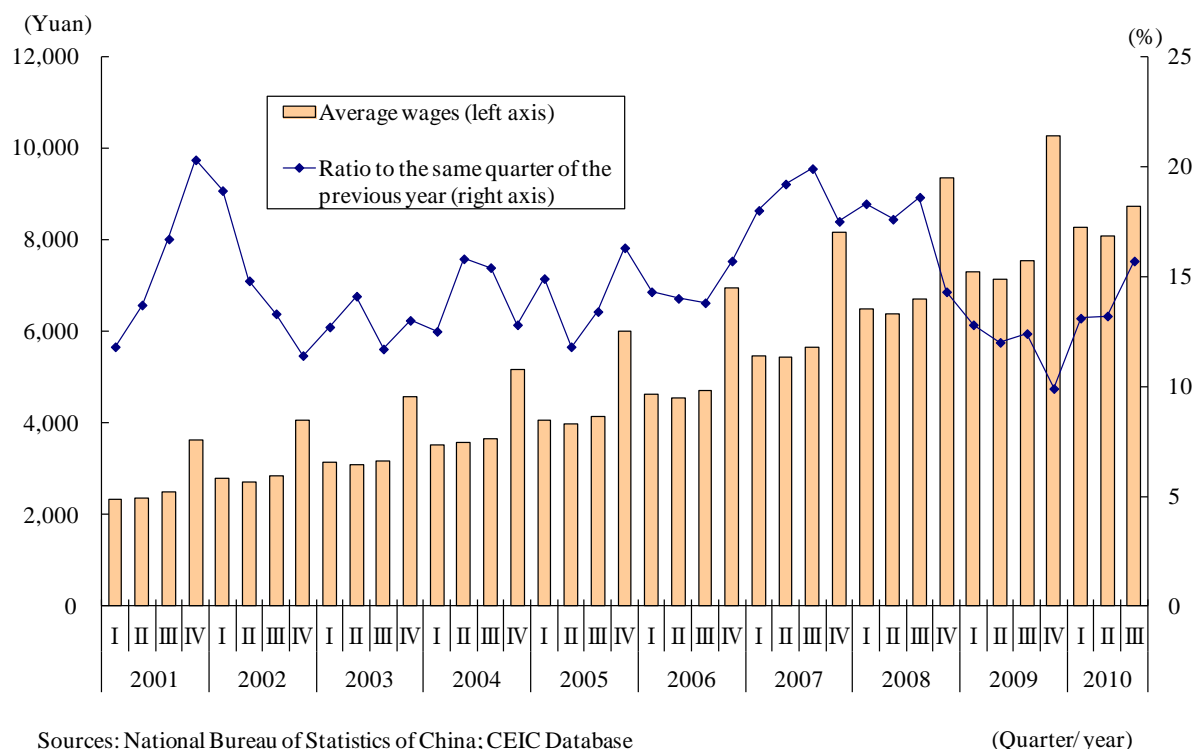
Figure 1-1-3-15 Changes in ratio of total wage against China’s nominal GDP



Sources : National Bureau of Statistics of China; Ministry of Human Resources and Social Securities of China; CEIC Database

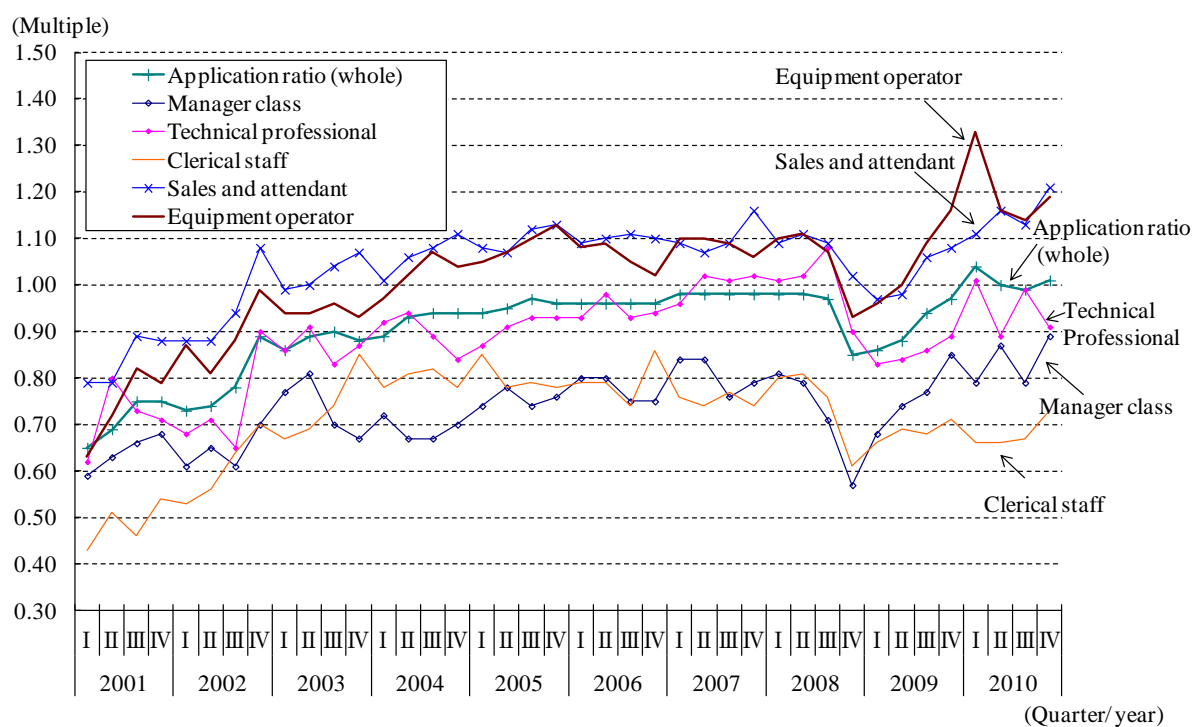
Actually, in 2010, both average wages and minimum wages rose greatly. The climb rate of average wages increased from the 9.9% increase over the same period of the previous year in the fourth quarter of 2009 to 15.7% in third quarter of 2010 (Figure 1-1-3-16). As for the minimum wages, 30 among 31 regions (provinces, directly governed cities, and autonomous districts) in mainland China raised the legal minimum wages. The average increase rate of 2010 was approximately 24%. The 12th Five-Year Plan (from 2011 to 2015) raised the annual average growth rate of the income expansion from 5% of the previous 5-year plan to 7% (Refer to “ (2) (B) “The 12th Five-Year Plan”; aiming at enhancement more qualitative than quantitative expansion”). It also aimed to raise the minimum wages to an average of 13% a year. The trend of the pay rise in China is more likely to be continued.

Figure 1-1-3-16 Changes in average wages in China



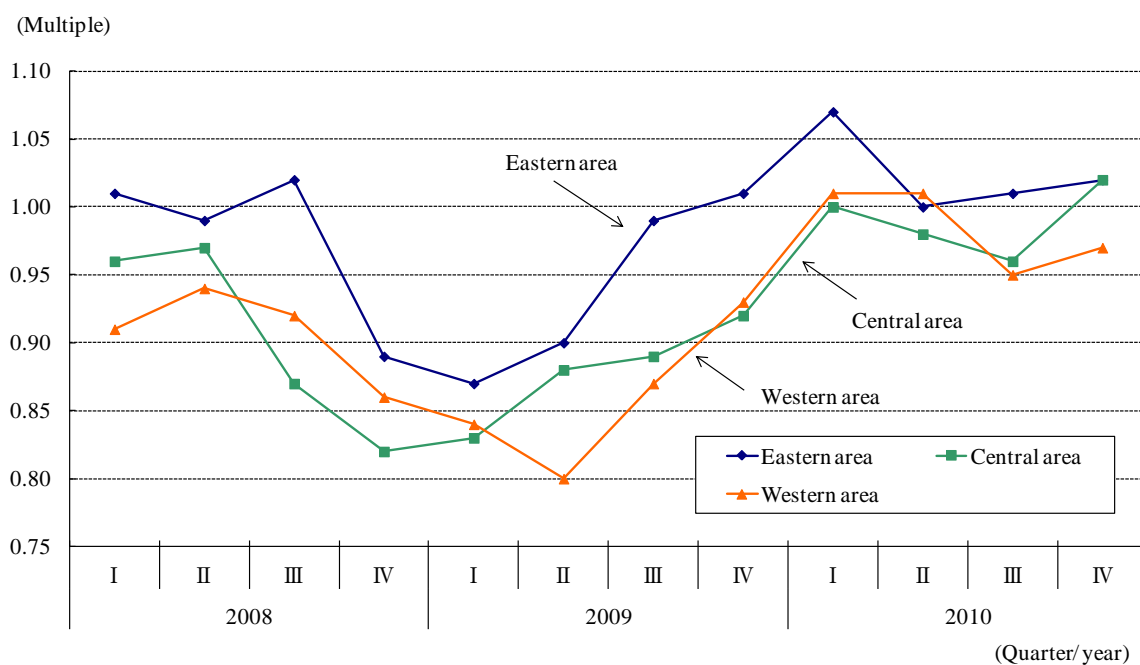
The labor supply-and-demand situation is also tight. As for the job opening-to-application ratio of the first-quarter of 2010 was 1.04, and the number of the job opening exceeded the number of the jobseekers for the first time since 2001 (Figure 1-1-3-17). Examining trend of the job opening-to-application ratio according to the types of job, the labor supply-and-demand was remarkably tight particularly in “equipment operators” which involved large number of the industrial workers. Background of this situation is considered to be increase of demand for the factory workers not only in coastal areas but also in local areas derived from the government’s re-development projects and the “4 trillion Yuan” domestic demand stimulus policy. Examining changes in the job opening-to-application ratio according to regions, in 2010, it increased not only in the eastern area (coastal areas), but also the central and western areas (inland area) (Figure 1-1-3-18).

Figure 1-1-3-17 Changes in application ratio (by jobs) in China



Sources: Ministry of Human Resources and Social Security; CEIC Database

Figure 1-1-3-18 Changes in application ratio (by areas) in China

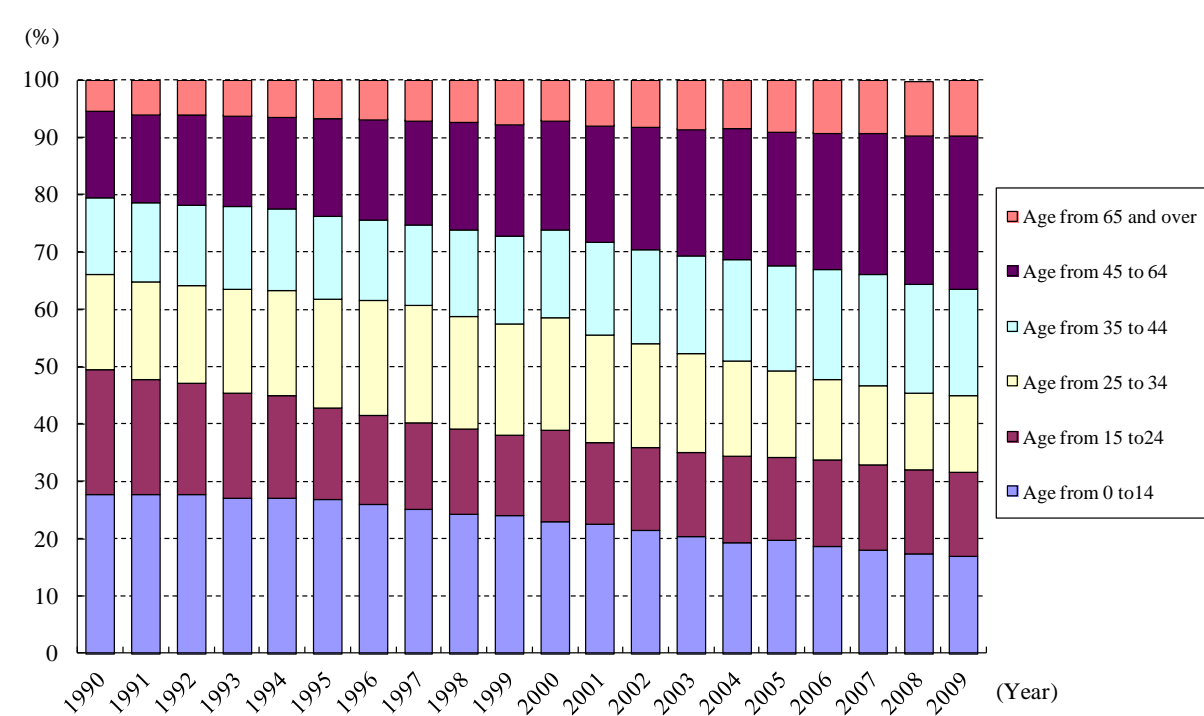


Sources: Ministry of Human Resources and Social Security of China; CEIC Database

While percentages of “age 15 to 24” and “age 25 to 34” groups of population to total population

were decreasing, percentages of “age 45 to 64” and “age 65 and older” groups were increasing by the influence of one-child policy conducted in China from 1979 (Figure 1-1-3-19). The labor supply-and-demand may be affected by trend of the economy, however, considering development of such a low birthrate and aging, the tight labor supply-and-demand seems to continue in the future.

Figure 1-1-3-19 Changes in shares of age groups in the total population of China



Sources: National Bureau of Statistics of China; CEIC Database

In such a situation, China is considered to accelerate industrial advancement by shifting its resources from labor-intensive industry to high value-added industry and technology intensive industry.

(c) The top priority in 2011 is inflation control

The China’s economy was rapidly restored after the world economic crisis by implementation of the large-scale economic measures and the monetary easing policy by the government. However, such a measure and policy could not be continued for a long term, and it caused various problems such as the surge of the overheat feeling of the economy, concern for real property bubble (Figure 1-1-3-20), the debt increase in enterprises related to local government⁷⁷, excessive production capacity. Therefore, in

⁷⁷ The government of China published “4 trillion Yuan” domestic demand expansion policy and encouraged the local government to expand the infrastructure investment. The local government piled up investment projects competitively each other, but the financial assurance from the central government to the local government was poor. The local governments, which suffered from a chronic financial difficulty, covered the lack of financial resources with the land disposal income (the advantage which occurs when land acquired from farmers was sold to real property developers in higher prices) after the introduction of the tax separate system in 1994. Local governments increasingly depended on the “local government financing platform” (a fund procurement platform established by local government to implement the infrastructure projects). The local government input the land disposal income to the “local government financing platform”

2010, the government was pressed to control the economy overheat and to take measures responding to these problems. People's Bank of China tightened the money market after 2010 (Figure 1-1-3-21). The government proposed real estate transactions control measure⁷⁸, planed the administrative reinforcement of enterprises related to local government⁷⁹, and strengthened guidance for the excessive production capacity in some types of industry⁸⁰. By effect of such policies, the extended tempo of the economy in China showed a slow downswing from mid-2010. However, a fear for the economy overheat rose again as the inflation rate increased from the autumn of 2010, and property prices rose again.

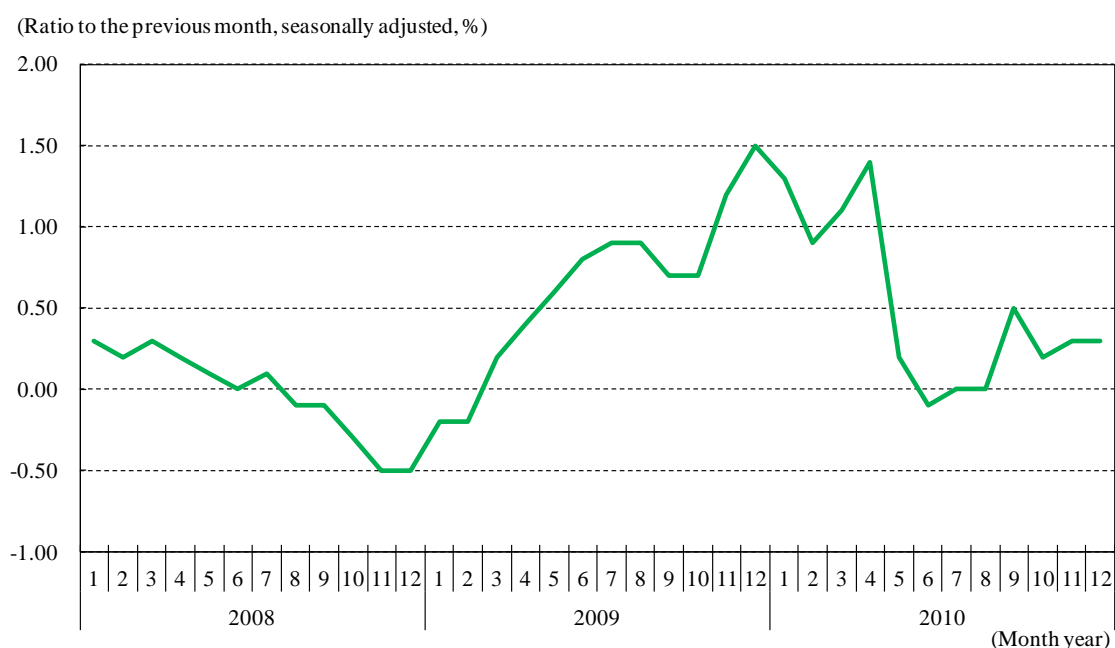
as capital, and the “local government financing platform” escalated projects to several times by debt issuance and borrowing from the banks and carried out the urban projects. “The banking supervision and management executive committee” stated that return of the 1,760 billion yuan, equal to 23% of 7,660 billion Yuan that was the bank lending balance to the “local government financing platform” (as of the end of June, 2010).

⁷⁸ The Chinese government proposed the real estate transactions control measures including the raises in down payment ratio of the home loan and bank loan interest rate in April and September 2010. However, as the property prices increased again afterward, the government proposed measures to make clear the responsibility of the local government for the property price control in January, 2011. In addition, in cities of Shanghai and Chongqing, real estate tax (equivalent to the property tax of Japan) was introduced experimentally from January 28. In this way, real estate transactions control was proposed in succession.

⁷⁹ Ministry of Finance, National Development and Reform Commission, People's Bank of China and Banking Regulatory Commission required the local governments to make their platform enterprises to totally arrange their debt consolidation in August, 2010. Provincial governments (including autonomous districts and directly governed cities) reported data of the debt consolidation by December 10, 2010, and the Ministry of Finance and other organizations were discussing the establishment of a debt statistics reporting system on the financing platform enterprises, and a debt scale control and risk alarm system for the local governments, while they were confirming the reported relating data. (“People's Daily”, (Japanese edition), March 1, 2011).

⁸⁰ Adjustment for the excessive capacity of some industries to which need of restructuring was always recognized, became the urgent task by the activation of monetary easing and the public works project after the world economic crisis. Therefore, the Chinese government issued notification to industry such as steel, cement, coal and electricity in April, 2010 to integrate and abolish small and inefficient facilities and to address improvement of the industry-wide production efficiency. Additionally, in May, the industrial information department showed the curtailment target of 18 types of industry including steel, cement, glass and paper manufacturing to curtail their production facilities, and in August, they published a list of 2,087 companies to abolish their timeworn excessive production facilities.

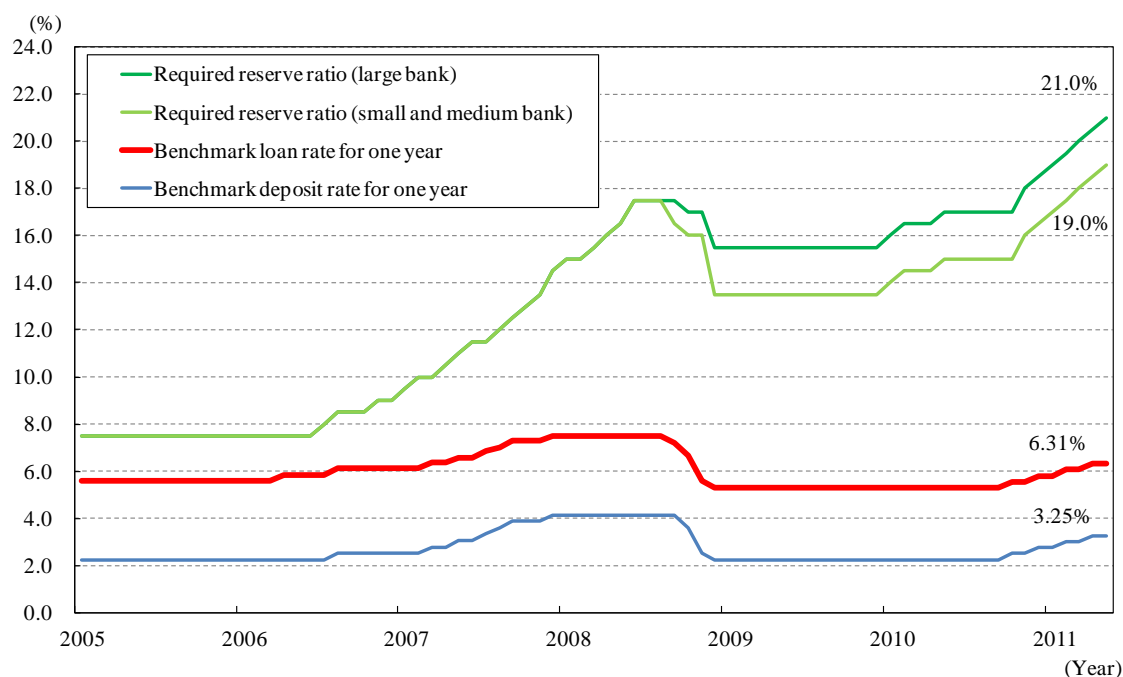
Figure 1-1-3-20 Change in growth rate of real estate price index in major 70 cities of China



Notes: The government of China has not published the real estate price index in major 70 cities since January 2011.

Sources: National Bureau of Statistics of China; CEIC Database

Figure 1-1-3-21 Changes in China's monetary policies

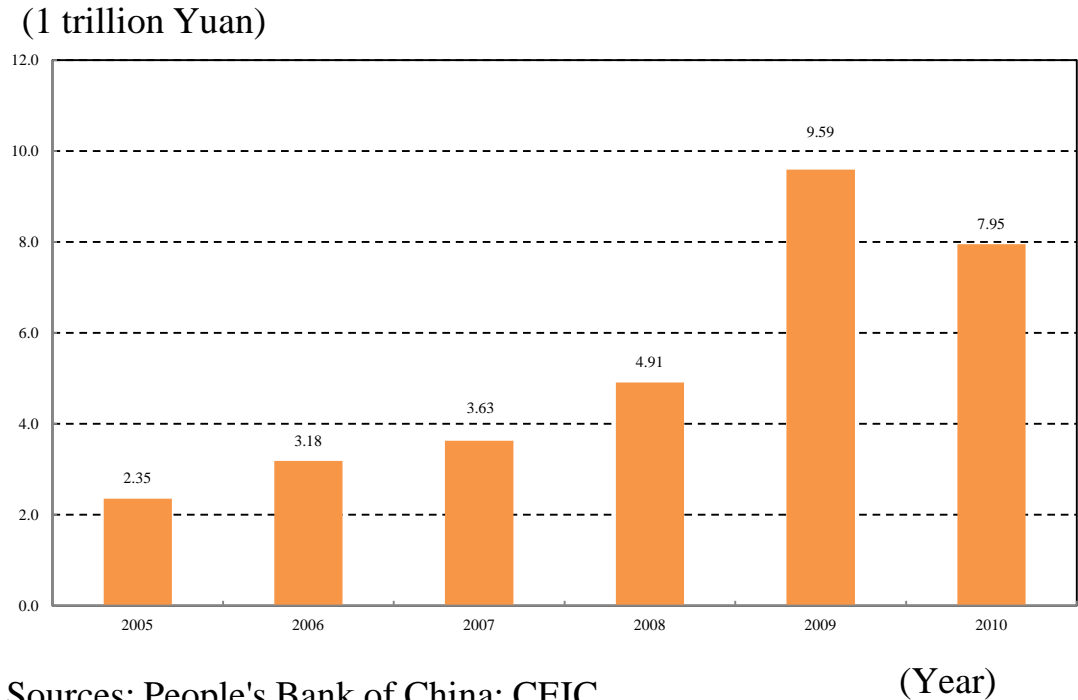


Sources: People's Bank of China; CEIC Database

There was excessive liquidity in the background of such overheating of the economy. The net increase of new loans in 2010 was 7,950 billion Yuan. The amount decreased from the amount in the previous year (9,590 billion Yuan), but exceeded the government target of 7,500 billion Yuan in 2010 (Figure 1-1-3-22). The money supply (M2) also increased to 72,600 billion Yuan or 19.7% increase

over the end of the previous year. Marshall’s K (M2 / nominal GDP) was changing at a level exceeding the trend line, and this suggested that the funds supply was excessive in comparison with the economic scale (Figure 1-1-3-23). In addition, by expansion of the surplus in the current account and expansion of net inflow in capital and financial account, the foreign currency reserves at the end of 2010 reached the world’s largest US\$2,850 billion (Figure 1-1-3-24)⁸¹. The foreign currency reserves continued to increase afterwards and, at the end of March 2011, exceed US\$3,000 billion. While the foreign currency inflow largely increased in this way, People’s Bank of China implemented foreign exchange intervention to control the level of Yuan market price, and large quantity of liquidity was supplied to the money market.

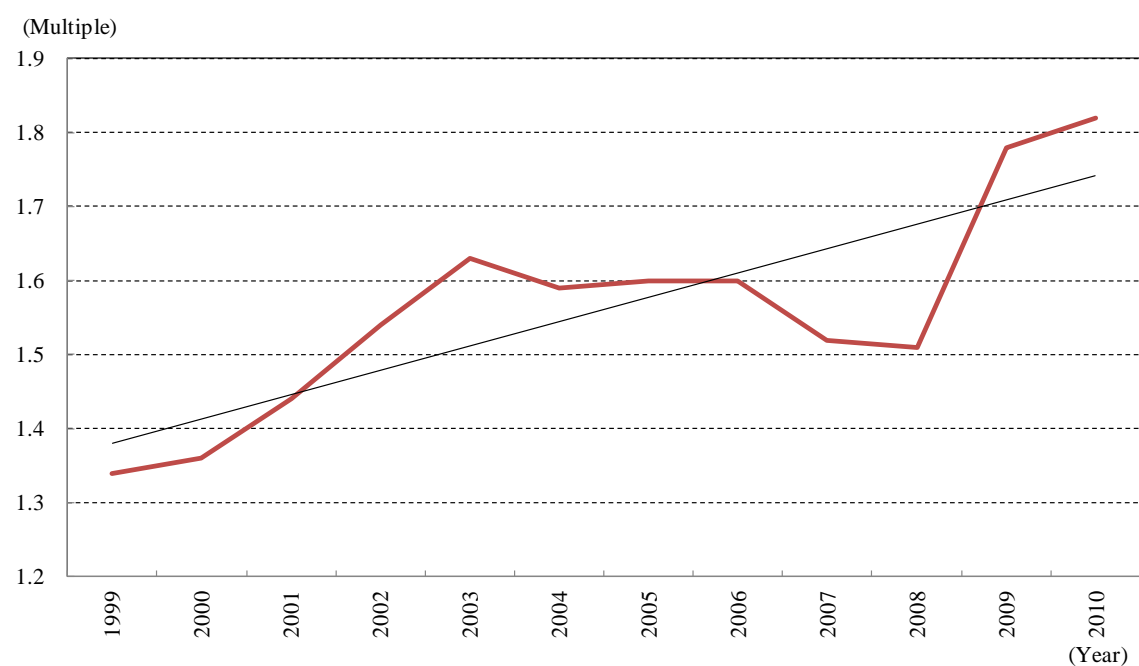
Figure 1-1-3-22 Changes in net increase of new loans



Sources: People's Bank of China; CEIC

⁸¹ About foreign funds inflow, State Administration of Foreign Exchange of China published on February 17, 2011, that the preliminary calculation amount of the short-term speculative net funds inflow, which flowed into China from the foreign countries in 2010, was US\$35.5 billion. State Administration of Foreign Exchange announced that the percentage of the short term speculative funds among the increased amount of the foreign currency reserves in 2010 remained at 7.6% (“Nippon Keizai Shinbun” (electronic edition) February 17, 2011).

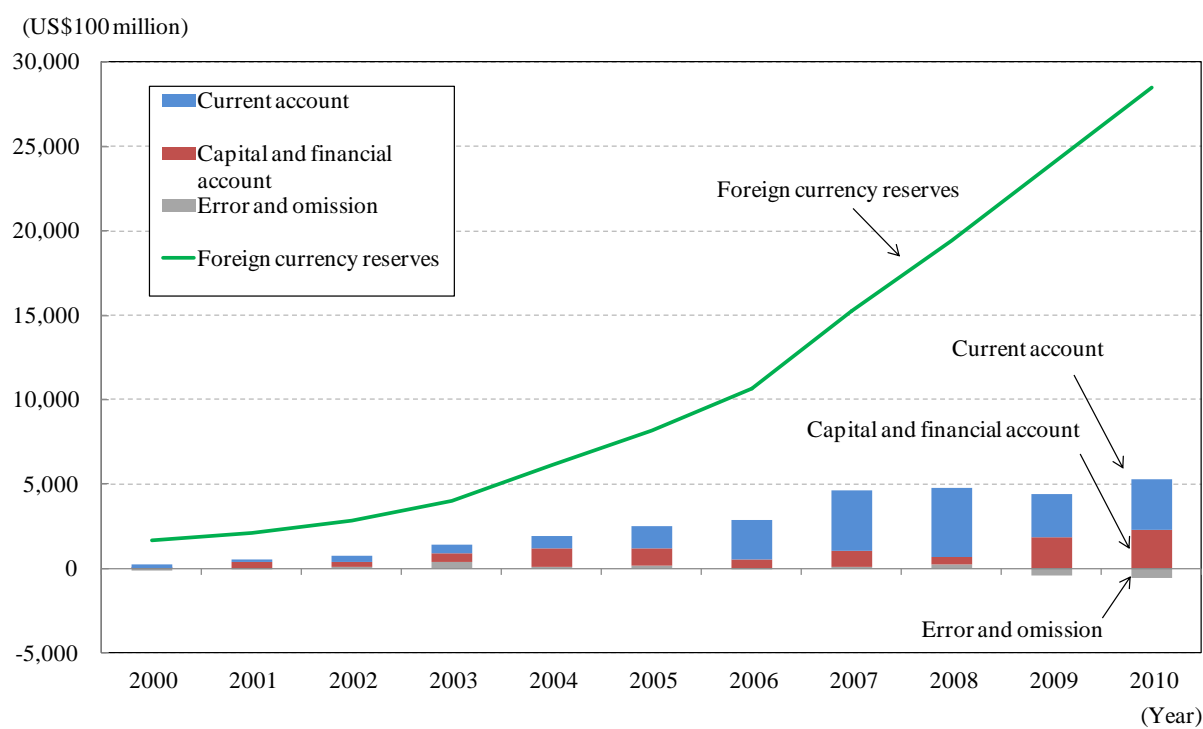
Figure 1-1-3-23 Changes in Marshall's K in China



Notes: Marshall's K = Money supply (M2)/Nominal GDP

Sources: National Bureau of Statistics of China; People's Bank of China; CEIC Database

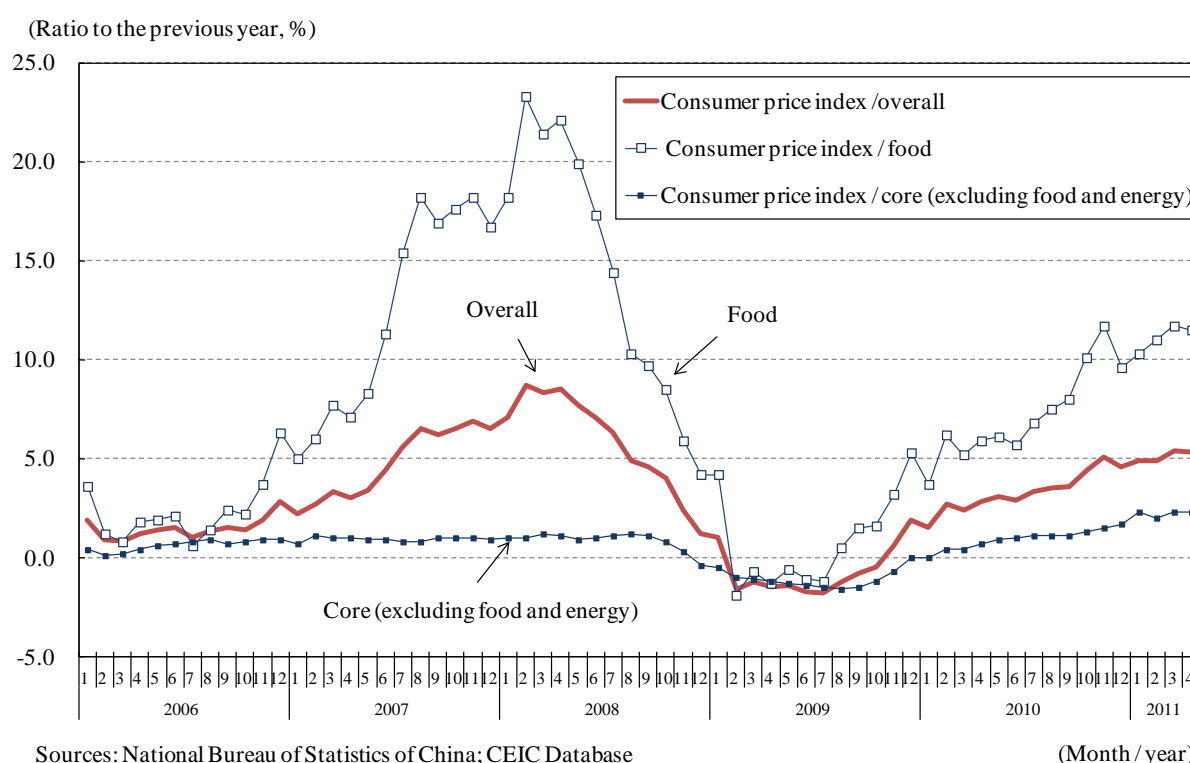
Figure 1-1-3-24 Changes in China's international balance of payments



Sources: State Administration of Foreign Exchange of China; CEIC Database

On the inflation rate, the growth rate of consumer price index (compared with same month of the previous year) exceeded the government target (3%) in late 2010; particularly, climb rate of “food” exceeded 10% (Figure 1-1-3-25). The causes of the rise in food price were pointed out to be unreasonable weather as well as the funds inflow from the money market being accompanied by abundance of the capital infusion. “Notification of the State Council on stabilizing the general level of consumer prices, and guaranteeing basic lives of the people” consisted of 16 items including increase of agricultural production, cutting in the cost of distribution, as well as future price control was issued on November 20, 2010. In addition, after the end of 2010, imported inflation pressure strongly rose due to remarkable rises in international commodities prices such as crude oil.

Figure 1-1-3-25 Changes in consumer price index in China

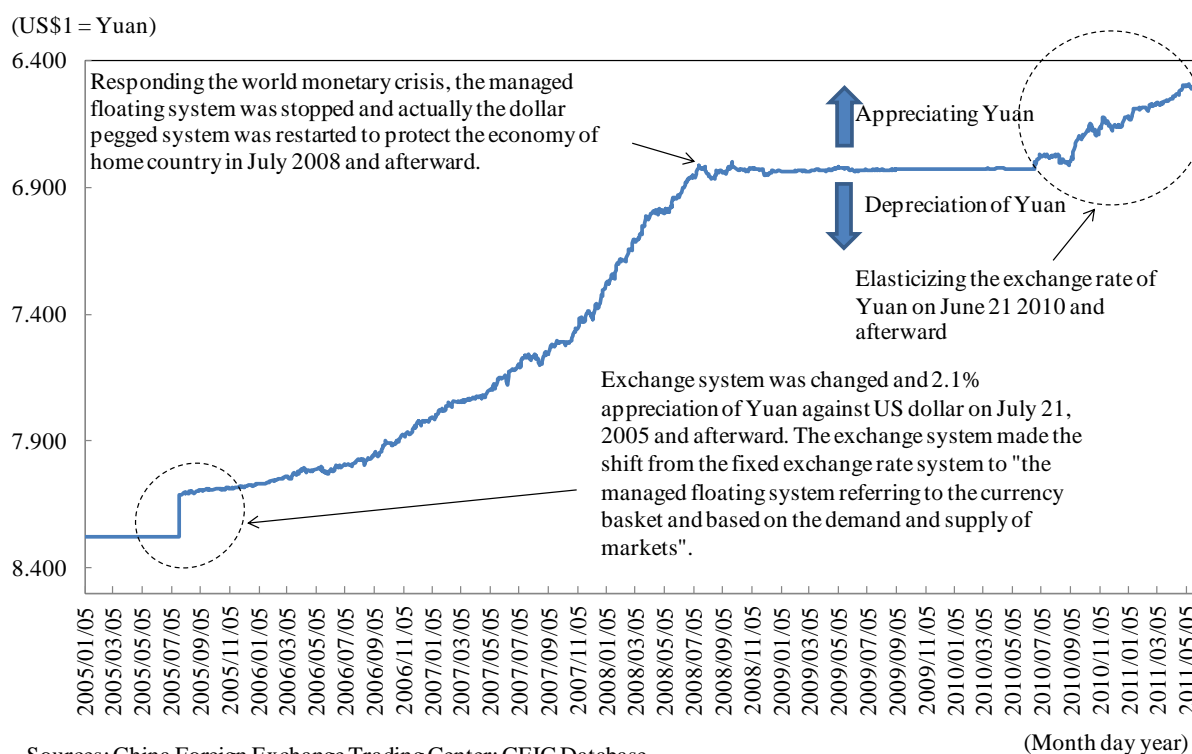


In such a situation, the Central Economic Work Conference held in December 2010 announced to switch the monetary policy posture from conventional “adequate monetary easing” to “moderateness (neutral)” and confirmed to switch the policy in direction of the monetary tightening. In addition, in the 4th Meeting of the 11th National People’s Congress held in March, 2011, Premier Wen Jiabao emphasized in “the Government Activities Report” that inflation control was a top priority problem for this year. The current task of the China’s economy is to be in tune with the stable growth railroad track while gradually decelerating economic growth to cruising speed. Attention is drawn that how the government and People’s Bank of China implement the “Operation to Exit” from the heating economy. In addition, after the Yuan exchange rate elasticity⁸² in June, 2010, the Yuan market prices continued to

⁸² People’s Bank of China announced a statement in June 2010 that the Bank further implemented reformation of the Yuan exchange rate formation mechanism and to raise the elasticity of the exchange rate

rise gradually⁸³. However, while the import inflation pressure caused by remarkable rises in international commodities prices such as crude oil continues, attention is drawn that how the raise in Yuan exchange rate is started to be accelerated (Figure 1-1-3-26).

Figure 1-1-3-26 Changes in exchange rate of Chinese Yuan against US dollar



(2) The challenge for China's economy, "Transfer to consumption-led economic growth"

(A) Transfer from investment/export-led economic growth to consumption-led one is necessary

Recently, China achieved high economic growth by "investment" as a main engine (previously shown Figure 1-1-3-3). In addition, it continued double-digit growth from 2003 through 2007 with adding "export" as another engine. As discussed in the Section 1.1, China's high growth depending on the "investment" and "export" before the world economic crisis was backed by United States's over-consumption which played a leading role in the world economy.

However, due to the world economic crisis, the composition changed greatly, and the world economy has been still in an unstable state. For the sustainable development of China, the change of the economic structure is necessary towards the domestic demand-driven economic growth, in other words, the consumption-led economic growth, while pressure to raise Yuan becomes higher, and labor

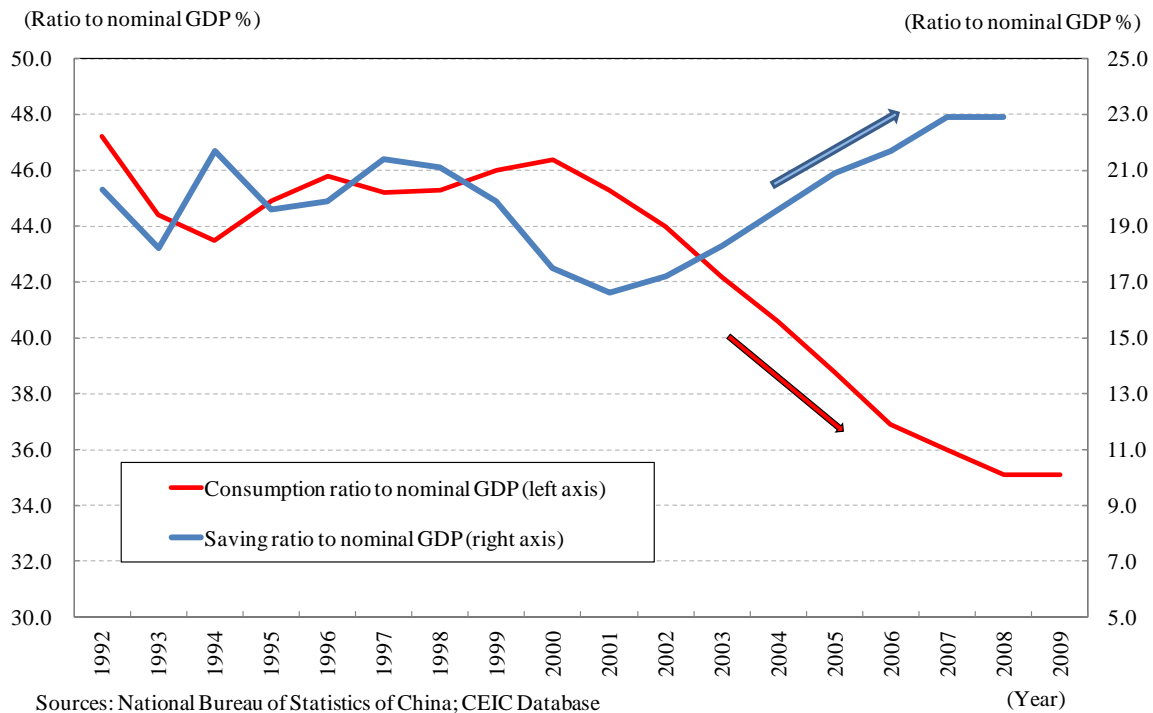
of Yuan. People's Bank of China expressed that elasticity of Yuan should follow the reformation of Yuan in 2005, and the Yuan should be adjusted within a fluctuation range per day of plus or minus 0.5% of the standard value (middle value), referring to the currency basket. It also stated that currently there was no basis to up-value the Yuan largely. Yuan reformation in 2006 implemented initial up-value of 2.1% and in 3 years afterward Yuan value increased approximately by 20% against US dollar. But the initial fixed up-value of Yuan was not implemented in this time's reformation.

⁸³ The climb rate of the Yuan against dollar in 2010 was 3.5%, and the record high of the climb rate per year was 6.6% in 2008.

cost continues increasing.

While China’s dependence on “investment” and “export” for the economic growth becomes higher, the dependence on “consumption” decreases. The ratio of saving of households to nominal GDP increases, with uneasiness to social security⁸⁴, while the ratio of consumption of households to nominal GDP decreases (Figure 1-1-3-27). The urbanization rate of China was 17.9% in 1978 when the reformation and opening began, but increased to 49.7% in 2010 (Figure 1-1-3-28). Gaps between regions (Figure 1-1-3-29) and gaps between urban and rural areas (Figure 1-1-3-30) were widening while the urbanization progressed. Recently in China, social structures and systems are unable to catch up the economic development speed, and various social contradictions such as widening economic gaps between urban and rural areas, un-developed welfare program systems e.g. social security, medical and residential environment, and the escalation of environmental issues are beginning to emerge around people’s lives.

Figure 1-1-3-27 Changes in consumption tendency of household in China



⁸⁴ As the base of former social security system of China collapsed by state-owned enterprise reformation, the government in 1997 established a nationwide social security system. But the percentage of the social insurance member is low, and it is yet in a transitional phase.

Figure 1-1-3-28 Changes in urbanization rate in China

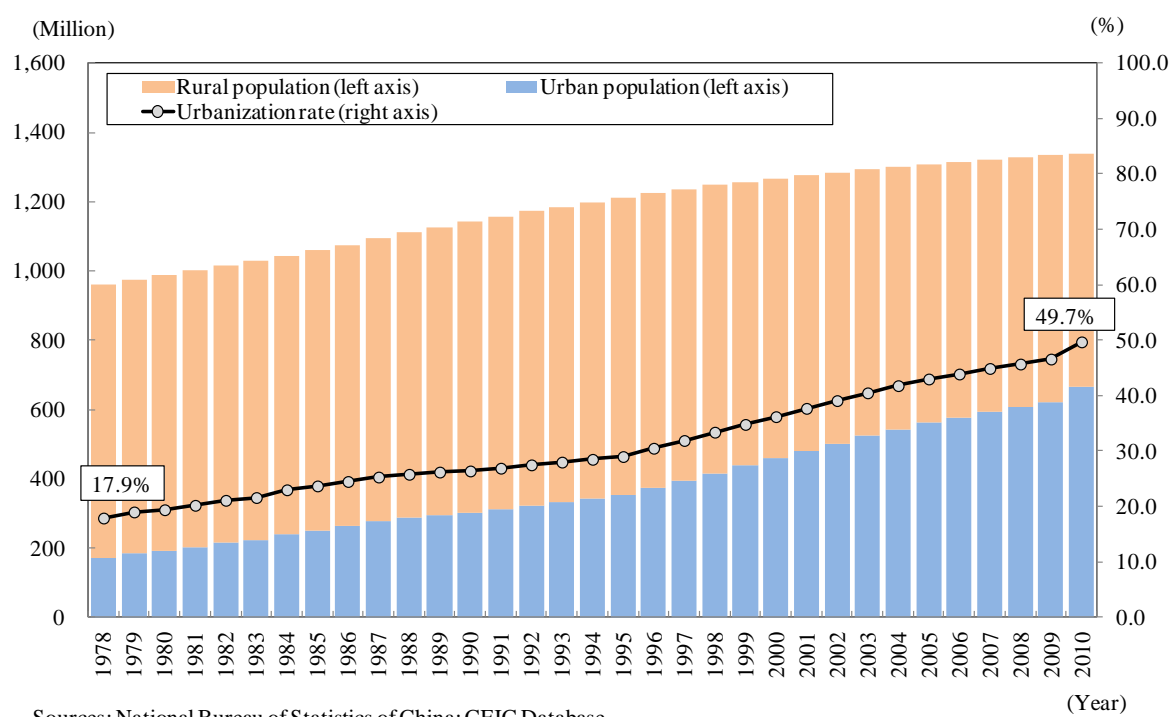


Figure 1-1-3-29 Nominal GDP per capita by areas in China (2009)

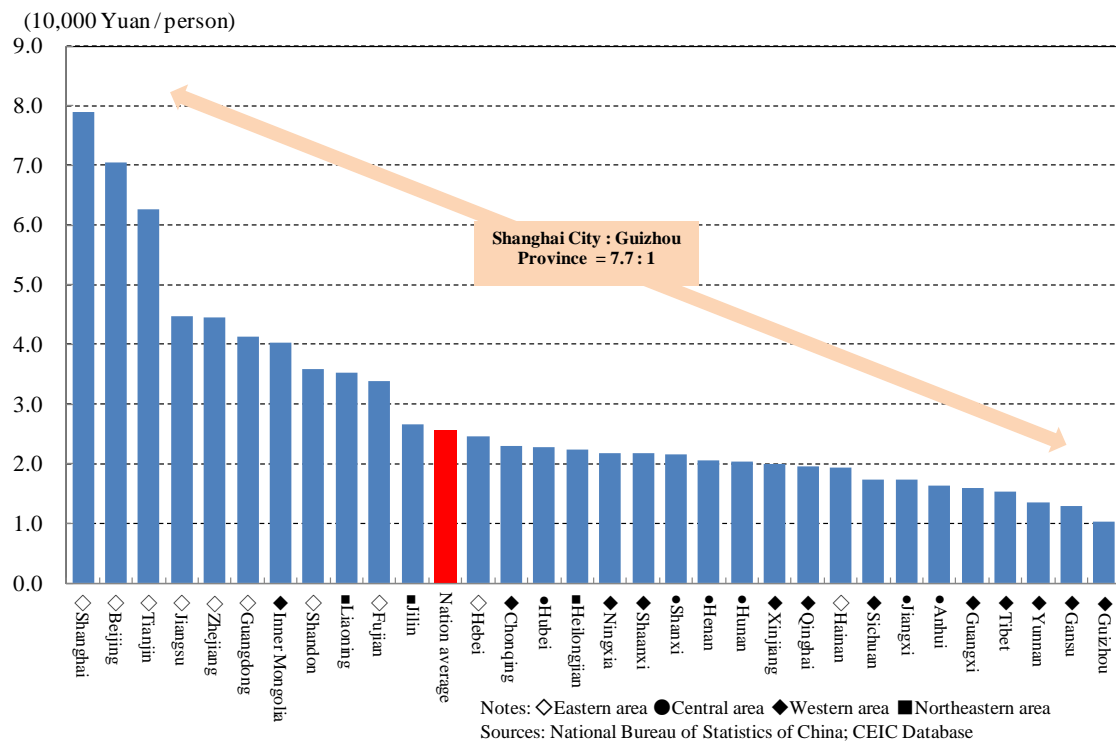
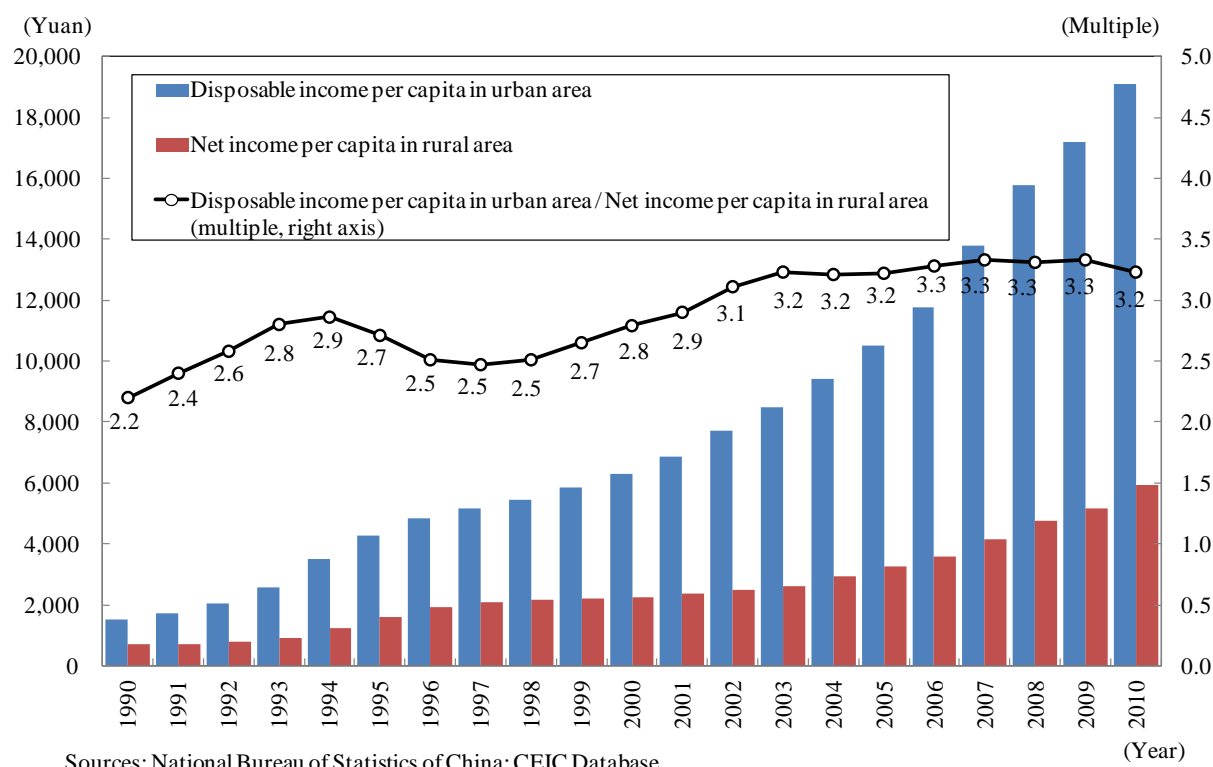


Figure 1-1-3-30 Changes in income gaps between urban and rural areas in China



The Hu Jintao/ Wen Jiabao government raised a basic economic policy called realization of “the harmonious society” by transferring the economic development mode, and aimed at the transfer to a) balanced growth of investment, export and consumption; b) balanced growth of 1st, 2nd and 3rd industry; and c) from the “extensive type” economy depending on quantitative expansion to “intensive type” economy depending on the improvement of productivity, and at the same time, planned reduction of farmer’s burden and betterment of the social welfare (Table 1-1-3-31). However, such action is still left incomplete, and from the viewpoint of sustainable growth of China in the future, it is urgently required to accelerate the transfer of the economic development mode, to reduce the domestic economic gaps and to develop the domestic demand-driven growth, as the rapid development of low birthrate and aging is predicted in the future (Figure 1-1-3-32).

Table 1-1-3-31 Basic policy of China’s economic measures

(1) Converting the demand structure

Converting the type of growth from one that mainly driven by investment and export to growth that driven also by consumption

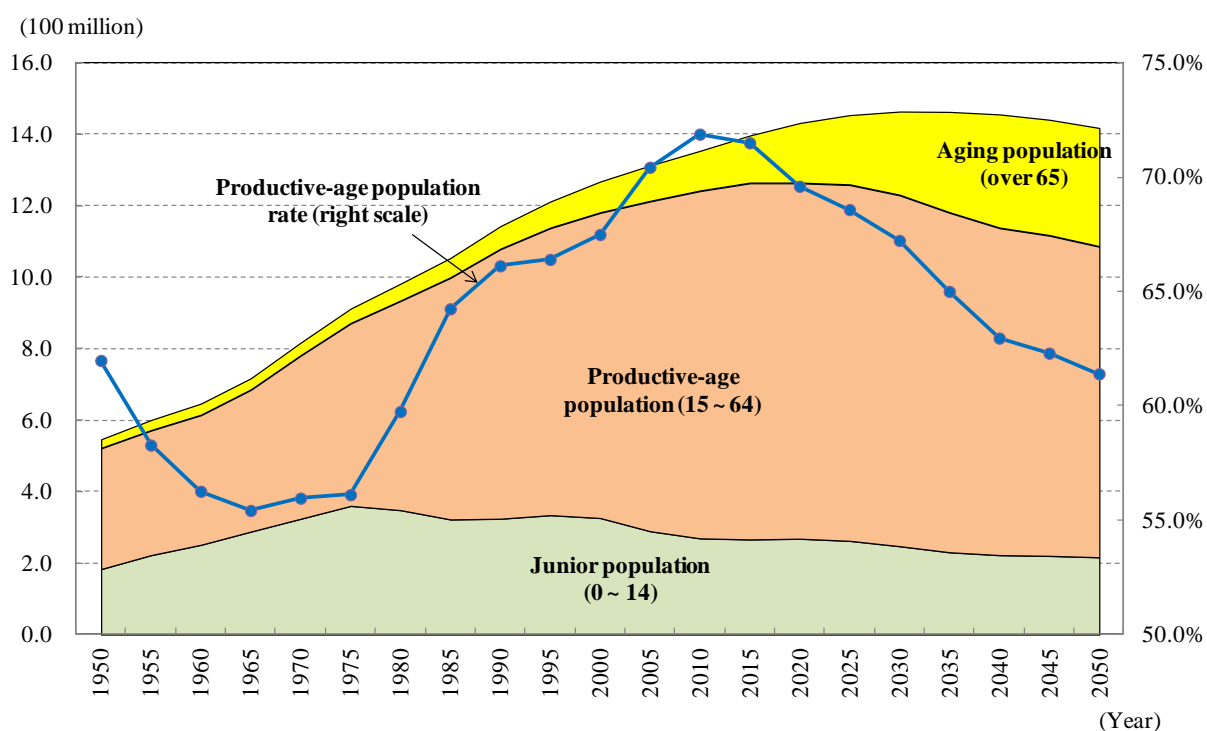
(2) Converting the industrial structure

Converting the type of growth from one that mainly driven by secondary industry (industry) to growth that well balanced among primary (agriculture), secondary (industry) and tertiary (services) industries

(3) Converting the production types

Converting the production types from “extensive” which mainly depends on “quantitative increase of input” such as labor, capital, resources to “intensive” which depends on “enhancement of productivity” such as scientific technology improvement, workers’ skills and capability building and innovation of management

Figure 1-1-3-32 Changes in population composition in China



Sources: UN "World Population Prospects"

(B) “The 12th Five-Year Plan”; aiming at qualitative enhancement rather than quantitative expansion

The 4th Meeting of the 11th National People’s Congress (NPC) held on March 5 to 14, 2011 adopted the 12th Five-Year Plan (from 2011 through 2015). The 12th Five-Year Plan, along with the above-discussed basic economic policy (Table 1-1-3-31), focused on a) making the acceleration of transfer in the economic growth mode as a top priority; b) promoting the reformation in every field; and c) improving people’s livelihood. The target of the real GDP growth rate for the next 5 years was decided at an average of 7% per year, but this was a lower level than 7.5% and 11.2% which were initial target of the 11th Five-Year Plan and the actual performance carried out respectively. It made clear that the Chinese government aimed at the qualitative enhancement rather than the quantitative expansion of the economic growth (Table 1-1-3-33).

Table 1-1-3-33 Main targets of China's 12th Five-Year Plan

Classification	Indicator	Results in 2010	Targets in 2015	Average annual growth rate (the blue portions are accumulated values in 5 years)
Economic growth	Domestic gross production (GDP) (1 trillion Yuan)	39.8	55.8	7.0%
Economic structure	Ratio of added value by service industry to GDP (%)	43.0	47.0	4% points
	Ratio of R&D expenditure to GDP (%)	1.8	2.2	0.4% points
	Ratio of urbanization (%)	47.5	51.5	4% points
Population, resources and environment	National total population (10,000)	134,100	Less than 139,000	Less than 7.2‰
	Ratio of non-fossil fuel to primary energy consumption (%)	8.3	11.4	3.1%
	Energy consumption per unit of GDP (%)			▲16%
	Emission volume of CO ₂ per unit of GDP (%)			▲17%
	Total emission volume of main pollutants (%)			▲8~10%
	Ratio of forest area (%)	20.36	21.66	1.3% points
People's lives	Disposable income per capita of household in urban area (Yuan)	19,109	Over 26,800	Over 7%
	Net income per capita of household in rural area (Yuan)	5,919	Over 8,300	Over 7%
	Registered unemployment ratio in urban area (%)	4.1	Less than 5.0	
	Number of newly employed workers in urban area (10,000)	5,771(Accumulated for 5 years)	4,500(Accumulated for 5 years)	45 million
	Number of persons covered by basic endowment insurance in urban area (100 million)	2.57	3.57	100 million
	Participation rate of basic medical insurance (3 items) in urban and rural areas (%)			3.0%
	Construction of safeguard housing in urban area (10,000 cases)			36 million

Notes:

1. Gross domestic product (GDP) and disposable income per capita of household in urban area are nominal values and average annual growth rate is real value.

2. Participation rate of the urban and rural basic medical insurance (3items) is population rate of participant of urban workers basic medical insurance, urban household basic medical insurance and new type rural collaboration medical insurance to the total national population at the end of the years.

Sources: Data from various websites

In the 12th Five-Year Plan, growth rates of “income per person of urban resident” and “net income per person in rural area” were decided both at “average 7% per year or more” and a target was adopted to increase them more than the growth rate of the real GDP of average 7% per year. The line of policy

was made clear to increase income, which was necessary to expand consumption. Additionally, targets were set to increase the weight of the resident income in the distribution of the national income and to further enhance the social security.

Meanwhile, the energy saving and resources/ environmental protection were also considered to be an important issue as a part of the transfer of the economic development method. Policy was declared to strengthen important mineral resources conservation and mining management and targets were shown to reduce 16% of the energy consumption per unit GDP and 17% of CO₂ emission in 5 years from 2011 through 2015.

In addition, as strategic industry intending to achieve industrial advancement, seven industrial areas namely a) energy saving and environmental protection, b) next generation information technology, c) biotechnology, d) high-end production facility, e) new energy, f) new material, and g) new energy (automobile) were shown to make percentage of these industries in GDP to raise up to 8% by 2015 from 3% in 2010.

(C) Industrial advancement; towards the consumption-led economic growth

In the 12th Five-Year Plan, placing importance on the security and improvement of people's livelihood to increase the individual consumption, acceleration of the rational income distribution was proposed and also balances of the first, second, and third industry, promotion of scientific technology and industrial advancement were targeted to accomplish. But taking the history of China's economic development into consideration, some difficulties may be predicted to realize these policies. The reformation of social security is undergoing, but various problems lie ahead. Prospect cannot be found at the present stage to solve the dual economy of urban and rural areas, as a fundamental problem of China's economy. The 12th Five-Year Plan states to promote the reformation in the every field, but there are many problems to overcome such as monopoly and advantage protection of the state-owned enterprises, weakness of fundamental researches.

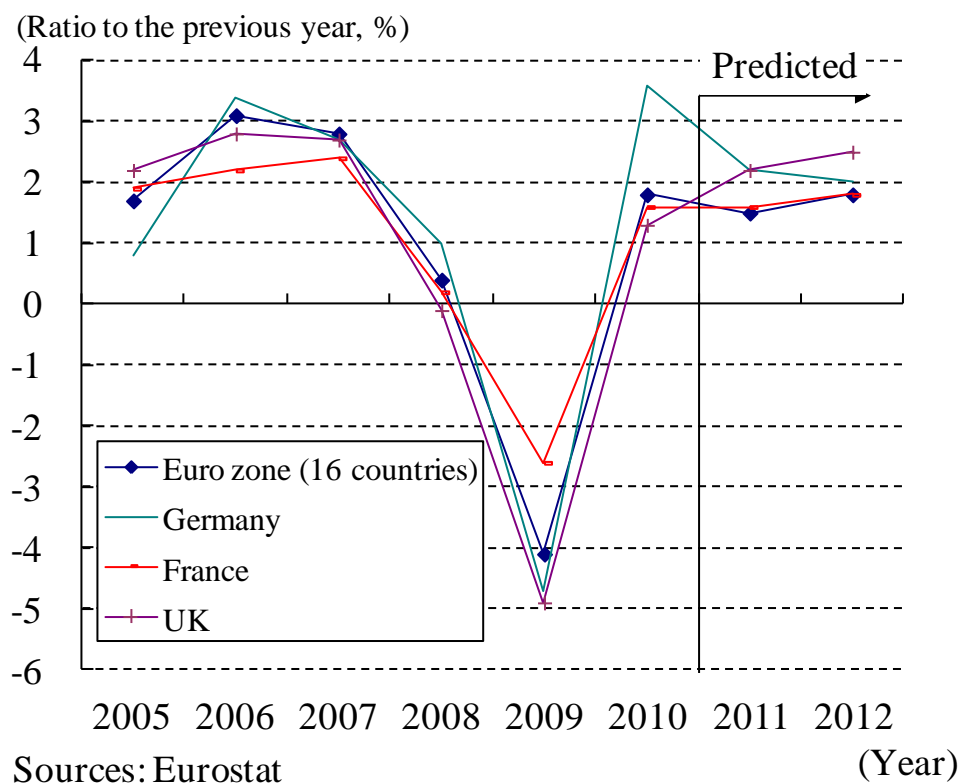
Attention is drawn to whether or not China, overcoming the above-mentioned difficulties, can accomplish such objects as to improve the people's livelihood, to promote energy saving and environmental protection, to advance the industry and to transfer the development mode from investment/export-dependent economic growth to consumption-led one.

4. Current situation and problem of the economy of Europe

The economy of Europe as a whole recovered from the economic recession caused by the world financial crisis in 2010, but there was a large variation in economic recovery process, which was different from country to country. The real GDP growth rate of the euro zone⁸⁵ recovered to 1.8% compared with the previous year in 2010, years after large decrease of -4.1% in 2009. Germany, a major European country, achieved a high growth rates of 3.6% in 2010, but France and the UK also achieved the recovery of 1.6% and 1.3% respectively (Figure 1-1-4-1). On the other hand, Ireland and some of the Southern European countries which were shaken by the European financial crisis, continued to be in the severe situation of minus economic growth in 2010 (Figure 1-1-4-2).

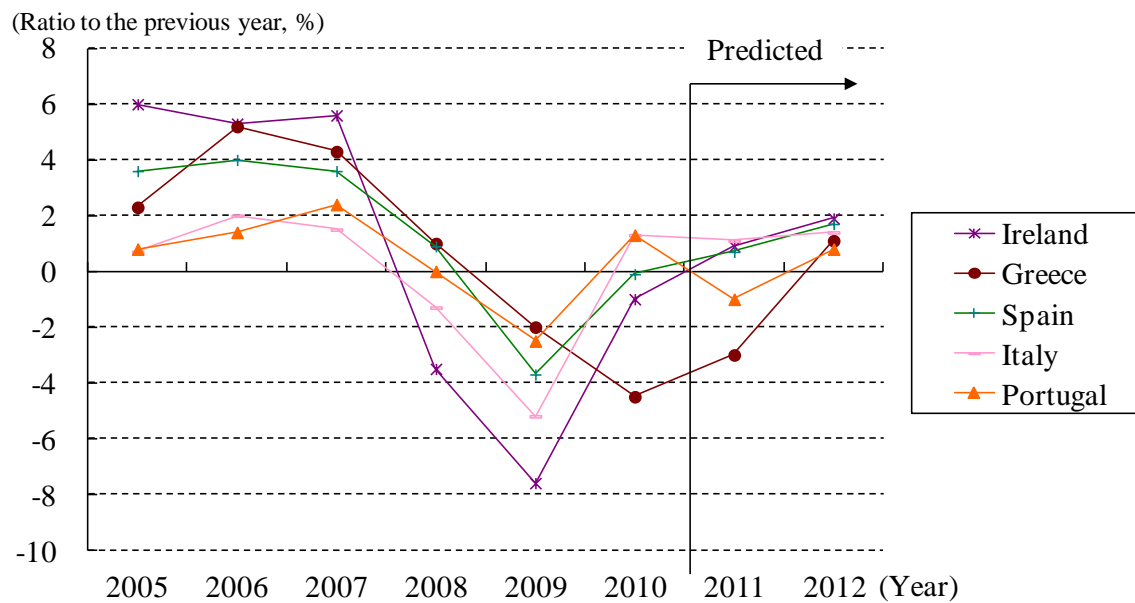
After having observed economic trends in the whole euro zone, an overview of German economic trend, which accomplished high growth among countries in Europe, is given in the section below.

Figure 1-1-4-1 Transition of the real GDP growth rates of major countries in Euro zone and Europe



⁸⁵ In this Section, “euro zone” refers to 16 nations which introduced euro as of 2010 among EU member nations (Belgium, Germany, Greece, Spain, France, Ireland, Italy, Cyprus, Luxemburg, Malta, Holland, Austria, Portugal, Slovenia, Finland, Slovakia).

Figure 1-1-4-2 Transition of the real GDP growth rates of countries in South Europe



Sources: Eurostat

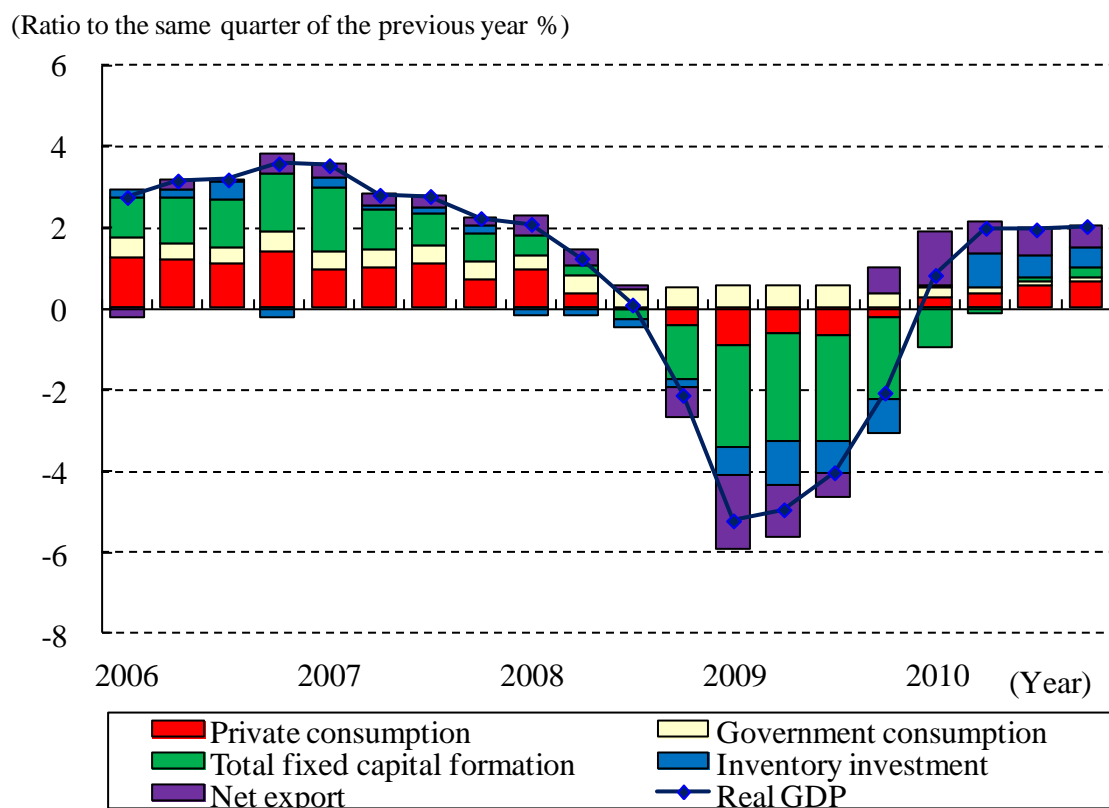
(1) Economic trends in the euro zone

(A) Economy, driven by foreign demand improved

After having been suddenly depressed under the influence of the world financial crisis, the euro zone economy was restored in 2010. Examining the transition of the real GDP growth rates, after having been depressed greatly from the previous year with a negative growth of -5.2% in the first-quarter of 2009, the size of the minus growth rate gradually reduced and it turned to plus growth with 0.8% in the first quarter of 2010 and afterward it maintained 2.0% growth over the same period of the previous year.

Examining trends of the euro zone economy according to demand of items, the degree of contribution of the foreign demand was 1.4% points in the first-quarter of 2010. The foreign demand pushed up the growth rate backed by recovery of the world economy. With recovery of the export, the production activity accelerated, and movement of the stock reconstruction expanded and the inventory investment, whose degree of contribution had so far been negative, pushed up the growth rate. The individual consumption also propped up the economic recovery (Figure 1-1-4-3).

Figure 1-1-4-3 Transition of the real GDP growth rates of countries in Euro zone by expenditure components



Sources: Eurostat

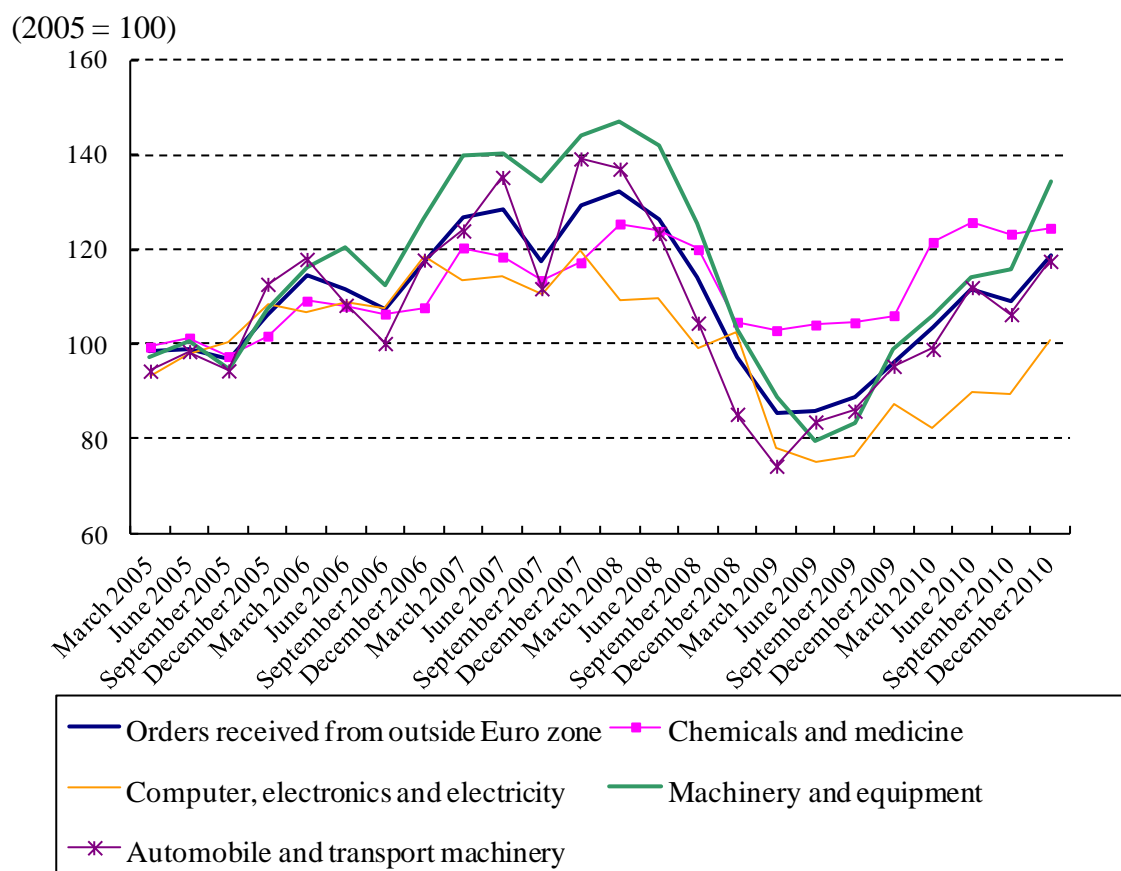
(B) The enterprises sector recovered the export driven productions

As for the order for the export of manufacturing industry to destinations outside the euro zone, the recovery became remarkable in the first-quarter of 2010 and afterward. Orders to export chemicals in the first half of 2010, and orders for machine/ equipment and automobile/ transport machine in latter half of 2010 were remarkably recovered to the previous level and even rose higher.

It was so supposed that the export orders of such articles increased due to recovery of exports to United States of America and emerging economies in Asia, particularly to China (Figure 1-1-4-4).

The production activities were restored with increase of the export orders. As for the industrial production of the euro zone, minus growth remained unchanged compared with the same month of the previous year in 2009, but it turned to the desired expansion level in January 2010 and the growth rate rose to around 8 to 9% over the same month of the previous year after March (Figure 1-1-4-5).

Figure 1-1-4-4 Export orders to manufacturing industry in Euro zone received from outside the region



Sources: Eurostat

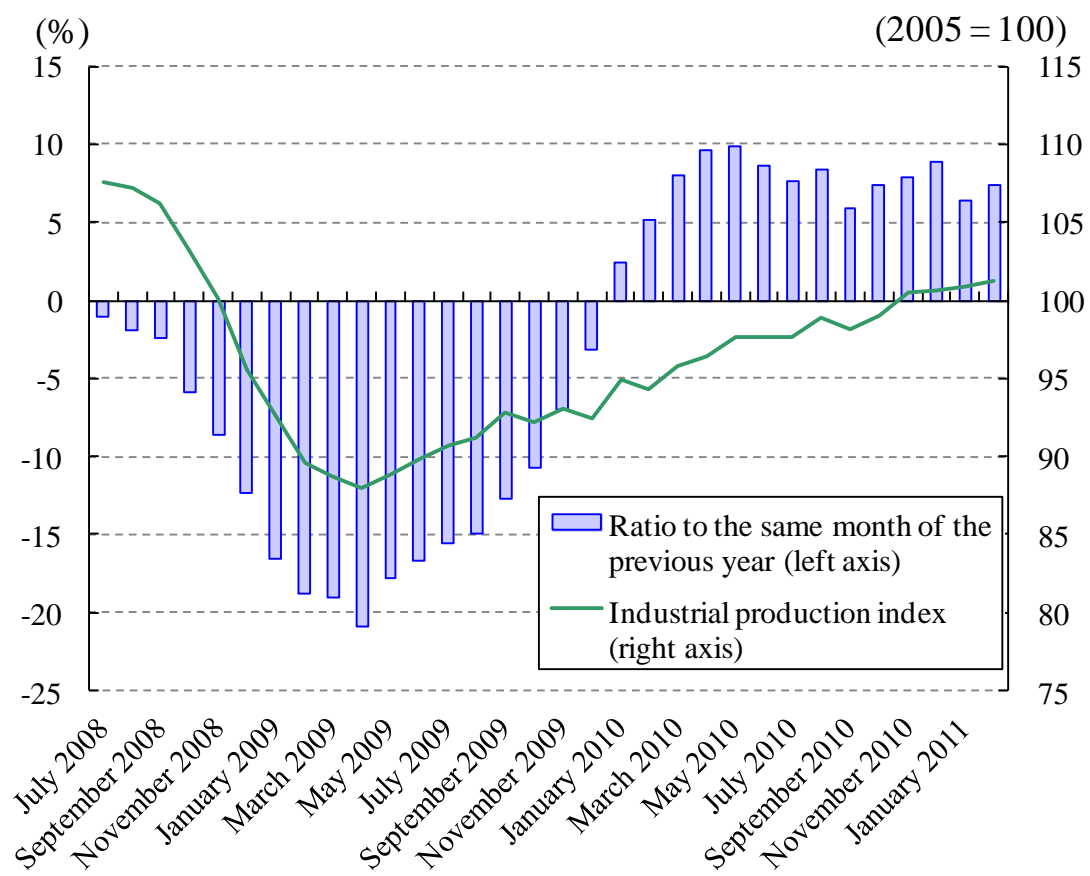
(C) Private consumption recovered moderately

In the household sector, individual consumption continued to recover at a moderate pace. The retail sales amount in the euro zone turned to decrease in November, 2008, by -0.6% compared with the same month of the previous year, and continued to decrease towards middle of 2009 with a decline rate of -5 to -6%, but it became plus growth after February 2010 (Figure 1-1-4-6).

It is thought that the moderate recovery of the individual consumption was backed by the moderate improvement of the employment/ income circumstance. As of the employment situation, the unemployment rate was in transition at the high level of approximately 10%, but a sign to stop the increase of the unemployment could be seen. Number of unemployment continued to increase 400,000 to 500,000 in January through March 2009 compared with the same month of the previous year, but the width of increase reduced afterwards. The number decreased to 128,000 compared to same month of the previous year in November 2010, and afterwards it continued to decrease for consecutive 5 months until March 2011. The employees pay was improved gently⁸⁶ during these periods, and it supposed to contribute to the recovery of private consumption (Figure 1-1-4-7: Number and rate of unemployment).

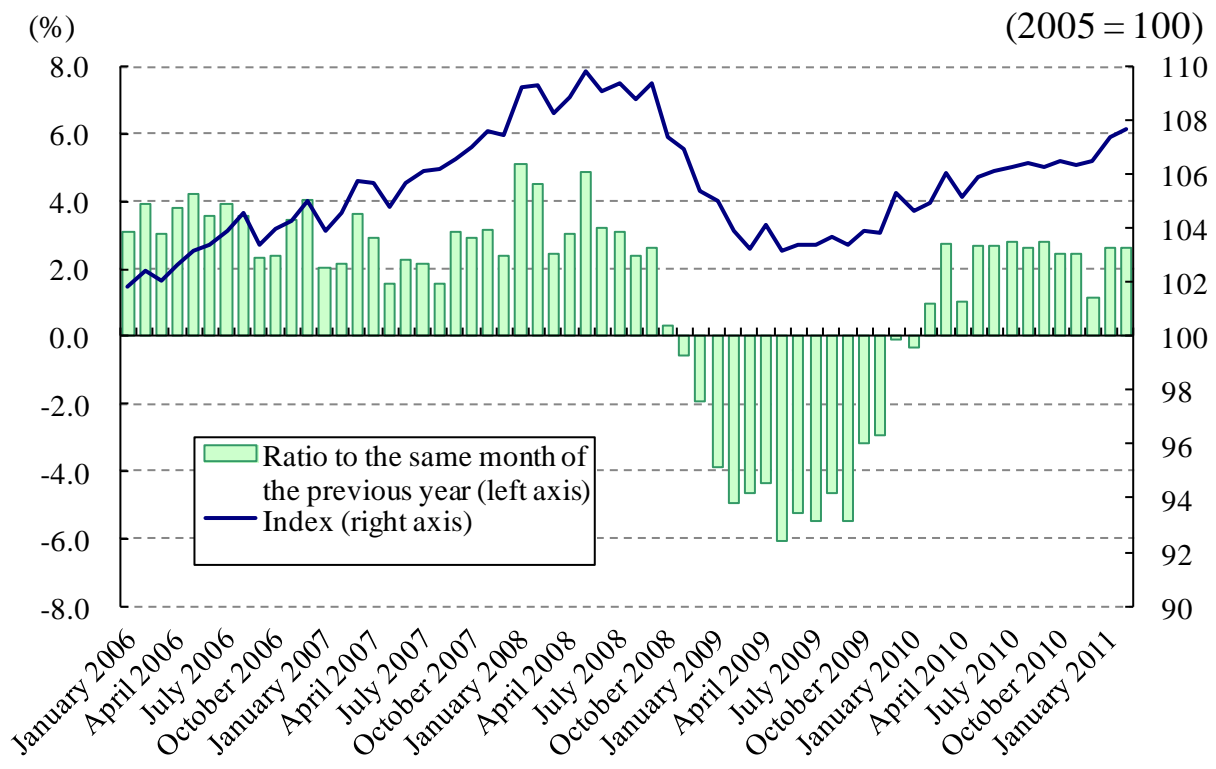
⁸⁶ In the euro zone, the employees' salary continued to rise on quarterly basis at an average of 2.1% compared with the previous years from 2009 through 2010.

Figure 1-1-4-5 Transition of industrial production in Euro zone



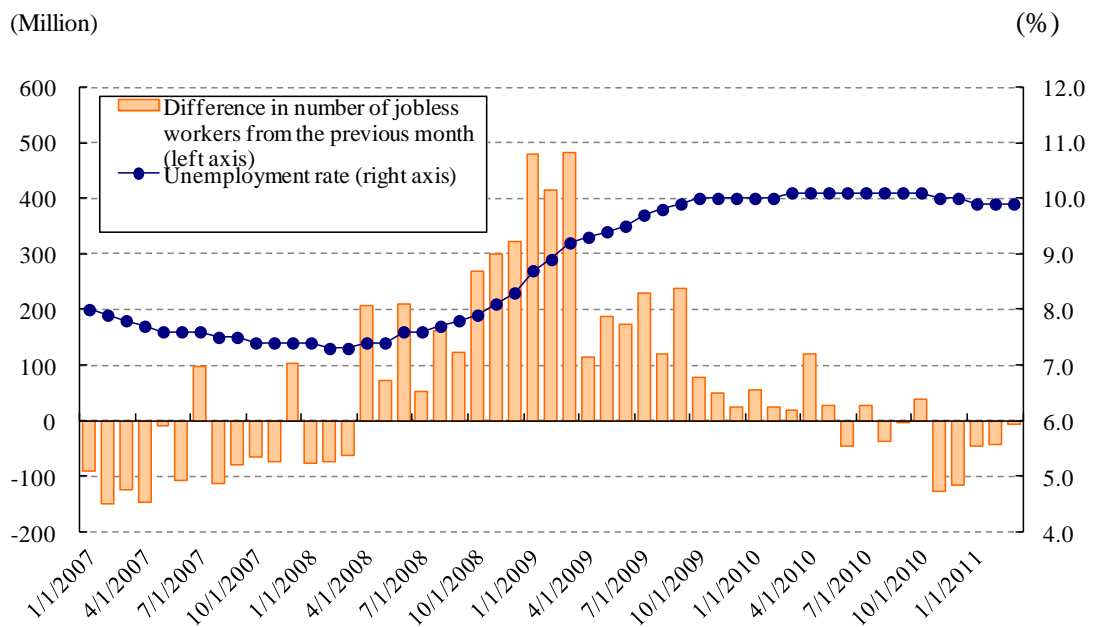
Sources: Eurostat

Figure 1-1-4-6 Transition of retail sales in Euro zone



Sources: Eurostat

Figure 1-1-4-7 Transition of number of jobless workers and unemployment rate



Sources: Eurostat

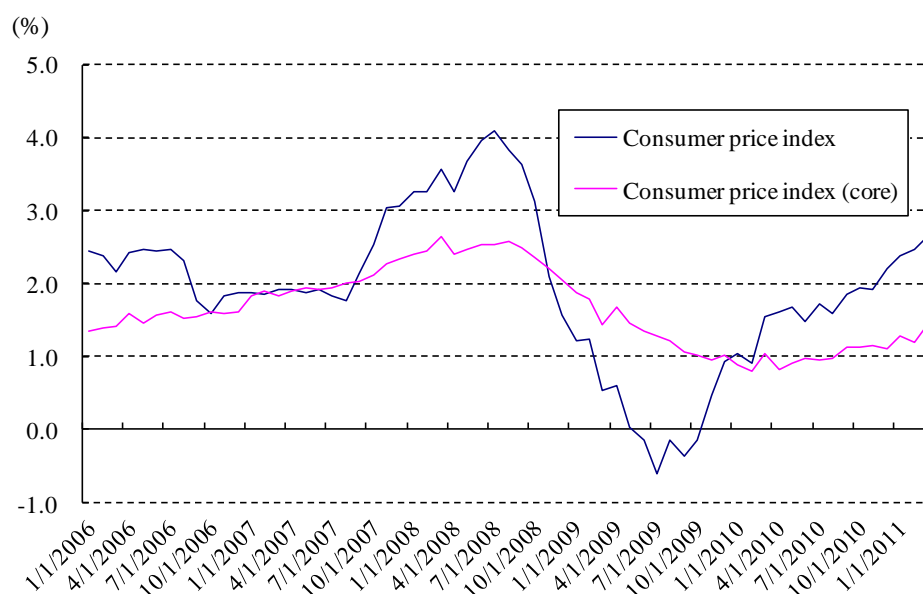
(D) Inflation concerns and European Central Bank (ECB)'s monetary policy

As the euro zone economy achieved moderate recovery in 2010, the commodity prices trends were changing stably, but price hike pressure gradually rose after the end of 2010. Observing changes in the climbing rate of Harmonized Index of Consumer Prices (HICP), in December, 2010, it became 2.2% compared with the previous year, and this was over 2.0% which was an inflation target of ECB, and the climbing rate was still accelerated and it was 2.6% in March, 2011. Background to these rises was the surge in prices of food and resources. Prices of food and crude oil were rising backed by situations such as tight supply-and-demand conditions caused by the high economic growth of the emerging economies Including China, funds inflow from the monetary market, political uneasiness in Middle East and North Africa (refer to Chapter 1, Section 2.1 The factors and influence of the remarkable rises in prices of food and resources). These factors combined with advancing decrease of euro value caused pressure to raise prices of upstream sectors such as import prices and producer prices. Therefore, the core inflation excluding food and energy became the 1% level (1.1% compared with the previous year) in September, 2010, and increased to 1.4% in March 2011(Figure 1-1-4-8).

In these situations, the ECB, which was cautious on inflation, determined to raise the main policy rate by 0.25% and make it 1.25% on April 7, 2011. Although the euro zone economy as a whole was moderately recovering, as mentioned above, economic trends in the said zone had a large gap between countries. Some of the South European countries including Ireland and Greece continued to register minus growth and the deflation concern was emerging. If interest rates increase, the home loan⁸⁷ mainly on the variable rate may lead to the intensification of the bad-loan problem of financial institutions. If it becomes overhasty to exit, it may cause the economic recovery to stall and a new confusion in the monetary market might arise. ECB is pressed to steer the difficult monetary policy for recovery.

⁸⁷ As for the home loan, the variable rate is main stream in countries such as, Spain, Greece and Ireland (European Mortgage Federation (2006) "Study on Interest Rate Variability in Europe, July 2006").

Figure 1-1-4-8 Transition of consumer prices in Euro zone



Sources: Eurostat

(2) Trends of German economy

Germany accomplished remarkable economic growth among countries in the euro zone with its real GDP growth rate of 3.6%, an increase over that of the previous year of 2010. Examining the Germany's real GDP according to demand of items, such as, the foreign demand, inventory investment and capital spending which led the economic recovery. And individual consumption was found to prop up the economy in late 2010. Regarding the business sector, when the significant economic recession occurred in 2009, production and capital spending were contracted. It was supposed that, as a reaction, the stock buildup and increase of capital spending were implemented in 2010, especially in the first half of the year (Figure 1-1-4-9).

In addition, as Germany had a relatively high degree⁸⁸ of dependence on exports among major European countries, expansion of the export market greatly contributed to Germany's economic recovery (Figure 1-1-4-10). Particularly, the expansion of exports to China is supposed to have significant influence over Germany's economic recovery. The growth rate of all German exports registered 13.2% increase in 2010 over that of the previous year, but the exports to China reached higher growth rate of 35.7%. In 2009, Germany's overseas exports including exports to advanced economies registered a minus growth, but the export to China was positive with 4.3% growth over the previous year⁸⁹. Approximately 60% of Germany's exports was to countries in the EU zone. But Germany's export to China grew steadily in the past several years. Germany's export to China accounted for 7.3% growth in 2005, which then grew to 13.9% in 2010. This is quite high among Germany's exports to countries outside the EU zone, and it increased almost to the same level of

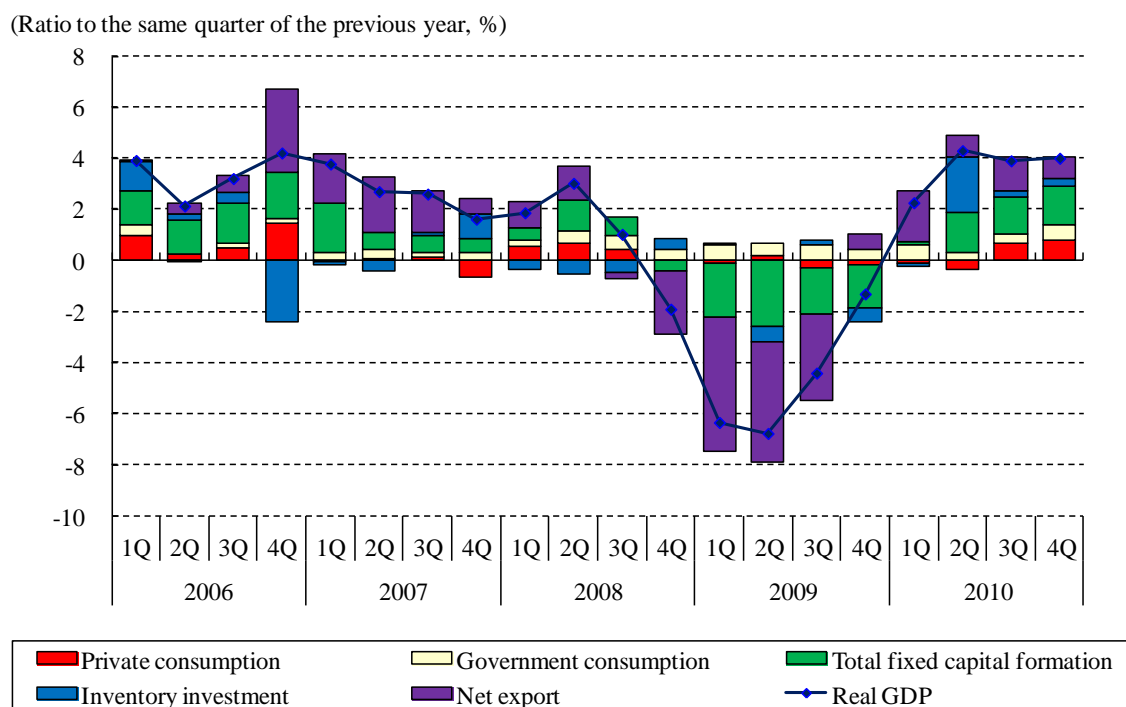
⁸⁸ Degree of Germany's export-dependence in 2009 was 40.9%, which exceeded the national average of EC member countries (35.6%).

⁸⁹ World Trade Atlas.

Germany's exports to United States of America (16.8%) (Figures 1-1-4-11 and 1-1-4-12). Capital goods such as, machinery/ and transportation equipment account for approximately 70% of the overall export from Germany to China⁹⁰. It is thought that such increase of export⁹¹ contributed to recovery of German manufacturing industry.

The expansion in the production sector had a profound influence on the family budget, generating higher income. It should be specially mentioned that large labor adjustment was not made in Germany during the economic recession in 2009. When companies shortened the working hours of workers depending on business fluctuations, the government compensated each worker for the decreased wages subject to the certain conditions⁹². And this enabled Germans to avoid any labor adjustment requirements. When production was restored afterward, the employment level in companies rose, and the unemployment rate in Germany was improved to a historic low level of the first half of 7% level (Figure 1-1-4-13). It is said that improvement in employment and income environment led to increase in individual consumption later in 2010.

Figure 1-1-4-9 Transition of real GDP growth rate in Germany



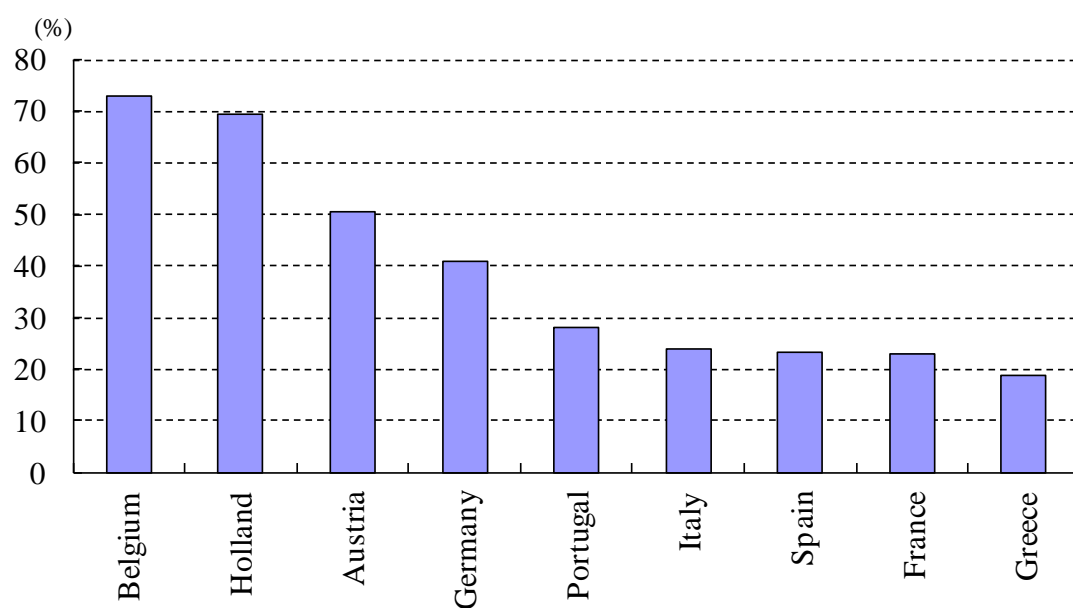
Sources: Federal Statistical Office

⁹⁰ Deutsch Bank Research paper, "German growth remains robust" February 14, 2011

⁹¹ For example, automobile/ auto parts, which account for approximately 16% (in 2010) of Germany's export to China, recorded a 97.2% increase over the previous year in 2010.

⁹² Cabinet Office, "This week's Index" No. 936 Germany: "Labor market and operation cut allowance" <http://www5.cao.go.jp/keizai3/shihyo/2009/1019/936.html>

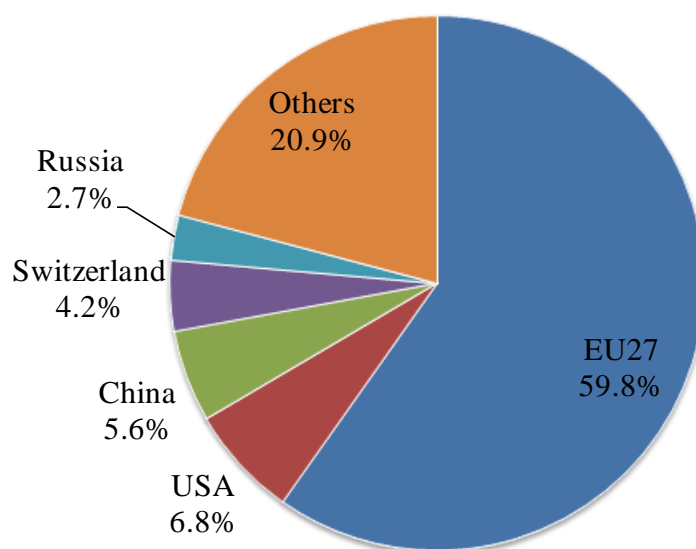
Figure 1-1-4-10 Dependency on export of major country in Euro zone (2009)



Notes: Ratio of total export amount to GDP

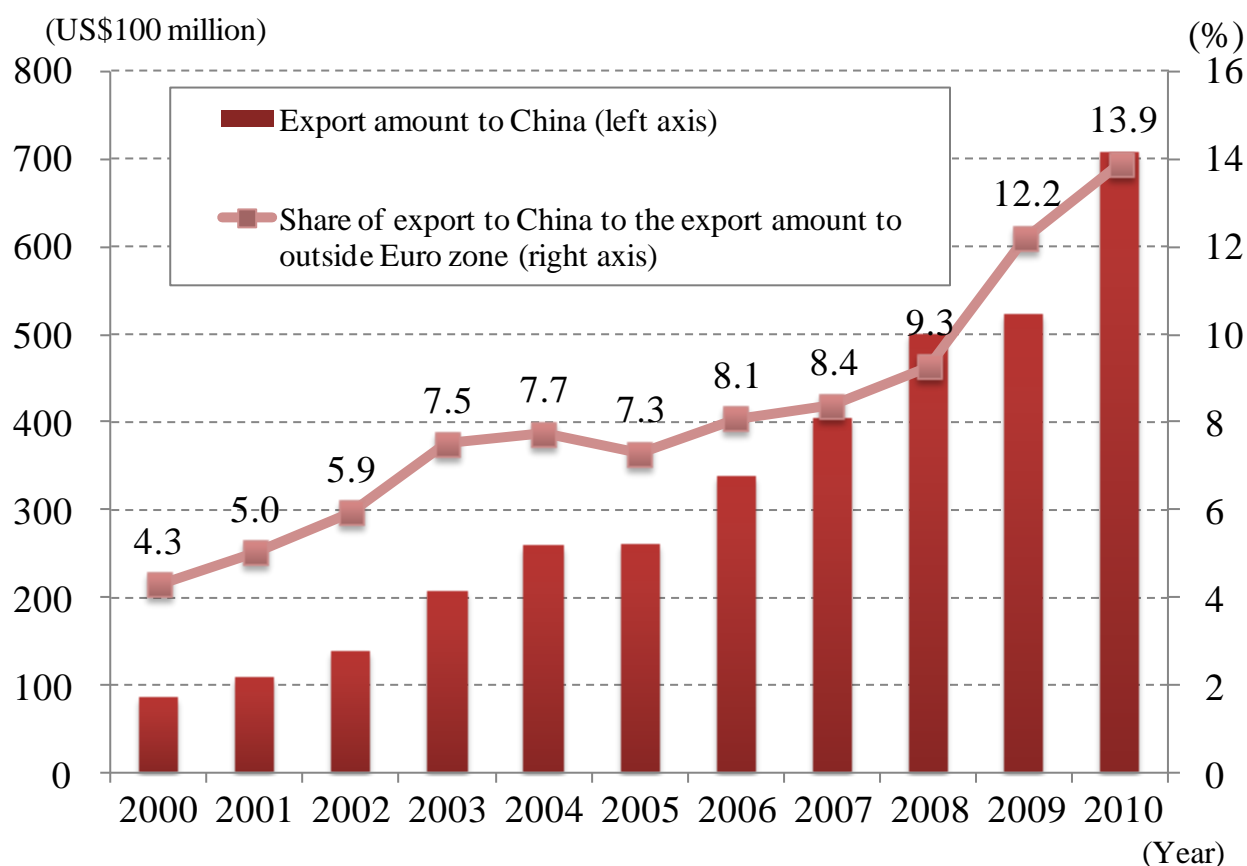
Sources: World Bank

Figure 1-1-4-11 Germany's export destination (2010)



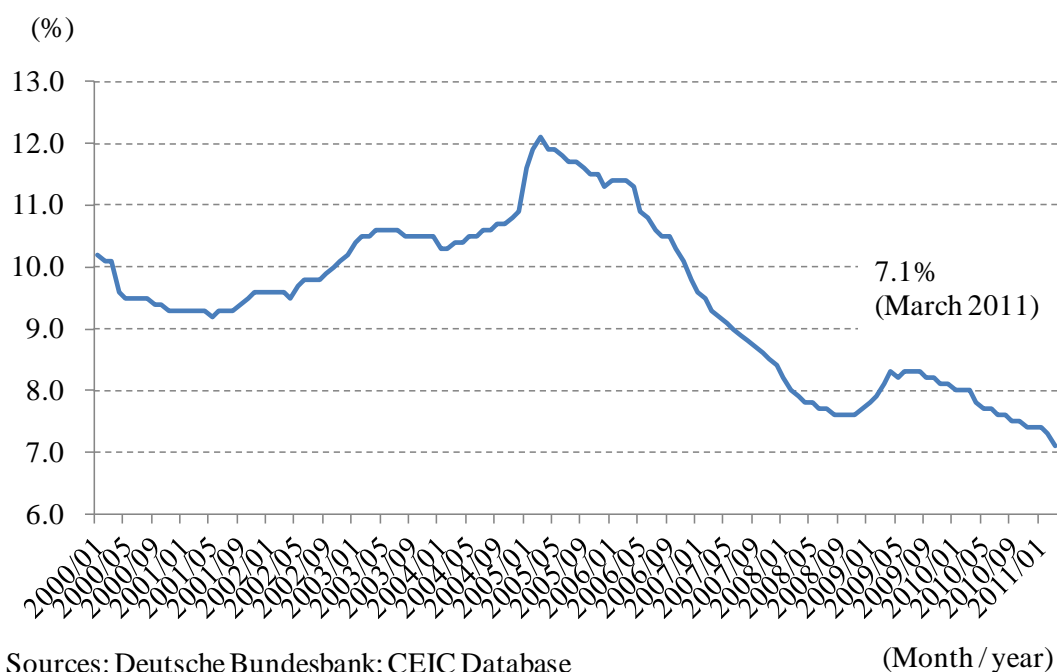
Sources: World Trade Atlas

Figure 1-1-4-12 Transition of export amount and share from Germany to China



Sources: World Trade Atlas

Figure 1-1-4-13 Transition of unemployment rate in Germany



Sources: Deutsche Bundesbank; CEIC Database

Section 2 Risks Involved in the World Economy

1. The factors and effects of remarkable rise in prices of food and resources

(1) Current situation of prices of major food and resources

Food and resources prices soar worldwide, and mostly the prices of staple commodities register a greater increase (Figures 1-2-1-1 and 1-2-1-2).

Figure 1-2-1-1 Transition of international commodities market conditions

(Beginning of 2010 = 100)

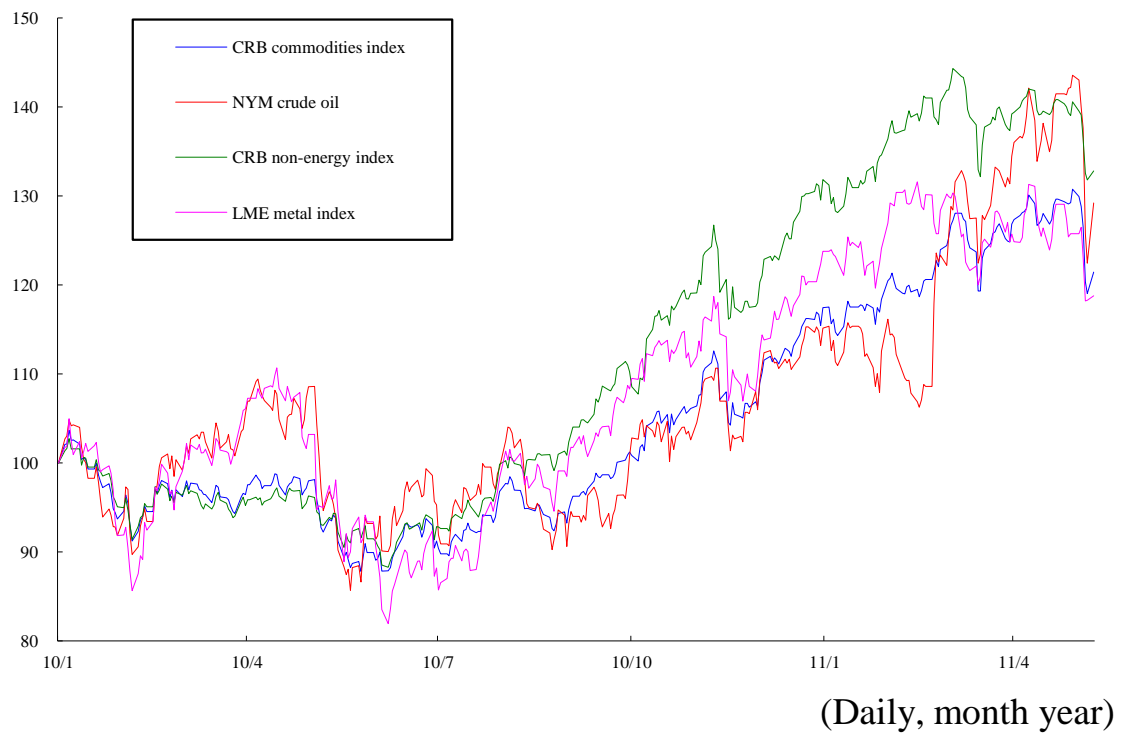
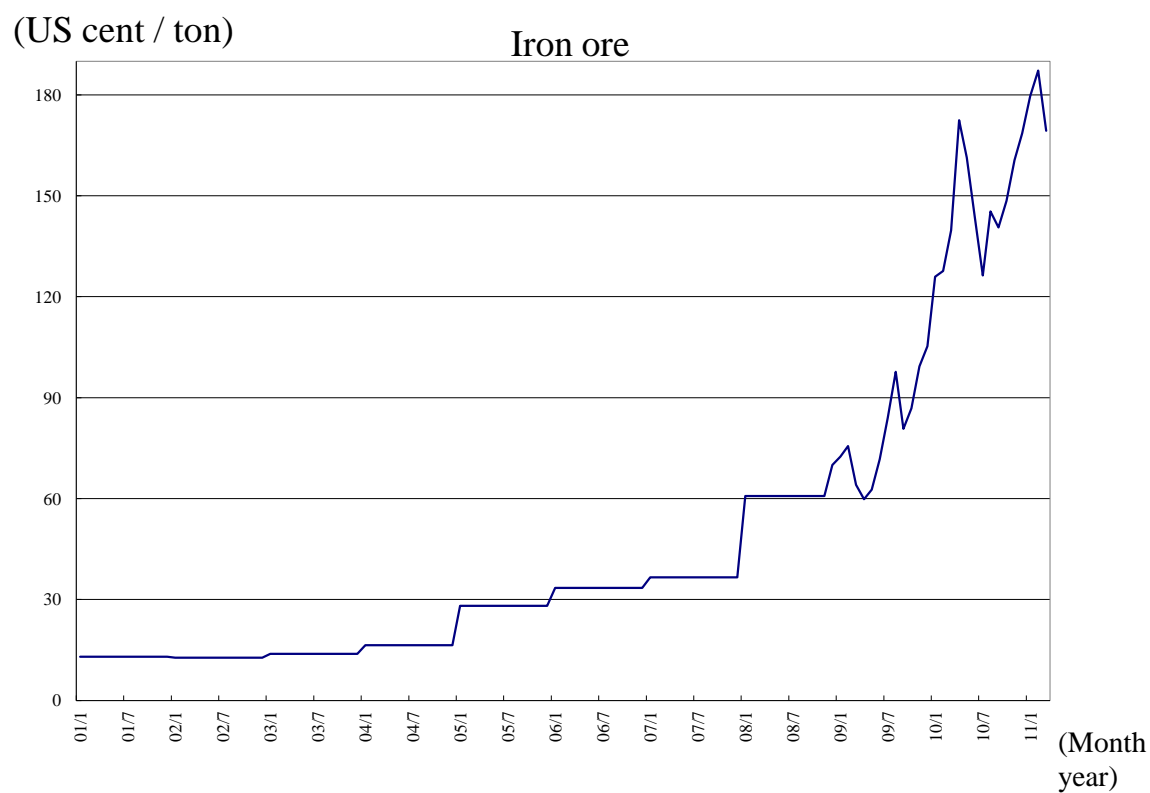
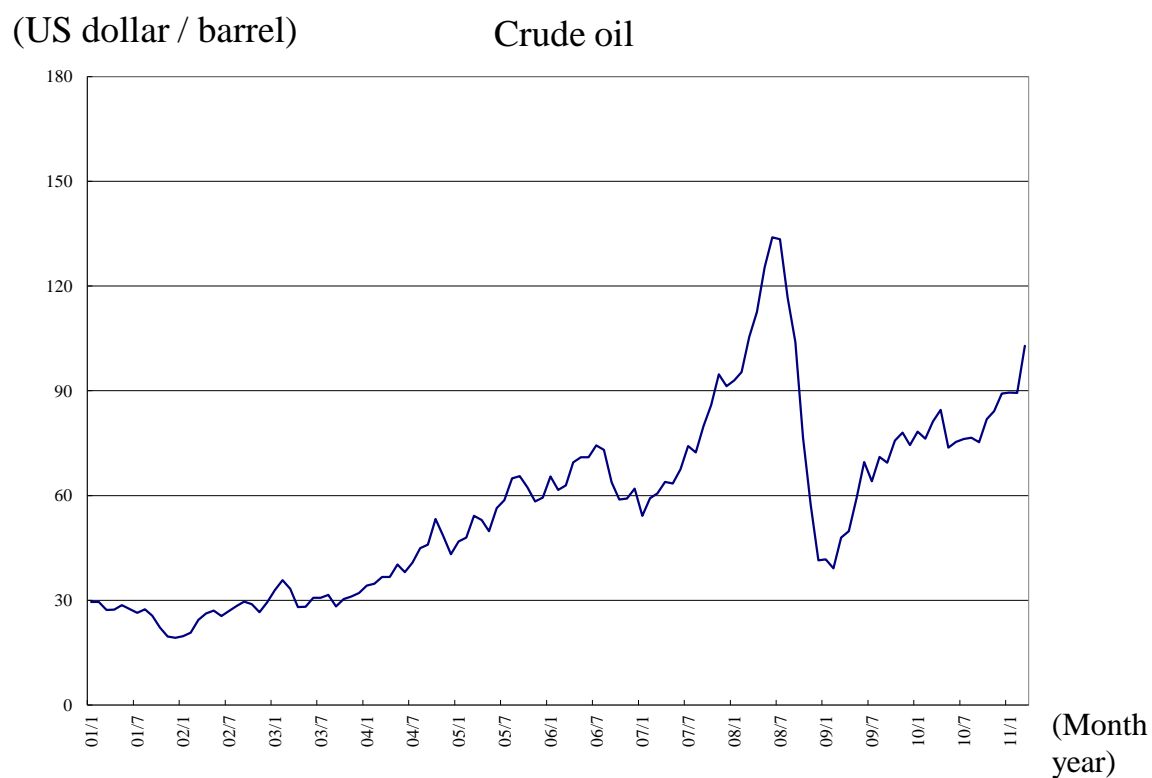
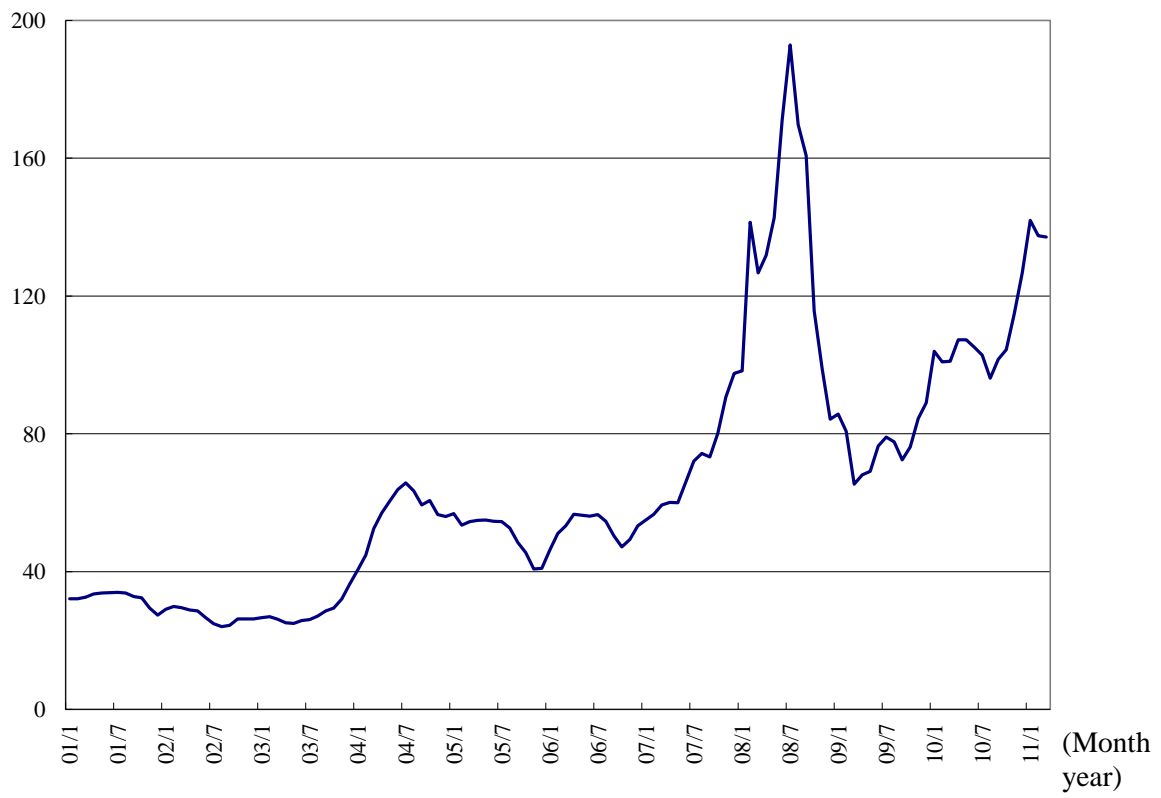


Figure 1-2-1-2 Transition of principal resources and food prices (over the past 10 years, monthly)



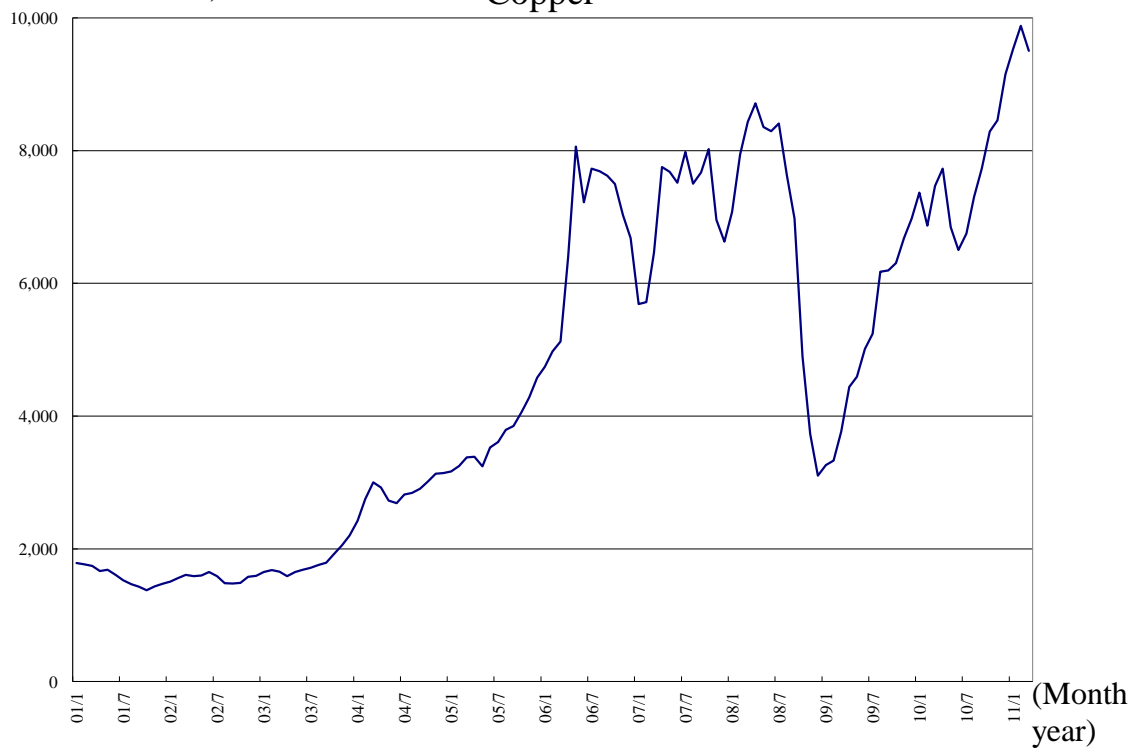
(US dollar / ton)

Coal



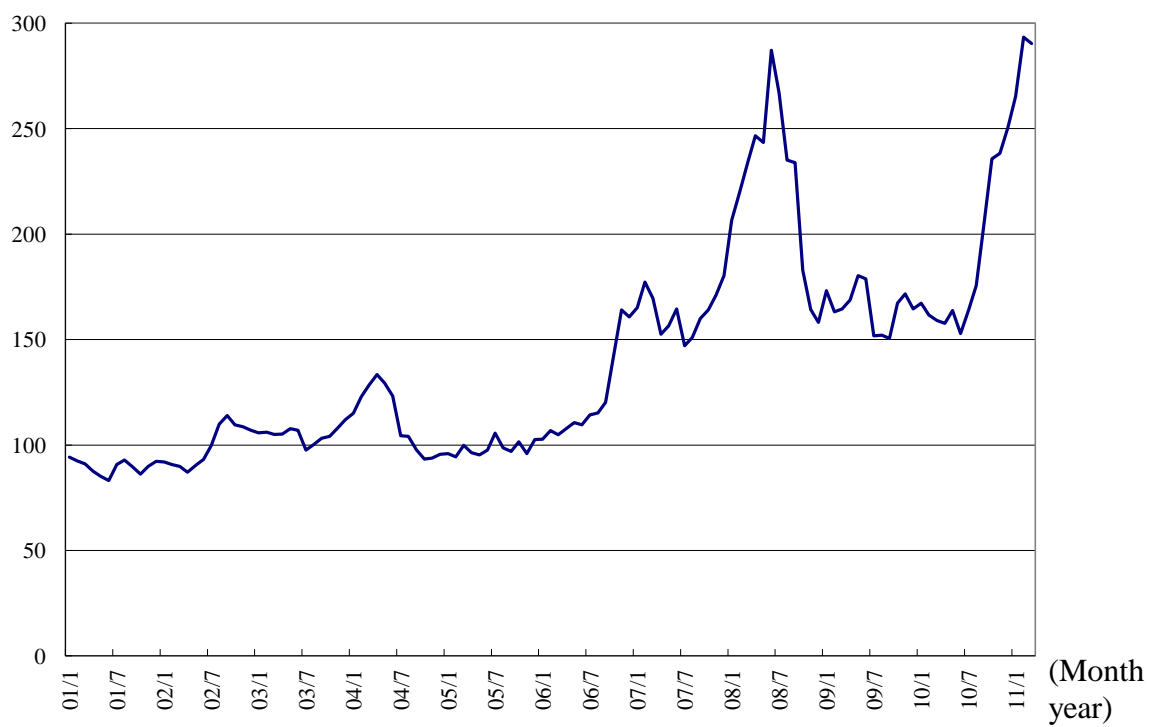
(US dollar / ton)

Copper



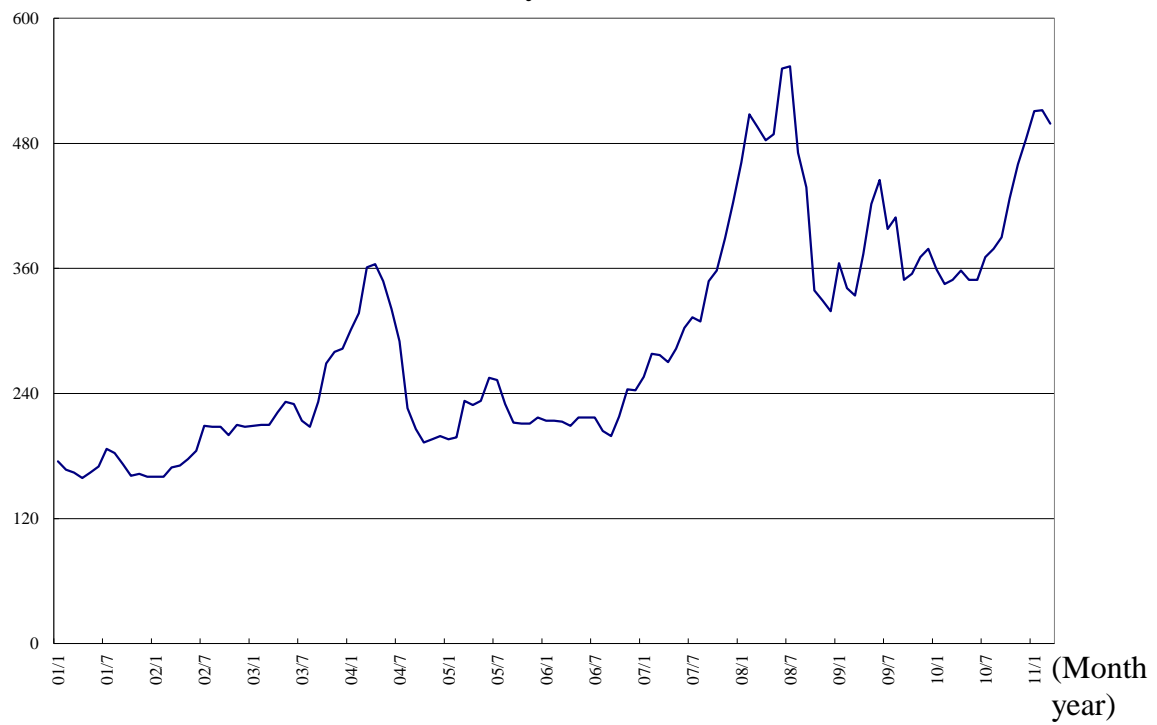
(US dollar / ton)

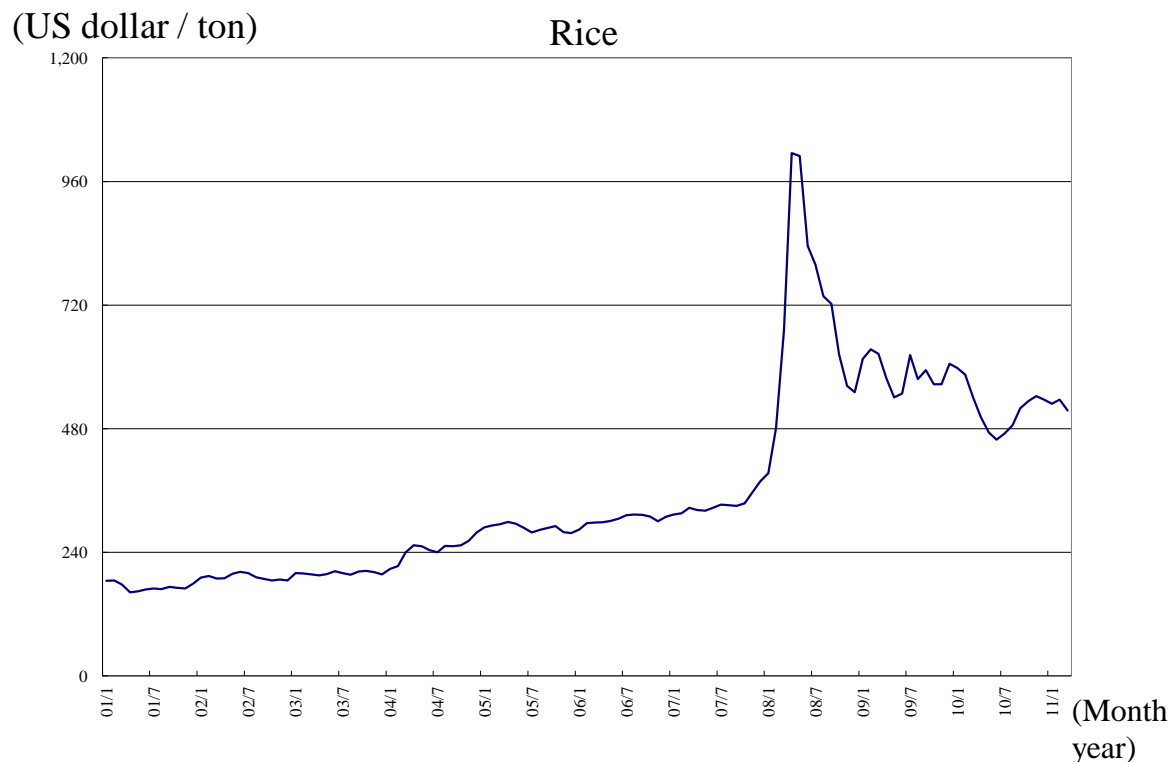
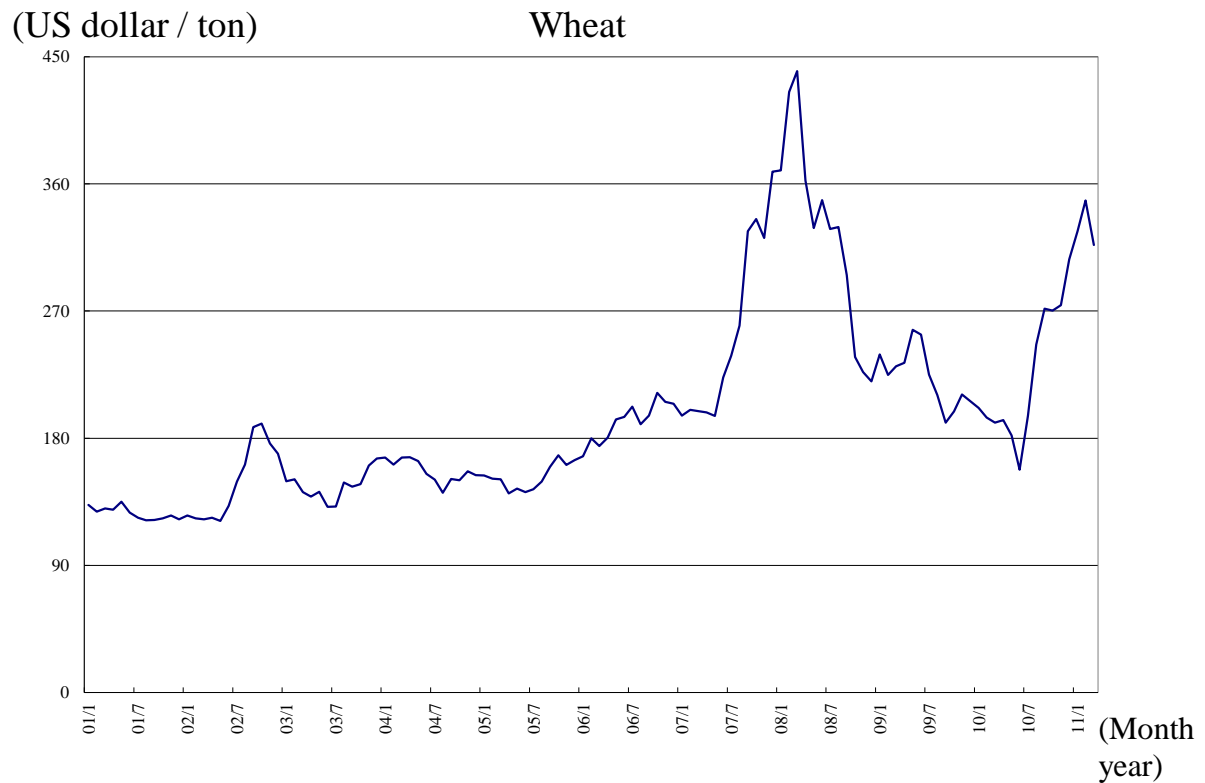
Corn



(US dollar / ton)

Soy bean





Notes: Crude oil (WTI spot price); Iron ore (Brazilian products, contract price for Europe); Coal (Australian products, general coal spot price); Copper (Spot price at London Metal Exchange); Corn (US products, US Gulf of Mexico); Soy bean (US products, Rotterdam Futures Transaction); Wheat (US products, US Gulf of Mexico); Rice (Thailand products, Bangkok)

Sources: IMF

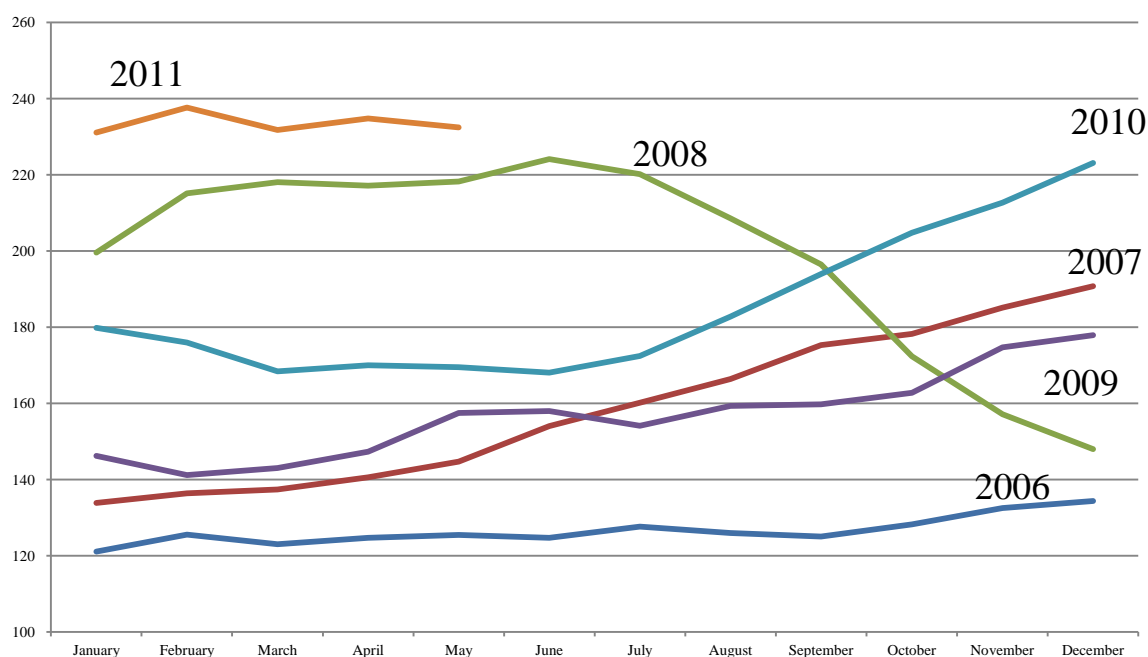
In summer of 2010 and later, all the resources prices suddenly rose. In November 2010, there was a

situation in which the products market conditions were largely adjusted, but it did not reach such a situation to turn the tide of rising prices of resources. As of the crude oil price, in addition to increased demands especially in the emerging economies, as the inflow of funds into the crude oil market aided by global monetary easing policies, and tightening of supply due to political instability in the Middle East and North Africa and other concerns in the crude oil markets pushed the WTI¹ crude-oil futures (short maturities) temporarily over US\$100 for 1 barrel in February for the first time in 2 years and 5 months. The crude oil price continued increasing thereafter, but after having largely fallen in early May, violent ups and downs continued, and the price hovered around US\$100 for 1 barrel.

In addition, according to the food price index² announced by Food and Agriculture Organization (FAO), the world food prices increased consecutively for 8 months from July 2010 and recorded a historic high in February (Figure and Table 1-2-1-3).

Figure 1-2-1-3 Transition of FAO food price index

(Average of values from 2002 to 2004 = 100)



Sources: FAO

¹ West Texas Intermediate (WTI) Crude oil produced around the State of Texas, U.S.A. The futures are sold and bought in New York Mercantile Exchange (NYMEX). The WTI crude oil futures price has close relationship with the domestic demand of the United States of America, which is the world's largest consumption market. As the largest transaction volume is found in the futures market and transparency to decide prices is higher, WTI is a dominant indicator of the international price of crude oil.

² FAO Food Price Index (<http://www.fao.org/worldfoodsituation/wfs-home/foodpricesindex/en/>)

(Average of values from 2002 to 2004 = 100)

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2006	121.1	125.6	123.1	124.8	125.5	124.7	127.7	126.0	125.1	128.3	132.5	134.4
2007	133.8	136.4	137.4	140.6	144.7	154.0	160.1	166.4	175.3	178.2	185.1	190.8
2008	199.6	215.2	218.1	217.1	218.3	224.1	220.2	208.6	196.5	172.4	157.1	148.0
2009	146.2	141.2	143.0	147.4	157.5	158.0	154.1	159.4	159.8	162.8	174.7	177.9
2010	179.8	175.9	168.4	170.0	169.5	168.1	172.5	182.8	194.0	204.8	212.7	223.1
2011	231.1	237.7	231.7	234.8	232.4	—	—	—	—	—	—	—

Sources: FAO

As for the international market for the main food grain, unpredictability continued due to unseasonable weather conditions in the main production areas around the world. Furthermore, the upward movements of some specific domestic food prices in the emerging economies were controlled in many countries by revision of the monetary policy and implementation of control measure.

(2) Factors caused sudden raises in prices of food and major resources

The factors causing inflationary pricking of food and resources were; (a) increased actual demand, especially in the emerging economies; (b) unsteady supply caused by unseasonable weather conditions; (c) uneasiness in the political situations in exporting countries; (d) funds inflow from the monetary markets. It can be considered that these factors had an effect on the inflationary trends in prices backed by the monetary easing environment³ worldwide.

(A) Analysis of factors leading to fluctuations of food and resources prices

In the section below, in order to analyze factors causing fluctuations of food and resources prices, the stocks of crude oil, non-ferrous metal (copper), grain (wheat and corn) for which data were available as international commodities, were selected and surveyed⁴.

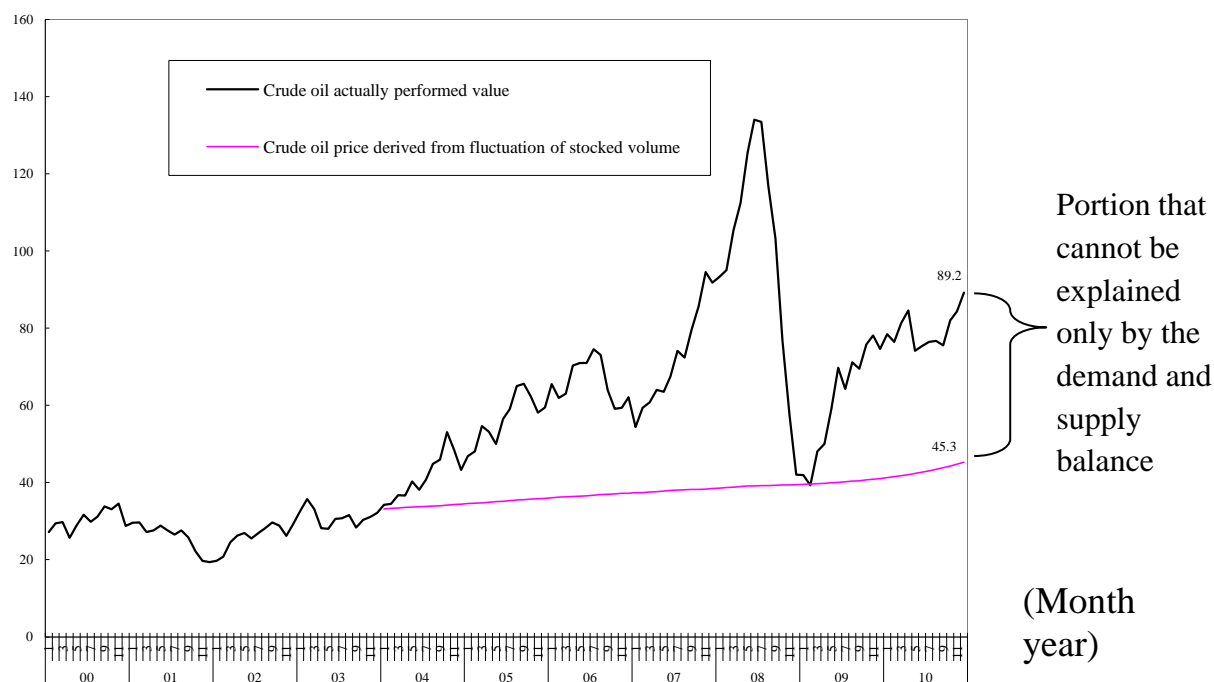
First, fluctuations in crude oil and copper prices were divided into two portions; one was explicable by the supply-demand balance (prices from fluctuation of stock volume), which was obtained from the inventory, and another was inexplicable by the supply demand balance (Figure 1-2-1-4). From this figure, it is understood that from early 2009, the increase of performed price (real price) largely exceeded increase of the price from the change of stock volume (in this Figure, the part of "inexplicable portion only is affected by the supply-demand balance"). In addition, when the grain (wheat and corn) was divided in the same way (Figure 1-2-1-5), the increase of performed price largely exceeded increased of the portion, which was explicable by supply-demand balance obtained from the inventory (price from fluctuation of estimation of the world ending inventory). And during the summer of 2010 and thereafter, the force became stronger.

Figure 1-2-1-4 Decomposition of factors causing price fluctuation (crude oil and copper)

³ Refer to Chapter 1, Section 1, 1. (3) Monetary easing by the advanced economies and international financial flow

⁴ On estimation method, refer to "Note 1; Estimation of fluctuation factors of prices of crude oil, copper, wheat and cone". The same analysis was carried out in the Chapter 1, Section 1. 3. of "White Paper on International Economy and Trade 2008", Ministry of Economy, Trade and Industry

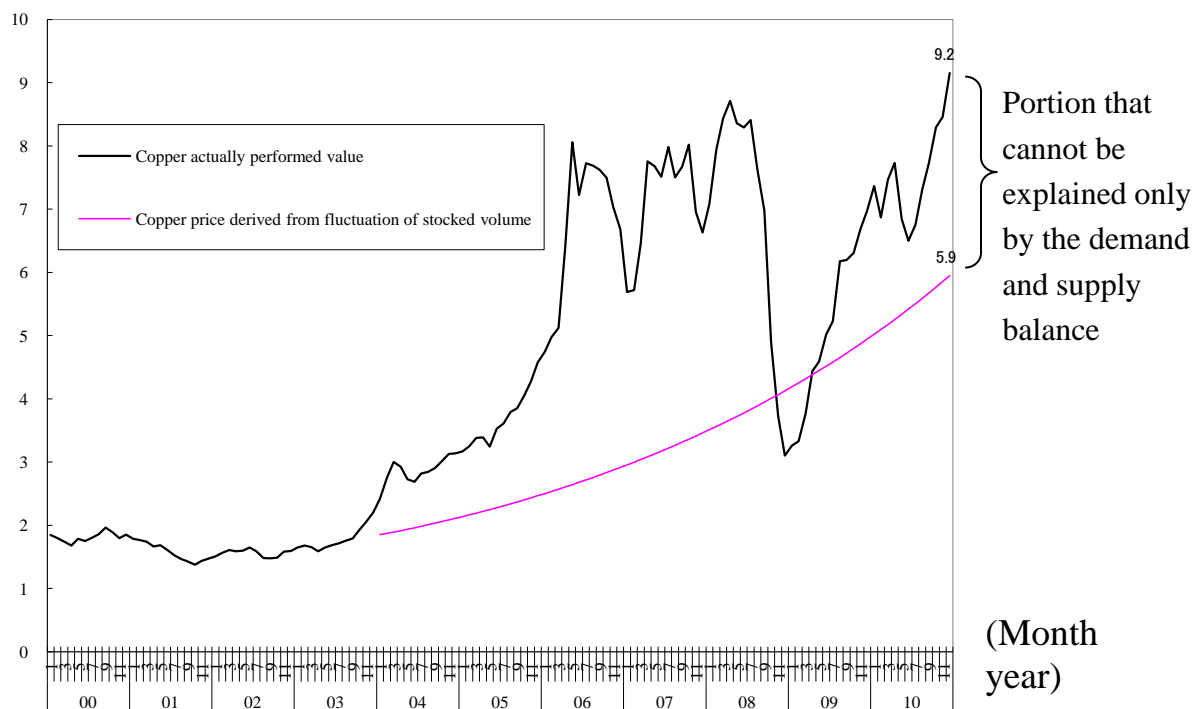
(US dollar / Barrel)



Notes: Refer to appendix note 1 on details of estimation.

Sources: New York Mercantile Exchange; API "Monthly Statistical Report"; DTI "Energy Trend"; BAFA "Amitliche Mineralolodaten"; IEA "Monthly Oil & Gas Survey"

(US\$1,000 / Mt)

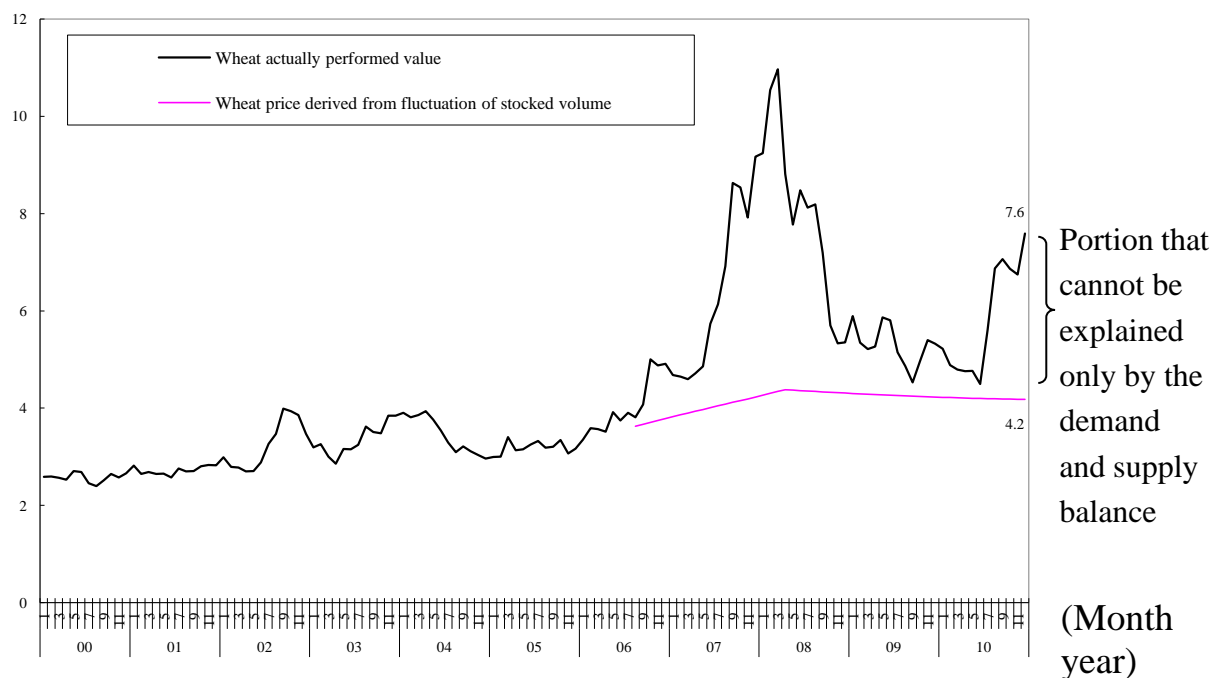


Notes: Refer to appendix note 1 on details of estimation.

Sources: London Metal Exchange

Figure 1-2-1-5 Decomposition of factors causing price fluctuation (Wheat and corn)

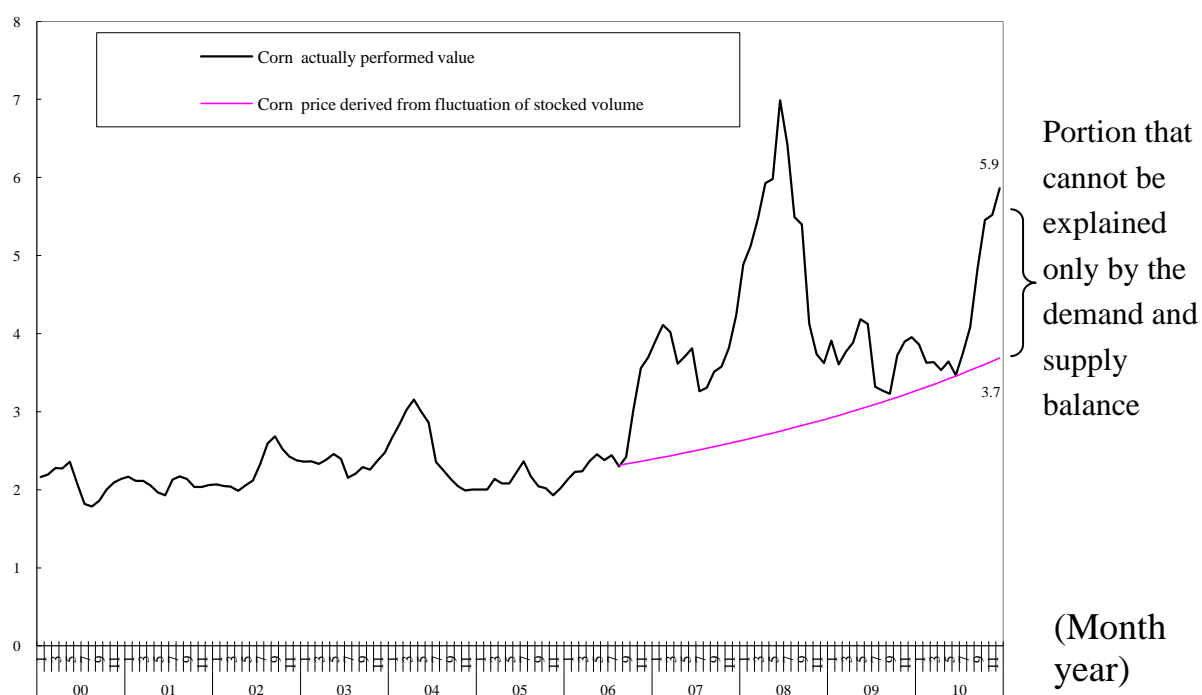
(US dollar / bushel)



Notes: Refer to appendix note 1 on details of estimation.

Sources: Chicago Board of Trade; US Department of Commerce "World Agricultural Demand and Supply Estimates"

(US dollar / bushel)



Notes: Refer to appendix note 1 on details of estimation.

Sources: Chicago Board of Trade; US Department of Commerce "World Agricultural Demand and Supply Estimates"

From these facts, it became clear that the prices increased due only to inexplicable factors in the supply-demand balance.

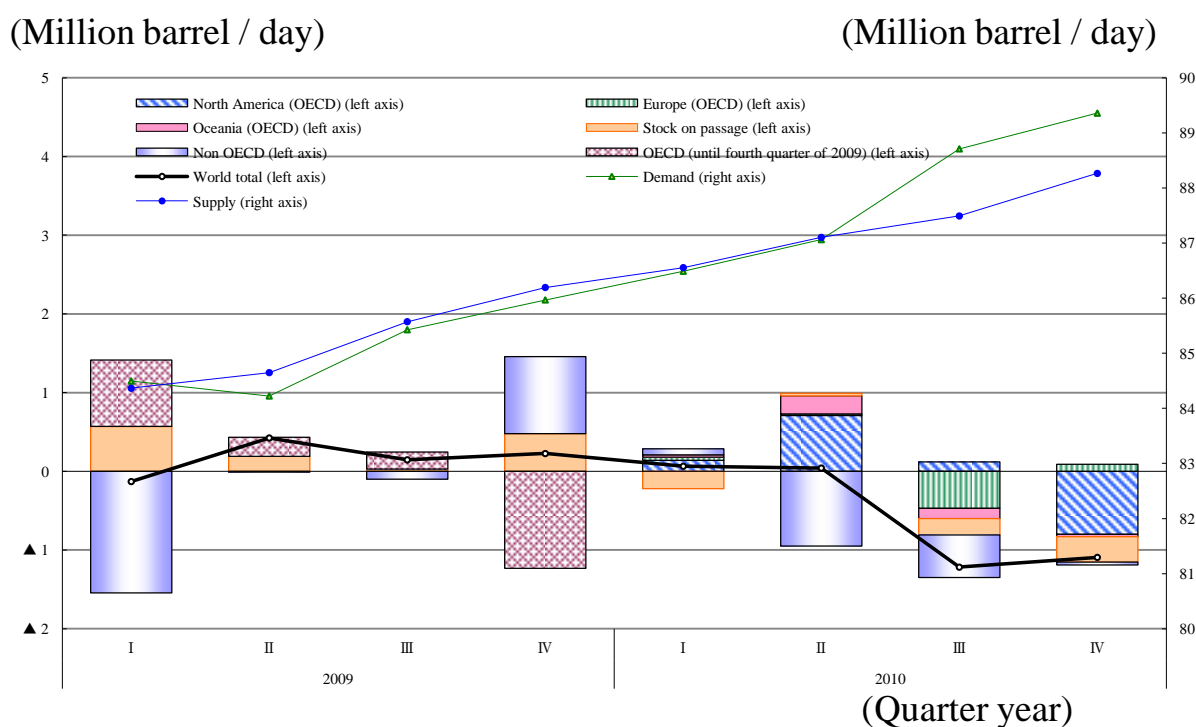
(B) Each factor caused rises in prices of food and resources

Each factor is discussed in the section bellow.

(a) The increase of real demand especially from the emerging economies

One of the factors causing the remarkable rise of food and resources prices after the summer of 2010 is the feeling of tightening supply-and-demand caused by the increase of actual demand. Demand for crude oil exceeds the supply (Figure 1-2-1-6) with increasing demand from the emerging economies. And also stock of copper is decreasing worldwide (Figure 1-2-1-7).

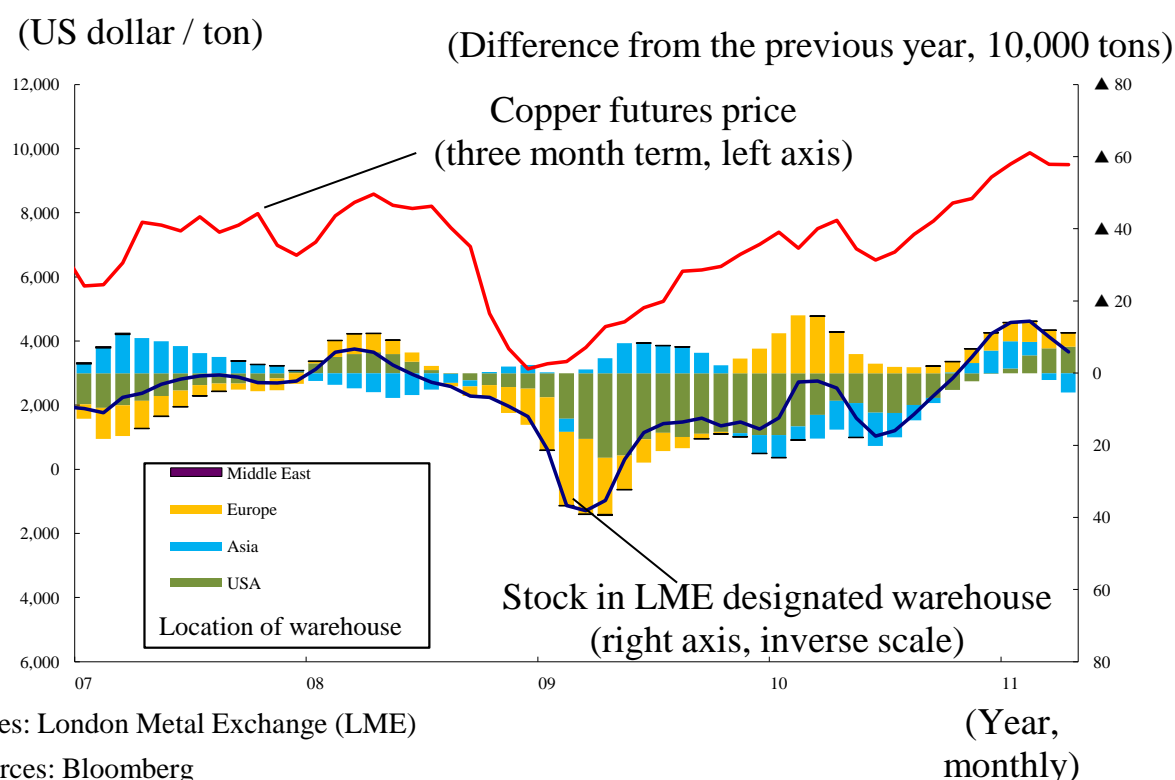
Figure 1-2-1-6 Transition of crude oil demand and supply (inventory fluctuation)



Notes: Inventory fluctuation in each quarter

Sources: IEA, Oil Market Report (March 2011)

Figure 1-2-1-7 Copper: inventory fluctuation and price movement



(b) Unsteady supply caused by unseasonable weather conditions

As for the grain, there was the increased demand in the emerging economies as a base, but the decreased amount of production caused by unseasonable weather and drought in the summer of 2010 triggered the remarkable rise in the prices.

As for the wheat, in 2010/11 fiscal years, crop cultivating areas decreased under background of the economic slump after the world economy crisis and the market price decline in the cropping period, and the amount of production is expected to decrease in the world as a whole by due to unseasonable weather in main grain producing countries/regions. As to the unseasonable weather, for example, crop areas in Canada were expected to decrease largely due to storm of rain in the western 3 plain states in June 2010. And in EU, heat wave in the western region and flooding in the eastern region had negative effect to the crop and yield per area⁵ was expected to decrease. Also in Russia, the drought from June through the beginning of August, which might be the severest drought in the past 130 years, made the yield significantly decrease⁶. The crop production in Russia decreased nearly 60% from the previous year and it resulted the export ban⁷. As a result, the supply and demand became tight worldwide, and the ending inventory in United States of America, Europe and India was expected to decrease.

Additionally, the shortage in the wheat was responsible for rises in the price of corn, which was a substitution for wheat as feeding stuff (Figure 1-2-1-8).

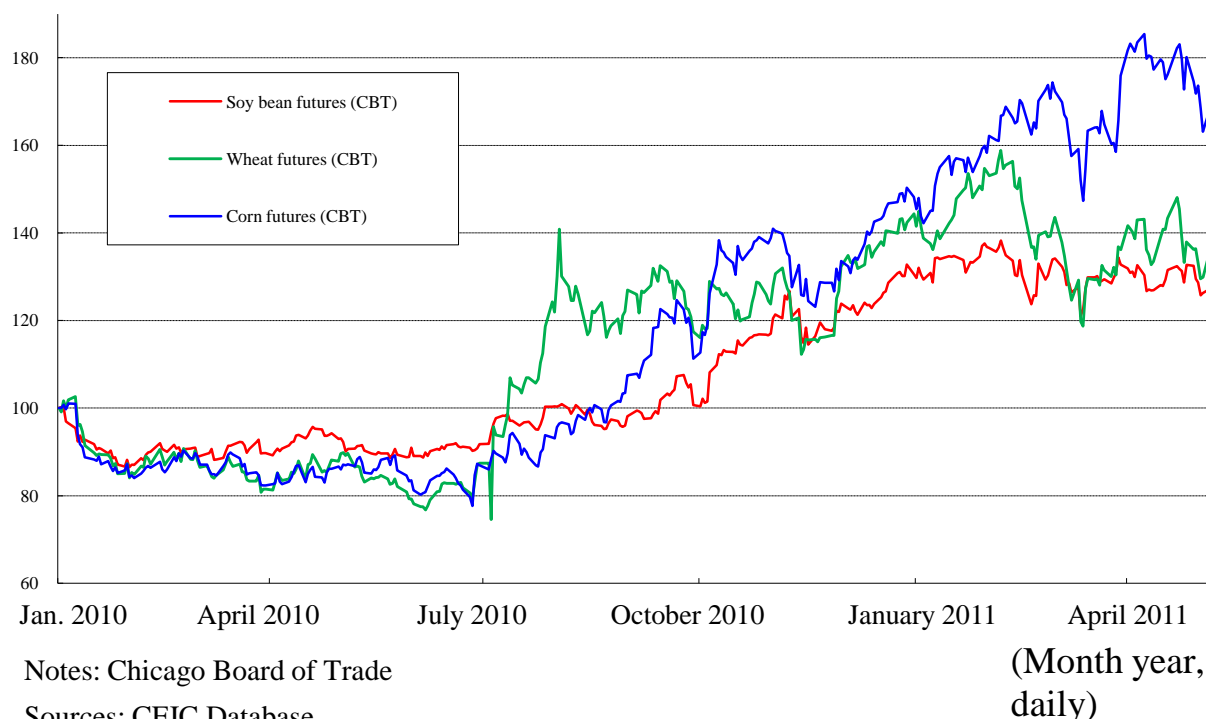
⁵ Crop yield per unit area

⁶ Ministry of Agriculture, Forestry and Fishery of Japan, "Overseas Food Supply and Demand Report" each edition

⁷ Prime Minister Putin stated on May 28, 2011 that the crop export ban would be removed on July 1, 2011.

Figure 1-2-1-8 Appreciation of wheat price and spreading to grain prices

(Beginning of 2010 = 100)



(c) Political instability in the exporting countries

The crude oil price was affected by the recent situation in Middle East and North Africa. Under the tense situation in Middle East and North Africa, the crude oil prices showed unstable fluctuations. As the WTI futures exceeded the barrier of US\$90 for one barrel at the end of 2010, further rise in price of crude oil was expected, but it reached a ceiling of around US\$91 after that. And the price returned to US\$ 81 level in late January when the market became conscious about the economic deceleration in the emerging economies due to the monetary tightening. However, when the movement of democratization started in Egypt and spread to Tunisia and the demonstrations escalated, the price of WTI futures rose again to US\$90 level. After that, the worsening Libya situation, pushed the crude oil price above the US\$100 barrier in February.

(d) Funds inflow from the monetary markets

Behind these sudden rises in prices of food and resources, the monetary factor (active investment and speculative funds inflow) was also pointed out in addition to the tight actual demand situation. According to the preceding study, having been backed by improvement of the futures market infrastructure such as the monetary easing environment, commodity index and Exchange Traded Fund (ETF), the institutional investors started to actively invest funds to the commodity markets⁸ since middle of the 2000's.

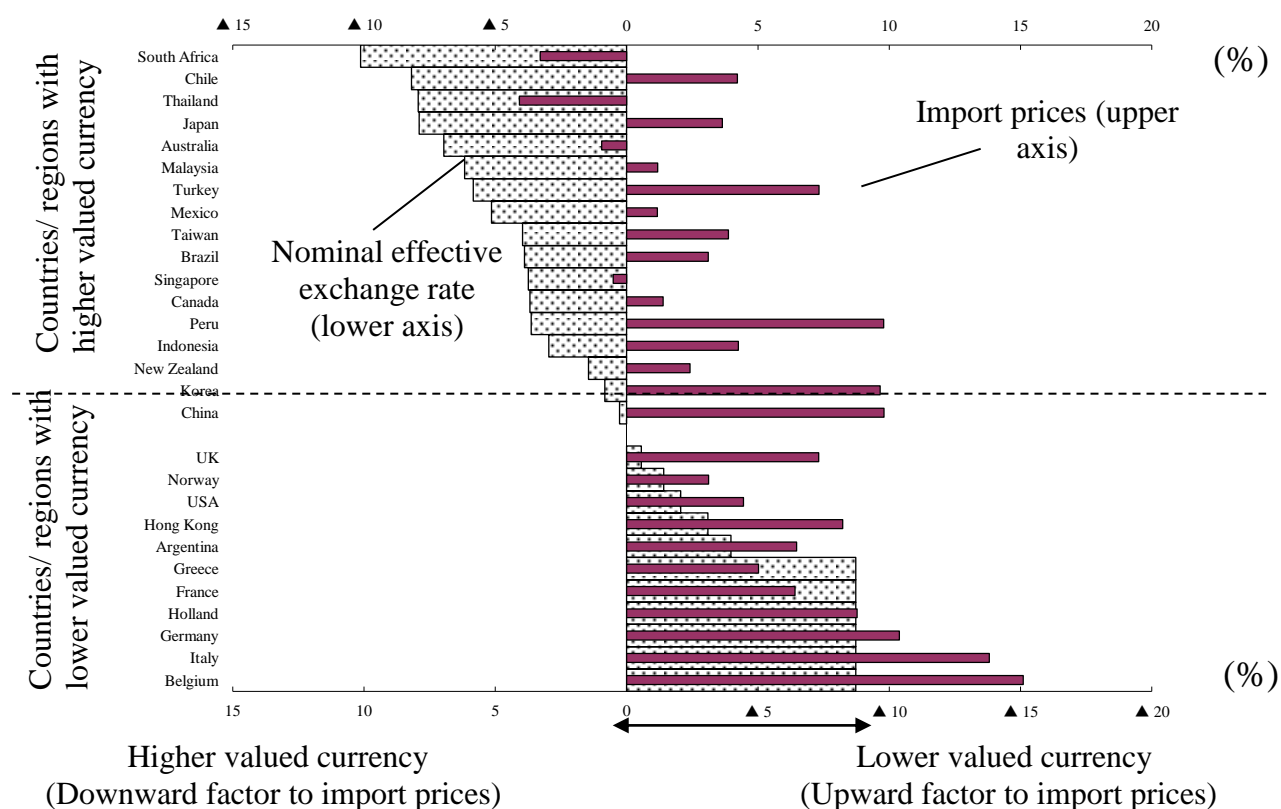
⁸ Kimura, T. "Background of recent rise in condition of the international commodity market – influence from the monetary easing environment worldwide and monetary commercialization of commodities" (the Bank of Japan, "NICHIGIN review"), March 2011

(3) Influence on world economy and the future outlook

(A) Influence on world economy

The sudden rise in prices of food and resources caused rises in import prices in countries and regions. As the size of price increase was large, the import prices were increasing even in countries and regions where their currency value rose higher, and countries and regions with lower currency value faced further increases in import costs (Figure 1-2-1-9).

Figure 1-2-1-9 Changes in import prices and nominal effective exchange rate in countries/regions



Notes:

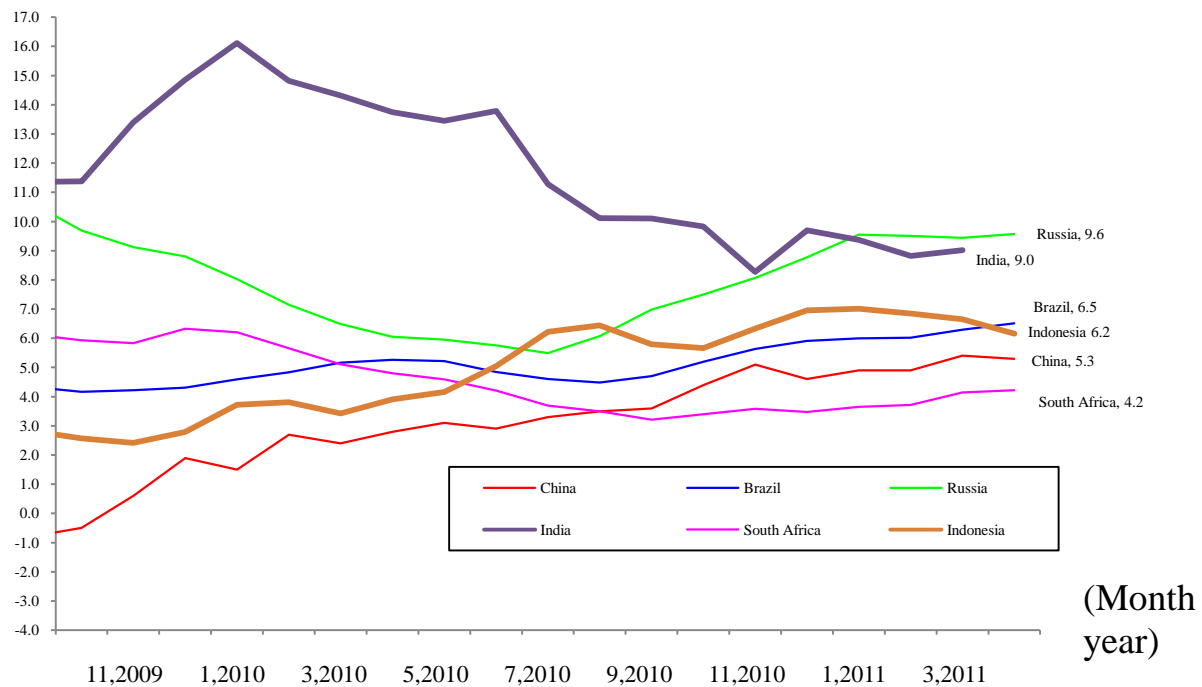
1. Changes from the fourth quarter of 2009 through the fourth quarter of 2010
2. The nominal effective exchange rate was calculated by JP Morgan Securities

Sources: Datastream

With rises in import prices coupled with domestic economic expansion, the inflation rates in the emerging economies were increasing (Figure 1-2-1-10). On the other hand, the advanced economies, contrary to periods from 2007 to 2008 when the economy was booming and the unemployment rate was low, were moderately recovering from the economic recession following the world economic crisis. And Japan still had difficulty to break away from the deflationary situation. It considered that the advanced economies might become weak to absorb the costs caused by the sudden rises in food and resources. The rises in prices of food and resources were considered to be negative factors for the economy.

Figure 1-2-1-10 Transition in the consumer price index (advanced and emerging economies)⁹

(Ratio to the same month of the previous year, %)



Sources: Datastream

(B) Future outlook

According to IMF, while demand for food and resources continue to increase, the supply has various uncertain factors, it is estimated that prices of food and resources may be in unstable transition in 2011¹⁰.

According to prospect from the United States Department of Agriculture, the world grain production in 2011/2012 fiscal year will increase compared with the previous year and slightly exceed the consumption. Therefore, the ending inventory will be increased, but the ending inventory ratio¹¹ will decrease compared with the previous year due to increase of the consumption¹².

Individually examining the production estimation of the grain, winter season wheat decreases in United States of America due to drought in the cropping areas, but the whole production is estimated to reach the all-time high supported by the recovery of the unit yield in Russia and Ukraine and

⁹ Figures 1-1-1-17 and 18 are shown again.

¹⁰ Specifically, the crude oil supply is responding sluggishly to the ongoing pickup in demand, largely reflecting the policy stance of OPEC, and global food output should recover quickly from recent supply shocks, with increased global acreage and more normal weather conditions pointing to favorable harvest prospects in 2011, low inventories will take time to rebuild, and so prices are likely to remain more volatile than usual. (IMF, "World Economic Outlook: Tensions from the Two-Speed Recovery- Unemployment, Commodities and Capital Flows", April 2011)

¹¹ Percentage of the ending inventory to the consumption

¹² Ministry of Agriculture, Forestry and Fishery of Japan, "Overseas Food Supply and Demand Report" May 31, 2011

increased cropping areas in India. Corn is also estimated to reach the all-time high due to increase in the cropping areas in United States of America, China and Argentina.

Secondly, the consumption of grain is estimated to increase due to increased demand for feeding stuff as well as steady demand as food and use for ethanol material. Wheat consumption is estimated to increase due to demand from EU as feeding stuff and from Asia and Africa as food. Corn consumption is also estimated to increase by demand from Asia especially China and South America as feeding stuff and from United States of America to use for ethanol use¹³.

In case rises in prices of food and resources continue for long period, the inflation pressure becomes stronger, and it suppresses family finance of the lower-income class especially in the emerging economies, and it becomes a risk factor to cause serious social uneasiness¹⁴. Moreover, the rise in price of food, in addition to the conflict and the natural disaster such as flooding and drought caused by unseasonable weather become factors to worsen the starvation issue. And as a result, it may directly hit lives of the poverty group¹⁵.

Therefore, the sudden rises in prices of food and resources become an important concern to the world economy. It is generally said that various factors including increase of actual demand in the emerging economies, political instability, monetary easing environment etc. as discussed above, are compositely causing the rises in prices of food and resources. The G20 Finance Ministers and Central Bank Governors Meeting established “Study Group on Commodities” in February 2011 to promote comprehensive understanding on actual conditions of the background and fluctuation factors on the international commodities markets.

¹³ Ministry of Agriculture, Forestry and Fishery of Japan, “Overseas Food Supply and Demand Report” May 31, 2011, International Grains Council, “Grain Market Report”, May 26, 2011 and others

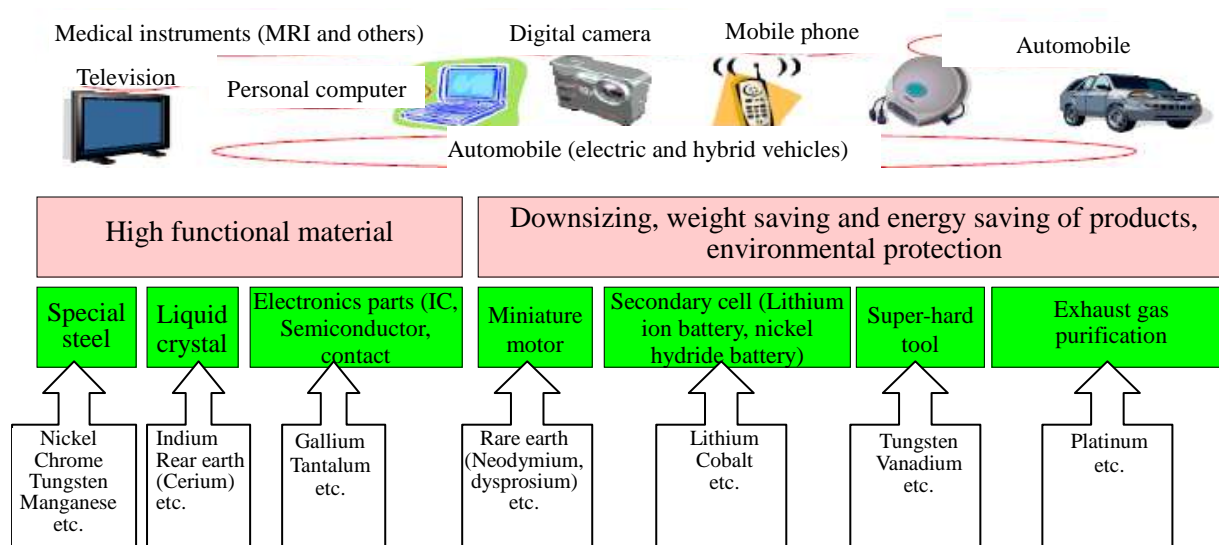
¹⁴ Large-scale anti-government demonstration occurred in Tunisia and Egypt in December 2010 through January 2011. The sudden rise in price of food as well as dissatisfaction to the continued dictatorial regime and the high unemployment rate of the young group may be reasons behind these incidents. With this, anti-governmental movement to demand democratization later spread in other Middle East and the North African countries.

¹⁵ Ministry of Economy, Trade and Industry: (2010) “White Paper on International Economy and Trade 2010”, Chapter 1, Section 1, 1. (2).

Column 1 The rare metal; attracting attention

Recently, rare metals, which are used for functional material, and electronic/ magnetic material, are increasingly attracting attention. In Japan, it is defined that “metals for which industrial demand exists and continues to exist in future and metals for which new industrial demand is expected to exist in association with the new technological renovation among metals of which abundance on the earth is rare or difficult to extract due to technological or economic reasons”¹⁶. The rare metals are indispensable material to manufacture high value added/ high functional products such as cell-phone, LCD television, personal computer, digital camera, automobile and solar panel (Column, Figure 1-1 and 1-2).

Column Figure 1-1 Main purposes of rear metal



Sources: Ministry of Economy, Trade and Industry, “Strategy to secure rear metal” (July 28, 2009)

Column Figure 1-2 31 types of rare metal

Group	I A	II A	III B	IV B	V B	VI B	VII B	VIII	I B	II B	III A	IV A	V A	VI A	VII A	O		
Cycle	Alkali group	Alkali earth group	Rare earth group	Titanium group	Vanadium group	Chromе group	Manganese group	Iron group (4 cycles) Platinum group (5 and 6 cycles)	Copper group	Zinc group	Aluminum group	Carbon group	Nitrogen group	Oxygen group	Halogen group	Inert gas group		
1	1H Hydrogen															2He Helium		
2	3Li Lithium	4Be Beryllium										5B Boron	6C Carbon	7N Nitrogen	8O Oxygen	9F Fluorine		
3	11Na Sodium	12Mg Magnesium									13Al Aluminum	14Si Silicon	15P Phosphorus	16S Sulfur	17Cl Chlorine	18Ar Argon		
4	19K Potassium	20Ca Calcium	21Sc Scandium	22Ti Titanium	23V Vanadium	24Cr Chromium	25Mn Manganese	26Fe Iron	27Co Cobalt	28Ni Nickel	29Cu Copper	30Zn Zinc	31Ga Gallium	32Ge Germanium	33As Arsenic	34Se Selenium	35Br Bromine	36Kr Krypton
5	37Rb Rubidium	38Sr Strontium	39Y Yttrium	40Zr Zirconium	41Nb Niobium	42Mo Molybdenum	43Tc Technetium	44Ru Ruthenium	45Rh Rhodium	46Pd Palladium	47Ag Silver	48Cd Cadmium	49In Indium	50Sn Tin	51Sb Antimony	52Te Tellurium	53I Iodine	54Xe Xenon
6	55Cs Cesium	56Ba Barium	57-71 Lanthanoid	72Hf Hafnium	73Ta Tantalum	74W Tungsten	75Re Rhenium	76Os Osmium	77Ir Iridium	78Pt Platinum	79Au Gold	80Hg Mercury	81Tl Thallium	82Pb Lead	83Bi Bismuth	84Po Polonium	85At Astatine	86Rn Radon
7	87Fr Francium	88Ra Radium	89-103 Actinoid															

Lanthanoid	57La Lanthanum	58Ce Cerium	59Pr Praseodymium	60Nd Neodymium	61Pm Promethium	62Sm Samarium	63Eu Europium	64Gd Gadolinium	65Tb Terbium	66Dy Dysprosium	67Ho Holmium	68Er Erbium	69Tm Thulium	70Yb Ytterbium	71Lu Lutetium
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The rare metals, for example, are utilized to enhance quality of steel using them to manufacture high value added steel by adding them to steel, and the rare metals are compared to “vitamins for industry”. Recently, the rare metals are used for manufacturing semiconductor, battery material, superconductor, catalyst, optical instrument material and fine ceramics. Especially, IT introduced products increase the

¹⁶ Source: Ministry of Economy, Trade and Industry, “Strategy for Ensuring Stable Supplies of Rare Metals” (July 28, 2009)

amount of the rare metals used.

Demand and consumption of the rare metals are increasing not only in the advanced economies but also in emerging economies including China and India, and the production is also increasing to respond to this situation. As increase of middle and long term demand can be expected and the production is concentrated to and eccentrically located in some countries, rising resource nationalism and export restriction may significantly affect production of the high value added/ high functional products.

In fact, the export restriction of the rare earth conducted by China since 2010 has drawn increasing attention. Ministry of Commerce People's Republic of China had implemented the rare earth export authorization ceiling system since 1998, and the export ceiling was tightened after 2005 (Column, Table 1-3). Particularly, in 2010, addition to drastic 40% decrease of the export ceiling compared with the previous year and, actually export ceiling was tightened by increasing number of export restricted rare earth in 2011. Also, government of China raised resource tax of rare earth and strengthened implementation of control measures at the stage of mining. Responding these situations, export prices of rare earth was hiked after the drastic tightening of export ceiling in 2010. According to the United State Geological Survey, China's rare earth production was 130,000 tons (estimation) at the end of 2010, and this account for approximately 97% of the world production (Column, Table 1-4). What kind of policy is adopted by the Government of China is carefully watched not only by Japan but also by the world.

Column Table 1-3 Transition of China's authorized export limit and export performance of rare earth

(Unit: ton, %)

	Authorized export limit (EL)		Export performance		Export performance – Authorized export limit
		Growth rate to the previous year		Growth rate to the previous year	
2004	65,609	-	69,703	-	4,094
2005	65,609	0.0	65,198	▲6.5	▲411
2006	61,821	▲5.8	66,409	1.9	4,588
2007	59,994	▲3.0	54,367	▲18.1	▲5,627
2008	47,449	▲20.9	54,963	1.1	7,514
2009	50,145	5.7	43,918	▲20.1	▲6,227
2010	30,258	▲39.7	39,813	▲9.3	9,555

Sources: JETRO "Trade Report" (February 25 2011)

Original sources: China Ministry of Commerce; General Administration of Customs (Customs Office) and others

Column Table 1-4 Major production countries of rare metal (2010)

(Unit: %)

	The first		The second		The third		Share of top 3 countries
	Countries	Share	Countries	Share	Countries	Share	
Rare earth	China	97.3	India	2.0	Brazil	0.4	99.7
Vanadium	China	41.1	South Africa	32.1	Russia	25.0	98.2
Tungsten	China	85.2	Russia	4.1	Bolivia	1.8	91.1
Platinum	South Africa	75.4	Russia	13.1	Zimbabwe	4.8	93.3
Indium	China	52.3	Korea	13.9	Japan	12.2	78.4
Molybdenum	China	40.2	USA	23.9	Chile	16.7	80.8
Cobalt	Democratic Republic of Cong	51.1	Zambia	12.5	China	7.0	70.7
Manganese	China	21.5	Australia	18.5	South Africa	16.9	56.9
Nickel	Russia	17.1	Indonesia	15.0	Philippine	10.1	42.1
Copper	Chile	34.1	Peru	7.9	China	7.1	49.1
Zinc	China	29.2	Peru	12.7	Australia	12.1	53.9
Lead	China	42.7	Australia	15.1	USA	9.8	67.6

Notes: Estimated value; Indium is bare metal basis.

Sources USGS, "Mineral Commodity Summaries 2011"

Meanwhile, Japan raises 4 pillars such as securing overseas resources, recycling, development of alternative materials and stockpiling in the "Strategy for Ensuring Stable Supplies of Rare Metals" and deploys strategy to ensure obtaining the rare metals. It is considered that diplomatic efforts on natural resources and joint efforts of the public and private sectors will become increasingly important in future.

2. The expansion of the financial crisis in Europe

(1) The development of the financial crisis in Europe

(A) The financial concern on Europe continues

Europe has continued to be shaken by financial problems in countries of the euro zone¹⁷ since autumn of 2009. Following Greece, which requested financial support to EU/IMF in May 2010 and Ireland in November, Portugal also requested the support in April 2011. There is concern that countries with relatively weak competitiveness and severe financial conditions in the euro zone may be unable to achieve autonomous financial reconstruction (Figure 1-2-2-1, 1-2-2-2 and Table 1-2-2-3).

¹⁷ In this Section, “euro zone” refers to 17 nations, which introduced euro as of January 2011 among EU member nations (Belgium, Germany, Greece, Spain, France, Ireland, Italy, Cyprus, Luxemburg, Malta, the Netherlands, Austria, Portugal, Slovenia, Finland, Slovakia and Estonia).

Figure 1-2-2-1 Fiscal balance of countries in Euro zone (ration to GDP)

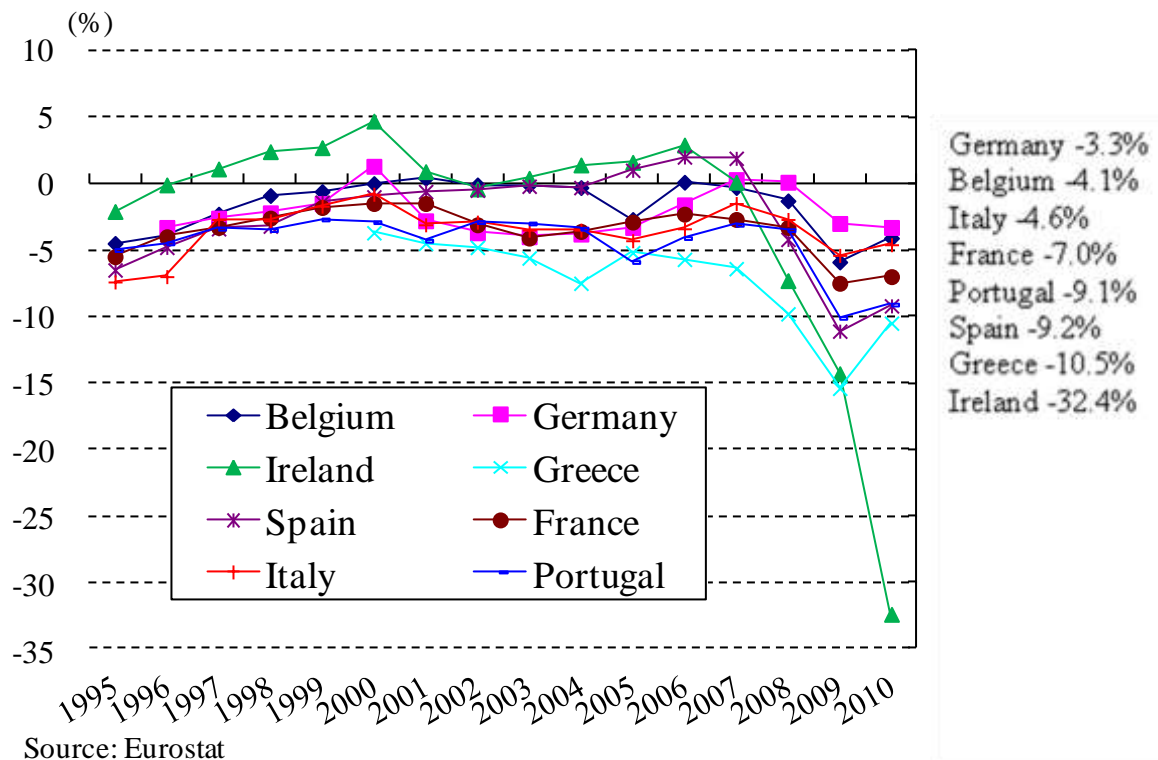
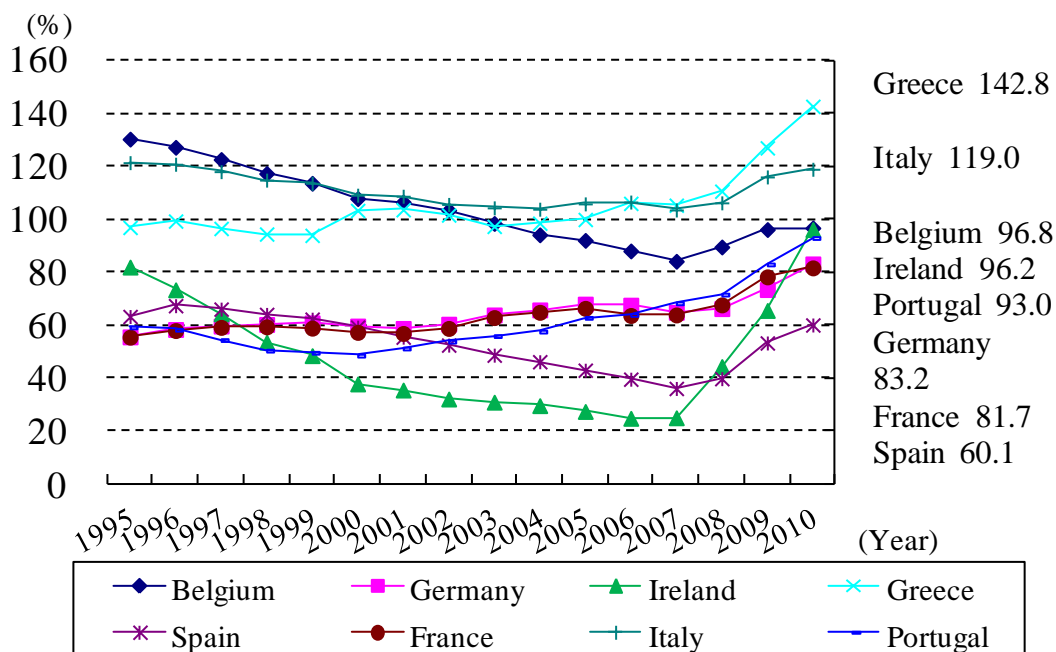


Figure 1-2-2-2 Government debt outstanding of countries in Euro zone



Source: Eurostat

Table 1-2-2-3 Details of European financial crisis (as of May 2011)

October 2009	<ul style="list-style-type: none"> • Falsification of statistics by the former administration of Greece came to the surface: Estimation of ratio of financial deficit to GDP in 2009 was corrected from 3.7% to approximately 12.7%.
December	<ul style="list-style-type: none"> • Greece announced the economic reformation plan * It was declared that ratio of the financial deficit to GDP in 2010 would be held down to 8.7% and less than 3% in 2013.
January 2010	<ul style="list-style-type: none"> • Greece submitted the stable growth plan to EU.
April	<ul style="list-style-type: none"> • Euro group (Euro zone finance ministers meeting) agreed to the conditions of the 3 years joint plan on supporting Greece which had been discussed with IMF. • Greece corrected the statistics again: The ratio of financial deficit to GDP in 2009 was corrected from 12.7% to 13.6%. • Greece officially required EU to exercise the supporting program.
May	<ul style="list-style-type: none"> • Euro group announced loans of 110 billion euro in 3 years (80 billion euro from Euro zone member countries and 30 billion euro from IMF). * IMF Executive Board decided to support Greece with a total of 30 billion euro in 3 years. • European Central Bank (ECB) announced to ease the eligibility criteria of collateral for bonds issued or guaranteed by Greek government. • EU announced to establish European Financial Stabilization Mechanism (EFSM) with a total of 500 billion euro. • Greece, Spain, Portugal and Italy announced their financial austere measures.
June	<ul style="list-style-type: none"> • Germany and United Kingdom announced their financial austere measures.
July	<ul style="list-style-type: none"> • Committee of European Banking Supervisors (CEBS) published results of the stress test. * Seven banks, mainly small and medium scale banks, out of 91 subjected banks were unqualified (5 banks in Spain, a bank in Germany and a bank in Greece).
August	<ul style="list-style-type: none"> • Greece cleared the monitoring by EU and IMF and the second loan was decided to implement.
September	<ul style="list-style-type: none"> • Ireland announced processing policy for pending problem of Anglo Ireland Bank. • Ireland announced additional remedy costs for Anglo Ireland Bank and other financial institutions.
October	<ul style="list-style-type: none"> • German France Summit meeting: It was agreed to strengthen financial restriction and to establish a permanent crisis responding mechanism for the risk management. * The crisis responding mechanism included participation of private creditors in an appropriate manner. • European Executive Board agreed to establish a new crisis responding mechanism. * It mentioned roles of private investors to be included in the new framework. * A part of the Treaty of Lisbon was revised for the new framework. • In France, nationwide strikes and demonstration occurred to protest a pension reform plan to reduce the medium and long term financial deficit.
November	<ul style="list-style-type: none"> • Ireland officially required EU and IMF to provide financial support. • EU Financial Ministers Board decided to support Ireland. * A total of 85 billion euro support (17.5 billion euro would be provided from Ireland pension funds) * Details of external assistances were 17.7 billion euro from EFSF, 22.5 billion euro from EFSM, 4.8 billion euro from United Kingdom, Denmark and Sweden and 22.5 billion euro from IMF. • Joint communique of five major EU countries * The future crisis responding mechanism is not applied to the current debts. * Private creditors are included in the supplementing of collective action clause (CAC) to newly issued national bonds.

	<ul style="list-style-type: none"> • Statement of Euro Group: Participation of private creditors to the future permanent crisis responding mechanism (European Stabilization Mechanism (ESM)) will be considered in case by case basis. • Greece further corrected the statistics: Ration of financial deficit to GDP in 2009 was corrected from 13.6% to 15.4%.
December	<ul style="list-style-type: none"> • EU Executive Board agreed to contents of Euro Group Statement and announced that the details would be decided in March 2011.
March 2011	<ul style="list-style-type: none"> • European Executive Board agreed to the details of ESM. * ESM's financeable amount was decided as 500 billion euro. * A total of 700 billion euro was capitalized to obtain high credit rating for ESM. • European Executive Board agreed to "Euro Plus Agreement" to strengthen the coordination of economic policies of Euro zone countries.
April	<ul style="list-style-type: none"> • Portugal formally required EU and IMF to provide financial support.
May	<ul style="list-style-type: none"> • EU and IMF agreed to provide 78 billion euro assistance to Portugal. * EU provided 52 billion euro loan and IMF provided 26 billion euro loan through the Extended Fund Facility (EFF) to Portugal.

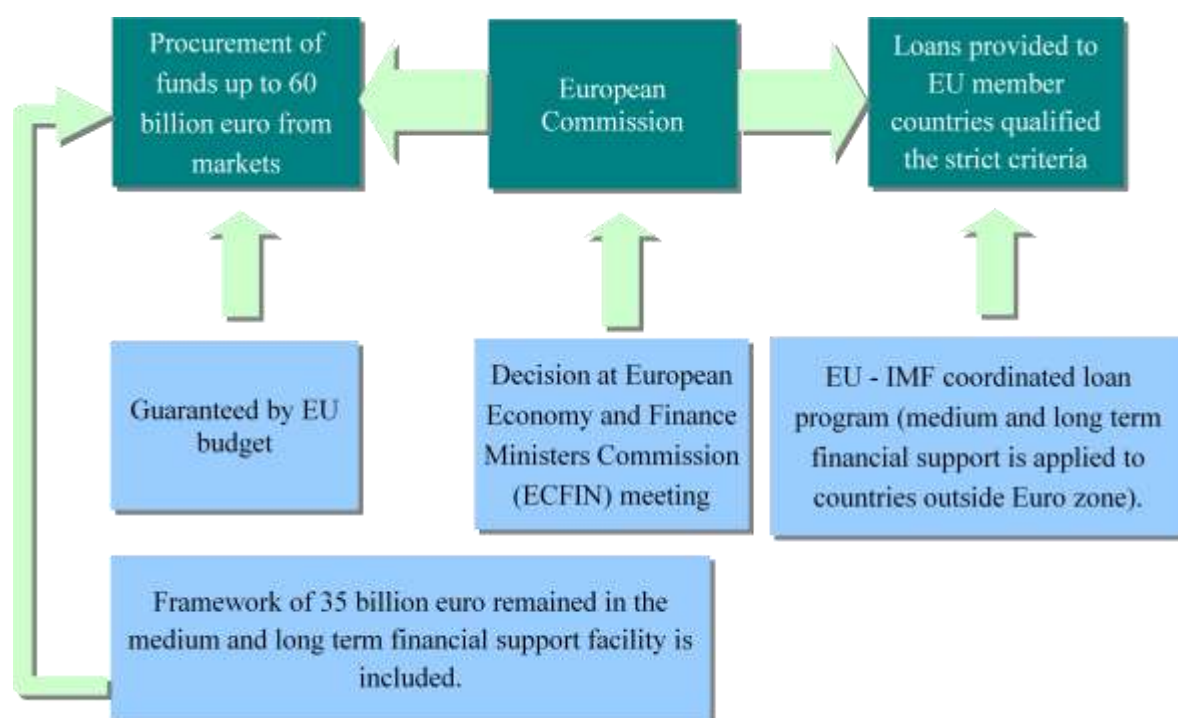
Sources: Data announced by EU and others

One of the factors that caused the financial crisis in countries of the euro zone is considered to be structural problem of the euro zone itself, which will be discussed later. In addition, another problem is to conduct appropriate economic policy such as promotion of delayed structural reform and loose financial control in the countries concerned. In the situation where loss of confidence in euro is implied, EU has been taking every measure to control the problem.

For example, when remedy for Greece was announced in May 2010, at the same time, a total of 500 billion euro¹⁸ as immediate reserve was announced as the comprehensive support measure for the crisis. The details were establishment of "Europe Financial Stability Mechanism (EFSM)" with maximum 60 billion euro to which all member countries of EU were subjected and "Europe Financial Stability Facility (EFSF), which was to establish a special purpose vehicle (SPV) financed by countries in the euro zone, with input amount proportional to financing rate to the Europe Central Bank for the SPV (Figures 1-2-2-4 and 1-2-2-5).

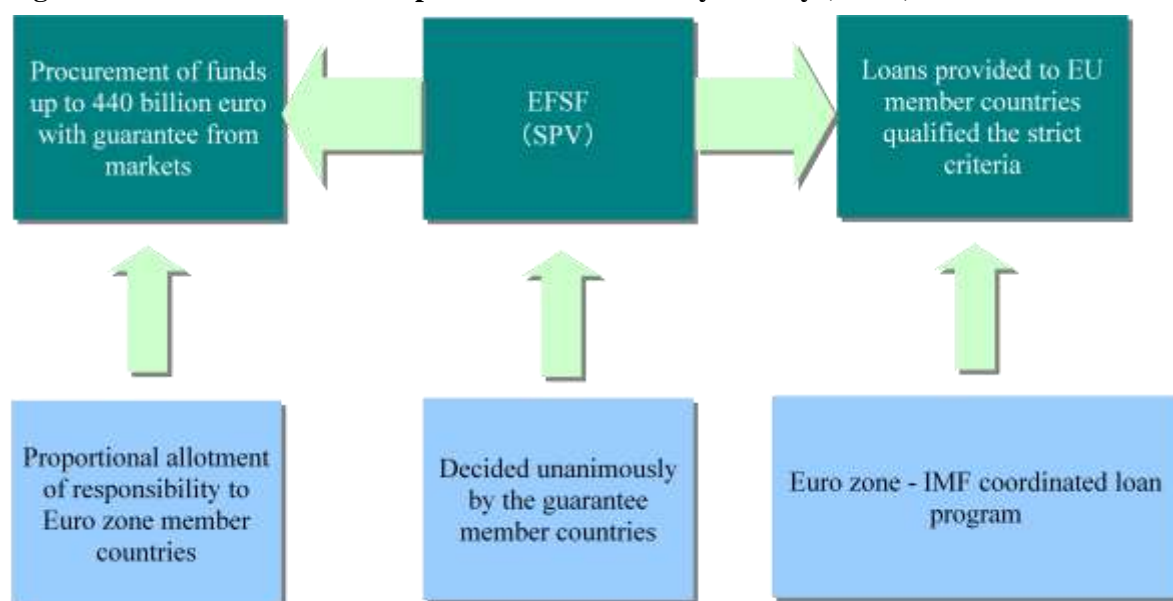
¹⁸ Actually, it announced a supporting measure with a total amount of 750 billion euro, expecting 250 billion euro financing from IMF, which accounted for 50% of the EU financing.

Figure 1-2-2-4 Structure of European Financial Stability Mechanism (EFSM)



Sources: ECB “Financial Stability Review, December 2010”

Figure 1-2-2-5 Structure of European Financial Stability Facility (EFSF)



Sources: ECB “Financial Stability Review, December 2010”

However, this is only a temporary countermeasure and EFSF, which takes charge of 440 billion euro out of the total 500 billion euro, has been established as an organization that will be terminated in June 2013 or at the end of supporting period of each supported country. It is scheduled to establish European Stability Mechanism (ESM) as a permanent organization to take over the role of EFSF and start operation in July 2013 (refer to (2) of this Section).

(B) Particularity of the financial crisis in the euro zone

Unification of Europe is a process of "deepening" and "expansion". EU created a single market and promoted introduction of a common currency for "deepening" the unification, and at the same time, it "expanded" in five phases and presently the member of member countries are 27. And the number of countries that participated in the euro zone reached 17 after the participation of Estonia on January 1, 2011. This formed an economic zone and a currency zone, and when combined, the EU becomes larger than the United States of America.

EU promoted economic growth by activating trade and the investment in the euro zone as a whole and by reducing costs for goods and services by promoting the market unification concept, until now. In addition, as the exchange rate fluctuation risk and exchange dealings fee in the area were removed by introduction of euro as the common currency, it had effects on promoting further trade and investment in the euro zone and reconstruction of the monetary and capital markets was promoted. Finance and capital markets equal to the United States markets were formed, and global financial institutions with strong competitiveness appeared, and the euro established a position as an international currency.

In this way, while the deepening of the unification in Europe brought significant results, the structural problem of the euro zone that was pointed out for some time was considered to contribute to this financial crisis.

As the countries participating in the euro zone entrust their exchange and monetary policies to European Central Bank (ECB), there is institutional problem that each country cannot conduct its own exchange adjustment. Therefore, ECB must take greatest common divisor-like policy considering the balance between participating nations. Risk to destabilize the economy is ever present when large economic gaps appear between the countries.

To avoid such risk destabilizing economy, when countries introduce common currency, based on the Maastricht Treaty, it becomes the condition to satisfy the standard consisting of the following 4 items:

- (i) Price stability: The inflation rate of the country concerned is not far from the mean of 3 countries having the lowest inflation rate among the member countries which is more than 1.5% point;
- (ii) Adequate interest rate level: The long-term national bond yield rate of the country concerned is in the range of within 2% point from the mean of 3 countries having the lowest inflation rate among the member countries;
- (iii) Stability of the exchange rate: The country concerned maintains the exchange rate in a normal range in European Monetary System (EMS) and did not devalue the currency for most of the time during the recent period of 2 years; and,
- (iv) Balanced budget: The ratio for the nominal GDP of the financial minus balance is not higher than 3% a year, and the ratio for the nominal GDP of the government debt balance is less than 60%.

Conditions from (i) to (iii) of commodity price, interest rate and exchange rate are set because if these do not met the standard, the unified monetary policy does not function appropriately. And condition (iv) on fiscal discipline is added because there is a concern about burden on monetary policy caused by large fluctuation of exchange rates. If a country performs loose economy within the area, pressure to raise the long-term interest rate becomes stronger and confidence in euro from markets may be lost. It is the condition about the fiscal discipline of (iv) that participating countries achieved it through hardships during those days when the euro zone was started. As for the financial deficit ratios

to GDPs in 1997, which were used to decide the introduction of euro, these are drastically improved compared with the previous year. It could be inferred that these countries made effort to reduce their financial deficits by using various measures (Figure 1-2-2-1, shown above). Specifically, generally adopted means were reduction of expenditure associated the social security and the public employees wage and freeze of the public works projects. The extreme examples are a case of selling gold that the central bank owned as foreign reserve (Belgium) and a case of increased taxation called European tax that was imposed only one time (Italy).

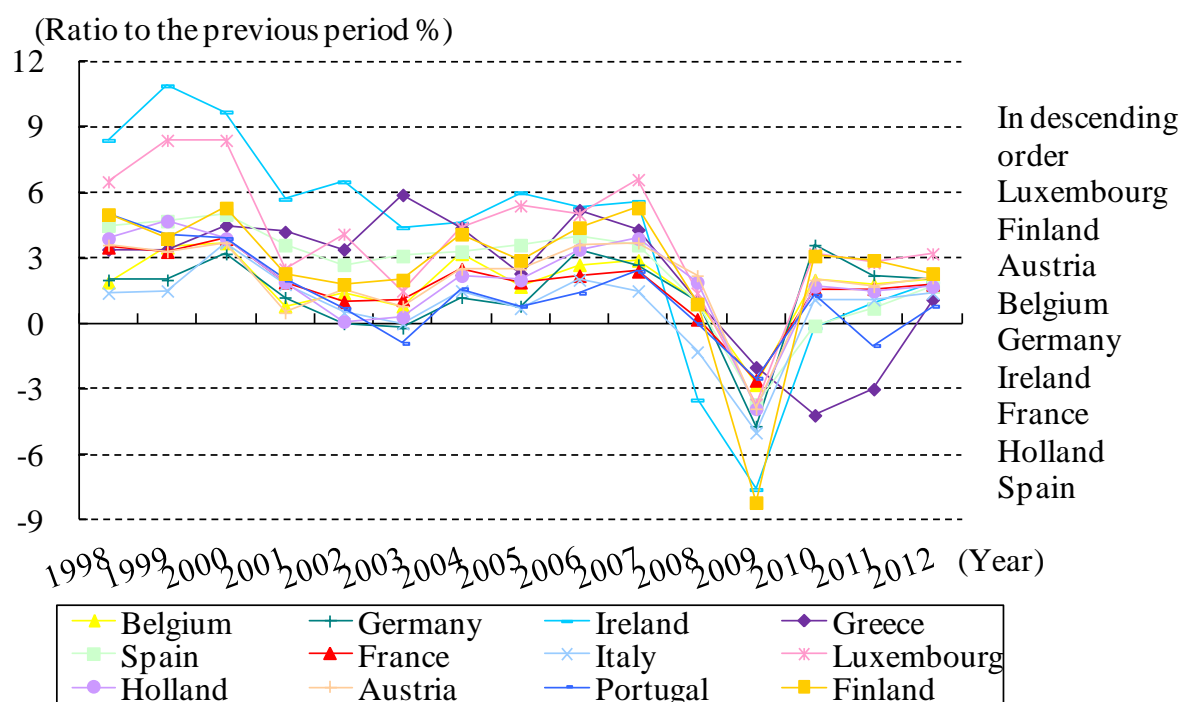
Additionally, the condition included in (iv), “the ratio for the nominal GDP of the government debt balance is less than 60%” was interpreted flexibly based on the provision of Maastricht Treaty, “when it has a tendency to decrease markedly, (the country) may participate in the currency unification” and countries exceeding their government debt balance over 60% of the GDP were accepted to participate the euro zone¹⁹. It is thought that the participating countries did not necessarily satisfy sufficiently the standard to enhance confidence in euro in the truest sense from the time the euro zone started.

And the euro zone also has structural economic problems. Namely, the essential conditions to establish the optimum currency area are the structural economic homogeneity and free movement of capital and labor according to the theory of "optimum currency area"²⁰ which is said to be the theoretical background of the euro zone. However, the move of the labor is rigid within the euro zone and there is a great divergence in the economic structures of the Euro zone countries (Figures 1-2-2-6 and 1-2-2-7).

¹⁹ Member countries at the time of starting the euro zone in 1999 were 11 countries including Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal and Spain. Greece participated in 2001.

²⁰ The "optimum currency area" theory assumes that "it is desirable for the countries in close economic relationship have common currency to avoid the influence by fluctuation of exchange rate". It states that when some countries make a group under a common currency system or strict currency peg and each member country releases control of own exchange adjustment function, what a alternative means can cover the said function or what a geographic size is the most appropriate for the system is not clearly defined. The essential conditions for the “optimum currency area” are to be economic openness (degree of unification of goods markets), mobility of production factors and homogeneity of economic structure.

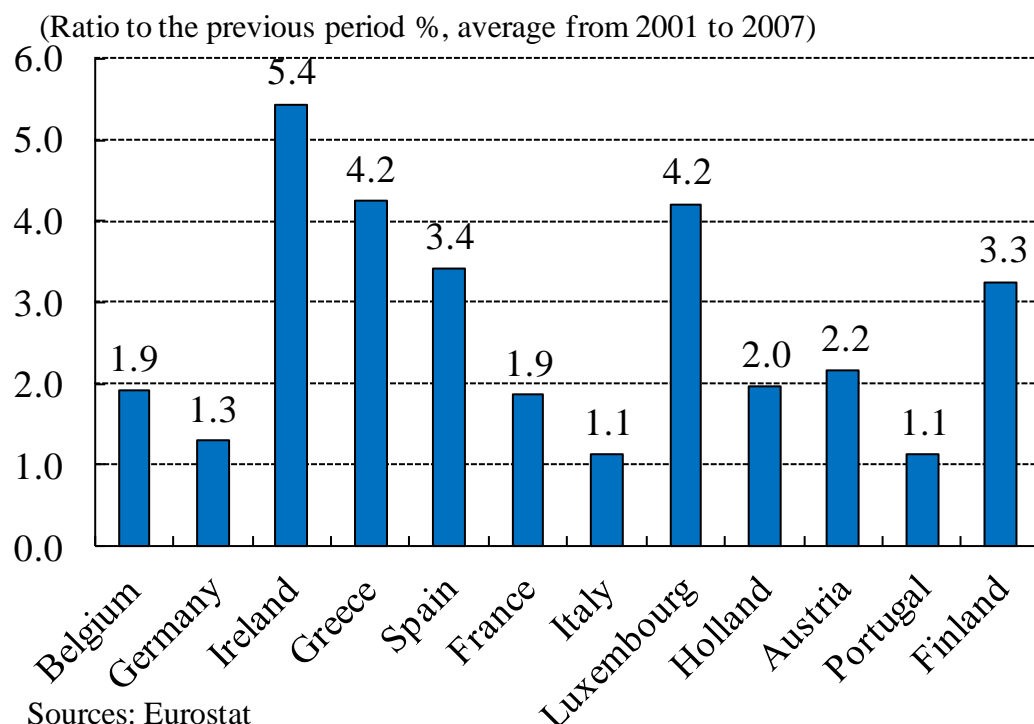
Figure 1-2-2-6 Transition of real GDP growth rates of countries in Euro zone



Notes: All values of 2011 through 2012 are predicted. Values of Belgium, Ireland, Greece, France, Italy, Luxembourg, Austria and Portugal in 2010 are also predicted. Data of Greece are tentative.

Sources: Eurostat

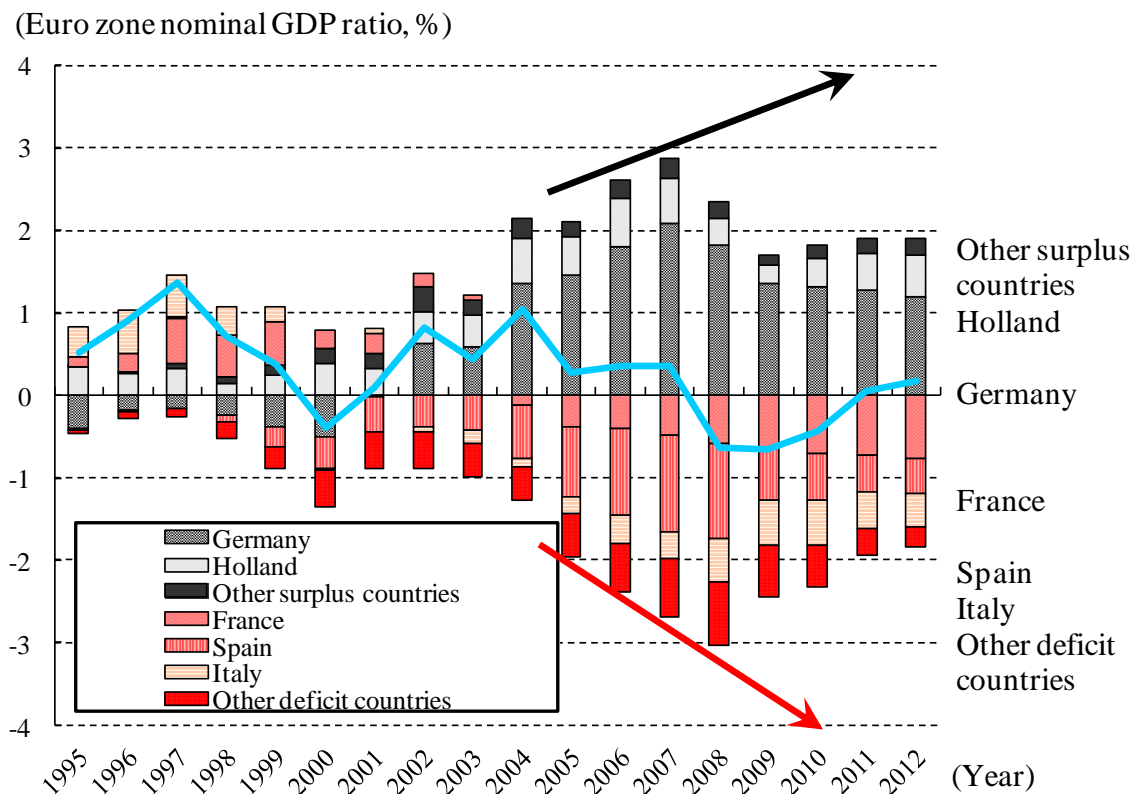
Figure 1-2-2-7 Comparison of real GDP growth rates of countries in the euro zone (average from 2001 through 2007²¹)



In this situation, after the introduction of euro, while current-account surplus increased in such countries having higher export competitiveness as Germany in the euro zone, current-account deficit tended to increase continuously in the Southern European countries having lower export competitiveness (Figure 1-2-2-8). Generally, countries having lower export competitiveness and current-account deficits restore the balance of the current account by devaluating currencies, but as mentioned above, the euro zone participating countries do not make adjustment of their exchange rates in accordance with the situation of their own countries. In the Situation that the export competitiveness cannot be improved by the lower currency value, it is necessary to reform the economic structure to achieve balancing the current-account and to increase export by strengthening the industrial competitiveness. But generally, it takes time for such actions to achieve the results. When a country faces economic confusion under such a situation, it must be coped with a fiscal policy or has to depend on external debts. This results in a risk to make economy and financial status destabilize further.

²¹ The comparison is done with the average until 2007 to avoid the influence from the monetary and economic crisis after 2008.

Figure 1-2-2-8 Transition of current account of countries in Euro zone



Notes: Other surplus countries are Belgium, Luxembourg, Austria and Finland. Other deficit countries are Ireland, Greece and Portugal. Euro zone countries are 12 countries excluding Cyprus, Malta, Slovenia, Slovakia and Estonia. Values in 2010 and later are predicted.

In this way, the surfacing of manipulation of the statistics and the loose financial administration in Greece of 2009, which caused the beginning of the financial crisis in Europe highlighted the problems that the euro zone contained in itself. And this concern was circulated among the countries where competitiveness and foreign solvency were considered to be relatively low. Then the situation grew worse to destabilize the monetary systems in the whole euro zone.

(2) Concern continues smoldering in the markets and the permanent crisis response mechanism

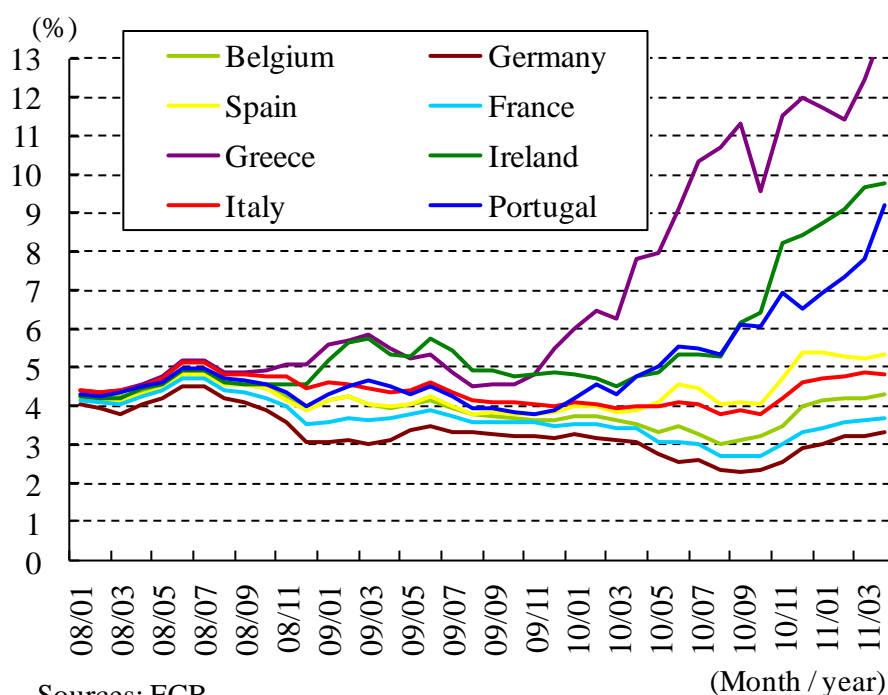
Following Greece, Ireland requested support of EU/ IMF in November, 2010, and the implementation of the support was decided. Also Portugal requested the support in April 2011 and EU/ IMF and Portugal agreed to the support at the working level in May. There is still concern for spreading crisis to Spain and other countries. Behind such a "concern of the markets", there is an uneasiness that after having used the announced aid package, it cannot achieve the financial reforms and there may be another kind of debt restructuring.

This uneasiness on the debt restructuring was actualized after October 2010 by word from EU authority in the German and French summit meeting, mentioning the possibility of the debt restructuring. It is said that mention of the debt restructuring might have remotely contributed to the

request for support from Ireland²².

At the German and French summit meeting in October 2010, the agreement on a permanent crisis response mechanism, which was to take over the role of EFSF, mentioned, “private creditors were appropriately represented”. While the specific content of the “appropriate participation/representation” was not clear, uneasiness was spreading by the fear that national bond holders might be asked to share some costs, and this might cause sudden rise in rates of yield of national bonds in various countries (Figure 1-2-2-9).

Figure 1-2-2-9 Transition of rate of return of 10 years term national bonds in countries in Euro zone



Sources: ECB

Responding to such situations, in October, 2010, European Council agreed to newly establish "European Stabilization Mechanism (ESM)" as a permanent crisis response mechanism. After examination by the euro group meeting afterwards, European Council agreed on details of ESM in March, 2011. Specific details were the financeable amount by ESM was 500 billion euro and a total of 700 billion euro was input as supportive capital to obtain the highest credit rating for ESM. It was decided that the financeable amount would be revised regularly at least every 5 years, and as to the 700 billion euro capital, 80 billion euro would be capital paid-in from countries within the euro zone, and the 620 billion euro would be payable on application capital and government guarantee from countries within the euro zone. Furthermore, it was agreed that in the case of debt restructuring, private creditors should be demanded to share suitable costs on a case-by-case basis and the Collective

²² The government of Ireland stated that immediate necessary funds were ensured and denied the request for the external monetary support even after the correction of prospect of large financial deficit. However, with upset in the markets, there were words to persuade Ireland to request early external support, coming from EU and ECB which had concern about further spreading the crisis to South European countries and from United States of America which had large credit to Ireland. It is said that by this situation, Ireland formally submitted the request for the monetary support in November 2010.

Action Clauses (CACs²³) would be added to all the government bonds with more than 1 year term of redemption newly issued by euro member countries after July, 2013.

In addition, in the same European Council, the "Euro plus pact" was agreed to strengthen coordination of the economic policies of countries in the euro zone. The purpose of the pact was intending to strengthen the fiscal discipline, structural reform and competitiveness under mutual surveillance. It was called Euro "plus" pact, as some countries²⁴ outside the euro zone declared their participation.

As for measures against the current debt uneasiness, the EFSF financeable amount was agreed to be raised up to 440 billion euro, but the details were to be agreed upon before the European Council meeting held in June 2011.

ESM in succession to current ESFS was determined to be established after 2013 by such a series of actions. Also an argument on a concept to utilize European common bonds (E bond) became popular during the discussion on the permanent crisis response measures, which had been argued upon for a long time. As there was some criticism that the method of unifying the finances has not been developed while the monetary and exchange policy are unified by ECB, and if financial coordination is dependent upon introduction of "E bond", the concern among the market players may not fade away²⁵. The EU and countries shaken by the debt uneasiness are attracting attention concerning the fact that people are not so sure how they will respond to a similar situation in the future including the fact that the implementation of a part of the measures for current debt uneasiness has been postponed.

²³ This is a system that can change the term of redemption or the interest rate by the decision by majority of investors holding bond certificates. The representatives of national bondholders maintain mutual understanding with the debtor and it makes the prompt debt restructuring possible. (Nippon Keizai Shimbun, third page of evening edition, November 29, 2010)

²⁴ Those are 6 countries including Bulgaria, Denmark, Latvia, Lithuania, Poland and Romania.

²⁵ Contrarily, for the introduction of the "E bond", it is necessary to legally confirm guarantee and responsibility of the governments and develop a framework to strictly maintain the fiscal discipline. If there are no such actions, moral hazard or speculation may emerge. Therefore, careful institutional designs are indispensable.

Section 3 Aiming at the sustainable and balanced economic growth

As described in Sections 1 and 2, rises in prices of energy and resources progressed and capital inflow to emerging economies increased backed by monetary easing policies in the advanced economies. This led to rapid growth in the emerging economies. Under these conditions, the global balance, which once decreased after the world economic crisis in 2009, increased again from the beginning of 2010. It may not be expected to decrease on a medium or long term²⁶ basis after 2011. However, the conventional form of economic growth in countries and regions dependent on consumption by the United States of America might be difficult to sustain. The people are concerned that the current global imbalance seems to be unsustainable and it might turn out to be a factor of destabilization of the world economy. Additionally, friction of policies aiming at economic recovery implemented by advanced and emerging economies results in the sudden fluctuation of exchange rates or it might even be a factor to block the free trade, and consequently destabilize the world economy. Thus, after 2010, friction between countries and regions has increased due to sharpening gaps in economic growth between advanced and emerging economies, which creates various problems regarding international monetary policy coordination efforts.

1. Reconfirmation of the importance of international policy coordination system

After the world economic crisis, countries and regions experienced that when the monetary system enters a crisis situation; it immediately spreads from one country to another and then, spreads worldwide increasing in severity. Learning an important lesson from this experience, the national governments recognized the necessity of coordinating policy decisions between them. But on the other hand, adjustment of the interests of each country became complicated and it caused friction again. The international coordination system is getting increasingly difficult to maintain.

Under these conditions, countries and regions are reminded once again that arrangements to build international consensus on correcting imbalance, achieving stability of international monetary system, taking measures against rapid fluctuation of prices of primary industrial products, preventing protectionism and promoting free trade for sustainable and balanced economic growth are to be made by the international organizations such as G20 and APEC. The G20 summit conference held in Seoul in November 2010 announced a statement and it included a phrase that said, “We continue our coordinated efforts and commit ourselves to coordinate policies to foster a strong, sustainable and balanced growth.” The commitment was reconfirmed at the meeting of finance ministers and central bank governors from 20 nations held in February and April 2011.

2. Friction of policies aiming at economic recovery

At the beginning of autumn in 2010, arguments surfaced on the so called “currency depreciation competition” which was a means to push the value of the currency of individual countries lower to increase export. This was a complicated situation that created an opposite axis not only between the “United State of America and the emerging economies” but also between both “advanced versus advanced economies” and “emerging versus emerging economies”. That means that every country was competing with each other to gain an upper hand in promoting own exports.

The heated argument over the currency depreciation competition temporally cooled down afterward,

²⁶ IMF (2011), World Economic Outlook, April 2011

but it did not lead to a basic resolution of the problem and has not yet succeeded in putting out the smoldering fire completely.

(1) Complicatedly tangled opposite axis of currency depreciation competition

(A) Opposition created by progress of dollar depreciation

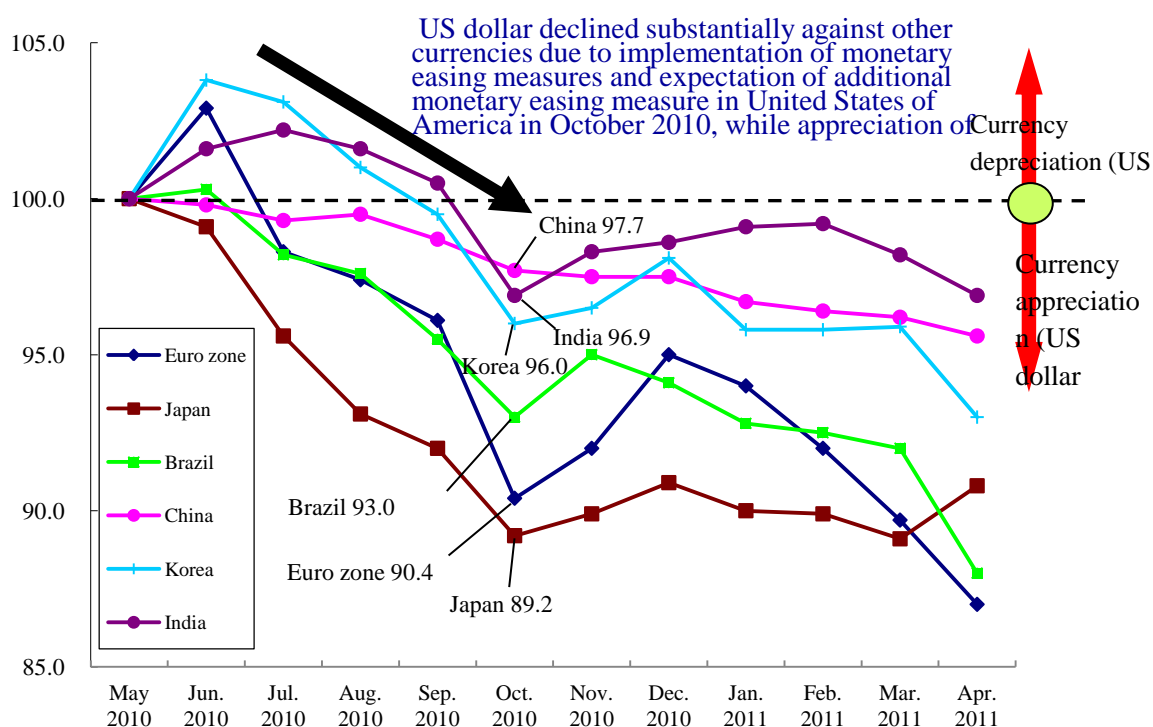
On September 27, 2010, Brazilian Finance Minister Mantega stated, “We are in the middle of an international currency war. This is a threat that takes our export competitiveness away” and later, international tension involving currency policy was raised.

One of the factors of raising the tension was progress of the dollar depreciation. In United States of America, FRB lowered the target rate of Federal Fund (FF) to 0 to 0.25% in December 2008 and this level was maintained afterward, which promoted the credit and quantitative easings²⁷. And during this period, the U.S. dollar continued to fall against most currencies mainly in emerging economies backed by a surge of expectations due to monetary easing by FRB. On the other hand, currencies in many emerging economies including Brazil increased value against the U.S. dollar. For the emerging economies, the rises in value of their own currencies were a negative factor to reduce export competitiveness while they aimed at recovery from the financial crisis and achieve further growth (Figure 1-3-2-1).

²⁷ An example of the credit easing is residential mortgage-backed securities (RMBS), i.e. purchase of assets with relatively high risk, and that of the quantitative easing is purchase of US\$600 billion medium and long term national bonds. Ben S. Bernanke, the chairman of Federal Reserve Board (FRB) clearly expressed his stance to continue the current monetary easing policy at the press meeting on April 28, 2011 after the Federal Open Market Committee (FOMC) meeting.

Figure 1-3-2-1 Transition currencies exchange rates against US dollar mainly in emerging economies

(Exchange rate in May 2010 = 100)



Sources: Principal Global Indicators

Regarding tensions between the United States of America and the emerging economies, friction with China became particularly strong. In United States of America, the House of Commons adopted the bill of “Act of currency reformation for the fair trade”²⁸ in September 2010. The bill was to impose an additional custom duty to imported products from China based on interpretation of lower exchange rates of Chinese Yuan maintained by the government as a type of export subsidy. Against such movements by the United States of America, China stated that “an international currency framework should be built to limit irresponsible issuance of large quantity of dollar by the United States”²⁹ and together with other emerging economies, the Chinese authorities criticized moves by the United States’ to promote depreciation of the dollar through its monetary easing policy.

²⁸This bill required countermeasures such as compensation duty and anti-dumping tax if the exchange rate is evaluated to be too low (or too high) in accordance with judgment by the United States agency in charge. The agency will also see whether or not the exporting country illegally evaluated its currency to be too low (or too high), against the U.S. dollar. The bill was finally scrapped due to delayed deliberation in the Senate.

²⁹ Vice Finance Minister Zhu Guangyao criticized by saying, “United States of America seems unaware of the responsibility of a nation issuing a major reserve currency to stabilize the international capital markets”. Additionally, the state media of Beijing reported that they called on the leaders attending G20 meeting that “An international currency framework should be built to limit irresponsible issuance of large quantity of dollar by the United States”. (Sankei Shimbun, web edition, “Up-value demand for Yuan” vs. “monetary easing criticism” G20, “Remaining source of trouble from heating up conflict between the United States of America and China”, November 11, 2010)

In addition, critical eyes were also turned to the United States of America from advanced economies. When FRB decided to additionally purchase US\$600 billion long term national bonds as an additional monetary easing policy³⁰ in November 2010, France stated³¹ that “Euro is encumbered by FRB’s movement”, and Germany criticized³² that “it does not make any sense that American FRB criticizes Yuan’s operation by China, while it artificially reduces the value of dollar by reprinting the greenback”.

(B) The quantitative monetary easing policy that made the problem complicated

Additionally, funds generated by the monetary easing by the advanced economies flowed into the emerging economies, which were enjoying relatively high economic growth with higher interest rates. This made the problem further complicated. Accelerated global funds inflow caused sudden rise in the domestic real estate prices in some of the emerging economies and the bubble economy concern grew and the inflationary pressure became higher. Monetary tightening was effective for a measure against the inflation, but rise in the interest rate further accelerated the funds inflow and caused concern about pushing the value of their currencies higher. Contrarily, if the monetary easing policy was adopted to avoid the high value of own currency, concern about inflation might be increased. The situation was difficult to deal with. In this situation, some countries including Brazil and Thailand, responding the monetary easing of the advance economies, implemented counter measures to control the overseas funds inflow such as strengthened taxation for monetary transaction (Table 1-3-2-2).

Table 1-3-2-2 Emerging economies’ measures to the capital inflow

[Measures to prevent prices from rise] • Establishment of upper limit of loan to value (LTV) ratio; Counter measure to real estate markets such as expansion of real estate credit (Hong Kong, Korea and Singapore)
[Tightening of fluidity management] • Making central bank short term security obligatory to hold for one month (for foreign and domestic investors) (Indonesia) • Raising reserve deposit rate (India and Brazil)
[Restriction to banking institutions over holding amount of foreign exchange] • Introduction of restriction to holding amount of foreign exchange including futures (Korea)
[Strengthening monetary supervision] • Restriction of capital, fluidity and leverage; Strict stress test; Strengthening the corporate governance (Hong Kong and Singapore)
[Capital inflow control] • Prohibition to open short term fixed deposit account by nonresidents (Taiwan and China) • Establishment of limit to external loan (India) • Raising financial transaction tax imposed on the exchange associated to investment in bonds on the home country's currency basis (Brazil)

Sources: Principal Global Indicators

However, the monetary easing was implemented not only by United States of America but also by

³⁰ This is also known as QE2 (Quantitative Easing 2).

³¹ A word from Lagarde, French Minister of Economy, Finance and Employment on November 5, 2010 (Wall Street Journal, Japanese edition (web edition) stating, “FRB’s additional monetary easing, causing rise in Euro”)

³² A word from German Finance Minister Schauble at an interview on November 8, 2010 with Der Spiegel (Wall Street Journal, Japanese edition (web edition) stating, “Decision by FRB affects the reliability of the U.S. monetary policy”); German Finance Minister Schauble”)

Japan, which was promoting the comprehensive monetary easing, and some of the emerging economies, which implemented the actual quantitative easing through the exchange intervention. The “currency depreciation competition” was not such a simple structure as being done between the “United States of America and the emerging economies”.

(2) Calming down the argument on the currency depreciation competition and importance of international coordination

The funds inflow to the market in the emerging economies became increasingly active backed by the high economic growth and high interest rate afterwards. Consequently, heightened inflationary pressure grew more serious, creating problems, and priority for measures against the inflation was higher than the measures avoiding high value of own currency. In this way, many of the emerging economies were required to implement monetary tightening policies and thus, the arguments over currency depreciation competition was temporarily calmed down.

Additionally, efforts were made to avoid the currency depreciation competition in meetings of the international community. The finance ministers and central bank governors of 20 nations held a meeting in Gyeongju in October 2010 agreeing to “avoid competitive devaluation of their currency.” And the summit communiqué adopted this language at the G20 Summit in November of the same year, and the “Seoul Action Plan” was approved to commit actions by G20 countries.

However, the factors causing the currency depreciation competition were not completely eliminated. As a fundamental problem, current monetary easing policy is expected to continue for a while under situation of slower economic recovery in the advanced economies. Eventually, global funds continue to flow into the emerging economies seeking the high economic growth and high interest rates, and the exchange rates may receive upward pressure. In this situation, if conflict occurs between the advanced economies aiming at the economic recovery with the monetary easing policy and the emerging economies implementing market intervention or funds inflow control policy to avoid their currencies becoming high in value, stability of currencies may not be maintained.

Therefore, it is considered to be necessary that the advanced economies including United States of America should conduct surveillance on the influence to the markets caused by their monetary easing, and to explain it to convince the emerging economies. With that in mind, both the advanced and emerging economies confirm to avoid the escalation of currency depreciation competition, and every country is required to make efforts to decrease the global imbalance over a medium term. In this regard, the mutual evaluation framework at the G20 Summit has important meaning. Because, “the mutual evaluation framework is, at least in its initial stage, to be a process to deepen the understanding on influence of own policy to other countries as well as understanding contents of other countries’ policies³³”.

<Reference> Contents of discussion on the international monetary system at Meeting of G20 Finance Ministers and Central Bank Governors held in Paris in February 2011

- International monetary system (IMS) has showed its toughness, but weakness remains. In order to

³³ A lecture given by K. Nishimura, vice governor of Bank of Japan at the International Symposium sponsored by Bank of France (Bank of Japan: “International monetary system seen from the viewpoint of a banker of central bank” March 4, 2011)

ensure the systemic stability, promote orderly coordination, avoid the unruly movements of exchange rates including fluctuation of funds transfer with negative impact and checking excessive fluctuation by the advanced economies having the reserve currency and avoid continued imbalance in exchange rates, necessity to improve the IMS is increasing.

- Today, we agreed the working program to strengthen the function of IMS. The following matters will aim strengthening the IMS:
 - Management for international liquidity to strengthen capability to prevent shock and deal with it including consistent approaches and measures such as macro soundness measure including argument on roles of funds safety net and SDR relevant to dealing with capital transfer possible to cause instability, taking possibility of undesirable results into consideration.
 - For this, some points of argument on the exchange rate and argument on strengthening IMF's surveillance are needed.
- We expect to discuss the following report at the next meeting in April:
 - Report on strengthening IMF from IMF, and reports from the World Bank and RDBs on actions to strengthen local capital markets in the emerging and developing countries and the borrowing in domestic currencies based on the experiences.
- Additionally, we can have contribution from other relevant international organizations such as OECD on the capital transfer and UNCTAD.

Source: G20 Communiqué, "Meeting of Finance Ministers and Central Bank Governors, in Paris, from February 18 to 19, 2011" (Temporary translation by Ministry of Finance)

A working program to formulate international monetary system strengthening framework was agreed at the Meeting of G20 Finance Ministers and Central Bank Governors held in Paris in February 2011. The course of argument should be carefully noticed.

3. Regarding correction of international imbalance

<Arguments on ways of creating international consensus>

Two steps corresponding to dealing with the correction of imbalance were agreed upon at the Meeting of G20 Finance Ministers and Central Bank Governors held in Paris in February 2011, namely formulating a "referential guideline" to evaluate the imbalance, and selecting the countries where large imbalance such as continued large surplus (or current-account deficit) exist based on the guideline, then evaluate and analyze causes of the imbalance. In addition, the sovereign debt, budget deficit, private savings rate, private debt and foreign balance ("actual current-account balance" = "balance of trade" + "income balance" + "capital transfer" taking the exchange rate, fiscal and monetary policies, foreign reserve into consideration) were adopted³⁴ as indicators for the "referential guideline".

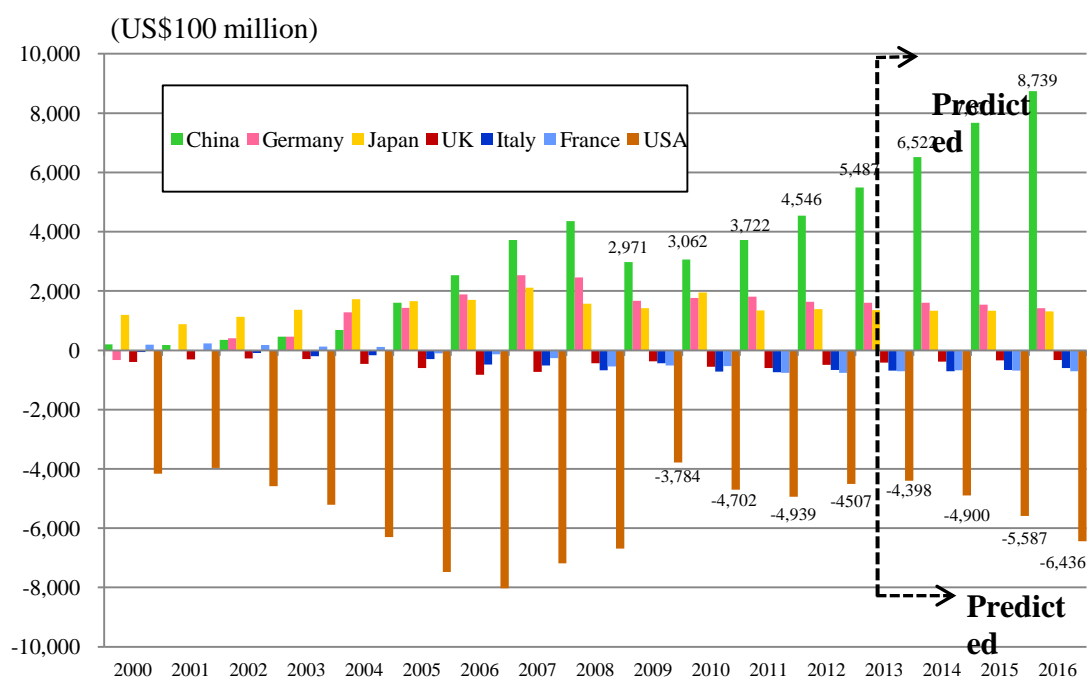
³⁴ Masaaki Shirakawa, Governor of the Bank of Japan pointed out, "the current balance provides useful information on conditions of the economy. However, at the same time, past experiences and present financial crisis show that it is a potential risk just to use the current balance for an index to determine existence of unsustainable global imbalance" in the "GLOBAL IMBALANCE AND IMBALANCE IN THE CURRENT BALANCE" (Japanese translation of lecture at an event to publicize a "Financial Stability Review" by Bank of France, Bank of Japan, on February 18, 2011 being published under a title of "Evaluation of the Global Imbalance").

Successively in April 2011, said Meeting held in Washington DC agreed to adopt a series of “referential guideline” to evaluate the imbalance, and the first step of the work was completed. And it agreed that to start the second step work to evaluate further details of the nature of imbalance and causes of obstruction to adjust the imbalance.

An annex published together with the communiqué announced to select the countries where large imbalances are present to be subject for the second step based on the “referential guideline” agreed at the Meeting in February using 4 approaches to decide reference value to specify the nations subject to evaluate, taking the countries development stages into consideration. As for the selection criteria of countries with economic scales account for over 5% of the total of G20, it clearly expressed to reflect that the larger economic bodies may have larger spillover effect.

An action plan including prevention and correction measures for those countries needing measures to correct foreign imbalance will be reported at the G20 Meeting to be held in Cannes in November 2011.

Figure 1-3-3-1 Prospects of current account of major G20 countries (countries with 5% or more GDP shares to the total GDP of G20)



Sources: IMF, WEO Database, April 2011

<Reference> Contents of discussion on the correction of imbalance at G20 Meeting of Finance Ministers and Central Bank Governors held in Washington DC in April 2011

- Having agreed the “referential guideline”, and having completed the first step work to correct the imbalance, and as the second step, starting work has been agreed to specify the subject countries receiving more detailed evaluation and to minutely analyze and evaluate the causes of imbalances.
- In the second step, reference value to specify countries to be evaluated at greater length will be set up by using the evaluation indicator agreed at the joint conference in February 2011 through the 4 approaches such as; (i) Inherent situations including large number of the first industry producers

based on economic models and theory; (ii) Evaluation based on the past trends in the own country; (iii) Comparative evaluation with a country group which development is in similar stage and; (iv) Evaluation compared with all member countries of G20 based on the data.

- All the G20 countries are evaluated with the reference value and countries judged that they have large continuous imbalance in the two or more approaches become the subject countries for further evaluation.
- By the joint conference in October 2011, measures to correct the imbalance for the countries needing the measures will be confirmed and the action plan to correct the imbalance will be decided upon at the G20 Summit Meeting held in Cannes in November of the same year.

4. Development of policies for monetary control reformation and transparency enhancement for prevention of another world economic crisis

(1) Present thinking in the United States of America for reforming the monetary control policy

From the viewpoint of preventing another monetary crisis in United States of America, revision of the comprehensive monetary control policy and supervision mechanism are undertaken, and a monetary control reform act (Wall Street Reform and Consumer Protection Act: Dodd-Frank Act) was enacted in July 2010. By the establishment of the Dodd-Frank Act, measures such as establishment of a council to monitor the soundness of overall banking system, control over activities and sizes of banking institutions, control over storefront derivative markets and establishment of new control facilities to protect consumers have been implemented. The legal framework covering broad range of banking activities including the stabilization of the banking system and consumer protection has been developed.

(2) Present thinking for reforming the Basel III monetary control measures

On December 16, 2010, Basel Banking Supervisory Committee published the Basel III text which showed details of international standards on the equity capital and liquidity, and reported the results of the comprehensive and quantitative effect extent survey. This is a part of comprehensive measures implemented by the Basel Committee to deal with the lesson gained from the former financial crisis on control, supervision and international banking risk management.

○ Essential points in the Basel III monetary control measures

- (i) Revising the ratio control procedure for core equity capital;
- (ii) Revising details of the control procedure to reduce economic fluctuations by controlling the equity capital ratio and;
- (iii) Introducing leverage ratio as a supplementary indicator for the equity capital ratio control procedure for preventing excessive leverage.

(3) Present thinking for enhancement of transparency in commodities markets

In November 2010, in the G20 Seoul Summit document, requirement was submitted to improve control and supervision and enhancement of transparency of commodities derivative markets including the oil market. Responding the requirement, efforts to deal with the requirement have been undertaken by International Organization of Securities Commissions (IOSCO). Specifically, the IOSCO has been preparing to implement; (1) Revision of guideline on design and surveillance of the

commodity futures market, (2) Survey on impact on market function by commodities spot prices announced by the price publishing companies under coordination with International Energy Agency (IEA), International Energy Forum (IEF) and Organization of Petroleum Export Countries (OPEC), (3) Establishment of transaction information building body to supervise and improve the off-exchange derivative transaction and to enhance the transparency.

In addition, IEA, IEF and OPEC made a proposal on adequate and timely dissemination of information on spot commodities as underlying assets aiming at activating the sufficient price finding function of the commodities derivative transaction.

< Reference > Communiqué of G20 Finance Ministers and Central Bank Governors conference (held in Washington DC, United States of America, from 14 to 15 April 2011) (Tentative translation)

- 6. Primary products prices are facing increasing pressure. We welcome the proposal from IEF, IEA and OPEC, and we have committed to enhance the timeliness, completeness and reliability of the JODI oil database. We have welcomed work on report from the international organization to deal with the excessive fluctuation of prices in the food and agricultural products markets and its impact on food security. We are expecting to receive the final proposal including the risk management and mitigation methods. We emphasize the necessity that participants to the commodities derivative markets have to act under adequate control and supervision, and require enhancing transparency of both the spot commodities and derivatives markets as previously proposed by IOSCO, and have requested to IOSCO by September to finalize the proposal on the control and supervision to deal with especially the misuse and rigging of markets in this field through authority to establish ex-ante regulation on position when appropriate or through the stylized authority on position management including other intervention rights.

5. Promoting the free trade system and constructing the strategic foreign economic relation

As a result of difference in the recovery speed between the advanced and emerging economies, coordination of interests between countries/ regions has been complicated and maintenance of the international coordination system has increasingly become difficult. In this conditions, importance of the international coordination have been again recognized at meetings of WTO, G20 and APEC and the prevention of protectionism and promotion of the free trade have been declared by the leaders and ministers. However, each country/ region has been challenged to solve the problem how to achieve the multitiered and strategic multilateral and bi-regional relations.

“Summit communique on the accomplishment evaluation of the 2010 Bogor Goal” announced at the APEC Summit meeting held in Yokohama in November 2010, aiming at the promotion of free trade, declared that “the multidirectional trade system continues to be the highest priority for the APEC member economies and the agreement of Doha Development Agenda (DDA) negotiation round provides the best opportunity for the comprehensive liberalization”. Addition to the recognition, it also declared that “we take the increasing effect of regional and bilateral free trade agreement into consideration when we eliminate the barriers in regions”. Movement concluding FTA/ EPA has been accelerated between countries/ regions, and ways of strategic cooperation have been sought on the traffic of people and goods between some specific countries. Under the situation constructing free

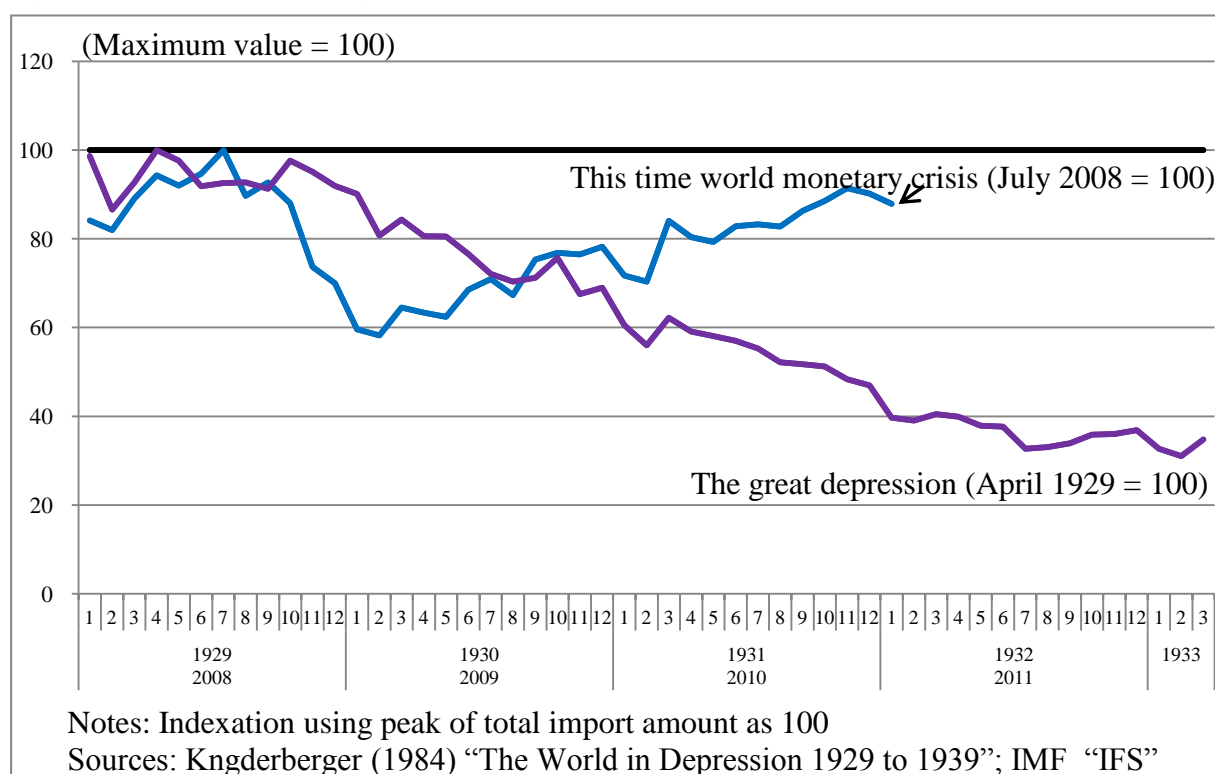
trade structure involving the emerging economies, it is increasingly important to decide that when, with which countries/ regions and in which area the economic partnership agreement should be concluded. Japan is also required to address the development of economic partnership in a speedy and strategic way by reversing the way of thinking in the past.

Movement toward the promotion of free trade system and construction of strategic foreign economic relation is discussed below.

(1) Problems in the international trade system and measures to cope with

After the world economic crisis, some countries/ regions started to introduce protectionist measures and contraction of the world trade was concerned. However, examining the movement of the world trade after the economic crisis, although the size of decline was substantial immediate after the economic crisis coming to the surface, the economic trend moved to recovery within 6 months (March 2009) after the Lehman shock in September 2008, and the world trading volume continued to have a increasing tendency afterward (Figure 1-3-5-1).

Figure 1-3-5-1 Transition of global trade volume before and after the monetary crisis



The background of the recovery was a fact that there was no severe blocked economy like one found in the 1930s because each country/ region acted with a focus on the international cooperation. It could be said that the WTO system continued to fulfill the function to prevent countries/ regions from movement toward the introduction of protectionism.

In addition, it was confirmed that the member countries/ regions made significant progress in achieving the target to realize "the free and open trade and investment" and made substantial contribution to the promotion of the free trade system in Asia Pacific Region through the evaluation of accomplishment of the Bogor Goal in the 2010 APEC meeting hosted by Japan.

(2) Measures aiming at preventing the protectionism in WTO

Director General of World Trade Organization (WTO) has issued the annual report³⁵ on the summary of trends in the international trading environment since 2009. The 2010 edition was prepared on measures from November 2009 to middle of October 2010.

According to the report 2010, new trade promotion measures were added and trade control measures were decreased to be introduced. Meanwhile, newly introduced trade control measures affected 1.2% of the worldwide exports during the period. The increase of the percentage was specially pointed out compared with 1.0% of the previous period. However, the said report appreciated the continued efforts made by the governments to resist against the protectionist pressure and prevent the implementation of new trade control measures.

The report indicated the following three points³⁶ as potential risk that WTO member countries had to

³⁵ "WTO Overview of Development in the International Trading Environment"

³⁶ The similar concern was pointed out in a report jointly prepared by WTO, OECD and UNCTAD on trade and investment measures in the G20 member countries; "Report on G20 Trade and Investment Measures"

be cautious:

(i) The protectionist pressure becomes stronger by the increased payments imbalance amid the rising tension to the free trading and investment due to continuous high unemployment rates in most countries. The trade control will not solve the problem and contrarily it may result to affect the employment and growth.

(ii) Since the end of 2008, restrictive and distortionary measures have been taken as countermeasures against the world economic crisis. Currently merely 15% of these measures have been removed and there is fear to build up these measures.

(iii) There is a task to manage the impact on the trading and investment caused by countermeasures taken against the world economic crisis. And the way out strategy to remove the measures should be transparent and accountable, and it should not be made an excuse of discrimination against foreign traders and investors.

In addition, the said report pointed out the needs to keep an eye on the measures with active involvement and further transparency of the member countries to functionalize smooth multidirectional trading systems

(Refer to activities of WTO focusing on Chapter 5, Section 2, 3. World Trade Organization as multidirectional free trade system - the 3 roles and problems in the future).

(3) Measures aiming at construction of strategic foreign economic relations in APEC

Since the inauguration in 1989, the member countries/ regions³⁷ have made various efforts to further strengthen the multidirectional trade systems. With declaration of “realizing free and open trade and investment before 2010 in the advanced countries/regions and before 2020 in the developing countries/ regions” in the “Bogor Goal³⁸” adopted in 1994 aiming at liberalization and facilitation of trade and investment, the member countries/ regions have promoted the regional economic unification.

With these efforts, mutual dependency of economy within the Asia-Pacific Region has increasingly deepened and it has been an engine to drive the world economic growth until now. The APEC meeting presided by Japan in 2010 was a milestone for the Bogor Goal. Therefore, tasks of the 2010 APEC in Japan were to evaluate attainment of the Bogor Goal and delineate an outlook of the Asia-Pacific Region after 2011. Before the Summit Meeting, 17 meetings were held to formulate the Yokohama vision as a future vision of the Asia-Pacific Region after 2010.

In the Summit Meeting held in Yokohama on November 13 and 14 in the same year, the “Yokohama Vision”, centering on the regional economic unification, growth strategy and human security was adopted after the evaluation of Bogor Goal attainment had been done. In the Yokohama Vision, it was agreed that APEC would aim at a closer and highly developed economic unification (close community), strong community to accomplish a high quality growth (strong community) and community environ where economic activities can be conducted under safe and untroubled conditions (safe community)

As for the Bogor Goal, it was affirmed and commonly recognized that 13 member countries/

(Mid-May to Mid-October 2010).

³⁷ Presently 21 countries/ regions participate.

³⁸ This is adopted at the Summit Meeting held in Bogor, Indonesia in 1994.

regions³⁹, which were subject to the evaluation in 2010, made remarkable progress in this process of accomplishment. On the other hand, it was recognized that tasks that needed further work (custom duty on some products, services and investment) remained undone and APEC as a whole should further promote liberalization and facilitation of the trade and investment.

As to the regional economic unification, tactics to realize the Asia-Pacific Free-Trade Zone were discussed and it was agreed that a comprehensive free trade agreement could be sought through the expansion of broad-area economic partnership such as ASEAN + 3, ASEAN + 6 and TPP. For this purpose, it was confirmed that APEC would play a role of incubator to aim at realization of the Free Trade Area of Asia-Pacific (FTAAP) and should make a substantial contribution. Additionally, recognition was shared that promotion of sectoral initiatives such as investment, services and facilitation of international supply chain by APEC would finally produce a result of FTAAP. Furthermore, “Supply Chain Connectivity Action plan” aiming at strengthening connection of international supply chain was adopted. The said plan set forth a numeric target to improve 10% of capacity of the international supply chain by 2015 from the viewpoints of time, cost and assuredness, and it also includes actions to improve 8 problems on strengthening the connection of international supply chain such as shortage in transport infrastructure and inefficient custom clearance. In addition, against the protectionist economic policies taken by countries in 2010, it was agreed that the ‘stand still’ commitment made in 2008 was extended to the end of 2013. The commitment declared that “In the continued efforts to prevent the protectionism, we refrain from implementation of measures inconsistent to the WTO in every sector including establishment of new barriers against investment and trade of goods and services, imposing new export restriction, or export stimulus measures”.

As for the growth strategy, based on the facts that the Asia-Pacific Region has been drastically changed and serious problems as well as new opportunity have emerged, it was recognized that conventional types of growth were unable to achieve and enhancement of “quality of growth” was needed. A long term and comprehensive growth strategy aiming at accomplishment of 5 targets including “balanced growth”, “evenly distributed growth”, “sustainable growth”, “innovative growth” and “safe growth” was discussed first time in APEC and “Growth Strategy of APEC Summit” was formulated.

As for the human security, to ensure the security and safety which form the groundwork of the economic activities, the human security was discussed and importance of efforts made in the fields such as food security, countermeasures against infectious diseases, anti-terror measures, preparation for disaster, prevention from rotting, ensuring transparency was confirmed.

Since having been established, APEC has accomplished so many and has developed into a leading economic forum in the world most dynamic and opened Asia-Pacific Region. All member countries/regions of APEC have aimed at the accomplishment of the Bogor Goal for the past 15 years through the work on liberalization and facilitation of trade and investment. History of evolution of APEC shows the long succession of individual and joint efforts for the Bogor Goal.

(4) Measures aiming at prevention of emerging protectionism in the G20

³⁹ In addition to the five advanced economies of Japan, United States of America, Canada and New Zealand, the eight developing economies of Singapore, Chile, Hong Kong China, Peru, Mexico, Korea, Malaysia and Chinese Taipei voluntarily participated in the evaluation.

The gaps in economic growth between the advanced and emerging economies have become increasingly pronounced and coordination of interests between countries has grown more and more complicated. G20 has recognized importance of an international cooperation system to prevent protectionism and promote the free trade and it has agreed⁴⁰ that “every type of protectionism should be denied”.

In this situation, the leaders of the countries/regions agreed at the G20 Summit Meeting held in Toronto in June 2010 to extend the stand still commitment until 2013. The commitment stated that we would not heighten any barrier against investment or goods and services trade or would not create any new barriers; would not impose new export restriction; or would not take any measure inconsistent to the WTO to stimulate export. Additionally, at the Seoul Summit Meeting (November 2010), the said commitment was reconfirmed and it was agreed that “any export restriction and protectionist measures inconsistent to WTO to stimulate export, which might be implemented already, would be corrected.

However, as the domestic economic recovery and job security are the first priorities for each country/region, there is uncertainty in the future whether or not the efforts aiming at the protectionism prevention make progress under the international coordination.

In the course of recovery from the financial crisis, overwhelming superiority of United States of America has declined; on the other hand, presence of the emerging economies is increasingly heightened and cooperation basis between the advanced economies centering United States of America as before has swayed. With complicated interests of each country, strengthening of the multidirectional trade based on the WTO rules is indispensable to aim at further promotion of the free trade. At the same time, the foreign policy has the repercussion effect for the domestic policy by aiming at developing the open trade system. The countries/regions face a situation to continue to deal with a high level decision making that how they coordinate the multilateral liberalization with their domestic targets such as economic recovery and job security.

(5) Movement aiming at construction of a strategic foreign economic relationship surrounding Free Trade Agreement (FTA)/ Economic Partnership Agreement (EPA)

Since the economic crisis triggered by the Lehman shock in September 2008, political pressure to demand introduction of the protectionist measures has been heightened⁴¹ in countries/ regions seemed to support domestic industry and secure the employment. It was concerned that if some countries adopted the protectionism defeated by the domestic pressure, it caused a chain reaction of following response or reprisal move and the protectionism was distributed worldwide affecting the world trade and economy. The world trade decreased 12.2% in 2009 affected by the economic recession.

However, according to the report from WTO on April 7, 2011, the world trade increased 14.5% in 2010 and it is estimated to increase 6.5% in 2011. Additionally, several editions of WTO report on nation's trade policies (refer to Chapter 5, Section 2, 3. (1) “Surveillance on nations' traded policies”) recognized that countries/ regions were standing against the protectionist pressure. This demonstrates that WTO as a multidirectional trade system represses protectionism and effectively maintains free

⁴⁰ In G20 Pittsburgh Summit (September, 2009), the Summit Declaration of “G20 framework for strong, sustainable and balanced growth”, it states, “for the promotion of the world prosperity and sustainable growth, we promote further balanced current-account, support open and free trade and investment and actively deny the protectionist measures.

⁴¹ Refer to White Paper on International Economy and Trade, 2009 edition, Chapter 2, Section 3.

trade system.

While these efforts have been made to maintain the multidirectional free trade system, recently, number of concluded FTA/EPA has been increasing. Examining the reported cases to WTO, merely 27 cases of the regional trade agreement (FTA/EPA, customs union, etc.) in 1990 have been rapidly increasing to 474 cases as of July 31, 2010. There may be many FTA/EPAs without being reported to WTO.

The FTA/EPA stipulate preferred trade conditions between countries/regions and it discriminates against the non-contracting countries (the third countries). It provides incentive to non-contracting countries to contract FTA/EPA with the contracted countries. Thus, the FTA/EPA have domino effect to trigger other FTA/EPA and are effective to broaden the free trade agreement networks. Under the WTO system with the principle of most-favored nation treatment, the FTA/EPA are exceptional positions as a rule of international economy, but it is expected to finally contribute the liberalization and facilitation of trade and investment worldwide.

Recently, addition to the increased number, a trend of active efforts can be found aiming at contracting high quality agreement and broad regional economic partnership. The higher quality agreement with further liberalization and facilitation of trade and investment between contracting countries, and the broad regional economic partnership with customs duty reduction merits and common investment rules in the region may provide greater merits.

In these situations, Japan's efforts for the FTA/EPA have been delayed. Japan has concluded the FTA/EPA with 10 countries and one region (additionally EPAs with two countries (India and Peru) was signed but suspended to implement) (FTA with India will be effective on August 1, 2011). But Japan's covering ratio of signed and effected FTA/EPAs merely account for 17.6% of the trade compared with 38.0% of United States of America, 35.8% of Korea and 21.5% of China. For this reason, if Japan's trade and investment environment becomes subordinate to other countries, the location-based export competitiveness are diminished, then the future employment opportunity may be lost. Overcoming these situations, and in order to maintain Japan's sustainable growth, economic relationship should be deepened with Asian countries where growth as markets are expected, and also with European and American countries and resource rich countries for acquisition of the growth. Besides, reconstruction of the economic foundation for Japan's growth and development are needed for the future. Recognizing the situation, government of Japan adopted a "Basic policy on comprehensive economic partnership" at the Cabinet meeting on November 9, 2010. In the "basic policy", the government declared its strong will to open the nation. It said, "taking a major step forward from the conventional concept, higher level economic partnership compared with the world trends will be promoted with major trading countries worldwide". At the same time, the government decided to promote the drastic precedential domestic reformation to strengthen the competitiveness necessary for economic partnership such as, agriculture.

Responding to the East Japan Great Earthquake Disaster, a "Guideline to promote policy" was adopted at the Cabinet meeting on May 17. Matters on FTA/EPA were decided for discussion at the "Cabinet meeting on FTAAP/EPA" taking the state of mind of farmers and fishermen affected by the disaster, development of international negotiation and concerns on hollowing out of industry into consideration. At the same time, basic concept of the "basic policy" was confirmed for maintenance. Under the expanding movement aiming at conclusion of the FTA/EPA, Japan is required to address the

prompt and strategic promotion of the economic partnership ideals (details on Japan's efforts including significance of EPA and formulation of the basic policy will be discussed in Chapter 5, Section 2, 1. "Active promotion of FTA/EPA, and regional economic unification").

Section 4 East Japan Great Earthquake Disaster:

The World Economy, Stabilization efforts by Coordination of Nations

1. The world economy appeared an unaffected by the earthquake disaster

It is not so clear how the East Japan Great Earthquake Disaster affects the world macro economy at the present stage. According to the published summary of minutes of a meeting of the US Federal Open Market Committee (FOMC) on March 15, which said, “for instance, meaning of impact caused by the Japan’s tragedy on the world supply chain has not yet been clear”. This is a typical viewpoint of the economic community.

On the other hand, examining some of the indexes over a period before and after March 11, it has been found that most of the indices remained calm due to coordinated intervention by G7 on March 18 and a consensus within the major countries of the world to mitigate the impact caused by the earthquake disaster. Prices of resources including crude oil and iron ore did not change clearly before and after the earthquake disaster. Markets such as grain and stock exchanges in major countries clearly shifted downward after the earthquake disaster, but recovered to the level existing before the disaster at the beginning of April.

After April, while Anglo-Saxon nations and Japan continued the monetary easing policy, People’s Bank of China and European Central Bank increased their interest rates. With the expectation of a strong US economy in future, the course seemed to be corrected in the direction to overcome the inflation spreading not only in the emerging economies but also in Europe. As a result, nominal exchange rate of Japanese yen, which drastically increased after the earthquake disaster, became stable at around ¥84 afterward. It can be said that generally stable world macro economy has worked in favor of Japan in its efforts for restoration from the earthquake disaster.

In the section below, we discuss the movement of (i) exchange rates, (ii) stock prices and (iii) commodity prices in major countries during the period from March 11, the day of earthquake occurred, to April 30.

Meanwhile, there were movements in markets like the United States of America during this period for reasons other than the earthquake impact.

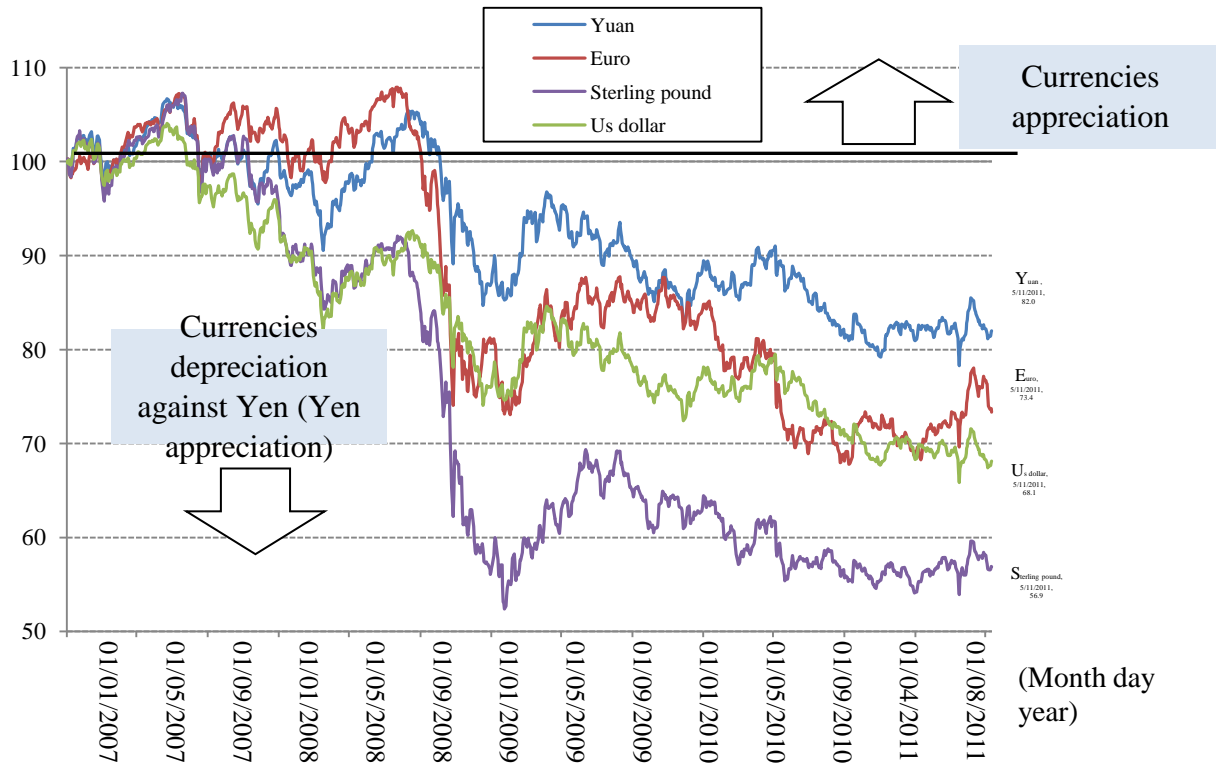
In USA, changes were detected in the following sectors:

- Movement of economic indices (unemployment rate, housing market and business survey index, etc.);
 - Announcement⁴² of Bernanke, the Chairman of Federal Reserve Bank (FRB), to maintain large-scale monetary easing policy.
- In Euro zone;
- Restructuring of Greece’s debt and concern for Portugal’s financial crisis;
 - Raising interest-rate for the first time after the monetary crisis;

⁴² Bernanke, Chairman of Federal Reserve Bank clearly confirmed that the funds supply program (also generally known as Quantitative Easing (QE 2)) by purchasing US\$600 billion long term US bonds continued from November 2010 would be terminated at the end of June as initially decided; however, odds increased to maintain the exceptionally low interest policy for long period; the balance sheet of FRB would be maintained at current level after July by reinvesting funds from MBS redemption of maturity and others to the medium and long term US bonds; and the stance to maintain the current monetary easing policy as declared at the press conference after the Federal Open Market Committee (FOMC) meeting on April 28, 2011.

- Market expectations for additional raising of interest-rate and the stance of European Central Bank making the time of the raise unclear. It can be clearly said that these factors have a major impact on the movement of the exchange rates, stock prices and commodity prices worldwide.

Figure 1-4-1-1 Exchange rates of major currencies against Yen



Sources: Reuters 3000 Aira

(1) Movement of exchange

<Long term trend>

The yen/ dollar exchange has experienced appreciation of the yen against US dollar through the year of 2010. Entering 2011, appreciation of the yen was advanced by the earthquake disaster⁴³ on March 11 and the yen rose to record high of ¥76. However, the G7's coordinated intervention prevented yen from further rise. The yen was once weakening compared with the prices existing before and after the earthquake disaster. Then again it returned to the level existing before the earthquake disaster. In the dollar/Euro exchange market, Euro appreciated against Dollar in 2011 (Figure 1-4-1-5). Chinese Yuan remained at a certain level from the second half of 2008, but then, it began to appreciate against the Dollar after People's Bank of China announced the flexible exchange rate of Yuan on June 20, 2010 (Figure 1-4-1-3).

⁴³ It was pointed out that the reasons for the rise in yen were that the yen was originally recognized to be a safe asset, and that the domestic companies' demand for funds in yen was accelerated by the earthquake disaster and that they sold their overseas assets (dollar sales) and purchased the yen. However, the short-term capital balance did not rise in the balance of payments statistics in March. Therefore, it is thought that the fact is yen bought by non-skilled persons who expected the rise in yen by the domestic companies' real demand for the yen rather than the actual demand.

Meanwhile, many countries changed their attitude on monetary policies from easing to tightening to prevent inflation and overheating of the economy in the worldwide economic recovery process after spring of 2010. These monetary policies in many countries continued after the earthquake disaster. In Europe, the interest-rates were raised ahead of other advanced economies for the first time since the monetary crisis. In the United States of America, FRB clearly confirmed termination of its additional monetary easing policy at the end of June. Additionally, the raising of interest-rates was accelerated in China and Asian emerging economies. Consequently, the world economic unrest was calmed down and the escalation of high value of yen after the earthquake disaster was mitigated. In addition, stable crude oil prices derived from the monetary tightening policy enabled Japan to avoid the worsening of trade conditions.

< Movement before and after the earthquake disaster >

In the section below, we discuss the movement of the Yen, Yuan, Won and Euro against US dollar.

(1) Japanese Yen

After the earthquake disaster on March 11, 2011, Yen suddenly rose against the US dollar and Euro and attained the level of ¥78.35 against the US dollar on March 17, which was the highest value exceeding ¥79.75 in April 1995. On the same day, Yen also rose to a value of ¥109.33 against the Euro. The situation pushed the value of Yen to a prominently high level (Figure 1-4-1-2). It was pointed out that the Yen value rose due to buying Yen to avoid risk factors like steep fall in share prices caused by the earthquake disaster, unstable Middle East situation and expectation⁴⁴ that Japanese insurance companies, being institutional investors, would return their overseas assets to Japan to prepare for the payment of insurance claims related to the earthquake disaster.

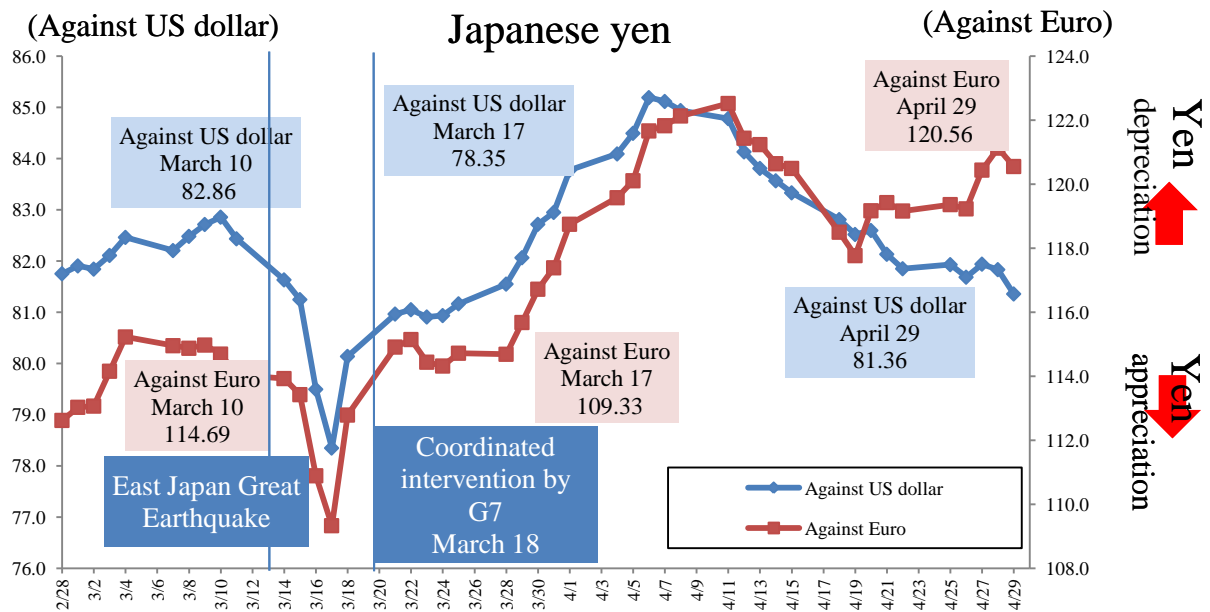
However, sudden rise in Yen value was checked and the exchange rate of Yen subsequently calmed down, and remained at a level around ¥84 against the US dollar. This was due to coordinated intervention on March 18, 2011 by G7 for the first time in ten and a half years⁴⁵. This was done by tightening the monetary trends aiming at calming down inflation, and filling the gaps in interest rates between the United States and Japan, and especially lessen the Yen selling / Dollar buying pressure by raising the interest rate. The Yen selling / Dollar buying pressure was caused by FRB's decision to raise the interest rate backed by relatively healthy economic indices in the United States of America.

Afterward, the high yen pressure was considered weakened by gaps in monetary policy stances in Europe that started raising the interest-rate in April 2011. This was also due to brisk economic activities in USA and delayed economic recovery in Japan. The Yen exchange rate dropped to a lower value and showed steady movement around the ¥84 level against the US dollar. After middle of April, the Yen exchange rate both against US dollar and Euro showed upward trends, but it was lower than the level existing before the earthquake disaster and thus, the sudden rise in Yen value was controlled.

Figure 1-4-1-2 Movement of Japanese yen before and after the earthquake disaster

⁴⁴ However, there was no truth in the fact that Japan's insurance companies sold their overseas assets to prepare for the payment of insurance claims related to the earthquake disaster.

⁴⁵ The previous coordinated intervention by G7 was implemented on September 22, 2000. The background was sudden fall in Euro value caused by monetary factors (active inflow of investment and speculation funds) at the time of introduction of Euro in 1999.



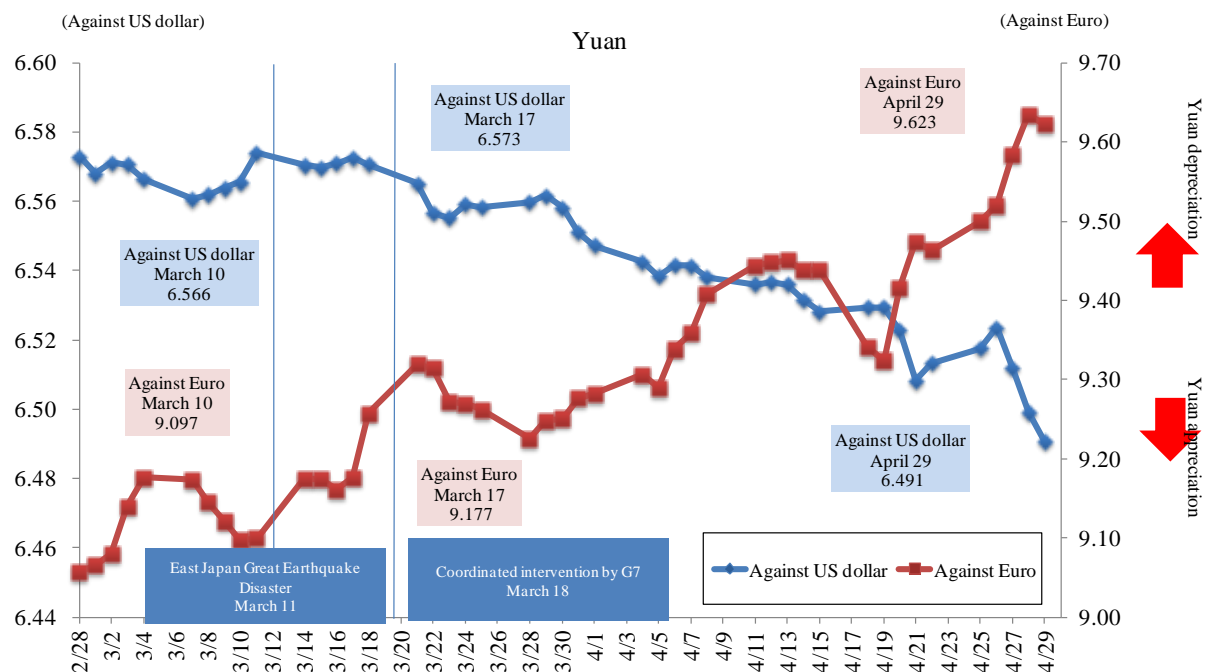
Sources: Reuters

(2) Chinese Yuan

Immediately after the earthquake disaster, the Yuan registered a lower value both against the US dollar and Euro, but this trend changed to higher value of the Yuan after coordinated intervention by G7.

While there were concerns over Greece's debt restructuring plan, a sharp appreciation of the Euro against the Yuan was seen in late April, 2011. This was due to the rising prediction that the interest-rate might be raised further by ECB. On the other hand, a sharp appreciation of the Yuan against US dollar occurred late in April and the exchange rate of Yuan against US dollar exceeded the level of 6.5 Yuan for a US dollar on April 29. This happened for the first time in July 2005 and the exchange value temporally rose up to 6.4892 Yuan for one US dollar (Figure 1-4-1-3). The acceleration of prices in China was behind this situation, which prompted the Chinese authority to control the export prices through moderate appreciation of the Yuan.

Figure 1-4-1-3 Movement of Yuan before and after the earthquake disaster

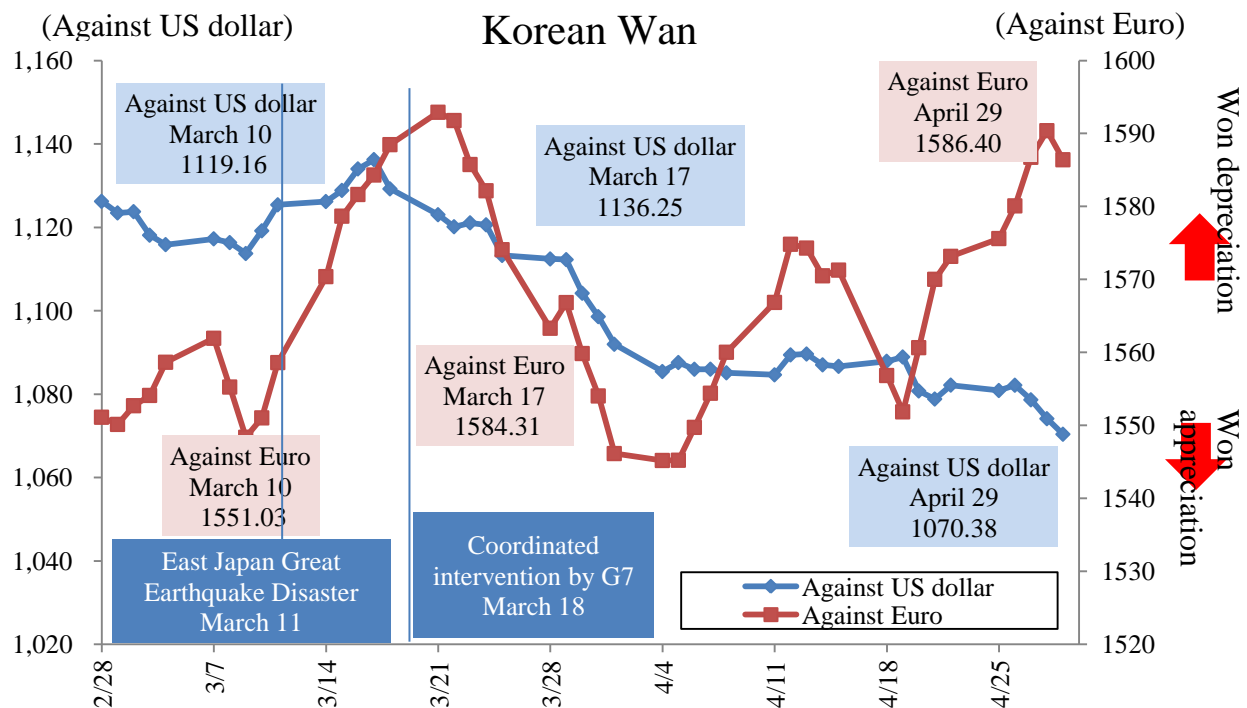


Sources: Reuters 3000Xtra

(3) Korean Won

Immediately after the earthquake disaster, the Won was traded at a lower value against both US dollar and Euro, but the trend changed to higher value of the Won after coordinated intervention by G7 (Figure 1-4-1-4). This was mainly because, the Korean Central Bank raised the policy interest (0.25%) on March 10 responding to the increasing inflation pressure. And this was also because the possibility of appreciation of Won existed. Additionally, a clear possibility of depreciation of US dollar existed due to downgrading of US bond on April 18, instability in the Middle East, and reexamination on safe assets responding to Japan's earthquake disaster and accompanying nuclear plant accident.

Figure 1-4-1-4 Movement of Korean Won before and after the earthquake disaster



Sources: Reuters 3000Xtra

Afterward, the Won continued to be appreciated against the US dollar moderately. On the other hand, starting from the beginning of April, the Won exchange rate fluctuated against the Euro. This was due to the raising of interest-rate by ECB for the first time after the monetary crisis, and there was also a possibility that the interest-rate might be raised again. Besides, there were concerns over debt restructuring in Greece. But the Won depreciated against Euro⁴⁶ in late April due to downgrading of US bond by Standard & Poor's.

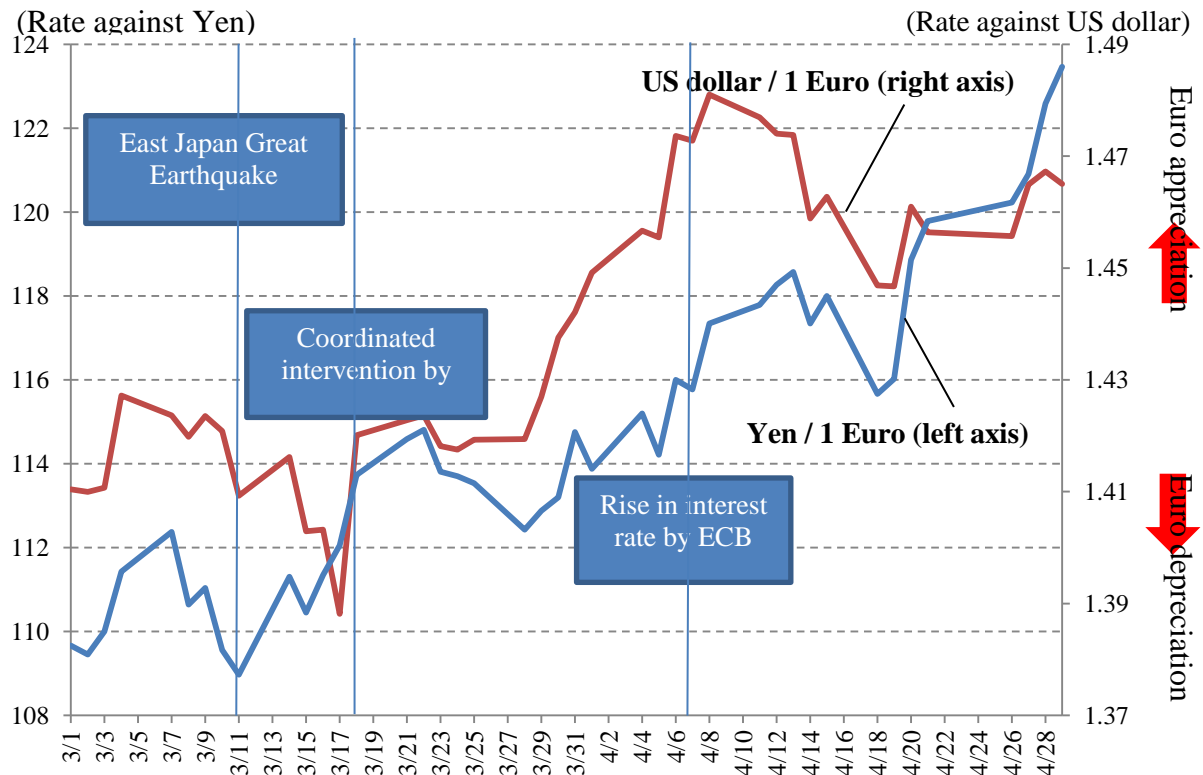
(D) Euro

Before the East Japan Great Earthquake Disaster, the Yen has been depreciating against the Euro due to acceleration of inflation in the Euro zone and the prospect for another raise in interest-rate by ECB. The Yen's appreciation against the Euro progressed temporarily due to earthquake disaster, but Euro returned to the level existing before the earthquake disaster at the end of March due to coordinated intervention by G7 on March 18. On April 7, the Yen depreciated against the Euro due to the raise in interest-rate by ECB for the first time after the monetary crisis. However, due to the possibility of another rise in interest-rate and concerns over restructuring of Greece's debt on April 18 led Euro to depreciate. Afterward, as the expectation for an additional rise in interest-rate increased and FRB

⁴⁶ There is a viewpoint on the background of the depreciation of Won against the Euro. ; A series of movements was reported such as; the increased selling of US dollar due to degradation of US bond; currencies of Asian countries were bought with the funds from the selling the above bond.; The Asian central banks implemented buying of US dollar by intervention to act against the high value of their currencies. The purchased US dollars were exchanged into the Euro or Australian dollar market again as hedge risk. In case of Korea, the central bank exchanged their purchased US dollar into the Euro market and it led to Won's depreciation against the Euro and Won's appreciation against the US dollar.

decided on April 28 to maintain the monetary easing policy, the Euro began to appreciate again (Figure 1-4-1-5).

Figure 1-4-1-5 Movement of Euro before and after the earthquake disaster



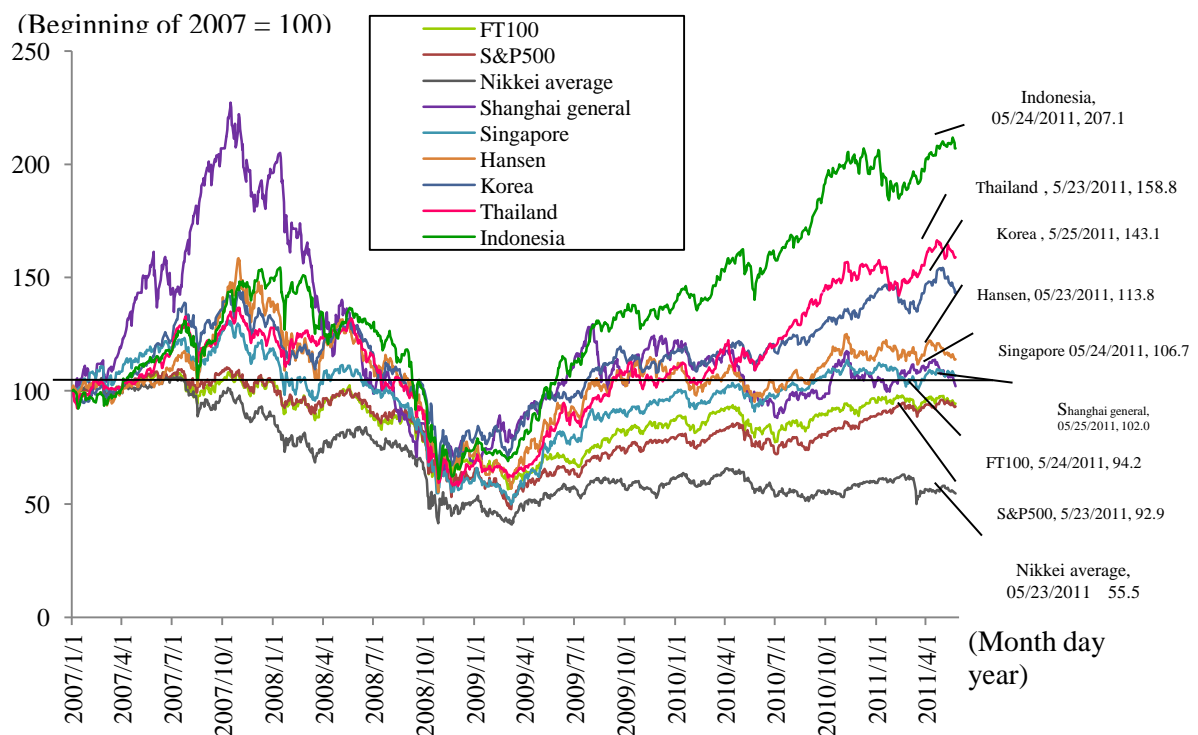
Sources: ECB

(2) Movement of share prices

<Long-term trends>

As for share prices in major countries in the world, it was moderately rising from the bottom at the beginning of spring in 2009. At the end of 2010, United States of America and UK recovered their share prices to the level before the world economic crisis. Japan and Europe recovered to the said level at the beginning of 2011, but the share prices remained stagnant. China and the emerging countries made significant recovery in their share prices compared with those of the advanced economies (Figure 1-4-1-6).

Figure 1-4-1-6 Transition of world major stock price indices



Sources: DATASTREAM; Reuters 3000Xtra

<Movement before and after the earthquake disaster>

In the world's major stock exchange markets, the share prices simultaneously declined immediately after the East Japan Great Earthquake Disaster, but afterward it recovered to the level existing before the earthquake disaster backed by economic recovery in the United States of America and expected economic expansion of the emerging economies. In the middle of April, the share prices had a declining trend due to concerns over performances of US companies in the face of crude oil prices amounting to US\$112 per barrel and depreciation of US bonds in long-term forecast. However, share prices in major countries recovered again on April 20 responding to the positive feelings generated due to positive US corporate financial statements and improvement in sales of resalable housing in the United States in March. In addition, the share prices continued to rise responding to the statement by Bernanke, the Chairman of FRB at a press conference after the FOMC meeting on April 28 to maintain large-scale monetary easing policy.

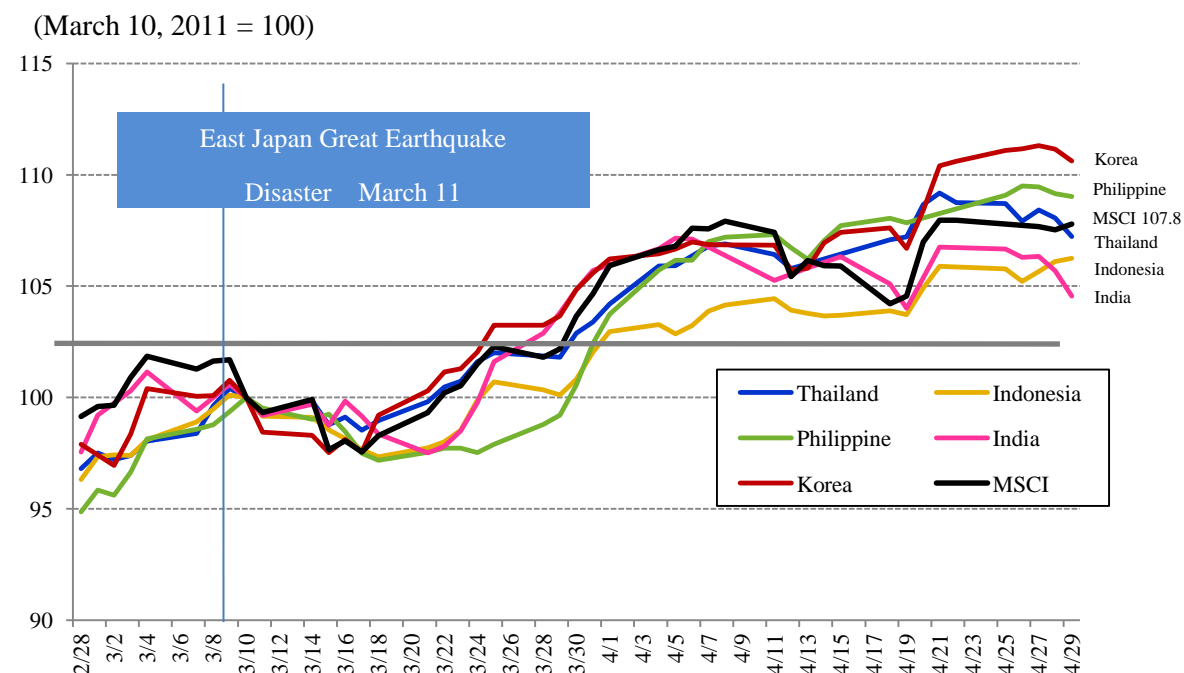
The recovery trends of share prices before and after the earthquake disaster may be classified into two groups.

Group one includes countries such as Korea, India, the Philippines, Thailand and Indonesia where recovery of share prices have rapidly reached the level existing before the earthquake disaster and the prices have continued to rise afterward. The share prices of these countries showed good performance exceeding the MSCI index⁴⁷, and the general world index of share prices, before the earthquake

⁴⁷ The MSCI stands for Morgan Stanley Capital International. MSCI index is a name of the world share price index calculated and published by the company. The database reflects approximately 80% of the world aggregate market price, and it adopts over 2,600 stocks traded in the 23 markets in the

disaster. The share prices recovered rapidly from the influence of earthquake disaster and returned to the level existing before the earthquake disaster within a short period in about 10 days (Figure 1-4-1-7).

Figure 1-4-1-7 Conditions of recovery to stock prices existed before the earthquake disaster (countries recovered fast and the stock prices rose afterward)



Sources: Reuters 3000Xtra

(Day month
year)

Another group includes countries/ regions such as Singapore, Hong Kong, Shanghai, Russia, Brazil, Vietnam, France, Spain and Japan where recovery of the share prices have been slow to reach the level existing before the earthquake disaster and the prices have continued to hover at low levels (Figure 1-4-1-8). In Spain, Hong Kong and France, the share prices once recovered to the levels before the earthquake disaster, then declined again to the levels lower than those existing before the earthquake disaster. In Brazil, Shanghai, Russia and Singapore, the share prices recovered to the levels existing before the earthquake disaster, but grew at sluggish paces⁴⁸. Especially, the share prices remained stagnant⁴⁹ in Vietnam after the earthquake disaster. However, all these prices recovered to the level

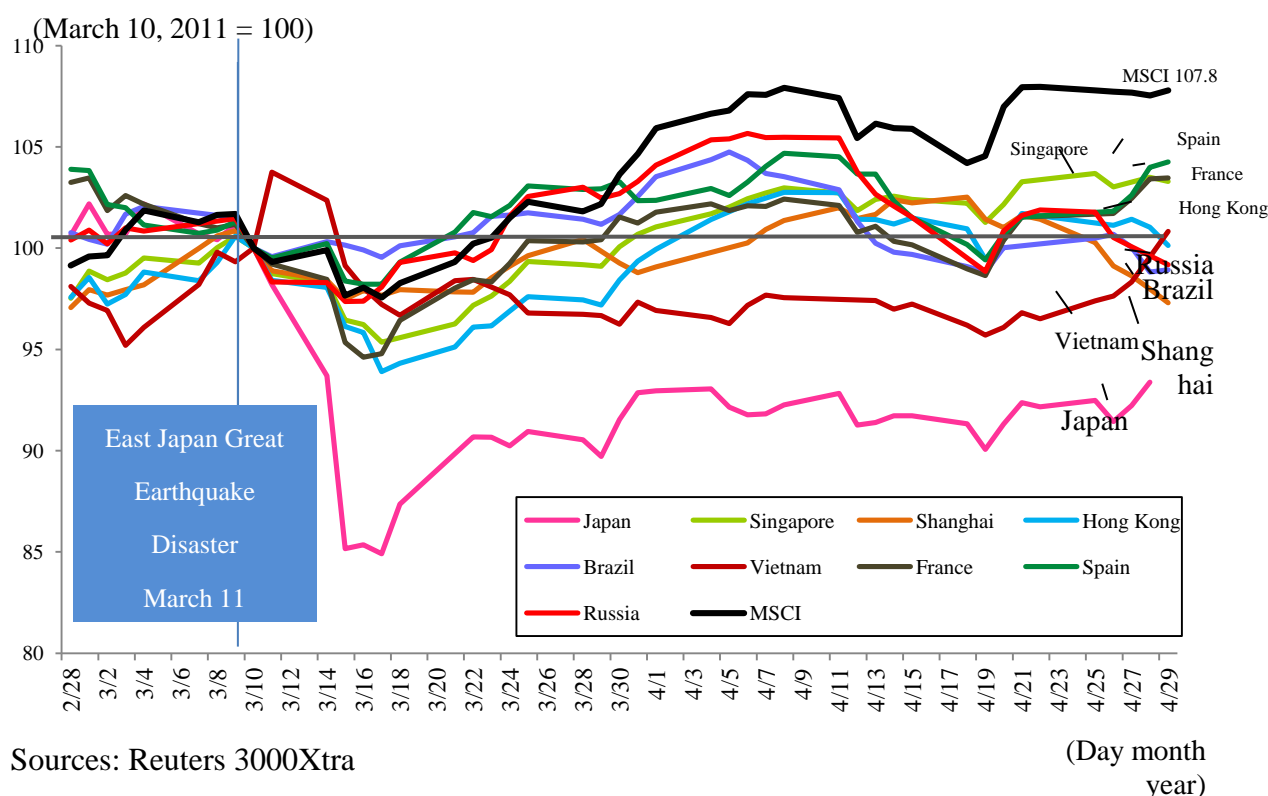
advanced economies and over 1,600 stocks traded in the 28 emerging economies for product items on the index. Therefore, mutual comparison of performances between regions, countries and industries can be done by using the index. Institutional investors in the world widely utilize the index as a benchmark.

⁴⁸ Such decline in the share prices may be caused by factors other than the earthquake disaster. For example, the share price decline in Shanghai was caused by the expectation for strengthened real estate control, concern about additional monetary tightening by the authority and additionally, by the decision of People's Bank of China to make the inflation control policy its first priority. And the share price decline in Brazil was caused by the market concern about foreign investors who might avoid the Brazilian markets due to government's control measure over the high value currency and inflation control measure.

⁴⁹ In Vietnam, the percentage of rise in the consumer prices index continued to largely exceed the

existing before the earthquake disaster at the end of April.

Figure 1-4-1-8 Conditions of recovery to stock prices existed before the earthquake disaster (countries recovered slowly and the stock prices continued to decline)



For reference, the MSCI index declined immediately after the earthquake disaster, but recovered to the share price level existing before the earthquake disaster within about 10 days and rose afterward (Figures 1-4-1-7 and 1-4-1-8). This may confirm that the world economy has behaved calmly to the earthquake disaster and it has acted in a favorable way to restore the damage of the disaster.

(3) Movement of commodities markets

<Long-term trend>

The international commodities markets have generally been in an upward trend in 2010 due to improvement of supply and demand accompanying the economic recovery after the monetary economic crisis, implementation of monetary easing policy and additional monetary easing measures in the United States and impacts from unseasonal weather conditions in Russia and Australia. Entering 2011, the commodities markets continued to maintain the upward trend due to political instability in Middle East and re-ignition of the financial crisis in Europe.

The monetary policy of a major country has tremendous impact on the international commodities markets. When Bernanke, chairman of FRB clearly stated his stance to maintain the large scale monetary easing policy at the press conference after FOMC meeting on April 28, the gold price

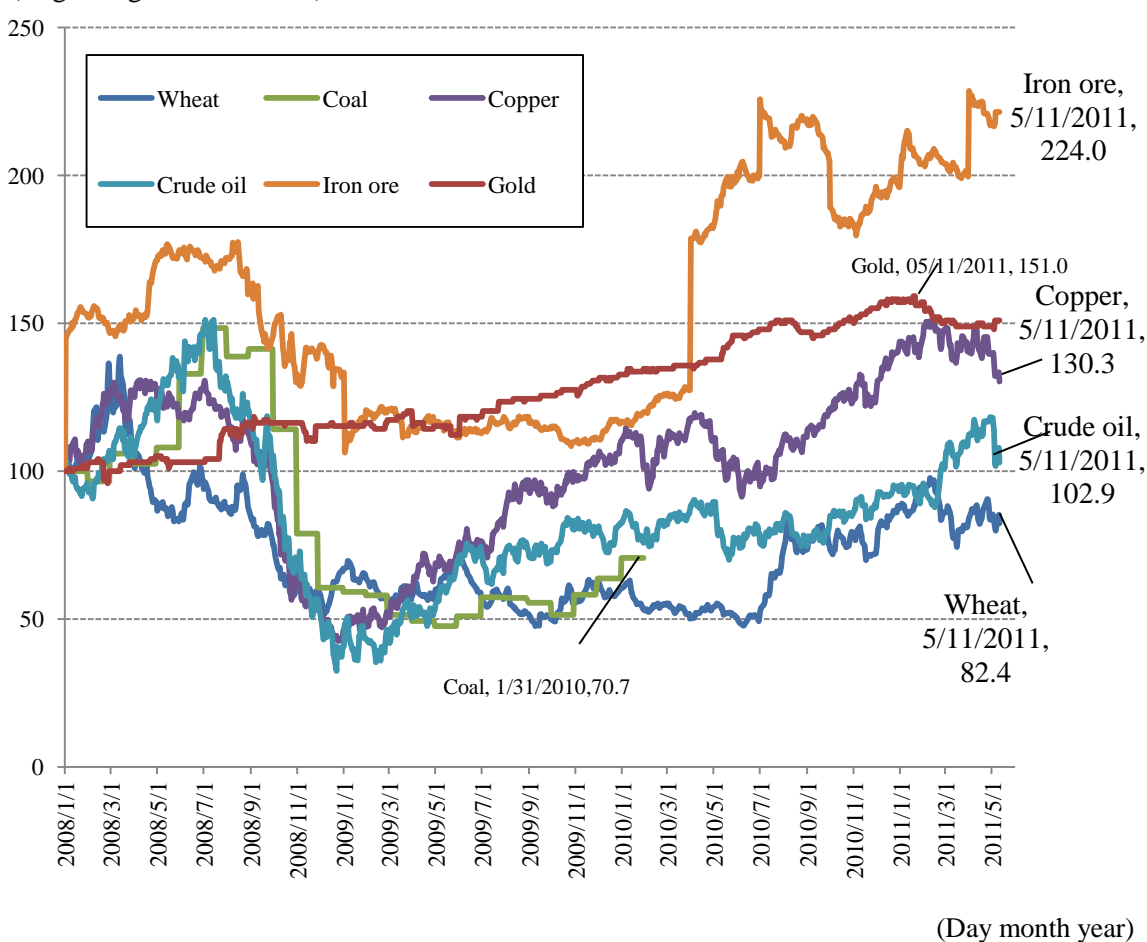
government's target of 7%, and the central Bank aimed at the inflation control by raising the interest-rate. However, the interest-rate raise may increase costs of Vietnamese companies and it leads to a decline in profits. Such concerns caused the share prices decline.

increased to all-time high and the crude oil price was also raised.

In addition, prices of energy and resources plunged drastically in May. The raising of margin rate in the silver futures transaction started on April 29, causing the rise in the US dollar value and the decreased expectation for economic recovery caused by worsened economic index and unemployment ratio in the United States were the reasons for this downside. Violent fluctuation in prices of crude oil has serious impact on business activities and household budget and it is also recognized as a matter of grave concern to the world economy⁵⁰. Majority in the markets think that prices of resources and energy will rise again and therefore, the concerns about the delay in economic recovery continue to exist.

Figure 1-4-1-9 Transition of main commodity prices in international commodity markets

(Beginning of 2008 = 100)



Notes: Crude oil is WTI near term of NYM; Copper is 3 month term of London Metal Exchange

⁵⁰ It was reported that Trichet, Governor of European Central Bank pointed out at the Bank for International Settlement (BIS) and Major Countries Central Bank Governors Meeting held on May 9. that “there is a problem called commodities prices. Especially, recently the volatility has been confirmed on the prices of crude oil and energy, I think it is a serious problem. It has significant impact on rise in worldwide consumer prices index.” (Reuter News: May 9, 2011 “BIS Governors Meeting, expression of concern about volatility in commodities prices = Governor of ECB”).

(LME); Gold is spot commodity of CMX Commodity Exchange.
Sources: DATASTREAM; Reuters 3000Xtra

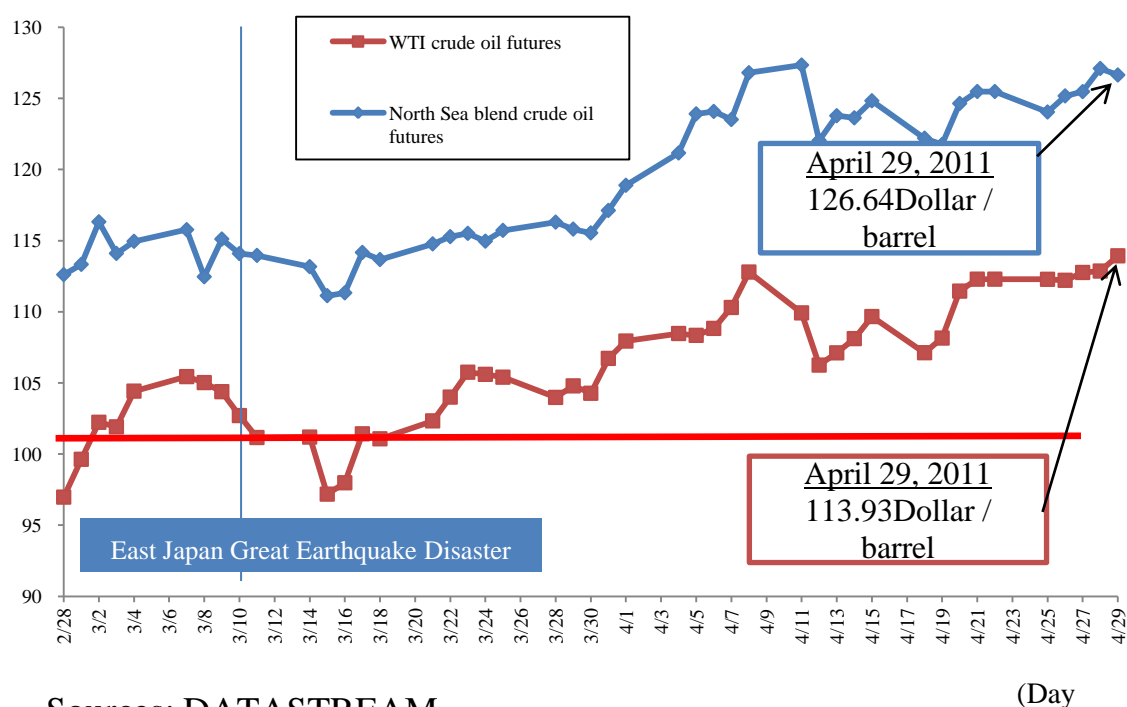
<Movements before and after the earthquake disaster>

(A) Crude oil price

In the crude oil futures markets immediately after the earthquake disaster, the prices declined due to the seriousness of the nuclear plant accident, decrease in demand for crude oil caused by economic stagnation of Japan and slower growth of world economy. However, crude oil price rose again after world's major countries formed a consensus to mitigate the impact of the earthquake disaster through coordinated intervention by G7 on March 18, and the view point that demand for crude oil might additionally increase due to stoppage of the nuclear power generation and increased political and geographic risks caused by the attack on Libya by French, British and US air forces.

In April, the crude oil prices rose moderately with prices of US\$120 for North Sea Brent futures and prices around US\$ 110 for the WTI⁵¹ crude oil futures. And after Bernanke, chairman of FRB stated that FOMC would maintain the current monetary easing policy on April 28, WTI crude oil futures rose in prices to US\$ 113 level due to increased expectation in the markets for continuing funds inflow (Figure 1-4-1-10).

Figure 1-4-1-10 Transition of crude oil prices before and after the earthquake disaster (futures and short term)



Sources: DATASTREAM

Despite the existence of an unpredictable world economy due to uncertain prospects of monetary policies by the United States and Europe, debt problems in Europe, China's stance of further monetary

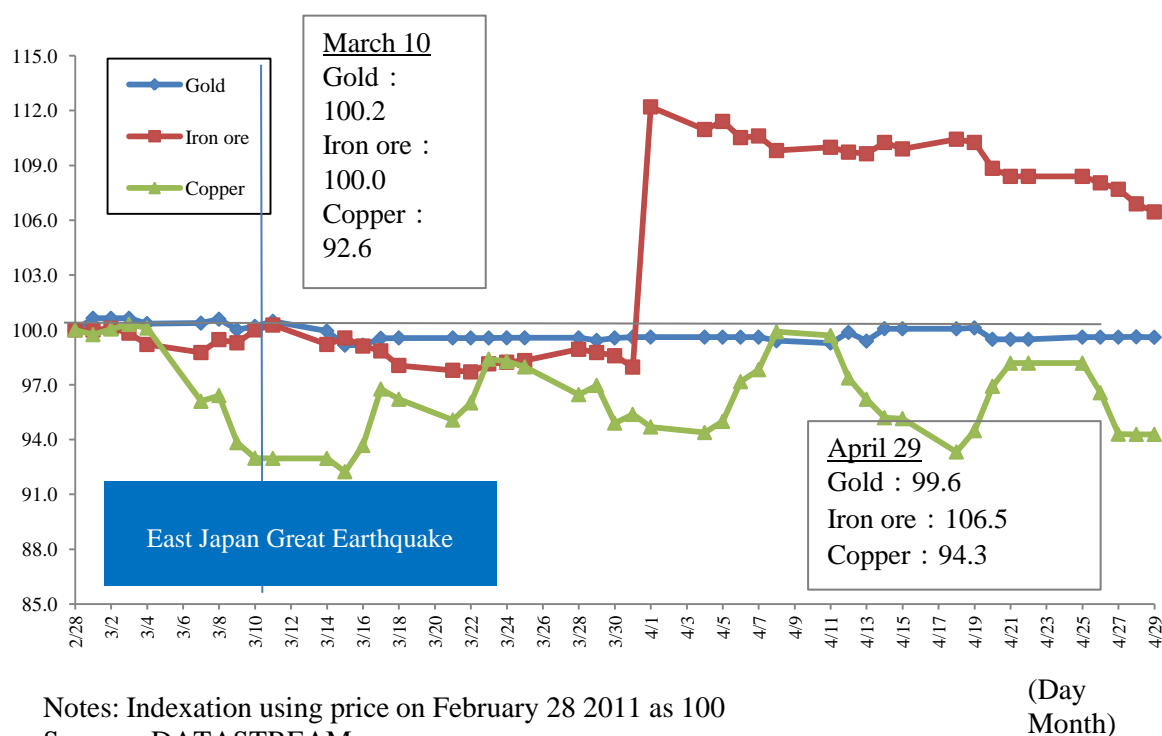
⁵¹ Refer to Chapter 1, Section 2, 1.

tightening, maintenance of worldwide economic expansion⁵² in markets backed by continued concern about tight supply of crude oil caused by strained situation in Middle East and North Africa, recovery of the monetary systems, active economic activities in the emerging economies and confidence in the advanced economies of recovery, and the continued rise of crude oil prices. Consequently, decline in the price of crude oil by the earthquake disaster was balanced out and there was no distinctive difference in the upward trend of the crude oil prices before and after the earthquake disaster.

(B) Prices of resources

International price of gold declined slightly after the earthquake disaster and remained unchanged afterward. After Bernanke, the Chairman of FRB, stated on April 28 that FOMC would maintain the current monetary easing policy, the markets expected continued funds inflow and the gold price rose to US\$1,500 level and further to US\$ 1,530, the highest price in the markets (Figure 1-4-1-11).

Figure 1-4-1-11 Transition of resource prices before and after the earthquake disaster (gold, iron ore and copper)



The price of copper declined even before the earthquake disaster due to concerns about decreasing demand in China. The price once turned around in the next week of the earthquake disaster, but the overall decline trend continued afterward. In April, excessive pessimism about the earthquake disaster receded and increased demand in China was expected, therefore, the price of copper recovered and recorded the highest price following the earthquake disaster and returned to the level existing before the earthquake (February 28) on April 8. After the middle of April, being affected by China's demand for the copper and concerns about the monetary tightening policy, the prices of copper fluctuated and had a downward trend toward the end of April (Figure 1-4-1-11).

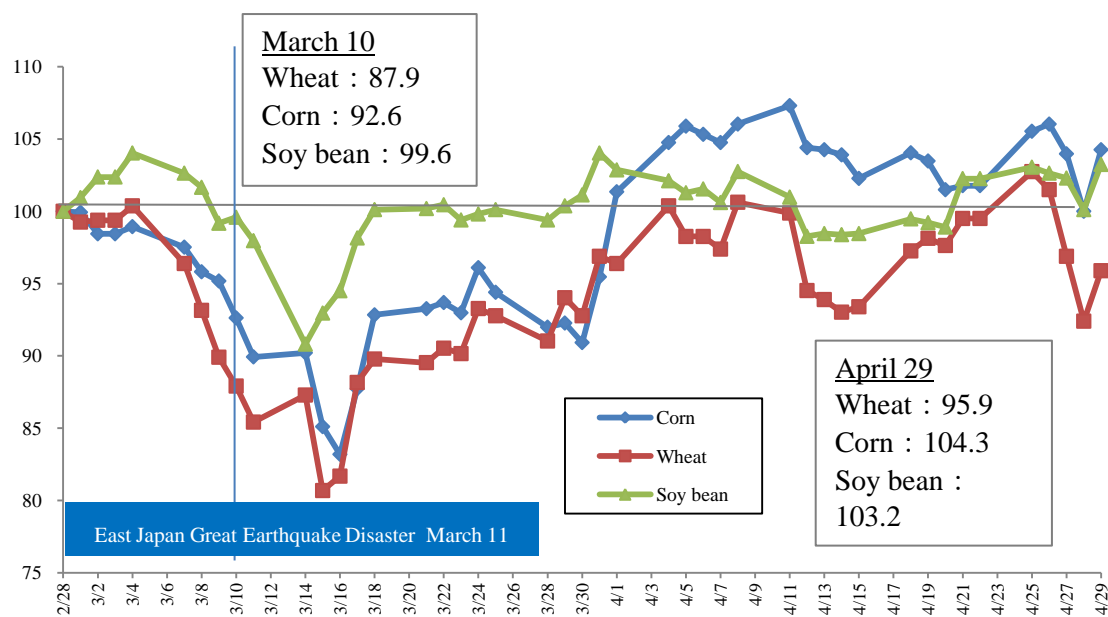
⁵² IMF "World Economic Outlook April 2011"

The price of iron ore slightly fluctuated during a period before and after the earthquake disaster and no obvious changes in the trend were detected. The price revision on April 1 pushed the price higher, but finally it fluctuated moderately with a downward trend under the influence of moderate recovery of the world economy and expected decrease in demand caused by worldwide stagnation in production due to damage of supply chain caused by the earthquake disaster (Figure 1-4-1-11).

(C) Food prices (grain)

Contrary to prices of resources, food prices had a downward trend even before the earthquake disaster. On March 11, 2011, immediately after the earthquake disaster, prices of “soybean” and “wheat” substantially declined and “corn” prices drastically fell at the Chicago Grain Market. The selling order increased because of a forecast that demand for the grain would decrease due to the infrastructure being damaged by the earthquake disaster in Japan, which was one of the most important export destinations for the U.S. grain. However, as major nations of the world reached a consensus to mitigate the impact caused by the earthquake disaster through coordinated intervention by G7 on March 18, the international prices of soybean, wheat and corn rose over the level existing before the earthquake disaster (March 10), and in April, it recovered to the level existing before the earthquake disaster. The prices displayed a downward trend again at the middle of April, but then, it recovered toward the end of April, and it was once converging to the desired level at the end of February. However, the prices fluctuated below the level at the end of February and the situation till May, but the movement of soybean price was relatively stable (Figure 1-4-1-12).

Figure 1-4-1-12 Transition of food prices before and after the earthquake disaster (corn, wheat and soy bean)



Notes: Indexation using price on February 28 2011 as 100
Sources: DATASTREAM

(Day

Chapter 2 Changes in the trade structures of the world and Japan

Chapter 2 provides analysis to verify the economic circumstances in which Japan is placed based on the recent changes in the world economy shown in Chapter 1. Contrary to Chapter 1, which discussed the kinetic changes, Chapter 2 examines the macro structural changes.

Firstly, Section 1 provides the world trading structural changes created over the past 20 years and the impact on the structural changes caused by the world economic crisis triggered by the Lehman shock in September 2008 by tracing the trade relationship between Japan and major countries and unified economies of the world. In addition, it also shows the impact caused by these changes on the production networks called “the world factory” constructed by Japan and East Asian countries/ regions. Secondly, Section 2 provides the overall situation of Mercado Comun del Cone Sur (MERCOSUR) which has been recently increasing its presence. Additionally, the Section provides analysis on the economic and trading relationship focused on Brazil. Finally, Section 3, focusing on Japan, examines the impact caused by the structural changes in the trade of Japan on domestic employment, economic and industrial structures.

Section 1 Transition of world trade surrounding Japan

1. The world economic crisis and changes in the global trade structure

The world trade volume and movement in 2009 was affected by the world economic crisis with the greatest impact after World War II.

In the section below, “six poles” of major players (or beginning to be the major players) in world trade including the unified regional economies such as “NAFTA, the EU, ASEAN, MERCOSUR” and China and Japan are defined as a framework for understanding the trade structure over the past 20 years. Overall changes in the global trade structure over the past 20 years are examined by looking at the trade relationship between the six poles and making time-series comparisons. The impact generated by the world economic crisis as a temporary shock to the global trade structure is examined with the framework.

(1) Changes in the trade relationship of the six poles

(A) Changes in the bilateral/ bi-regional amount of trade (export plus import) and share

In order to overview the changes in trade relationships in the six poles, the amount of trade (export plus import) between the countries/ regions is shown in the Figures (Figures 2-1-1-1, 2-1-1-2 and 2-1-1-3). Shares of the amount of trade between each bilateral/ bi-regional trade which account for the total amount of trade between the six poles are confirmed (Table 2-1-1-4).

Figure 2-1-1-1 Bilateral and regional amount of trade(export + import) (1990)

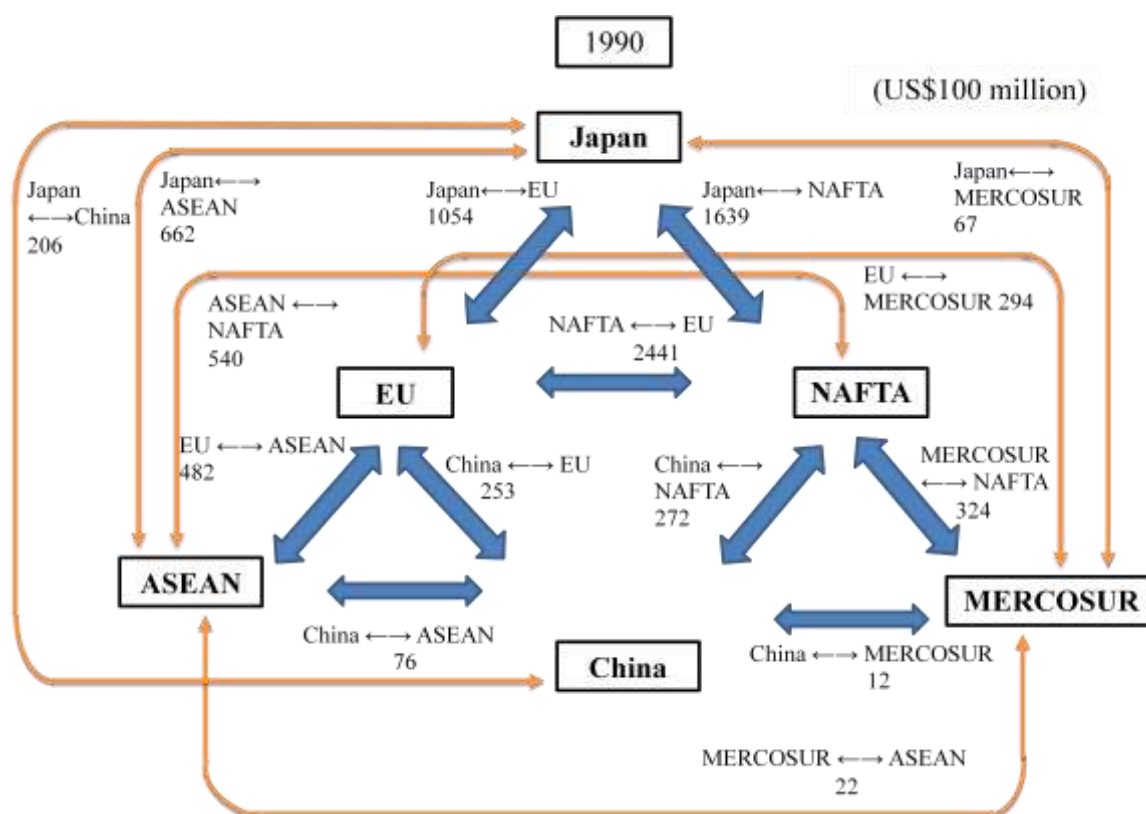


Figure 2-1-1-2 Bilateral and regional amount of trade(export + import) (2000)

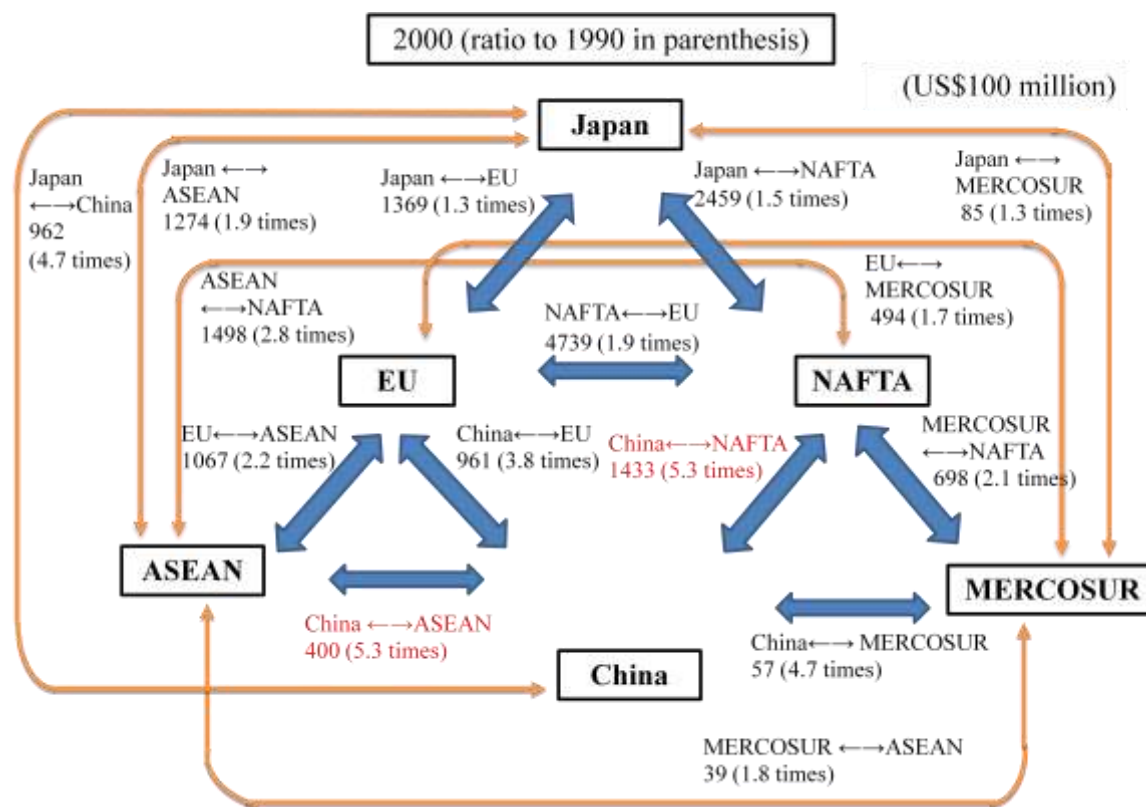
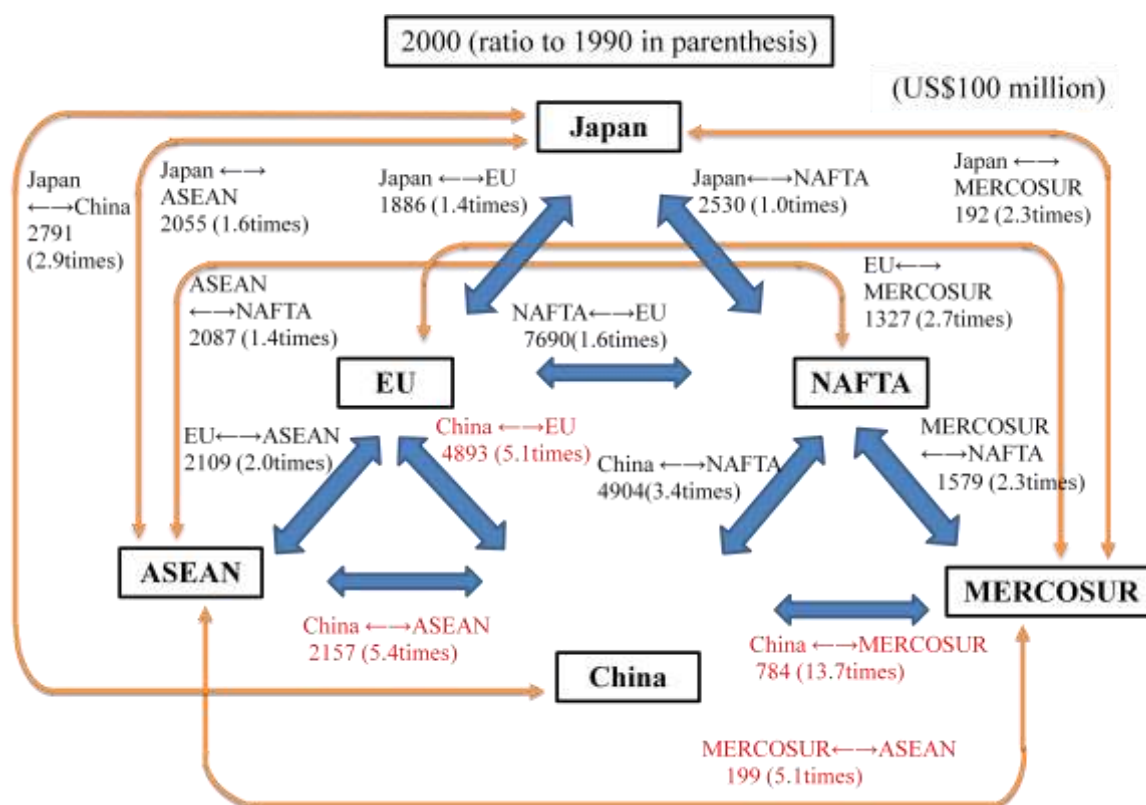


Figure 2-1-1-3 Bilateral and regional amount of trade(export + import) (2008)



Sources: RIETI “RIETI-TID2010”

Table 2-1-1-4 Share of bilateral and regional amount of trade accounting for the total amount of trade among the six poles (from left to right 1990, 2000 and 2009)

Rank	Country/ region	Share	Rank	Country/ region	Share	Rank	Country/ region	Share
1	NAFTA-EU	29.3	1	NAFTA-EU	27.0	1	NAFTA-EU	20.7
2	NAFTA – Japan	19.6	2	NAFTA – Japan	14.0	2	NAFTA – China	13.2
3	EU – Japan	12.6	3	NAFTA-ASEAN	8.5	3	EU – China	13.2
4	Japan-ASEAN	7.9	4	NAFTA-China	8.2	4	Japan-China	7.5
5	NAFTA-ASEAN	6.5	5	EU-Japan	7.8	5	NAFTA-Japan	6.8
6	EU-ASEAN	5.8	6	Japan-ASEAN	7.3	6	China-ASEAN	5.8
7	NAFTA-MERCOSUR	3.9	7	EU-ASEAN	6.1	7	EU-ASEAN	5.7
8	EU-MERCOSUR	3.5	8	Japan-China	5.5	8	NAFTA-ASEAN	5.6
9	NAFTA-China	3.3	9	EU-China	5.5	9	Japan-ASEAN	5.5
10	EU-China	3.0	10	NAFTA-MERCOSUR	4.0	10	EU-Japan	5.1
11	Japan-China	2.5	11	EU-MERCOSUR	2.8	11	NAFTA-MERCOSUR	4.2
12	China-ASEAN	0.9	12	China-ASEAN	2.3	12	EU-MERCOSUR	3.6
13	Japan-MERCOSUR	0.8	13	Japan-MERCOSUR	0.5	13	China-MERCOSUR	2.1
14	MERCOSUR-ASEAN	0.3	14	China-MERCOSUR	0.3	14	MERCOSUR-ASEAN	0.5
15	China-MERCOSUR	0.1	15	MERCOSUR-ASEAN	0.2	15	Japan-MERCOSUR	0.5

Sources: RIETI “RIETI-TID2010”

Examining the characteristics at the time of the 3 surveys, in 1990, trade between the so-called advanced countries/ regions such as NAFTA – EU, NAFTA – Japan, EU – Japan accounted for more than half (61.5%) of the total trade volume. Examining by the sheer volume of trade, marked shares were held by Japan – ASEAN (7.9%), NAFTA – ASEAN (6.5%) and EU – ASEAN (5.8%). The trade structure had a trade relationship led by the advanced countries/ regions such as EU, NAFTA and Japan followed by ASEAN. The largest trade between the emerging economies was China – ASEAN,

but the structural ratio accounting for the total trade was less than 1% (0.9%).

The first and second share (NAFTA – EU (27.0%) and NAFTA – Japan (14.0%)) in 2000 were unchanged in comparison with 1990, but the trade relation involving Japan i.e. EU – Japan and Japan – ASEAN which were the third and fourth places in 1990 were replaced by NAFTA – ASEAN and NAFTA – China in 2000, and the first to fourth places were dominated by NAFTA. Noted increased rates of the amount of trade from 1990 were China – ASEAN (5.3 times), China – NAFTA (5.3 times) and it showed that China's economic growth was beginning to change the world economy and trade structure triggered by China's admission to WTO.

In 2008, the share between NAFTA and the EU drastically declined (20.7%) and the trade relation involving China made a dramatic rise in the ranks. Trade between NAFTA – Japan (6.8%) which was second in ranking was replaced by NAFTA – China (13.2%) in 2008. In the trade relation involving NAFTA, China – ASEAN share (5.8%) was ranked at the top by outreaching the EU (5.7%) and NAFTA (5.6%). Noted increased rates of the amount of trade from 2000 were China – MERCOSUR (13.7 times), China – ASEAN (5.4 times), China – EU (5.1 times) and MERCOSUR – ASEAN (5.1 times). All of those were trade relations involving China or MERCOSUR. It suggests that the amount of trade between China and MERCOSUR drastically increased from 2000 through 2008.

Categorizing the trade relations between the six poles into 3 categories and their changes were examined as follows:

- Advanced – trade by advanced countries

At one point in 1990, trade among advanced countries (NAFTA – EU, NAFTA – Japan and EU – Japan), which dominated the trade with an amount of (61.5%), over one half of the total of that of the six poles, decreased its presence according to the increased economic power in the emerging economies (48.9% in 2000 and 32.6% in 2008).

- Advanced – trade by emerging countries

At one point in 1990, percentage of trade between advanced countries and ASEAN, such as Japan – ASEAN (7.9%) was larger, but in 2008, NAFTA – China (13.2%) and the EU – China (13.2%) increased their weight (Japan – ASEAN declined to 5.5% in 2008). In comparison with NAFTA, the characteristic was large increase, especially in the EU – China (5.1 times) and (NAFTA – China was 3.4 times).

- Emerging – trade by emerging countries / region

ASEAN – China trade attained favorable growth, and MERCOSUR still maintained close relations with NAFTA, but the trade relation between China and ASEAN was also becoming increasingly closer.

(B) Evaluating the increases in the amount of trade

The above mentioned bilateral/ bi-regional amount of trade is revised under the framework of the gravity model. According to the gravity model, the amount of trade is determined by the economic sizes and distance between the two countries/ regions. Specifically, the amount of trade is described by a figure that is derived by dividing the economic sizes of two countries/ regions (generally their GDPs are used) by the square of the distance between the two countries/ regions. As the distance between two countries/ regions cannot be changed during the period of time-series comparison in this paper, the most important factors causing the difference and changes in amount trade of the six poles are

economic growth in these countries/ regions. In other words, expansion in trade relations between countries/ regions can be mostly explained by the economic growth of each country/ region, i.e. it is thought that it can be explained by the production of GDPs in the gravity model. Simply evaluating volume and changes in trade may mean only describing the differences in the economic growth of each country/ region.

Therefore, GDP increase rates (increase in the rate of production of GDP) are compared with the amount of trade increase rates during the same periods.

When these values are calculated, there are two types of values in the relations between the two countries, i.e. one that the amount trade increase rate is higher than the GDP increase rate, and another that the amount trade increase rate is lower than the GDP increase rate. This difference of the “amount of trade increase rate / GDP increase rate” by countries/ regions means that there is a temporal variation of the “sense of existence” between the two countries/ regions, which is held by the two countries/ regions in their relation to world trade and this cannot be explained simply by economic size. Therefore, the “amount of trade increase rate / GDP increase rate” is called the “sense of existence” index, which shows the “sense of existence” of the relations between the two countries/ regions in relation to world trade. The details are examined in the section below (Table 2-1-1-5).

Table 2-1-1-5 GDP scale factor and the amount of trade scale factor among countries/ regions of the six poles (2009 / 1990)

Region		GDP scale factor (A, scale)	Amount of trade scale factor (B, scale)	Presence index (B / A)	Group
China	MERCOSUR	40.4	52.8	1.31	High ranked group
EU	China	29.8	16.7	0.56	
Japan	China	21.4	11.7	0.55	
MERCOSUR	ASEAN	13.2	7.0	0.53	
NAFTA	China	31.3	16.0	0.51	
EU	MERCOSUR	7.4	3.3	0.45	
China	ASEAN	53.2	23.3	0.44	
NAFTA	EU	5.7	2.4	0.42	Low ranked group
NAFTA	MERCOSUR	7.8	3.3	0.42	
Japan	MERCOSUR	5.3	2.1	0.40	
EU	ASEAN	9.7	3.5	0.36	
EU	Japan	3.9	1.3	0.34	
Japan	ASEAN	7.0	2.2	0.32	
NAFTA	ASEAN	10.2	3.1	0.30	
NAFTA	Japan	4.1	1.1	0.27	

Notes: GDP scale is scale of multiplied two countries' GDP.

Sources: IMF “World Economic Outlook October 2010; RIETI “RIETI-TID2010”

When the “sense of existence” indices are compared among countries/ regions in the six poles, the countries/ regions, which have a higher amount of trade increase rate than GDP increase rate, i.e. the

sense of existence is larger compared with trade relations of other two countries/ regions. This trend is represented by “MERCOSUR – China”. On the other hand, the amount of trade increase rate is lower than the GDP increase rate in other 14 trade relationships. The “sense of existence” indices of the above mentioned 15 trade relationships are calculated and arranged in ascending order (Table 2-1-1-5). These can be divided into the upper group of “sense of existence” index (= amount of trade increase rate is relatively higher) and the lower group (= amount of trade increase rate is relatively lower) bordering on the middle place of NAFTA – EU relations. The results are as follows:

○ The upper group: Trade relationships whose trade partner is China or MERCOSUR

○ The lower group: Trade relationships whose trade partner is ASEAN or Japan

China and MERCOSUR have accomplished drastic economic growth and in addition to the increase in economic growth rate, the “sense of existence” index shows that each country/ region of six poles has made efforts to strengthen relations with the country/ region. The background of this theory may be global recognition of the potential growth power in China and MERCOSUR in the future and the movement of each country/ region of six poles under this recognition to strengthen the relations with them. Details of the economic movement of MERCOSUR will be analyzed in the Section 2 of this Chapter.

(2) Conceptual framework to perceive the macro structure of the world trade

Thus, the amount of trade between the six poles was examined at three time periods to macroscopically perceive world trade relationships. It seems that the three poles structure consisting of NAFTA, the EU and Japan until 2000 has been changed to a three poles structure consisting of NAFTA, the EU and China as the rapid growth of China started at the beginning of this century.

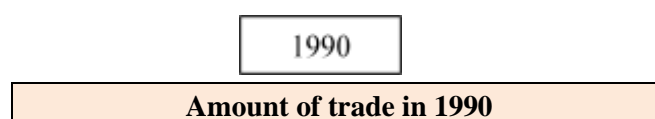
Now, the three poles structure of world trade relationships is drawn with a triangular conceptual chart with the three verticals representing the three poles and the length of the three sides representing the ratio of amount of trade between the two poles. Changes in the global trade structure are perceived by shape variations of the triangle.

(A) Structural changes in trade relationships from 1990 to 2008

The global trade structure in 1990 was the three poles structure with the two main axes of the EU and NAFTA and Japan added as another pole (Figure 2-1-1-6, the blue triangle). But in 2008, it changed into a form that Japan was left behind in the three poles structure of China, NAFTA and the EU by overall economic expansion, especially the overwhelming growth of China (Figure 2-1-1-7, the red triangle)⁵³.

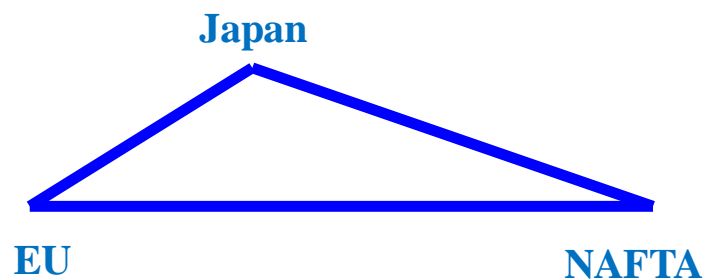
Figure 2-1-1-6 Conceptual chart of trade relationships among the three poles (1990)

(Blue line shows trade relationships in 1990 and red line shows the trade relationship in 2008)



⁵³ The conditions for drawing the triangle are the base < right side + left side>. If the conditions are not satisfied, the triangle cannot be drawn. At the time period of 1990, a triangle of EU-NAFTA-China cannot be drawn and at the time period of 2008, the triangle for EU-NAFUTA-Japan cannot be drawn.

Countries/ region	Amount of trade (US\$100 million)
NAFTA · EU	2,441
Japan · NAFTA	1,639
Japan · EU	1,054
NAFTA · China	272
EU · China	253
Japan · China	206

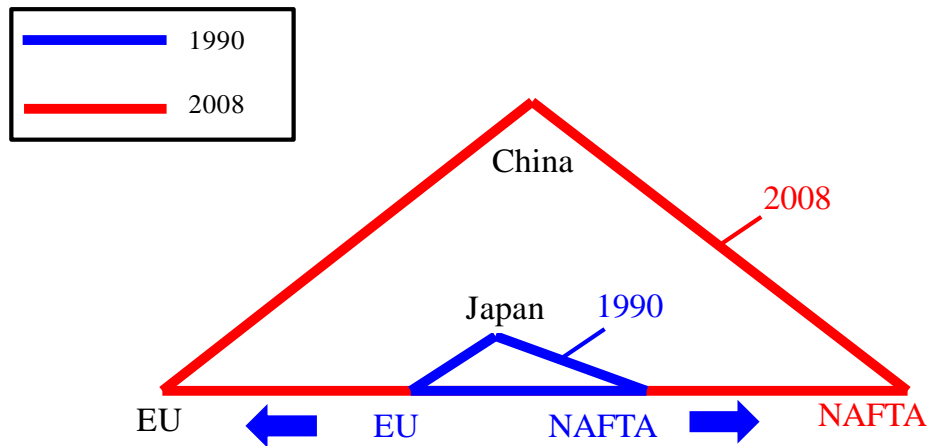


Sources: RIETI “RIETI-TID2010”

Figure 2-1-1-7 Conceptual chart of trade relationships among the three poles (from 1990 to 2008)

From 1990 to 2008

	1990		2008	
	Countries/ regions	Amount (US\$100 million)	Countries/ regions	Amount (US\$100 million)
1	NAFTA · EU	2,441	NAFTA · EU	7,690
2	Japan · NAFTA	1,639	NAFTA · China	4,904
3	Japan · EU	1,054	EU · China	4,893
4	NAFTA · China	272	Japan · China	2,791
5	EU · China	253	Japan · NAFTA	2,530
6	Japan · China	206	Japan · EU	1,886



Notes: The larger the distance between the peaks, the larger the amount of trade

Sources: RIETI "RIETI-TID2010"; World Trade Atlas

(B) Where did the world economic crisis have an impact on?

Secondly, the impact caused by the world economic crisis on world trade relationships is examined by viewing world trade relationships after the world economic crisis. Changes in the amount of trade (amount of export plus import) among the six poles following the world economic crisis are shown in the figures (Figures 2-1-1-8 and 2-1-1-9).

Figure 2-1-1-8 Bilateral and regional amount of trade (exports + imports) (2009)

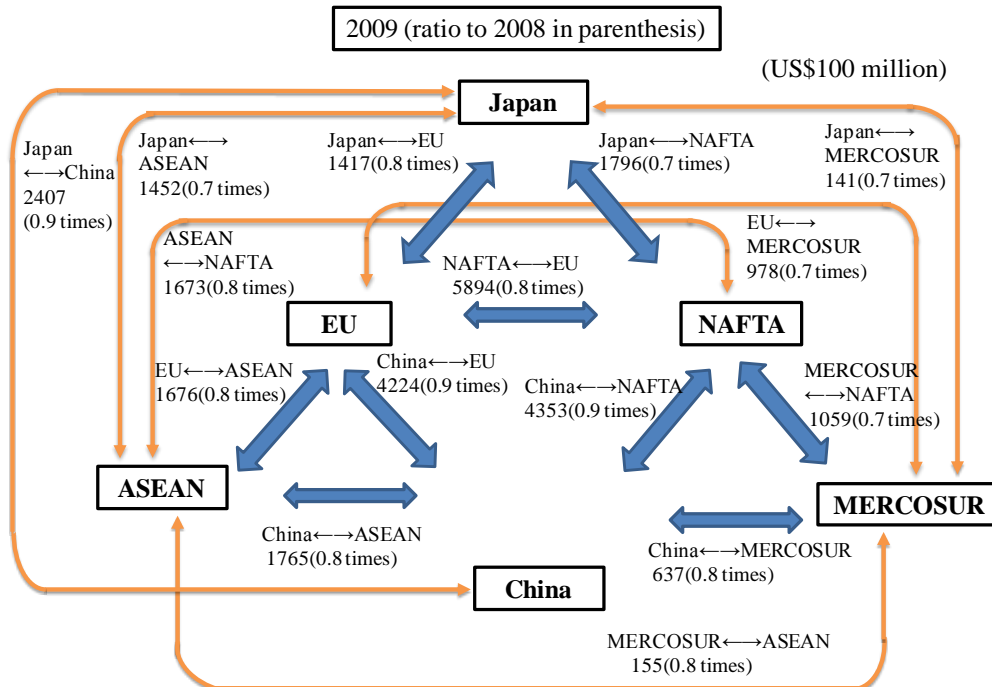
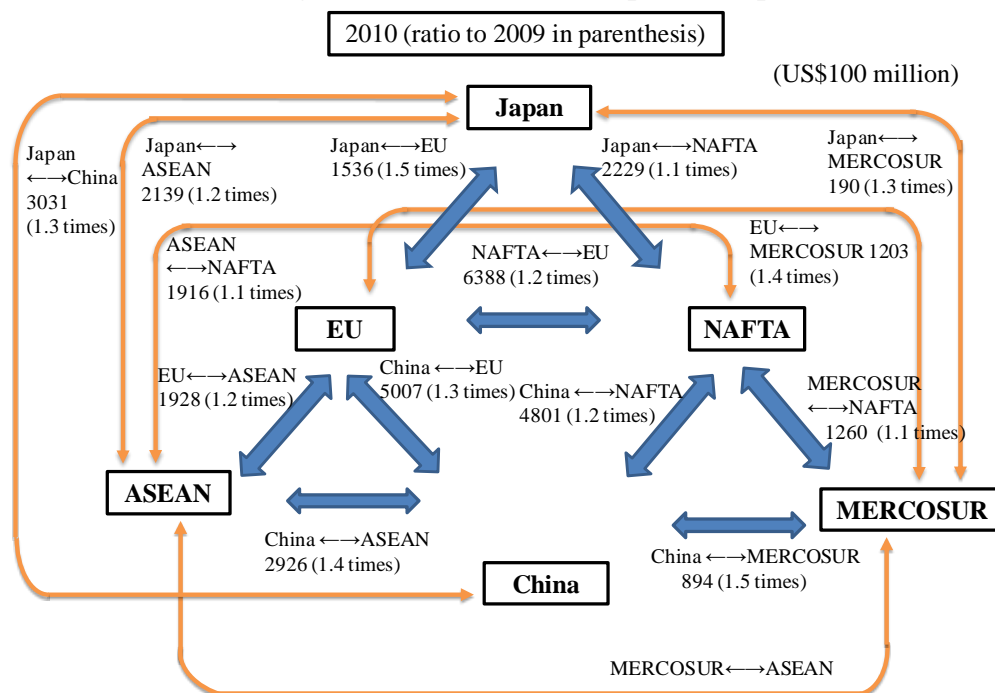


Figure 2-1-1-9 Bilateral and regional amount of trade (exports + imports) (2010)



Notes: Amount of trade between ASEAN and MERCOSUR is not shown due to any data has been published yet.

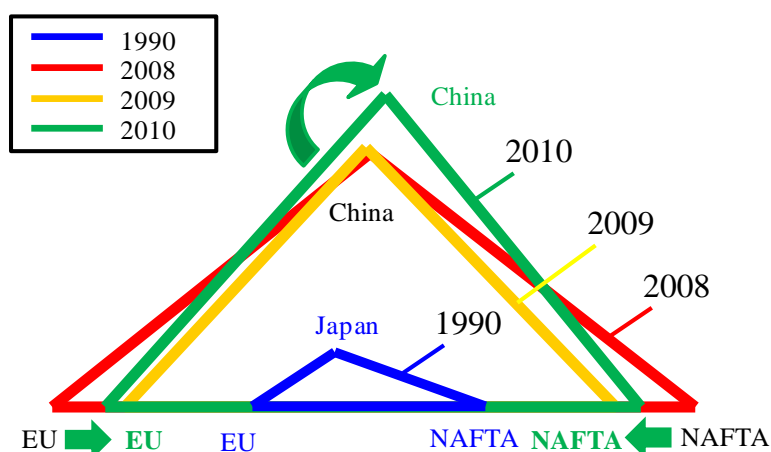
Sources: RIETI “RIETI-TID2010”; World Trade Atlas

Trade in 2009 shrunk worldwide affected by the world economic crisis, but it basically recovered in 2010. However, the pace of recovery differed by country/ region. There may be newly strengthened economic and political relations and also newly occurring worsening relations as well as improving relations. It cannot be completely concluded that world trade relations have similarly recovered and expanded since before and after the world economic crisis.

Therefore, the conceptual chart of the trade relationships of the three poles shows trade relationships in 2009 and 2010 after the world economic crisis similar to the previous section (Figure 2-1-1-10).

Figure 2-1-1-10 Conceptual chart of trade relationships among the three poles (from 2008 to 2010)

	1990		2008		2009		2010	
	Countries/ regions	Amount (US\$100 million)	Countries/ regions	Amount (US\$100 million)	Countries/ regions	Amount (US\$100 million)	Countries/ regions	Amount (US\$100 million)
1	NAFTA · EU	2,441	NAFTA · EU	7,690	NAFTA · EU	5,894	NAFTA · EU	6,388
2	Japan · NAFTA	1,639	NAFTA · China	4,904	NAFTA · China	4,353	EU · China	5,007
3	Japan · EU	1,054	EU · China	4,893	EU · China	4,224	NAFTA · China	4,801
4	NAFTA · China	272	Japan · China	2,791	Japan · China	2,407	Japan · China	3,031
5	EU · China	253	Japan · NAFTA	2,530	Japan · NAFTA	1,796	Japan · NAFTA	2,229
6	Japan · China	206	Japan · EU	1,886	Japan · EU	1,417	Japan · EU	1,536



Compared with 2008 (the red triangle), the globally reduced world trade relationships (the yellow triangle) in 2009 changed its shape into that of 2010 (the green triangle).

In the recovery process from 2008 (the red triangle) to 2010 (the green triangle), the sense of existence of China – EU and China – NAFTA relations further increased. On the other hand, recovery of NAFTA – EU relations, which formed the basis of the three poles structure (having formed an axis of world trade) has been weak compared with relationships between other two countries/ regions and decreased its sense of existence in world trade.

As a result, while the base line of EU – NAFTA relations shrunk, China's vertex of the triangle increasingly rose due to its rapid economic growth and China's location, which was approximately directly between the EU and NAFTA, also moved to the right due to an increase in trade volume with the EU.

It should be noted that China is demonstrating the sense of existence as a gigantic pole backed by a rapid economic growth a lot faster than those of the EU and NAFTA. If the trend of advanced economies stagnating and emerging economies advancing, especially China, continues, and if the size of trade volume among China, ASEAN and MERCOSUR becomes equivalent to that of Europe and the United States, the global trade structure with three poles should not be seen as a triangle but may be more reasonable to perceive it with a pentagonal structure located with China at the center. If it is true, the world economic crisis might have an irreversible impact on world trade, though it is a conditional outlook.

(3) Deepening relations between China – EU

As mentioned above, since the 2000s, China has demonstrated its presence as the largest pole replacing EU and NAFTA through the world economic crisis. China had had approximately the same amount of trade with the EU and NAFTA, but after the world economic crisis China's amount of trade to the EU exceeded that of NAFTA after the world economic crisis. The relationship between China and the EU is supposed to get closer. The details are as follows.

Examining the amount of imports and its share from major export countries/ regions into China (the top 10 countries/ regions in each year) and the amount of exports and its share to major import countries/ regions from China (the top 10 countries/ regions in each year), Germany dominated the upper ranks in both exports and imports among the EU countries. Its share in exports and imports

continued to increase for 10 consecutive years from 2008. It can be thought that one of the main reasons for deepening trade relations between China and the EU may be deepening trade relations between China and Germany (Tables 2-1-1-11 and 2-1-1-12).

Table 2-1-1-11 Import amount and share of the top 10 China's import partner countries/ regions

	2008			2009			2010		
	Countries/regions	Amount (US\$100 million)	Share	Countries/regions	Amount (US\$100 million)	Share	Countries/regions	Amount (US\$100 million)	Share
	World total	1,131,469	—	World total	1,003,893	—	World total	1,393,909	—
1	Japan	150,634	13.3%	Japan	130,749	13.0%	Japan	176,304	12.6%
2	Korea	112,154	9.9%	Korea	102,125	10.2%	Korea	138,023	9.9%
3	Taiwan	103,325	9.1%	Taiwan	85,706	8.5%	Taiwan	115,645	8.3%
4	United States of America	81,486	7.2%	United States of America	77,433	7.7%	United States of America	101,310	7.3%
5	Germany	55,910	4.9%	Germany	55,904	5.6%	Germany	74,378	5.3%
6	Australia	36,284	3.2%	Australia	39,175	3.9%	Australia	59,698	4.3%
7	Malaysia	32,112	2.8%	Malaysia	32,206	3.2%	Malaysia	50,375	3.6%
8	Saudi Arabia	31,072	2.7%	Brazil	28,311	2.8%	Brazil	38,038	2.7%
9	Brazil	29,632	2.6%	Thailand	24,846	2.5%	Thailand	33,201	2.4%
10	Thailand	25,627	2.3%	Saudi Arabia	23,582	2.3%	Saudi Arabia	32,862	2.4%

Sources: World Trade Atlas

Table 2-1-1-12 Export amount and share of the top 10 China's export partner countries/ regions

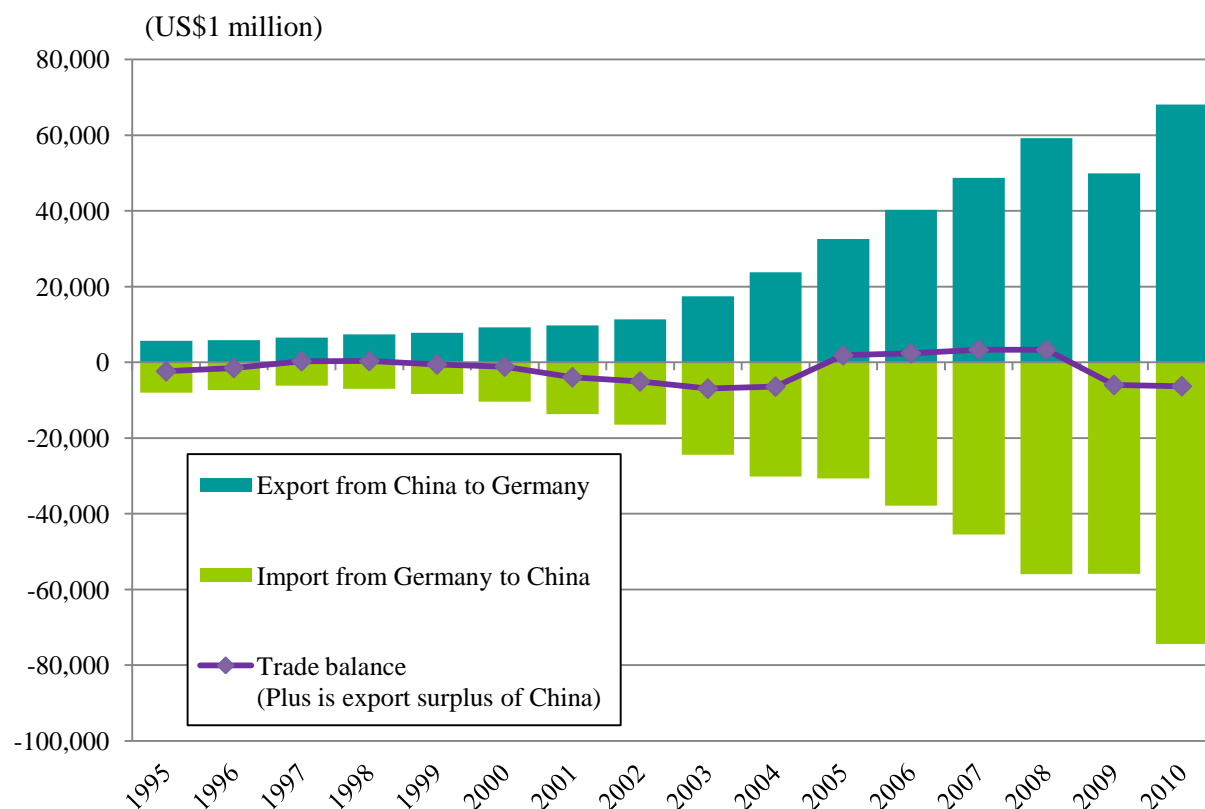
	2008			2009			2010		
	Countries/regions	Amount (US\$100 million)	Share	Countries/regions	Amount (US\$100 million)	Share	Countries/regions	Amount (US\$100 million)	Share
	World total	1428869	—	World total	1202047	—	World total	1578444	—
1	United States of America	252327	17.7%	United States of America	220706	18.4%	United States of America	283184	17.9%
2	Hong Kong	190772	13.4%	Hong Kong	166109	13.8%	Hong Kong	218205	13.8%
3	Japan	116176	8.1%	Japan	97209	8.1%	Japan	120262	7.6%
4	Korea	73905	5.2%	Korea	53630	4.5%	Korea	68811	4.4%
5	Germany	59192	4.1%	Germany	49932	4.2%	Germany	68069	4.3%
6	Holland	45921	3.2%	Holland	36689	3.1%	Holland	49711	3.1%
7	United Kingdom	36079	2.5%	United Kingdom	31267	2.6%	India	40879	2.6%
8	Russia	33011	2.3%	Singapore	30050	2.5%	United Kingdom	38776	2.5%
9	Singapore	32325	2.3%	India	29570	2.5%	Singapore	32333	2.0%
10	India	31516	2.2%	France	21445	1.8%	Italy	31136	2.0%

Sources: World Trade Atlas

Examining the transition of the balance of trade between China – Germany, China's export surplus continued for some years from the mid 2000s due to China's economic growth and its elevated presence as the world factory, but China's imports surged to surplus from around the time of the world economic crisis (Figure 2-1-1-13). In 2009, most countries/ regions in the world suffered negative effects of the post world economic crisis leading to stagnation in exports, but Germany did not

decrease its exports to China's expanding market (refer to Figure 2-1-1-11. China's import from Germany was US\$55.91 billion in 2008 and US\$55.904 billion in 2009), and China's exports to Germany also increased due to economic recovery in 2010 (from US\$59.192 billion in 2008 to US\$68.069 billion in 2010).

Figure 2-1-1-13 Transition of trade balance between China and Germany



Sources: World Trade Atlas

As mentioned above, it was suggested that trade relations between China and Germany at the time period before and after the world economic crisis was good in relation to Germany's exports to China.

The top 5 commodities (HS code 2 digits basis) of China's import from Germany are as shown in Table 2-1-1-14. The hatched parts show the commodities, which largely increased.

Table 2-1-1-14 Transition of import amount from Germany to China by commodities

	2008					2009					2010			
	HS	Commodities	Amount (US\$1 million)	Share (%)		HS	Commodities	Amount (US\$1 million)	Share (%)		HS	Commodities	Amount (US\$1 million)	Share (%)
	—	Total import amount	55,910	—	—		Total import amount	55,904	—	—		Total import amount	74,378	—
1	8703	<u>Passenger cars and other automobiles (Station wagons and racing cars are included; automobiles limited to designed mainly for transportation of personnel; ones that stipulated by No. 87.02 are excluded).</u>	4,500	8.0%	8703	<u>Passenger cars and other automobiles (Station wagons and racing cars are included; automobiles limited to designed mainly for transportation of personnel; ones that stipulated by No. 87.02 are excluded).</u>	4,886	8.7%	8703	<u>Passenger cars and other automobiles (Station wagons and racing cars are included; automobiles limited to designed mainly for transportation of personnel; ones that stipulated by No. 87.02 are excluded).</u>			11,365	15.3%
2	8708	<u>Automobile parts and accessories Parts and accessories limited for automobiles stipulated in No. 87.01 through No. 87.05</u>	3,084	5.5%	8708	<u>Automobile parts and accessories Parts and accessories limited for automobiles stipulated in No. 87.01 through No. 87.05</u>	2,941	5.3%	8708	<u>Automobile parts and accessories Parts and accessories limited for automobiles stipulated in No. 87.01 through No. 87.05</u>			4,827	6.5%
3	8802	Other types of aircraft (For example, helicopters and airplanes) and spacecrafts (including artificial satellite) and rocket boosters	1,519	2.7%	8802	Other types of aircraft (For example, helicopters and airplanes) and spacecrafts (including artificial satellite) and rocket boosters	2,159	3.9%	8802	Other types of aircraft (For example, helicopters and airplanes) and spacecrafts (including artificial satellite) and rocket boosters			2,004	2.7%
4	8479	Machinery (Limited to ones with innate function; excluding ones suitable to other types of this item)	1,403	2.5%	8479	Machinery (Limited to ones with innate function; excluding ones suitable to other types of this item)	1,311	2.3%	8479	Machinery (Limited to ones with innate function; excluding ones suitable to other types of this item)			1,635	2.2%
5	8542	Integrated circuit	1,313	2.3%	8504	Transformer, static converter (for example, rectifier) and inductor	1,239	2.2%	8504	Transformer, static converter (for example, rectifier) and inductor			1,615	2.2%

Sources: World Trade Atlas

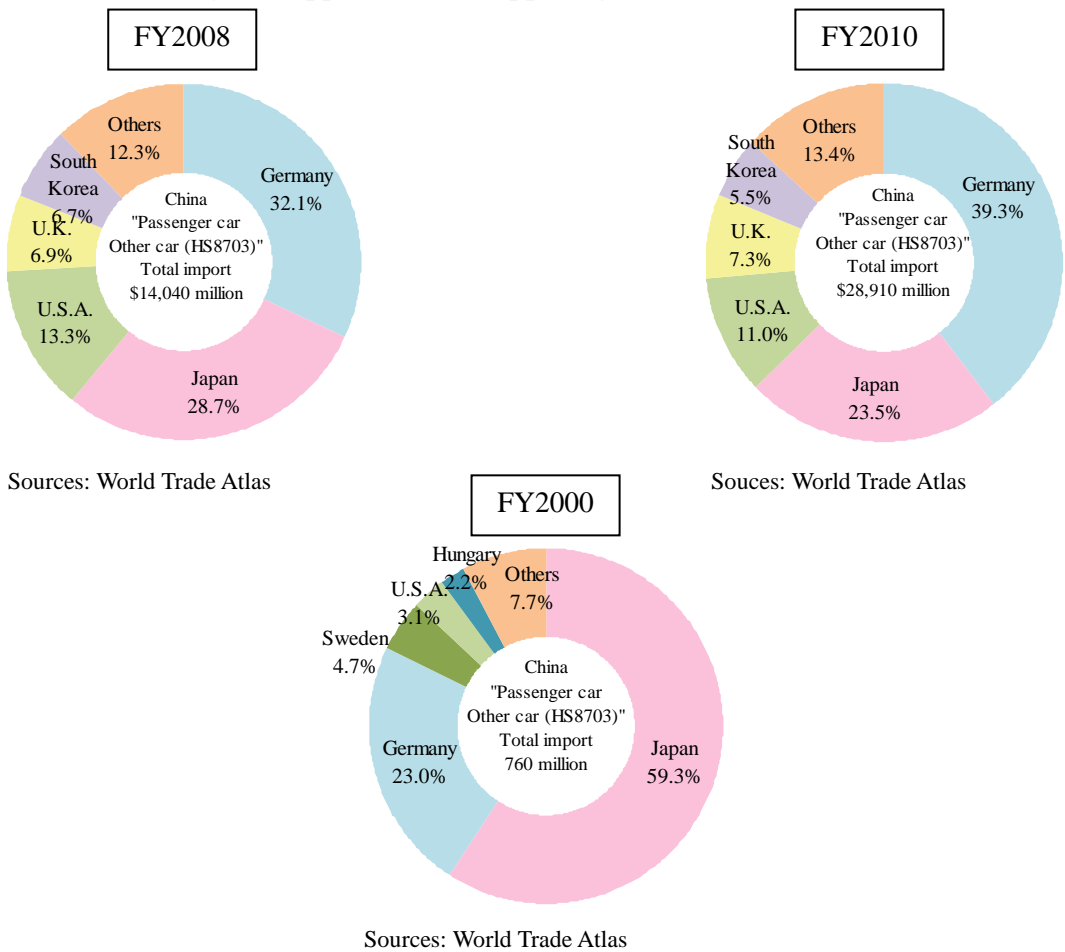
From the Table, commodities that contributed to the increase in China's imports from Germany were known to be "passenger cars and other automobiles (HS8703)" and "auto parts and accessories (HS8708)". Especially, importation of passenger cars and other automobiles amounted to US\$11.3 billion in 2010, which increased from US\$4.5 billion in 2008, a 3-fold increase within a span of only 2 years. The importation of auto parts and accessories, the second most imported items, achieved a 1.5-fold increase in 2010 compared with that of 2008. This means that the export of automobiles to China has been going strong from the German viewpoint.

It is clearly known that China's imports of automobiles from Germany increased by a large amount as shown above. The importance of this as a part of China's total imports of finished cars should be examined. Figure 2-1-1-15 shows the share of imported "passenger cars and other automobiles (HS8703)" by origin of export in 2000, 2008 and 2010.

During 2008 and 2010, Germany, being the top supplier of China's automobile imports, further

extended its advantage over the second supplier, Japan and the third supplier, the United States. China’s import amount of finished cars was US\$760 million in 2000, approximately 1/40th compared with that of 2010 (US\$28.91 billion), but Japan accounted for more than 50% of the share. Taking this into consideration, under the circumstance of rapid expansion of domestic demand for automobiles in China, Germany extended its advantage over other countries in fostering China’s automobile import demand and it led to the increase of German car exports to China.

Figure 2-1-1-15 Share of imported “passenger cars and other automobiles (HS58703)” in China by export countries/ regions (upper left 2008, upper right 2010 and lower center 2000)



2. Deepening and changing the East Asia production network

As discussed above, Japan has decreased its presence in world trade over the past 10 to 20 years; and on the other hand, China increased its presence backed by the overwhelming economic growth in recent years.

As it was examined in the previous White Papers, Japan and China have secured a position as the “world’s factory” in the East Asia region by dynamically enhancing their economic situation complimentarily and constructing and optimizing the production structure with regional specialization. In the following section, it is confirmed how the East Asia production network has been affected by the changes in the world trading structure over the past 20 years. Specifically, it is verified that China exists as a major base to connect the production network in the East Asia region with the products and

consuming areas outside the region; the decreased weight of the presence of Europe and the United States as final consumption areas; and the presence of China as a self-sustaining consumption market backed by increased consumption in China and other countries in the region, or the East Asia network beginning to show signs of becoming a self-sustaining network, which does not necessarily need Europe and the United States as final consuming areas. As a premise of the discussion, an outline of the Asia Pacific regional economy is shown in the table (Table 2-1-2-1).

Table 2-1-2-1 Overview of Asia Pacific Region

	Population	Nominal GDP	Nominal GDP per capita	Total amount of trade	Total export amount	Total import amount	Export amount to Japan	Import amount from Japan	Direct investment from Japan	Investment balance from Japan
Year	2010	2010	2010	2010	2010	2010	2010	2010	2010	2010
Unit	100 million	US\$1 billion	Dollar	US\$1 billion	US\$1 billion	US\$1 billion	US\$1 billion	US\$1 billion	¥100 million	¥100 million
Brunei	0.004	13	31,228	11	8	3	3.7	0.2	13	-
Indonesia	2.34	707	3,015	293	158	136	25.8	17.0	409	9,738
Malaysia	0.28	238	8,423	416	231	185	20.6	19.4	906	8,128
Philippines	0.94	189	2,007	131	57	74	7.4	10.7	433	7,081
Singapore	0.05	223	43,117	665	354	311	16.4	24.5	3,319	22,417
Thailand	0.64	319	4,992	380	195	185	20.4	38.3	1,983	22,651
Cambodia	0.14	12	814	14	5	10	0.2	0.2	12	-
Laos	0.06	6	984	6	2	4	0.0	0.1	4	-
Myanmar	0.61	43	702	17	7	10	0.4	0.3	-5	-
Vietnam	0.88	104	1,174	164	68	96	7.4	9.0	636	3,668
Total of ASEAN	6.0	1,852	96,456	2,097	1,085	1,013	102.4	119.5	7,711	73,970
Japan	1.27	5,459	42,820	1,466	772	694	-	-	-	-
China	13.41	5,878	4,382	2,974	1,580	1,394	120.3	176.3	6,284	54,187
Korea	0.49	1,007	20,591	857	442	415	26.0	68.5	936	12,261
Total of ASEAN + 3	21.1	14,197	164,249	7,395	3,879	3,516	248.7	364.3	14,931	140,417
India	12.16	1,538	1,265	574	217	356	5.0	9.6	2,411	11,051
Australia	0.22	1,236	55,590	426	212	214	40.1	18.4	5,622	32,487
New Zealand	0.04	140	32,143	62	31	31	2.4	2.3	-56	1,852
Total of ASEAN + 6	33.6	17,111	253,247	8,456	4,340	4,117	296.2	394.6	22,909	185,807
United States of America	3.10	14,658	47,284	3,246	1,278	1,968	60.5	123.6	7,968	205,246
Chile	0.17	203	11,828	125	66	59	6.8	3.0	508	-
Peru	0.30	153	5,172	58	29	28	2.0	1.1	47	-
Total of TPP	5.1	16,967	235,958	5,172	2,277	2,895	160.1	201.4	18,964	273,799
NAFTA	4.53	17,271	38,152	4,637	1,948	2,689	72.6	148.4	8,501	216,078
EU	5.01	16,282	32,497	10,159	4,987	5,171	50.7	80.3	7,146	148,506
World total	69.0	62,909	9,123	30,512	14,994	15,518	617.7	816.4	49,388	676,911

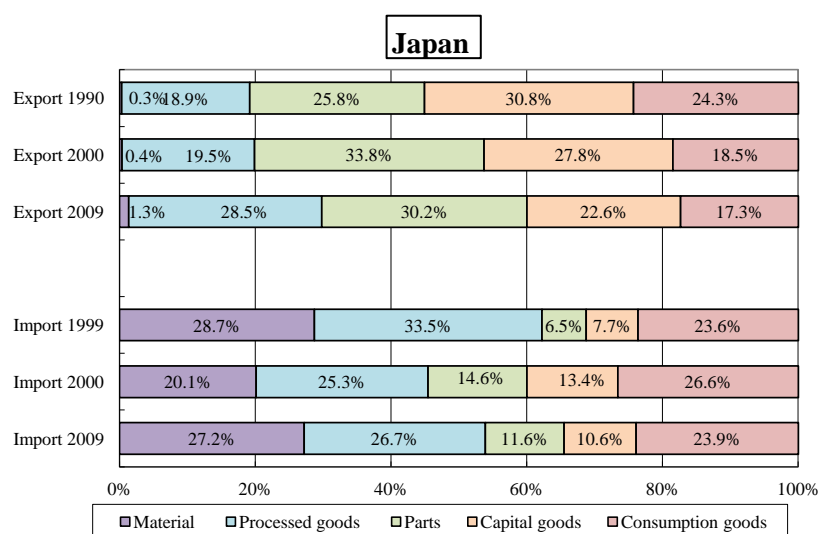
Notes: Nominal GDP per capita = Nominal GDP / population

Sources: IMF “World Economic Outlook Database April 2011” for nominal GDP; IMF “DOT” for amount of trade; Ministry of Finance and Bank of Japan “International Balance Statistics” for direct investment amount; Eurostat for population of EU; IMF “World Economic Outlook Database April 2011” for population of countries/ regions except EU’s

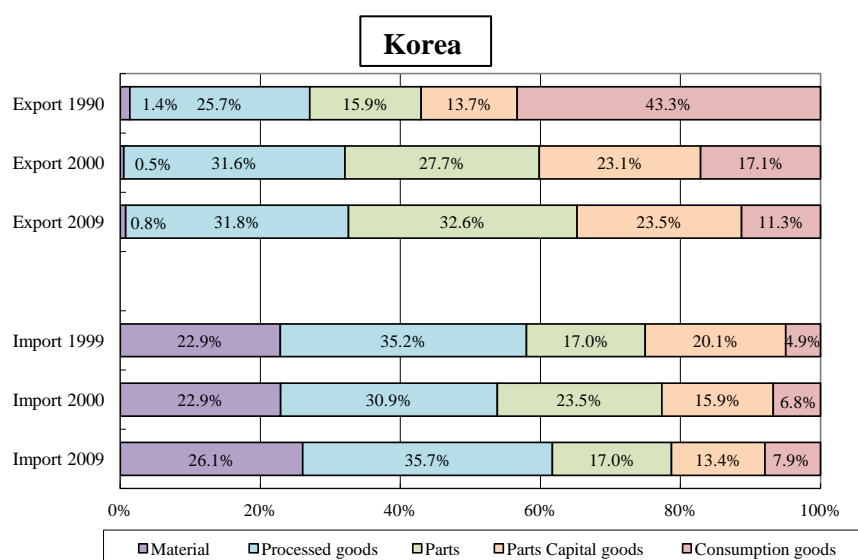
(1) An overview of East Asia trading structure

The recent economy of the Asia Pacific region and the changes in the trading structures of East Asian countries/ regions by production processes are briefly examined (Figure 2-1-2-2).

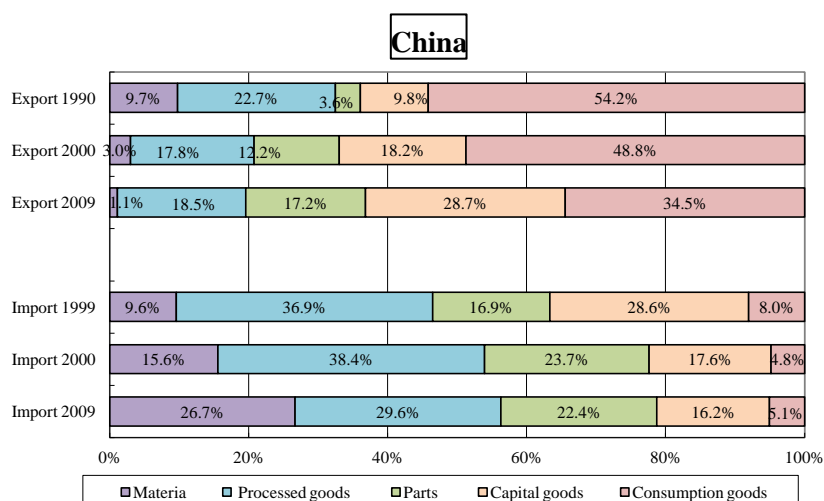
Figure 2-1-2-2 Composition of trade goods in East Asian countries/ regions by production process



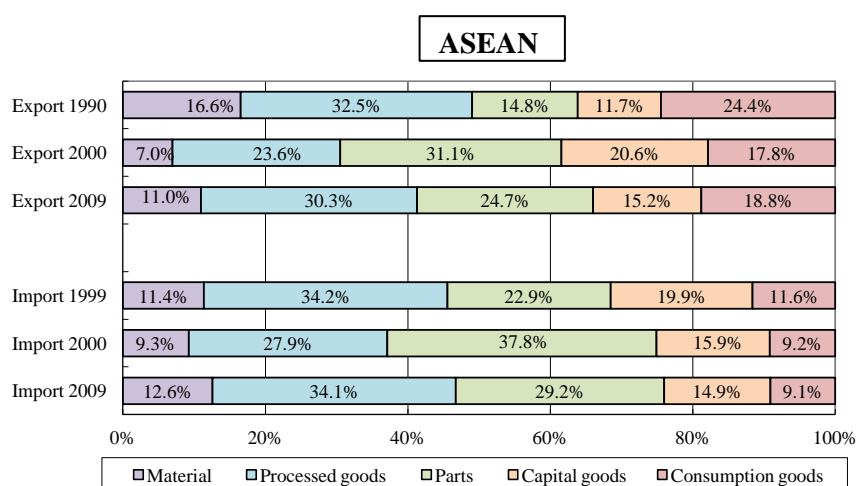
Sources: RIETI “RIETI-TID 2010”



Sources: RIETI “RIETI-TID 2010”



Sources: RIETI “RIETI-TID 2010”



Notes: Export and import within the region is

The percentage of parts was the largest in the composition of traded goods by production process exported from Japan in 2009. After 1990, the percentage of intermediate goods exports continued to increase and it accounted for 58.7% of Japan’s total exports. The percentage of materials imports became higher. Japan’s structure to export relatively advanced intermediate goods worldwide and to depend on imports of the resources seemed to continue.

In China, consumption goods accounted for the largest percentage of exports in 2009 and the final goods as a total of capital goods and consumption goods accounted for approximately 60% (63.2%). Changes from 1990 showed that the percentage of consumption goods decreased and percentage of capital goods increased. This means that, besides the advancement of the industrial structure, produced consumption goods may possibly be consumed domestically. On the import side, intermediate goods accounted for 52% and this became 78.7% when materials were included. The characteristics of the export type production structure to import of intermediate goods and export of final goods were shown.

In Korea, intermediate goods accounted for 64.4% of the exports in 2009. The percentage of the intermediate exports was higher than that of Japan. It suggested that the structure became similar to

that of Japan in which the intermediate goods were the main engine to drive exports and there may be competition between the two countries. Comparing with exports in 1990, where final goods accounted for 57% of the total exports, it is known that a large shift in the structure has occurred over the past 20 years.

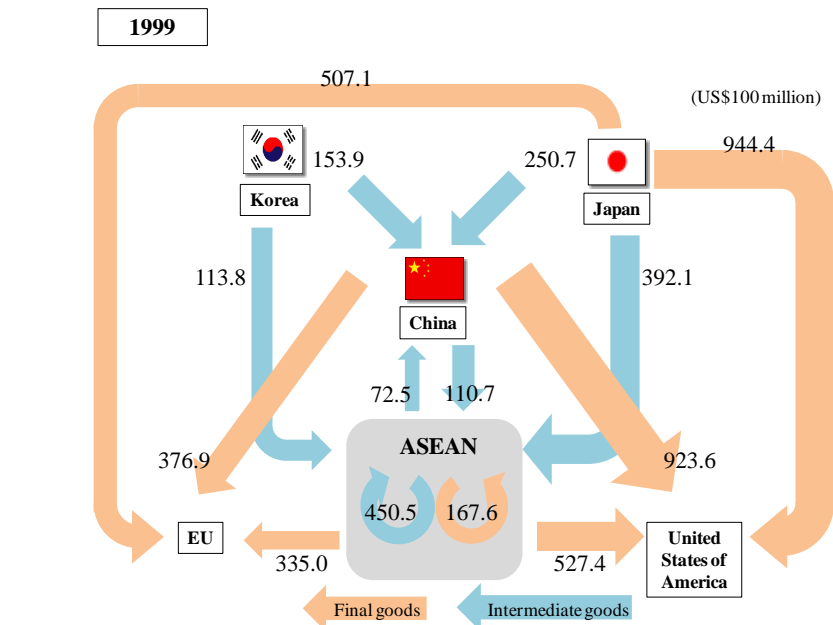
In ASEAN, the export and import structures seemed to be relatively balanced with materials, parts, processed goods, capital goods and consumption goods. The background of this may be the fact that ASEAN countries have enhanced their supplementary functions among each other.

(2) China’s increasing presence as an assembly and export base

Constructing optimized specialization between production processes in East Asia has led to the development of the East Asia production network. Specifically, Japan, Korea and Taiwan produced relatively high value added parts and finished goods and China and ASEAN imported the intermediate goods and assembled them to produce the final goods and supplied them to Europe and the United States. The existence of the whole East Asia as the “world’s factory” had been verified in previous White Papers.

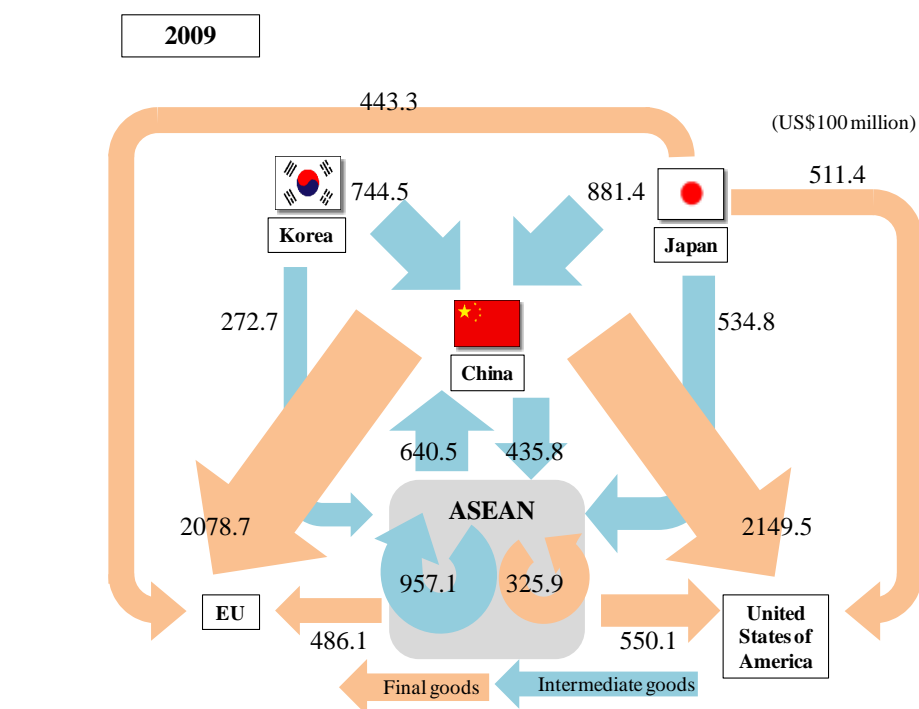
Now, changes in the global and East Asia trading structures over the past decade are confirmed once again. The main flow of trade in the East Asia production network is summarized from the export amount of the intermediate and final goods in East Asia in 2009 and compared them with those of 1999 (Figures 2-1-2-3 and 2-1-2-4). The structure to export the intermediate goods to China and ASEAN and China and ASEAN export the final goods to Europe and the United States was found in 1999, and the East Asia production network seemed to be functioning. However, the final goods export from Japan to Europe and the United States were US\$94.4 billion to the United States and US\$50.7 billion to the EU. It is also known that the export amount from Japan was larger than those of China and ASEAN to the United States and to the EU.

Figure 2-1-2-3 Movement of trade of intermediate and final goods in East Asian countries/ regions (1999)



Sources: RIETI “RIETI-TID 2010”

Figure 2-1-2-4 Movement of trade of intermediate and final goods in East Asian countries/ regions (2009)



Sources: RIETI "RIETI-TID 2010"

In 2009, the export amount of each trade relationship increased compared with that of 1999, but only exports of final goods from Japan to the EU and the United States decreased (exports to the United States were US\$94.44 billion in 1999, but decreased to US\$51.14 billion in 2009, and exports to the EU were US\$50.71 billion in 1999 and decreased to US\$44.33 billion in 2009). On the other hand, a large increase in the export amount of final goods were from China to Europe (exports to the EU were US\$37.69 billion in 1999 and increased to US\$207.87 billion in 2009) and the United States (exports to the United States were US\$92.36 billion in 1999 and increased to US\$214.95 billion in 2009) and the export of intermediate goods from Japan, Korea and ASEAN to China. The export amount of intermediate goods from Japan to China continued to be the largest, but those of Korea and ASEAN increased rapidly to US\$74.44 billion and US\$64.05 billion respectively. It expanded almost to the same level of Japan (US\$88.14 billion).

On the other hand, exports of intermediate goods from Japan and Korea to ASEAN were larger than those to China in 1999, but the amount has not increased greatly compared with the amount of intermediate exports to China over the past 10 years. The largest intermediate goods export destination of Japan and Korea was not ASEAN but China. Final goods exports from ASEAN to the United States and EU also did not increase compared with those achieved by China to the United States and the EU.

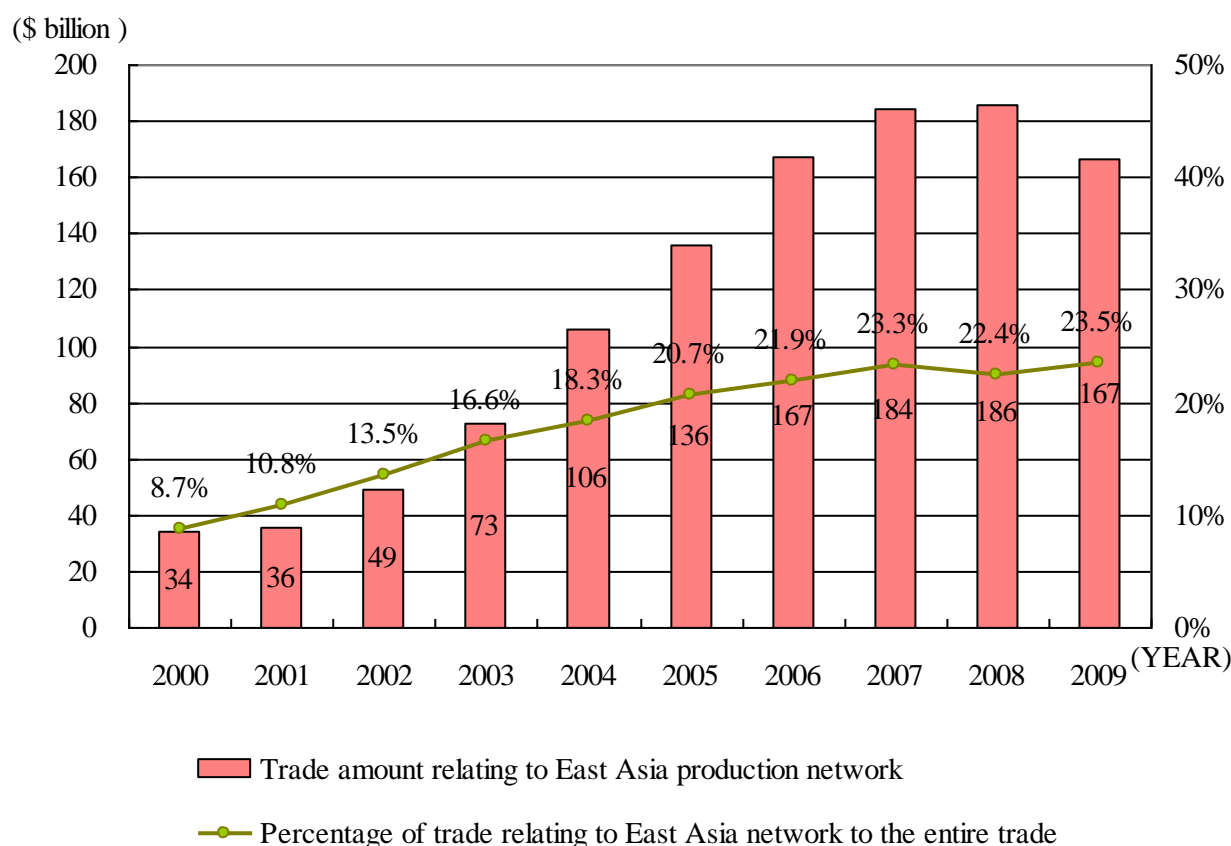
As shown above, in 1999, the East Asia production network was functioning as a system so that ASEAN was a main supply base of intermediate goods; Japan and Korea exported intermediate goods and assembled them in ASEAN; then exported them to advanced countries in Europe and the United States as the final consumption areas. However, it is suggested that the system has deepened and

changed over the past 10 years; namely, (i) the East Asia production network has been expanding its supply and demand of intermediate goods in the region; (ii) a tremendously large part of the “assemble and final goods export” process for which ASEAN had mainly played the role has been replaced by China and ASEAN and started to play a role expanding the supply of intermediate goods to China. For example, Japan’s export of final goods to destinations outside the region such as Europe and the United States decreased and Japan’s export of intermediate goods to China increased. This suggests that China has become a kind of “window” to connect the production network in the East Asia region with demand from outside the region.

Examining the export of final goods from China to Europe and the United States, as shown in the abovementioned triangle, the increase in exports to Europe were larger than the increase in exports to the United States. Thus, China established its absolute position as a production and export base in the East Asia production network. East Asian countries/ regions such as Japan and ASEAN played their roles by supplying intermediate goods to China, i.e. a structure emerged that Japan and ASEAN supplied goods to outside the region via China. The situation can be recognized that China played the role as the window to connect the East Asia region with countries/ regions outside East Asia. When a conceptual chart of the global trading structure was shown with the triangle shown above, it also should be mentioned the fact that China together with the United States and the EU formed a pole of the world trading structure was backed by the burst of intermediate goods supply from Japan, Korea and ASEAN.

Secondly, assuming China as the only assembling and export base, it was estimated the amount of trade of electric machine in the East Asia production network, which has notable specialized productive structure and large amount of intra-regional trade(Figure 2-1-2-5). Specifically, defining the total amount of intermediate goods exported from Japan, Korea, Taiwan and ASEAN, and amount of final goods exported from China to the United States and the EU as the amount of trade in the East Asia production network, we show the changes in share of that amount of trade in the East Asia production network account for the whole economy. According to the estimate, the amount traded in the triangle trade structure continuously increased until 2008. In 2009, the amount of trade decreased, affected by the world economic crisis, but the percentage of the amount of trade within the triangle trade structure accounted for the whole amount of trade increased by 23.5%. Comparing with 2009, the amount of trade increased 4.9-fold and the share to the whole trade increased 2.7-fold. It was shown that the East Asia production network of trade, for which China was an assembling and exporting base, was leading the trade of the member countries/ regions.

Figure 2-1-2-5 Movement of trade relating to East Asia Production Network



Notes: 1. It is assumed that the trade value related to East Asia production network = value of Chinese imports of intermediate commodities from Japan/South Korea/Taiwan/ASEAN + value of Chinese exports of final commodities to the EU and the U.S.

2. Percentage of trade related to East Asia network in the total trade = trade value related to the East Asia production network / export amount to worldwide destinations from Japan/South Korea/Taiwan/ASEAN/China

Source: RIETI "RIETI-TID2010"

(3) Japan to continuously expand intermediate goods exports

Now, Japan's trade movement in the East Asia production network is fully confirmed. Japan has played a role to produce relatively high value added parts and finished goods and provided them as intermediate goods to assembly bases in China and other countries. Examining changes in Japan's export amount of intermediate goods by export destination, the export of intermediate goods to the United States was larger than others until 2000, but exports to China, Hong Kong and ASEAN grew to exceed those of the United States after 2000. Especially, the increase in supply to China was significantly large and it grew to become approximately 8.2 times larger in 2009 than that of 1990 (Figure 2-1-2-6). Japan's intermediate export worldwide reached a level of approximately US\$340.5 billion in 2009, and this was approximately a 2.6-fold increase over that of 1990 (US\$131.3 billion). Showing Japan's share of the intermediate export amount by destination, the share of China/ Hong Kong in Japan's intermediate goods exports reached the largest share of 31.6% in 2009, and it was approximately a 3-fold increase from that of 1990 (Figure 2-1-2-7).

Figure 2-1-2-6 Transition of intermediate goods export amount from Japan (by export destination)

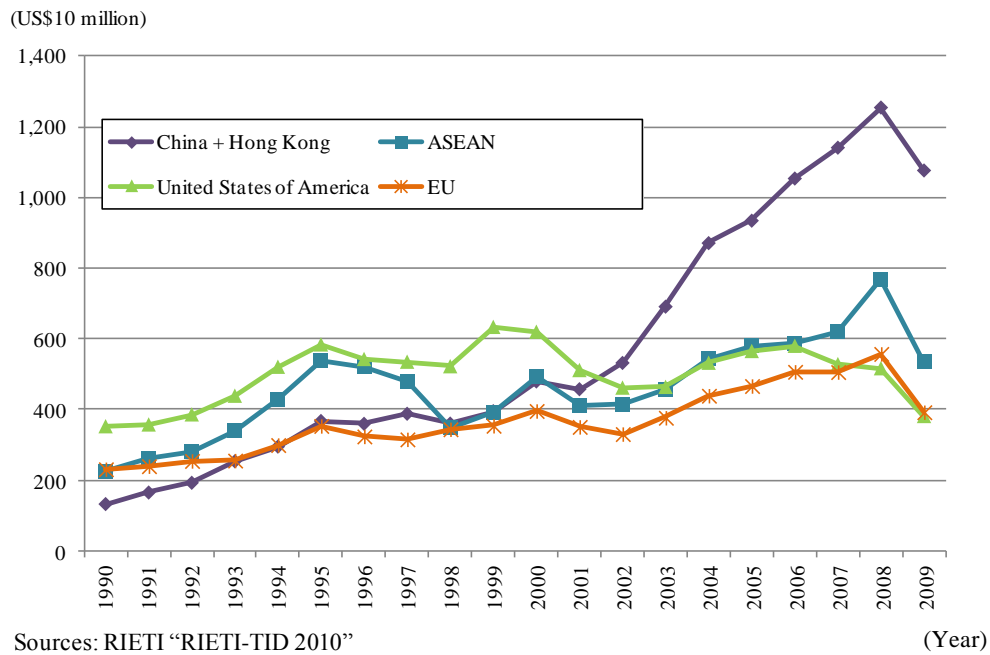
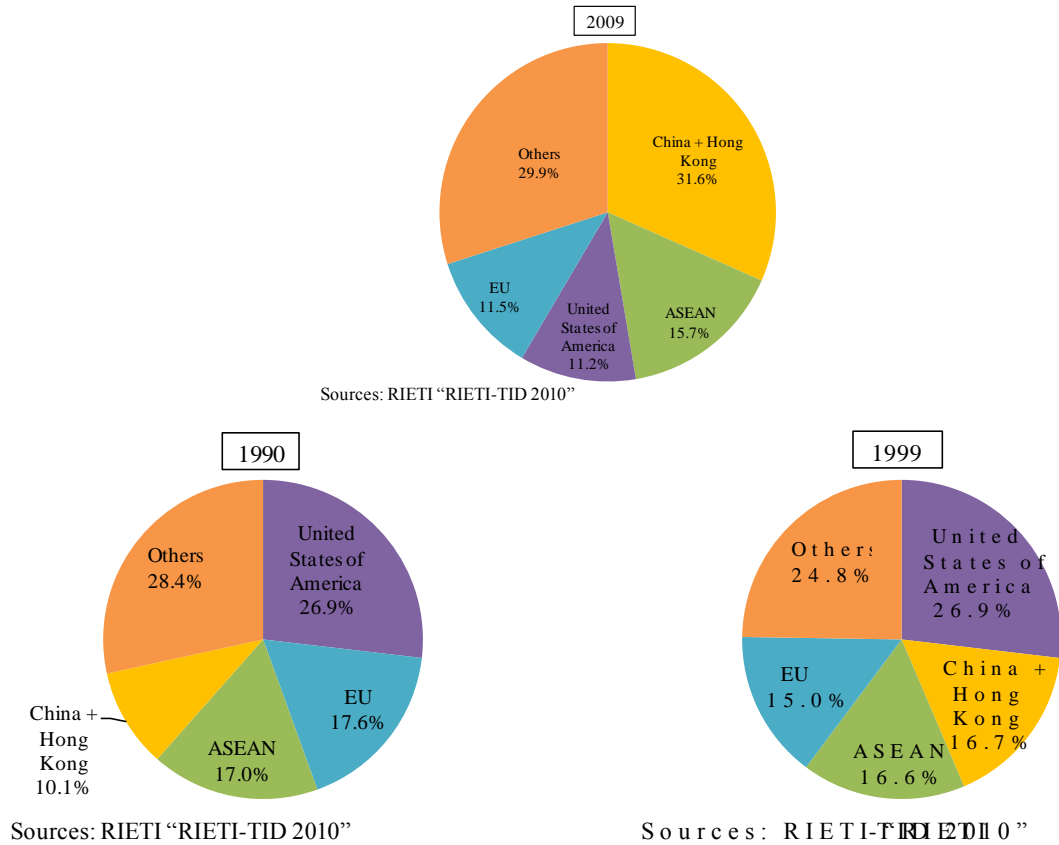


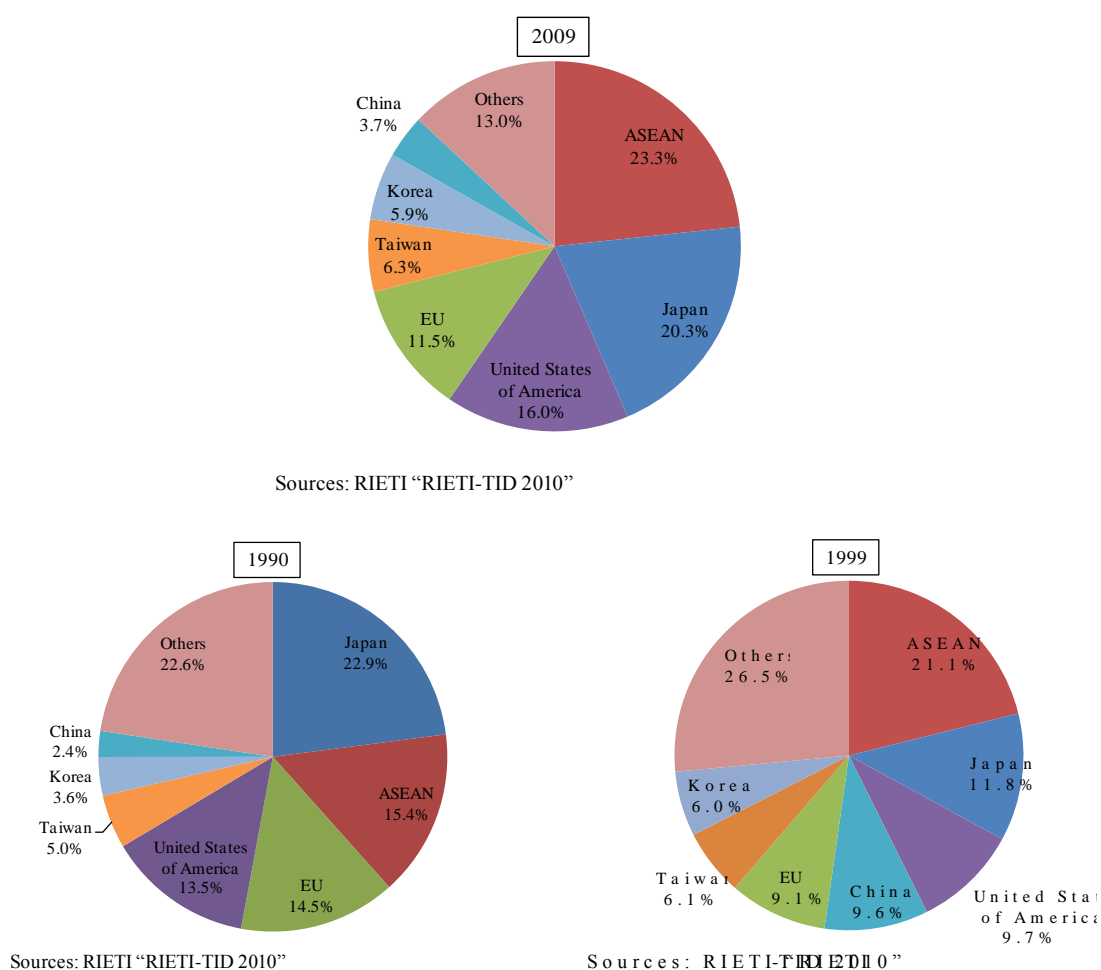
Figure 2-1-2-7 Transition of share of export amount of intermediate goods from Japan (in 1990, 1999 and 2009)



(4) ASEAN, expanding regional trade and strengthening its independence

ASEAN, together with China, has played a role of an assembly base in the East Asia production network. Specifically, it imported intermediate goods from Japan, Korea and Taiwan, assembled and exported them to the advanced countries in Europe and the United States, the final consumption destinations. Examining the movement of trade in ASEAN, while China increased its presence as an assembly base, ASEAN was found to have deepened its trade over the past 10 years and 20 years in a pattern different from previous ones. Examining the share of the amount of intermediate goods exported to ASEAN by foreign countries in 1990 and 2009, Japan had the largest share of 22.9% as a country providing the intermediate goods in 1990. But in 2009, the procurement from countries within ASEAN reached 21.1% largely exceeding Japan's share of 11.8%, which ranked at the second (Figure 2-1-2-8).

Figure 2-1-2-8 Transition of share of export amount of intermediate goods to ASEAN (in 1990, 1999 and 2009)



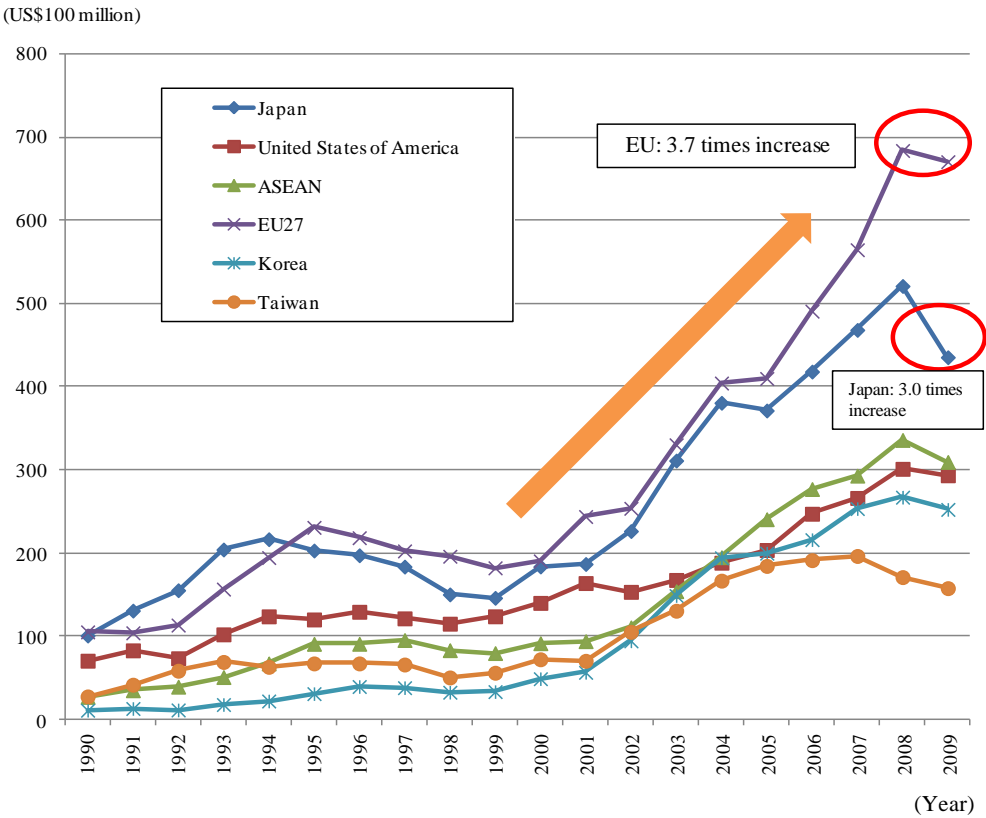
In other words, Japan's intermediate goods supply was replaced by procurement within the ASEAN region, and it might be a sign that ASEAN is becoming self-sustaining in terms of production. As the consumption size in the said region has steadily increased, it can be thought that procurement, production and consumption will expand in the future and the self-sustaining tendency may be further

enhanced. In the discussion on above-mentioned triangular world trading conceptual chart, unlike China and MERCOSUR, despite the fact that ASEAN was an emerging region with remarkable growth, it rarefied its trade relations with other countries/ regions. This may be caused by the fact that ASEAN managed to deepen its trade within the ASEAN region.

(5) Being a global “production and demand network”

The deepening of the East Asia network as the “world’s factory” has been so far examined from the production side. It is shown in the following section that China is not merely an assembling base as before but it is becoming a great demand center. The possibility of the East Asia network to be a “world demand center” is to be confirmed. Examining the movement of the amount of final goods exported from countries/ regions to China, the final goods exported from countries/ regions rapidly increased after 2000 (Figure 2-1-2-9). Especially, it should be noted that the increase in the amount and share of final goods exported from advanced countries such as the EU and Japan has been remarkable in recent years. There were no such differences in the export amounts of the EU, Japan and the United States in the 1990s, but through the 2000s, the EU achieved a 4.7-fold increase in its final goods export amount, and Japan also managed a 4.1-fold increase and the United States was left behind.

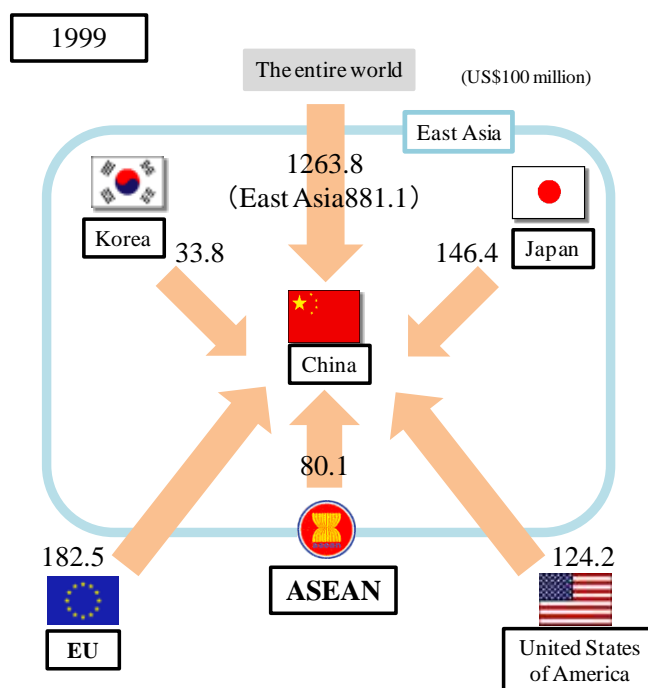
Figure 2-1-2-9 Transition of final goods export amount to China
(By exporting countries/ regions; scale was calculated by dividing amount of 2009 by the amount of 1999)



Summarizing the final goods amount exported from countries/ regions to China in 2009 and

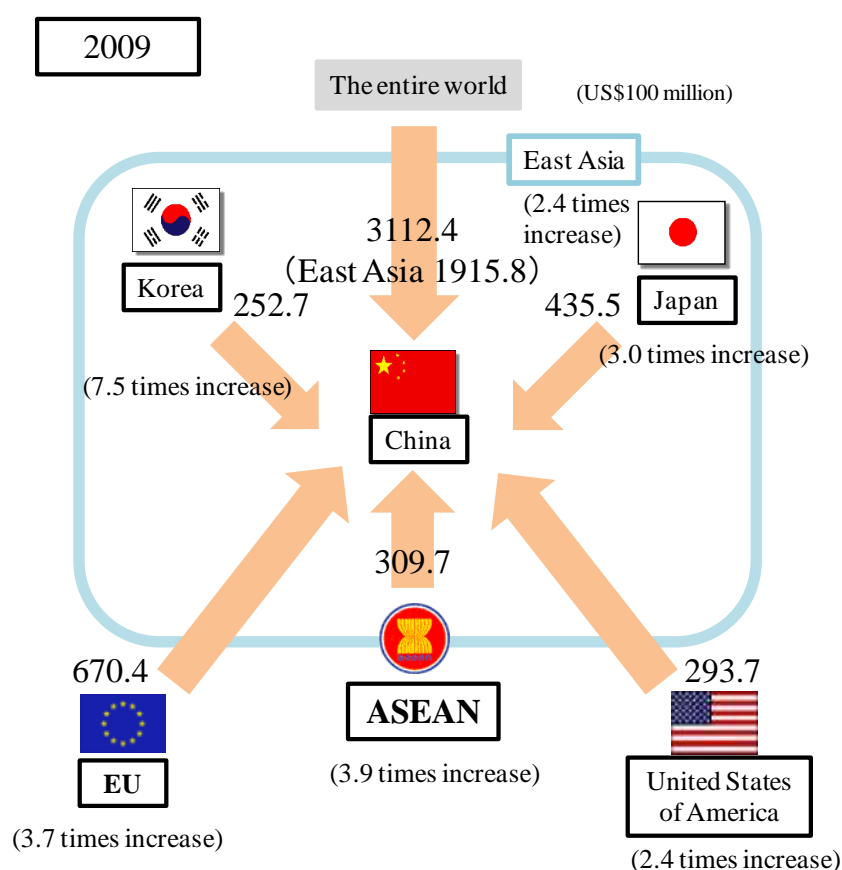
comparing them with those of 1999, it has been found that the final goods exported from the countries/ regions have largely increased over the past 10 years (Figures 2-1-2-10 and 2-1-2-11).

Figure 2-1-2-10 Flow to export final goods to China (1999)



Sources: RIETI "RIETI-TID 2010"

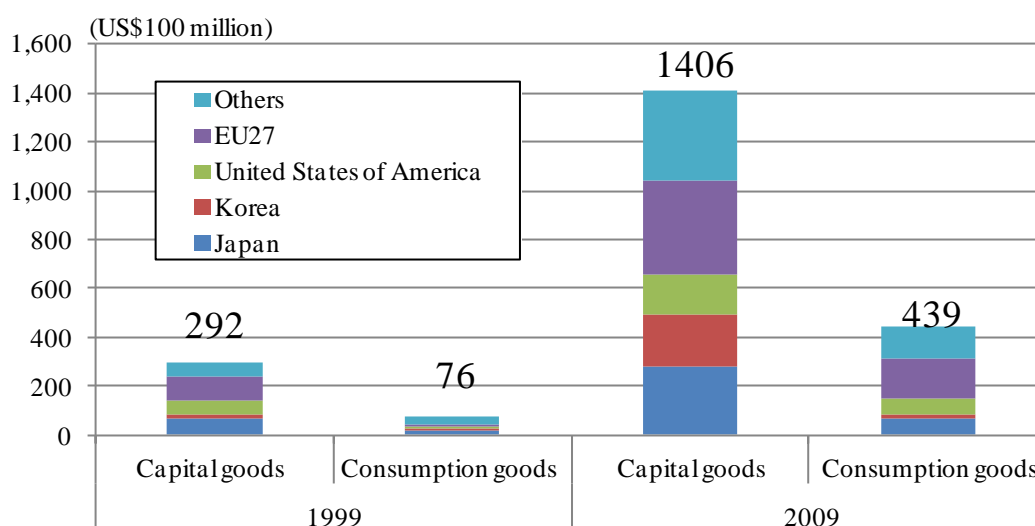
Figure 2-1-2-11 Flow to export final goods to China (2009)



Notes: Scales in parenthesis are ratio to value of 1999

Sources: RIETI "RIETI-TID 2010"

Figure 2-1-2-12 Details of final goods export to China (by production process)



Sources: RIETI "RIETI-TID 2010"

As confirmed in the figures above, the increase in the number of final goods exported from the EU and Japan is especially remarkable. The remarkable increase in the export of final goods from the EU

and Japan to China suggests that China has started to demand relatively high value-added final goods produced in the EU and Japan. It shows that China has begun to enhance markets not only quantitatively but also qualitatively. For some time past, the East Asia network structure has functioned as the “world’s factory” to supply products to Europe and the United States, but, with the overwhelming expansion of China’s demand, it is probably showing signs that East Asia is becoming a self-sustaining network involving “China as a world demand center”. One of the important reasons is the fact that the presence of Europe and the United States has shrunk for the East network in the background of the global economic crisis. Seen in this light, it can be said that the global economic crisis has triggered the change in the structure of the East Asia production network.

As discussed above, the final goods exported from the countries and regions to China have increased and China has become a large demand center for areas both within and outside the region. The final goods imported by China are briefly discussed below. Examining details of the capital goods and consumption goods in the final quantity of goods imported by China, the percentage of capital goods was larger than that of consumption goods both in 1990 and 2009 (Figure 2-1-2-12). Contents of the capital goods may be production-related ones due to China’s active construction demand and the increase in investment for procuring the necessary equipment. In other words, the abovementioned increase in China’s final goods imports will result in accelerating the production capacity within China and strengthen the competitiveness of Chinese companies. The fact is confirmed that the final goods exported from the countries/ regions to China have increased and China is becoming to grow into a gigantic “world demand center” for the exporting countries/ regions. However, it should be noted that the exporting countries couldn’t always dominate China’s huge consumption market by exports.

Increases in incomes and the growth of the middle and wealthy classes in China are steadily advancing and China’s potential to continue to grow as a consumption market is very high. In the future, it is becoming increasingly important for Japan to provide products needed by the China market by utilizing the close trade and investment relationship it has deepened under the East Asia network. China and the growing Asian consumption markets will be thoroughly analyzed in Chapter 3.

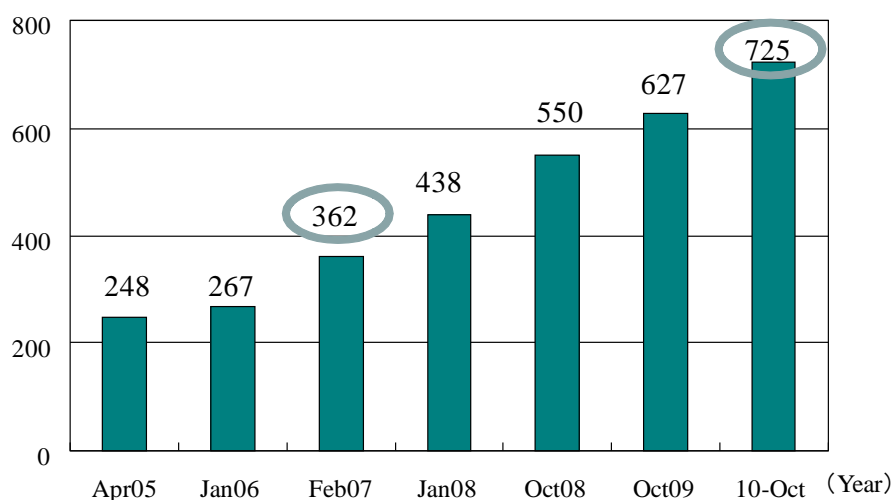
(6) India, incorporated into the East Asia trade and investment networks

Viewing the recent trade and investment structures in East Asia, it is evident that India has been incorporated into the region’s trade and investment networks. Recently, India has continued to achieve high economic growth. According to the IMF outlook, 8.2% growth in 2011 is expected. In this situation, many companies continue to expand their business targeting the growing markets in India and presence of India in the regional trade and investment network is being strengthened.

For instance, the trade between Japan and India was worth ¥939.1 billion in 2009 and ¥1,290.6 billion in 2010, approximately a 1.4-fold increase within one year. Goods exported from India to Japan have been traditional commodities such as iron ore, precious stones and jewelry, but recently exports of petroleum products have been rapidly increasing. Goods actively exported from Japan to India are general machinery, electronics instruments, steel products and transport machines. The direct investment from Japan to India amounted to ¥240.1 billion and the number of Japanese companies operating in India was 725 (double that of 2007) in 2010 (Figure 2-1-2-13). According to a questionnaire sent to Japanese companies, India is the second likely destination they would like to

operate in after China for a period of about three years in future.⁵⁴ The Japanese companies cite the growth potential of the market is the main reason why they regard India as a promising destination to operate in. According to the questionnaire, 89% of the companies pointed out India's growth potential. This far surpassed other reasons cited, such as low labor costs (44%) and a supply base for assembling manufacturers (22%).

Figure 2-1-2-13 Transition of number of Japanese companies operating in India



Source: Reprint from the website of Japanese Embassy in India

Trade and investment relations between India and the East Asia region are expanding. India's export amount to ASEAN10 was US\$17.37 billion in 2009, which accounted for 10.5% of India's total export amount (US\$165.2 billion). This was an 8.4-fold increase compared with that of US\$2.08 billion in 1999. India's exports to China amounted to US\$10.15 billion (the structural ratio was 6.1%). This was a 20.4-fold increase compared with that of US\$5 billion in 1999. And India's imports from ASEAN10 in 2009 amounted US\$23.94 billion (the structural ratio was 9.3%). This was a 5.6-fold increase compared with that of US\$4.29 billion in 1999. Imports from China amounted US\$28.83 billion (the structural ratio was 11.2%). This was 24.5-fold increase compared with that of US\$1.18 billion in 1999.

Examining the tendency of India's trade in the intermediate and final goods trade in East Asia, the intermediate goods exported from East Asia to India and the final goods exported from India to Europe and the United States were rapidly increasing. It may show that India as a new intermediate goods assembling and exporting base that has been incorporated into the East Asia network (Figures 2-1-2-14 and 2-1-2-15). Intermediate goods exported from East Asia to India amounted to US\$41.89 billion in 2009. The amount was 5.4-fold increase compared with that of 1999. Especially, the intermediate goods exported from China to India dramatically increased to US\$14.44 billion in 2009. This was a 15.5-fold increase compared with the amount in 1999. And also, final goods exported from East Asia to India amounted US\$19.63 billion at the time of 2009 which was a 9.4-fold increase compared with the amount in 1999. India has increased its presence as a great demand center backed by the size of

⁵⁴ Jap "Survey Report on Overseas Business Operation of Japanese Manufacturing Industry 2010 edition" by Bank of International Cooperation (JBIC)

population and significant economic growth (Figures 2-1-2-16 and 2-1-2-17).

Figure 2-1-2-14 Movement of intermediate and final goods trade focused on India

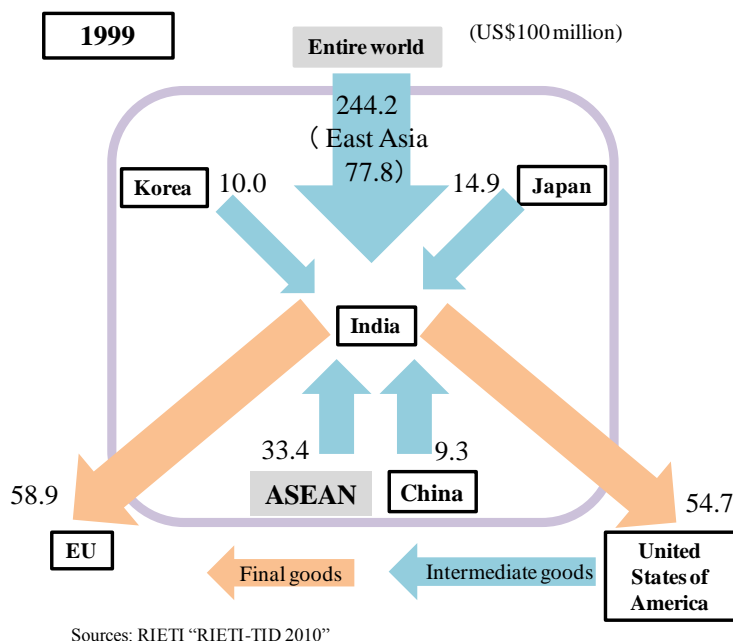


Figure 2-1-2-15 Movement of intermediate and final goods trade focused on India

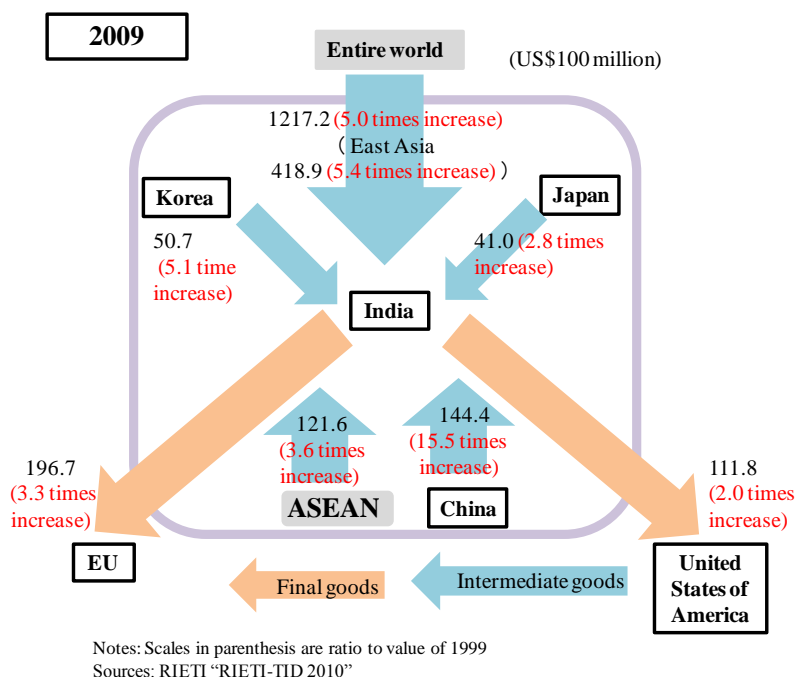


Figure 2-1-2-16 Flow of final goods export to India (US\$100 million)

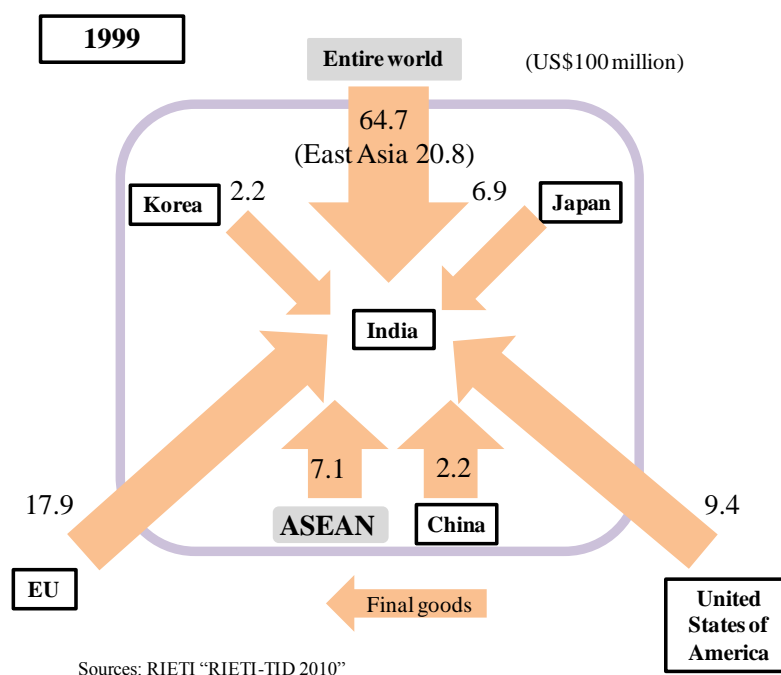
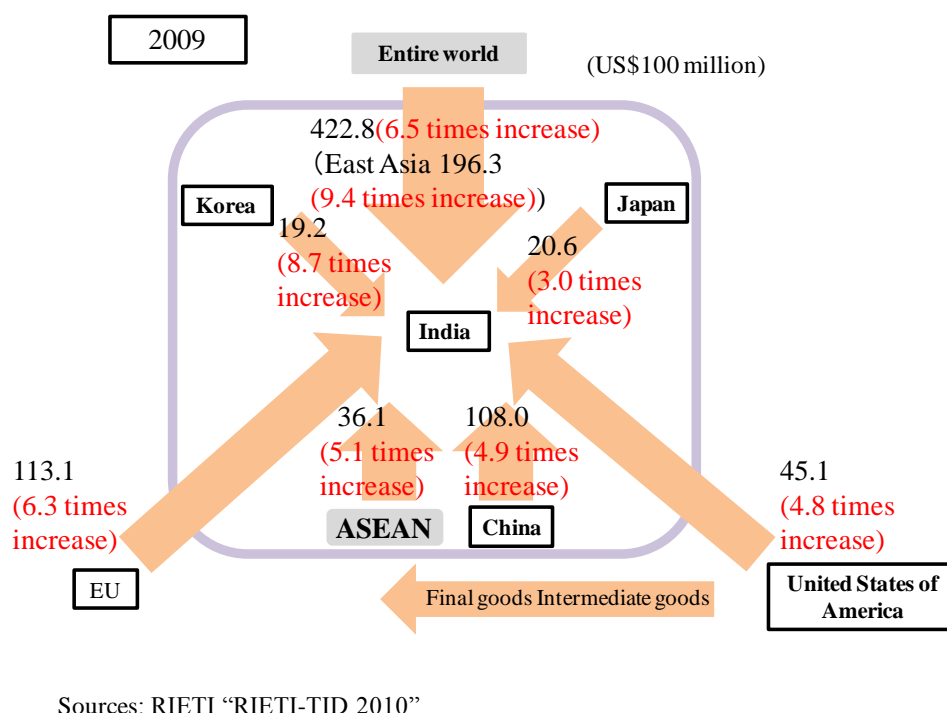


Figure 2-1-2-17 Flow of final goods export to India (US\$100 million)



In this situation, more companies have placed greater importance on India as an export destination rather than a destination of business operation.

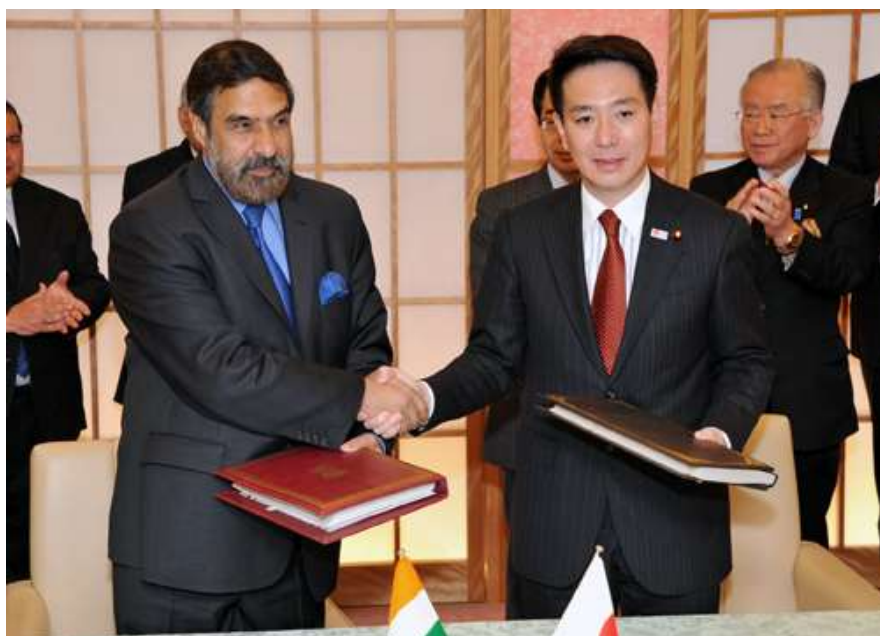
According to the "Status Survey on Activities of Japanese Companies Operating in Asia and Oceania" reported by JETRO, a large number of Japanese companies especially operating in Singapore, Thailand and Indonesia regarded India as the most important market. Examining the Japanese

companies operating in Singapore and desiring to operate in India by type of industry, the “shipping and warehousing industry” was the most dominant with 71.4%. This may be caused by the expansion of Singapore’s logistics for India and the convenient access to India⁵⁵.

Thus, India has been incorporated into the East Asia trade and investment networks, but various problems have been pointed out in its business environment. According to the questionnaire mentioned above, incomplete development of infrastructure (48% of the replies) was stated as the greatest challenge. Other problems such as severe competition with others (32%) and uncertainty in legislative enforcement were pointed out by many companies⁵⁶. It is expected that these problems can be improved and solved by the bilateral cooperation projects and effectuation of the Economic Partnership Agreement (EPA)⁵⁷ as well as Asia wide efforts of “Asia Overall Development Plan⁵⁸” and East Asia Comprehensive Economic Partnership Framework (Figure 2-1-2-18 and Figure 2-1-2-19).

Figure 2-1-2-18 Scene of Japan India EPA signing ceremony on February 16, 2011

Sources: Data from Ministry of Foreign Affairs



Sources: Data from Ministry of Foreign Affairs

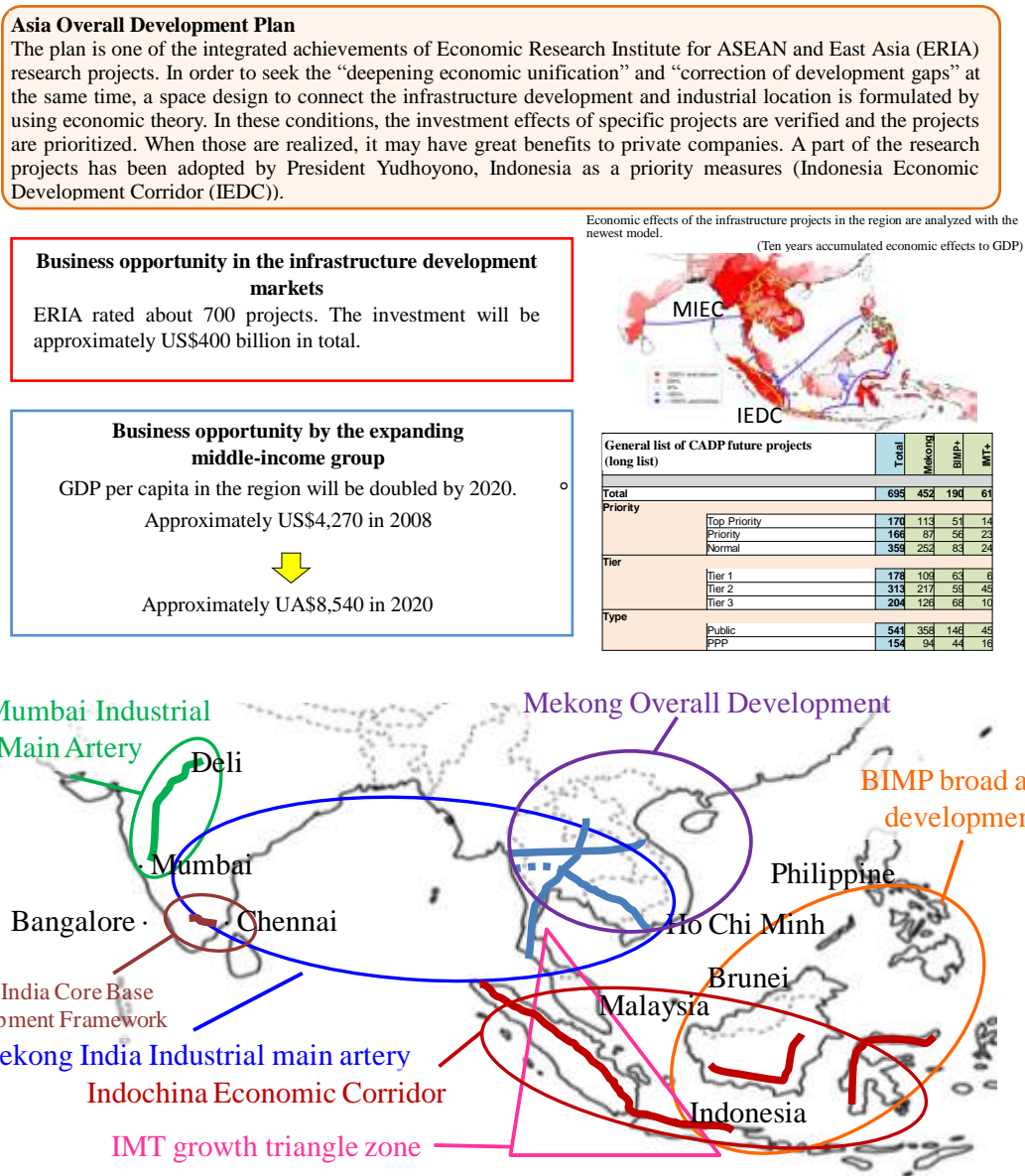
⁵⁵ “Status Survey on Activities of Japanese Companies Operating in Asia and Oceania” by JETRO

⁵⁶ Japan Bank of International Cooperation (JBIC)

⁵⁷ Japan-India EPA is scheduled to be effective on August 1, 2011.

⁵⁸ A strategy to integrally carry out the development of hard and soft infrastructures and promotion of industries in the Region formulated by the Economic Research Institute for ASEAN and East Asia (ERIA) aiming at doubling the income in Asia. This was agreed at the East Asia Economic Ministers Meeting in August 2010, and reported at the East Asia Summit Meeting in October, which was appreciated by the leaders of the countries/ regions. Approximately 700 projects were listed as specific hard infrastructure development targets in relevant areas and the priority of the projects was decided. The total investment is expected to be approximately US\$390 billion.

Figure 2-1-2-19 Outline of Asia Overall Development Plan



Sources: Ministry of Economy, Trade and Industry

3. Changing global trade structure and Japan’s future

Changes in the global trade structure in recent years, especially the movement of trade in the East Asia production network were discussed above.

As having shown using triangular conceptual charts of the global trade structure at the start of the discussion, a pole of the world trade, which was played by Japan together with the EU and the United States in 1990, seemed to be replaced by China after 20 years. Similarly, it was discussed that the trade relationships of Japan with each pole of ASEAN seemed to be relatively rarefied.

However, upon close examination, the East Asia network including Japan and ASEAN have significantly expanded the amount of trade exceptionally in the world and have deepened their trade relationships over the past 20 years. Undoubtedly, China rapidly enhanced its presence in the global

trade structure, but one of its important factors was China's establishment of its position in the East Asia production network as a production and export base and the stronger presence of China to connect inside and outside of the East Asia region.

The background to this, as mentioned above, was the expanded supply of intermediate goods from countries/ regions in East Asia including Japan, Korea, Taiwan and ASEAN to China. Japan and ASEAN, on the surface, seemed to rarefied their presence in the global trade structure, but it may be said that the optimized specialization system has been increasingly advancing in East Asia by active cross-border business activities including the direct investment of Japanese companies.

As previously shown using the global trade conceptual charts, the world economic crisis affected the global trade structure. In that situation, the East Asia production network continued to deepen and showed a slight sign of changes and improvement. After the world economic crisis triggered by the Lehman shock, stagnation of global demand, especially in the advanced countries in Europe and the United States, became serious. On the other hand, rapidly recovering Asian countries in region such as China and ASEAN led the growth of the world economy. Following this situation, the "East Asia production network", which had depended on consumption of Europe and the United States, begun to seek final goods as a demand center within the region, and to have a self-sustaining nature as "East Asia being the production/ demand network". This represents one of the positive changes and improvements. Demand continued to increase the supply not only within the region but also outside the region. The "world's factory" has maintained and strengthened its position and at the same time has been becoming a "world demand center".

However, as mentioned above, currently, increased import "demand" does not always show the consumption demand and the transactions of consumption goods within the region are not large compared with total transactions. On the other hand, increases in the income and population of middle and wealthy classes have progressed steadily and high potential as a consumption market has undoubtedly increased. In order to acquire the world's largest growth energy, the most important thing for Japan will be the further promotion of bold and active trade investments by Japanese companies, which have been the foundation to establish and deepen the East Asia production network and supplying products satisfying the needs of the enlarged global market. For example, if a virtuous cycle is created and Japanese companies further develop local production and sales suitable to the markets in the region, boost the local potential demand, promote the expansion of markets, and set off increased supply from Japan, it will contribute to the further development of Asia as a whole. Overseas deployment of Japanese companies will be further analyzed in Chapter 3.

Section 2 New Trade Partners:

MERCOSUR, rapidly expanding the trade led by Brazil

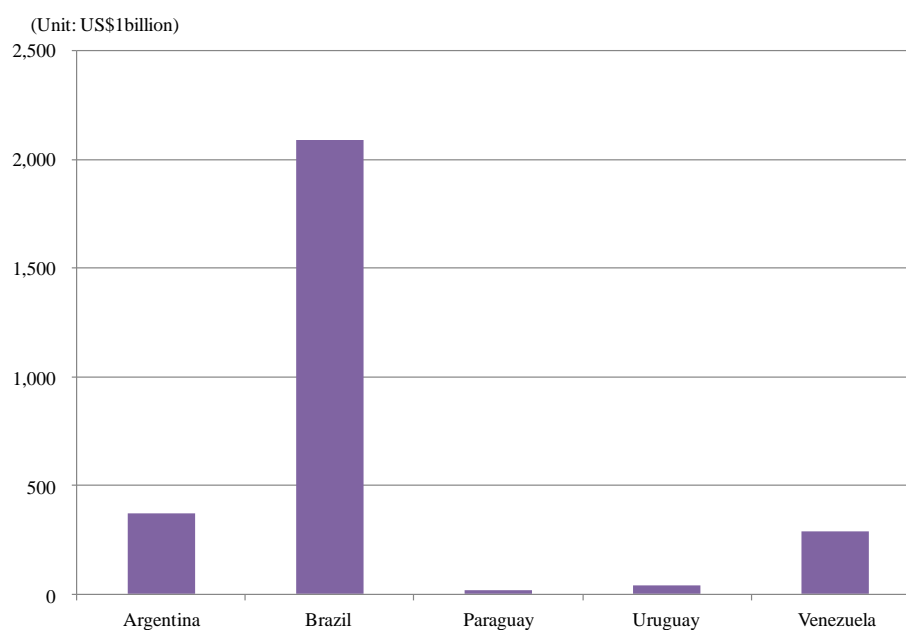
1. MERCOSUR Overview

(1) MERCOSUR from macro viewpoint

It was pointed out in the Chapter 2, Section 1 that the MERCOSUR's increase rates of trade amount comparing with that of 2008 to 2000 were 13.7 times increase in China – MERCOSUR, 5.1 times increase in ASEAN – MERCOSUR, thus the presence of MERCOSUR was increased. Also a result was found by the gravity model that trading cases where trading partner was China, MERCOSUR ranked higher in the trade amount increase rate / GDP increase rate. According to the IMF statistics, the MERCOSUR's GDP size is a total of US\$2,810 billion, which consisted of Argentina (US\$370 billion), Brazil (US\$2,090 billion), Paraguay (US\$18.5 billion), Uruguay (US\$40.3 billion) and Venezuela⁵⁹ (US\$290.7 billion).

Argentina and Brazil are outstanding in the GDP share in the five nations, i.e. 74% in Brazil, 13% in Argentina, 10% in Venezuela and 1% each in Uruguay and Paraguay. The economic movement in MERCOSUR is essentially affected by that of Brazil, Argentina and Venezuela, especially Brazil (Figure 2-2-1-1).

Figure 2-2-1-1 Nominal GDP of MERCOSUR (2010)



Notes: Value is estimated for Brazil.

Sources: IMF "World Economic Outlook Database April 2011"

Recently, China's presence has been increasing in Central and South American regions. Responses to China's presence in the region is said to differ from country to country⁶⁰. The responses can be divided into 2 groups; one group becomes cautious to the expansion of China's presence, which is a group of

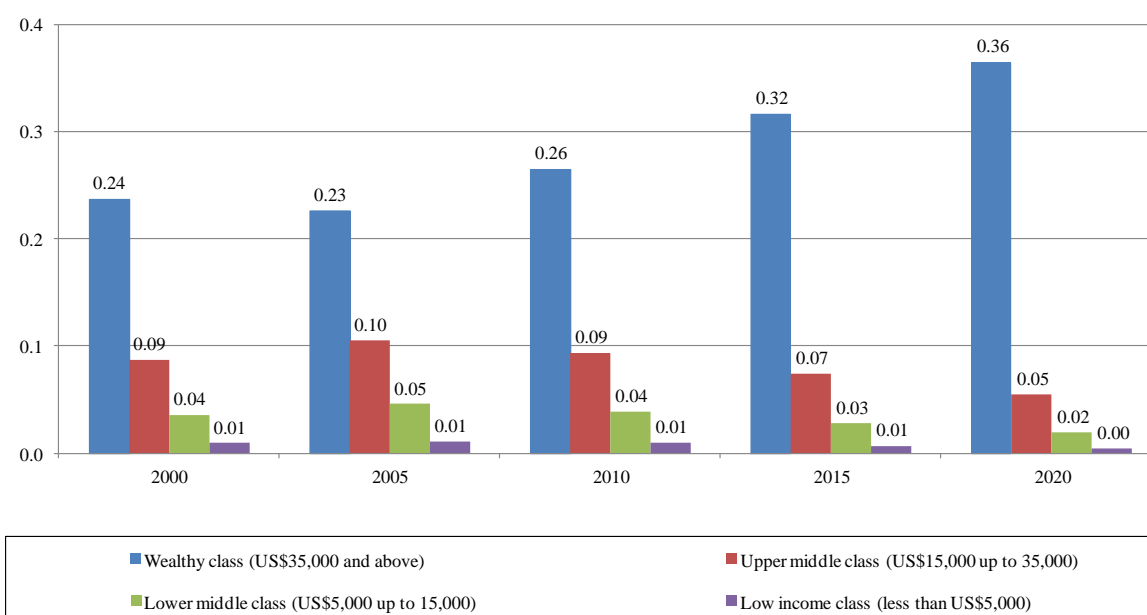
⁵⁹ Formal membership of Venezuela is not presently completed for delay in congressional ratification. Currently, the nation attends the meeting without any voting right.

⁶⁰ Refer to "Increasingly Expanding China's Presence and Currency in Recent Central and South American Region, and movement of cooperation in the monetary affairs" by Matsui, K. Senior Researcher, Institute for International Monetary Affairs (IIMA).

Central American countries and Mexico is competitive with China in sewn products export to the United States. Another group is the dominant countries in MERCOSUR such as Brazil, Argentina and Venezuela. Although having some small conflicts with China, those countries have generally strengthened their relation with China. The situation should be verified. And discussing in relation with the Chapter 3, Section 1, the wealthy class is dominant in Argentina and Brazil and is led by the middle class, which is expected to largely increase.(Figures 2-2-1-2 and 2-2-1-3).

Figure 2-2-1-2 Transition of population by income group in Argentina

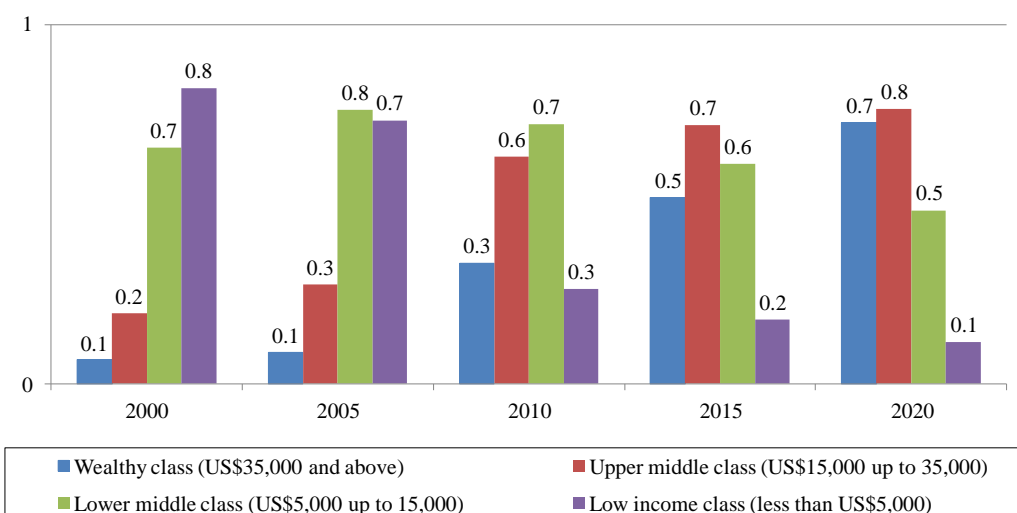
(100 million people)



Sources: Euromonitor International 2011

Figure 2-2-1-3 Transition of population by income group in Brazil

(100 million people)

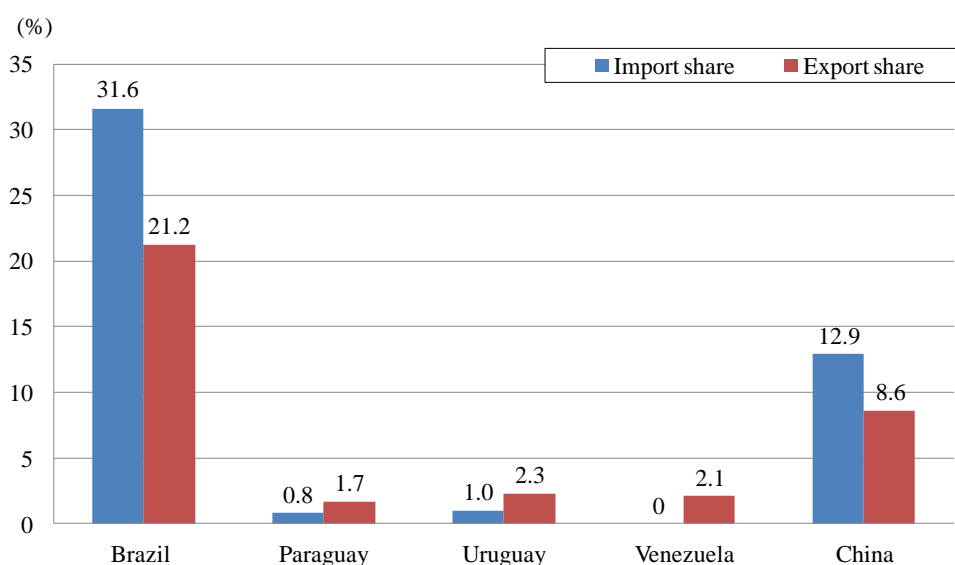


Sources: Euromonitor International 2011

(2) Trade situation within the MERCOSUR region

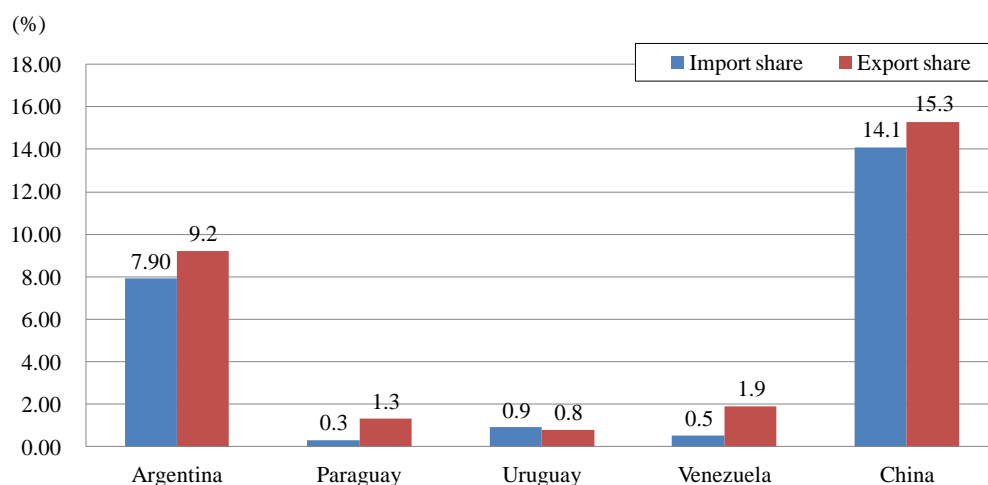
There was initially concern about forming a common market and customs union in MERCOSUR due to large difference in the economic sizes between these countries, which were classified as larger countries including Argentina and Brazil and smaller countries including Uruguay and Paraguay. Examining share of each trade partner country, two patterns can be found, i.e. Brazil and Argentina with high mutual dependency, and Paraguay, Uruguay and Venezuela with high dependency on Brazil and Argentina. However, it should be noted that there was high trading dependency between China and each country in the MERCOSUR region in 2010 (Figures 2-2-1-4 through 2-2-1-8). Argentina and Brazil have the relation of mutual dependency, but Argentina's dependency on Brazil is higher than that of Brazil on Argentina. Brazil's export and import partner countries are distributed worldwide including China and the United States, and the trade has multidirectional structure (Figure 2-2-1-9). Brazil's export dependency on countries within the MERCOSUR region is 13% and the import dependency on those countries is approximately 10%. The percentages are not so high compared with other countries in MERCOSUR. The trade of countries other than Venezuela depends on countries within the region by approximate 30% to 50% (Figure 2-2-1-10).

Figure 2-2-1-4 Argentina's export and import shares within MERCOSUR and to/ from China (2010)



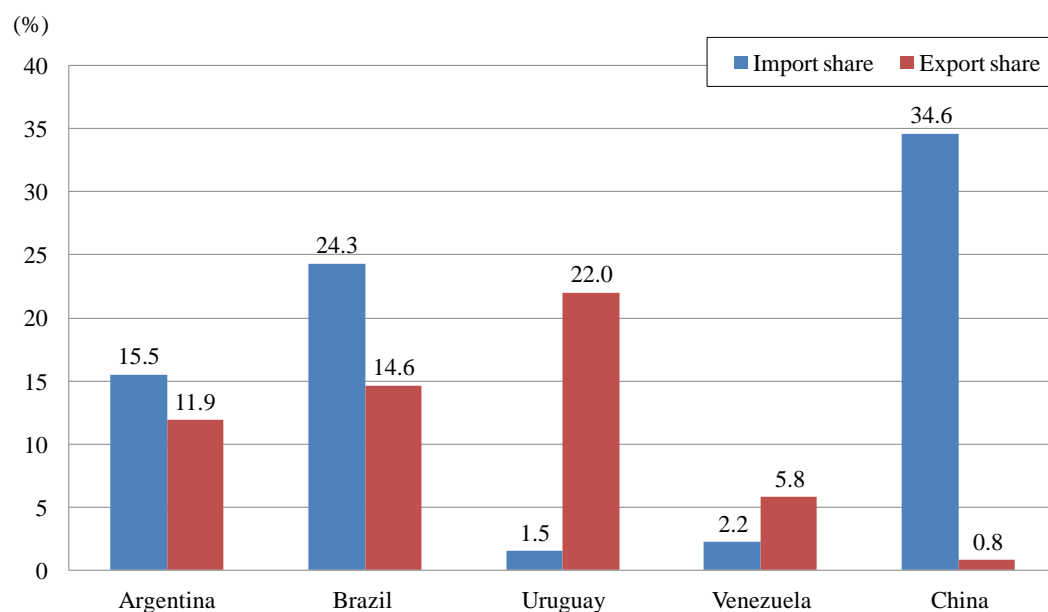
Sources: Global Trade Atlas

Figure 2-2-1-5 Brazil's export and import shares within MERCOSUR and to/ from China (2010)



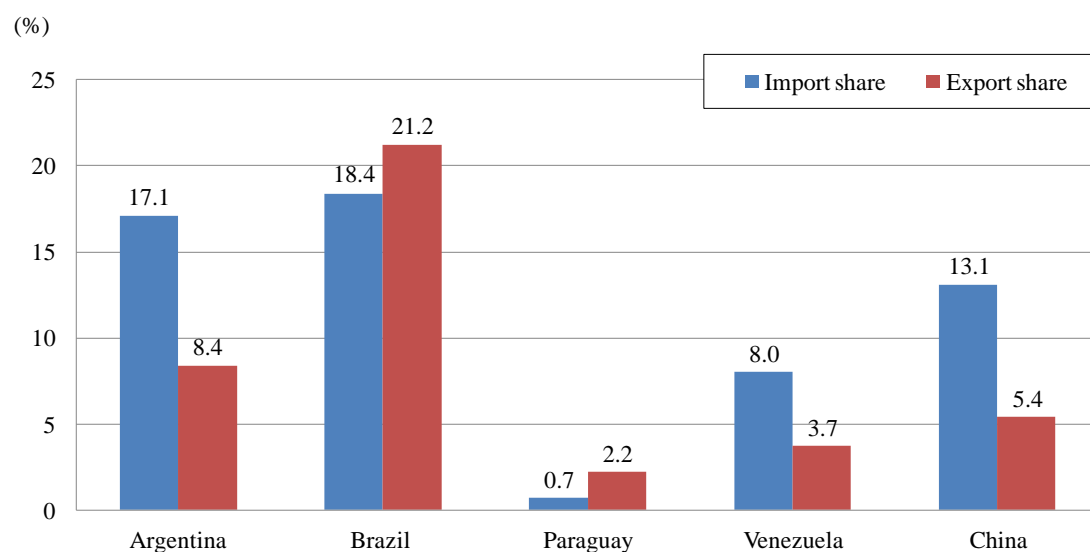
Sources: Global Trade Atlas

Figure 2-2-1-6 Paraguay's export and import shares within MERCOSUR and to/ from China (2010)



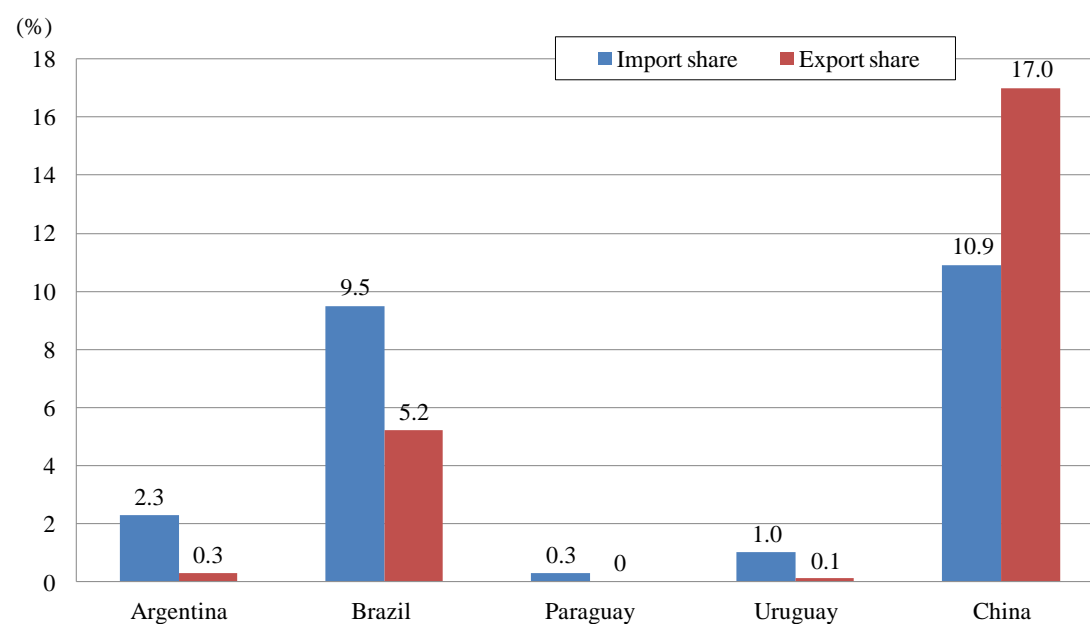
Sources: Global Trade Atlas

Figure 2-2-1-7 Uruguay's export and import shares within MERCOSUR and to/ from China (2010)



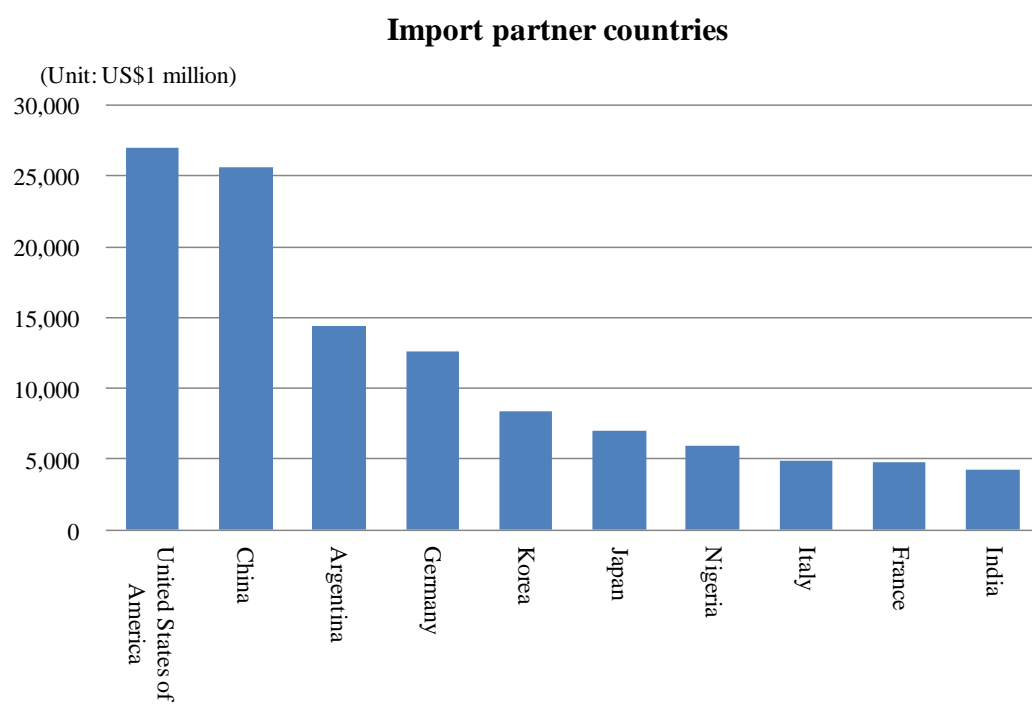
Sources: Global Trade Atlas

Figure 2-2-1-8 Venezuela's export and import shares within MERCOSUR and to/ from China (2010)



Sources: Global Trade Atlas

Figure 2-2-1-9 Brazil's main export and import partner countries (2010)



Sources: Global Trade Atlas

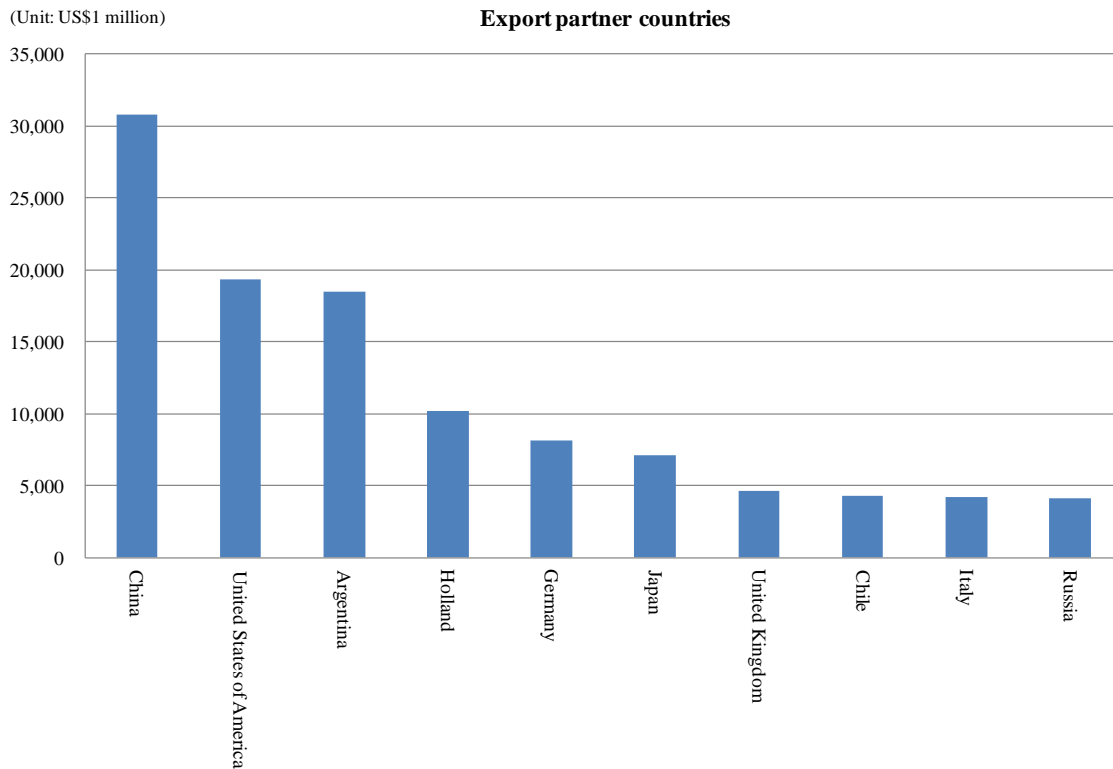
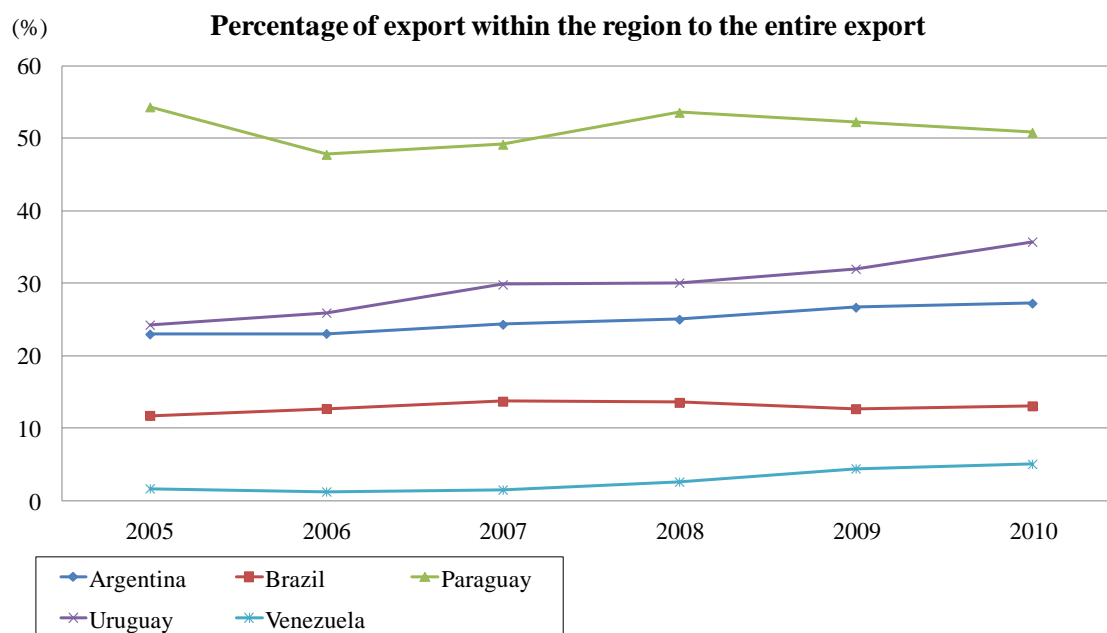


Figure 2-2-1-10 MERCOSUR countries' percentage of export and import within the region to the entire export and import



Sources: Global Trade Atlas 2010



The fact that is known from the data of these countries in the MERCOSUR region is that they form a “loose relationship” as an economic union. In EU and NAFTA, the trade within the region account for large percentages of each member country’s trade, but in the case of trade within the MERCOSUR region, trade relation between 2 or 3 countries is not closely tied except between Argentina and Brazil. This may reflect the larger economic sizes of these 2 countries.

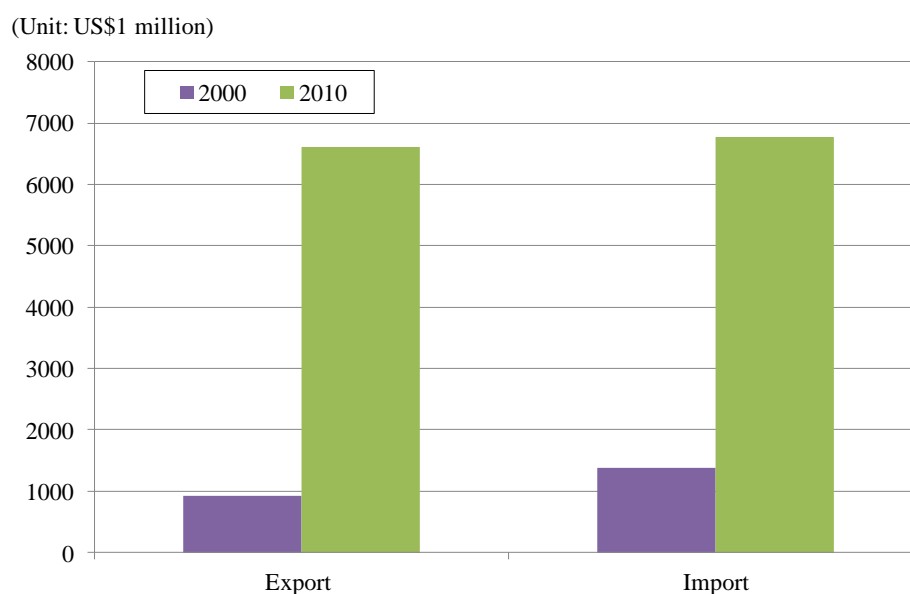
Then, it is notable that China shows its presence as a major trade partner outside the region as it does in all the five countries of MERCOSUR. As of this moment, it can be said that the countries of MERCOSUR have a structure that is tied with China individually.

(3) Trade with ASEAN, China, NAFTA and EU

(A) ASEAN

Examining the example of Brazil’s export and import to/ from ASEAN, export from ASEAN to Brazil (or import from ASEAN to Brazil) was slightly less than US\$1.4 billion in 2000, but it increased approximately 5 times to over US\$6.7 billion in 2010 (Figure 2-2-1-11). Also, export from Brazil to ASEAN was US\$900 million in 2000, and it reached to US\$6.6 billion in 2010, almost the same amount of import.

Figure 2-2-1-11 Brazil's trade with ASEAN (2000 and 2010)



Sources: World Trade Atlas

However, ASEAN's share in the total amount imported by Brazil was merely 3.7% in 2010. There is a viewpoint that the growth rate of the trade may not be overestimated, but as discussed in the Chapter 2, Section 1, the ratio of trade volume / GDP is larger than those of EU and NAFTA. It cannot be denied that the trade relation between MERCOSUR and ASEAN is becoming closer.

Brazil exported primary products to ASEAN and imported industrial products from ASEAN (Table 2-2-1-12). This means that Brazil works as a material supply source for ASEAN.

Table 2-2-1-12 Trade amount of Brazil and ASEAN (2010)

Brazil's export commodities to ASEAN	US\$100 million	ASEAN's export commodities to Brazil	US\$100 million
Raw sugar	9.0	Electric equipment and parts	18.0
Food Waste	8.1	Machinery and parts	11.0
Iron and Steel	7.6	Rubber	10.0
Iron ore	7.1	Automobile and parts	3.8
Petroleum oil and Bituminous oil	5.3	Fats and Oils	3.2
Soy bean	4.5	Manmade long-fiber	3.0
Cereals	3.8	Mineral fuel	2.5
Meat	2.9	Foot wear	2.2
Cotton and Yam Fabric	2.8	Manmade Filaments	1.4
Tobacco	1.8	Plastics	1.3

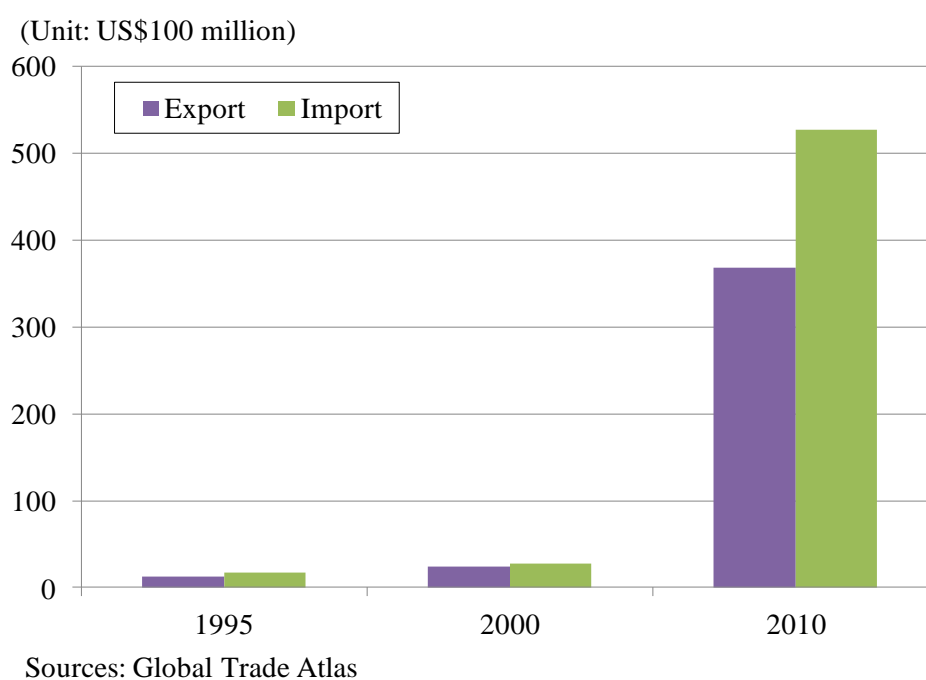
Sources: World Trade Atlas

(B) China

Examining the trade between MERCOSUR and China, the amount imported from China to MERCOSUR was US\$2.42 billion and the amount exported to China was US\$7.17 billion in 2000. In 2010, the amount imported from China reached US\$36.76 billion and that of to China US\$52.63

billion. It shows almost 2 digits increase. In this deepening trade relation, the import from China has been rapidly increasing though MERCOSUR still keeps the trade surplus (Figure 2-2-1-13). At the time of 1995, the top 10 commodities imported from China included toys, clothing and footwear, but in 2010, as shown in Table 2-2-1-14, the high ranked commodities were electric instruments and parts, optical instrument, photographic equipment and automobile, etc. The export and import commodities seem to be higher amount of processing and high value added products (however, toys, clothing and footwear were placed at 14th (US\$580 million), 15th (US\$560 million) and 18th (US\$40 million) positions respectively).

Figure 2-2-1-13 Transition of China's trade with MERCOSUR (1995, 2000 and 2010)



Commodities exported from MERCOSUR to China were primary products such as iron ore, soy beans, crude oil, wood pulp, fat and oil, steel, meat, raw sugar, tobacco, untreated hide (except fur) and leather (Table 2-2-1-14).

Table 2-2-1-14 Trade amount of China and MERCOSUR (2010)

Commodities exported from China to MERCOSUR	US\$100 million	Commodities exported from MERCOSUR to China	US\$100 million
Electric equipment and parts	81.9	Iron ore	190.1
Machinery and parts	78.1	Soy bean	137.3
Optical instruments and Photographic equipment	21.3	Crude oil	103.5
Automobile and parts	19.0	Woodpulp	19.5
Organic chemicals	18.0	Fats and Oils	11.5
Iron and Steel	12.4	Iron and Steel	8.9
Iron and Steel products	9.7	Meat	8.2
Plastics and products	7.4	Hides and Skins	8.0
Leather products	7.2	Raw sugar	5.0
Knit, Crocheted Fabrics	7.1	Tobacco	3.7

Sources: World Trade Atlas

(C) NAFTA

The trade with NAFTA is examined by using the trade between Brazil and NAFTA as an example.

NAFTA had been the largest export market for Brazil before the United States lost its top position to China in 2008, but in case of import, the United State still retained its top ranked position, though the import from China has been closer. The trade with NAFTA still has primary importance for Brazil. Specifically, it has a trade pattern in which Brazil imports machine and parts, electric instrument and parts, automobile, organic chemicals and crude oil from the United States, and Brazil exports the final goods as well as primary products to the United States. On the other hand, NAFTA exports the intermediate and final goods, such as machine and parts, aircraft, automobile, plastics and parts to Brazil.

As discussed in Chapter 2, Section 1, NAFTA and MERCOSUR have been close in their relationship, but the trade amount in 2000 was 2.3 times greater compared with that of 2008. The rate of increase in the trade volume is not so large (Table 2-2-1-15).

Table 2-2-1-15 Trade amount of Brazil and NAFTA (2010)

Commodities exported from Brazil to NAFTA	US\$100 million	Commodities exported from NAFTA to Brazil	US\$100 million
Crude oil	44.7	Machinery and parts	65.3
Machinery and parts	30.4	Petroleum oil and bituminous oil	51.2
Iron and Steel	19.1	Electric equipment and parts	25.9
Automobile and parts	14.4	Organic chemicals	23.5
Coffee	12.3	Automobile	23.5
Rare earth metal	9.8	Plastics and products	19.8
Organic chemicals	9.1	Optical instruments and photographic equipment	17.6
Electric equipment and parts	8.9	Pharmaceutical products	16.6
Woodpulp	8.5	Aircraft	11.7
Rubber	6.9	Fertilizer	9.6

Sources: World Trade Atlas

(D) EU

Examining the trade relation between MERCOSUR and EU, the amount exported from MERCOSUR to EU was US\$23.4 billion in 2000, and this accounted for 2.8% of the total EU's import amount, ranked 8th as importers (amount exported from EU was US\$24.8 billion, which accounted for 3.2% of EU's export volume , ranked 5th as exporters). However, the rate of increase in the trade amount registered 2.7 times increase in a period from 2000 to 2008. The rate of increase is less than those of China – MERCOSUR (13.7 times increase) and ASEAN – MERCOSUR (5.1 times increase).

The amount was US\$63.0 billion in 2010 and it accounted for 3.2 % of EU's import or it ranked 7th (export from EU was US\$57.4 billion and accounted for 3.2% of EU's export or ranked 6th). Most of the import from MERCOSUR was primary products such as iron ore, prepared feeding stuff, crude oil and soy beans (Table 2-2-1-16).

Table 2-2-1-16 Trade amount of EU and MERCOSUR (2010)

Commodities exported from EU to MERCOSUR	US\$100 million	Commodities exported from MERCOSUR to EU	US\$100 million
Machinery and parts	131.6	Iron ore	94.8
Automobile and parts	66.1	Food Waste	83.2
Electric equipment and parts	54.7	Crud oil	68.0
Medical supply	42.4	Soy bean	42.1
Organic chemicals	31.8	Woodpulp	29.4
Optical instrument and photographic equipment	25.3	Coffee	28.6
Plastics	20.2	Meat	23.2
Aircraft	19.2	Machinery and parts	18.9
Petroleum oil and bituminous oil	18.5	Chemical industry products	15.6
Chemical industry products	16.2	Fruits and nuts for edible use	15.6

Sources: World Trade Atlas

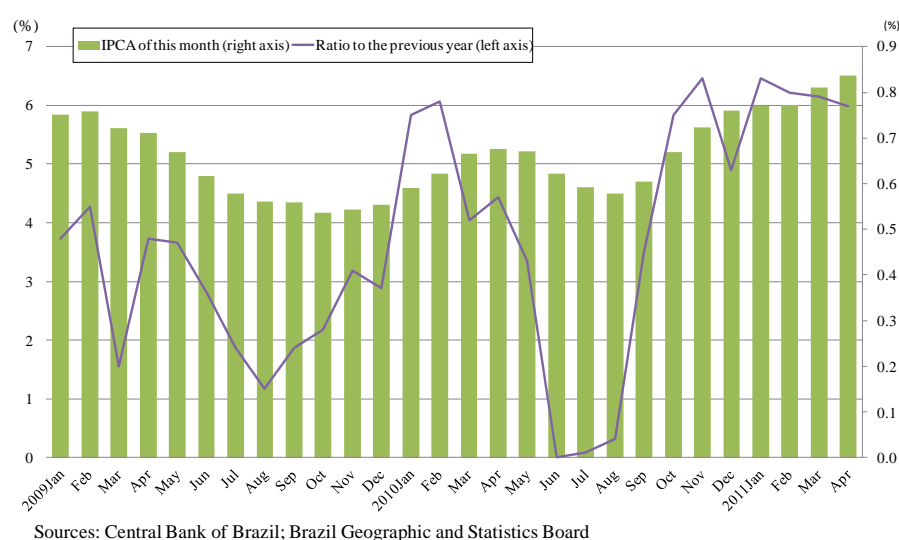
Commodities exported from EU to MERCOSUR are mostly automobile, electric machinery, and intermediate goods such as organic chemicals and plastics. In a peculiar case, MERCOSUR exported aircrafts (US\$1,230 million, and ranked 13th) to EU and EU exported aircrafts (US\$1,920 million, ranked 8th) though they did not occupy any place within top 10. Another case was the automobile (1,330 million) exports to EU, which occupied the 12th place. Thus, MERCOSUR is a material supply base for EU in the trade relation between MERCOSUR and EU, but competitive situations may be emerging in some parts of the trade relation.

2. Movement of economy and trade in Brazil (including Argentina)

(1) Brazil's standing from a viewpoint of the monetary affairs

Examining the inflation, Indice Nacional de Precos ao Consumidor Amplo (IPCA) recorded 0.77% in April 2011 with an annualized rate of 6.51%. This exceeded 4.5% plus/minus 2% of the nation's policy target (Figure 2-2-2-1). Immediately before that, Central Bank of Brazil increased the policy interest rate by 0.25% to 12% in April. On the other hand, the raise in interest-rate caused inflow of speculation money from overseas accounting for high value of the Real. The Central Bank announced a restrictive measure to introduce a compulsory deposit system to banking institutions, which had a position to sell a large amount of dollar⁶¹ on January 6. In case, a banking institution has US\$3 billion or its dollar selling position exceeding its capital size, 60% of the dollar should be deposited compulsorily. The measure was enforced on April 4. Also, a measure to restrict the high value of Real has been taken by raising the tax rate of Imposto Operacoes Financeiras (IOF), which has been imposed on exchange dealing, securities investment and loan. The future effect should be noted.

Figure 2-2-2-1 Brazil's inflation index (Indice Nacional de Precos ao Consumidor Amplo (IPCA)) (Ratio of this month to the previous year)

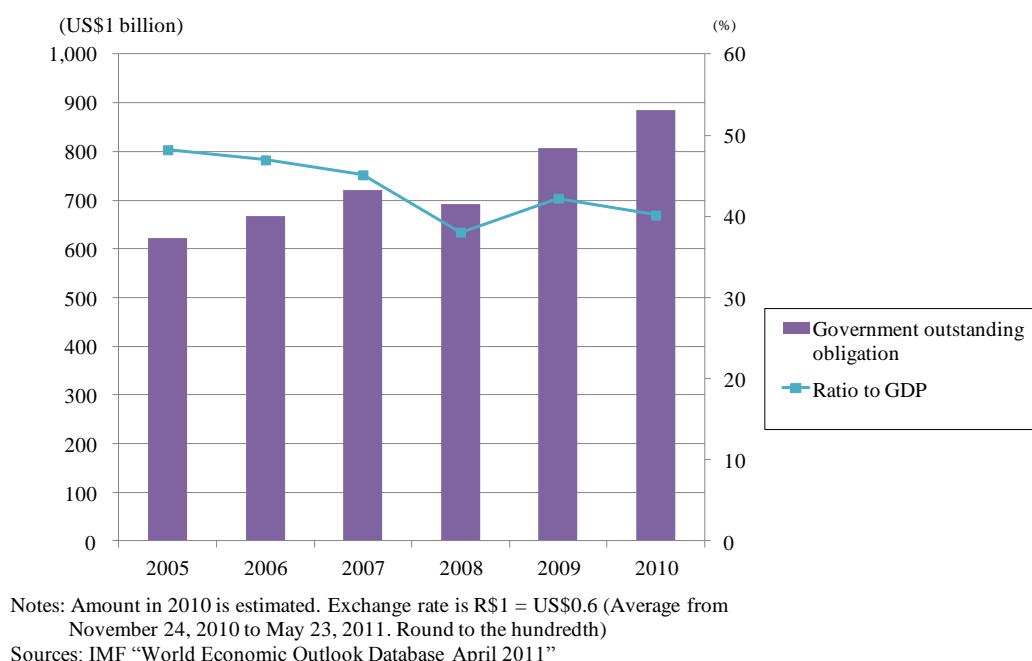


Examining the financial policy, Financial Minister Mantega said, “new expenditure shall not be created” in 2011. A target has been set to reduce the rate of debt to GDP from present 41% to 30% in

⁶¹ This is the Real buying Dollar selling position here.

2014. The background to this is the shrinking primary balance. It became 2.78% in December 2010, which was less than 3.1 % of the initially planned. However, the rate of government debt to GDP of 41% is not a level to cause a debt crisis. There may be little possibility that Brazil lapses into the debt crisis as before (Figure 2-2-2-2). Draft budget of this year shows various scale-downs including reduction of infrastructure investment based on the growth accelerating strategy (R\$3.4 billion) and addressing the reduction in public servants' salaries. Additionally, it plans to reduce R\$50 billion (US\$30 billion) which is expected to contribute restoring the fiscal health.

Figure 2-2-2-2 Brazil's government outstanding obligation and its ratio to GDP (net)



Brazil is currently a net creditor country externally (Figure 2-2-2-3), and the rating agency certifies Brazil's foreign currency denominated national bond as investment grade⁶². This also may reinforce the conditions mentioned above.

⁶² Moody's judged as Baa3, Standard & Poor's judged as BBB- and Fitch judged as BBB- (all of them are investment grade), but Fitch raised one notch and made it BBB from April, and Moody's raised one notch and marked it Baa2 in June.

Figure 2-2-2-3 Transition of Brazil's foreign debt and foreign currency reserve



Sources: Central Bank of Brazil; CEIC Database

However, travel expenditure has been increased by the rise of consumer confidence due to improved unemployment rate from 6.8% in 2009 to 5.9%. Remittance from foreign companies to their home countries had increased due to solid results supported by increased domestic demand. Under these conditions, the size of income deficit / service balance increased over the past several years. The pattern is to cover the loss by a strong economy and direct domestic investments attracted by the high interest rate. The direct domestic investment declined in 2009, but recovered in 2010 to the level of 2008 (Table 2-2-2-4). On the other hand, attention is needed for the overheated economy and inflation, which may be caused by further inflow of foreign money attracted by such conditions as high interest rate and better investment grading. IMF⁶³ has pointed out that matters such as inflation, expansion of credit (increase in credit), dependency on foreign capital and current account deficit have led economies of Latin American countries including Brazil into a difficult position. (However, it has also been pointed out that the monetary system has been healthy). Additionally, it has been pointed out that, external factors like rising of United States' interest-rate may cause the flight of capital⁶⁴.

Table 2-2-2-4 Transition of Brazil's current account and domestic direct investment

	2006	2007	2008	2009	2010
Current account	136	16	△282	△243	△473
Trade balance	465	400	248	253	203
Services and income ba	△371	△425	△573	△529	△704
Current-unilateral transf	43	40	42	33	28
Foreign direct investmen	188	346	451	259	484

Sources: Central Bank of Brazil; ECLAC (UN Economic Commission for Latin America and the Caribbean); CEIC Database, Unit: US\$100 million

⁶³ IMF website is <http://www.imf.org/external/np/tr/2011/tr041511a.htm>

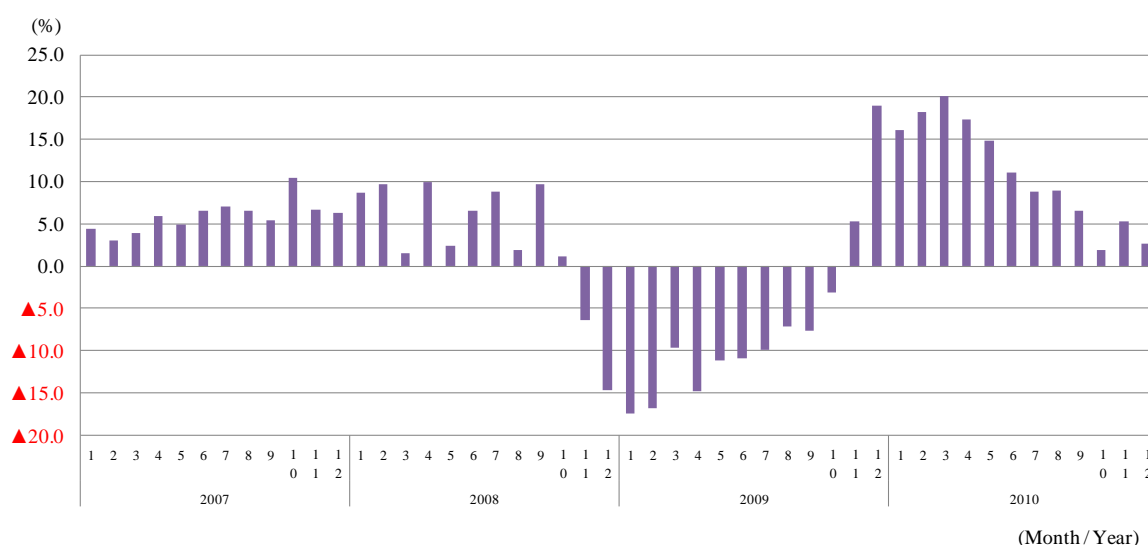
⁶⁴ IMF website is <http://www.imf.org/external/pubs/ft/reo/2011/whd/eng/wreo0411.htm>

(2) Brazil, as seen from real conditions

(A) Industrial production index

The industrial production index significantly declined in 2009 being affected by the world economic crisis, but recovered at the beginning of 2010. However, the rate of growth was brisk but with a downward tendency since the middle of 2010 (Figure 2-2-2-5). The raising of interest-rate by the Central Bank to control overheated economy and inflation in 2011 may accelerate this downward tendency.

Figure 2-2-2-5 Brazil's industrial production index



Sources: Cabinet Office "Overseas Economic Data"

(B) Automobile sales

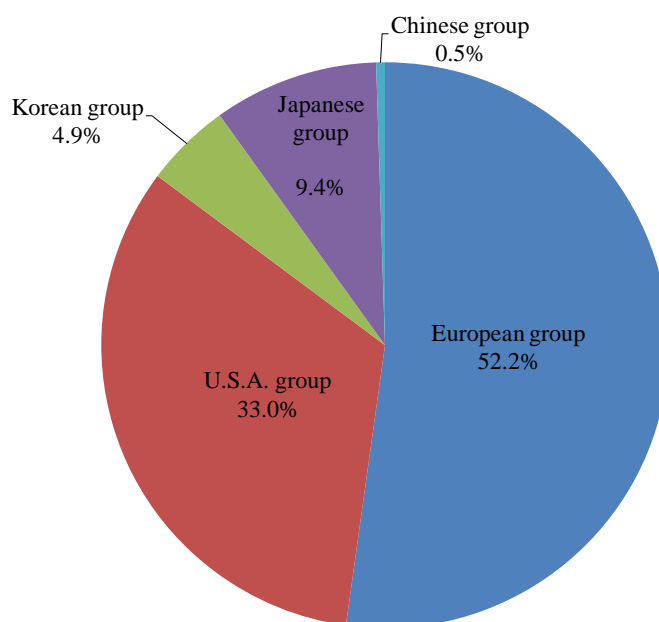
As mentioned in Chapter 1, Section 1, the number of automobiles sold in Brazil in 2010 reached a record high of 3,510,000 units. This was supported by active demand⁶⁵ (increase in the middle class income group). Getting ahead of Germany, Brazil ranked 4th in the world after China, the United States and Japan. The six companies from Europe and the United States accounted for 80% of the sales.

Japanese companies operated in Brazil for a long time and accounted for 9.4% of the share of sales. However, Korea, a latecomer, entered the import and sales markets and achieved 4.9% share by succeeding in the advertisement strategy and being supported by the depreciation of Won against the Real. As a result, the rate of share gained by Korean companies exceeded that of each and every Japanese company (Figure 2-2-2-6). In Brazil, automobiles with displacement of 1000cc or less accounted for 70% of the total automobile sales in the 2000s. This was due to government's tax incentives and a relatively large population in the low-income group. However, recently sales of

⁶⁵ Reduction in industrial products tax was implemented for passenger cars until March 2010 and for trucks until December 2010.

automobiles with displacement of 1,300 ~ 2,000cc have been increasing⁶⁶ following the expansion of markets. A large part of automobiles sold in Brazil were so-called basic cars, or cars not fully complemented in the past, but recently needs for fully complemented cars have been increasing. This suggests that the demand may increase for Japanese cars with higher quality and durability⁶⁷. Considering the facts that Brazil's population per car was 6.9 persons in 2008 compared with 4 persons in Mexico and 1.7 persons in Japan, Japanese companies may have rooms for competing in the markets with superior quality Japanese cars.

Figure 2-2-2-6 Brazil's automobile sales share (2010)



FOURIN "Monthly Survey Report on World Automobile" March 2011, Copyright FOURIN Inc.

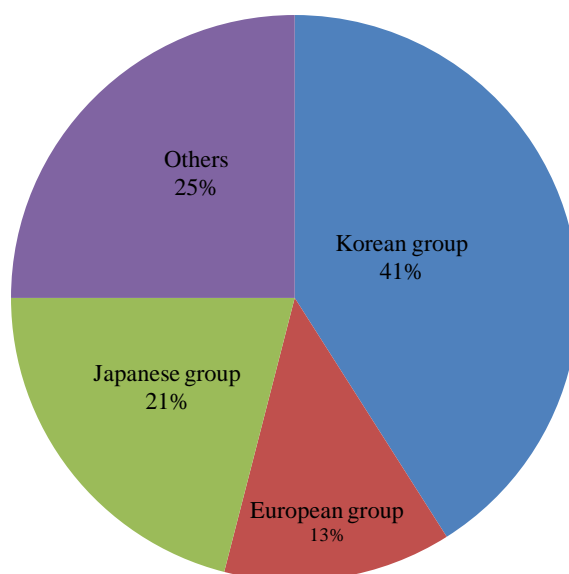
(C) Home electronics (Television)

Brazil adopted terrestrial digital media broadcasting system (ISDB-T system) developed by Japan and entered into a transitional period (the analog broadcasting is scheduled to be terminated in 2016). The LCD televisions are becoming popular due to terrestrial digital broadcasting of the FIFA World Cup last year. The dissemination is estimated to progress toward the 2014 FIFA World Cup and the 2016 Olympics Game in Brazil. Sizes of hot-selling LCD TVs are changing from 32" to 40" and to 42" and the markets are becoming active backed by the strong economy. Two Korean companies have accounted for approximately 40% of the market share and three European and Japanese companies have shared the rest of the market. Each Japanese company is making every effort to catch up the situation and expand the market share (Figure 2-2-2-7).

⁶⁶ Monthly World Automobile Survey Report (FOURIN), March 2011, Copyright FOURIN, Inc.

⁶⁷ Ditto

Figure 2-2-2-7 Brazil's Television sales share (2009)



Sources: Euromonitor International 2010

(D) Motorcycle

The motorcycle market in Brazil is an example of Japan's success, occupying over 90% share of the market (Figure 2-2-2-8). Japanese manufacturers established the production bases in Manaus, a city located at the middle stream of Amazon River for their production activities. Motorcycles manufactured in Brazil were 2,300,000 units in 2008, but it declined to 1,500,000 units in 2009 being affected by the world economic crisis. Then it recovered to 1,830,000 units in 2010. According to Brazil Motorcycle Manufacturers Association (ABRACICLO), 2,000,000 units are expected to be manufactured in 2011. There should be more scope of selling Japanese motorcycles⁶⁸ for reasons, such as Brazil's dissemination rate of motorcycles was 11.7 persons per unit in 2010, growing demand for motorcycles for purposes of hobby and leisure, increasing cruising speed of motorcycles in the southeast area of Brazil where dissemination of cars have progressed; increasing demand for motorcycles with displacement of 250cc or more for a business of delivering documents and parcels which is operated by 150,000 to 300,000 drivers called "motoboy". Classifying the hot-selling motorcycle by the displacement, motorcycles with displacement of 101 to 150cc account for 83% and those of 251cc and over account for 7.4%. The percentage of sales of large sized motorcycles is not high, but number of units sold in Brazil is over 100,000 units⁶⁹. The number is ranked at 4th place after the United States, Italy and Germany (it is approximately 60,000 units in Japan⁷⁰).

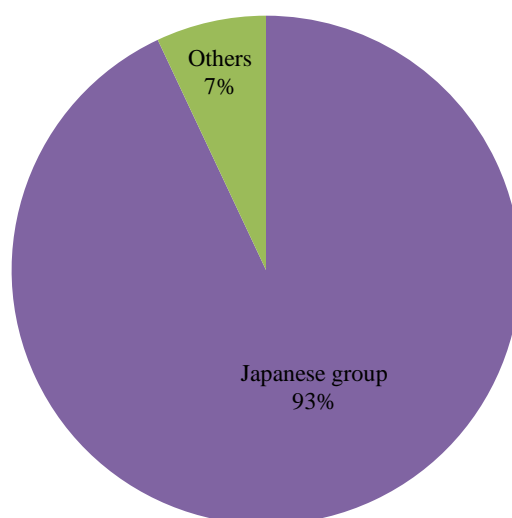
Figure 2-2-2-8

⁶⁸ "Motorcycle Industry and Market in Brazil" by Mishima, K. JAMAGAGINE, Automobile Manufacturers Association Inc. March 2010, Japan.

⁶⁹ Brazil Motorcycle Manufacturers Association (ABRACICLO)

⁷⁰ "Motorcycle Industry and Market in Brazil" by Mishima, K. JAMAGAGINE, Automobile Manufacturers Association Inc. March 2010, Japan.

Brazil's motorcycle sales share (2010)



Sources: Brazil Motorcycle Manufacturers Association (ABRACICLO)

Some of tax incentives such as exemption of import tax are given for manufacturers in Manaus⁷¹. At the same time, however, so called Brazil costs⁷² are pointed out. Industrial products manufactured in Manaus are transported by ships to Belem, a city located at the estuary of Amazon, along a waterway of Amazon, due to inadequacy of roads for land transportation (there are two national roads but not insufficiently maintenance) then, they are distributed to Brazilian domestic markets by land transportation (Insurance fee for the land transportation is lower than the cost of transportation by ship due to the large fluctuation of water level between Atlantic and Amazon. The transportation via Belen is a kind of Brazil cost). Other examples of Brazil costs are strict medical checks to hire employees to prevent lawsuit following dismissal and a large number of staffs in indirect departments, which is supposed to be 10 times larger than that of Japan due to complicated taxation system. In addition, wages of workers rise by 6 to 7% annually and the competitiveness in international markets is running out. Furthermore, when FTA is concluded between EU and MERCOSUR, European companies will have no need to locate in Manaus. Future influence of FTA between EU and MERCOSUR should be noted.

(3) Trade between Japan and Brazil

Brazil exports primary products to Japan as they are doing to ASEAN and imports industrial products mainly automobile from Japan. Exceptionally, the products exported to Japan include aircraft manufactured by Empresa Brasileira de Aeronautica S.A. (EMBRAER), Brazil's major aircraft manufacturer. Dominant goods exported from Brazil are iron ore, which account for 46% of the total exported goods to Japan (Figure 2-2-2-9). The trade with Japan had been an import surplus for Brazil,

⁷¹ Import tax: by satisfying a condition of PPB (basic process to be done for the manufacturing), 88% reduction of import duty for imported parts, exemption of industrial products tax and export duty; reduction from 9.25% to 3.65% for PIS (Social Integration Plan) and COFINS (Social Insurance Contribution)

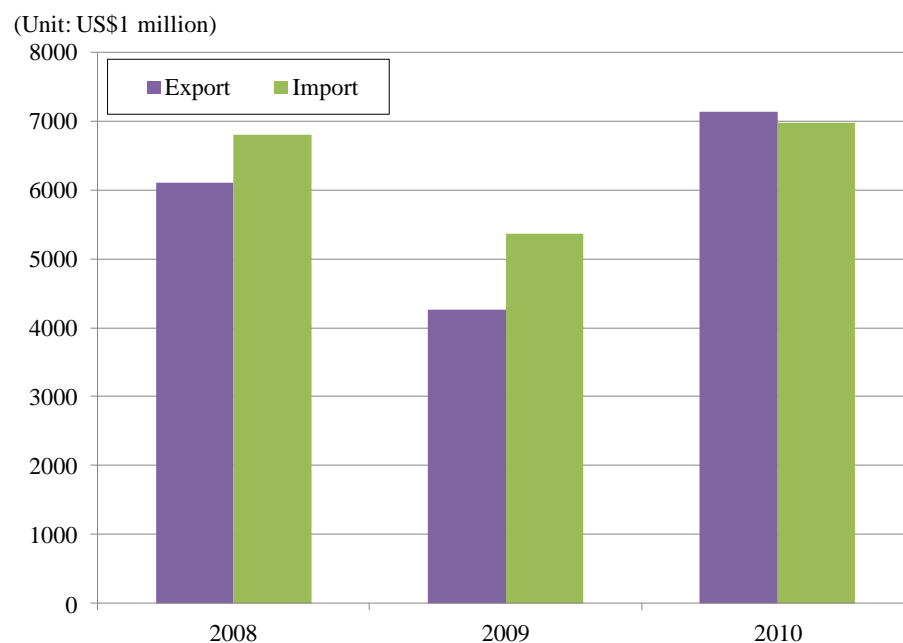
⁷² Brazil Japan Chamber of Commerce and Industry website;
<http://jp.camaradojapao.org.br/brasil-business/advocacia/custo-brasil>

but it has turned to export surplus in 2010 (Figure 2-2-2-10). Exported goods from Japan to Brazil include aircraft parts, which are provided by Japanese manufacturers to EMBRAER.

Table 2-2-2-9 Trade amount of Brazil and Japan (2010)

Commodities exported from Brazil to Japan	US\$100 million	Commodities exported from Japan to Brazil	US\$100 million
Iron ore	32.7	Automobile, tractor and parts	6.9
Frozen poultry including internal organ	9.1	Passenger car	5.4
Aluminum	4.6	Bearing, gear and parts	3.0
Coffee	3.9	Metric instrument and measurement instrument	2.7
Alloyed metal	3.3	Parts for automobile engine	2.5
Soy bean	1.9	Parts for telephone receiver and transmitter	2.0
Aircraft	1.4	Rolled steel plate	1.8
Woodpulp	1.3	Pump, compressor and parts	1.7
Ethanol	1.3	Copying machine and thermal printer	1.7

Figure 2-2-2-10 Transition of Brazil's trade with Japan



Sources: World Trade Atlas

There are many Japanese ancestries in Brazil and the nation is friendly toward Japan and the natural resources-rich country belongs to the nation compared other BRICs. As shown by its fourth place in the world automobile market last year, the booming Brazilian markets are expected to continue

expansion. Hosting Olympic games and FIFA World Cup may further promote the expansion of consumer-electronic markets. The conditions may be important business opportunity for Japanese companies to operate. Although concerns such as inflation and dependency on foreign capital still exist, Brazil, having been rated as an investment grade country with its healthy monetary system, the country is supposed to be different from the Brazil, which had lapsed into the debt crisis in the past. In such conditions, foreign companies and products are actively penetrating the markets and it causes threat to Japanese companies. The government of Japan is also required to create suitable circumstances for activities of the local Japanese companies and for new Japanese companies to expand their business in Brazil.

(4) Improvement of trade and investment circumstances for Japan and Brazil

(Joint Committee for Japan Brazil Trade and Investment Promotion)

The Japan Brazil Trade and Investment Promotion Joint Committee was agreed to be established to develop the increasing closeness between Japan and Brazil, to exchange public and private informal information and to exchange opinions on the improvement of business environment and mutual promotion of trade and investment in 2008. The meeting is to be held at least one time in a year, but actually four meetings have been alternately held since the first meeting in February 2009. Main themes of the discussion were improvement of the business environment and the promotion of trade and investment (Table 2-2-2-11).

Table 2-2-2-11 Major attendants at Japan Brazil Trade Promotion Joint Committee meeting

< Participants >	
Japanese side:	Ministry of Economy, Trade and Industry, Ministry of Foreign Affairs (including Embassy of Japan to Brazil), Ministries and agencies concerned, Japan Economic Federation, Representatives of Japanese companies operating in Brazil (Brazil Japan Chamber of Commerce and Industry), and others
Brazil side:	Ministry of Development, Commerce and Industry, Ministry of Foreign Affairs (including Embassy of Brazil to Japan), Ministries and agencies concerned, Brazil National Industry Union (CNI), representatives of Brazilian companies operating in Japan, and others

By the way, the fourth meeting of Japan Brazil Trade and Investment Promotion Joint Committee was held in Tokyo in November 2010 and Brazil proposed removal of embargo on exporting pork to Japan and revision of the criteria for pesticide residue of coffee beans, and Japan proposed to remove problems in transfer price taxation system, technology transfer system and to be permitted number of years for visa. Also, matters on mutual interests and possibility of future cooperation were extensively discussed. Thus, public and private alike are actively making efforts to further promote the trade and investment between Japan and Brazil.

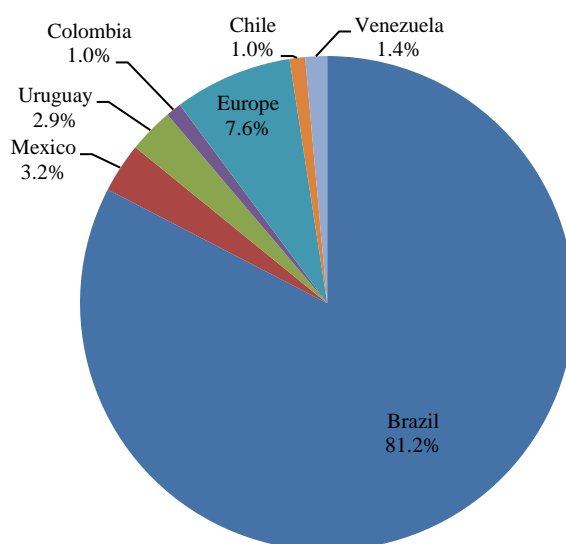
(5) Movement of economy and trade in Argentina

Argentina experienced lower rate of annual growth of 0.8% in 2009, but achieved a 9.2% growth in 2010, which exceeded Brazil's 7.5%. Examining the ever-growing automobile industry, number of

automobiles sold in Argentina was a record-high of 698,000 units in 2010 (43.3% increase compared with the previous year)⁷³. Number of manufactured automobiles also recorded all-time high of 724,023 units (a 41.2% increase compared with the previous year)⁷⁴. Currently, number of automobiles sold in the first quarter of 2011 was 184,971 units (a 20% increase compared with the same quarter of the previous year), and number of manufactured automobiles also continues to increase to 159,486 units (a 28.2% increase compared with same quarter of the previous year)⁷⁵.

The rapid expansion of Argentina's automobile production was backed by several factors including existing Brazilian markets, the government's protectionist policy and the government's measures to foster the supporting industry. Especially, the prosperous Brazilian automobile markets substantially contributed to the expansion. Brazil's share accounts for over 80% of the Argentina's automobile export volume. The characteristic of Argentina's automobile export is that most of the destination countries/ regions are neighbor countries such as, Mexico (3.2%), Uruguay (2.9%), Venezuela (1.4%), Colombia (1.0%) and Chile (1.0%) with exception of Europe (7.6%) (Figure 2-2-2-12).

Figure 2-2-2-12 Argentina's partner countries/ regions to export automobile (May 2011)



Sources: Argentina Automobile Manufacturers Association (ADEFA)

In recent years, the government of Argentina has attracted global companies (automobile, electric instruments and others) and induced additional investment from Japan, Europe and the United States by tightening the protectionist policy to accelerate the growth of domestic economy.

However, the government of Argentina has two external problems. Firstly, it is the foreign debt issue. Argentina lapsed into economic crisis in 2001, declared default and got behind in payments of external debt. Presently, Argentina has US\$8.4 billion Paris Club⁷⁶ debt (the debt can be paid back with the

⁷³ World Automobile Survey Monthly Report (FOURIN), March 2011, Copyright FOURIN. Inc.

⁷⁴ World Automobile Survey Monthly Report (FOURIN), May 2011, Copyright FOURIN. Inc.

⁷⁵ Ditto

⁷⁶ Conference of major creditor countries to discuss the reschedule for debtor countries which become difficult to pay back; the 19 permanent member countries are Ireland, Italy, UK, Austria, Holland, Canada, Switzerland, Sweden, Spain, Denmark, Germany, Japan, Norway, Finland, France, United States of

US\$50 billion foreign currency reserves). Therefore, the debtor countries of Paris Club have withheld giving new export credit to public sectors of Argentina and the export credit associated with the infrastructure building has been restricted.

Secondly, it is the import restriction measure issue. Especially, the problem inconsistent to the WTO rule is “non-automatic import license system”⁷⁷ introduced in 2008. When the system was introduced, the subject item was only metal products (elevator and others), but later in December 2010, automobile was included in the restricted subjects. In addition, in January 2011, a new restriction was introduced⁷⁸ to permit importation of only 80% of what was imported in the past. Afterward, the subject items continued to increase to reach 600 items as of May 2011.

(6) MERCOSUR and FTA

The “4 + 1” system, by which international negotiation was done as a block, was adopted for FTA of MERCOSUR with countries/ regions outside the region after June 2001 based on the decision No. 32 of the 18th MERCOSUR summit meeting in June 2000. Therefore, each member country of MERCOSUR by itself cannot conclude the FTA with countries/ regions outside the region.

Until now, MERCOSUR signed the FTA framework agreement with Mexico in April 2002; the FTA with Andean Community⁷⁹ came into effect in April 2005; and FTA with Israel came into effect in March 2010. Also MERCOSUR signed FTA with Egypt in August 2010 and the negotiation is ongoing with EU and Gulf Corporation Council (GCC).

The negotiation with EU has been started in 1999. Agreement has not been reached on response of EU on agricultural products and that of MERCOSUR on automobile, services and government procurement. The negotiation once broke down in October 2004, but it was agreed to resume at the MERCOSUR and EU summit meeting in May 2010. The five negotiation meetings have been so far held and another is scheduled to be held in July and November 2011. FTA between MEROSUR and EU includes not only goods trade but also services trade, investment, government procurement, protection of intellectual property rights and competition policy. The negotiation is aiming at an unprecedented comprehensive agreement for MERCOSUR.

A joint communiqué was issued at the Korea/ MERCOSUR consultative conference in June 2003 to confirm the intent to conclude FTA. In November 2004, implementation of joint research on the possibility to conclude trade agreement was agreed at the Korea/ MERCOSUR summit meeting. Four joint research meetings were held between 2005 and 2006 and a joint communiqué was issued to confirm the merit of FTA as an economic strategy, and completed the joint research on October 31, 2007. The follow-up to joint research has been completed by signing a memorandum to establish a “Korea/ MERCOSUR trade and investment promotion joint conference” in July 2009.

(7) Conclusion

MERCOSUR can be a market with high potential for Japan due to several reasons including the facts that many Japanese ancestries are active in the society especially in Brazil; a massive market with

America, Belgium and Russia.

⁷⁷ A system obligates to submit application with information such as importers, exporters, prices and quantities of imported goods

⁷⁸ “Unfair Trade Report 2011” Ministry of Economy, Trade and Industry”

⁷⁹ Colombia, Peru, Ecuador and Bolivia

population of 270 million⁸⁰ in 2010; over 90%⁸¹ high literacy rate in every country of the group, i.e. 90% in Brazil, 97.7% in Argentina, 95.2% in Venezuela, 94.6% in Paraguay and 97.8% in Uruguay. This proves a higher standard of basic education compared with Asia (for example, literacy rate of India is only 74%⁸²). It is important for Japanese companies to establish local companies in member countries of MERCOSUR, which can reduce the customs duties in trade between the member countries to enter into the markets and enjoy the profits before the conclusion of FTA. Although the percentage of trade in Japan's total trade amount is presently not so high compared with other major trade partners, it may be important to further strengthen the trade and investment relation with MERCOSUR, which has great market potentials.

⁸⁰ United Nations (2010), "World Population Prospects: The 2010 Revision"

⁸¹ UNESCO, "Statistics Data Centre"

⁸² Ministry of Foreign Affairs website; <http://www.mofa.go.jp/mofaj/india/data.html>

Section 3 Structural Change of Trade and Economy in Japan

1. Structural Change of the Trade in Japan

(1) Significance of the Trade in Japan

Based on the changes of the global economy in 2010 as discussed in Chapter 1, and the short term dynamic change of the world trade as explained in the previous section in this chapter, and in order to connect to the analysis and policy theory being discussed in after Chapter 3, in this section, we will explain about the long term structural changes “Trade” (commercial deal with foreign countries) of Japan. For the sake of it, in this sector, we will first show the significance of trade in Japan, then we will show the influence of trade given to structure of economy and industry in Japan mainly as “Ripple Effect”.

At first, as a premise, we roughly classify changes of trade and economy, and industrial structure after the modern (Meiji) period. As Japan is poor in resources due to its geographical conditions, and it is not self-sufficient in its food production, this island nation had a weak point that was difficult to be overcome. So, there was no way but to import such natural resources after Japan’s modernization began, dependence on mineral resources such as oil rose. Japan acquired foreign currency needed to import such materials by so-called “Processing Trade” – importing resources as low-processed materials, and exporting processed products of secondary industry. Such dependence on import continues to be a weak point of the Japanese economy even in this modern period. And as explained in Chapter 1, influence of resource-diplomacy such as price hike of resources and export embargo of rare-earths by China became problem some in 2010.

On the other hand, as a result of economic growth by “Processing Trade”, “Full Set Type” (an economic structure in which all industrial sectors are contained at certain level in one country) economic structure was established in Japan. As a result, though Japan has to depend on import for most of its resources and food items, the country has maintained a low export dependency of around 10% (contrasted with GDP) for a long time, next only to the U.S. among the developed countries. Namely, connections among domestic industrial sectors are so close that the economic and industrial structure of Japan can sustain this condition indefinitely if export contrasted with GDP is kept at around 10%.

It is important to understand that the establishment of this economic and industrial structure was indispensable as it was a historic process in which it was considered that Japan should strive to develop all industrial fields within its borders. Around 100 years ago when Japan grew conscious of modernization, it couldn’t establish separate industrial structures in cooperation with other East Asian countries. Because, they were already colonized by European countries and so, they didn’t have any independent opportunities of acting spontaneously to promote modernization of their countries through industrialization.⁸³

However, since around 1990, it was easier to purchase and import into Japan inexpensive goods from these East Asian countries as they grew richer through economic development. This was also due to other relevant factors like currency appreciation and so on. In this way, the inevitability of “Full Set Type” or all inclusive industrial structure that once made Japan’s economy to work for Japan alone was lost, and it became increasingly difficult to maintain it. Therefore, the structural

⁸³ Seki (1993), p.36

conversion to “International Specialization” structure began. And in this process, the transfer of Japan’s production bases to foreign countries, the increase of direct foreign investment, imports of inexpensive final goods and intermediate goods from Japan’s overseas factories and foreign firms, and Japan’s specialization to highly value-added final goods and exports of intermediate goods that require high and special technology had advanced. We are going to explain about these changes and the influence that those changes exerted on domestic economy in Japan.

(2) Change of “Current Account” in Japan

First of all, among “Balance of Payments Statistics”, we look at the change of “Current Account” that is the value of result of business transactions in domestic commerce. However, we don’t simply look by the classification of “Balance of Payments Statistics”, matching with the analysis using the Input-Output Table statistics in this sector, we divide “Trade” and “Currents without Trade”. “Trade” is the export and import in the Input-Output Table statistics, and similar to the total of “Goods Trade” and “Service Trade” in “National Accounts of Japan”. In order to get closer to this definition, we treat the thing that removed “Royalties and License Fees” and “Construction Service” from “Services” of “Balance of Payments Statistics” as a “Service Trade”. In addition, we make the value as “Currents without Trade” that subtracting the “Trade” from “Current Account”. Namely, we treat “Royalties and License Fees” and “Construction Service” as “Others” in “Currents without Trade” (Figure 2-3-1-1).

Figure 2-3-1-1 Balance of Payments, Input-Output Table and classification in this section

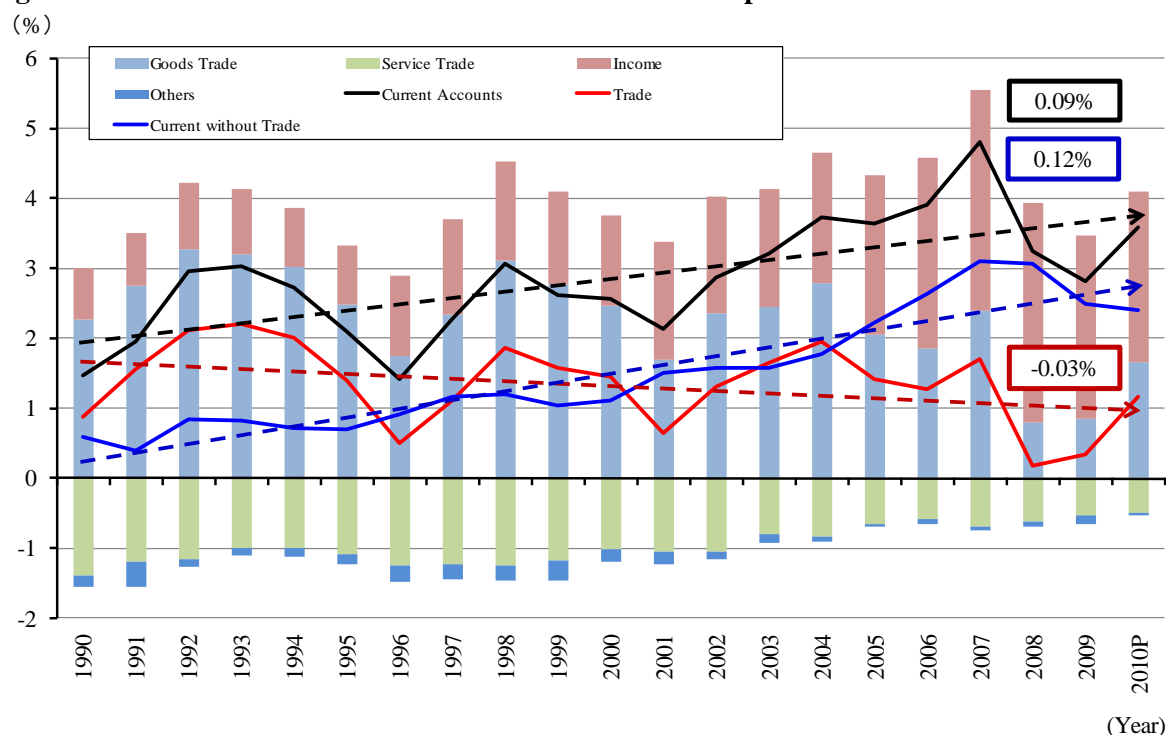
Figure 2.3.1.1 Balance of Payments, Input-Output Table and Classification in this Section

Balance of Payments	Current Account					
	Trade Balance	Services			Current Transfers	Income
		Other Service Balance	Loyalties and License Fees	Construction Service		
Classification in This Section						
	Goods Trade	Service Trade	Others			Income
	Trade		Current without Trade			
The Input-Output Table						
	Import, Export		Inapplicable			

Source: Ministry of Economy, Trade and Industry, Japan

First of all, Japanese “Current Account” not only maintains a continuous surplus, but it also continues to increase for the recent 20 years. In addition, when it comes to ratio of breakdown of the Japanese Current Account contrasted with GDP, as the long term tendency, “Trade” (total of “Goods Trade” and “Service Trade”) decreases while “Currents without Trade” increases. Most of this “Currents without Trade” is “Income” (Figure 2-3-1-2).

Figure 2-3-1-2 Current Balance contrasted with GDP of Japan



Note1: The GDP in 2010 is preliminary figures

Note2: When it comes to P-value, this represents a value lower than 0.001 for both "Current Account" and "Current without Trade" and a high value of 0.105 for "Trade".

Sources: Balance of Payments (BOJ), National Accounts (Cabinet Office)

In addition, it is only Japan in the G20 that is able to maintain the current account surplus for the last 21 years from 1990 to 2010. According to the data of IMF, among the G20, when arranging the number of years of top-five countries that produced current account surplus, it lists 21 years for Japan, 20 years for China, 17 years for Russia, followed by a little bit lower listings of 14 years for South Korea and Saudi Arabia.⁸⁴

Taking the tendency of "Goods Trade" to decline and "Income" to increase into consideration, it seems to be possible to forecast that the Japanese "Goods Trade" will move to deficit sooner or later, and Japan will grow to be a state to earn profit from "Income" such as the U.K. and the U.S.

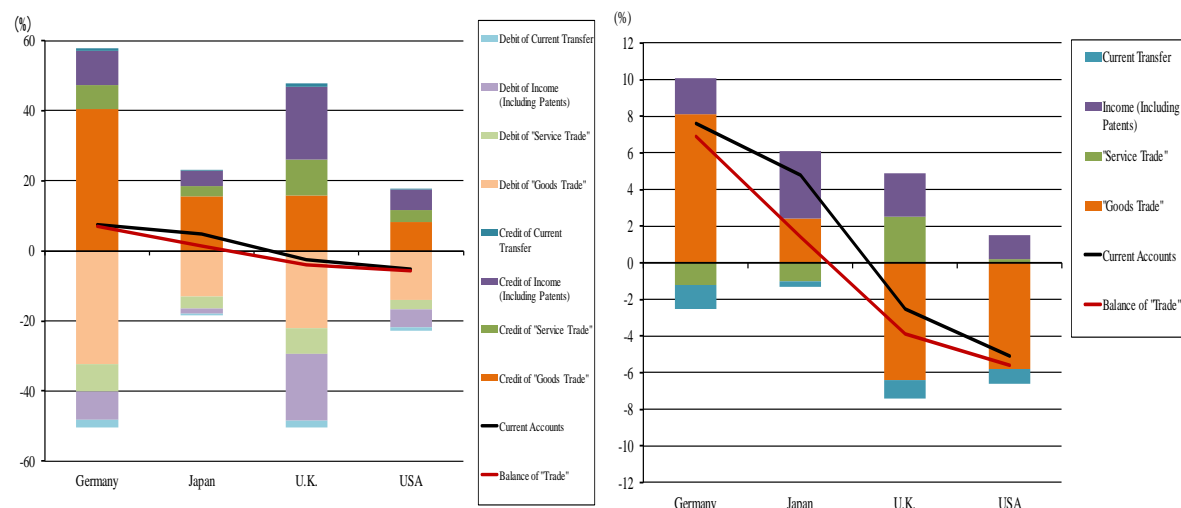
Therefore, we compare Japanese constitution of "Current Account" among four countries –such as the U.K. and the U.S. with earning by "Income" while "Goods Trade" is in deficit, and Germany that is said to have similar economic structure with Japan such as dependency on exports and strong manufacturing. According to the data of IMF, the number of years when these countries booked Current Account surplus are, for 21 years from 1990, 11 years for Germany, 1 year for the U.S. and 0 year for the U.K. In addition, we use data for 2007 in this comparison. This is because the influence of the financial crisis still remained as of 2010, so the data just before that period is preferable to remove the influence of this crisis.

In comparison of "Current Account" of these four countries, ratios contrasted with GDP of the U.K. and Germany are larger than those of Japan and the U.S. We guess that this is due to the vast inner

⁸⁴ Based on "WEO April, 2011", and IMF (2011). However, there is no data from 1990 to 1991 for Russia.

trade in economic zone of Europe. In addition, “Current Account” is in deficit in the U.K. and the U.S., and in comparison of the breakdown, we can understand that surplus of “Goods Trade” of Germany and “Service Trade” of the U.K. is huge (Left of Figure 2-3-1-3).

Figure 2-3-1-3 Comparison of Current Accounts of four countries, contrasted with GDP, 2007 (Left: Gross, Right: Net)



Sources: “BOP”, “WEO” (IMF)

In contrast, when we divide the Japanese “Current Account” into “Credit” and “Debit”, the composition ratio of “Goods Trade” and composition ratio of surplus of income balance are big, in “Net”. Due to this, we can see that the reason why the ratio of income balance surplus accounting for Japanese current account surplus is big is not because of large amount of acceptance but small amount of payment. Namely, like the U.K. and the U.S., when domestic direct investment is promoted and government bonds are purchased by foreigners, income balance surplus will decline (Right of Figure 2-3-1-3).

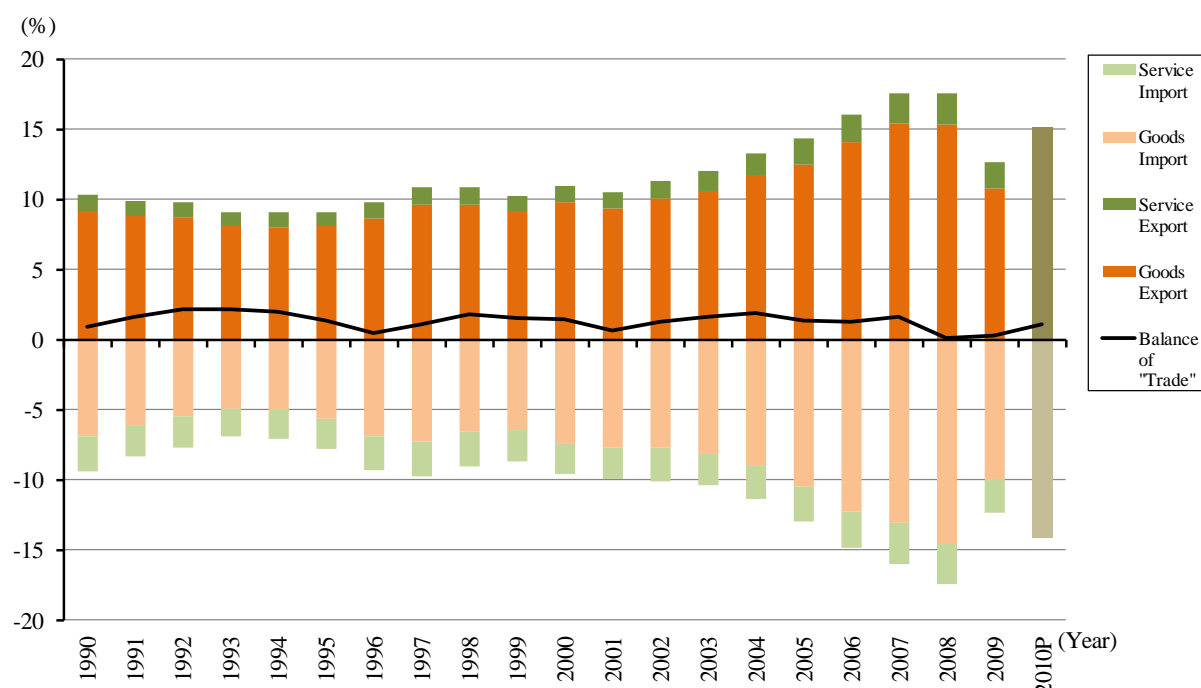
On the other hand, as showed in Chapter 1, due to prolongation and expanding-tendency of the global imbalance, correction of “Current Account” by the countries in deficit was an agenda for discussion in the international conference in 2010.⁸⁵ Due to this, we can understand that it is difficult to increase “Current Account” additionally.

(3) Change of the Japanese “Trade Structure”

Next, we see the change of the Japanese trade structure in 20 years by using “National Account”. When it comes to the Japanese trade value (total of goods trade and service trade), we can see that both exports and imports increases after 2001 while the value of net exports (Trade Balance) doesn’t change in the long run although there is some fluctuation (Figure 2-3-1- 4).

⁸⁵ In the G20 Summit conference from Nov. 11th to 12th in 2010, it was committed to promote action to correct excessive imbalance and make current balance to be sustainable. Please reference to the Chapter 1 for details.

Figure 2-3-1-4 Ratio of trade value contrasted with GDP of Japan (degree of dependence on Trade, Yen, ratio of current value)



Notes; As the data in 2010 is preliminary one, they are not divided into goods and services.

Sources; National Accounts (Cabinet Office).

Therefore, we compare the Japanese structure of “Goods Trade” with foreign countries. Here, we compare Japan with three countries, the U.S., the U.K. and Germany and look at “Current Account”. However, economic ties have been strengthened in the European region, in particular after 1993 when the E.U. was established. Therefore, we guess that ratios of both imports and exports contrasted with GDP in Germany and the U.K. rose in comparison with those of Japan and the U.S. Therefore, we use values in which regional trade with other European countries are removed for explanation. However, due to the limitation of data, we perform comparison only with “Goods Trade” (Figure 2-3-1-5).

When comparing the Japanese “Goods Trade” with those of Germany and the U.K., outside the E.U., and the U.S. “Goods Trade”, it changed at around the same level as in the 1990s, then exports contrasted with GDP of Japan and Germany increased by about 5% since 2000.

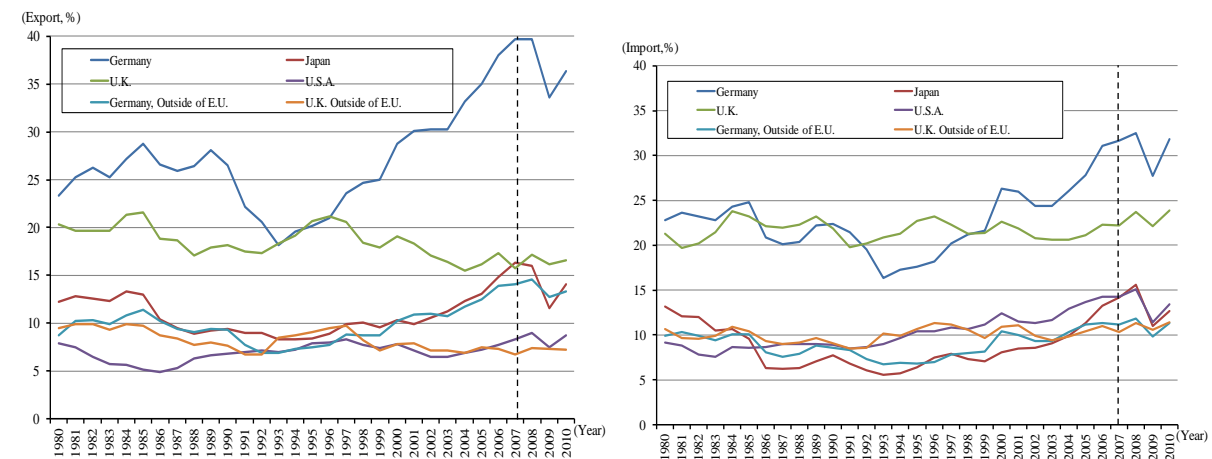
On the other hand, imports of Japan and Germany were low in strength by 5% under the same measure while imports of the U.K. and the U.S. were around 10% in the 1990s. In addition, after 2000, imports of Japan have increased rapidly after 2005 to rise to the similar level of the U.S.

Taking these factors into consideration, we can see the reasons why the Japanese net current account surplus is big. This is because exports have risen while the recent import ratio has also risen to the same level of U.S. imports and that is the main factor of the deficit in the global imbalance, and payment in “Currents without Trade” is small.⁸⁶

Figure 2-3-1-5 Comparison of "Goods Trade" value contrasted with GDP among 4 countries

⁸⁶ When it comes to the global imbalance, please refer to the section 3, Chapter 1.

(Left: Export, Right: Import)



Source: "DOT", "WEO" (IMF)

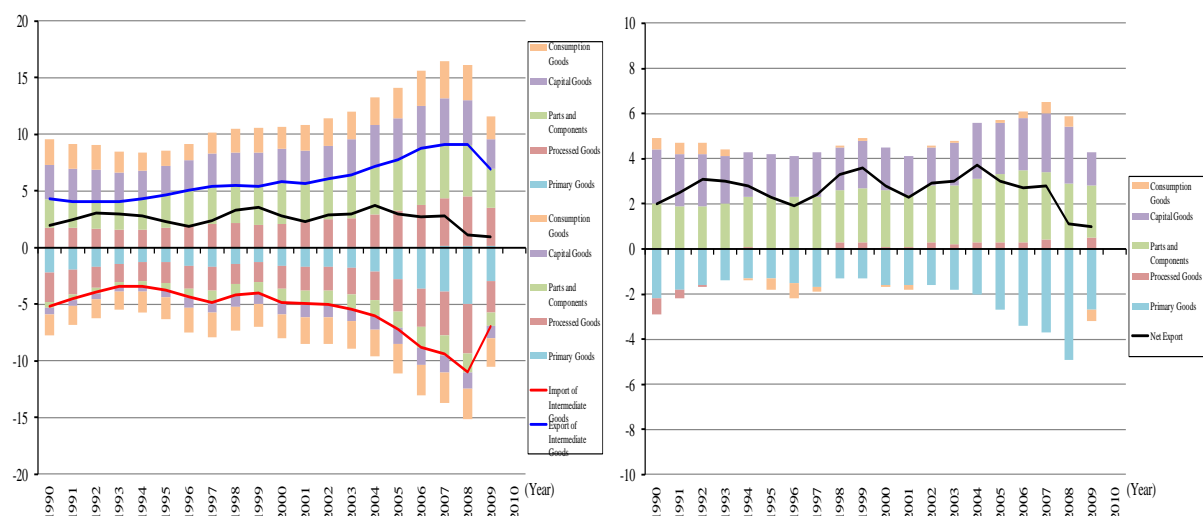
Next, based on such changes in trade, we can explain about the shift of “Goods Trade” according to the level of processing. The data of “RIETI-TID 2010” used for explanation divides and shows the trade value of each country according to industrial distinction, degree of processing in detail, and classify goods into 5 categories, such as, “Primary Goods”, “Processed Goods”, “Parts and Components”, “Capital Goods” and “Consumption Goods”. When we classify these items while matching them to analyze them using the Input-Output Table in this sector, “Primary Goods”, “Processed Goods” and “Parts and Components” are classified as intermediate goods, and “Capital Goods” and “Consumption Goods” are classified as final goods.⁸⁷

According to “RIETI-TID 2010”, it is only “Primary Goods” whose net export grew negative after 1992. However, “Processed Goods” was also negative before that. Next, in recent years, we can see that exports of “Parts and Components” increases. We guess that this is because exports of parts used for consumption goods produced in China and South Korea registered an increase. In addition, we can see that net exports of “Consumption Goods” in recent years is about zero while it was plus until mid-1990s, and net exports of recent final goods is mostly “Capital Goods” (Figure 2-3-1-6).

In addition, when we calculate net value of exports, and ratios of net exports contrasted with GDP according to the degree of processing of goods in 1990, 2000 and 2009, the added up values are 2.0%, 2.8% and 1.0% respectively. In contrast, when we calculate absolute values of exports and imports at each production process, add them up and calculate ratios of total values contrasted with GDP, they are increasing by 17.2%, 18.8% and 22.0%, respectively. Due to these facts, we can see that trade value has increased 1.3 times since 1990 while net exports continue to increase by 1 – 3%. In addition, ratio of “Processed Goods” and “Parts and Components” in the group of “Intermediate Goods” accounting for exports is increasing as 44.6% in 1990, 53.3% in 2005 and 58.7% in 2009 (Figure 2-3-1-6).

⁸⁷ According to the classification by RIETI-TID 2010, 2 categories of “Processed Goods” and “Parts and Components” are classified as “Intermediate Goods”.

Figure 2-3-1-6 Values of “Goods Trade” according to degree of processing of Japan (Left: Gross, Right: Net)



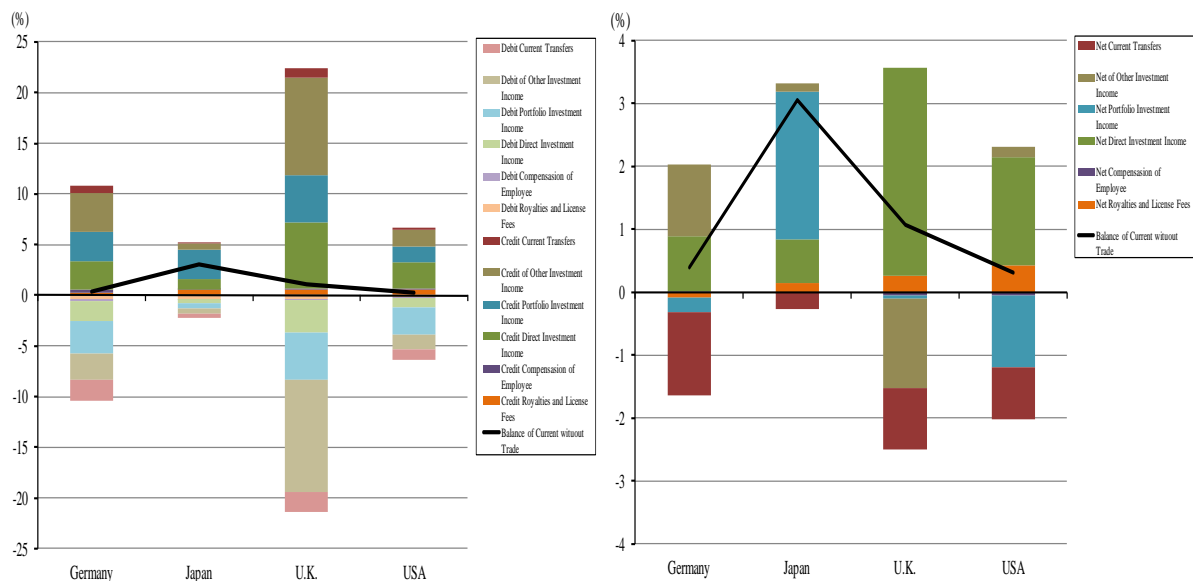
Sources: RIETI-TID 2010, National Accounts (Cabinet Office), ISF (IFM)

Due to these facts, we can see that during “Full Set Type” era until mid-1990s, Japan exported final goods (“Consumption Goods” and “Capital Goods”) and highly-processed “Parts and Components” while imported “Primary Goods”, and since then, exports of “Parts and Components” and “Processed Goods” in the group of “Intermediate Goods” increased while ratio of final goods accounting for exports declined.

(4) Change of the Japanese “Currents without Trade”

Next, we see breakdown of “Currents without Trade”, namely “Income”, “Royalties and License Fees” and “Current Transfer”. As these data are same as until now, in comparison of ratios of “Currents without Trade” contrasted with GDP of Japan with Germany, the U.K. and the U.S., we can see that “Portfolio Investment Income” accounts for considerable portion in Japanese “Currents without Trade” while “Direct Investment Income” is huge in the U.K. and the U.S. In addition, “Credit” and “Debit”, we can see “Debit” of “Currents without Trade” is small in Japan. In this way, we can see that structure of the Japanese “Income” is boldly different from that of the U.K. and the U.S. (Figure 2-3-1-7).

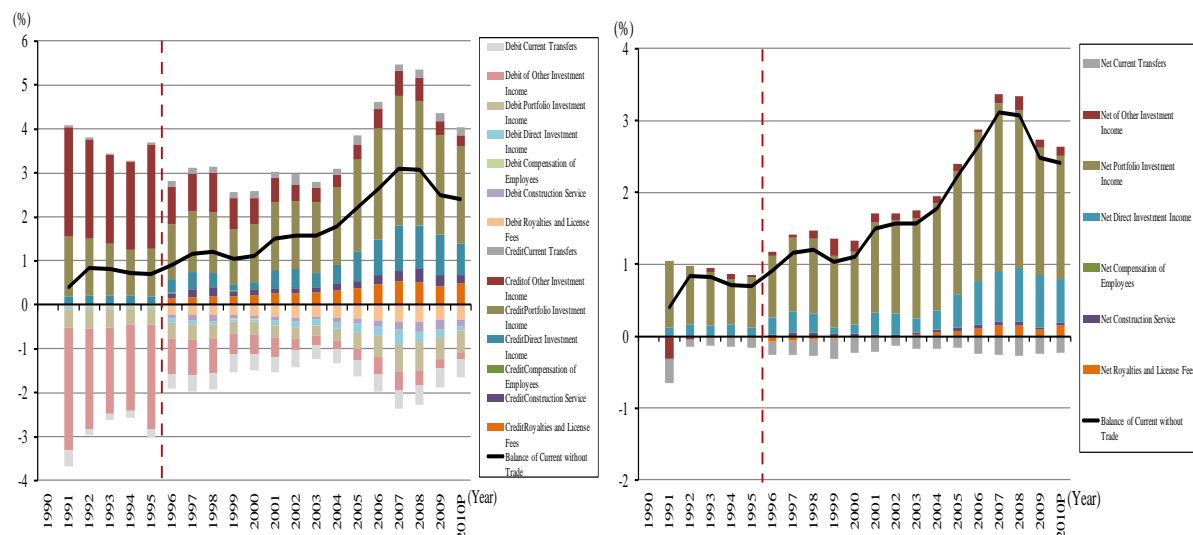
Figure 2-3-1-7 Comparison of "Current without Trade" among 4 countries in 2007 constructed with GDP (Left: Gross, Right: Net)



Sources; “BOP”, “WEO” (IMF)

Next, we see trend of balance of the Japanese “Currents without Trade”. However, as definition of “Balance of Payments Statistics” was revised in around 1996, although it is posted when data is made available, values after 1996 are used for explanation. According to Figure 2-3-1-8, Japan maintains surplus in all categories excepting “Current Transfers” and “Compensation of Employees” which are in deficit. Besides, “Royalties and License Fees” was also in deficit until 2002.

Figure 2-3-1-8 Balance of "Current without Trade" constructed with GDP of Japan (Left: Gross, Right: Net)



Notes 1: GDP 2010 is preliminary value

Notes 2: As the data collected before 1995 are the former "Balance of Payments Statistics", the values of "Royalty and License Fees" and "Construction Service" are not available

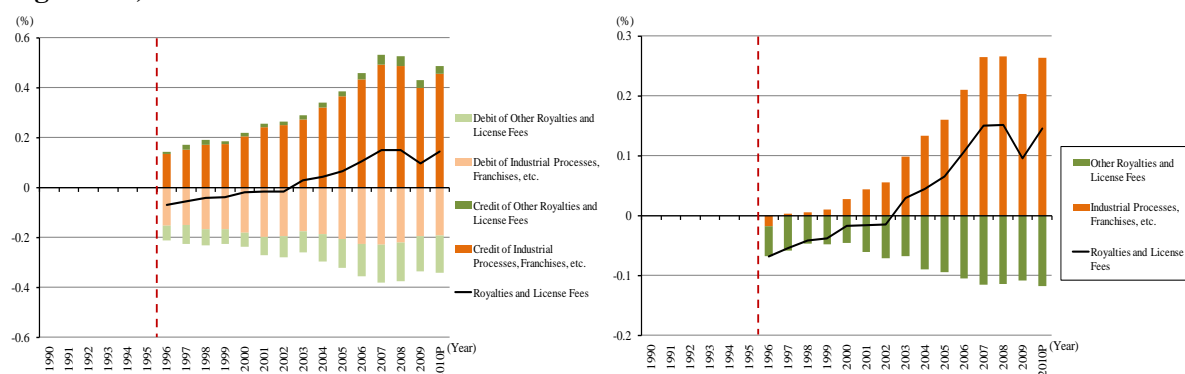
Source: Balance of Payments (BOJ), National Accounts (Cabinet Office)

We are going to see items where “Credit” is big, namely, balance is surplus. First of all, when we subdivide “Royalties and License Fees” for which the balance has produced a surplus recently, increase of “Debit” is bigger than that of “Credit”, and deficit of net balance is increasing. At first,

although “Credit” of the “Royalties and Licenses Fees” is increasing, amount of increase of “Debit” is bigger than that, and deficit is increasing. On the other hand, when it comes to balance of “Royalties and License Fees”, amount of surplus expanded until the financial crisis after it registered a surplus in 1998. This is attributed to the increase of “Credit” concerning “Royalties and License Fees” due to expansion of local production by local subsidiaries in foreign countries owned by domestic Japanese firms.

It can be said that increase of “Royalties and License Fees” and decrease in exports advance in parallel. Of course, when “Royalties and License Fees” increases, the effect of increase of exports of “Intermediate Goods” to counterpart can be possible as a secondary effect, but most of “Intermediate Goods” is local procurement, or using inexpensive goods made in foreign countries, and probability of exports from Japan is limited to specific intermediate goods. Therefore, it can be said that the sum including fee for use decreases in comparison with gross exports of final goods (Figure 2-3-1-9).

Figure 2-3-1-9 Ratio of Royalty and License Fees constructed with GDP of Japan (Left: Gross, Right: Net)



Notes1: GDP 2010 is preliminary value.

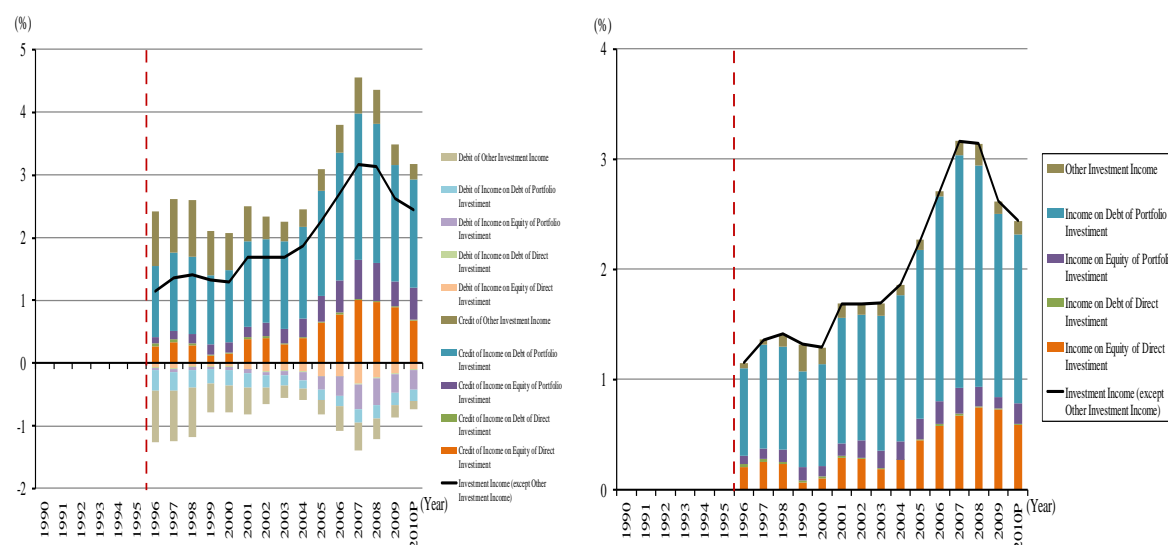
Notes2: As the data collected before 1995 are the values of former "Balance of Payments Statistics", they are defined differently and that they aren't illustrated.

Sources: Balance of Payments (BOJ), National Accounts (Cabinet Office)

Next, seeing trends in “Investment Income”, large portion of both balance and “Credit” in Japanese “Investment Income” is “Portfolio Investment Income” amounting to 70%, while the “Direct Investment Income” is around 20% of the whole.⁸⁸ Large portion of credit of “Portfolio Investment Income” is bond interest, and difference between interest and equity is that you can receive interest even when the investment partner does not earn any profit, and you can receive equity when the investor earns a profit according to the amount of investment. Namely, most of the breakdowns of “Portfolio Investment Income” produce relatively safe profit. On the other hand, large portion of “Direct Investment Income” is “Income on Equity”. The difference between “Income on Debt” and “Income on Equity” is the same as of interest and equity mentioned before. Namely, we can see that Japan gets a lot of equity from “Direct Investment” (Figure 2-3-1-10).

⁸⁸ “Direct Investment” in “Balance of Payments Statistics” means the initial deal (purchasing stock and so on) to establish the “Direct Investment Relationship (ratio of financing is 10% or more)”, and following all deals (increase of capital, loan of fund) between direct investors and direct investment counterparts.

Figure 2-3-1-10 Investment Income constructed with GDP of Japan (Left: Gross, Right: Net)



Notes1: GDP 2010 is preliminary value.

Notes2: As the data collected before 1995 are the values of former "Balance of Payments Statistics", they are defined differently and that they aren't illustrated.

Sources: Balance of Payments (BOJ), National Accounts (Cabinet Office)

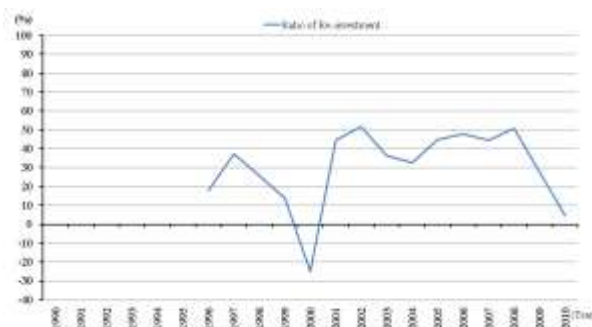
Due to these facts, we can see that, unlike the U.K. and the U.S.A, the structure of Japanese "Currents without Trade" is such that the ratio of participation in the management of the investment partner is low, and many of them are low-risk.

In addition, "Re-invested Earnings" that are an amount re-invested in the local country are included in "Income on Equity" that is one item of the "Direct Investment Income". Because this money does not return to Japan, it doesn't directly connect to the domestic demands, namely awakening of consumption. However, it can be thought that there is an indirect effect that exports of intermediate goods to factories that are re-invested increases to some extent.

The amount that doesn't return home due to such re-investment can be calculated from "Balance of Payments Statistics" and "Survey of Overseas Business Activities". As this value is easily influenced by shortages one that we can see when values prior to the financial crisis are averaged. According to "Balance of Payments Statistics", the average of 2003 - 2007 is 41.3%, and according to "Overseas Business Activity Basics Investigation", the average of 2003 - 2006 that falls short of the value of 2007 is 72.6%, and this didn't return home country. Although two values are boldly separated due to the difference in definition, no matter which value is adopted, the ratio that doesn't return home is high⁸⁹ (Figure 2-3-1-11).

Figure 2-3-1-11 Ratio of "Return on Re-investment" (Left) and "Retained Ratio" of Japan (Right)

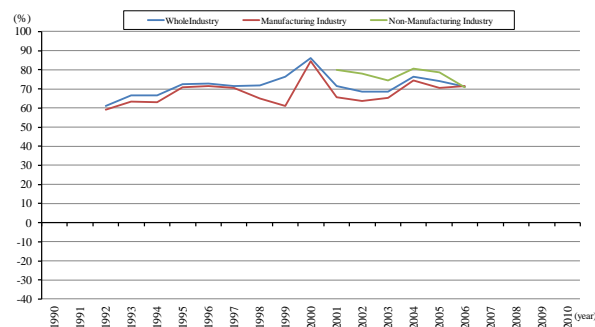
⁸⁹ The graph of the "Retained Ratio" in Figure 2-3-1-11 is made from values placed in the "Survey of Overseas Business Activities" (1992 - 2006).



Notes: Return on Re-investment

$$= \text{Re-investment Earnings} \div \text{Income on Equity}$$

 Sources: Balance of Payments (BOJ),

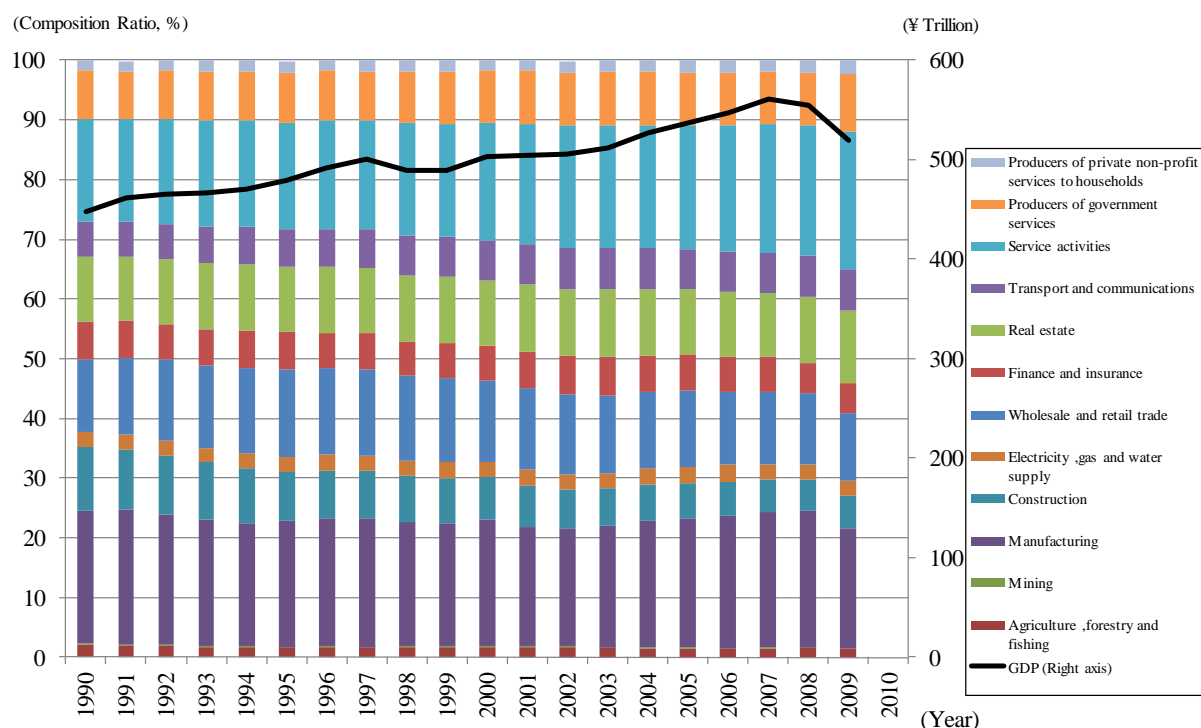


Notes: Retained Ratio = Amount of Internal Reserves in Fiscal Year / Net Income in Fiscal Year
 However, the figures are calculated by values of overseas local corporations that satisfy following 2 terms and conditions:
 1) Both "amounts of internal reserves in fiscal year" and "net income in fiscal year" are to be made available, and
 2) "Net income in fiscal year should be" > 0.
 Sources: Survey of Overseas Business Activities (METI)

(5) Change of the Japanese industrial structure

Next, using "GDP Classified by Economic Activities" (Cabinet Office), we see long term changes of Japanese GDP and industrial composition ratio. When we see the GDP that indicates national economic size and growth in real amount and in a "Chain-Linked", after 1990, it increases moderately excepting the short term influence of the Asia Currency Crisis in 1997 and Financial Crisis in 2008. In addition, we can see that the industrial composition ratio changes without any great change (Figure 2-3-1-12).

Figure 2-3-1-12 Change of Gross Domestic Production classified by each economic activity in Japan (Real: Chain Linked)



Sources: National Accounts (Cabinet Office)

Intuitively speaking, we can see that “Production Approach” of the GDP is the remainder after deducting cost of materials from sales. On the other hand, we can see that “Expenditure Approach” of the GDP is the remainder after deducting cost of materials and import from purchases by households, firms and foreign countries and so on.

Next, we see the same change of industrial composition ratio by the value of gross production in Input-Output Table. The amount of total production, unlike the GDP, it includes the invested amounts (cost) of intermediate goods (raw materials), and equivalent to sales. It is also possible to recognize the invested-amount of intermediate goods for the sake of production of each goods and services on the Input-Output Table. First of all, we compare economic and industrial structures twice in 1990 and 2005 using this Input-Output Table.⁹⁰

Therefore, we see constitution of the amounts of domestic production and imports that are supply in Input-Output Table, and “Domestic Demand” (domestic final demand) and “Foreign Demand” (exports) that are demand of that. Here, we use ratio of composition calculated from Input-Output Table of 34 sectors (Table 2-3-1-13).

⁹⁰ To compare the so-called “Lost 2 Decades” in details, we compare the years 1990 and 2005. This is because we will make a “basic table” that is non-competitive import type mechanism in the Input-Output Table occurring once in 5-year cycle. In addition, we consolidate them into 34 or 22 sectors following calculation based on the most detailed classification in each year (about 400 sectors). Please refer to Notes 3 concerning the Input-Output Table and the calculation method used.

Table 2-3-1-13 Change of Composition Ratios for demand and supply in Japan (Input-Output Table, %)

			Demand				Supply			
			Domestic Demand (Domestic Final Demand)		Foreign Demand (Exports)		Domestic Production		Import	
			1990	2005	1990	2005	1990	2005	1990	2005
Total of top-5 sectors			57.1	81.9	84.5	87.4	57.8	61.0	70.5	68.3
Total of top-10 sectors (color of sixth place and lower)			79.2	92.2	94.0	94.5	73.4	78.3	87.4	86.1
Primary Industry	Agriculture, forestry and fishery	1	1.1	0.9	0.1	0.1	2.0	1.4	6.5	3.1
	Mining	2	0.0	0.0	0.0	0.0	0.2	0.1	18.6	21.2
Secondary Industry	Beverages and Foods	3	6.3	5.3	0.5	0.4	4.5	3.7	9.5	7.8
	Textile products	4	1.7	0.2	1.6	0.7	1.6	0.5	4.9	5.0
	Pulp, paper and wooden products	5	0.6	0.2	0.7	0.5	2.2	1.3	3.5	2.8
	Chemical products	6	0.7	0.5	5.4	6.6	3.0	2.8	5.0	5.6
	Petroleum and coal products	7	0.6	1.1	0.5	1.2	1.3	1.7	4.5	3.8
	Ceramic, stone and clay products	8	0.1	0.1	1.0	1.0	1.2	0.7	0.8	0.7
	Iron and steel	9	0.0	0.0	3.7	3.8	3.1	2.6	1.6	1.3
	Non-ferrous metals	10	0.0	0.0	1.1	1.7	0.9	0.8	5.4	3.6
	Metal products	11	0.3	0.1	1.2	0.9	1.9	1.3	0.6	0.9
	General machinery	12	3.8	2.8	12.2	11.5	3.7	3.1	2.6	3.8
	Electrical machinery	13	2.1	1.2	5.7	7.5	2.3	1.6	1.8	3.5
	Information and communication electronics equipment	14	2.3	1.2	13.0	5.6	2.1	1.1	2.4	6.0
	Electronic components	15	0.1	0.0	5.6	8.6	1.4	1.7	1.4	5.3
	Transportation equipment	16	2.9	2.3	23.5	20.8	5.2	5.5	4.1	3.9
	Precision instruments	17	0.5	0.4	2.9	1.9	0.5	0.4	1.3	2.0
	Miscellaneous manufacturing products	18	1.0	0.6	3.0	3.7	3.2	2.6	5.2	4.8
Tertiary Industry	Construction	19	19.2	11.3	0.0	0.0	10.2	6.5	0.0	0.0
	Electricity, gas and heat supply	20	1.1	1.2	0.0	0.0	1.8	1.9	0.0	0.0
	Water supply and waste disposal business	21	0.7	0.6	0.0	0.0	0.7	0.9	0.0	0.0
	Commerce	22	11.9	12.8	4.3	11.7	9.4	10.9	0.7	1.0
	Finance and insurance	23	2.0	2.5	0.9	0.9	3.6	4.3	1.6	0.7
	Real estate	24	9.2	12.1	0.0	0.0	5.7	6.8	0.0	0.0
	Transport	25	2.9	3.1	8.1	7.7	4.9	5.2	5.4	5.1
	Information and communications	26	1.1	4.1	0.4	0.5	2.7	4.7	0.9	1.0
	Public administration	27	4.7	7.8	0.0	0.0	2.3	4.0	0.0	0.0
	Education and research	28	4.5	5.1	0.0	0.5	3.3	3.7	0.0	0.9
	Medical service, health, social security and nursing care	29	6.2	10.3	0.0	0.0	3.1	5.2	0.0	0.0
	Other public services	30	0.7	0.8	0.1	0.0	0.5	0.5	0.1	0.0
	Business services	31	1.2	1.5	0.8	0.9	5.2	6.6	1.8	1.4
	Personal services	32	10.5	10.2	0.8	1.3	5.4	5.4	5.4	3.9
Others	Office supplies	33	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0
	Activities not elsewhere classified	34	0.0	0.0	2.6	0.1	0.7	0.4	4.3	1.0

Source: Input-Output Tables of Japan (Ministry of Internal Affairs and Communications)

First of all, seeing “Domestic Demand”, we can see that shift to the tertiary industry is occurring such as, the composition ratio of “Transportation” and “Information and Communication” increases while that of “Transportation Machine” and “Information and Communications Equipment” decreases. When it comes to “Foreign Demand”, exports of “Electronic Parts”, namely intermediate goods, increases while exports of “Information and Communications Equipment” as the final goods decreases. In addition, we can see increase of the composition ratio of service exports as “Commerce” increases.

On the other hand, seeing “Imports”, not only raw materials, such as “Mining”, but also, we can see increase of electronics-related imports, so far recognized as Japan’s strength, like highly-processed intermediate goods such as “Chemical Products” and “Electronic Parts”, and “Information and Communications Equipment.”

In addition, upon comparing the value of 1990 and 2005, we can see that composition ratios of the tertiary industry account for imports and exports. Namely, when focusing only on influence of

“Trade”, there is lesser meaning for the tertiary industry to be seen in details than the primary and the secondary industries. Based on these facts, we are now going to compare and analyze 13 service-related sectors out of 34 sectors of industrial classification, after the 22nd “Commerce” sector is consolidated, by using the Input-Output Table of 22 sectors.

(6) For Summary

We have seen “Current Account” and its breakdown, and the changes of the GDP as per things mentioned above. First of all, when considering only “Current Account”, we are prone to raise expectations for “Currents without Trade” such as the “Income”, because it seems that trade surplus decreases while “Currents without Trade” increases. However, if dividing it into “Credit” and “Debit”, where trade amount is large in both in case of imports and exports, we can see that surplus of balance of “Currents without Trade” is large due to small amount of “Debit”.

By considering the breakdown of this “Currents without Trade”, we can see that Japan receives interests by “Portfolio Investment Income” in many cases, not doing direct investment in foreign countries and acquire returns, namely equity from them like the U.K. and the U.S. Namely, Japan acquires foreign money without having much relation with production activities while in case of the U.K. and the U.S., they acquire foreign money but with contribution to production activities in foreign countries.

In addition, breakdown of “Royalties and License Fees” is, although the amount is small, the balance of the “Royalties and Licenses Fees” is in deficit, and the balance of the “Industrial Processes Franchises, etc.” is a surplus. This “Industrial Processes Franchises, etc.” offers a strong substitute for exports.

On the other hand, when seeing breakdown of “Trade”, we can see that although ratio of amount of net exports contrasted with GDP changes at certain level, as trade of intermediate goods increases that trade amount increases. This shows that international specialization of Japanese economic structure, that once conducted processing trade under industrial structure of “Full Set Type”, has progressed considerably. Influence of such structural changes brought in Japanese domestic economic and industrial structure is verified in next section.

Column 2. Influence of Long Term Price Hike (High Yen) against Economic Structure

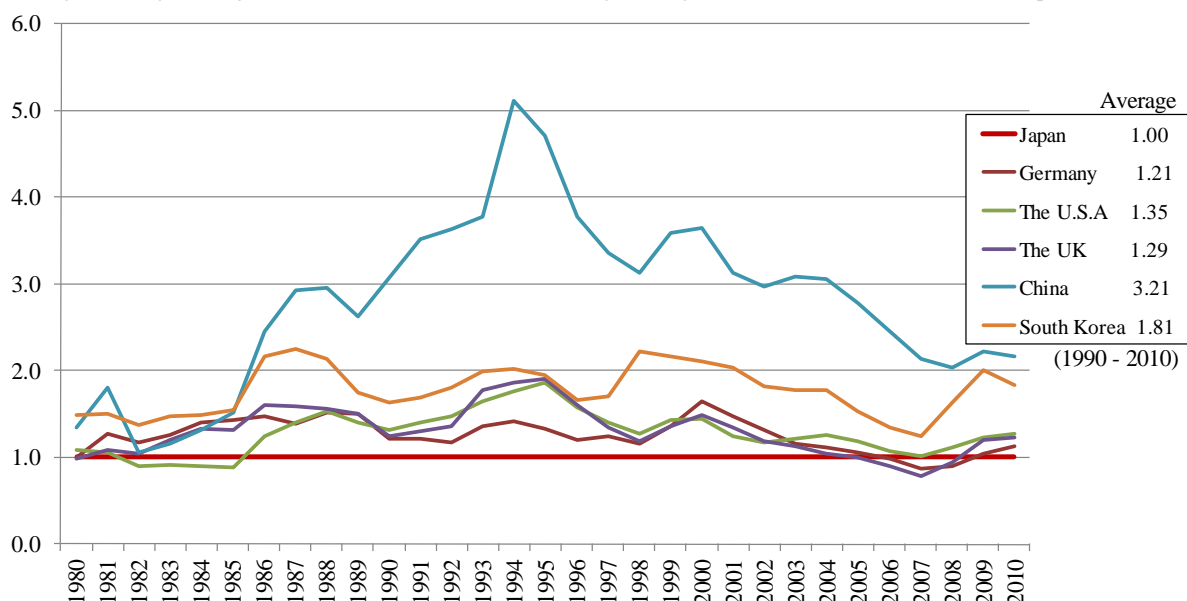
The price hike (high yen) mentioned here is not about the market tendency of higher yen that topped ¥80/\$ after the East Japan Great Earthquake on Mar. 11, 2011 but about the long term price hike over the past 2 decades that is emphasized by comparing it with “Purchasing Power Parity”.

“Purchasing Power Parity” (PPP) used in this explanation is the amount of money in each currency needed to purchase the similar product and service in a different economic zone. Namely, it shows “how much money it will cost in the local currency in each of the country to live a similar life”.

Here, we calculate the ratio between the exchange rates against dollar dominated PPP as released by IMF and foreign exchange rates (dollar dominated), and compare those with Yen when fixed at 1. This ratio shows the difference in price levels -- namely, how much more money we will need to live when moving from that country to Japan (Column Figure 2-1).

Column Figure 2-1 The ratio of the exchange rate of dollar based PPP and foreign exchange rate

(Foreign exchange rate against dollar ÷ PPP-dominated exchange rate against dollar and converted to make Japan to be 1.00.)



Note1: For matching the rate in 1999 when euro was introduced, deutsche mark-dominated foreign exchange rates before 1998 were converted to show euro-dominated rates.

Note2: The PPP-dominated exchange rate against dollar in 2010 is according to the estimation by IMF.

Sources: "WEO", "IFS" (IMF)

When considering Column Figure 2-1, the value of graph of South Korea changes at around 2 for many years, so we can see it can be said that “the price level in South Korea is half of that in Japan”. In addition, after 1985 (the Plaza Accord), we can see that until around 2005, price level in Japan was chronically higher than not only those of China and South Korea but also those of developed countries such as U.S., U.K. and Germany.

For example, the value of 2 in South Korea means that, the same product can be made with about half the price in South Korea. We guess that it was a strong incentive to make much of the gentrification and image strategy concerning products, depending on imports of intermediate goods for cost reduction and transferring factories overseas as the result of such handicaps continue for many years. In addition, as Japan couldn't win in exports of final goods, when it comes to portion of intermediate goods that are part of final goods, Japan was forced to change the contents of exports such as exporting matters that required high-technology to produce that foreign firms cannot produce as of today. We think that these facts offered strong incentives to change composition of exporting-goods after 1990.

In addition, in the case of imports, in the same way, goods produced with half the prices in South Korea are to be imported at prices that include transportation charge. Although price-gap is reduced and transportation charge and others are added, Japan is forced to compete against products and consumer goods produced in newly emerging countries such as daily necessities and expendable supplies that are not easy to discriminate in quality, and price which are prone to be important judgment standard. As it can't be explained simply by expansion of processing trade after 1990 alone, we guess that this handicap is also a strong incentive to increase imports of consumer goods and highly processed intermediate goods.

In addition, for three years from 2005 to 2007, the values of the U.K. and Germany were lower than 1, and the values of other countries were also almost 1. Namely, the price level in the euro zone was higher than Japan around that time, and price-gaps against other countries were not so big too. Around that time, Japanese economy recovered, export increased and employment increased too (Figures 2-3-1-4 and 2-3-3-10).

2. Changes of Economic and Industrial Structures, and “Ripple Effect”

(1) Related Matters in the Domestic Industry and Weakening of “Ripple Effect” (Fallacy of Composition)

In item 2, in this section, we are going to explain the Japanese economic and industrial structures and related changes in them as the basis for showing the influence of the Japanese trade exerted on the domestic economy. Here, taking into account not only direct goods deals but also “Ripple Effect” that emerges in production process under “macro-viewpoint”, we are going to show that acts under management-like “micro-viewpoint” caused “Fallacy of Composition” in the Japanese economy. “Fallacy of Composition” means that acts judged to be right and rational under micro-viewpoint could bring about unanticipated results on a macro-scale when they are gathered.

As a premise to explain them, at first, we explain the meanings of inter-industrial relation and “Ripple Effect” by using examples. Inter-industrial relation is, literally, connections between industries in production activities, and “Ripple Effect” is a chain reaction of production that emerges in the inter-industrial structure. The induction of this “Ripple Effect” is brought by the consumption (demand) of the final goods. The final goods are consumed for other than production activities, and the consumers are classified into “Domestic Demand” (consumption and investment by households, firms and the government) and “Foreign Demand” (export).

For example, in order to purchase a vehicle as a final good, we assume that the following inter-industrial relation is indispensable in extracting “Materials” from “Resources”, and processing them into “Parts”, and using them to manufacture “Vehicle” like Figure 2-3-2-1. When explaining this in reverse, demanding “Vehicle” induces manufacturing of “Vehicle”, intermediate goods of “Parts” are purchased for production of “Vehicle”, and induction of production emerges, such as “Materials” for “Parts” and “Resources” for “Materials”. Such a chain of production is called “Ripple Effect”.

When viewing the economy of one particular country in “macro-viewpoint”, it creates a problem when considering whether such a chain of production is performed domestically or overseas. Therefore, we compare a “Full Set Type” industrial structure with the inherent conditions in an international specialization process in progressed and trade of intermediate goods are conducted.

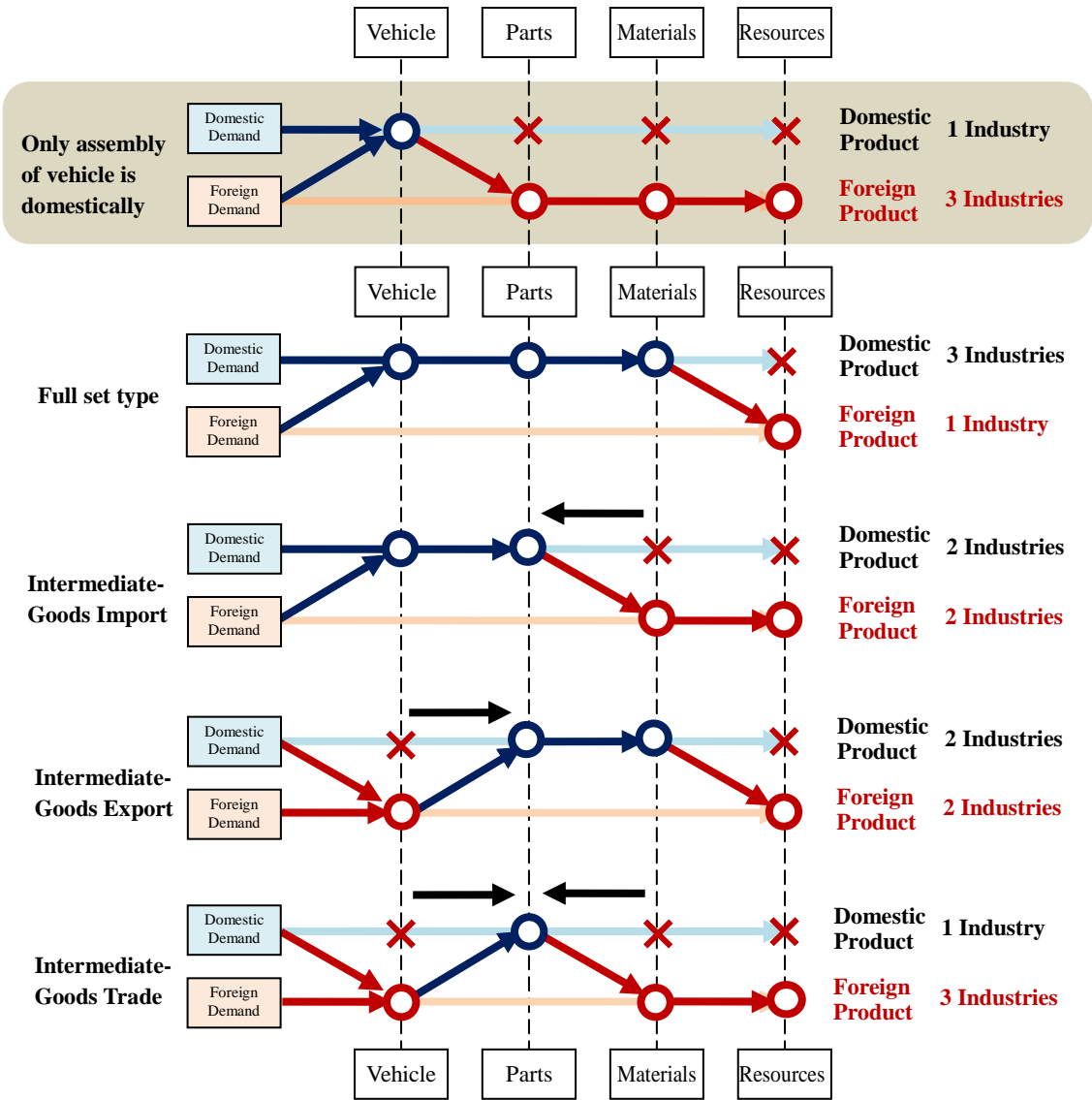
Example of “Flowing Out of Ripple Effect”: Only Assembling of Vehicles Is Domestically Performed.

As a supplement to explain “Flowing Out of Ripple Effect”, we take an example of “Only assembling of vehicle” for importing “Parts and Components” to produce “Vehicle” in Figure 2-3-2-1. First of all, when seeing the example from the standpoint of “vehicle” industry, “Vehicle” are produced domestically in both cases. On the other hand, seeing from a macro-viewpoint, production is conducted by domestic “Vehicle” industry, and that induces productions of “Parts”, “Materials” and “Resources”. However, due to imports of “Parts”, productions of not only “Parts” but also

“Materials” and “Resources” are done in foreign countries. If “Ripple Effect” flowed out to foreign countries by “Parts” is to be returned to home country, it is necessary to export intermediate goods of “Materials”.

In this way, it is the purpose of Item 2 in this section to show inter-industrial relation and domestic “Ripple Effect” by that in a macro-viewpoint that is overlooked by seeing one industry in a micro-viewpoint.

Figure 2-3-2-1 Domestic Inter-industrial relation, and flow of “Ripple Effect”



Source: Ministry of Economy, Trade and Industry

Full Set Type

In the Japanese “Full Set Type” industrial structure before 1990, like Figure 2-3-2-1, when domestic “Vehicle” were sustained by both “Domestic Demand” (domestic consumption of the final goods) and “Foreign Demands” (exports), production was done by domestic “Vehicle” industry, and productions of domestic “Parts” and “Materials” were accelerated by that. However, “Ripple Effect” flows abroad at the stage of imports of “Resources” because “Resources” depend on imports. Namely, in a micro-viewpoint, it is evaluated that only production of “Vehicle” are performed domestically. On the other hand, in a macro-viewpoint, it is evaluated that production of “Vehicle” induces productions of domestic “Parts” and “Materials”. Such a chain of production activities of three industries of “Vehicle”, “Parts” and “Materials” is “Ripple Effect” caused domestically.

Trade of Intermediate Goods along with International Specialization

Based on this, we see an example of three kinds of intermediate goods trade along with the international specialization in Figure 2-3-2-1. First of all, in the example of “Intermediate Goods Imports”, Japan imports “Materials” that are processed by one step from “Resources”. Due to that, domestic production of “Materials” is halted. On the other hand, in the example of “Intermediate Goods Export”, domestic production of “Vehicle” is halted because “Vehicle” are imported from foreign firms, or manufactured in factories of domestic firms’ in foreign countries. When both “Intermediate Goods Trade” are performed, only production of “Parts” is performed domestically.

When such “Intermediate Goods Trade” is seen only from a micro-viewpoint, although items are simply shifted from exports of the final goods to exports of intermediate goods, it is evaluated to be good because the amount of exports is maintained. In addition, when seeing in a viewpoint of a firm (management), it is evaluated to be proper because it earned profit by exporting goods that can be sold.

However, when we evaluate this in a macro-viewpoint, production-inducement to 1 or 2 industries among 3 industries are lost, and problems such as increase of unemployment, decline of tax revenue and so on occur. In addition, in the long term, indirect influences that are difficult to evaluate such as decline of consumption by former employees in secondary industry that lost the opportunity of production, capital consumption by such industries and fiscal expenditures sourcing in payment of tax money. This is an example of “Fallacy of Composition” that “when acts that are evaluated to be right and rational in a micro-viewpoint are united, that causes an unanticipated result in macro”.

(2) Trade and Flow of “Ripple Effect”

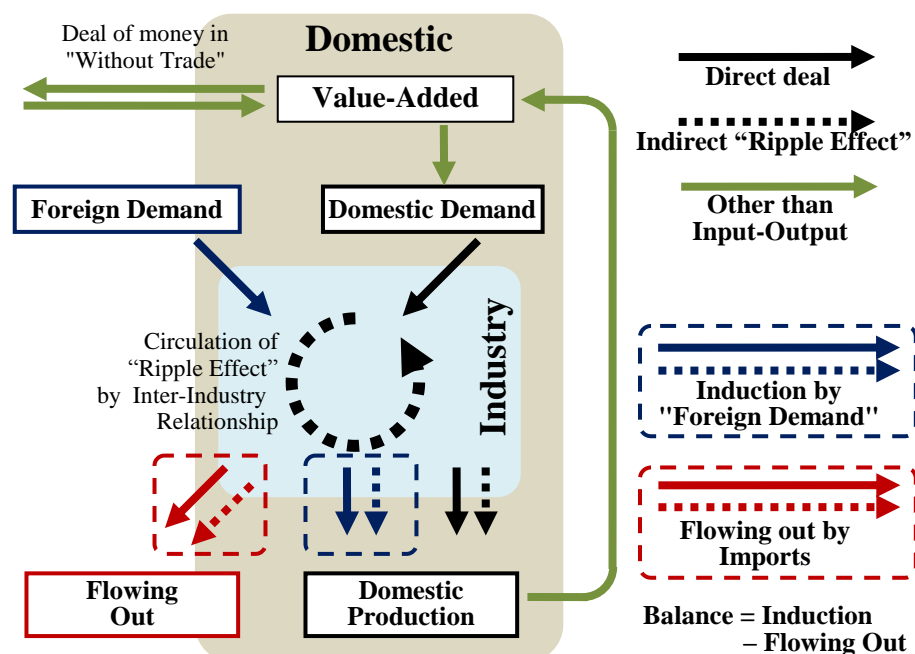
Next, we explain about the flow of “Ripple Effect” that can be recognized by using inter-industrial relation of one country. Unlike examples considered until now, it is very difficult to recognize “Ripple Effect”, because actual final goods are not only a vehicle but diversified, Inter-industrial

relation is complexly connected and domestic products and imports are not a choice between two things but market share exists. In order to digitize such “Ripple Effect” and analyze, it is necessary to, by using Input-Output Table, process it to various graphs and tables.⁹¹

First of all, as a premise, we show the domestic structure of inter-industrial relation and flow of “Ripple Effect” caused by that.

In Figure 2-3-2-2, when we show that the flow of “Ripple Effect” is caused by “Domestic Demand” and “Foreign Demand”, then circulates in the structure of the domestic inter-industrial relation and induces domestic production. By this circulation, the production more than consumption of the final goods are performed. In the figure, we draw “Induction of Ripple Effect” by exports by blue line, and “Flowing Out of Ripple Effect” by imports by red line.⁹²

Figure 2-3-2-2 Flow of “Ripple Effect” in Domestic



Source: Ministry of Economy, Trade and Industry

⁹¹ When it comes to Input-Output Table and Input-Output analysis used in this section, please refer to Notes 3.

⁹² In Input-Output Table in one country, intermediate goods and final goods in exports (blue line) are not differentiated, but lumped together and treated as final goods. This is because an overseas follow-up survey is necessary. On the other hand, as imports are the deals and consumptions occur domestically that it is possible to divide consumption of goods into domestic and imports by each sector in detail. But it requires large trouble and expenses for the processing. In Japan, such Input-Output Table (non-competitive import model) is made once in 5-years as a basic table in a year when the number in one place is 0 or 5. When it comes to a table of non-competitive import model, please refer to Notes 3.

In addition, the green line is a portion that has nothing to do with production activity directly. Among them, the green arrow drawn to be “Deals of Money without Trade” is the commerce with foreign countries in “Currents without Trade” shown in Item 1 of this section, and “Income”, “Royalties and License Fees” and “Current Transfers” in “Balance of Payments Statistics” are included in this. In addition, when the green arrow is hitting “Value Added” ($GNI = GDP + \text{net income from overseas}$), then going to “Domestic Demand” from there shows that acquired profits circulates to become new “Domestic Demand”.

When we explain about the purpose of trade in a micro-viewpoint, it is to acquire foreign money to import. On the other hand, in an explanation in a macro-viewpoint, an export is one of the engines that make domestic economy work. Namely, exports take a role to supplement “Ripple Effect” to maintain domestic economic circulation.

As an arrow of red line shows, it is unavoidable to some extent for domestic economy that is forced to import resource and food to flow out “Ripple Effect” overseas. Under such a structure, negative chain reaction occurs in that domestic production decline, that cause decline of the value-added and “Domestic Demand” decreases. Therefore, it is necessary to supplement “Ripple Effect” with exports. In addition, acquiring foreign money by exports and “Currents without Trade” is also an engine that promotes economic growth, and as “Full Set Type” industrial structure was established in Japan that it was possible to continue growth effectively by 10% of exports contrasted with GDP.

(3) Direct Change of Linkage of Inter-industry Structure

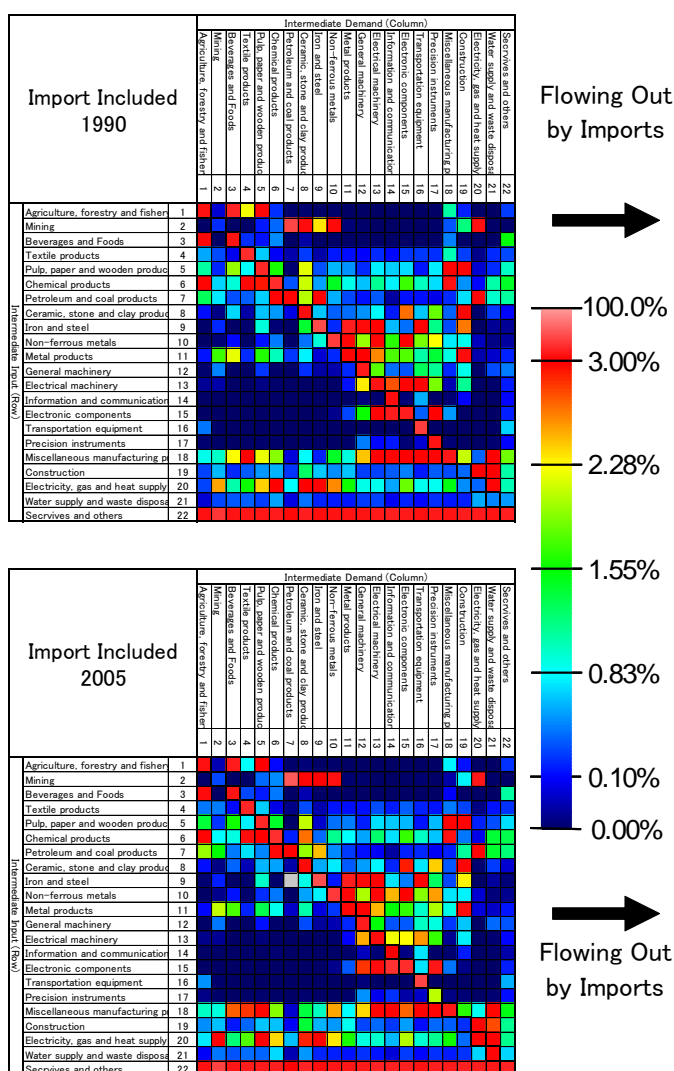
Next, we see change of the linkage structure among domestic industries.

To do so, we pick up input ratios needed to produce each one of the goods, and show them on graph by method of thermography.⁹³ Thermography is a method to express temperature or pressure, and used to show rise of body temperature by exercise, vasoconstriction by smoking lowers body temperature and so on.

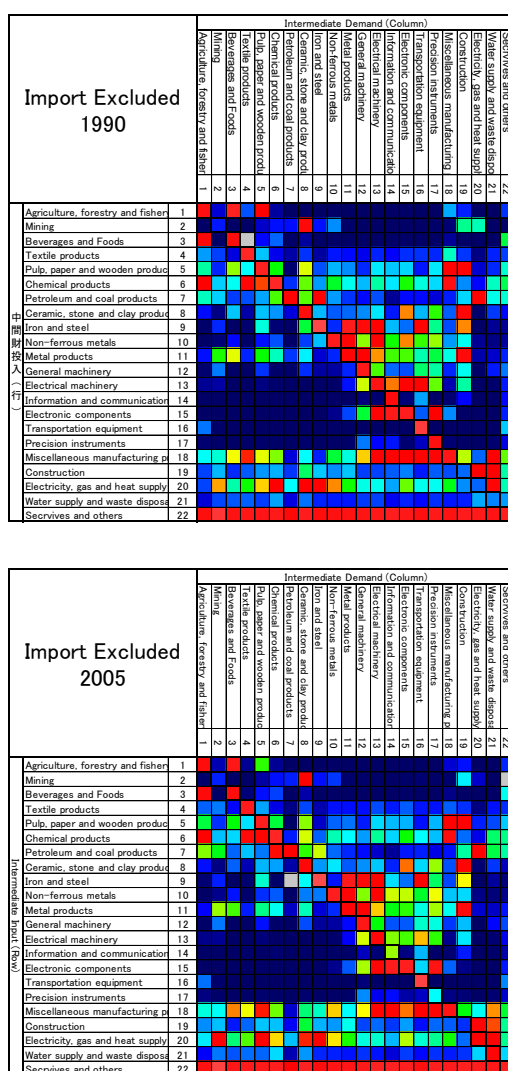
Figure 2-3-2-3 Changes of "Direct Effect" of domestic inter-industry structure of Japan

⁹³ When it comes to structure and coloring of Input-Output Table, please refer to Notes 3.

Inter-Industry Relations Including Imports



Inter-Industry Relations Weakened by Imports



Source: Input-Output Tables for Japan (Ministry of Internal Affairs and Communications)

In Figure 2-3-2-3, locations where linkage of Inter-industry are strong are painted by warm colors such as red and yellow, and weak locations are painted by cool colors such as aqua or blue. In addition, in the left side of the graph, it expresses intermediate consumption caused by production, and the right side, it expresses domestic intermediate consumption except imports.

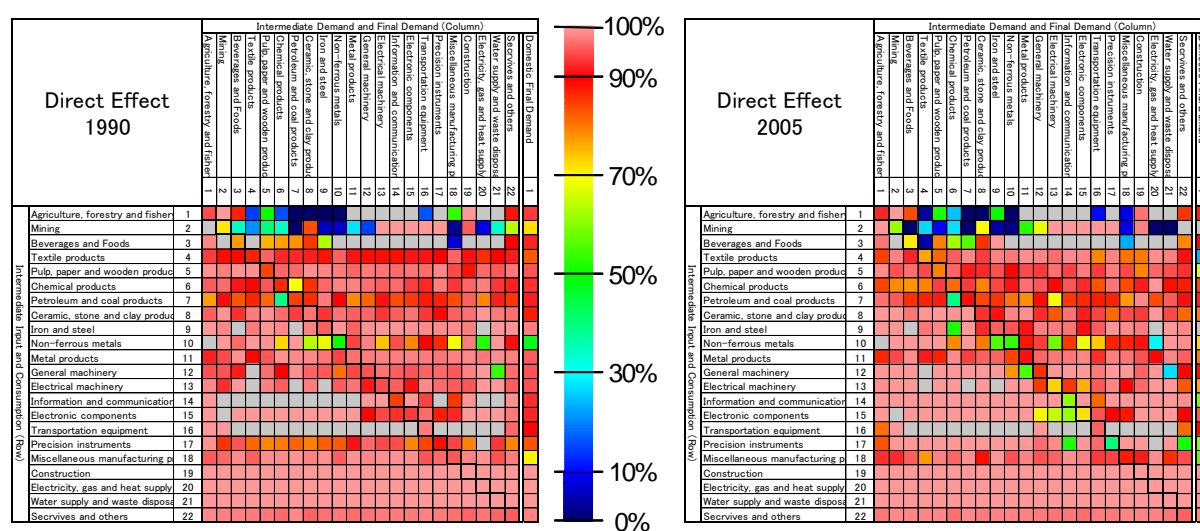
When comparing the amount of input of intermediate goods including imports with input of domestic only intermediate goods excluding imports, although intermediate input structure itself doesn't change so much between 2 points of time, as imports of intermediate goods increase in "Agriculture, Forestry and Fishing" and "Mining" that highly depend on imports that we can confirm as weakening inter-industry structure.

Next, we see the graph that shows domestic production ratio by each goods and consumer from data of Input-Output Table. In this case, ratios of domestic production goods accounting for consumption

are expressed by colors, as locations where domestic production is high are by warm colors such as red and yellow, and locations where imports is high are by cool colors such as aqua and blue.

When seeing Figure 2-3-2-4, although 1990 was in cool colors as imports of primary industries were large, we can see that almost others are in warm colors of red. In 2005, although we can see that imports in “Domestic Demand” and imports in manufacturing industries such as consumption (cross) of “Information and Telecommunication Equipment” have increased, we aren’t impressed so much that imports have basically increased.

Figure 2-3-2-4 Domestic Production Ratio in each consumer and goods of Japan



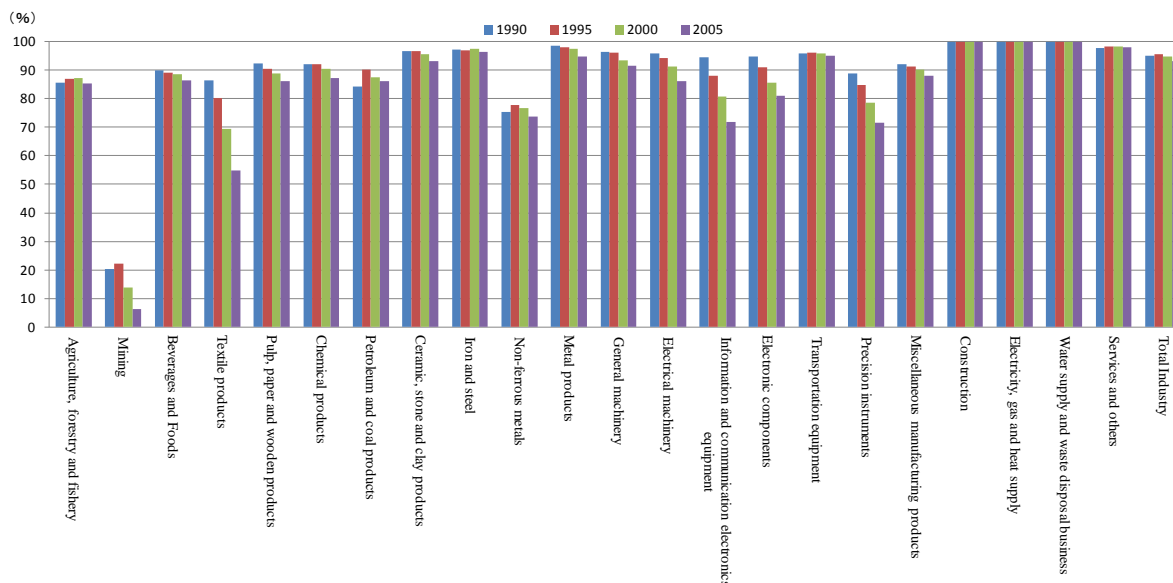
Source: Input-Output Tables for Japan (Ministry of Internal Affairs and Communications)

So next, we see change of “Domestic Production Ratio” that shows ratio of domestic production in supply and production of goods that summarized linkage among industries. Here, we mutually compare, “Domestic Production Ratio”, “Self-Sufficiency Ratio” in supply side and “Local Content Ratio” in production.⁹⁴

First of all, when taking “Vehicle” as an example, “Self-Sufficiency Ratio” means the ratio of domestic vehicles, which are sold domestically, namely the ratio of domestic vehicles accounting for supply. When seeing change of “Self-Sufficiency Ratio”, we can see that there is a declining tendency in general. In addition, when it comes to each sector, we can see bold decline in “Textiles”, “Information and Communications Equipment”, “Electronics Parts” and “Precision Machinery” as well as “Mining”. Namely, we can see that electronics related “Self-Sufficiency Ratio” is declining. (Figure 2-3-2-5)

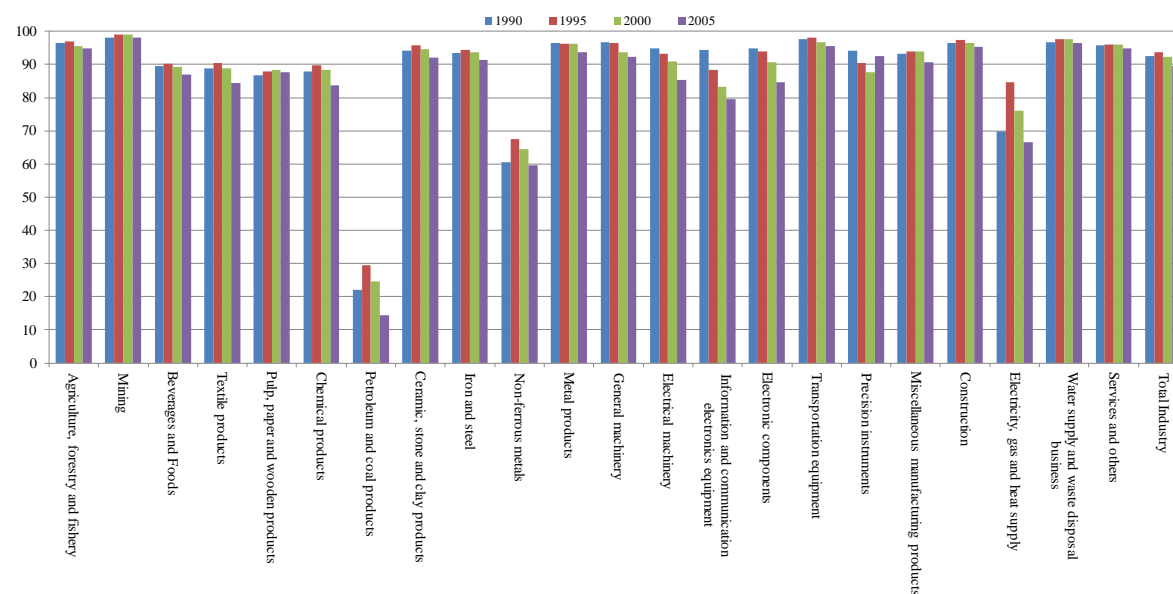
⁹⁴ 2 out of 4 kinds of “domestic production ratios” used by Fujikawa (1998) are used.

Figure 2-3-2-5 Change of "Self-Sufficiency Ratio" at 4 Points of Time in Japan



Source: Input-Output Tables of Japan (Ministry of Internal Affairs and Communications)

Figure 2-3-2-6 Change of "Local Content Ratio" at 4 Points of Time in Japan



Source: Input-Output Tables of Japan (Ministry of Internal Affairs and Communications)

On the other hand, also taking a vehicle as an example, “Local Content Ratio” means domestic production ratio of intermediate goods that are necessary for production of vehicles, namely, domestic production ratios of raw materials, parts and so on. When comparing this “Local Content Ratio”, we can see that there is a declining tendency in general too. When seeing this in each sector, we can see

that not only “Oil and Coal Product” depends on imports, but also “Electric Machine”, “Information and Communications Equipment”, “Electronic Parts” and “Electricity, Gas and Heat Supply” are declining remarkably. Namely, imports of resources increase as the result of increase of exports of intermediate goods, as the result of decline of self-sufficiency ratio, “Local Content Ratio” of the sector that uses them for production declined (Figure 2-3-2-6).

(4) Change of the Overall Influence Structure

Based on the change of “Direct Effect” that already explained, next, we are going to see the whole change of “Ripple Effect” that includes not only “Direct Effect” but also “Indirect Effect”. In this case, as shown in Figure 2-3-2-1, as the result of imports of “Parts” for production of “Vehicle”, we show the value that includes loss of opportunity of domestic production of “Materials” and “Resources”. In this case, strength and weakness of “Ripple Effects” caused by inter-industrial relation are described by colors that locations where “Ripple Effect” is strong are by warm colors such as red and yellow, and weak locations are by cool colors such as aqua and blue.

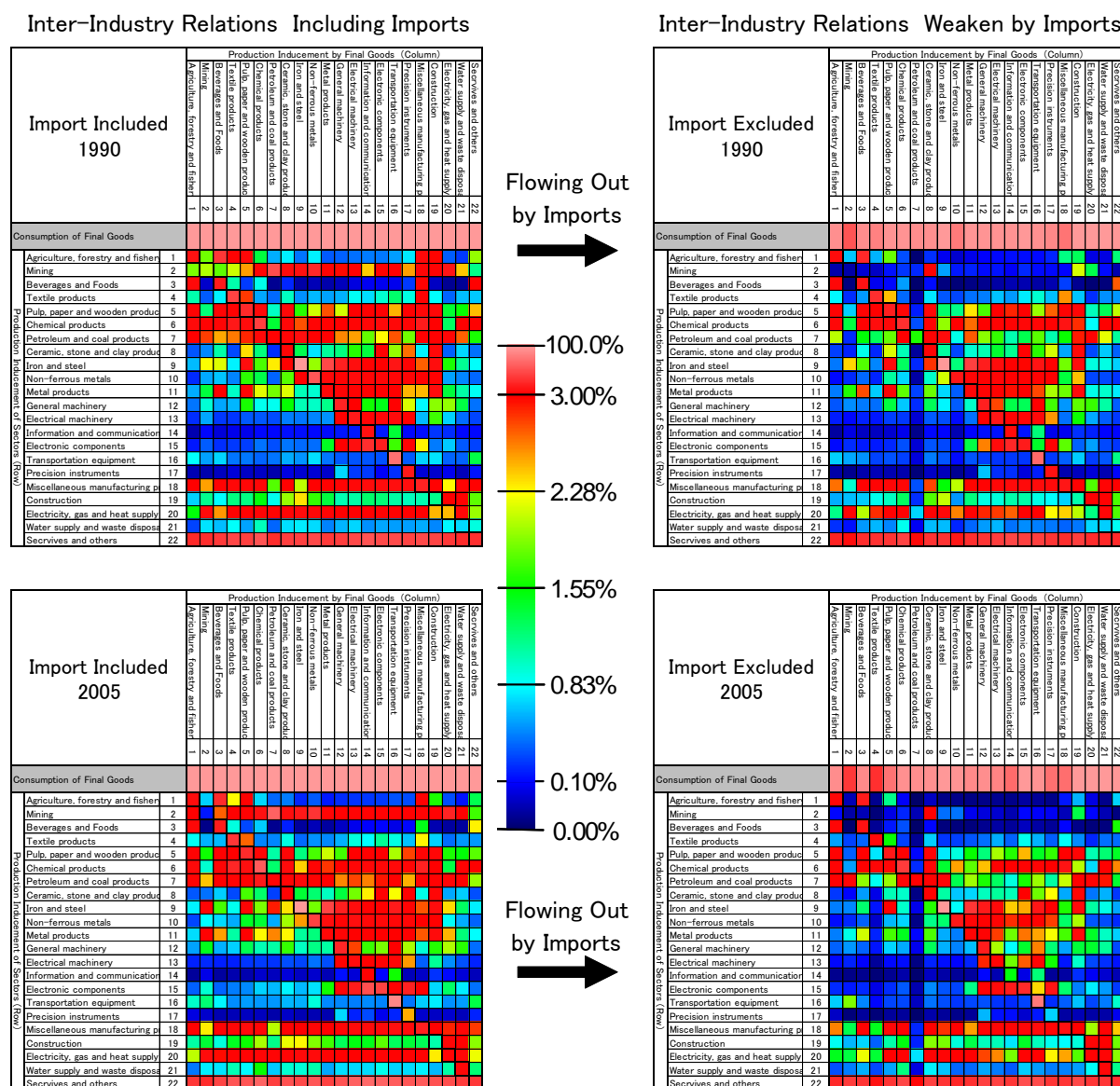
When showing “Ripple Effect” by inter-industrial relation in the same expression of Figure 2-3-2-3, by comparing graphs of left and right, we can see that “Ripple Effect” is considerably flowing out overseas due to imports, and flowing out increased considerably in the latest 15 years. Particularly, we can see that “Ripple Effect” to “Metals” and “General Machinery” that are used as intermediate goods in many cases decreases (Figure 2-3-2-7).

Based on these, although seeing the amount of trade and direct inter-industrial structure is, of course, important regarding commerce, it is insufficient to recognize how much domestic economy moves by exports in macro-viewpoint, so we can see that it is also necessary to recognize “Ripple Effect”.

Next, we define the value of “Domestic Remained Ratio” as how much “Ripple Effect” remains domestically in each final goods sector that influences, and each industrial sector that influenced, then see change of that. In this case, as shown Figure 2-3-2-1, as the result of imports of intermediate goods for production of “Vehicle”, we digitize not only that intermediate goods but also loss of opportunity of domestic production of other intermediate goods that are necessary to make that as “Flowing Out of Ripple Effect”. In this case, amount of how much “Ripple Effect” remains domestically is described by colors, locations where “Ripple Effect” remained are by warm colors such as red and yellow, and not remained locations are by cool colors such as aqua and blue.

In addition, in analysis, we use both 2 methods that the one is to see how “Ripple Effect” remains in “Production Process” not to count imports of final goods, and the one to see how “Ripple Effect” remains in “Whole Process” including imports of final goods.

Figure 2-3-2-7 Change of Ripple Effect Structure of Japan



Source: Input-Output Tables for Japan (Ministry of Internal Affairs and Communications)

First of all, when seeing how much of “Ripple Effect” caused by deals of intermediate goods among industries in “Whole Process” in Figure 2-3-2-8 remains domestically, we can see that it declines boldly in 15 years, and there is a tendency that there is a similarity in cross direction. In addition, concerning vertical direction of “Production Process”, namely production sectors affected from “Ripple Effect”, we can see that declines of sectors with the numbers of smaller that 18th of “Miscellaneous Manufacturing Products” are larger than sectors with the numbers of 19th of “Construction” or sectors of subsequent numbers. This is because domestic production ratio of intermediate goods of service related sectors are higher than that of manufacturing ones.

Figure 2-3-2-8 Change of "Domestic Remainder Ratio" of "Production Process" of Japan

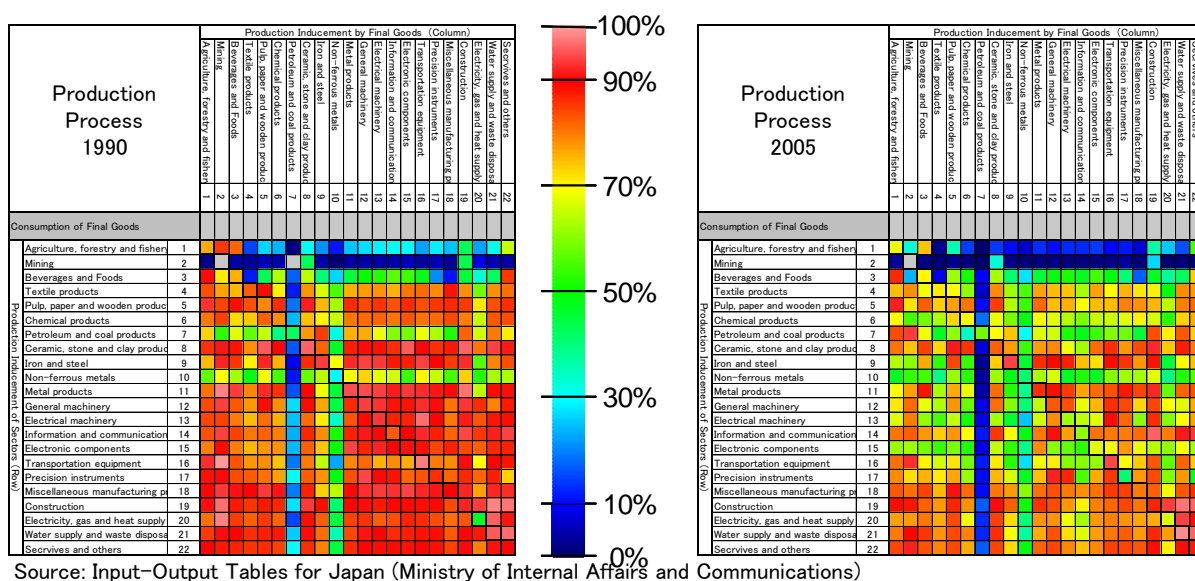
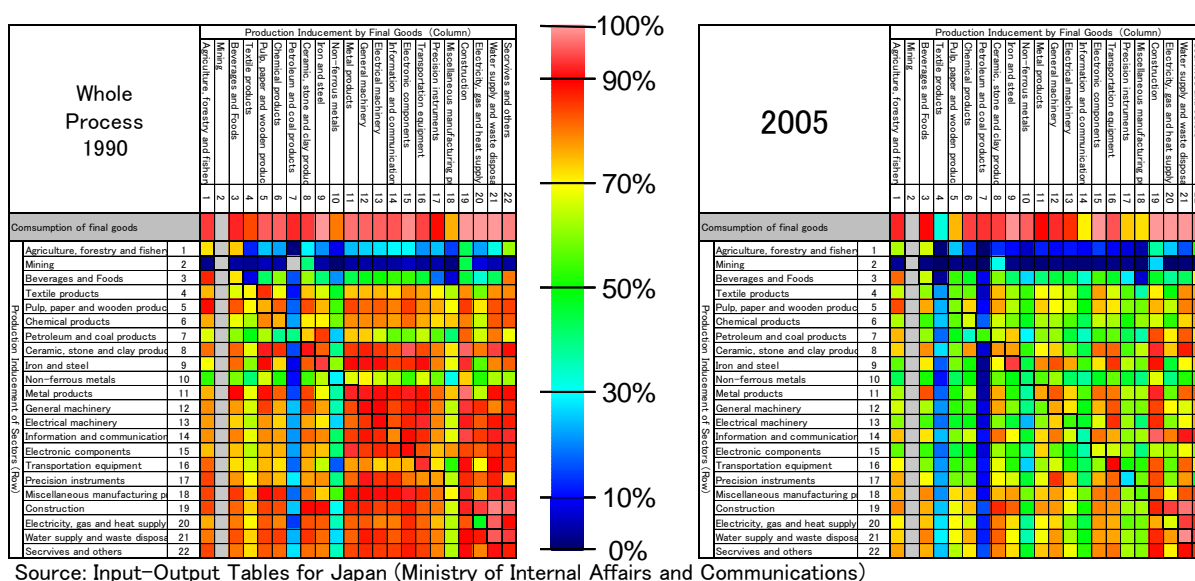


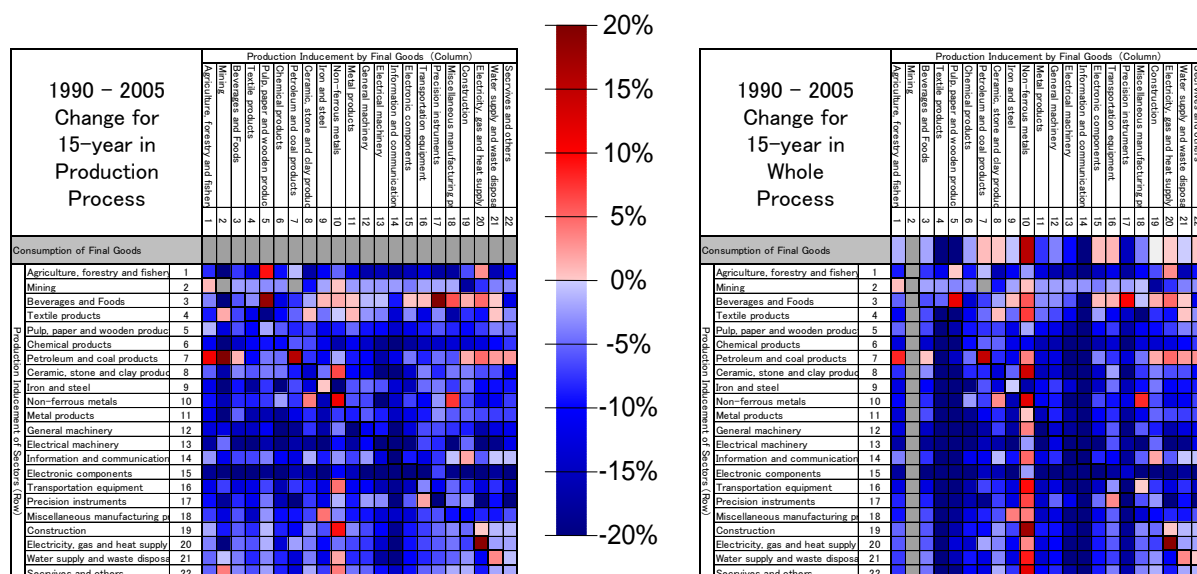
Figure 2-3-2-9 Change of "Domestic Remainder Ratio" of "Whole Process" of Japan



Next, when considering, the flowing out of “Ripple Effect” due to selection of domestic and imported goods as final goods, the change of “Whole Process” shown in Figure 2-3-2-9, we can see that domestic “Ripple Effect” declined drastically due to fall of consumption of domestic final goods of “Textile Products”, “Pulp, Paper and Wooden Products”, “Information and Communication Electronics Equipment”, “Precision Machinery” and “Miscellaneous Manufacturing Products”. When it comes to “Whole Process”, decline of all sectors are remarkable, in particular, we can see fall in vertical direction. This is because when an importation is done in the stage of consumption of final goods, domestic “Ripple Effect” isn’t induced.

Finally, we see the graph that extracts changes in the latest 15 years of Figure 2-3-2-10. In this case, the way of increase or decrease of remainder of domestic “Ripple Effect” is shown by colors, that locations where more “Ripple Effect” remains domestically than before are described by red shading, and locations where lesser “Ripple Effect” remains domestically are by blue shading.

Figure 2-3-2-10 Fluctuation for 15- Years of Both "Domestic Remainder Ratio" of Japan



Source: Input-Output Tables for Japan (Ministry of Internal Affairs and Communications)

According to this, we can see that effect of cutoff of inter-industrial relation in “Production Process” is spread to the whole industry. Particularly, although the values of final goods (the first line), such as “Oil and Coal Products”, “Ceramic, Stone and Clay Products”, “Electronic Components” and “Transportation Equipment”, are red, namely, the ratio of domestic production increases, “Domestic Remainder Ratio” under that are almost blue, namely, minus. This shows that as inter-industrial relation is cutoff that “Ripple Effect” that occurred with much effort does not reach domestic industry.

Such cutoff of indirect effect, that isn't easy to feel because it isn't direct-like one, is occurring as the structural change in economy and industry.

(5) For summary

Hitherto, using Input-Output Table, we explained about recent change of economic and industrial structures by showing domestic inter-industrial relation and structural change of "Ripple Effect" from a macro-viewpoint. First of all, by seeing "Direct Effect", namely change of direct production inducement on inter-industrial relation, we showed weakening of inter-industrial relation due to increase of imports. Next, by seeing not only "Direct Effect" but also change of "Ripple Effect" that includes indirect influence, we showed that indirect influence that isn't easy to appear is enhanced, and its weakening become larger than in case of only seeing "Direct Effect".

However, it is rash to conclude that "Flowing Out of Ripple Effect" due to imports is a problem only by the above-mentioned analysis. As we explained in Item 1 in this section, there is a process that Japan was able to establish "Full Set Type" of industries concentrated in one country, as economic and industrial structures of economies in neighboring countries were undeveloped. Therefore, it is unavoidable that Japan can't maintain the full set type when economies in neighboring newly emerging countries develop. As a result, the amount of flowing out of "Ripple Effect" by imports surely increases. On the other hand, as overseas markets expand being effected by other countries' growth and naturally, the opportunities to increase amount of exports also increase. And when one is able to increase the amount of exports by taking advantage of this opportunity, "Inducement of Ripple Effect" also increases along with that.

Now, without arguing only about the negative effect of "Flowing Out of Ripple Effect" due to increase of imports, it is necessary to compare that with "Inducement of Ripple Effect" as the result of increase of exports, and verify the balance, and evaluate whether domestic economy is working just like before, namely if "Ripple Effect" is occurring or not.

Therefore, in Item 3 of this section, we are going to compare "Flowing Out of Ripple Effect" by imports with "Inducement of Ripple Effect" by exports, then evaluate that by recognizing change of "Balance of Ripple Effect". In addition, we are going to explain the influence that the structural change of "Ripple Effect" had on employment.

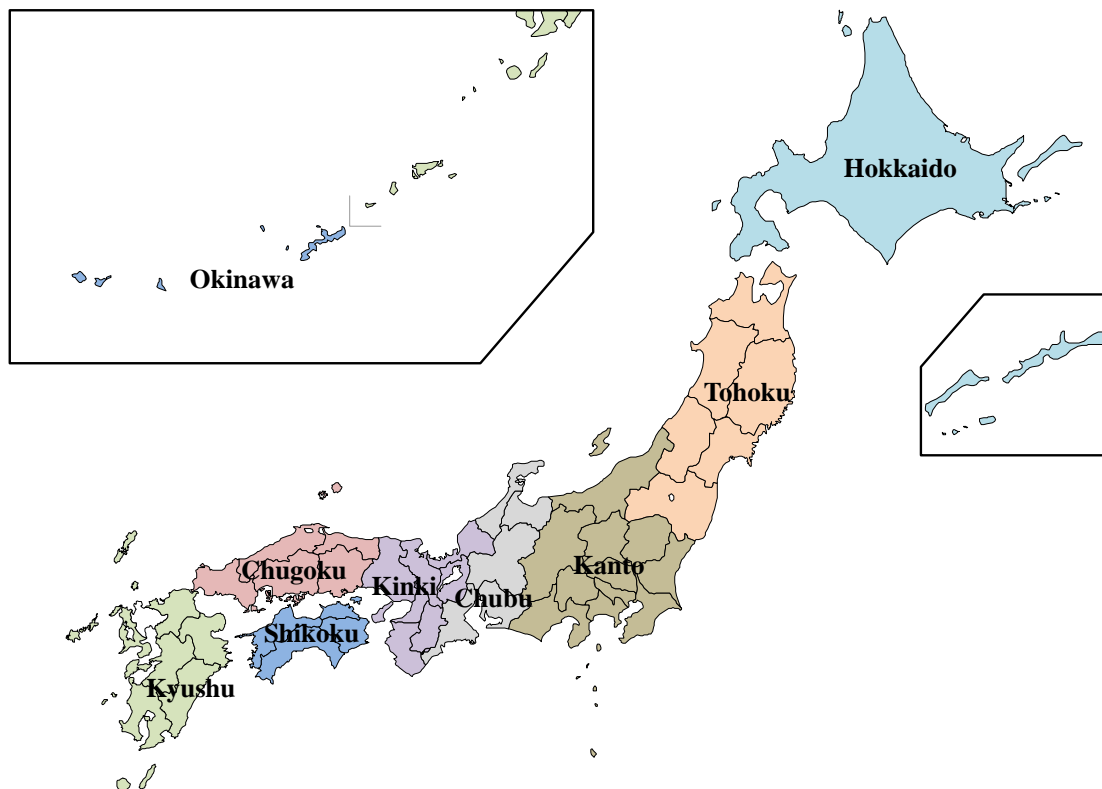
Column 3 Domestic Inter-industrial Relation among Regions, and “Ripple Effect” of Exports

By “East Japan Great Earthquake Disaster” (from now on, referred to as “the Great Earthquake”) of March 11, 2011, the production and the consumption in other domestic regions having a little direct damage caused by “the Great Earthquake” and other countries are affected due to damages mainly in the Tohoku and Kanto districts. Therefore, by using the 2005 Inter-Regional Input-Output Table, we show domestic inter-industrial structure among regions mainly centering on the disaster-hit areas of Tohoku district and Kanto district.

The domestic regional tables divide the country into 9 districts of Hokkaido, Tohoku, Kanto, Chubu, Kinki, Chugoku, Shikoku, Kyushu and Okinawa, and shows not only in each district but also inter-industrial structure among regions. However, this division is different from the administrative division, for example, there is a difference such as 4 prefectures of Niigata, Yamanashi, Nagano and Shizuoka included in the Kanto region. (Column Figure 3-1)

Here, we are going to see that from where production in each region is caused by “Ripple Effect” of consumption of final goods, namely how much each district depends on “Ripple Effect” of demand in each district. For example, when parts produced in Tohoku are used in a vehicle produced in Chubu, and a consumer living in Kanto purchased that, it is notated that Kanto induced production not only in Chubu but also in Tohoku. However, in this method, it isn’t shown that it mediates the production of a vehicle in Chubu but shows that Kanto induced the production only in Tohoku.

Column Figure 3-1 District division in Inter-Regional Input-Output Table



In Column 3-2 Table, districts that induce “Ripple Effect” are lined up in horizontal direction, and districts that receive “Ripple Effect” are lined up in vertical direction. The values are “Ripple Effect” occurring in and out of the country, and “Composition Ratio” is the ratio of “Ripple Effect” that each district receives from the whole country, and the total of all domestic districts in vertical direction are 100%. In addition, the values of “Domestic” are composition ratios that show where “Ripple Effect” each district receives is coming from, and the total in horizontal direction should be 100%.

Column Table 3-2 Domestic linkage of “Ripple Effect” (Calculate Composition Ratio to make the total in horizontal direction by 100%, or in unit %)

	Composition Ratio	Domestic										
		Own Ristrict	Other District	Tohoku	Kanto	Hokkaido	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa
Tohoku	6.0	63.7	36.3	63.7	21.4	1.9	4.0	4.3	1.5	0.7	2.3	0.2
Kanto	43.1	75.8	24.2	3.5	75.8	1.7	6.0	5.6	2.4	1.2	3.6	0.3
Hokkaido	3.6	70.8	29.2	3.1	14.2	70.8	3.9	4.3	1.3	0.5	1.8	0.1
Chubu	13.0	60.9	39.1	2.4	18.1	1.4	60.9	8.8	2.7	1.3	4.2	0.3
Kinki	16.1	66.6	33.4	1.9	13.8	1.3	6.9	66.6	3.4	1.8	4.0	0.3
Chugoku	6.5	59.4	40.6	1.8	14.0	1.2	5.7	8.7	59.4	2.4	6.5	0.3
Shikoku	2.7	63.0	37.0	1.7	12.3	0.9	4.8	8.3	4.6	63.0	4.2	0.2
Kyushu	8.4	75.1	24.9	1.2	9.2	0.6	3.6	5.2	3.4	1.1	75.1	0.4
Okinawa	0.6	82.2	17.8	0.6	8.1	0.3	2.2	3.0	0.7	0.3	2.5	82.2

Source: Ministry of Economy, Trade and Industry

When seeing “Ripple Effect” each district receives, as from Kanto to Tohoku is 21.4%, to Chubu is 18.1% and to other districts is around 10% that are larger than the values of other districts. In addition, when comparing the values between “Own District” and “Other Districts”, the Tohoku, the Chubu, the Chugoku and the Shikoku districts depend on other districts by nearly 40%, and remaining districts depend on by more than 20% only, except Okinawa. This value shows how much each district depends on other districts.

Next, we show how much “Ripple Effect” exports by each district brings to each district. In this case, for example, parts of a vehicle exported from the Chubu district is produced in the Tohoku region, and thus Tohoku receives “Ripple Effect” of exports by Chubu.

Column Table 3-3 shows, like Column Table 3-2, “Ripple Effect” that exports by each district brings to each district. In this case, horizontal direction is the districts that produced goods to export, and vertical direction is the districts that receive “Ripple Effect” by production of them. In addition, “Composition Ratio” is, no matter if own district or other districts, ratio of “Ripple Effect” that each district received by exports via each country.

According to Column Table 3-3, when it comes to “Composition Ratio”, exports from the Kanto are large by 39.5% after all. In addition, we can see that “Ripple Effect” other districts receive from the Kanto are larger than the values of other districts -- 19.8% for the Tohoku, 26.6% for the Hokkaido, and around 10% for other districts. On the other hand, when it comes to the Chubu area, while “Composition Ratio” of inter-industrial structure of “Ripple Effect” in Column Table 3-2 is 13.0%, “Composition Ratio” of exports is bigger by 20.3%, and the value of “Ripple Effect” giving to other districts to the Kanto is as big as 9.3%. As “composition ratios” in exports is 39.5% in the Kanto, and 20.3% in the Chubu that are 60% totally, we can see that “Ripple Effect” that the linkage between these 2 districts brings mutually is big.

Column Table 3-3 Domestic linkage of “Ripple Effect” due to exports by each district.
(Calculate Composition Ratio to make the total in horizontal direction by 100%, or in unit %)

	Composition Ratio	Domestic										
		Own district	Other district	Tohoku	Kanto	Hokkaido	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa
Tohoku	4.4	64.2	35.8	64.2	19.8	0.2	7.0	3.5	1.9	0.5	3.0	0.0
Kanto	39.5	77.5	22.5	2.0	77.5	0.1	9.3	4.2	2.4	0.7	3.6	0.0
Hokkaido	0.9	36.1	63.9	4.0	26.6	36.1	16.6	7.6	3.6	1.0	4.5	0.0
Chubu	20.3	76.6	23.4	1.2	10.4	0.1	76.6	4.8	2.5	0.5	4.0	0.0
Kinki	15.5	69.9	30.1	1.2	10.8	0.1	9.1	69.9	3.8	1.4	3.7	0.0
Chugoku	8.9	67.1	32.9	1.0	10.2	0.1	7.8	6.7	67.1	1.6	5.4	0.0
Shikoku	2.3	62.8	37.2	1.2	12.3	0.1	7.2	6.9	4.4	62.8	4.9	0.0

Kyushu	8.0	79.9	20.1	0.7	7.1	0.0	4.6	3.6	3.1	0.9	79.9	0.0
Okinawa	0.2	72.6	27.4	0.7	10.9	0.1	5.5	4.2	1.6	0.4	4.0	72.6

Source: Ministry of Economy, Trade and Industry

In addition, the value of “own district” of Hokkaido is low by 36.1%. This shows that it doesn't export directly from Hokkaido, but the ratio of indirect exports in the form of intermediate goods produced in the Hokkaido area are used in products exported from other districts. Particularly, as the exports via the Kanto and the Tohoku is 30.6% totally, that is near to 36.1% of direct exports from Hokkaido, we can see that the degree of Hokkaido depends on exports from 2 disaster hit districts is high. From these, we can guess that the damages of “the Great Earthquake” in Hokkaido are light, and therefore, it could withstand the negative economic influence boldly.

Thus, due to the domestic industrial linkage among districts, we can see that “Ripple Effect” varies among districts, thereby even in Hokkaido where the amount of direct imports is small in terms of supplying intermediate goods that are used by exporting goods in other districts, there is a structure in which it is indirectly receiving the benefit of exports. Conversely speaking, we can confirm that inter-industrial structure among districts is important for not only domestic consumption but also for exports, and the reconstruction of the disaster hit regions is also important for the economy of other districts.

3. Influence to Ripple Structure Caused by Change of Trade Structure

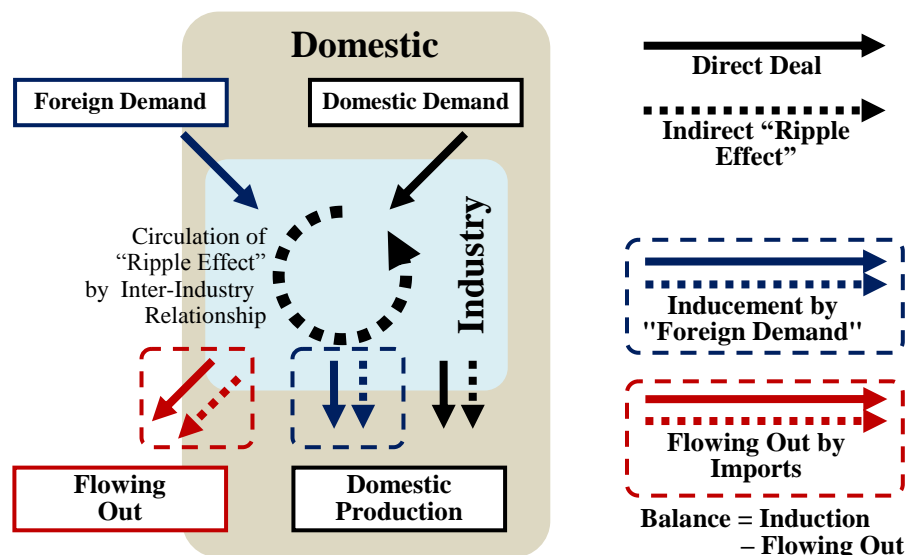
(1) Change of Trade and Ripple Structure

In Item 3 of this section, based on the explanation about change of industrial structure earlier in Item 2 in this section, we define the difference between “Induction of Ripple Effect” caused by exports and “Flowing Out of Ripple Effect” caused by imports as “Balance of Ripple Effects”, and are going to see the effects created by them.

As a premise, we clarify evaluation standard in Item 3 of this section. As we show in Item 2 of this section, domestic inter-industrial linkage is cut off due to increase of import, and “Ripple Effect” occurring in Japan is weakened. This itself is caused, to some extent, by shift from “Full Set Type” of industrial structure in Japan to international specialization. On the other hand, as opportunity of exports is increased by economic growth of foreign countries, and it is increasing actually, we guess that the amount of “Induction of Ripple Effect” is also increasing. In addition, trade is a measure from the perspective of macro-viewpoint, and the purpose of it is to make domestic economy work. Therefore, it is not enough to simply remain aware of the increase or decrease of the trade volume, but we should think about whether the domestic “Ripple Effect” caused by that is enough or not.

Therefore, concerning trade, we are going to calculate the amount of “Induction of Ripple Effect” by exports and “Flowing Out of Ripple Effect” by imports, then compare balance of that. In this comparison, when “Flowing Out” is larger and it leads to increase of unemployment, it means that enough “Ripple Effect” isn’t caused to make domestic economy work sufficiently. If “Outflow” is bigger, and it leads to increase of the unemployment by this comparison, I may not wake up “Ripple Effect” that only moves national economy enough. From such a viewpoint, using the Input-Output Table, we are going to calculate “Ripple Effect” shown by Figure 2-3-3-1, and then use it for analysis.⁹⁵

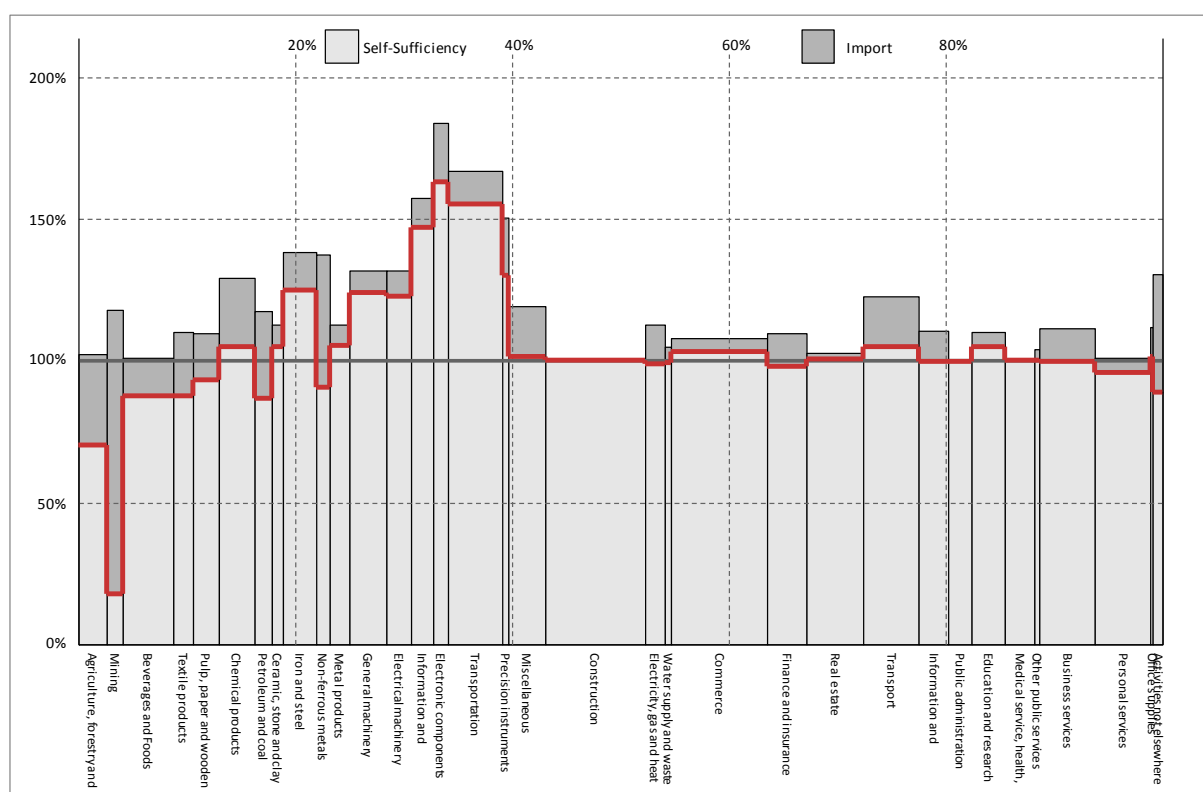
Figure 2-3-3-1 Inducement and Flowing Out of "Ripple Effect" that can be calculated.



Source: Ministry of Economy, Trade and Industry, Japan

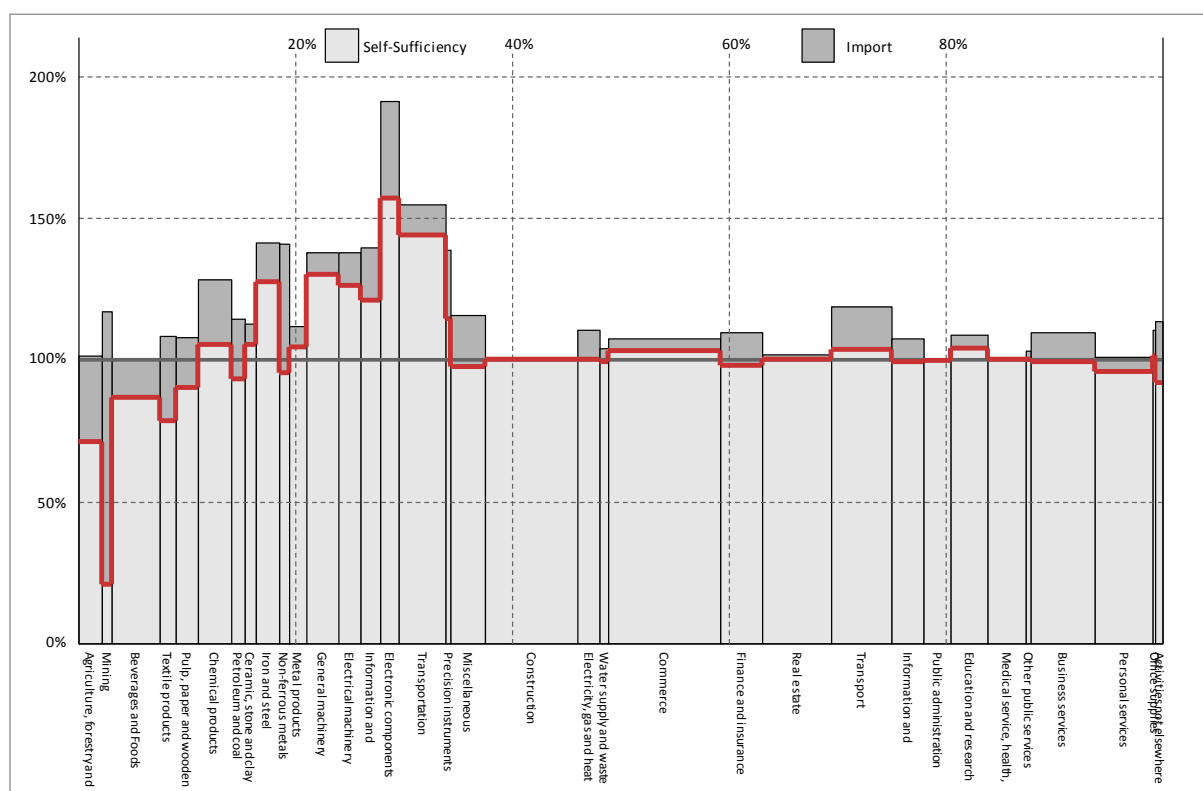
⁹⁵ Figure 2-3-3-1 is the extraction of that “Ripple Effect” that can be seen in Input-Output analysis in Figure 2-3-2-2.

Figure 2-3-3-2 Skyline Chart of Japan in 1990



Source: Input-Output Tables of Japan (Ministry of Internal Affairs and Communications)

Figure 2-3-3-3 Skyline Chart of Japan in 2005



Source: Input-Output Tables of Japan (Ministry of Internal Affairs and Communications)

First of all, we are going to show “Ripple Effect” caused by trade using the skyline chart. The skyline chart shows the relation between structure of “Ripple Effect” that various industries of a certain country receives and the demand-scale.⁹⁶ Namely, we divide “Ripple Effect” into “Domestic Demand” and “Foreign Demand” based on origin of induction to show that in the figure (Figure 2-3-3-2 and Figure 2-3-3-3).

When comparing skyline charts in 1990 and 2005, the length of the whole graph rises in the vertical direction. This shows that “Ripple Effect” caused by exports is increased. In addition, the position of “Self-Sufficiency Ratio Line” (red line) is lowered. This shows that the quantity of “Ripple Effect” flowing out by imports is increased.

In addition, when seeing the horizontal direction, we can see that the share of the tertiary industry (under the definition of the Input-Output Table, in the right position than construction) in demand increases. Increase of the shares of this service industry is an important change when looking at the industrial structure. However, as Skyline chart shows, the service industry received influence of exports (between the 100% line and the whole graph) lightly, and influence of imports (between the self-sufficiency ratio line and the whole graph) is also light. Namely, we can see that it is easily influenced by trade neither directly nor indirectly, so not important in seeing commerce. From this fact, like Item 2 of this section, we are going to analyze it based on industrial classification of 22 sectors in Item 3 of this section too.

Next, we are going to explain the difference in “Ripple Effect” between “Domestic Demand” and “Foreign Demand” based on “Direct Effect” and “Indirect Effect” separately. The “Indirect Effect” shows that induction of production of intermediate goods is caused by either “Domestic Demand” or “Foreign Demand”. Namely, the total of “Direct Effect” and “Indirect Effect” is “Ripple Effect” (Table 2-3-3-4).

Table 2-3-3-4 Component ratio of dependence on "Ripple Effect" (Input-Output Table, %)

	Direct Effect		Indirect Effect		Ripple Effect (Direct + Indirect)		Domestic Production
	Domestic Demand	Foreign Demand	Domestic Demand	Foreign Demand	Domestic Demand	Foreign Demand	
1990	49.3	5.5	38.4	6.8	87.7	12.3	100.0
1995	51.8	5.0	37.5	5.7	89.3	10.7	100.0
2000	51.7	6.0	35.4	6.9	87.1	12.9	100.0
2005	49.5	7.6	33.9	9.0	83.4	16.6	100.0

Source: Input-Output Tables of Japan (Ministry of Internal Affairs and Communications)

First of all, when comparing the values of “Direct Effect” and “Indirect Effect”, we can see that the value of indirect effect is larger. Due to only this, we can see the importance of not only “Direct Effect” from a micro-viewpoint, but also “Indirect Effect” from a macro-viewpoint. Next, when seeing composition ratios of “Ripple Effect” caused by “Domestic Demand” and “Foreign Demand”, and when it comes to “Direct Effect”, there is a gap of around 7 times the value that accounts for 7.6%

⁹⁶ When it comes to the way of creating the skyline chart, please refer to Notes 3.

for “Foreign Demand” and 49.5% for “Domestic Demand” in 2005.⁹⁷ In addition, when it comes to “Ripple Effect”, the relevant values in 2005 were 16.6% for “Foreign Demand” and 83.4% for “Domestic Demand”. So the gap is reduced to around 5 times in 2005 from around 7 times in 1990. This is because “Foreign Demand” causes more “Ripple Effect”, and we are going to explain this later (Table 2-3-3-4). Next, seeing this according to industrial sectors, not only many in the secondary industry but the dependency ratios on “Foreign Demands” increases in “Mining” that depends on imports and the tertiary industry that exports less. This is because the industry that doesn’t export directly also benefits indirectly from exports due to “Ripple Effect”, and be induced production (Table 2-3-3-5).

Table 2-3-3-5 Breakdown of "Ripple Effect," and Composition Ratio according to industrial section (Input-Output Table, %)

			Breakdown of “Ripple Effect”				Component Ratio			
			Domestic Demand (Domestic Final Demand)		Foreign Demand (Exports)		Domestic Demand (Domestic Final Demand)		Foreign Demand (Exports)	
			1990	2005	1990	2005	1990	2005	1990	2005
Total Industry			87.7	83.4	12.3	16.6	100.0	100.0	100.0	100.0
Primary Industry	Agriculture, forestry and fishery	1	98.5	98.4	1.5	1.6	2.3	1.6	0.2	0.1
	Mining	2	95.2	87.2	4.8	12.8	0.3	0.1	0.1	0.1
Secondary Industry	Beverages and Foods	3	99.0	98.7	1.0	1.3	5.0	4.4	0.4	0.3
	Textile products	4	89.5	75.6	10.5	24.4	1.7	0.4	1.4	0.7
	Pulp, paper and wooden products	5	91.0	86.5	9.0	13.5	2.3	1.4	1.6	1.1
	Chemical products	6	75.8	62.1	24.2	37.9	2.6	2.1	5.9	6.4
	Petroleum and coal products	7	87.4	82.7	12.6	17.3	1.3	1.7	1.3	1.8
	Ceramic, stone and clay products	8	88.7	76.6	11.3	23.4	1.2	0.7	1.1	1.0
	Iron and steel	9	71.3	53.7	28.7	46.3	2.5	1.7	7.1	7.3
	Non-ferrous metals	10	70.6	51.6	29.4	48.4	0.7	0.5	2.1	2.2
	Metal products	11	88.8	81.7	11.2	18.3	1.9	1.3	1.7	1.4
	General machinery	12	75.0	63.2	25.0	36.8	3.1	2.4	7.4	6.9
	Electrical machinery	13	75.1	53.1	24.9	46.9	2.0	1.0	4.7	4.6
	Information and communication electronics equipment	14	61.9	59.4	38.1	40.6	1.5	0.8	6.6	2.8
	Electronic components	15	51.6	31.8	48.4	68.2	0.8	0.6	5.3	6.8
	Transportation equipment	16	57.2	47.4	42.8	52.6	3.4	3.1	17.9	17.2
	Precision instruments	17	62.4	58.5	37.6	41.5	0.4	0.3	1.6	1.0
	Miscellaneous manufacturing products	18	82.2	72.0	17.8	28.0	3.0	2.3	4.6	4.4
Tertiary Industry	Construction	19	99.4	98.6	0.6	1.4	11.6	7.7	0.5	0.5
	Electricity, gas and heat supply	20	89.1	86.8	10.9	13.2	1.8	2.0	1.6	1.5
	Water supply and waste disposal business	21	95.6	94.1	4.4	5.9	0.8	1.0	0.3	0.3
	Services and others	22	93.0	90.9	7.0	9.1	49.9	63.1	26.6	31.5

Source: Input-Output Tables of Japan (Ministry of Internal Affairs and Communications)

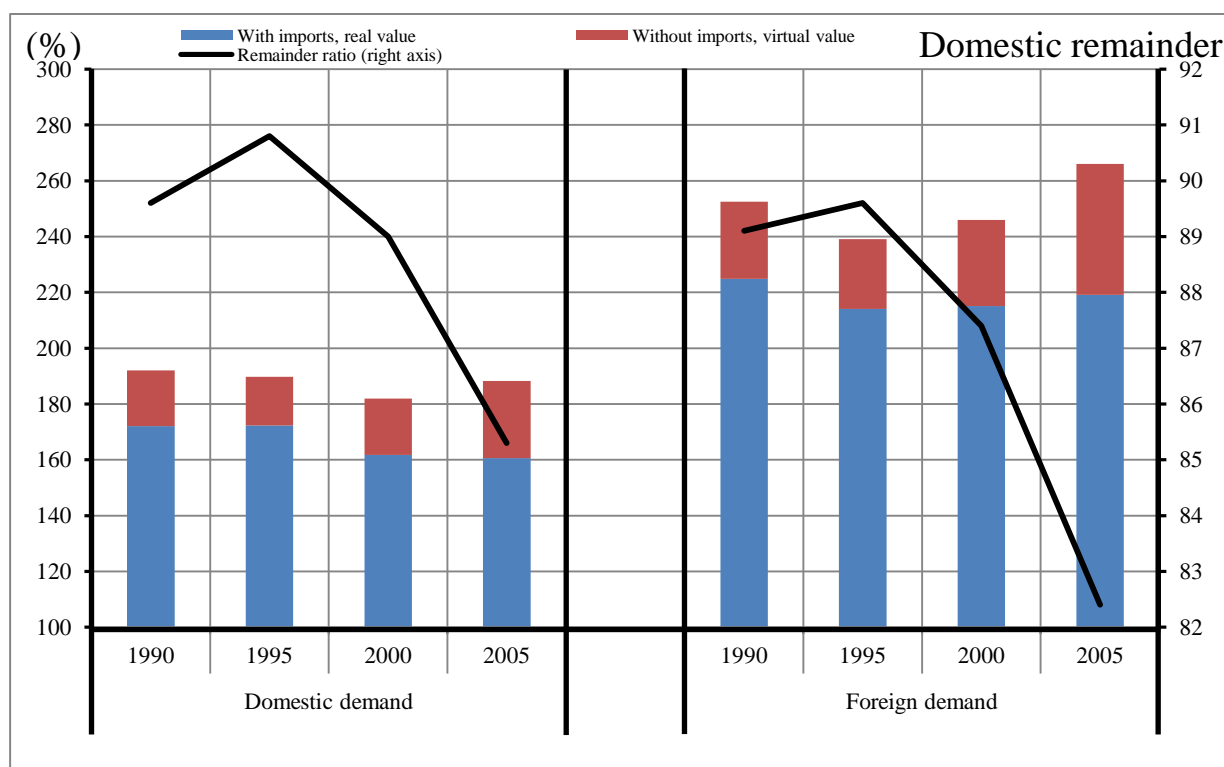
In addition, as shown in Figure 2-3-2-2, “Domestic Demand” is caused by the value-added caused by production circulations, then it led to consumption of final goods. Namely, the value-added caused by production of “Foreign Demand” is the fund of “Domestic Demand”. In the calculation of

⁹⁷ Calculation of production inducement dependency ratio in Input-Output analysis.

“Ripple Effect” in this time, this part can't be calculated. However, when taking this effect into consideration, the effect that exports brings to domestic economy become larger.

As the reason of the increase of dependency on “Induction of Ripple Effect” due to “Foreign Demand”, it can be guessed that decline of composition ratio of “Domestic Demand” due to increase of “Foreign Demand” and weakening of “Ripple Effect” of “Domestic Demand” due to “Ripple Effect” become to be prone to flow out by increase of imports are united. Therefore, based on the change of such an economic structure, we are going to see difference of “Ripple Effect” between “Domestic Demand” and “Foreign Demand”, and the change of that in next (Figure 2-3-3-6).

Figure 2-3-3-6 Domestic gap of “Ripple Effect” between Domestic Demand and Foreign Demand in Japan



Source: Input-Output Tables of Japan (Ministry of Internal Affairs and Communications)

First of all, when comparing blue part of the bar graph, we can see that “Foreign Demand” is larger than “Domestic Demand” at the same amount in “Ripple Effect”. This is because there are final goods with low processing degree, such as foods manufactured domestically, while highly processed goods are core in exports just like the word of “Process Trade” literally (mentioned before, Table 2-3-1-13).

On the other hand, when seeing “Foreign Demand”, we can see that potential “Ripple Effect” -- namely, red part that shows not flowed out “Ripple Effect” that would've been realized domestically if imports had not been done -- expanded, and the gap between the blue part that shows actual “Ripple Effect”. This ratio is “Domestic Remainder Ratio”, namely the ratio of “Ripple Effect” remains domestically raised in Item 2 of this section. When this “Domestic Remainder Ratio” is shown via a line graph, we can see that both “Foreign Demand” and “Domestic Demand” are becoming not to be able to remain “Ripple Effect” domestically. In addition, the gap between “Domestic Demand” and

“Foreign Demand” in “Domestic Remainder Ratio” is widening. From these facts, we can see that it is becoming more difficult for “Ripple Effect” caused by “Foreign Demand” to remain domestically than “Ripple Effect” caused by “Domestic Demand”.

In addition, investment returns of “Currents without Trade” rises. From this, it can be guessed that “Ripple Effect” by “Currents without Trade” is smaller than that of “Foreign Demand”. In addition, due to re-investment returns, internal reserves and so on, portion of profit isn't led to consumption and investment. From these, when comparing “Ripple Effect” caused by the same amount of money, it can be guessed that “Currents without Trade” is lesser than “Foreign Demand”.

(2) Change of Ripple Effect and Factorization

Next, we are going to compare “Ripple Effect” in trade from 1990 to 2005. Therefore, we use a graph in which the horizontal axis shows the ratio of “Foreign Demand” against “Domestic Demand”, and vertical axis shows “Balance of Ripple Effect” caused by trade. In addition, like Current Account, we express the case that “Inducement” is larger than “Flowing Out” as “black”, adversely in case that “Outflows” is larger as “Deficit”.

First of all, we show the conditions of “Balance of Ripple Effect” in each year, and show significance of the conditions that balance is zero by seeing the influence that gives to employment later. However, we note that there is nothing more meaningful than the balancing of income and expenditure when “Balance of Ripple Effect” is zero or nearly zero.

In addition, we show the ratio of import and export amounts as shown in Figure 2-3-1-4 contrasted with GDP given in numerical values (Table 2-3-3-7).

Table 2-3-3-7 Change of ratios of export and import per GDP of Japan (National Account, %)

	Ratio per GDP			Difference from 1990		
	Exports	Imports	Net Exports	Exports	Imports	Net Exports
1990	10.4	-9.4	0.9			
1995	9.1	-7.7	1.4	-1.2	1.7	0.5
2000	11.0	-9.5	1.5	0.6	-0.1	0.5
2005	14.3	-12.9	1.4	4.0	-3.5	0.4
2010P	15.2	-14.1	1.1	4.9	-4.7	0.2

Source: Compiled using date in the National Account. (Cabinet Office)

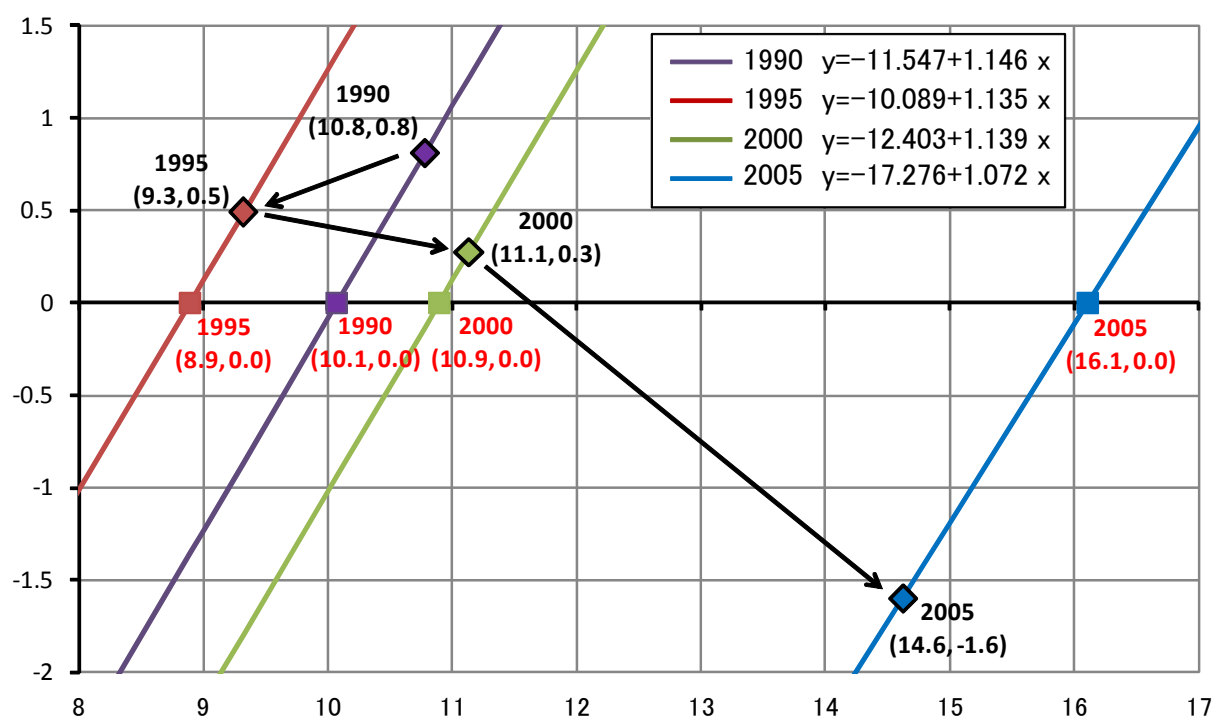
When seeing this, although both exports and imports increase, and the degree of increase is the same, we can see that net exports are in the black and there is no significant change.

Analysis 1 Comparison at 4 Points of Time from 1990 to 2005

First of all, we show the relation between ratios of “Foreign Demand” (amount of exports) and “Domestic Demand” (amount of domestic consumption of final goods) and “Balance of Ripple Effect” during 4 points in time in 1990, 1995, 2000 and 2005. Here, we show the ratio of real foreign demand against the domestic demand and the ratio that “Balance of Ripple Effect” against the domestic demand becomes to be not deficit, then compare then between point of times (Figure 2-3-3-8).

Figure 2-3-3-8 Change of "Balance of Ripple Effect" of Japan

("Balance of Ripple Effect" per "Ripple Effect by Domestic Final Demand", %)



(Ratio between exports and domestic final demand, %)

Source: Input-Output Tables of Japan (Ministry of Internal Affairs and Communications)

Each straight line in Figure 2-3-3-8 shows the influence exerts on "Balance of Ripple Effect" under the industrial structure during each point of time as exports increase. In addition, the ◆ mark on the line shows the ratio of "Foreign Demand" against "Domestic Demand" at each point of time, and the ■ mark shows the ratio of "Foreign Demand" against "Domestic Demand" that makes "Balance of Ripple Effect" to be zero at each point of time. First of all, when comparing the formula of each line, we can see that the graph in 2005 (the value of the vertical axis when the value of the horizontal axis is zero) becomes small, and the degree of leaning becomes small too. This graph shows the flowing out of ripple effect under conditions of exports is zero, namely amount of flowing out of ripple effect caused by "Domestic Demand". On the other hand, the degree of leaning shows the change of "Balance of Ripple Effect" by the increase of exports. From these, we can see that both "Domestic Demand" of the y-intercept and the degree of leaning of "Balance of Ripple Effect" caused by "Foreign Demand" decreased in 2005.

In addition, the point of intersection with the horizontal axis in 2005 marked ■ is the point where "Balance of Ripple Effect" becomes zero. Namely, it shows that it was necessary to raise "Foreign Demand" ratio constructed with "Domestic Demand" from 14.6% to 16.1%, by around 2.5%, to erase "Balance of Ripple Effect" in deficit of 1.6%.

Analysis 2 Comparison of Trade Structure in 1990 and 2005

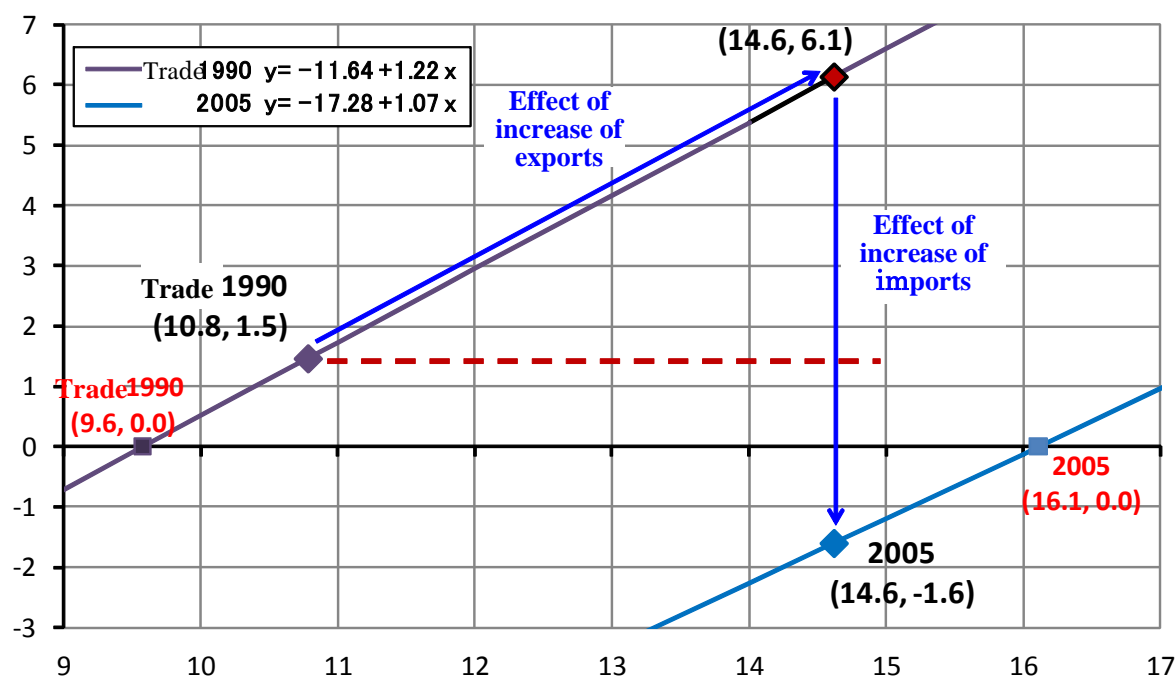
Next, we calculate to factorize the structural change that occurred from 1990 to 2005 in the same method of expression of Figure 2-3-3-8. Here, we perform analysis by using the virtual Input-Output

Table that makes trade structure as the conditions in 1990 based on Input-Output Table in 2005. Namely, we use the thing that makes the values of consumption of final goods, the ratios between domestic production and imports concerning consumption of each intermediate goods and the values of trade such as structural ratio of exports to be that in 1990 to analyze. Here, we note this condition as “Trade 1990”.

Due to this, we theorize the conditions that so called “Full Set Type” import structure that isn't prone to be caused by “Ripple Effect” of imports in 1990 was maintained in 2005, and was able to calculate inducement effect of “Ripple Effect” by exports and “Flowing Out Effect” by imports.

Figure 2-3-3-9 Factorization of change of trade structure from 1990 to 2005 in Japan

(“Balance of Ripple Effect” per “Ripple Effect by Domestic Final Demand”, %)



(Ratio between exports and domestic final demand, %)

Notes: In “Trade 1990”, based on 2005, import-coefficient and composition ratio of exports are changed to the values in 1990

Source: Input-Output Tables of Japan (Ministry of Internal Affairs and Communications)

Figure 2-3-3-9 shows the comparison between the conditions in 2005 as shown in Figure 2-3-3-8 and the results of “Trade 1990”. When seeing the flow of arrow marks connecting each point and these, ♦ mark that is on the line of “Trade 1990” in Figure 2-3-3-9 is the result of calculation supposing the conditions in 1990 concerning structure of exports and imports and the ratio of the amount of exports against domestic demand based on economic structure in 2005. Based on the conditions of this ♦ mark, when the ratio of exports against domestic demand is 10.8%, “Balance of Ripple Effect” is a surplus of 1.5%. Although the ratio of exports against domestic demand increased to 14.6% by 3.8% in 2005 as ♦ shows that is on the line of “2005”, “Balance of Ripple Effect” declined by 3.1% to deficit of 1.6%.

It is 2 arrow marks that factorize this change of 2 points into factors of exports and imports.

Increase of “Inducement of Ripple Effect” Due to Increase of Exports

First of all, the arrow from marks ◆ to ◆ on the line of “Trade 1990” is the increased portion of “Ripple Effect” due to increase of the amount of exports, and “Balance of Ripple Effect” increased by 4.6% due to this factor.

Increase of “Flowing Out of Ripple Effect” Due to Increase of Imports

In addition, the arrow downing from marks ◆ to ◆ is “Flowing Out of Ripple Effect” due to increase of imports in each consumption, and “Balance of Ripple Effect” decreased by 6.5%. Due to this, “Balance of Ripple Effect” declined by 3.1% comparing with the case of mark ◆ maintaining the trade level in 1990.

In response to these changes of “Ripple Effect”, when it comes to trade amounts, as shown in Figure 2-3-1-3 and Table 2-3-3-7, as the result of exports increased boldly while imports also increased, net exports didn't change. This means that the ratio of net exports against the GDP seems to keep a certain level and maintain status quo, as the result of progress of invisible structural change, “Balance of Ripple Effect” declined by 3.1%. It means that it failed to increase the exports sufficiently to make up for the decline of “Ripple Effect” due to cutoff of ties in inter-industrial linkage that existed in “Full Set Type” industrial structure. It is not be possible for increase of the export that only supplemented the decrease of “Ripple Effect” by a connection to the industrial linkage that existed in the industrial structure of “Full Set Type” having died out sufficiently.

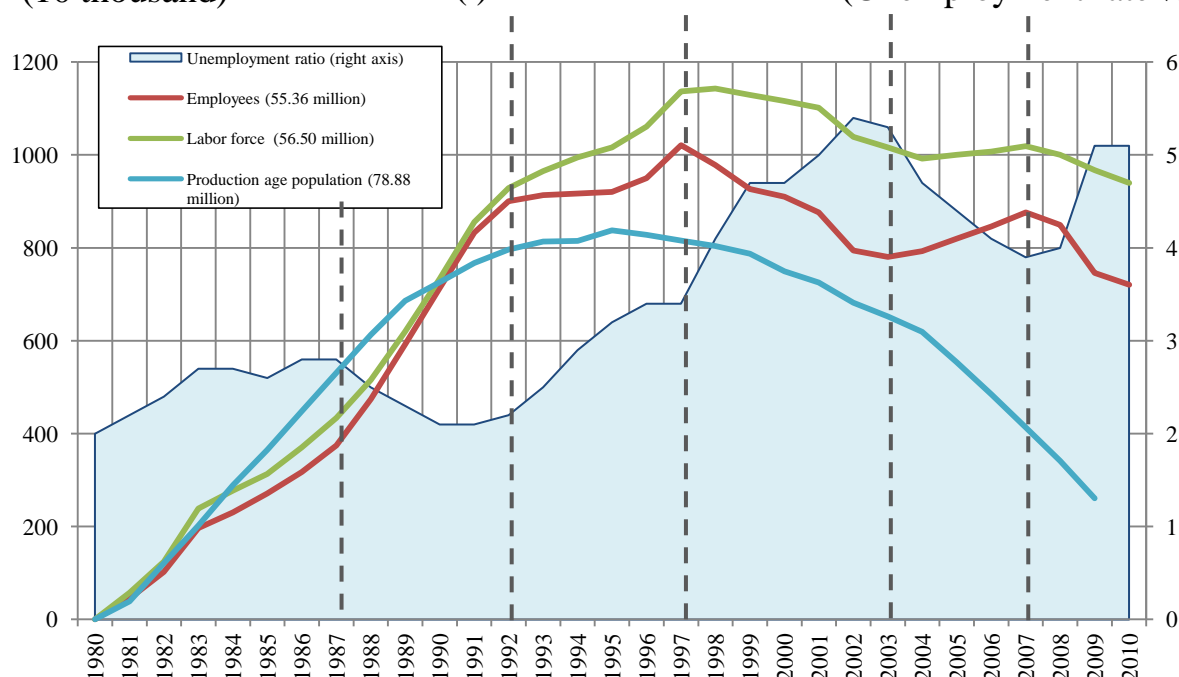
(3) Effect That Structural Change Brings to the Number of Employment

Next, we are going to see the relation between amount of production and the number of employment. In addition, here, we are going to analyze only the number of employment, and will not treat change in the form of employment such as decline of per capita wage level and increase of irregular employment.

When seeing labor market as a precondition, we can see that the reason of change of domestic unemployment ratio is different according to the period. As the definition of the unemployment rate is the number of dividing the number of the employees by labor force, the unemployment rate increases and decreases by the change of these two values (Figure 2-3-3-10).

Figure 2-3-3-10 Change of domestic labor force in Japan(reference year of 1980)

(10 thousand) Content of () is the number in 1980 (Unemployment rate %)



Notes: The numbers of employees, labor force and productive population are gap between the numbers in 1980.

Source: Compiled using date in "Population Census Report", "Annual Report of Population Estimates" and "Labor Force Survey". (Ministry of Internal Affairs and Communications, Statistics Bureau, Statistical Survey Department, Population Census Division)

First of all, the number of the employees and labor force increased from 1980 through 1991 at almost the same pace, and the unemployment rates decreased from 1987 to 1991. On the other hand, the unemployment rates continued to increase from 1992 to 2002. When seeing this with changes of the number of employees, labor force and unemployment, we can see that the reason of increase of unemployment is different before and after 1997. In the early half from 1992 to 1996, although the number of employees that is numerator was at the uppermost limit, the labor force that is a denominator continued to increase. In contrast, in the later half from 1997 to 2003, although the labor force that is a denominator decreased, as the decrease of the number of employees as a numerator was larger than that, unemployment rates increased. In addition, the decrease in productive age population (15-65) began in 1997, and continues to decrease in a lump.

Next, decline of unemployment ratio from 2003 to 2007 was caused by that increase of the number of employees was larger than increase of labor force, and as we point out in column 2, domestic price level was the lowest relatively after 1990. In addition, as the number of employees declined after 2008, unemployment ratio returns to the level in 2003.

Next, we explain that how much "Domestic Demand" and "Foreign Demand" create employment (Table 2-3-3-11).

Table 2-3-3-11 Change of Employment Inducement Effect of Japan (Input-Output Table,

Employment Table, %)

	Direct Effect		Indirect Effect		Ripple Effect		Total
	Domestic Demand	Foreign Demand	Domestic Demand	Foreign Demand	Domestic Demand	Foreign Demand	
1990	55.3	3.3	37.5	3.9	92.8	7.2	100.0
1995	57.7	3.3	35.8	3.2	93.5	6.5	100.0
2000	57.1	3.9	35.3	3.7	92.4	7.6	100.0
2005	56.3	5.0	34.2	4.5	90.5	9.5	100.0

Source: Input-Output Tables of Japan (Ministry of Internal Affairs and Communications)

First of all, it is less than 5% of the employees who are working in the field that are directly concerned with “Foreign Demand”, and we can see the number reaching around 2 times as much of 10% when including “Ripple Effect”. However, when taking long-term effect of supplement of “Ripple Effect” as shown in Figure 2-3-2-2 into consideration, the effect that “Foreign Demand” brings to employment is larger than that.

When comparing this with the effect of production as shown in Table 2-3-3-4, we can see that employment effect of “Foreign Demand” is small. In addition, although “Indirect Effect” was larger than “Direct Effect” in 1990, “Direct Effect” becomes larger since 1995. This shows that the decrease of indirect “Ripple Effect” over employment was larger than production. This shows that although indirect “Ripple Effect” is caused by “Domestic Demand” and “Foreign Demand”, it doesn't reach to industries that produce domestic intermediate goods sufficiently, and doesn't lead to employment.

When seeing this on the basis of each industrial sector, as it is labor-intensive, we can see that composition ratios are high in “Agriculture, Forestry and Fishery” and “Service and Others” that the ratios of wages in proportion of the amount of production are high (Table 2-3-3-12).

Next, we show the change of the number of employees in matching with Analysis 1 and Analysis 2.

Table 2-3-3-12 Dependence Ratio and Composition Ratio of Employment Inducement. (Input-Output Table, Employment Table, %)

	Dependence Ratio of Employment Inducement	Composition Ratio of Employment Inducement
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			Domestic Demand (Domestic Final Demand)		Foreign Demand (Exports)		Domestic Demand (Domestic Final Demand)		Foreign Demand (Exports)	
			1990	2005	1990	2005	1990	2005	1990	2005
Total Industry			92.8	90.5	7.2	9.5	100.0	100.0	100.0	100.0
Primary Industry	Agriculture, forestry and fishery	1	99.0	98.9	1.0	1.1	9.3	8.1	1.2	0.9
	Mining	2	93.7	85.7	6.3	14.3	0.2	0.0	0.1	0.1
Secondary Industry	Beverages and Foods	3	99.1	98.8	0.9	1.2	2.8	2.5	0.3	0.3
	Textile products	4	91.2	78.0	8.8	22.0	2.2	0.6	2.7	1.5
	Pulp, paper and wooden products	5	92.9	88.9	7.1	11.1	1.6	0.9	1.6	1.1
	Chemical products	6	80.6	70.4	19.4	29.6	0.7	0.4	2.1	1.8
	Petroleum and coal products	7	88.6	84.9	11.4	15.1	0.1	0.0	0.1	0.1
	Ceramic, stone and clay products	8	87.5	77.7	12.5	22.3	0.7	0.4	1.3	1.2
	Iron and steel	9	72.4	56.3	27.6	43.7	0.5	0.3	2.3	2.2
	Non-ferrous metals	10	69.3	52.1	30.7	47.9	0.2	0.1	1.2	1.1
	Metal products	11	86.6	78.8	13.4	21.2	1.8	1.1	3.5	2.9
	General machinery	12	75.6	62.5	24.4	37.5	1.6	1.2	6.8	6.8
	Electrical machinery	13	72.8	50.6	27.2	49.4	1.1	0.5	5.2	4.4
	Information and communication electronics equipment	14	59.3	59.2	40.7	40.8	0.5	0.2	4.8	1.4
	Electronic components	15	52.9	31.5	47.1	68.5	0.5	0.3	5.2	5.9
	Transportation equipment	16	57.8	47.3	42.2	52.7	1.0	0.8	9.7	8.3
	Precision instruments	17	62.7	55.6	37.3	44.4	0.3	0.2	2.2	1.3
	Miscellaneous manufacturing products	18	84.8	74.3	15.2	25.7	2.5	1.9	5.8	6.3
Tertiary Industry	Construction	19	99.5	98.6	0.5	1.4	10.6	9.2	0.6	1.2
	Electricity, gas and heat supply	20	89.7	86.5	10.3	13.5	0.3	0.3	0.5	0.5
	Water supply and waste disposal business	21	95.5	94.5	4.5	5.5	0.6	0.7	0.3	0.4
	Services and others	22	94.9	93.0	5.1	7.0	61.0	70.2	42.4	50.5

Source: Input-Output Tables of Japan (Ministry of Internal Affairs and Communications)

Analysis 3 Comparison During the 4 Points of Time from 1990 to 2005

First of all, as well as Analysis 1, we show the relations between the amount of production and employment in 1990, 1995, 2000 and 2005, then conduct comparison between the points of time (Table 2-3-3-13).

At first, although amount of production continues to increase, nominal GDP decreased from 2000 to 2005. This shows that the increase of amount of production (income) does not lead to the increase of the value-added (expense).

In addition, due to the increase of the labor force (denominator), employment rates continue to decrease, and we can also see that increase of amount of production doesn't lead to employment. The unemployment rates rose by around 2 times from 2.1% to 4.4% from 1990 to 2005, and it is equivalent to 1,677,000 when converted it into the number of people with an employment table. In addition, it was due to hike of composition ratio of labor-intensive service industry that the number of employees increased in 2005 than in 2000. Based on such unemployment rate and the increase of the unemployment number of people, we verify the change of trade structure.

Table 2-3-3-13 Comparison of “Ripple Effect” structure at 4 Points of time in Japan (Matching to figure 2-3-3-8)

	Nominal	Production amount (¥ trillion)	The number of employment (10 thousand)	Unemployment (10 thousand)
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	GDP (¥ trillion)	Production amount	Export 1%	Employment rate	The number of employment	Export 1%	Unemployment rate	The number of unemployment
1990 ◆	442.8	872.2	10.0	61.9%	6,582.1	44.2	2.1%	141.4
1995 ◆	495.2	937.1	10.8	61.4%	6,737.7	47.3	3.2%	219.1
2000 ◆	503.0	958.9	9.5	59.5%	6,828.9	40.2	4.7%	339.0
2005 ◆	501.7	972.0	11.1	57.7%	6,670.1	43.4	4.4%	309.2

Note 1: Employment rate and unemployment rate are quoted from the "Long-Term Employment Statistics" in the "Labor Force Survey".

Note 2: The number of employment and unemployment rate are the numbers calculated from "Employment Table" attached to "Input-Output Table", unemployment rate and overall unemployment rate, and doesn't match to the number in "Labor Force Survey".

Note 3: Locations where the number is declined (increased in case of unemployment) than previous time are colored by blue.

Source: "Input-Output Tables" and "Labor Force Survey". (Ministry of Internal Affairs and Communications)

Analysis 4 Comparison of Trade Structure between 1990 and 2005

Next, we factorize the changes of ripple effect brought by structural change occurring from 1990 to 2005 as mentioned in above Analysis 2.

The items in Table 2-3-3-14 match with Figure 2-3-3-9. Here, we are going to explain, based on the conditions of "Trade 1990 ◆", that the economic and industrial structures reach the level of 2005, while trade structure remains in the level of 1990. First of all, when comparing "Trade 1990 ◆" with "Trade 1990 ◆", the unemployment rate decreased by 1.5%, and employment rose by 1,767,000". Due to the change of import structure like that of "2005 ◆", in comparison with standard of "Trade 1990 ◆", unemployment rate rose by 0.8% and employment declined by 900,000.

Table 2-3-3-14 Factorization of "Ripple Effect" structure in 1990 and 2005 (Reference of "Trade 1990◆", and matching to figure 2-3-3-9)

	Domestic Production (¥ trillion)		Number of employment (10 thousand)		
	Value of Production	Amount of Change	Number of Employment	Amount of Change	Ratio
Trade 1990 ◆	983.2		6,757.8		
Trade 1990 ◆	1,030.2	47.0	6,934.5	176.7	1.5%
Measured value in 2005 ◆	972.0	-11.2	6,670.1	-87.7	-0.8%

Note 1: "Trade 1990" is the virtual conditions that domestic industrial structure is in 2005, and structures of imports and exports are in 1990.

Note 2: Locations where the number is declined (increased in case of unemployment) than previous time are colored by blue.

Source: Compiled using data from "Input-Output Tables" and "Labor Force Survey". (Ministry of Internal Affairs and Communications)

When gathering these up, among the number of 2,645,000 unemployed people, we can see that 877,000 persons lost jobs due to the weakening of domestic inter-industrial linkage, and remaining 1,768,000 due to the gap between increase of labor force and increase of demand. Namely, the amount of increase of exports is insufficient to make up for weakening of domestically induced ripple effect due to increase of imports.

Table 2-3-3-15 Promotion of exports and employment (Reference of measured values in 2005,

and matching to figure 2-3-3-9)

	Export Ratio	Unemployment Ratio	Balance of Ripple Effect	Domestic Production (¥ trillion)		Number of employment (10 thousand)	
				Value of Production	Amount of Change	Number of Employment	Amount of Change
Real Value in 2005 ◆	14.6%	4.4%	-1.6%	972.0		6,670.1	
Balance is Zero(Balanced) ■	16.1%	3.5%	0.0%	988.7	16.7	6,735.5	65.5
Unemployment Rate 2.1%	20.7%	2.1%	4.9%	1,039.4	67.4	6,832.7	162.6

Note: 2.1% is unemployment rate in 1990.

Source: Compiled using data from "Input-Output Tables" and "Labor Force Survey". (Ministry of Internal Affairs and Communications)

Finally, we show necessary amount of exports to attain unemployment rate in 1990 under the economic structure in 2005. Table 2-3-3-15 shows comparison that in case of exports are increased until to realize “Balance of Ripple Effect” is balanced under the conditions in 2005, and in case of exports are increased to realize unemployment rate of 2.1% (unemployment rate in 1990). According to that, in order to make unemployment rate to be 2.1% in 2005 virtually, exports is by around 20%, namely around 6% shortage in proportion of domestic demand.

(4) Summary

As things mentioned above, we show the changes of “Balance of Ripple Effect” that difference of “Induction of Ripple Effect” by exports and “Flowing Out of Ripple Effect” by imports, and the influence that the changes affect to employment. When seeing trade value simply, as both exports and imports increase by similar degree, and ratio of net trade against GDP is maintained at the certain value, we can evaluate that it changes at almost same level. However, by seeing the influence that trade gives to “Ripple Effect”, we can see that “Ripple Effect” becomes to be prone to flow out as inter-industrial linkage is cut off. Due to these changes, “Balance of Ripple Effect” turned to minus in 2005. Namely, along with international specialization, as “Flowing Out of Ripple Effect” increase too much that “Ripple Effect” doesn't remain domestically enough.

In addition, the unemployment ratio increased in same period of this change. However, as a factor of that, there is an aspect that the labor supply continued to increase during the period of economic growth stagnation 1990s. In addition, we show that increases of the output value from 2000 to 2005 didn't connected to increases of GDP (amount of value added) and employment, but both of them decreased. This shows that the circulation of domestic “Ripple Effect” -- as shown in Figure 2-3-2-2, distribution of value-added that is the result of production, and induction of “Domestic Demand” based on value-added and induction of production due to that -- has weakened.

These results show that international specialization didn't progress as that could induce enough “Ripple Effect” domestically. This shows that the necessity to think about the domestic “Induction of Ripple Effect” rises in thinking about trade policies in a viewpoint of macro than the era of “Full Set Type” industrial structure.

4. Conclusion

As mentioned above, making domestic economy as the point of argument, we explained about the effect of domestic economic structure and trade and industry from a macro-viewpoint. Japan maintained a “Full Set Type” industrial structure by itself as neighboring countries were developing

ones and unable to construct an international specialization structure until mid. 1990s. This “Full Set Type” industrial structure lost inevitability as neighboring emerging countries attained economic growth and international specialization progressed for 2 decades, and the current structure was realized. In addition, when it comes to Japanese trade, both the amounts of exports and imports increased while the ratio of intermediate goods rose. This interpretation can be evaluated differently from a micro and macro-viewpoints.

When speaking from a micro-viewpoint, this change is the result of actions undertaken by each industry and firm, bidding for survival and development and paying attention to the changing world economy. Namely, actions such as finding a way of escape from the problems caused by reduction of domestic and overseas markets (reduction of domestic demand and foreign demand), reduction of prices to compete against other countries and other brands in the world market, production at places nearer to the consumers, local production to avoid economic friction with sales counterparts, increase of direct investment and transfer of factories overseas for these purposes, and increase of imports and exports of intermediate goods are rational in micro management viewpoint.

On the other hand, when speaking about the effects of such micro-judgment from a macro-viewpoint, it brought so-called “Hollowing Out” such as cutoff of close ties of domestic inter-industrial structure that was called “Full Set Type”, flowing out of “Ripple Effect” along with that, decrease of employment and so on. Due to this influence, incentive to move production bases and markets abroad is more and more strengthened at the micro-level. Namely, rational acts occurred from micro-viewpoint cause problems in macro-level as the result of “Fallacy of Composition”, and that strengthens incentive that strengthens acts from a micro-viewpoint. It is the political tasks to cause structural changes that lighten or make to be plus such “Fallacy of Composition”, or install Japanese economy into the global inter-industrial structure to introduce “Ripple Effect” to Japan in the international specialization structure.

In addition, this analysis shows that fluctuation occurred between the number of labor force and that of employees after the burst of bubble economy. At present, decreases of labor force and employees are approximately equal, and as the result, the unemployment doesn't decline. In addition, although nominal amount of production of Input-Output Table was increased from 2000 to 2005, the nominal GDP was decreased, and so did the number of employees. This shows that the increase in amount volume of production doesn't lead to increase of value-added and “Domestic Demand”, and is unable to bring more opportunities for employment under the current domestic economic structure.

However, these are quantitative problems, and furthermore, problems of the balance, and balance of income and expenditure levels are rather than qualitative ones. When shift from full set type to international specialization is accelerated, it is unavoidable that hollowing out occurs to some extent. In addition, along with economic development in other countries, it is unavoidable that production bases and markets move to foreign countries. The problem is that these changes are large enough to make domestic “Balance of Ripple Effect” to reduce, and make domestic labor market shrink to the degree that the number of unemployment doesn't decline although labor force falls. Namely, the problem is the conditions that change which are qualitatively unavoidable are occurring excessively, and it is a political task to adjust that from a macro-viewpoint.

In addition, “Currents without Trade” in commerce, namely, “Income” balance and “Royalties and License Fees” are effective measures to acquire foreign money from a micro-viewpoint and in a

well-balanced management style. However, when evaluating from a micro-viewpoint as the driving force to move domestic economy, these are substitute means of exports, and the effect is smaller than exports of the same amount. In addition, although it causes “Domestic Demand” indirectly, but “Domestic Demand” brings smaller “Ripple Effect” into domestic territory than “Foreign Demand” (export) so that its effect is necessary to be evaluated carefully.

Thus, it is necessary to foster multi-directional promotion of exports so that domestic “Induction of Ripple Effect” increases. In addition, while micro-level measures to diversify means to acquire foreign money, such as direct investment and transfer of production bases overseas and so on are done, measures from a macro-viewpoint are necessary to improve domestic economic system and structure to make benefits return home, and go to consumption or investment.

Chapter 3 Toward a new concept for overseas development of Japanese economy

Overcoming the world economic crisis (its aftermath) and the shock of earthquake disaster

After the previous world economy crisis and the earthquake disaster, the presence of emerging countries around Asia has become clearer. This chapter depicts a future image of the possibility of overseas development of the Japanese economy with full realization of the needs for harmonious coexistence with the fast-growing Asian countries and industrial compartmentalization. In section 1, we discuss and analyze what direction exists to secure necessary space for manufacturing industries of Japan in the emerging countries of Asia. Additionally we indicate that Japan's contributions in offering problem solving ideas to the emerging Asian nations can give Japan a big business opportunity. In section 2, we define the overseas development concept by getting into full swing in emerging countries as "localization", and after having described the characteristics and problems therein, we will indicate how the movement toward "localization" influences the Japanese economy, and see how a proper balance between the "localized industries" and the Japanese economy can be achieved.

Section 1 Re-examination of the global market, and the strategy of the Japanese manufacturing industry

In emerging countries¹ all over the world including Asia where economic growth is remarkable, the "market" is spreading quantitatively, and improving qualitatively, backed by the rise in income. This section analyzes factors like markets of the emerging countries where sudden growth is anticipated in the future, the present status and forecasted future of the income group, competitiveness of Japanese manufacturing industries, and finally, the measures to be taken to secure the necessary market venues in the emerging economies.

In this section, the criteria of each income group are given as follows.

Income group	Household disposable income per annum
High-income class	35,000 dollars and above
Upper middle income class	More than 15,000 and below 35,000 dollars
Lower-middle income class	More than 5,000 and below 15,000 dollars
Lower-income class	Below 5,000 dollars

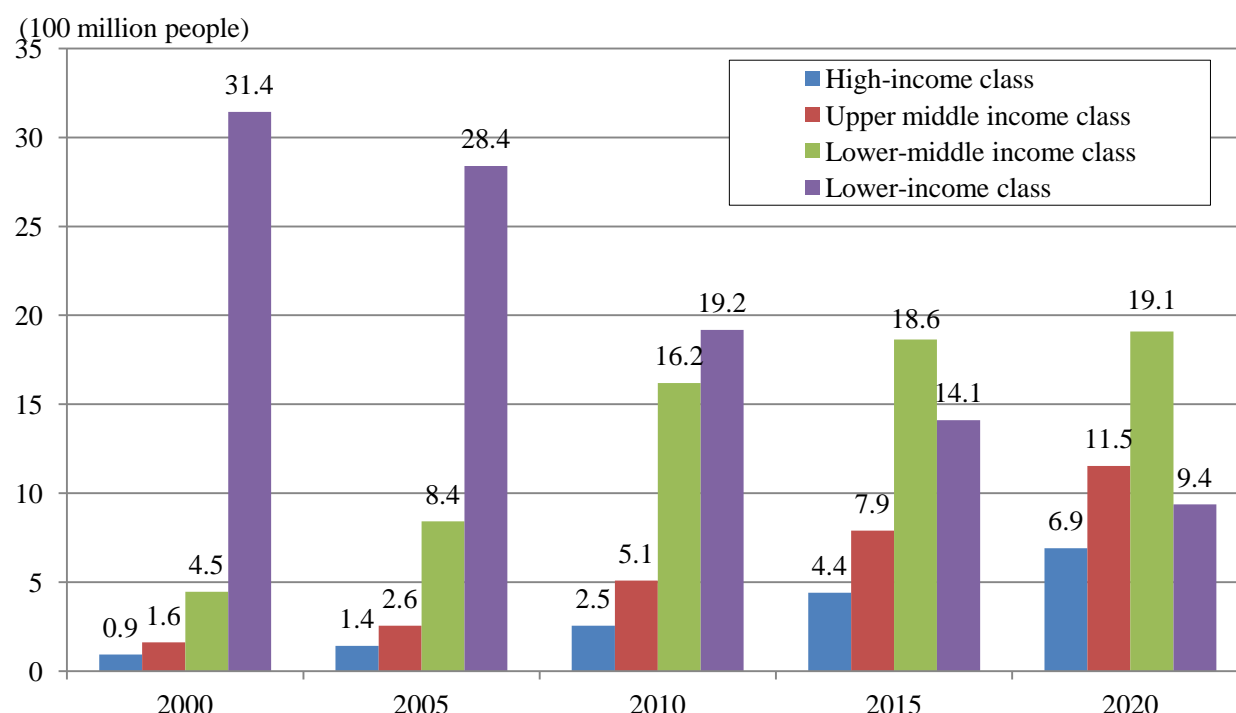
1. Income group in emerging countries that is growing rich

The population structure of the emerging economies is categorized by income group. This is true as long as the income of the emerging economies are above 4,300 million. It showed that the high-income class accounted for 5.9%, upper middle-income class 11.8%, lower-middle income class 37.6%, and low-income class 44.6%. About half (1,920 million) of the population belonged to the lower-income class, while in 2020, they expect that the high-income class will account for 14.7%, the upper middle-income class 24.6%, lower middle income class 40.7% and the low-income class 20.0%.

¹ Here, considering economic scale and data restrictions, the necessary information concerning the emerging countries are collected from following 27 subject countries and regions, such as, China, Hong Kong, Korea, Taiwan, India, Indonesia, Thailand, Vietnam, Singapore, Malaysia, Philippine, Pakistan, Turkey, United Arab Emirates (UAE), Saudi Arabia, South Africa, Egypt, Nigeria, Mexico, Argentina, Brazil, Venezuela, Peru, Russia, Hungary, Poland and Rumania.

This indicates that approximately 40% (1,840 million) of the population of emerging countries (4,690 million) will belong to the upper middle-income class or the high-income class (Figure 3-1-1-1).

Figure 3-1-1-1 Change of population of emerging countries by income group



Notes: Household population categorized by household disposable income. House household ratio for each income group x population. Data for 2015, 2020 are estimated.

Sources: Euromonitor International 2011.

The countries with the largest population income group in 2010, where the number of upper middle income class or high-income class was the largest were 11 countries mainly in Middle East and Central and South America (in Asia only NIEs), but this number will expand to 16 countries in 2020. On the other hand, the number of countries where low-income class was the largest was eight in 2010. They came mainly from Asia and Africa. But, the number of countries in this category will decrease to three in 2020, and they are Vietnam, South Africa, and Nigeria. As for the ratio of people in the low-income group in Vietnam and South African, there is no big difference with the people of the lower-middle income group/class in each country. This number will eventually decrease to less than 50% (72.1% in Nigeria) in 2020.

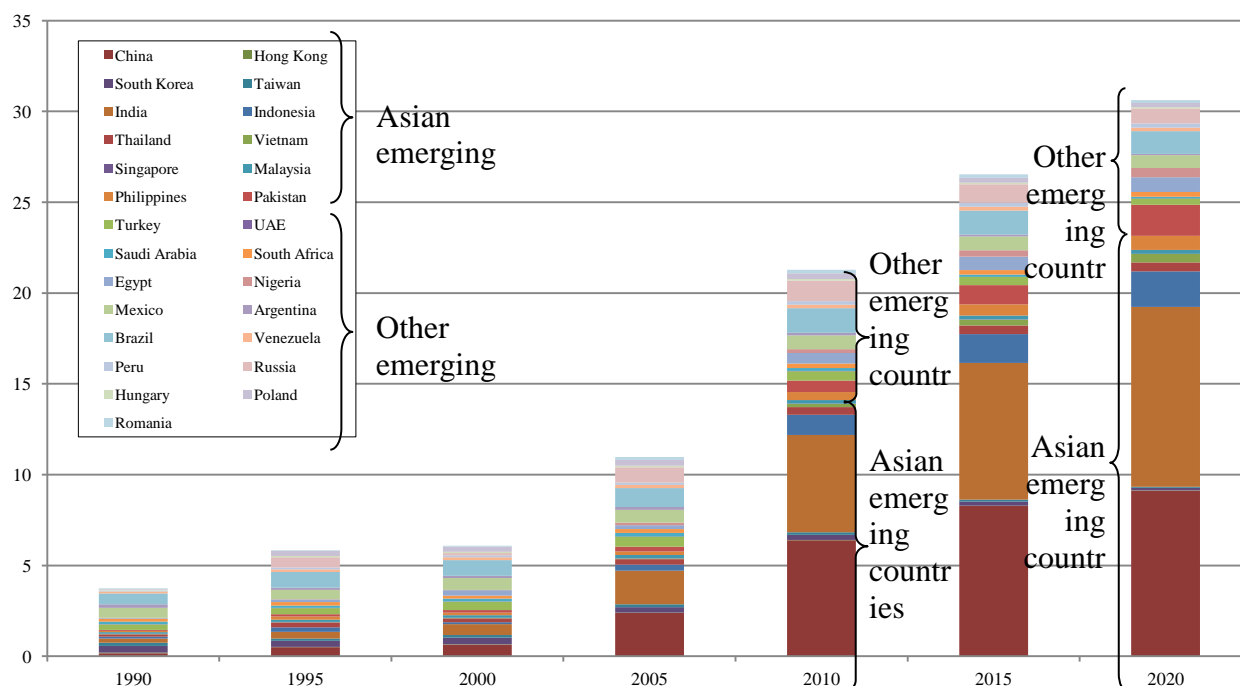
(1) Status of the people in the middle-income class and the future growth potentials

The middle-income class of the population in the Asia's emerging countries was 240 million in 2000, and it grew six times larger to 1460 million in 2010. It is expected to grow about 10 times larger in 20 years, amounting to 2310 million in 2020. On the other hand, as for other emerging countries, it grew from about 370 million in 2000 to 670 million in 2010, and is further expected to grow up to 750 million in 2020. But there is no similar growth in other countries except those in emerging Asian countries. As for the middle income class in the emerging countries in 2020, 11 countries in emerging

Asian economies will surpass the scale of 16 other emerging countries, and will account for more than 75% of the whole middle income population. It is anticipated that by 2020, the entire group of the emerging economies will grow into a large market of 3.06 billion (Figure 3-1-1-2).

Figure 3-1-1-2 Changes in middle income group in emerging countries/regions

(100 million people)



Notes: Note: Household population categorized by household disposable income. House household ratio for each income group x population Data for 2015, 2020 are estimated figures presented by the Euromonitor Russia are not included in the 1990 population
Sources: Euromonitor International 2011.

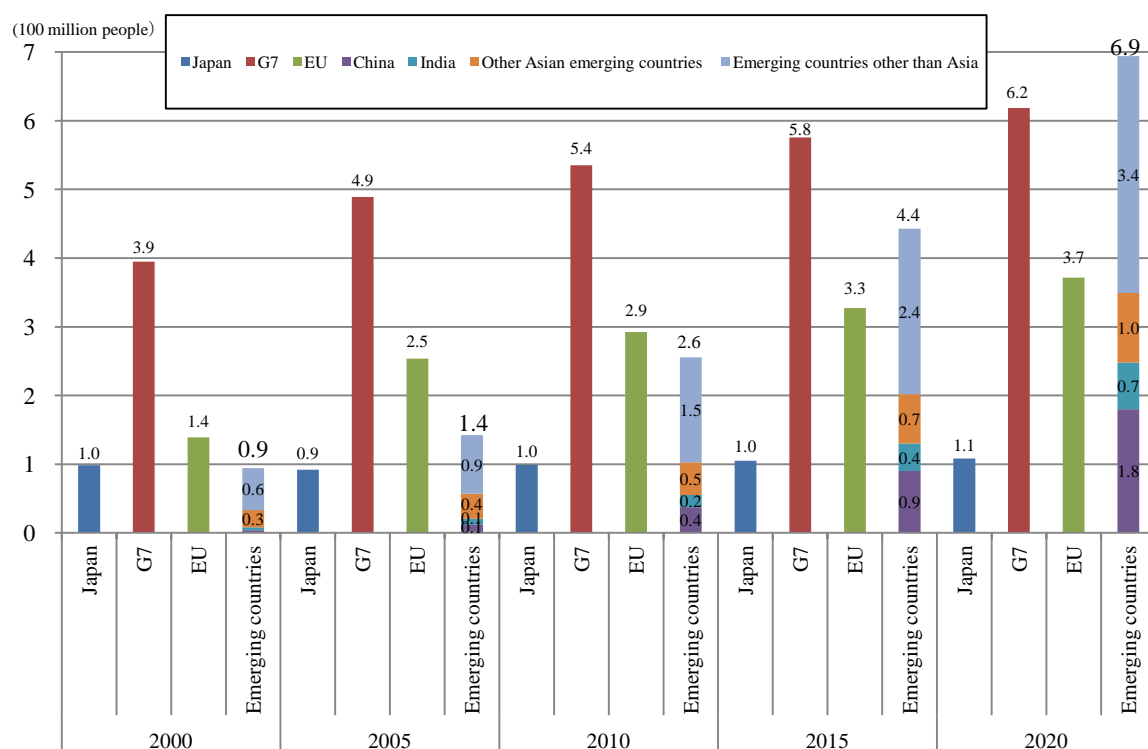
(2) Status of the people in high-income class and the future growth potentials

As for the high-income class of the population, although developed nations (540 million in G7) had more than double the number of people classed under this group of the emerging countries (260 million) in 2010. However, the emerging economies showed an extremely high growth rate in the high-income class of their population. From 2010 through 2020, the growth rate of the high-income class of the population of the developed nations is expected to be approximately 1.2 times greater than before, while that of the emerging countries will be about 2.7 times greater. The emerging Asian countries, in particular, should be about 3.4 times larger than the previous years. The high-income class of the population of 11 emerging Asian countries accounts for the majority growth of the total number of emerging countries and exceed that of 16 non-Asian emerging countries. Above all, China, with a faster growth rate, is rapidly growing about 4.8 times larger than before, and it is expected that China will take up more than 50% of the scale of entire lot of the emerging Asian countries, and more than 25% of that of the entire grouping of the emerging nations.

As a result of the above, the high-income class of population of the emerging countries which was

about 100 million in Asian emerging countries and about 150 million in other emerging countries in 2010, will be about 350 million in Asian emerging countries, about 340 million in other emerging countries totaling about 690 million in 2020. This figure indicates that the high-income class in emerging economies is anticipated to grow and exceed the scale of EU in 2015 and that of G7 in 2020 (Figure 3-1-1-3).

Figure 3-1-1-3 Comparison of changes in high income group between developed countries and emerging economies



Notes: Household population categorized by household disposable income. House household ratio for each income group x population Data for 2015, 2020 are estimated figures presented by the Euromonitor

Sources: Euromonitor International 2011

(3) The expansion of the market of Asian emerging countries

(A) General view of the market of Asian emerging countries

The market of the emerging Asian countries is characteristic in that, its output is low as its per capita GDP is generally low except the NIEs3 and Singapore, even though its population account for approximately 50% of world population, The nominal per capita GDP of Asian emerging countries in 2010 was 3,446 dollars and this indicates that this is affected by the fact that per capita GDP of the nations with huge population is generally low. The nominal per capita GDP of China with its 1.3 billion people is \$ 4,382, while that of India with 1.2 billion people is \$1,265 (Table 3-1-1-4).

Table 3-1-1-4 Overview of Asian emerging countries/regions

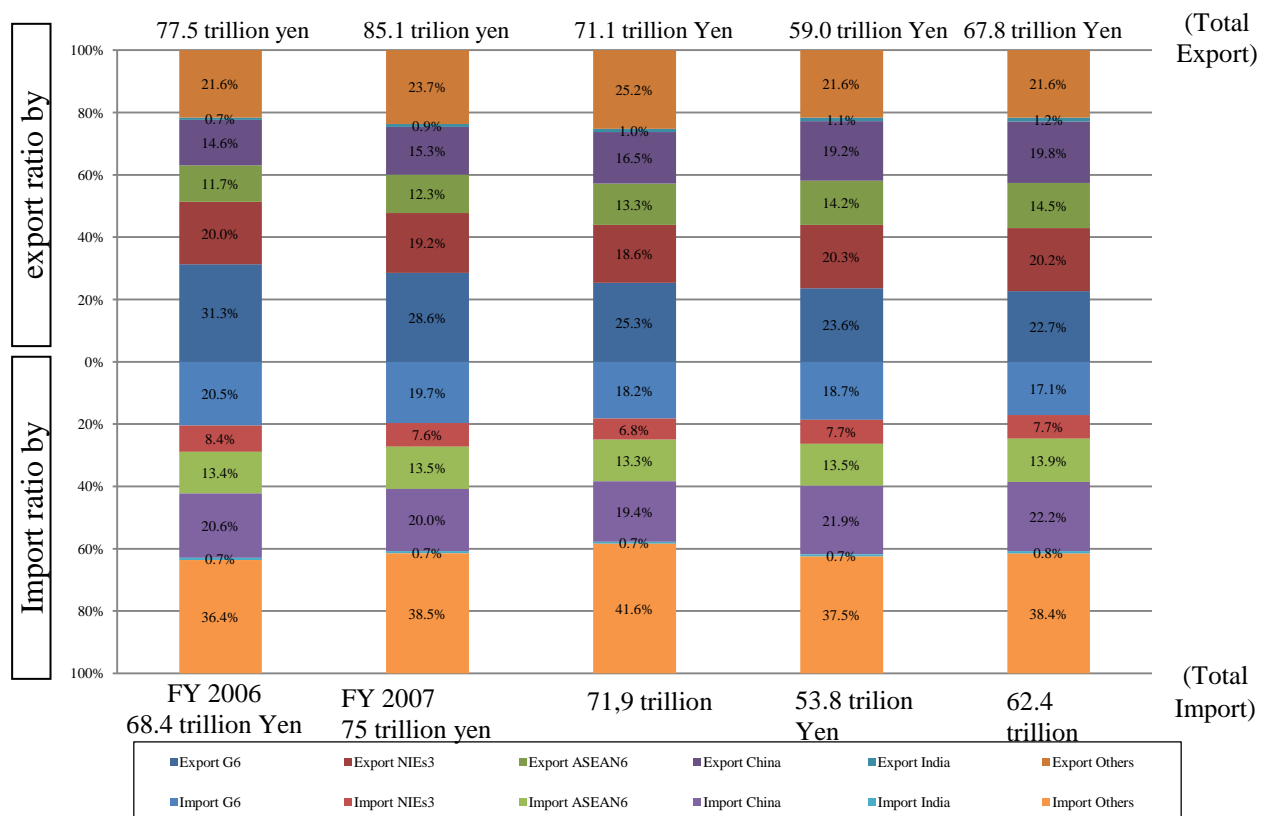
Country	Population (1 million people)	Average annual	Nominal GDP (\$1 billion)	Average annual	Nominal GDP per capita (US\$)	Average annual	GNP per capita world ranking
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	2010	2015	growth rate	2010	2015	growth rate	2010	2015	growth rate	2010	2015
China	1,341.4	1,375.3	0.50%	5,878.3	10,061.8	11.35%	4,382	7,316	10.79%	93	81
India	1,215.9	1,299.2	1.33%	1,538.0	2,516.3	10.35%	1,265	1,937	8.90%	134	130
Hong Kong	7.1	7.4	0.81%	225.0	320.2	7.31%	31,591	43,180	6.45%	25	23
South Korea	48.9	49.7	0.31%	1,007.1	1,476.0	7.94%	20,591	29,713	7.61%	34	31
Taiwan	23.3	24.4	0.90%	430.6	692.2	9.96%	18,458	28,375	8.98%	38	34
NIEs3	79.4	81.5	0.53%	1,662.7	2,488.4	8.40%	20,951	30,538	7.83%	Equal to 34th rank	Equal to 30th rank
Singapore	5.2	5.6	1.74%	222.7	305.0	6.49%	43,117	54,176	4.67%	15	14
Malaysia	28.3	30.7	1.70%	238.0	336.2	7.16%	8,423	10,939	5.37%	65	66
Thailand	63.9	65.8	0.60%	318.9	460.5	7.63%	4,992	6,997	6.99%	87	84
Indonesia	234.4	250.0	1.30%	706.7	1,212.3	11.40%	3,015	4,849	9.97%	106	101
Philippines	94.0	103.7	1.97%	188.7	269.2	7.36%	2,007	2,597	5.29%	121	121
Vietnam	88.3	93.7	1.20%	103.6	176.3	11.23%	1,174	1,882	9.91%	138	132
ASEAN6	513.9	549.5	1.35%	1,778.5	2,759.6	9.18%	3,461	5,022	7.73%	Equal to 103th rank	Equal to 98th rank
Asian emerging countries 11	3,150.7	3,305.6	0.96%	10,857.4	17,826.0	10.42%	3,446	5,393	9.37%	Equal to 103th rank	Equal to 97th rank
Japan	127.5	126.5	-0.16%	5,458.9	6,379.7	3.17%	42,820	50,450	3.33%	16	17
USA	310.0	325.0	0.95%	14,657.8	17,993.1	4.19%	47,284	55,361	3.20%	9	9
Canada	34.1	36.5	1.41%	1,574.1	2,000.0	4.91%	46,215	54,741	3.44%	11	10
UK	62.2	64.3	0.67%	2,247.5	3,050.5	6.30%	36,120	47,418	5.59%	22	22
Germany	81.6	80.8	-0.20%	3,315.6	3,857.0	3.07%	40,631	47,741	3.28%	19	21
France	63.0	64.4	0.46%	2,582.5	3,112.3	3.80%	41,019	48,317	3.33%	18	20
Italy	60.3	61.6	0.40%	2,055.1	2,424.5	3.36%	34,059	39,383	2.95%	23	24
G7	738.7	759.1	0.55%	31,891.5	38,817.0	4.01%	43,175	51,135	3.44%	Equal to 15th rank	Equal to 17th rank
World (184 countries)	6,818.1	7,191.6	1.07%	62,887.8	85,367.2	6.30%	9,224	11,870	5.17%		

Source: "World Economic Outlook Database, April 2011"(IMF)

As of 2010, the Asian emerging countries are the big market for us, accounting for 55.7% of the whole export amount and 44.6% of whole import amount of Japan. Geographically and economically, Japan and Asia have close relations (Figure 3-1-1-5).

Figure 3-1-1-5 Change in ratio by trade partner/region to total import and export of Japan

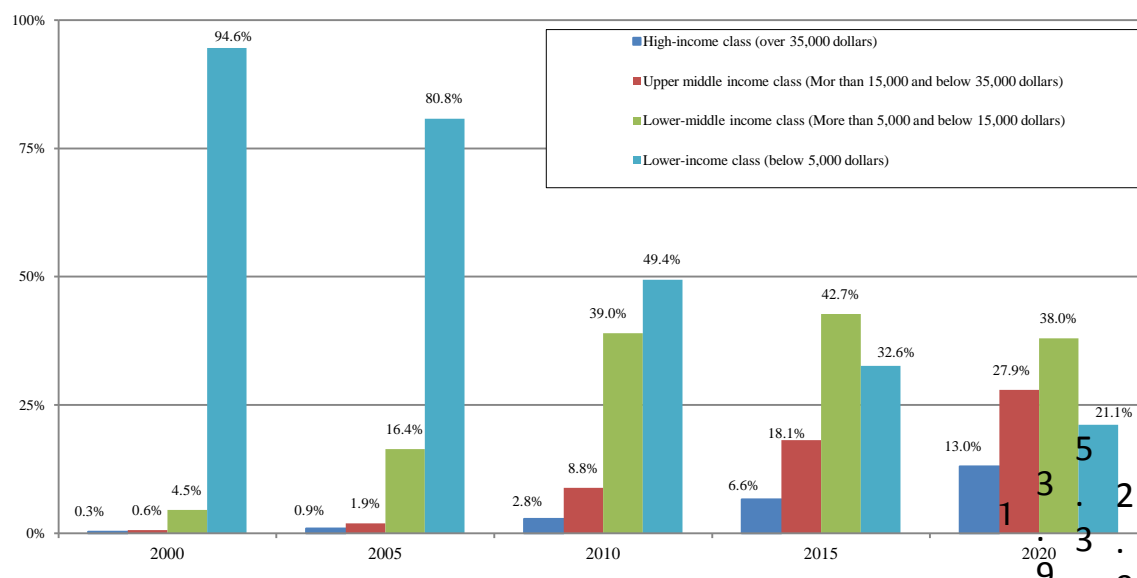


Source: Global Trade Atlas

(B) Targeting the upper middle income and the high-income classes which are rapidly increasing in Asian emerging countries

When viewing the growth of income class of Asian emerging countries by nation and region, it is noticed that China and ASEAN indicate similar trend, and upper middle income class as of 2010 account for only about 10%, but it will increase to about 40% in 2020. In particular China will form the high-income class market with 180 million people, although high-income class is expected to be only 13% in the expected population of 1,380 million people in 2020 (Figure 3-1-1-6, Figure 3-1-1-7). It is anticipated that ASEAN6 will be polarized in 2020 into three groups: Singapore, Malaysia, and Thailand where the upper middle income class or above will be more than 50%. In two other Asian countries: Indonesia and Philippine, the upper middle income class or above will be more than 25%; and in Vietnam the low-income class will be about 50%.

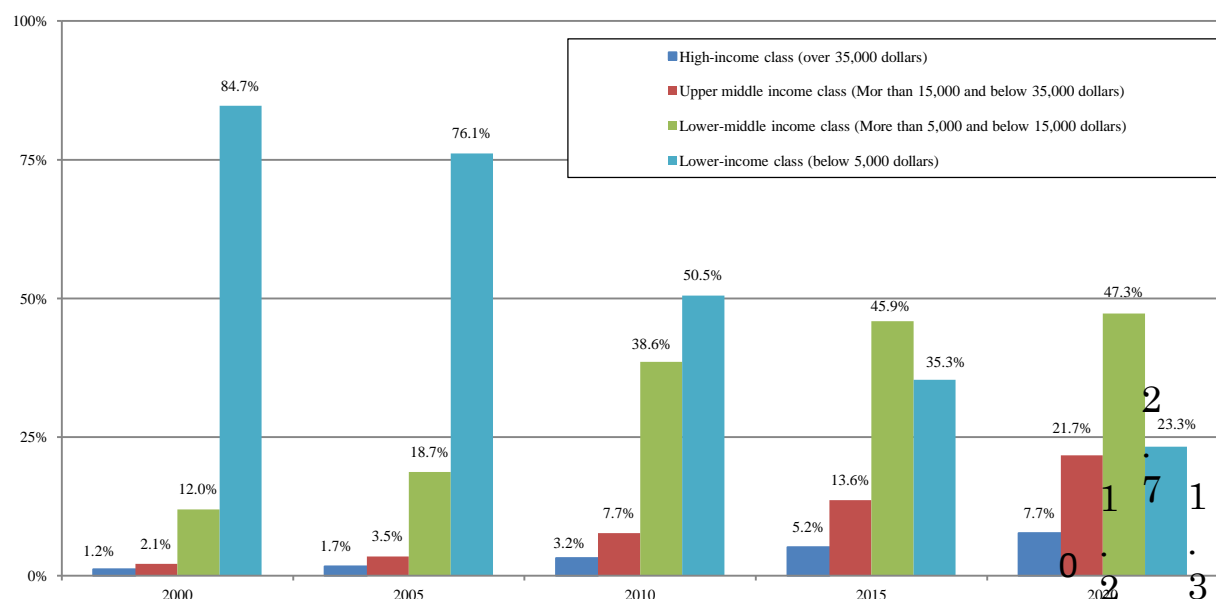
Figure 3-1-1-6 Ratio at each Income Level in China



Notes: Household population categorized by household disposable income. House household ratio for each income group x population. Data for 2015, 2020 are estimated figures presented by the Euromonitor. The number on the bar graph of 2020 is number of people (100 million people).

Source: Euromonitor International 2011

Figure 3-1-1-7 Ratio at each Income Level in ASEAN6

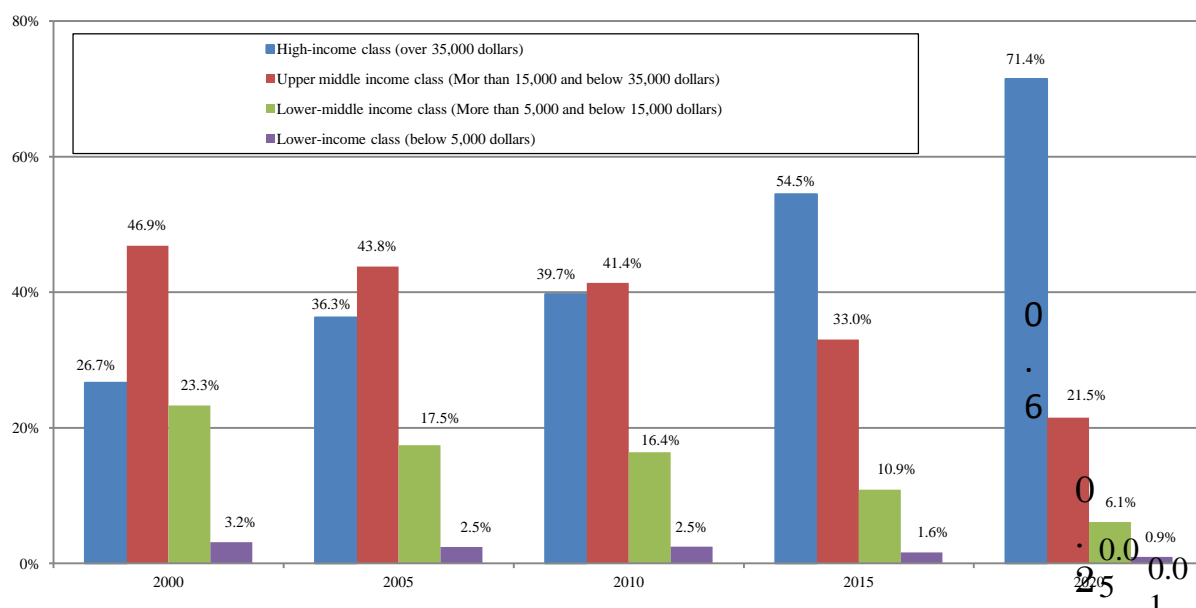


Notes: Household population categorized by household disposable income. House household ratio for each income group x population. Data for 2015, 2020 are estimated figures presented by the Euromonitor. The number on the bar graph of 2020 is number of people (100 million people).

Source: Euromonitor International 2011

It may be said that NIEs3 have already become wealthy nations in 2010, and in 2020, they will be wealthier with the high-income class accounting for over 70% of their population like the developed nations (G7) in 2010. However, because of their small size of population (approximately 80 million people), they may be a bridgehead to enter into the Chinese market in addition to their own regional markets investing first in Hong Kong and Taiwan (Figure 3-1-1-8).

Figure 3-1-1-8 Ratio at each Income Level in NIEs3



In India, the lower-middle income class or under was more than 90% in 2010, and it might be over 70% in 2020. However, if the percentage of the upper middle-income class or above grows higher than 25% in 2020, the huge market with 350 million people is expected to appear from the total expected 1,330 million people in 2020 (Figure 3-1-1-9).

Figure 3-1-1-9 Ratio at each Income Level in India

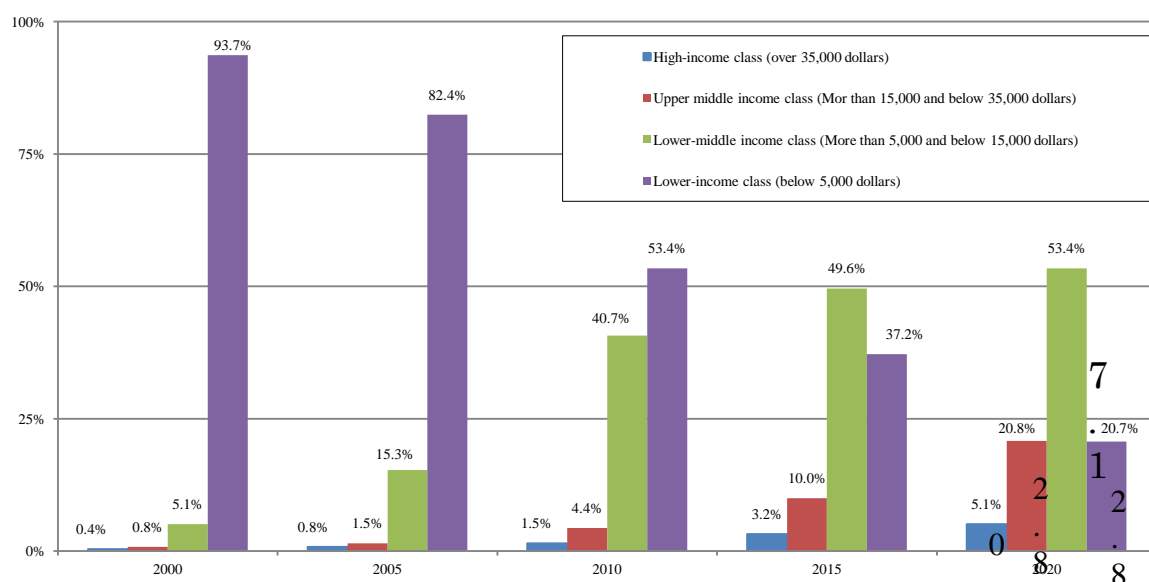
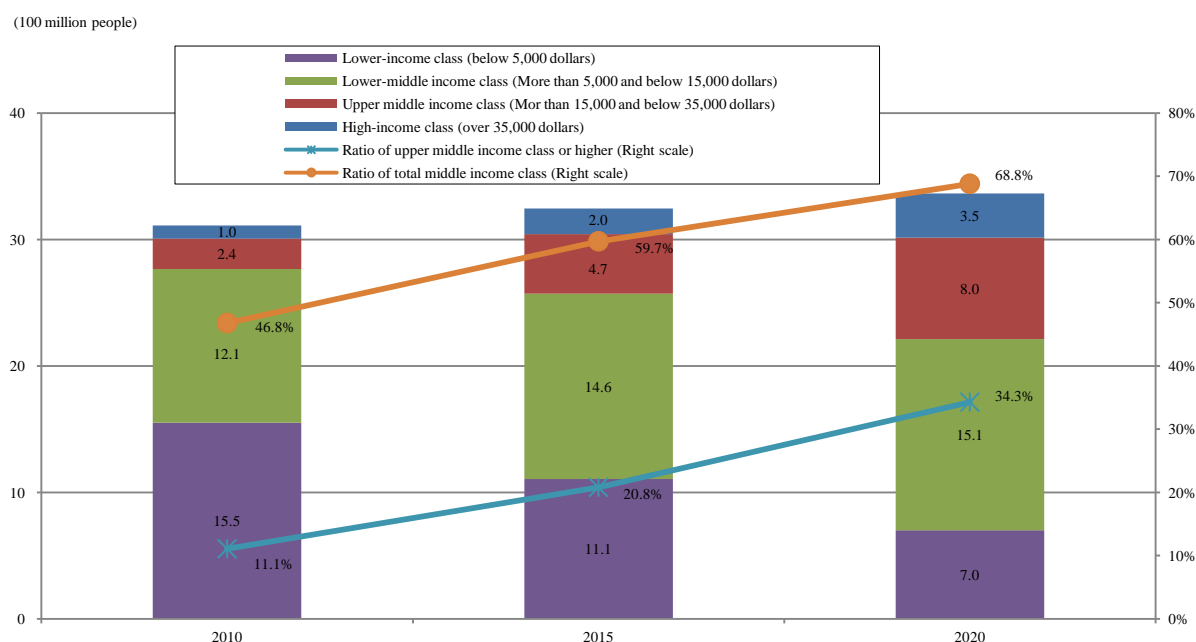


Figure 3-1-1-10 Changes in population for each income group, and ratio of upper middle income group and higher



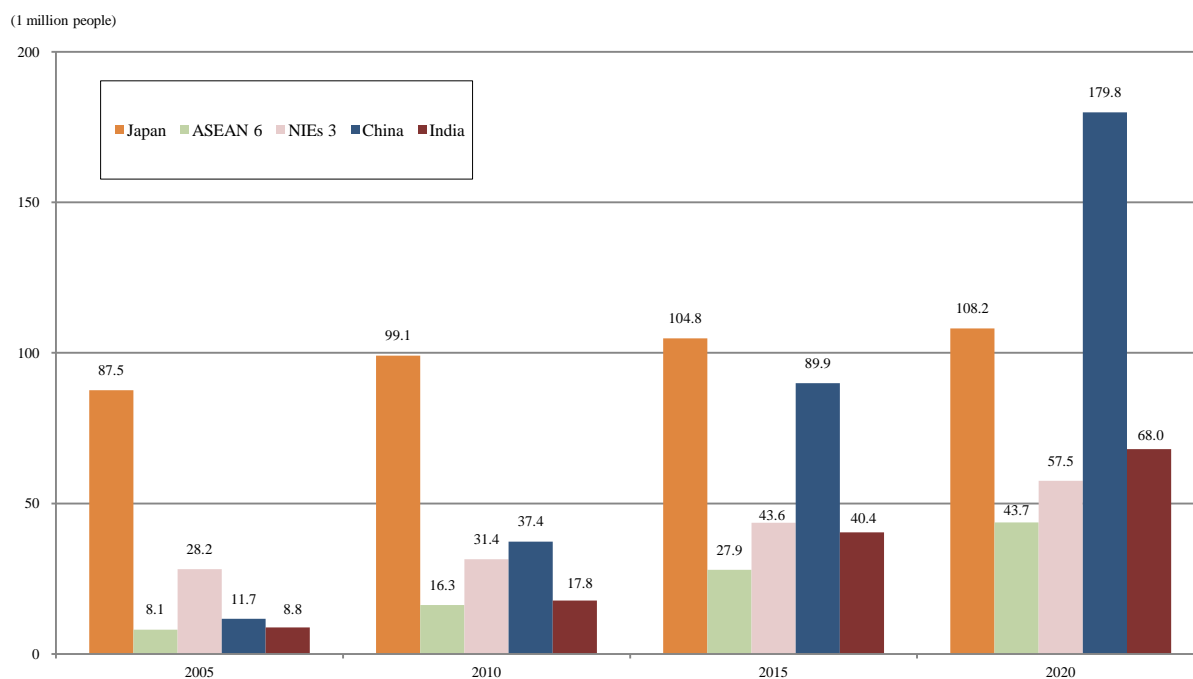
Notes: Household population categorized by household disposable income. House household ratio for each income group x population. Data for 2015, 2020 are estimated figures presented by the Euromonitor.

Asia includes China, Hong Kong, Taiwan, South Korea, India, Indonesia, Thailand, Vietnam, Singapore, Malaysia, and Philippines.

Source: Euromonitor International 2011

As for the income group of the Asian emerging countries, higher the income, the greater the rate of growth will be. The high-income class increases rapidly with two times growth rate of that of the middle-income class (Figure 3-1-1-10). Except for India where the lower-middle income class accounts for the majority of its people, the ratio of the people in the upper middle-income class and higher will exceed the size of the lower-middle income class of the emerging Asian economies in 2020. In terms of the size of the high-income class, in 2020, it is expected that China will largely exceed Japan, and the entire grouping of the emerging Asian economies in a scale being three times larger than Japan (Figure 3-1-1-11).

Figure 3-1-1-11 Changes in population of disposable income per annum 35,000 dollars and above in Asian various countries/regions



Notes: Household population categorized by household disposable income. House household ratio for each income group x population. Data for 2015, 2020 are estimated figures presented by the Euromonitor. The number on the bar graph of 2020 is number of people (100 million people).

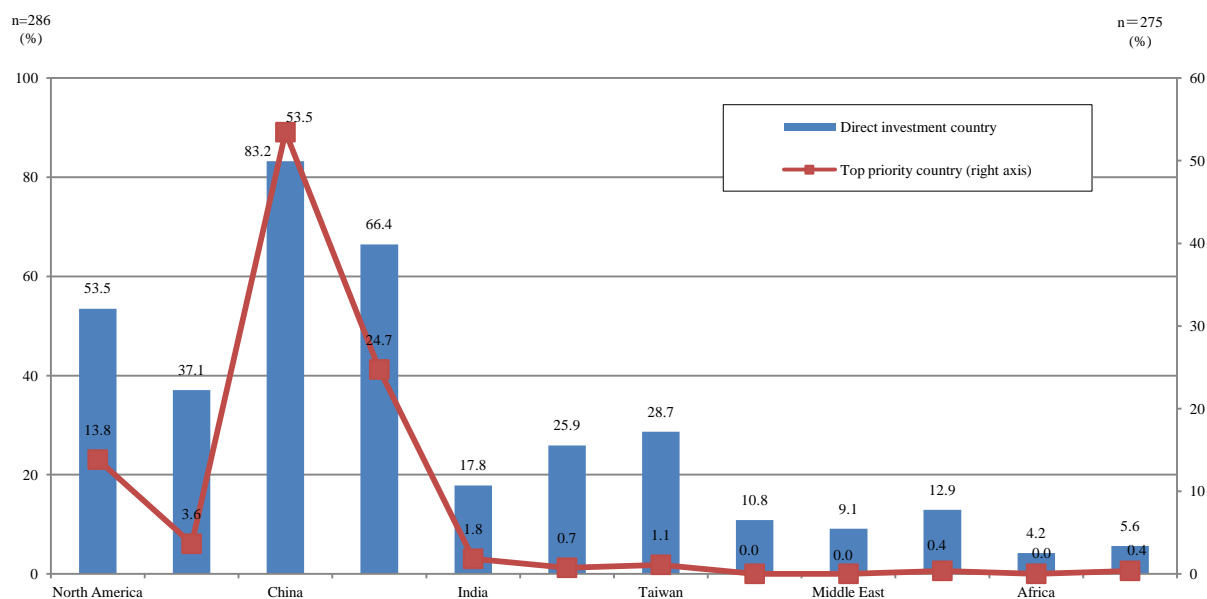
Source: Euromonitor International 2011

2. Strategy for the emerging Asian markets

(1) Japanese manufacturing industry developing mainly in the wealthy Countries/Regions

According to a questionnaire-based survey by the Japan Economic Foundation, many companies are investing in China, ASEAN, and the United States. Companies, which give overriding weight to China, are more than half of the lot, and the companies targeting much of ASEAN come next, accounting for about a quarter. There are not so many companies making an investment in India at present, and their priority is not high (Figure 3-1-2-1).

Figure 3-1-2-1 Countries in which Japanese manufacturers invest in direct at present and place top priority in investment



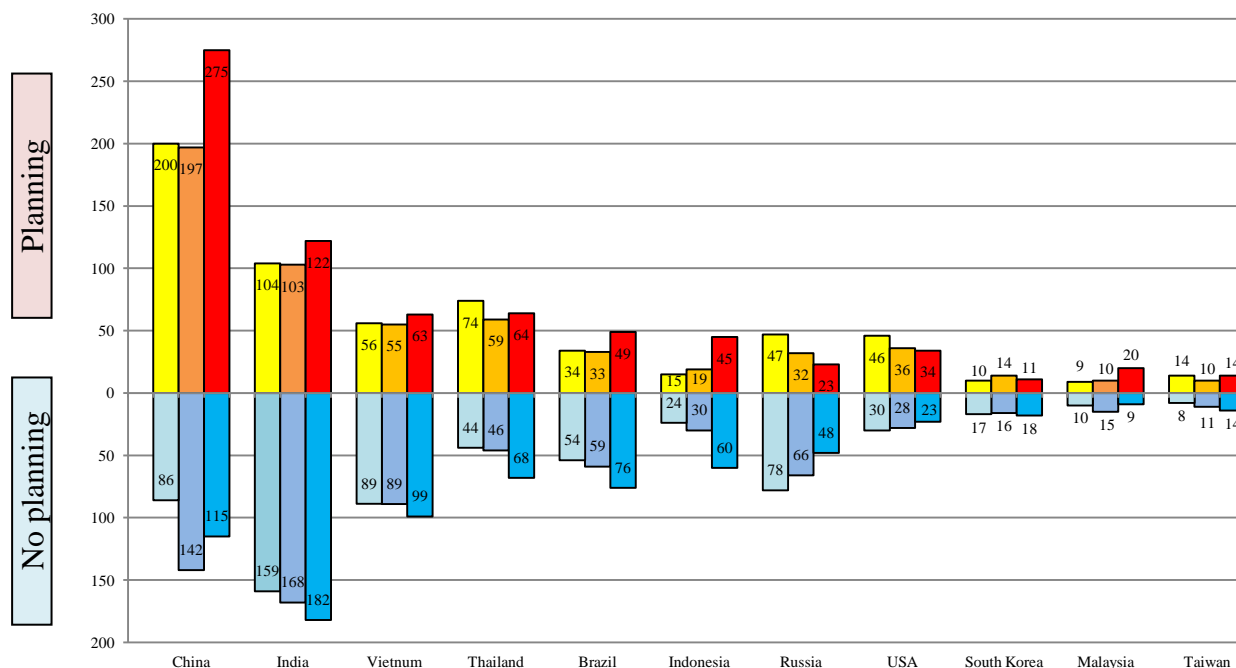
Sources: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" Japan Economic Foundation

In addition, as for the countries /regions that the Japanese manufacturing industries regard as promising on a short term basis (say, three years), the names of the emerging countries of Asia come to the fore, which are judged as promising, according to the results of a questionnaire based survey conducted by Japan Bank for International Cooperation (JBIC). However, as for India and Vietnam where upper middle income class or higher is expected to be only around a quarter or less of the total population in 2020, the companies, 60% of such companies which regard the region as promising, do not have a concrete plan, and 90% of them do not have any base point at all. They are only looking forward to the future. On the other hand, the countries for which many Japanese companies have an actual business plan, 40% or more of their population is expected to belong to the upper middle income and high-income classes in 2020, such as China (business plan rate² 71%), Malaysia (69%), USA (60%) and Thailand (48%) (Figure 3-1-2-2).

² The business plan rate refers to the percentage of companies, which have the specific business plan in the country concerned, of the total number of companies that regard the country concerned as promising.

Figure 3-1-2-2 Specific business plan in the countries/regions which Japanese manufacturing industry regards as promising for medium-term (next three years)

(Number of companies)



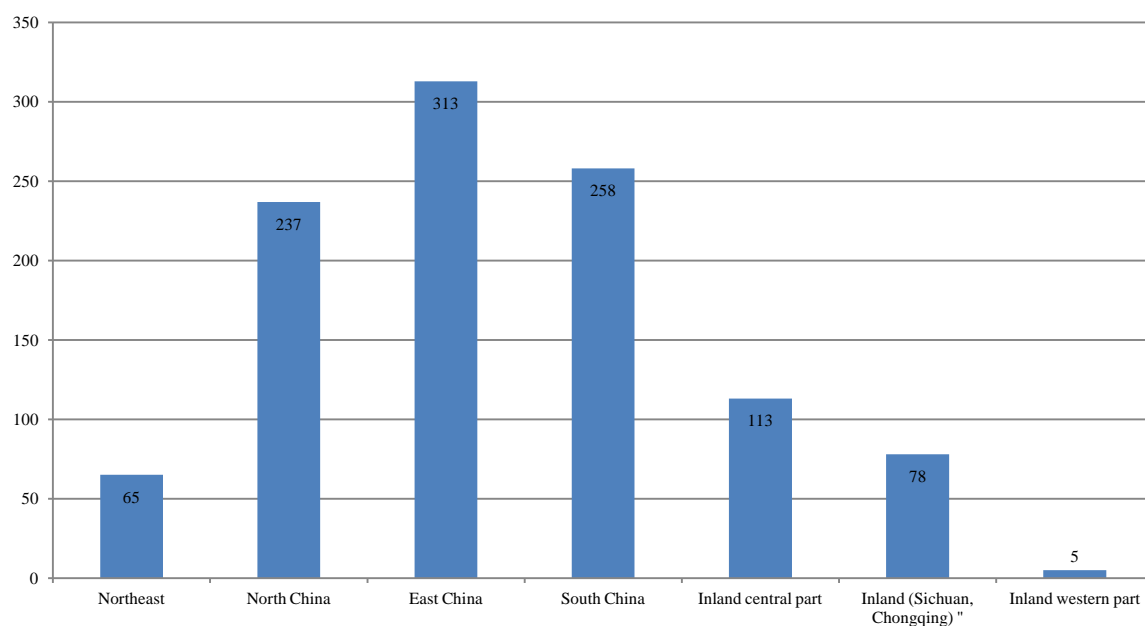
Notes: Bar graph of each country shows the results of questionnaire reply, from the left, 2008, 2009, and 2010 respectively.

Sources: Survey on the overseas business development of Japanese manufacturing industry enterprise -Answer to questionnaire about direct overseas investment in 2010 (22nd) - Japan Bank for International Cooperation

As for China the targeted areas of choice as regarded most promising by Japanese companies, lie mainly in the wealthy coastal regions around Shanghai, Shenzhen and Beijing (Figure 3-1-2-3). According to Japan Economic Foundation (2011), the data collected on the chosen target area for business in China, display the similar trend (Figure 3-1-2-4).

Figure 3-1-2-3 The regions which Japanese manufacturers regard as promising in China

(Number of companies)

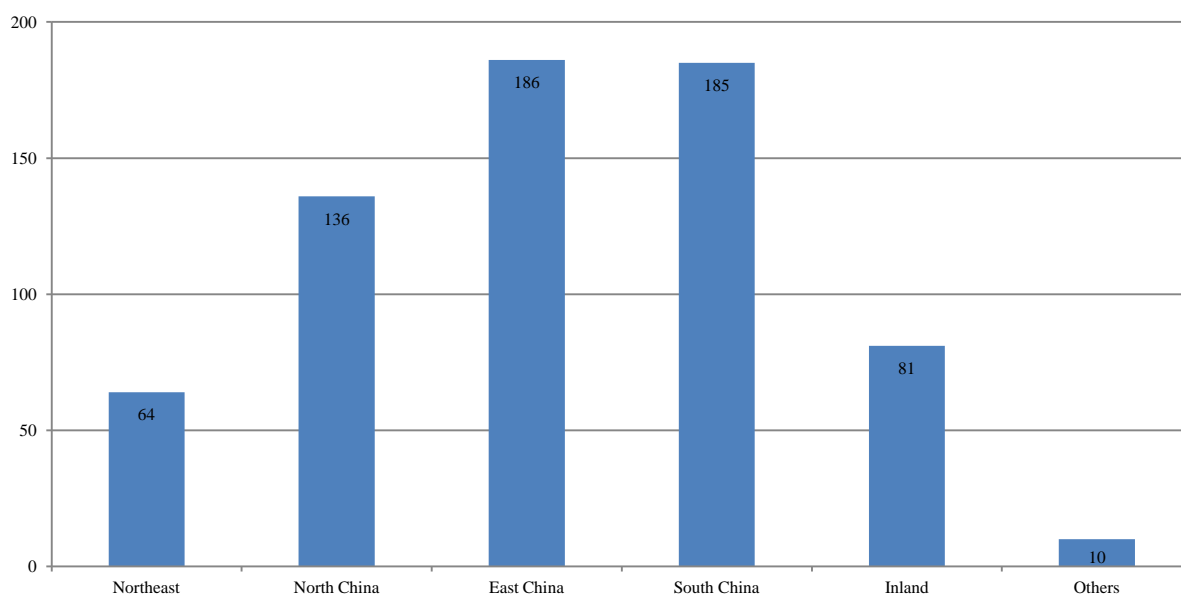


Notes: The figures of regions refers to sum total that was selected as top 3 promising regions in China by the companies which nominated China for the promising country.

Sources: Survey on the overseas business development of Japanese manufacturing industry enterprise -Answer to questionnaire about direct overseas investment in 2010 (22nd) - Japan Bank for International Cooperation

Figure 3-1-2-4 Regions in China which will be the target of business in China

(n=255,number of company)

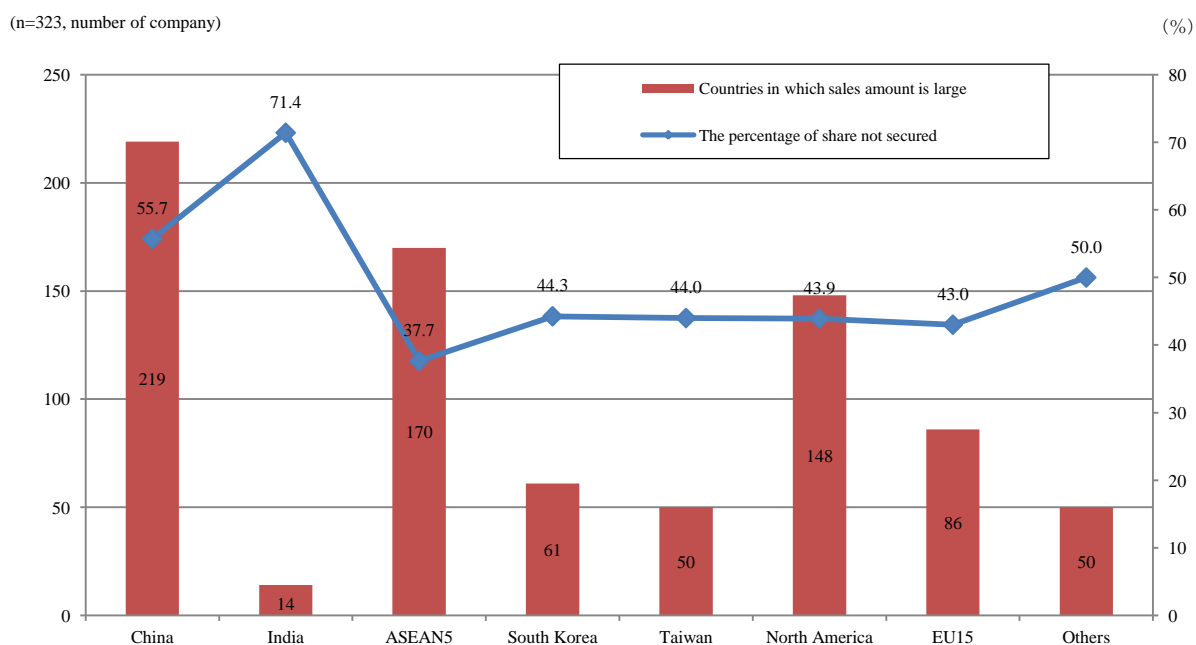


Source: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

(2) Establishing a standing position of admiration from the middle-income class of the emerging countries, with high value added product, which are advantageous in many practical ways

According to a survey by circulating a questionnaire conducted by the Japan Economic Foundation, Japanese companies have a big sales amount in China, ASEAN5 (Thailand, Philippines, Indonesia, Malaysia, and Vietnam), and North America. However, although there are many Japanese companies which maintain a big sales amount in China, the ratio of their market share is less than 10 percent or more compared to their market share in ASEAN5 and North America. In addition, there are few companies whose sales amount in India is big, and the companies which cannot secure a share in the Indian market are more than 70% which means that they have had a hard fight there (Figure 3-1-2-5).

Figure 3-1-2-5 Countries/regions in which Japanese manufacturers have large sales amount and Situation of share for amount in the countries/regions



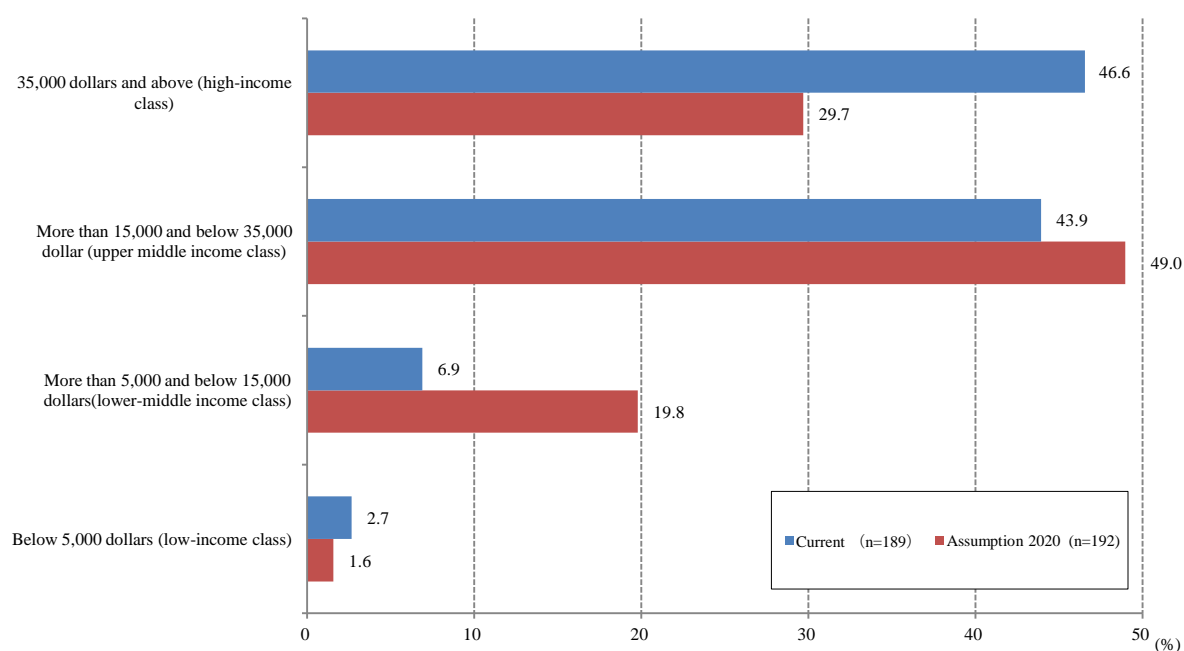
Notes: Total may not become 100% due to rounding off.

ASEAN5 refers to 5 countries-Thailand, Philippines, Indonesia, Malaysia, Vietnamese

Source: "Research about Japanese industrial competitive power enhancement corresponding to the change of The competition environment" The Japan Economic Foundation

middle income class which accounts for 90%, but, in 2020, the movement to widen the purchasing people to lower-middle income class can be noticed (Figure 3-1-2-6).

Figure 3-1-2-6 Ratio of the largest purchasing power group of Japanese manufacturers products

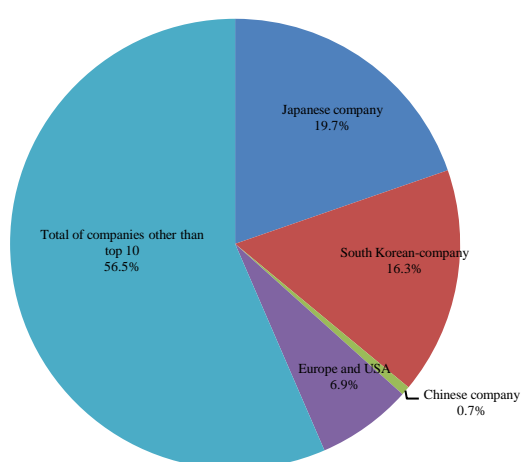


Notes: Total may not become 100% due to rounding off.

Sources: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

Actual share data similarly supports the above trend. Taking AV equipment for an example about the market capture situation of Japanese company, the data showed that while world share of the Japanese-affiliated company maintains high ratio of about 40% for the share in sales amount, but share by quantity of AV equipment accounts for about 20% (Figure 3-1-2-7, Table 3-1-2-8).

Figure 3-1-2- 7 Share of the number of AV equipment sold to the world (2009)



Notes: AV equipment: total of video equipment, picture reproduction equipment and audio equipment.

Share of Japanese, Korean, Chinese, Europe and the U.S.A. companies represent only the share of the world top ten companies.

Japanese, Korean, Chinese, Europe and the U.S.A. companies are included in Companies other than Top 10 (share less than 1.1%).represent only the share of the world top ten companies.

The share (1.3%) of TCL-Thomson (China-Franc Joint Venture) are divided into European and USA companies and Chinese companies.

Source: Euromonitor International 2010

Tal

(Unit: 100 million yen)

	2007	2008	2009	2010	2011
World	150,587	147,001	135,182	145,284	153,981
Japanese company	52,622	57,388	52,517	59,110	60,902
Share of Japanese company	35%	39%	39%	41%	40%

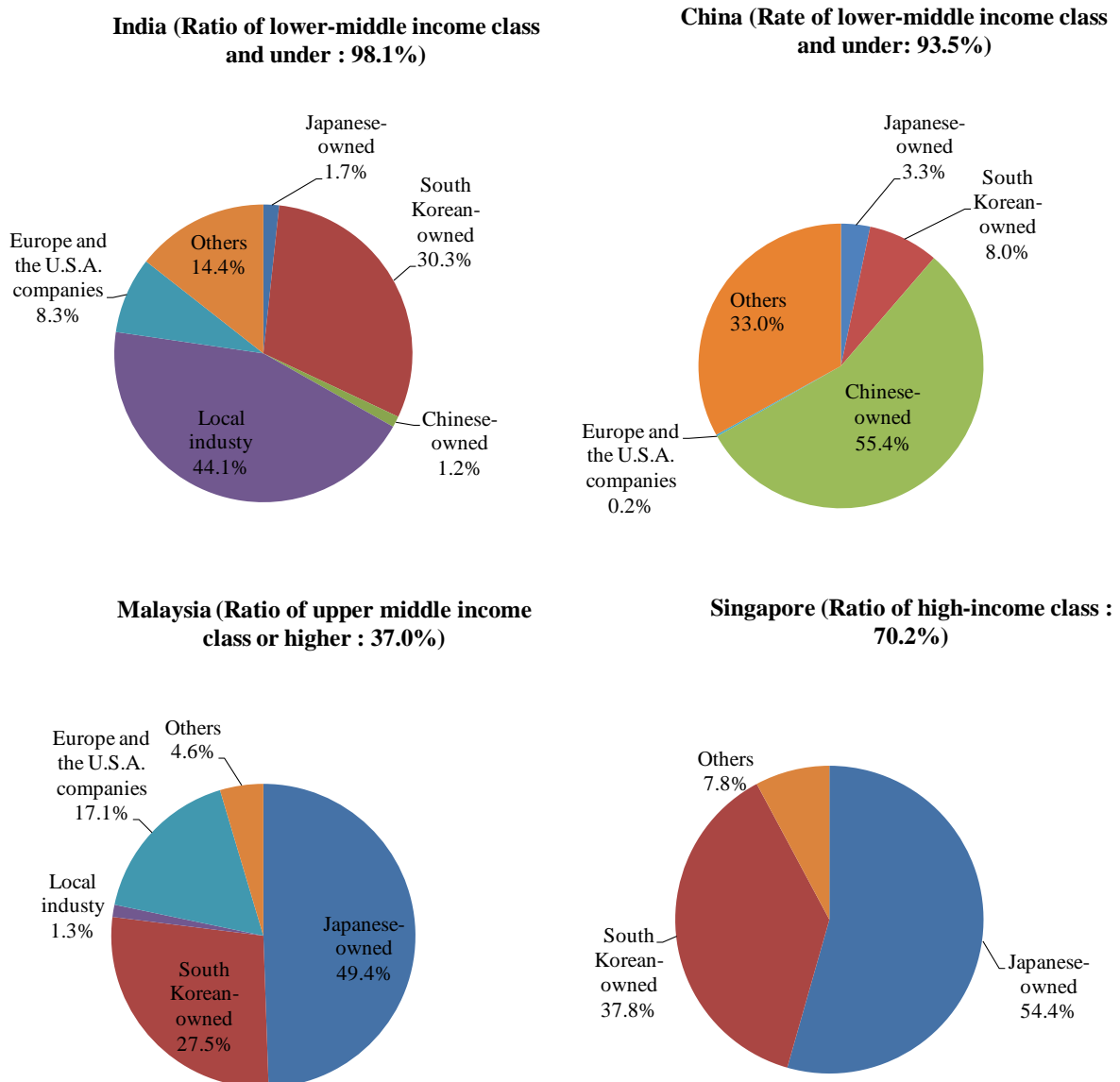
Notes: AV equipment- total of thin-screen TV, picture reproduction equipment, and audio equipment.

Data of 2010/2011 are JEITA estimates / forecasts

Source: Electronics and IT Industries Association

Furthermore, in the Asian market, although Japanese companies are forced to have a hard fight in the country of low income level for quantity of share competition, in the country having high income level, they maintains the high ratio even for quantity share (Figure 3-1-2-9). From this situation, we can understand that Japanese companies are capturing the market, targeting high-income class through the advantage of high value added products.

Figure 3-1-2-9 TV & Projector Share of the number by country (2009)



↑

Lower-middle income class or under -disposable income per annum below 15,000 dollars. The upper middle income class or higher- more than 15,000 dollars, High-income class - 35,000 dollars and above.

Sources: Euromonitor International 2010

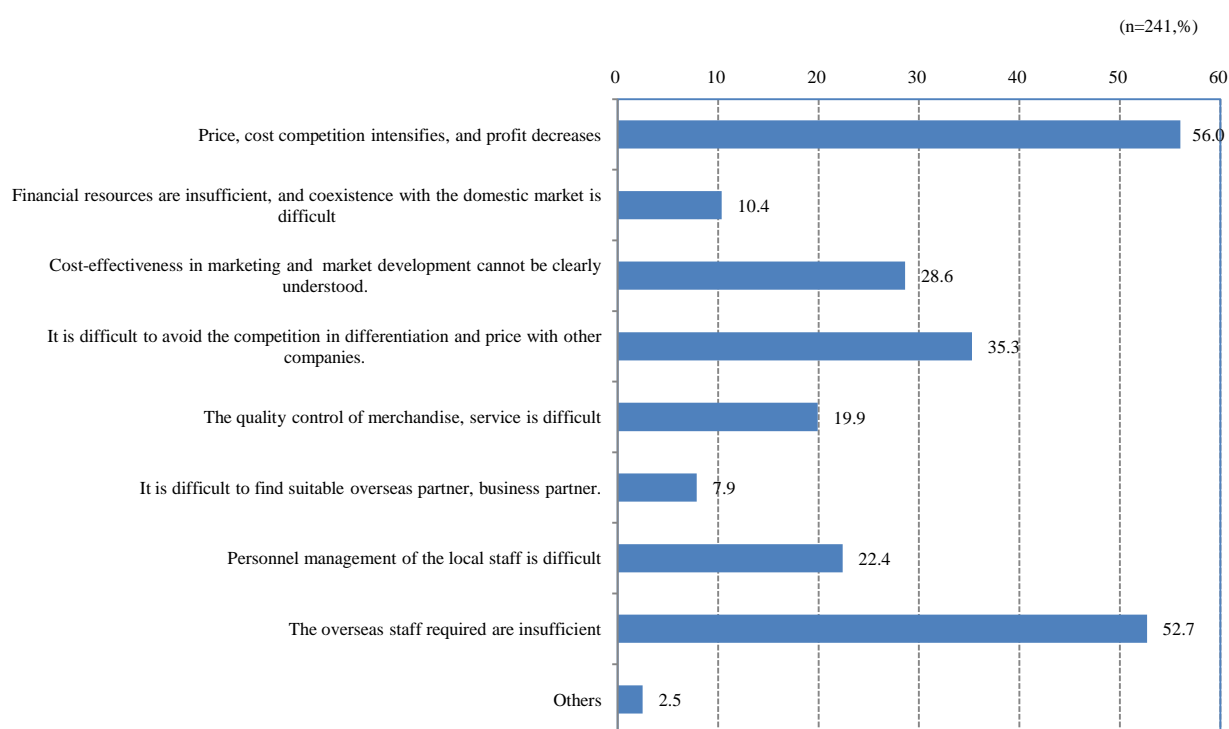
Although it is absolutely essential to respond to middle income class in emerging countries which is and will be the present and the future big market, it will be important for Japanese company to keep the market of high-income class making use of the advantage of high value added products of our country, in order for Japanese company to establish a standing position of “admiration” from the middle income class which will become more wealthy in the near future.

For one example, as a German company intending for “sellable products even at high price”, we pick up Volkswagen (VW Corporation) here. The actual sales results of each brand according to the VW Corporation for China in 2010 showed that the higher priced car, Audi brand, whose sales operating income ratio was 9.4% indicates higher growth rate of 7.9% compared with the previous year than the

VW brands whose income ratio was 2.7%³. In other words, this means that they have captured the market for high-income class, which showed remarkable higher growth than middle-income class market in China. In this way, the final profit of VW Corporation increases almost eight-times higher compared with the previous year.

In contrast, according to the questionnaire-based survey of the Japan Economic Foundation, many Japanese companies point out the decline of profit (56.0%) and difficulty in achieving differentiation and in avoiding price competition (35.3%). This is kind of problem that the Japanese manufacturing industry faces in the market development in emerging countries (Figure 3-1-2-10).

Figure 3-1-2-10 The problem inside and outside company being faced in emerging countries market development



Source: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

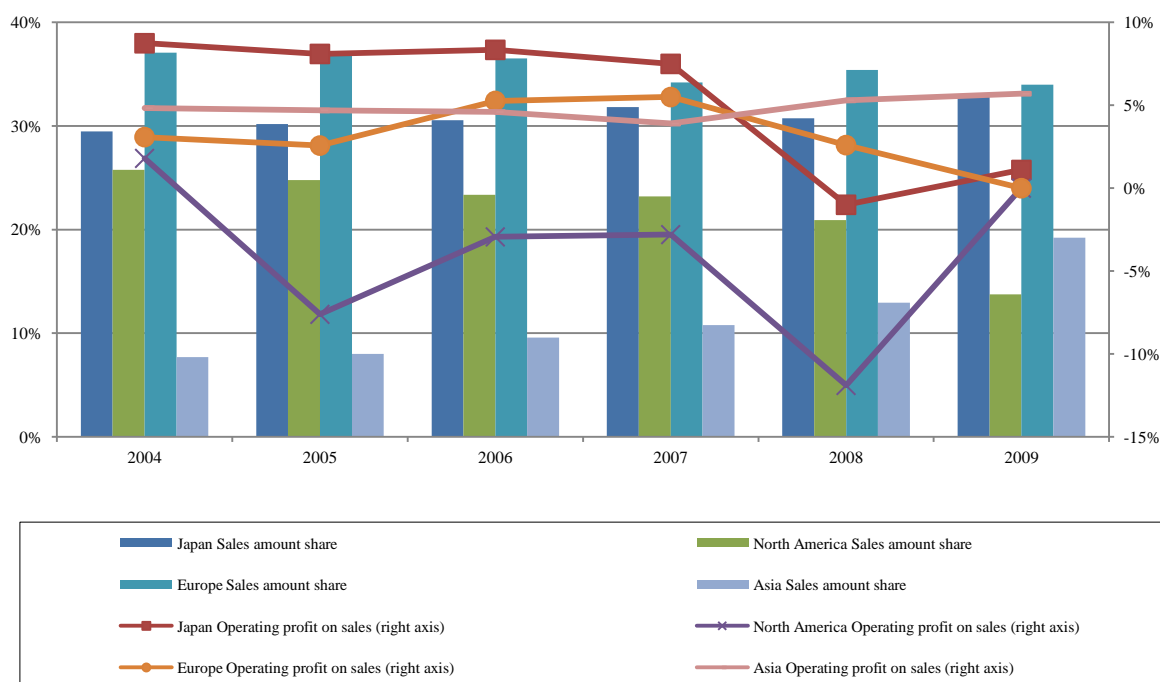
Actually, according to the Japan Machinery Center for Trade and Investment, the Japanese company secures sales amount share, but in later years they have had a hard fight in terms of sales operating income ratio (Figures 3-1-2-11 and 3-1-2-12). In the background of income reduction, even though the Japanese company recognize that advantage of the business in the emerging countries is high-performance and high quality, but the weak point is the price reduction (Figure 3-1-2-13), one of the reasons is that Japanese companies have continued to realize the price reduction while maintaining functionality and good quality of the products about development of products for the market development in emerging countries, from the time extending before the financial crisis until the present time. However, in future, the development method, which may cause income reduction, will

³ Volkswagen Annual Report 2010

(<http://annualreport2010.volkswagenag.com/servicepages/welcome.html>).

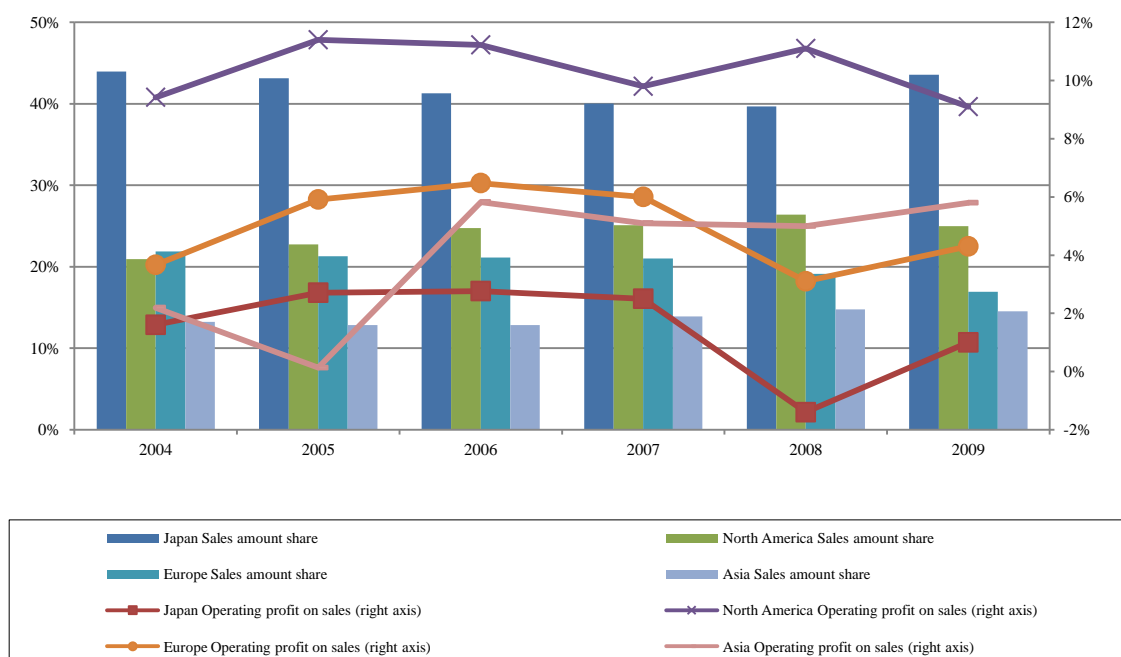
have to be decreased greatly. On the contrary, Japanese companies will involve themselves in high added value product marketing, and follow the trend of the emerging countries market, which are becoming wealthier. On the other hand, there is a trend of getting the market of the lower-middle income class by large price reduction with lowering function and quality of the products sold (Figure 3-1-2-14).

Figure 3-1-2-11 Sales amount share and operating profit on sales by various companies group of Japan, the United States and Europe, and Asia (automobile)



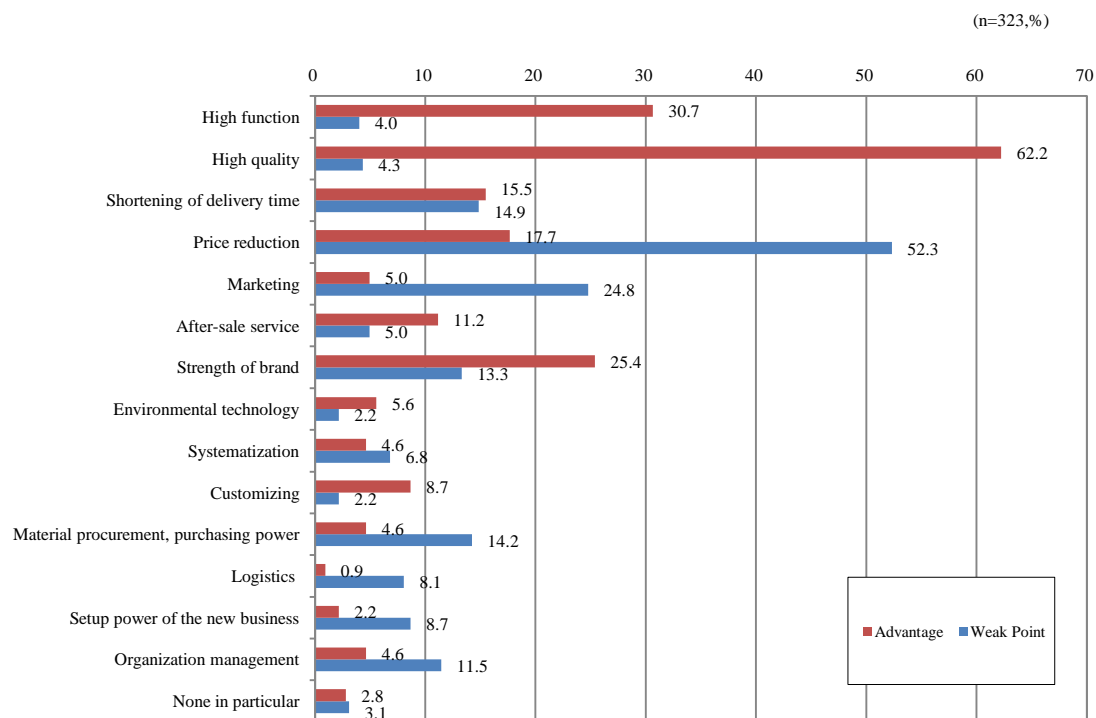
Source: "Actual situation of international competitiveness of Japan, the United States and Europe and Asian machinery industries" Japan Machinery Center for Trade and Investment

Figure 3-1-2-12 Sales amount share and operating profit on sales by various companies group of Japan, the United States and Europe, and Asia (household appliance)



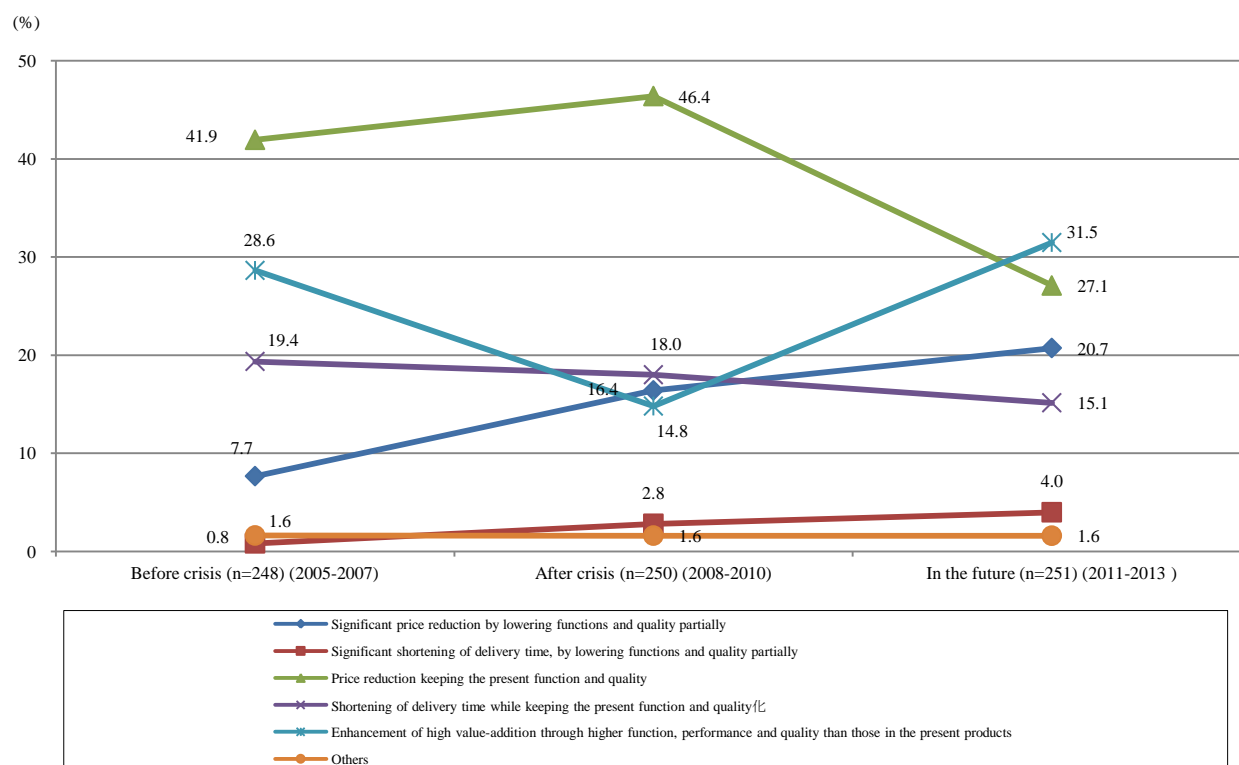
Source: "Actual situation of international competitiveness of Japan, the United States and Europe and Asian machinery industries" Japan Machinery Center for Trade and Investment

Figure 3-1-2-13 Advantage and weak point of the business in the emerging countries



Source: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

Figure 3-1-2-14 Product development method for market development in emerging countries before and after the financial crisis and in the future



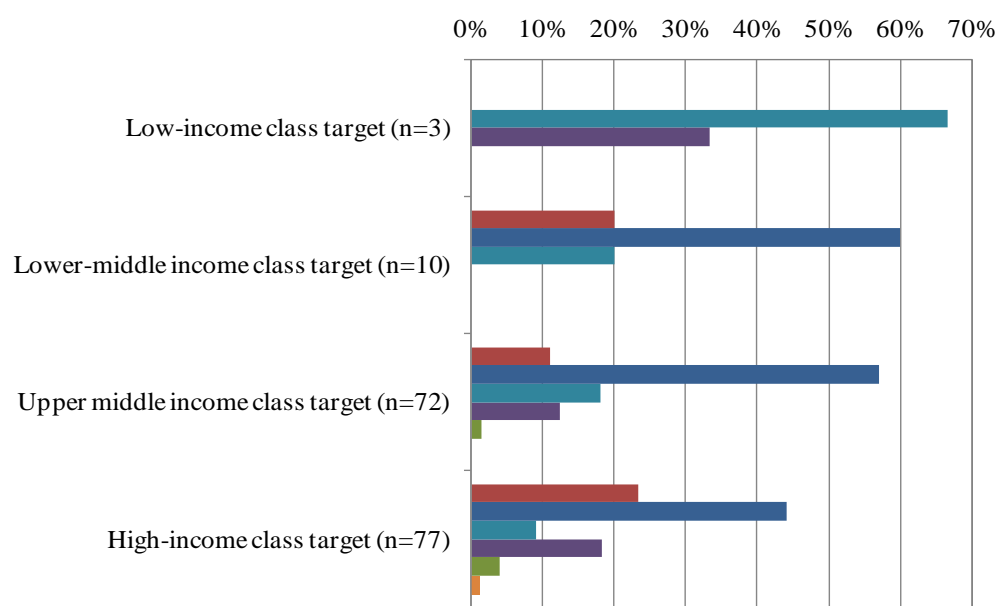
Notes: Total may not become 100% due to rounding off.

Sources: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

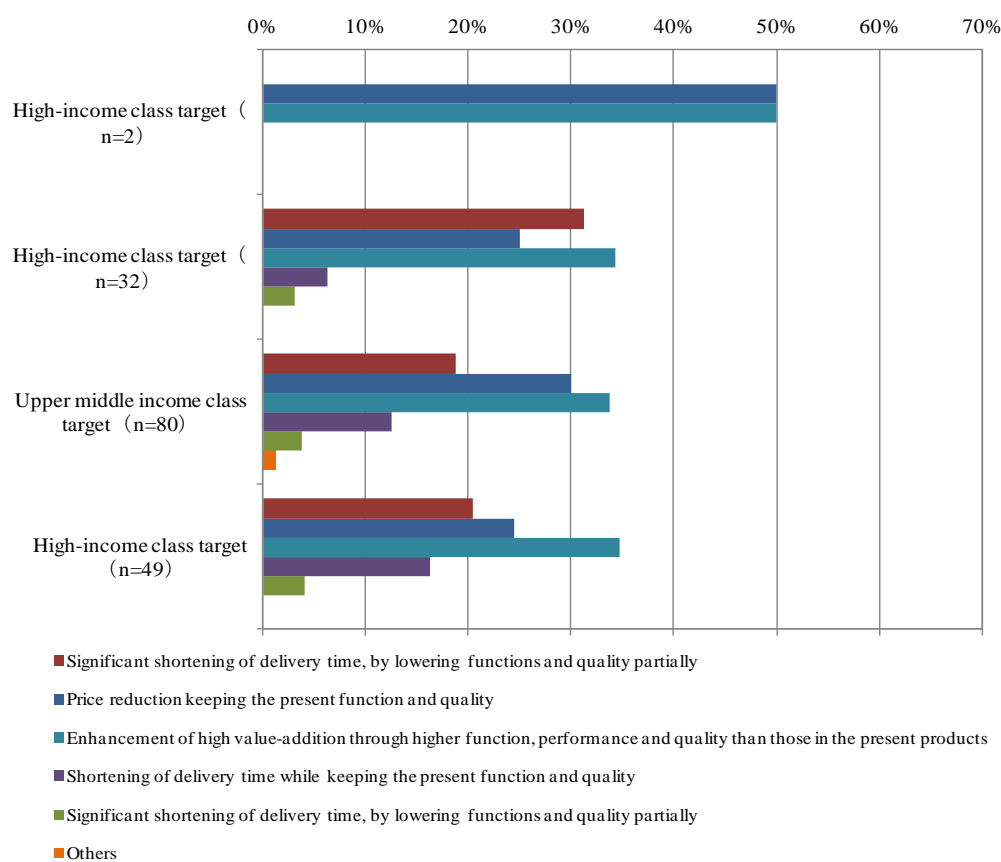
Until now, the mismatch of method of developing products and targeting income group has been observed; for example, the company targeting low income group is intending to produce high value added product, or the company that wishes to sell high value added product to high income class tends to aim at price reduction more. However, the future directivity tends to match the method with the target income group generally (Figure 3-1-2-15).

Figure 3-1-2-15 Product development method for market development in emerging countries by income group which Japanese manufacturers are targeting for

At present (2008-2010)



In the future (2011-2013)

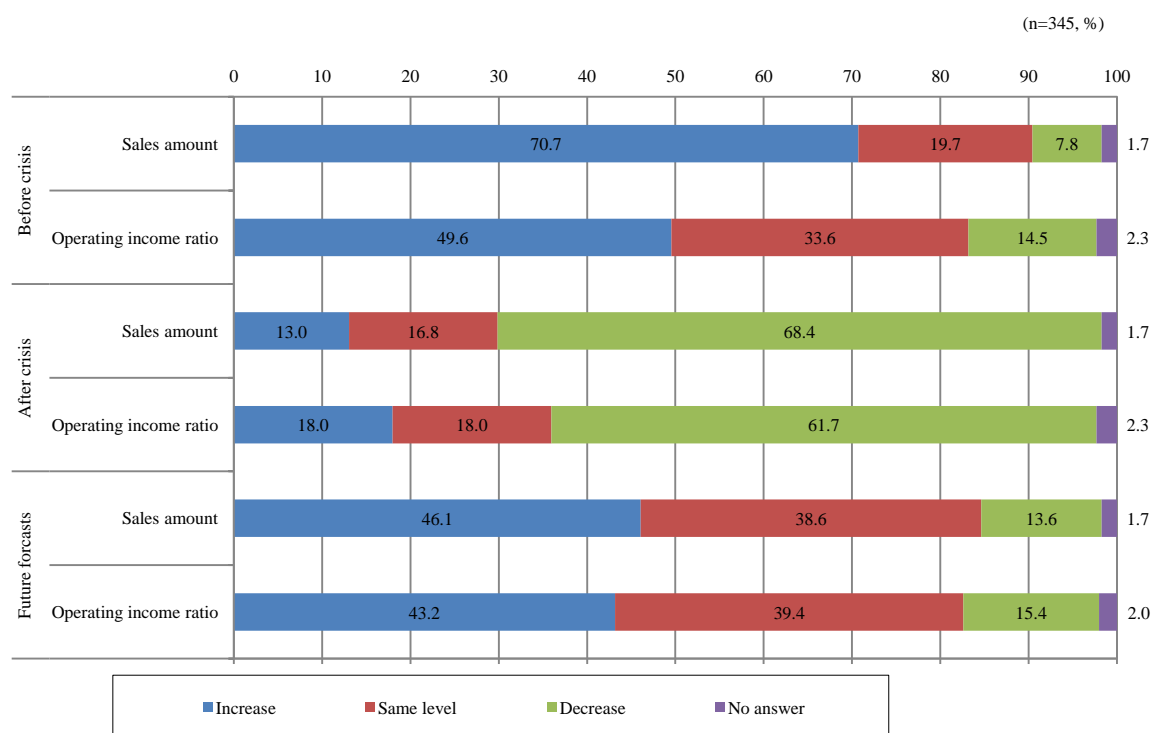


Notes: Total may not become 100% due to rounding off.

Source: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

Reflecting on a trend of such an income oriented policy, as for the future earnings forecast, although the sales amount will not recover completely, we consider that the operating profit on sales will recover to the level equal to that existing before the financial crisis (Figure 3-1-2-16).

Figure 3-1-2-16 Change of business records of Japanese manufacturers (before and after financial crisis and future forecasts)



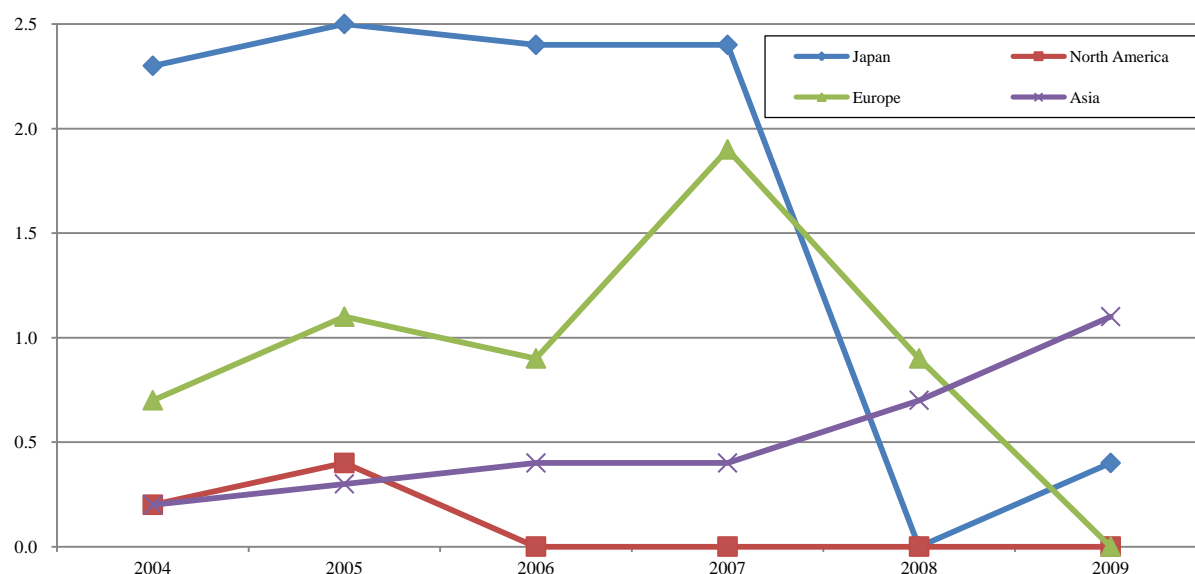
Notes: Total may not become 100% due to rounding off.

Source: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

(3) Commoditization (generalization) of business and Development of overseas production

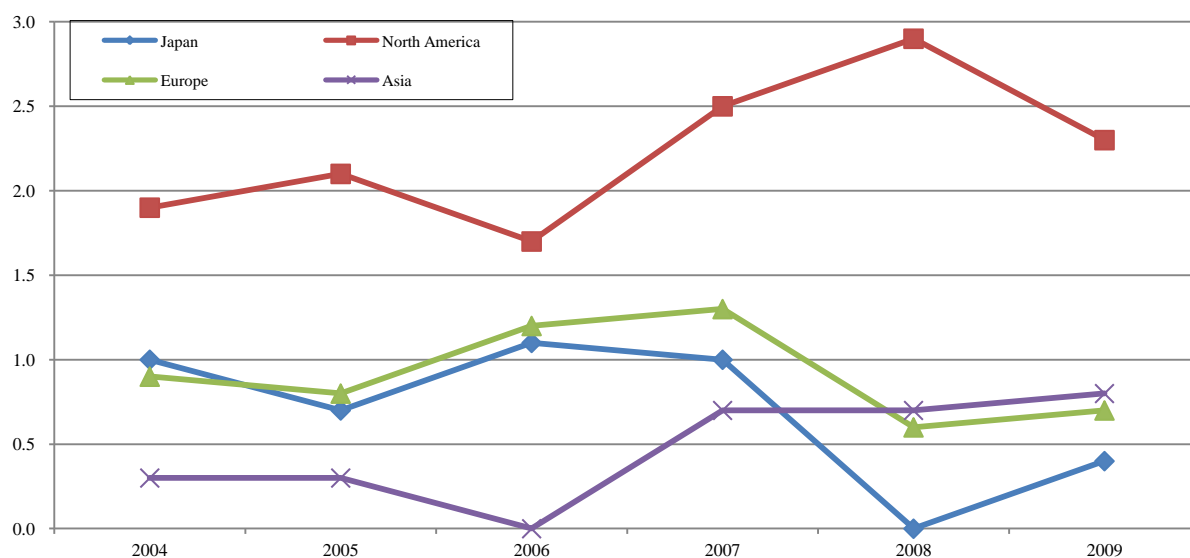
In the background where Japanese company cannot get the share of the low income level country and lower-middle income class completely, there may be some causes such as improved technology of companies in the emerging countries, and commoditization (generalization) of products that Japanese companies were once dominant previously. According to the Japan Machinery Center for Trade and Investment, in terms of the international competitiveness index (operating profit on sales × sales amount share × 100), the rise of the Asian enterprise is remarkable, and in later years the Japanese companies lost the lead (Figure 3-1-2-17, Figure 3-1-2-18).

Figure 3-1-2-17 Index of international competitiveness of company group in Japan, USA, Europe and Asia (automobile)



Source: "Actual situation of international competitiveness of Japan, the United States and Europe and Asian machinery industries" Japan Machinery Center for Trade and Investment

Figure 3-1-2-18 Index of international competitiveness of company group in Japan, USA, Europe and Asia (household appliance)



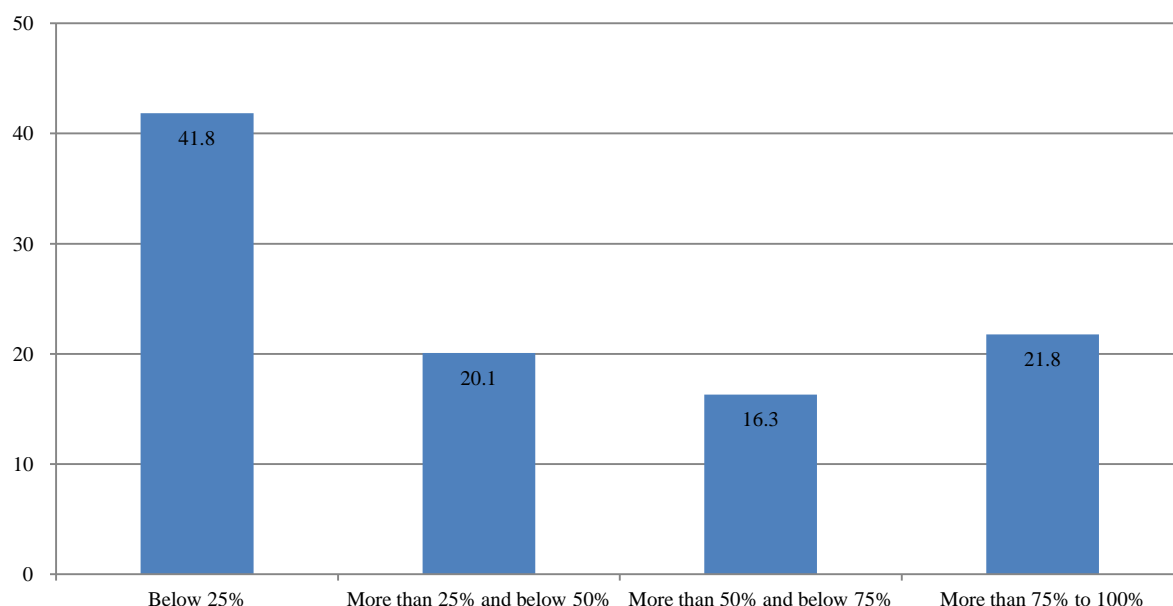
Source: "Actual situation of international competitiveness of Japan, the United States and Europe and Asian machinery industries" Japan Machinery Center for Trade and Investment

According to the questionnaire-based survey of the Japan Economic Foundation, approximately 40% of Japanese companies recognize that commoditized (generalized) product accounts for more than half

of their sales amount (Figure 3-1-2-19).

Figure 3-1-2-19 Percentage of commoditization (generalization) product business in sales amount of Japanese manufacturers

(n=239,%)

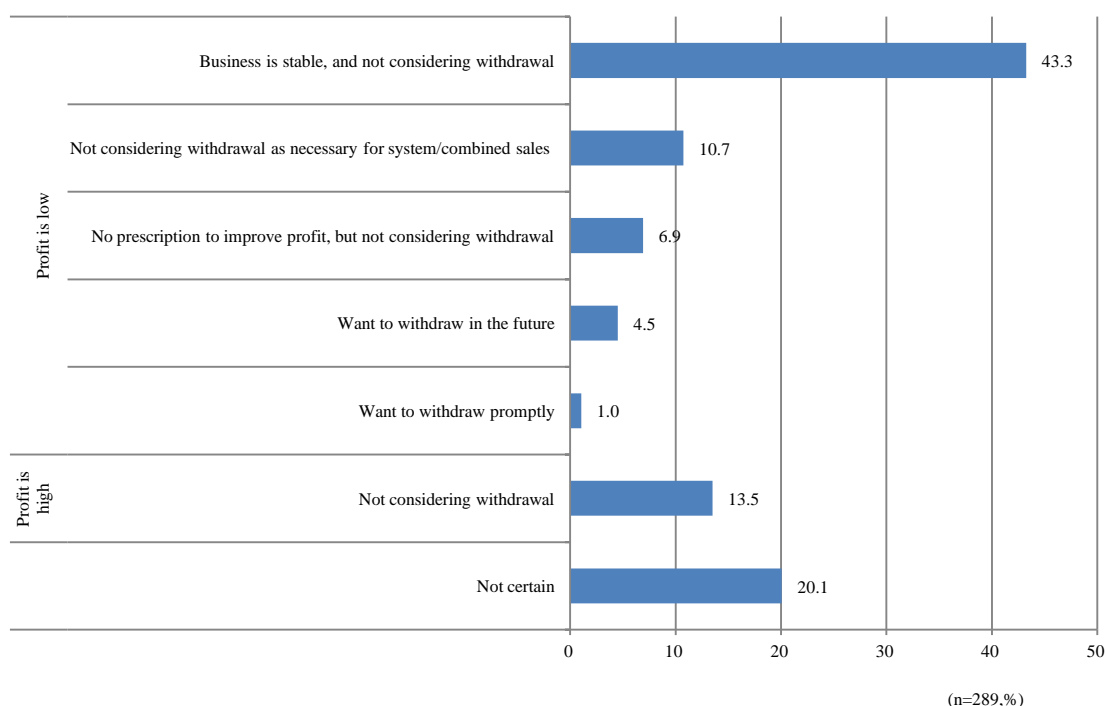


Notes: Total may not become 100% due to rounding off.

Source: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

As for the profit of the commoditized (generalized) product business and future policy to deal with the business, except those companies that do not have any clear answer, 80% or more of them recognizes the low profit. The 20% of the above companies are considering to withdraw from the business, or have no better choice but to continue the business for the time being without actions to overcome the situation (Figure 3-1-2-20).

Figure 3-1-2-20 Profit of commoditization (generalization) product business of Japanese manufacturers and future policy

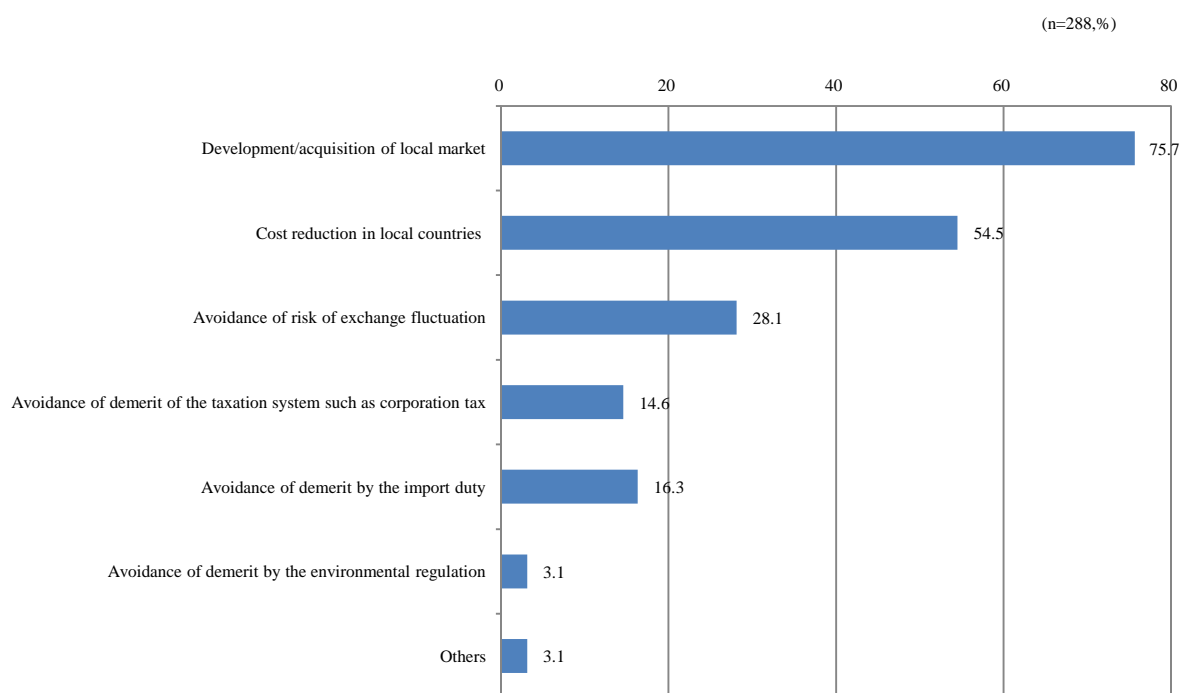


Notes: Total may not become 100% due to rounding off.

Source: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

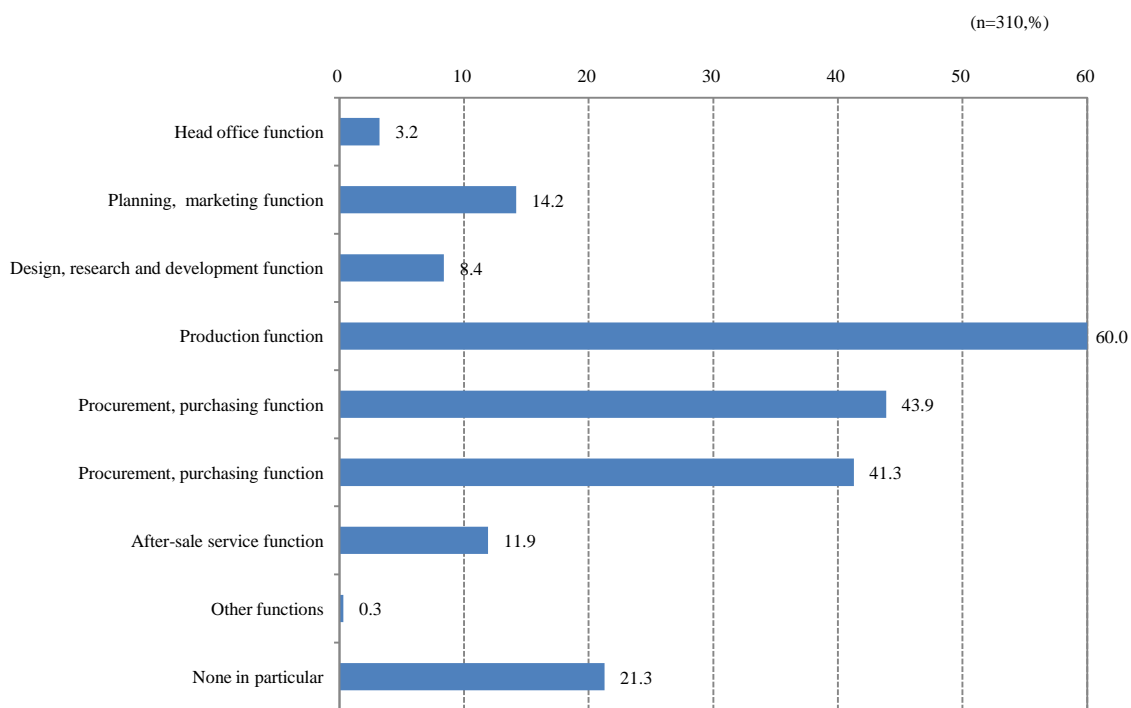
According to the questionnaire-based survey of the Japan Economic Foundation, under this situation, the Japanese manufacturing industry is making direct overseas investment to acquire the emerging countries market as a main purpose, by cost reduction to improve the profit (Figure 3-1-2-21). As for the function that will be thought much of in overseas trade in the future, nearly 60% companies list up the production function as most important one, then 40% companies list up the trade, sale function and procurement and purchasing function (Figure 3-1-2-22). The trend for shifting production function to overseas locations has been already reflected in some products. The AV equipment already underwent a change of the domestic production ratio in around 20% from before 2007, and the car, which was around 50% until 2008 reduces the ratio year by year. On the other hand, as for the electronic parts and device, more than 50% are still produced in Japan (Figure 3-1-2-23).

Figure 3-1-2-21 Purpose of direct investment that Japanese manufacturers place top priority



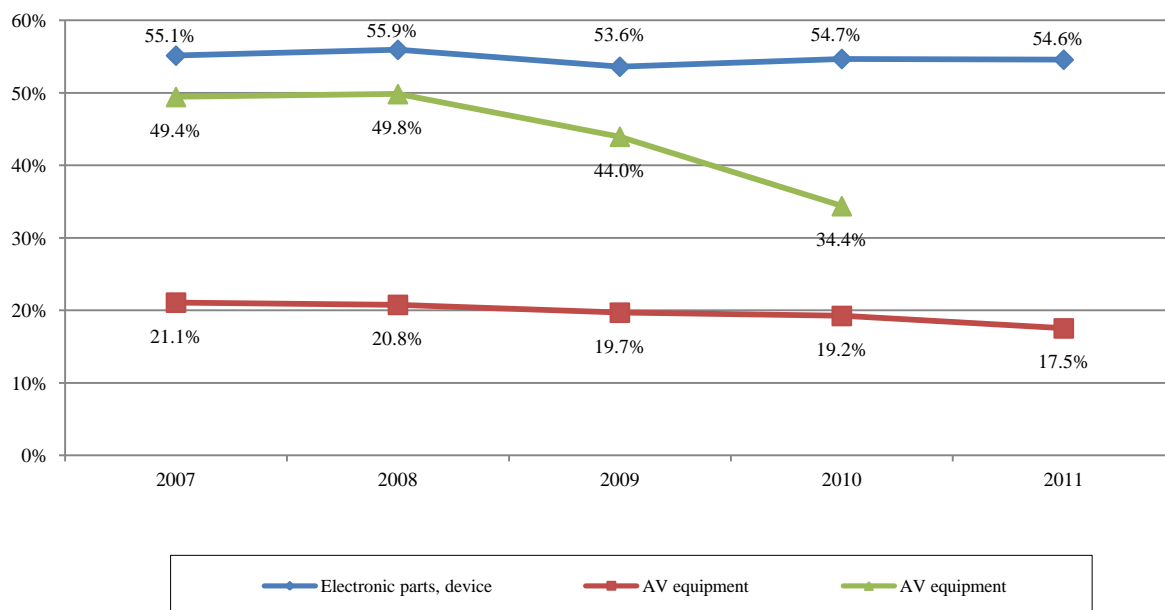
Source: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

Figure 3-1-2-22 Function that is considered to have more weight in overseas than in Japan in the future



Source: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

Figure 3-1-2-23 Change of domestic production ratio of Electronic parts, device, AV equipment, and automobile



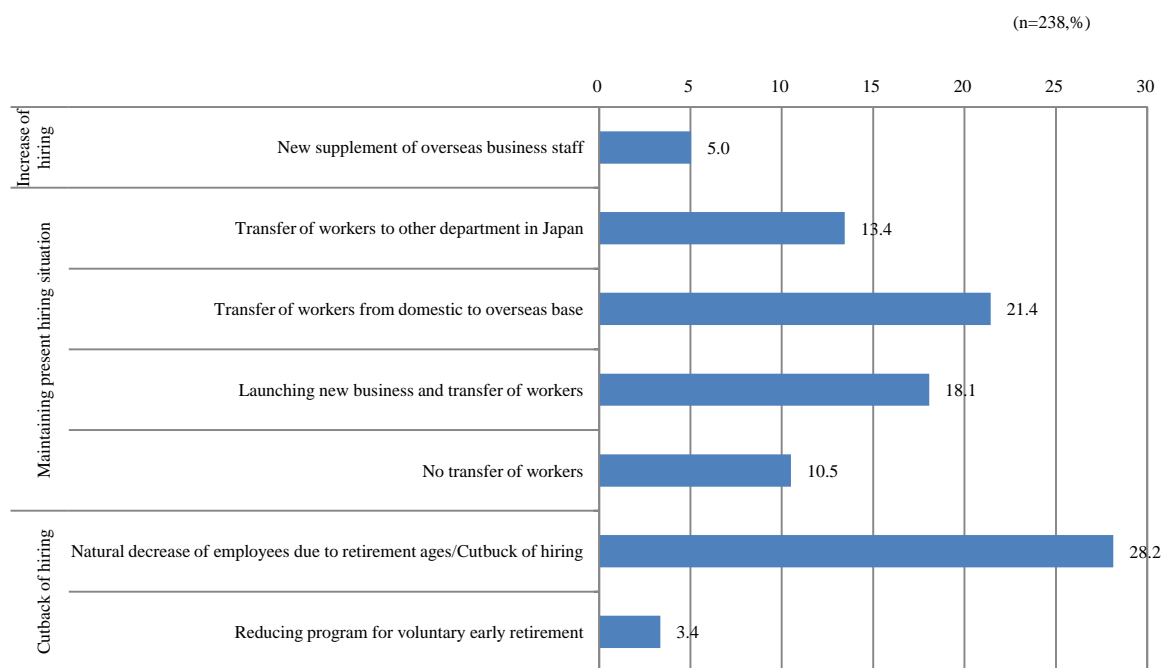
Notes: AV equipment: total of thin-screen TV, picture reproduction equipment, and audio equipment.

Data of 2010/2011 are JEITA estimates / forecasts

Source: "World production forecasts of electronic intelligence industry" (2009 /2010) Electronics and IT Industries Association

Based on questionnaire-based survey of the Japan Economic Foundation, about the domestic employment in the situation where overseas share is growing, more than 30% of companies adopt the policy to limit hiring. On the contrary, only 5% of companies adopt policy for employment expansion (Figure 3-1-2-24). As mentioned above, more than 50% of the electronic parts and devices are still produced in Japan.

Figure 3-1-2-24 Policy for the domestic employment in the case of increasing weight of various functions of company in overseas



Source: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

However, according to the Japan Machinery Center for Trade and Investment, constituent ratio of “electronic parts” among the total sales of the main 16 machine-associated industries is around 5%, and securing of export scale and job creation is difficult to make up for decline of ratio in major industrial domestic production which account for the core of the export of our country including car and household appliance (Table 3-1-2-25). It is important how we promote the export industry that should be left inside Japan in the future.

Table 3-1-2-25 Operation trend of Japanese companies in main 16 machine-associated industries (2009)

Main 16 machine-associated industries	Sales amount (\$100 million)	Sales amount constituent ratio	Sales amount world share	Operating profit on sales
Automobile	3,933	35.7%	33.1%	1.1%
Household appliance	1,064	9.7%	43.6%	1.0%
Service software	915	8.3%	26.8%	8.8%
Heavy electric machinery, industrial equipment	860	7.8%	29.1%	4.2%
Automobile parts	731	6.6%	29.0%	3.7%
Computer	697	6.3%	19.0%	1.5%
Office equipment	607	5.5%	54.5%	8.4%
Electronic parts	563	5.1%	24.8%	0.8%
Information, communications equipment	504	4.6%	13.3%	2.4%
Construction, agricultural machine	364	3.3%	25.2%	5.0%
Plant and Engine	235	2.1%	13.0%	6.3%
Shipbuilding	142	1.3%	23.7%	3.9%
Semiconductor production device	126	1.1%	48.1%	0.0%
Medical equipment	117	1.1%	10.2%	13.3%
Aviation and space	115	1.0%	4.5%	0.7%
Machine tool	45	0.4%	34.4%	0.0%

Source: "Actual situation of international competitiveness of Japan, the United States and Europe and Asian machinery industries" Japan Machinery Center for Trade and Investment

3. Emerging countries' challenge for growth and our contribution to it by the business which Japanese manufacturing industry regards as promising

(1) Promising business for the future overseas market development

In "Industrial Structure Vision 2010", the Ministry of Economy, Trade and Industry positioned the following 5 industries as 5 Strategic Areas, i.e. "Infrastructure related/system sales", "Environment and energy problem solving industry", "Creative industries (fashion, content, etc.)", "Medical, nursing, health, and child care services" and "Frontier fields (robots, space, etc.)", and estimated the scale of creation of market and employment in 2020 as approximately 179.3 trillion yen for production value (plus 149 trillion yen from 2007 level) (including the ripple effect to other sections), and approximately 8,658,000 people (plus 2,579,000 from 2007 level) with the number of the employees (Table 3-1-3-1).

Table 3-1-3-1 Effect by "Industrial Structure Vision 2010" Ministry of Economy, Trade and Industry to the 5 Strategic Area

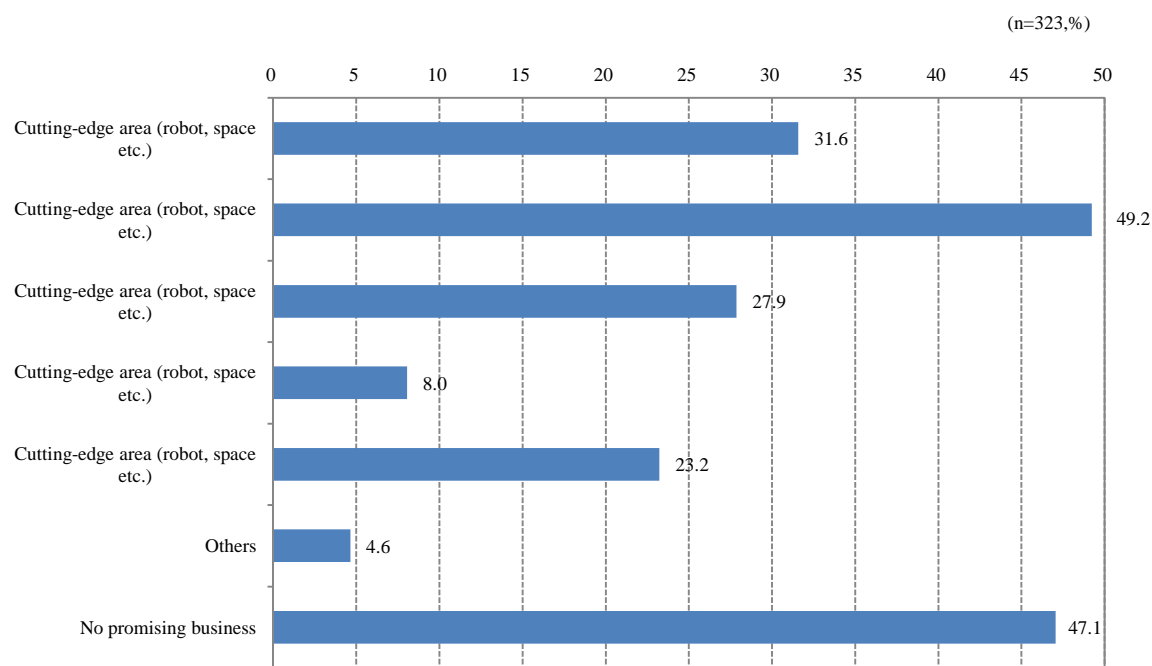
	Production value (market size)		Number of employees	
	2020	Increase and decrease from 2007	2020	Increase and decrease from 2007
5 Strategic Areas	Approx. 179.3 trillion yen	+83.2 trillion yen		
Infrastructure-related / System export (nuclear energy, water, railroad) etc.)	Approx. 13.4 trillion yen (19.7 trillion yen when overseas portion included)	+12.3 trillion yen (+18.2 trillion yen when overseas portion included)	Approx. 285,000 people	+ 187,000 people
Environment, energy problem solving industry (smart grid, next-generation automobile etc.)	Approx. 30.6 trillion yen	+23.7 trillion yen	Approx. 661,000 people	+ 362,000 people
Medical care, care, health, child care service	Approx. 30.5 trillion yen	+12.9 trillion yen	Approx. 3,252,000 people	+ 1,134,000 people
Culture industry (fashion, contents, food, sightseeing)	Approx. 30.5 trillion yen	+6.9 trillion yen	Approx. 3,261,000 people	+ 264,000 people
Cutting-edge area (robot, space etc.)	Approx. 30.5 trillion yen	+27.4 trillion yen	Approx. 1,199,000 people	+ 632,000 people
Ripple effect to other sectors by the above 5 areas		+65.8 trillion yen		
	Total	+149.0 trillion yen	Approx. 8,658,000 people	+ Approx. 2,579,000 people

Source: "Industrial Structure Vision 2010" Ministry of Economy, Trade and Industry
(<http://www.meti.go.jp/committee/summary/0004660/index.html>)

According to the questionnaire survey of the Japan Economic Foundation, about 50 % of Japanese manufacturing industry list the Environment and energy field business as the business that they regards promising for overseas market development, then the Water business and Traffic infrastructure

business and Medical, nursing, health, and child care services are listed by 30%, Frontier fields (robots, space, etc) by 20% (Figure 3-1-3-2). Although the companies, which cannot find promising business, account for nearly half, as for the idea for future promising business (by what do we make money and how do we employ), it is considered that there is no difference between public and private sectors.

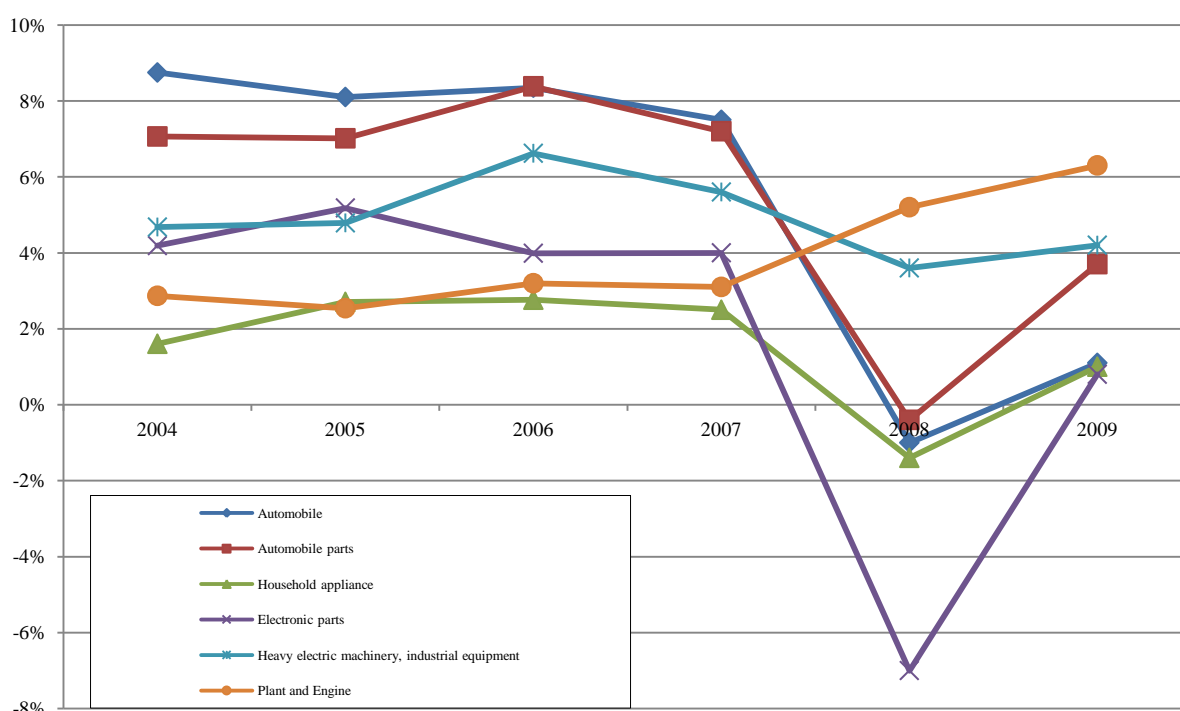
Figure 3-1-3-2 The field of business considered to be promising toward overseas market development



Source: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

According to the Japan Machinery Center for Trade and Investment, of the main 16 machine-associated industries which are considered to have relation with 5 Strategic Areas, the following business fields are included; "Services and software" "Heavy electric machinery, industrial equipment" "Plant and Engineering" "Medical equipment" "Aviation and Space" etc. Sales amount constituent ratio of overall 5 industries is more than 20%, and the operating profit on sales is as high as 6.6% (Table 3-1-2-25). The "Heavy electric machinery, industrial equipment" "Plant and Engineering" which relate to the two top fields business that Japanese company regards as promising business, have stable parameters in sales amount and profit rate, in comparison with "car" and "household appliance" which are the core business of our country up till now (Figure 3-1-3-3). It is considered that the 5 Strategic Areas businesses are the businesses, which maintain the domestic employment, and the core of the export of our country.

Figure 3-1-3-3 Change of operating profit on sales of the company group related to automobile, household appliance, infrastructure



Source: "Actual situation of international competitiveness of Japan, the United States and Europe and Asian machinery industries" Japan Machinery Center for Trade and Investment

(2) solution by Japanese strategic fields business

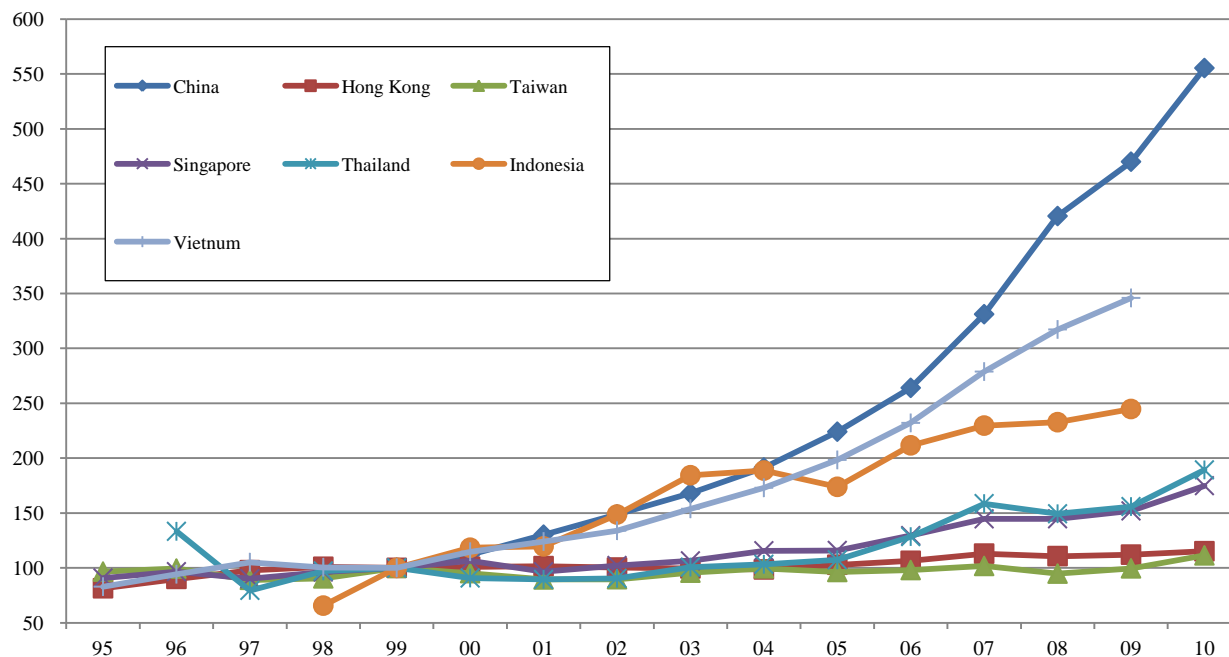
Asian emerging countries are growing rapidly, but there are some problems that must be settled in order to accomplish further growth. In this section, we will discuss about a harmonious coexistence model with the Asian emerging countries, where, Japan not only make money through the product sale of car and household appliance, but also Japan will make contribution to solve the challenge of Asian emerging countries, and Japan also make growth in the strategic fields business utilizing compartmentalization with industry of the Asian emerging countries.

(A) The contribution to the difficult problem of remarkable rise of personnel expenses in the Asian emerging countries

The wages in the recent Asian emerging countries are remarkably increasing, especially in the countries where the low-income class ratio is high (Figure 3-1-3-4). When comparing the growth of per capita GDP (purchasing power parity) of China, India, Indonesia, and Vietnam with that of our country, it is found that China's per capita GDP in 2010 is the same level of Japan's per capita GDP in 1968, Indonesia is equivalent that in 1961, and Vietnam, and India in 1957, 1958 respectively (Figure 3-1-3-5).

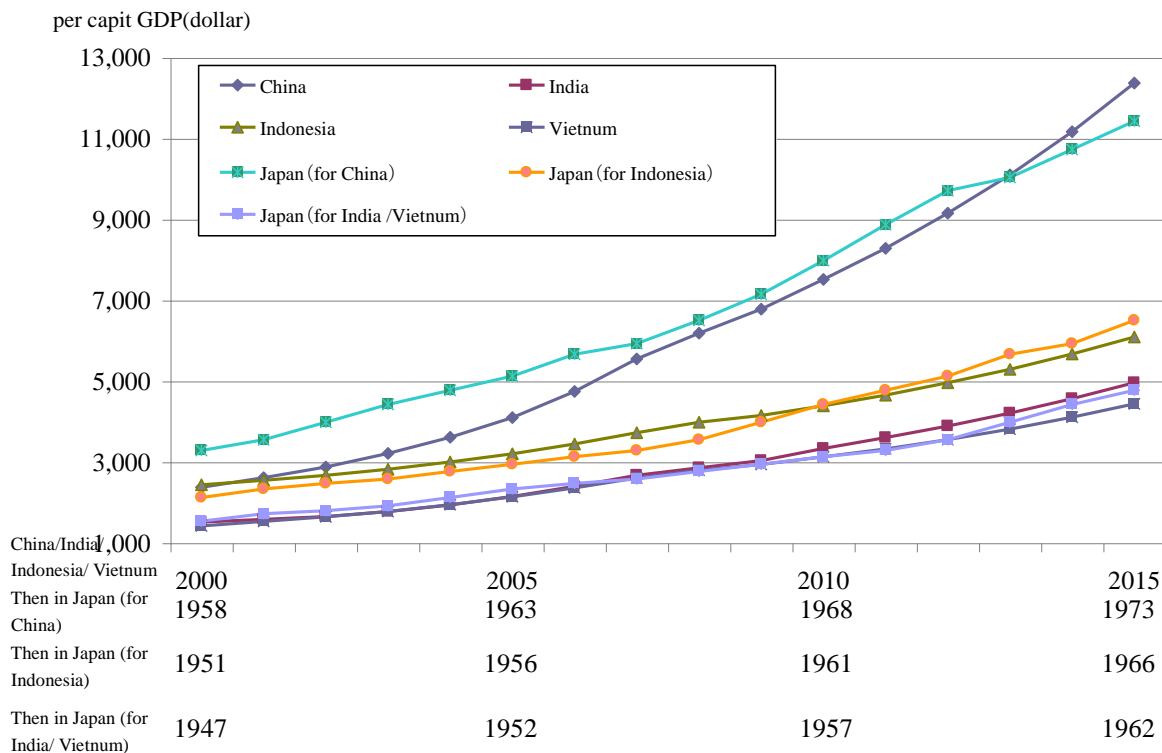
Figure 3-1-3-4 Change of wage index in Asian emerging countries/ regions

(1999=100)



Source: CEIC (Wage data of various countries)

Figure 3-1-3-5 Chronological comparison of per capita GDP (purchasing power parity) of China, India, Indonesia, Vietnam and Japan



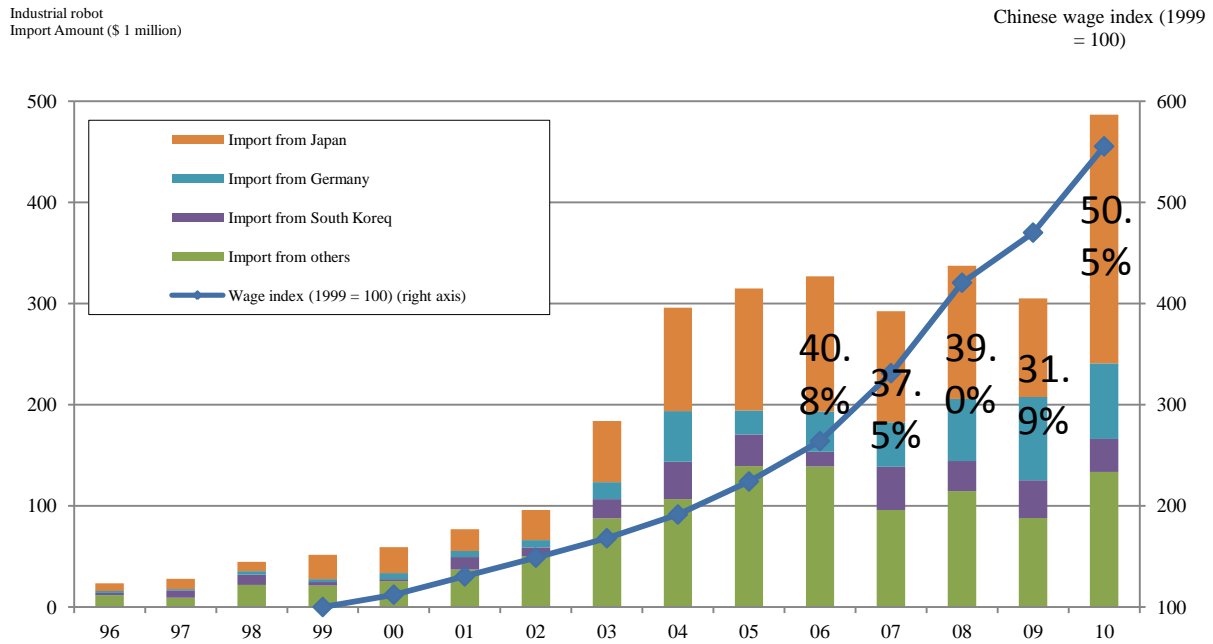
Source: "World Economic Outlook Database, April 2011" Angus Maddison (IMF)

Situations of these countries are similar with that of our country at the high economic growth period when we caught up the preceding Europe and America, by starting a full-scale automation of the

factory. In particular China, as similarly to Japan, which reached the second in the world of capitalistic nations with GNP in 1968, ranked the second in the world in terms of GDP in 2010.

The manufacturing industry of China is now in a difficult situation in securing of work force mainly in the coastal place due to remarkable rise of wages. It can be said that China began to enter into the turning points to automation system from their conventional labor-intensive type. Actually, the import of industrial robots increases in proportion to increase in wages (Figure 3-1-3-6).

Figure 3-1-3-6 Change of wage level of China and import of industrial robot

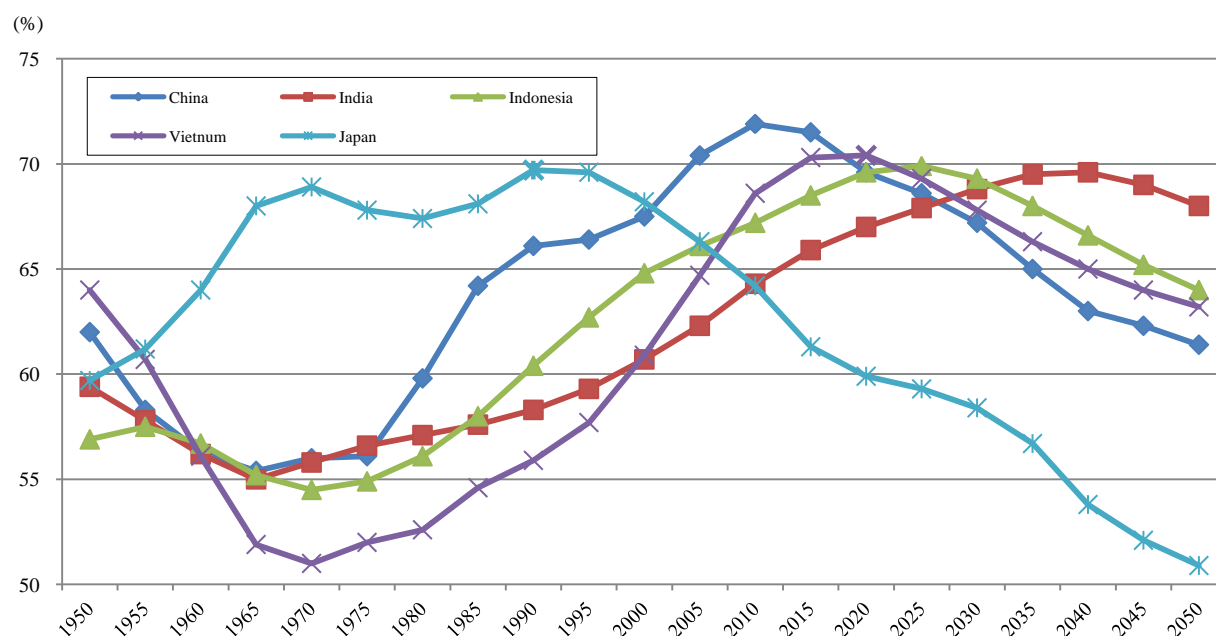


Notes: Numerical value (%) of the import from Japan indicates The ratio of import amount from Japan in the total import of China.

Source: Compile from the data by CEIC (Chinese wage data), Global Trade Atlas (Chinese import data, HS cord 847950)

In addition to the increase in wages, Asian emerging countries began to reach a peak of the productive population similar to the previous case of Japan (Figure 3-1-3-7). In particular China reached the peak of the productive population ratio in 2010. From the point of decrease of work force in the future, it can be said that the Asian emerging countries should begin studying the introduction of automated equipment.

Figure 3-1-3-7 Change of ratio of productive population in Japan, China, India, Indonesia, and Vietnam

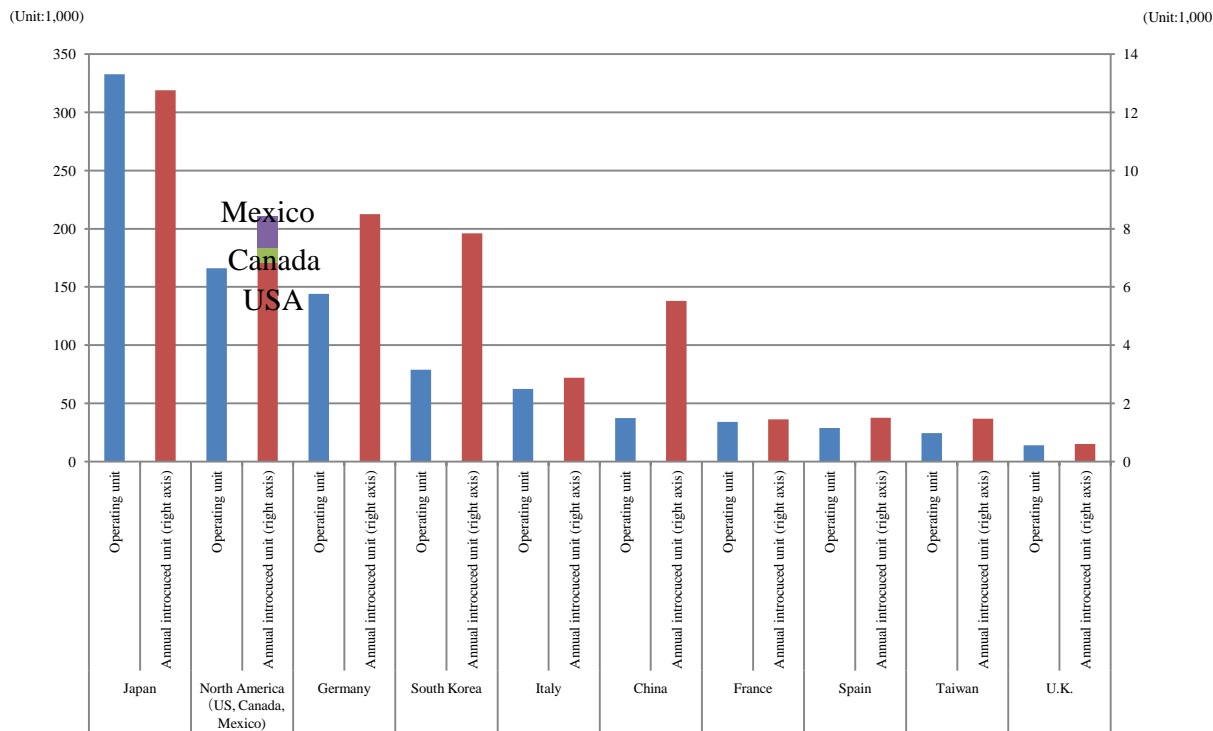


Notes: The year which has the large square point indicates the year when the productive population ratio reaches the peak in the country.

Sources: "World Population Prospects, The 2008 Revision" 2008 (United Nations)

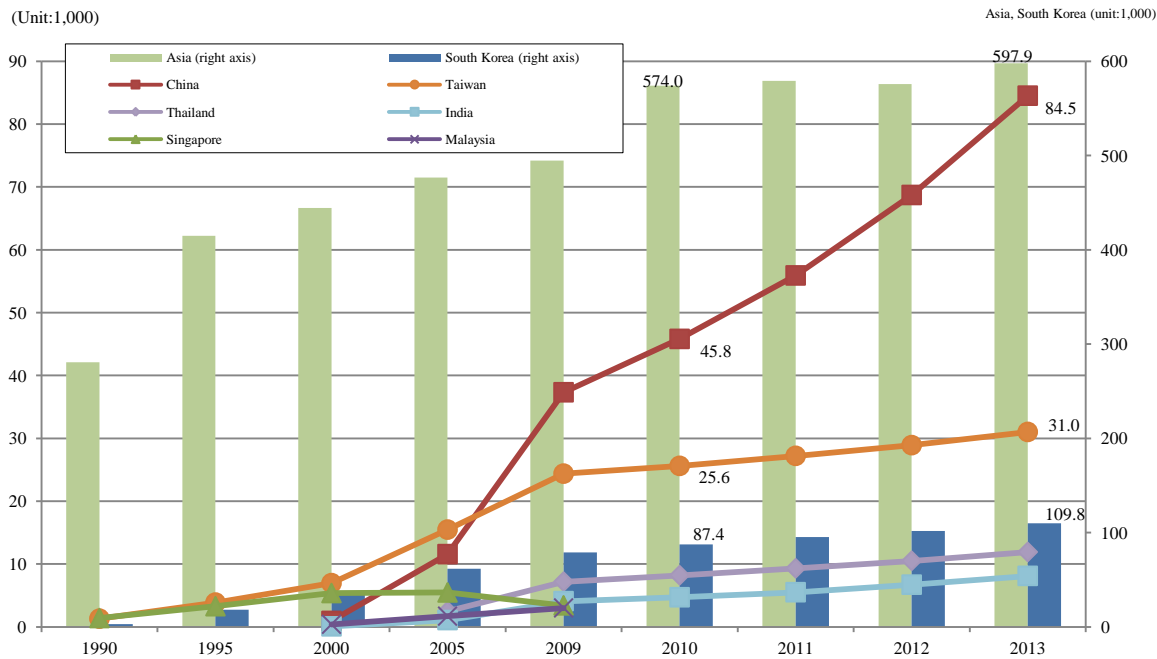
The automated technology/industrial robot technology of our country hold the prominent position overwhelmingly in the world (Figure 3-1-3-8). Japan accounts for nearly 50% of all the import of the industrial robot of China (Figure 3-1-3-6). It is expected that the introduction of the industrial robot advances in various Asian countries/regions where increase in wages and aging will rapidly advance to in the future (Figure 3-1-3-9). In the situation of overseas advance of Japan's manufacturing industry, it is expected that a production technology based in our country will make contribution in solving the problems of remarkable rise of personnel expenses in growing Asian emerging countries/regions.

Figure 3-1-3-8 Top Ten countries (as of 2009) of operating industrial robot in the world and number of robot introduced



Notes: Manipulating robot only.
Source: Compiled from statistics data of Japan Robot Association.

Figure 3-1-3-9 Number of operating unit of industrial robot in Asia



Notes: Manipulating robot only. Data after 2010 are estimates.
Sources: Compiled from statistics data of Japan Robot Association.

(B) Contribution to infrastructure development in the emerging countries around Asia

For further growth, the emerging countries of Asia require electricity infrastructure, which have a key role in production activity, and the traffic infrastructure which is indispensable for smooth distribution of goods. For example, according to the ADB⁴, approximately 8 trillion dollars is required for improvement of the infrastructure for 11 years from 2010 to 2020 years, for Asia to show a potential growth power in the future (Table 3-1-3-10). Actually, according to the questionnaire result of Japan Bank for International Cooperation (JBIC), many companies pointed out the inadequate infrastructure as a problem of the promising Asian emerging countries. Although generally this problem is resolved, nearly half in India and more than 30% in Vietnam, they have the inadequate infrastructure issue (Figure 3-1-3-11).

Table 3-1-3-10 Asian needs for infrastructure investment (between 2010 and 2020)

Unit: Billion dollars (Actual prices in 2008)

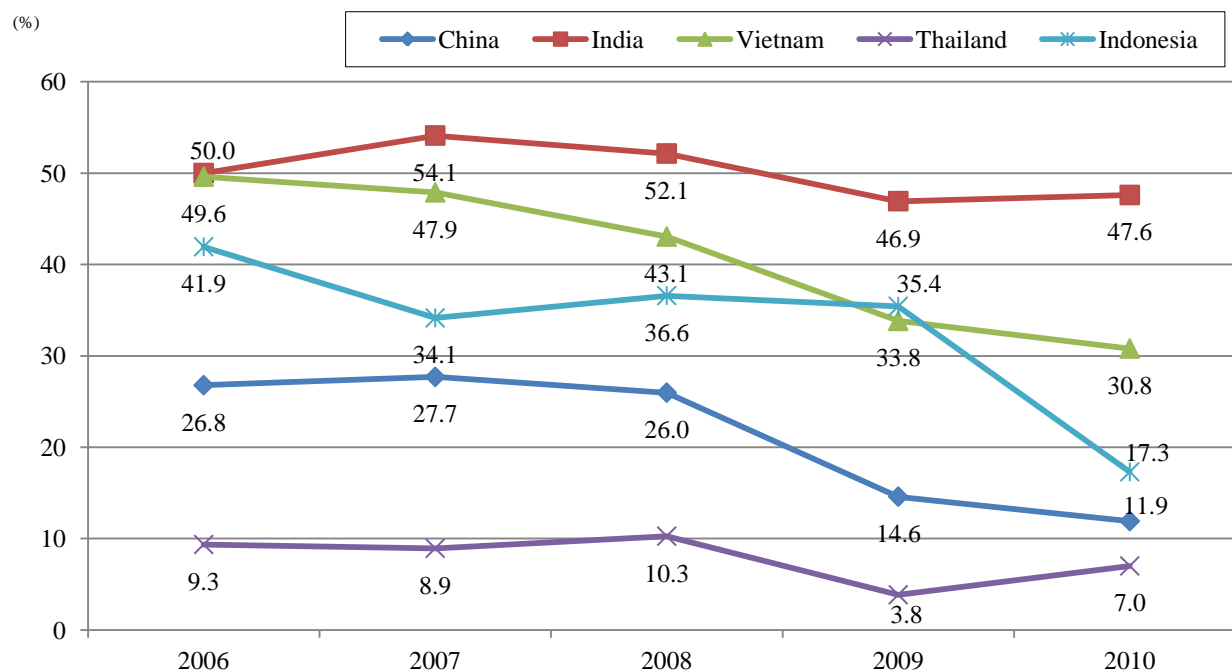
Sector	New	Updated	Total
Energy (electricity)	3,176	912	4,089
Communications	325	730	1,056
Transportation	1,762	704	2,466
Airport	7	5	11
Port	50	25	76
Railroad	3	36	39
Road	1,702	638	2,341
Water supply/ sanitation	155	226	381
Total	5,419	2,573	7,992

Notes: The target countries/regions are Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Brunei, Cambodia, China, Indonesia, Laos, Malaysia, Mongolia, Philippines, Thailand, Vietnam, Bangladesh, Bhutan, India, Nepal, Pakistan, Sri Lanka, Fiji Islands, Kiribati, Papua New Guinea, Samoa, Timor, Tonga, and Vanuatu.

Source: "INFRASTRUCTURE for a SEAMLESS ASIA" (ADB)

⁴ ADB (2009) 「INFRASTRUCTURE for a SEAMLESS ASIA」

Figure 3-1-3-11 Change of percentage for Japanese manufacturer to designate the inadequate infrastructure as a problem in the country/region which Japanese manufacturing industry regards as promising for medium-term (about next three years)

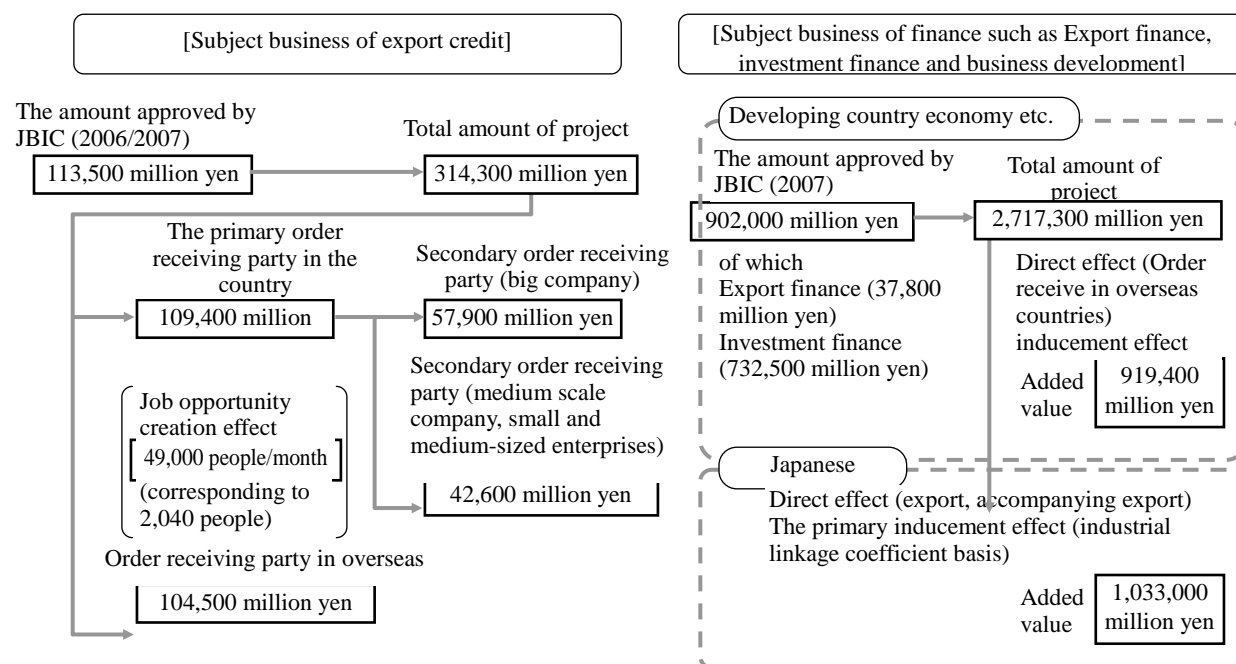


Sources: Compiled from the data of "Foreign Direct Investment Survey" (2006-2010) Japan Bank for International Cooperation

As we mentioned before, about 60% of the Japanese companies that regarded India and Vietnam as the promising market have no specific plan for doing business there. On the other hand, rate of companies that have business plan in China and Thailand are high. This may be attributable to the infrastructure development in China and Thailand. In order for Japanese companies to capture the market in the regions, it is necessary to push forward the infrastructure development in Asian countries immediately.

Pushing forward infrastructure development of Asia contributes not only to the growth of the countries concerned, but also greatly contributes to growth of our country. The export of infrastructure and the investment in an infrastructure project gives great ripple effect to the economy and the employment of our country. According to the analysis by JBIC that is supporting large-sized infrastructure industry, in financial related business such as Export credit, investment finance, and business development project totaling of 2,717,300 million yen have spillover effect of 919,400 million yen to the developing countries, and the influence to the domestic company amounts to 1,033 billion yen (Figure 3-1-3-12). The export from our country of the equipment related to order receiving for plant, is the top tenth class (latex product (HS code 40) and steel product (HS code 73) etc.) in export articles basis comparison (two digits of HS code), which is equivalent to the scale of export of subcompact car and semiconductors (Figure 3-1-3-13).

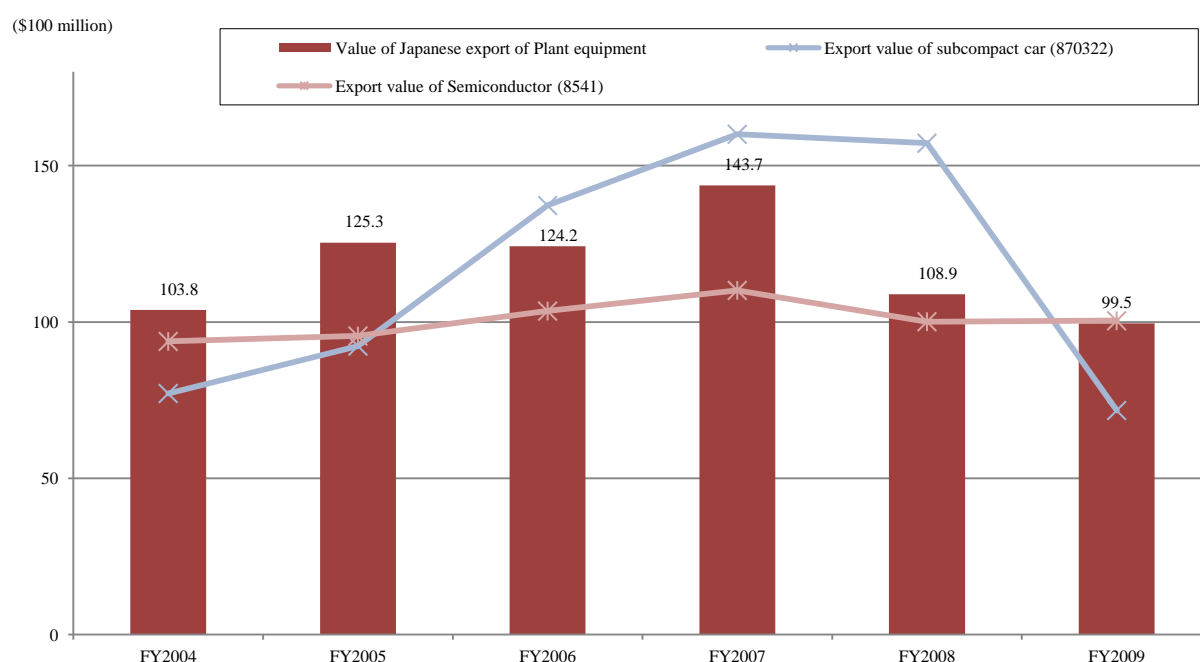
Figure 3-1-3-12 The economic ripple effect of the large-scale project (from policy cost analysis of the JBIC)



Notes: Future inducement effect accompanying the business continuation (secondary inducement effect: industrial linkage effect) in the subject business of the finance such as export finance, investment finance, business development are excluded.

Source: National Policy Unit "package type infrastructure overseas operation promotion business practice staff conference"

Figure 3-1-3-13 Export value of Japanese equipment related to overseas plant engineering



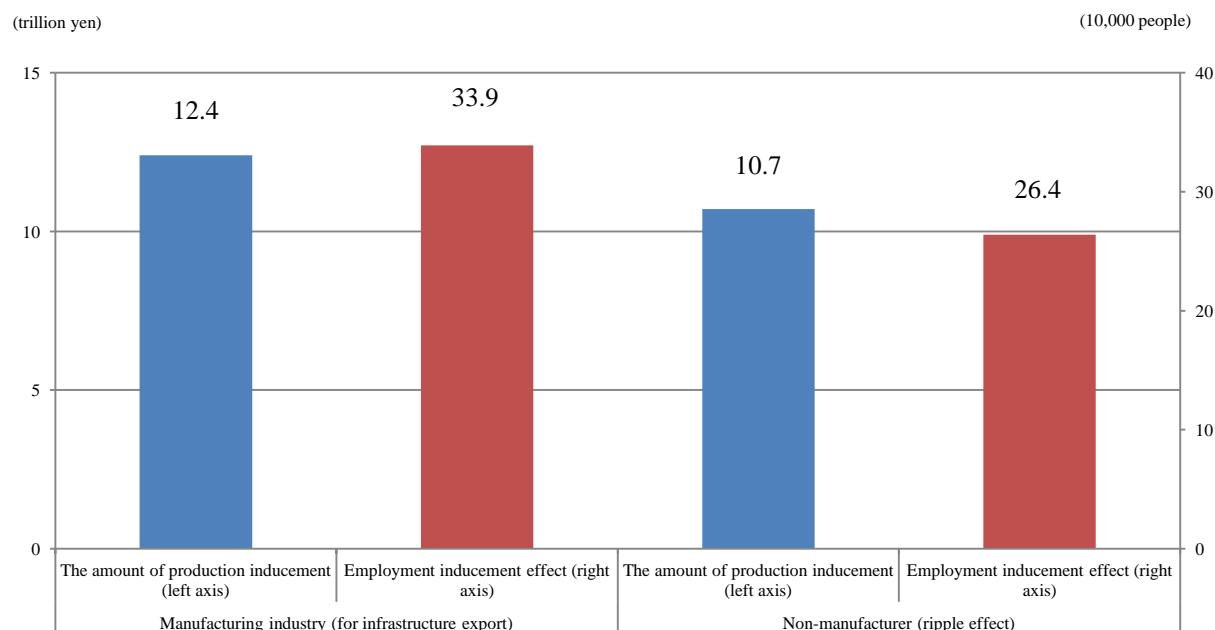
Notes: The export equipment subject contract until 2007 more than 500,000 dollars per contract, after 2008 more than 1 million dollars and above per contract.

The numerical value in () of subcompact car and semiconductor is HS cord.

Sources: Compiled from the data of Global Trade Atlas, and Japan Machinery Center for Trade and Investment "Overseas plant engineering contracts survey analysis report"

In addition, investing in infrastructure industry and pushing forward overseas development as “a system” will lead to securing of continuous profit. It also leads to upgrading of Japanese industry and increase of added value through acquisition of the high technology and know-how. The “New Growth Strategy” that the government advocates have set the infrastructure market size of 2020 to 19,700 billion yen as target to be achieved. The effect when the target is achieved is supposed to be 23,100 billion yen for the production inducement amount which totals infrastructure export by the manufacturing industry and the ripple effects to a non-manufacturer together, and 603,000 people as an employment inducement effect (Figure 3-1-3-14).

Figure 3-1-3-14 Effect with accomplishment of target of "New Growth Strategy" (infrastructure market scale 19,700 billion yen in 2020)



Sources: Compiled from the data in "Related Cabinet Meeting Materials on Economic Monthly Reports" (February 21, 2011) (Cabinet Office)

(3) Past approach and new viewpoint

(A) Ministers conference related to Package type infrastructure overseas operation

The conference was established in last September to support the receiving of order for important project as a country under the national cross-sectional and politician-led flexible judgment. The ministers of relevant ministries and agencies participated the meeting with the Chief Cabinet Secretary serving as chair and discussed on general support packages such as the strategy categorized by region and field type, a finance support reinforcement plan, personnel training, and technical cooperation.

(B) Implementation of top-level sales

Concerning the project, which is particularly important to our country, it is important to make sales for each project sale at the top-level directly to the foreign government. As can be seen from example of the countries of the world, the top or the cabinet minister of the government frequently participates in the place of the business talk by himself/herself to sell the product of the own country for the aim of receiving of order of the specific project.

(An example of the top-level sales in our country)

- In last October, Prime Minister Kan visited Vietnam, and at the Japan-Vietnam top-level meeting, Japan was chosen as the development partner of rare earth elements in Vietnam and a nuclear power plant construction partner.

(C) Strengthening of the public financial institutions

In the overseas infrastructure development, the large-scale projects that require big amount and long-term fund are anticipated to increase. Such the projects have big risk, and it is expected that

public finance support plays an important role. Based on such present situation, the scheme is being developed to cover the risk that cannot be taken on the private enterprise, such as functional enhancement⁵ of the government-affiliated organization in line with the decision of the minister meeting.

(D) The cooperation starting from a stage of plan development

Involvement with infrastructure development program of the various countries from the development stage is very important for securing order of the projects, while promoting proper infrastructure development demand for other country, and for making strategic matching with the overseas infrastructure demand and Japanese industrial advantage. The typical examples of these include Delhi/Mumbai Industrial Corridor Project⁶, Indonesia Metropolitan Priority Areas (MPA) project⁷, and the Core center in South India Development Initiative⁸.

(E) A new viewpoint in the overseas infrastructure operation

In the case of the recent earthquake disaster, infrastructure superior in quake resistance and the restoration know-how, man-made satellites, which were used for grasping of the suffering situation, played very important role. Therefore it is important to positively send these advantages of the infrastructure, which played an active part in earthquake disaster, and send the information to abroad.

⁵ Strengthening of the trade insurance by NEXI: Strengthen the currency risk measures for local currency (April), Function reinforcement of the JBIC: Export credit for developed nations were added (April), Function reinforcement of JICA: Reopening of the overseas investing and financing (March).

⁶ Japan-India joint projects for regional development for laying a freight exclusive railway between Delhi and Mumbai, and developing the infrastructure such as industrial areas, distribution bases, and power plants based on the private investment.

⁷ Japan-Indonesia Joint development projects to determine Master Plan for Establishing Metropolitan Priority Area for Investment and Industry (MPA) in Jakarta Metropolitan Area.

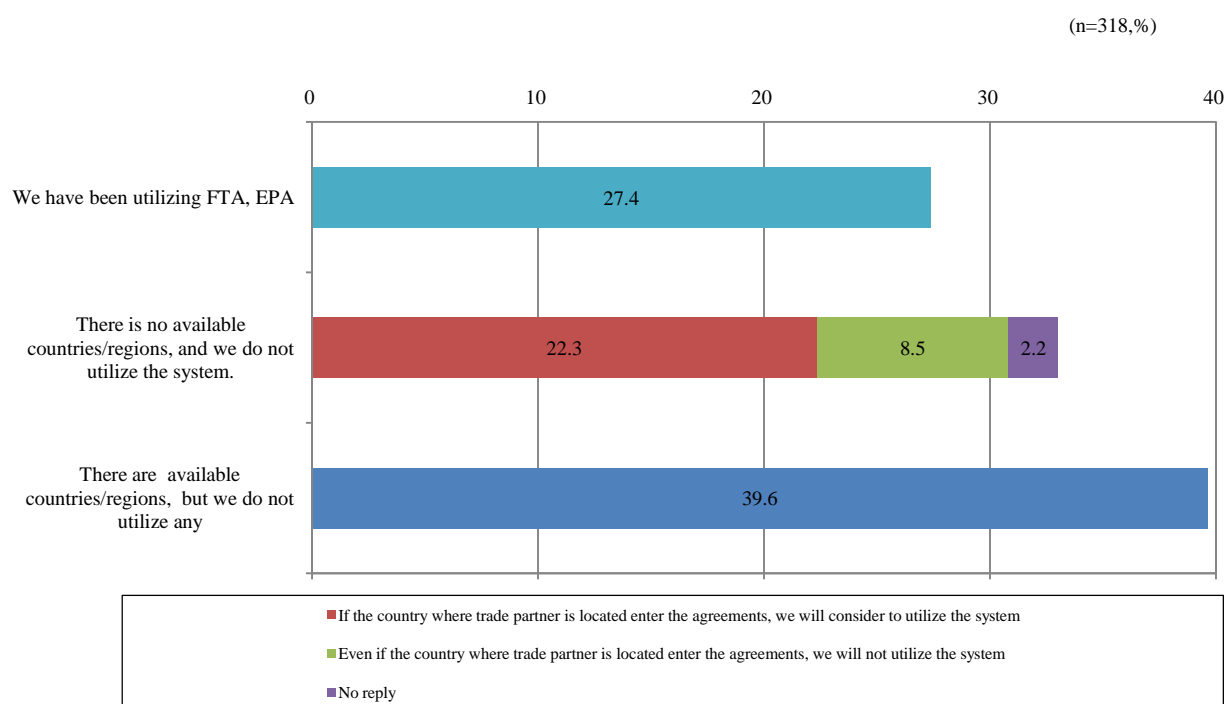
⁸ The project to promote the cooperation project formation of Japan and India, by starting up Intergovernmental Working group concerning infrastructure development and business matching with Tamil Nadu state government.

4. Global development support measures of the Japanese manufacturing industry

(A) Export reinforcement support of the Japanese manufacturing industry

According to the questionnaire survey of the Japan Economic Foundation, Manufacturing industry that makes good use of free trade agreement (FTA), economic partnership agreement (EPA) are about 27%, and the company which does not take advantage of the FTA, EPA due to the reason that there are no countries or few countries available for these system are about 33%, and about 70% of the companies have intention to use the policies if there is any available country/region. This means that nearly half of all companies are positive to utilize the FTA/EPA (Figure 3-1-4-1). The specific data of content that the companies expect for international business clarify that many companies raise the items that relate to the economic cooperation such as “Trade liberalization”, “Facilitation of the customs procedure” and “Clarification of the rule of origin” (Figure 3-1-4-2).

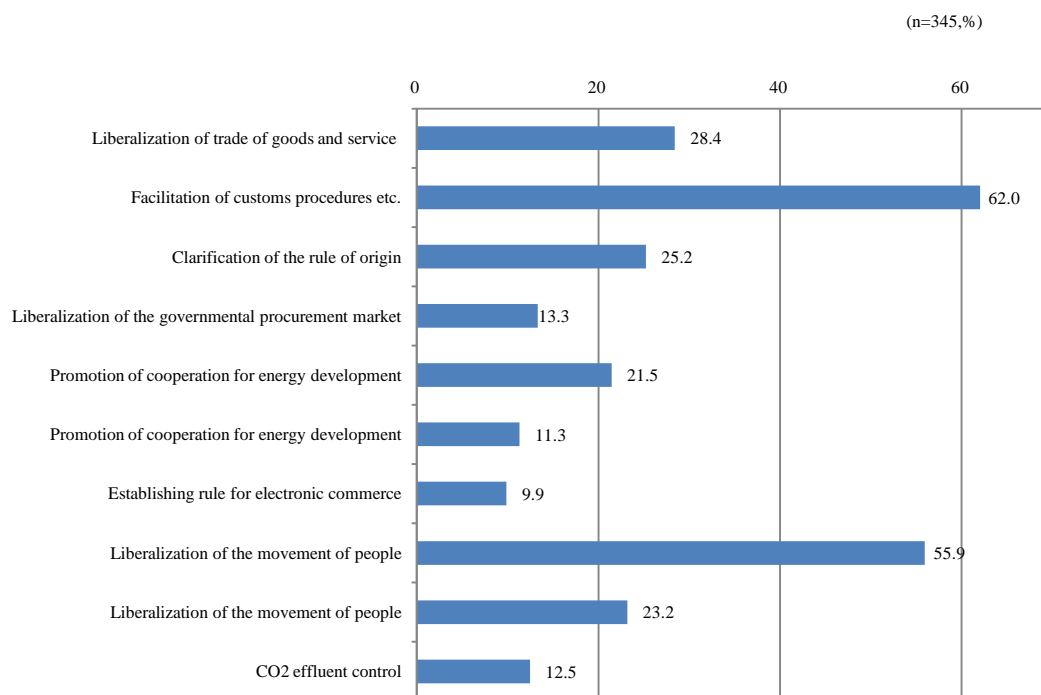
Figure 3-1-4-1 Status of utilization of free trade agreement (FTA), and economic partnership agreement (EPA)



Notes: Total may not become 100% due to rounding off.

Sources: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

Figure 3-1-4-2 The specific content that Japanese manufacturers strongly require for international business

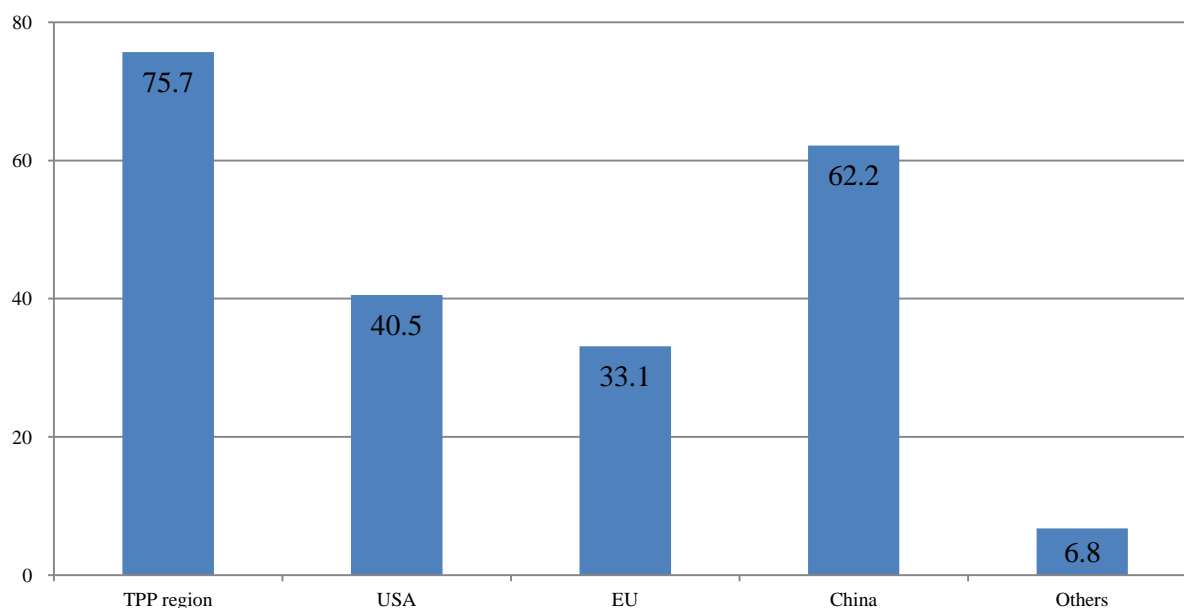


Source: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition

As the country in which company positive for economic collaboration requires to conclude FTA/EPA, TPP regions are the top (75%), followed by China (about 60%), then United State (about 40%) and EU (about 30%). Many companies raise these 4 nations/regions as their preferable nations for FTA/EPA (Figure 3-1-4-3).

Figure 3-1-4-3 Countries/regions with which the conclusion of free trade agreement (FTA), the economic partnership agreement

(n=148,%)

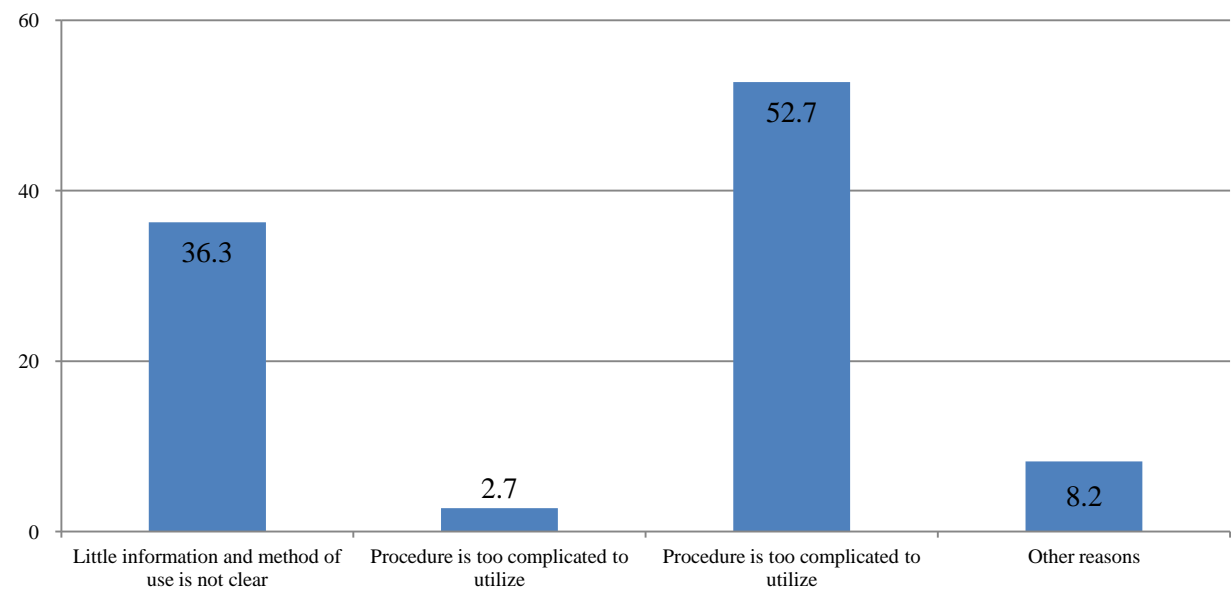


Sources: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

On the contrary, approximately 40% of companies do not utilize whereas there is available country/region. In addition, among the companies that do not utilize due to the reason of no available country/region, more than 25% companies would not utilize even if FTA, EPA are concluded with certain country/region. Therefore, companies, which are negative against utilization of FTA, EPA, account for nearly half of the all companies (Figure 3-1-4-1). About 90% of them nominate the reason such as "Advantage is not clear" and "Cannot understand how to utilize". It can be said that the information of the policies are not sufficiently provided (Figure 3-1-4-4).

Figure 3-1-4-4 Reason not to utilize free trade agreement (FTA), and economic partnership agreement (EPA)

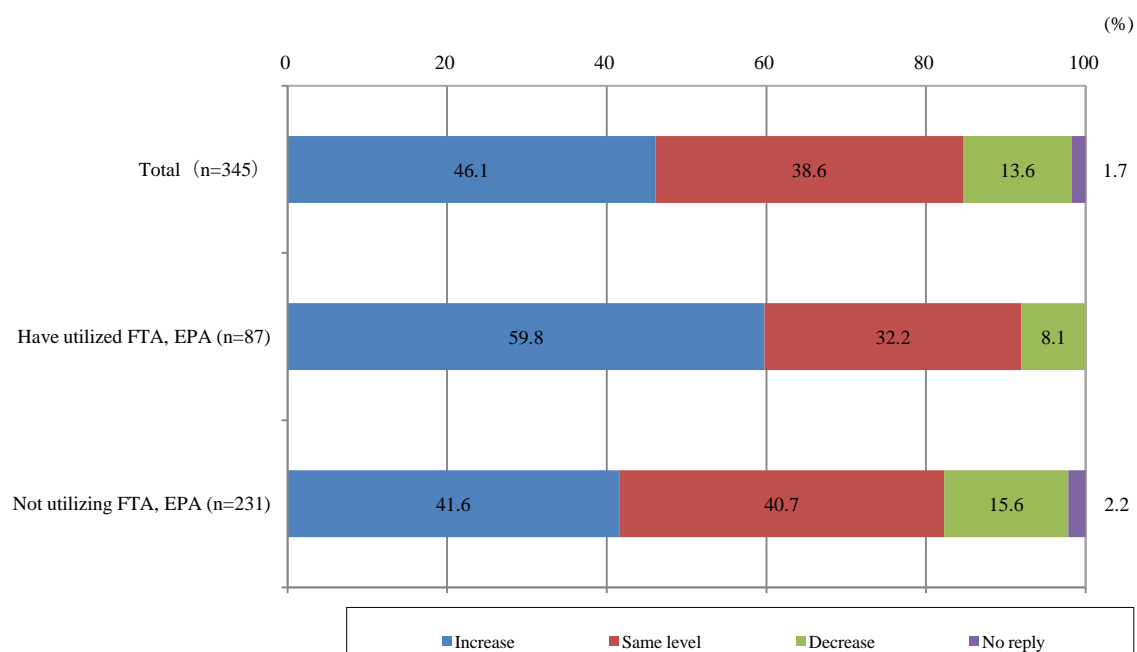
(n=146,%)



Notes: Total may not become 100% due to rounding off.
Sources: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

It should be paid attention that according to the questionnaire survey of the Japan Economic Foundation, the companies which utilize FTA/EPA are about 20% more than the companies which does not utilize in terms of reply that they expect better achievement in future (Figure 3-1-4-5).

Figure 3-1-4-5 Future business forecasts (sales amount) by status of utilization of free trade agreement (FTA), and economic partnership agreement (EPA)



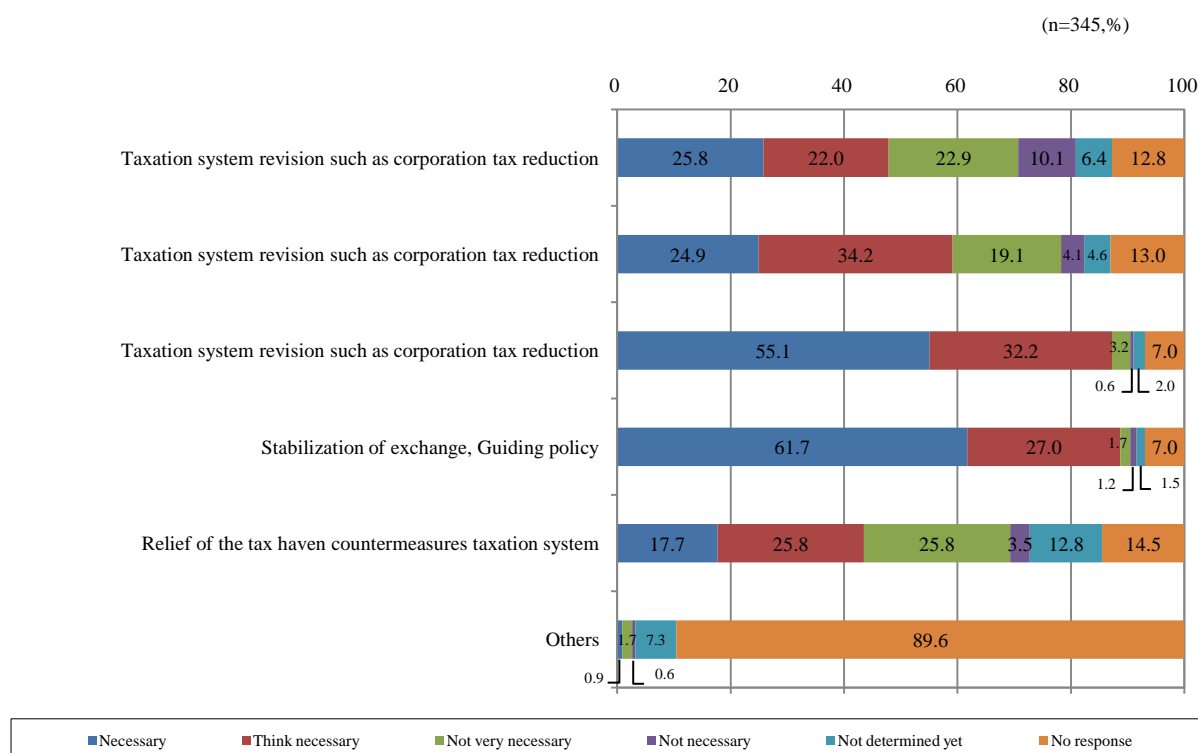
Notes: Total may not become 100% due to rounding off.

Sources: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

(2) Macroeconomic environment preparation support about the Japanese manufacturing industry

According to the questionnaire survey of the Japan Economic Foundation, as a demand for the preparation of the macroeconomic environment, many companies replied that the stabilization of the exchange rate, induced policy and taxation system revision such as corporation tax reduction are necessary (Figure 3-1-4-6).

Figure 3-1-4-6 Requirement for development of the macroeconomic environment



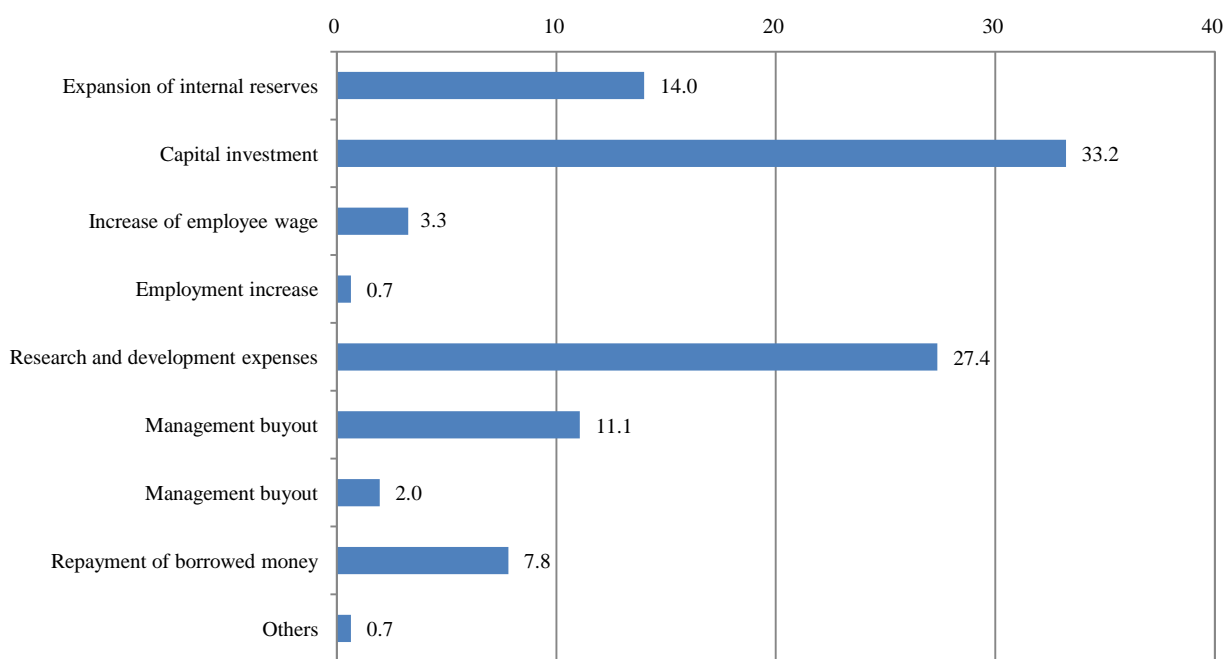
Sources: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

In addition, for the purpose for which surplus or funds made by the arrangement of the macroeconomic environment is spent, capital investments, research and development expenses, and the increase of internal reserves were raised in that order (Figure 3-1-4-7). In fact, as the result of refund of maintenance of the economic environment to the nation's wealth, when we study the use of the overseas subsidiary profit before and after introduction of the foreign dividend exemption system⁹, we find that after the introduction the ratio of company that return dividend to Japan largely increases (Figure 3-1-4-8). For the acquisition of the emerging countries market, the development of the macroeconomic environment that provides indirect support to the Japanese companies, which are exposed to severe competition, is expected in the future.

⁹ In this system, 95% of the dividends received by a Japanese company from a foreign subsidiary are exempted from the profit, provided that ratio of shareholding is more than 25% and holding period more than six months.

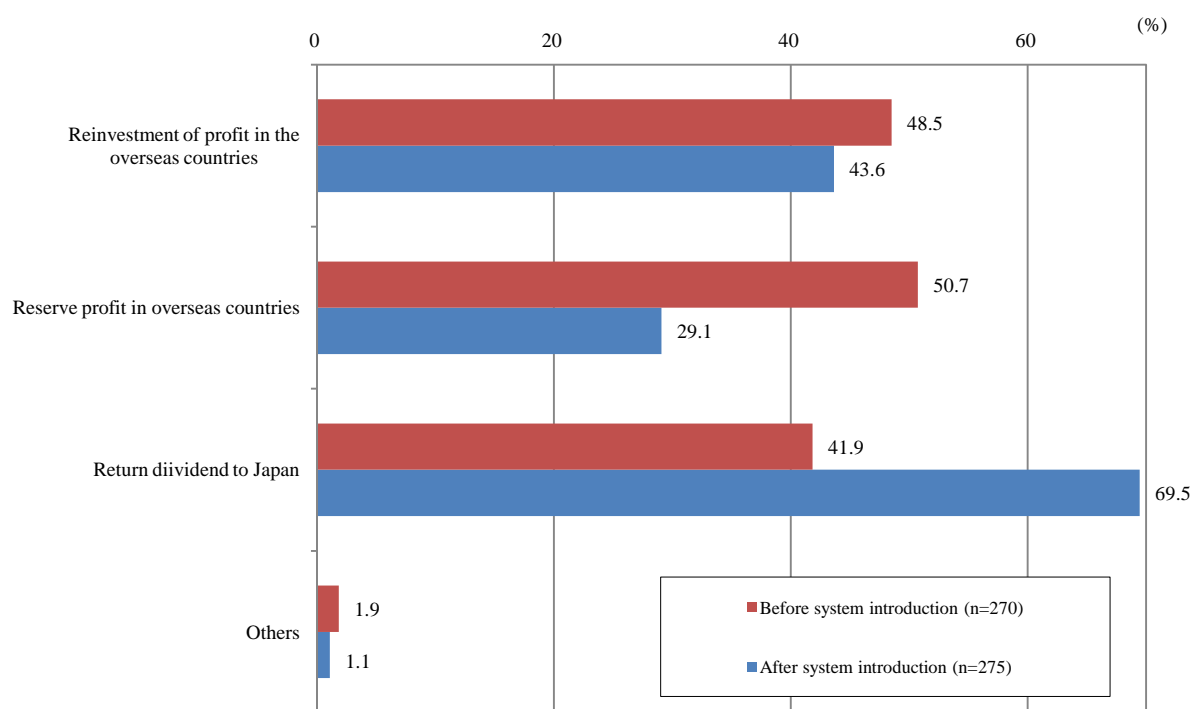
Figure 3-1-4-7 Purpose of use of surplus money created by the development of the macroeconomic environment

(n=307,%)



Sources: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

Figure 3-1-4-8 Purpose of use of the overseas subsidiary company profit before and after the introduction of the foreign dividend exemption system



Sources: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

Section 2 The “localization” of Japanese companies entering a new stage

In this section, we will describe the new trends in the overseas operations of Japanese companies intending to enter into markets of emerging countries, after having defined the overseas operation followed by customer needs for customization as “localization” of such companies. Here we will discuss the characteristics and problems, and conditions of “localization” of the operation etc. In addition, we will also discuss the type of influence this trend of localization will have on the Japanese economy, and after having discussed from the viewpoint of intermediate commodity export, investment returns, and domestic employment, we will refer to “localization” and the national economy and offer suggestions on countermeasures.

1. The overseas operation of Japanese companies becoming serious in emerging countries

Owing to the increase of the middle income /high-income classes in emerging countries, the standard level of consumption of emerging countries is increasing rapidly, and accompanying this, the aims of Japanese overseas operations in emerging countries are evolving to secure the market (sales function) for eventual production cost reduction purposes (manufacturing function). Furthermore, in order to secure markets in emerging countries, it is considered important to examine how to adopt a customer-friendly policy to satisfy the needs of customers at the destination site. This means that different customer-friendly measures are to be considered to secure the market, without simply concentrating on a low price policy. Specifically, this means the necessity of developing customer-friendly policies such as, changing specifications to satisfy local needs, devising quick product delivery systems, and offering after-sale services.

In addition, to being customer-friendly, quick managerial decisions are required to respond to local customer's aspirations and needs, in line with the local situation. However, at present, this is not done by Japanese companies in emerging countries. The relinquishing of operational and decision making rights to the local corporations is required for that purpose. However, this (localization of operations) cannot be said to be fully conducted in emerging economies compared with Japanese-local cooperation in Europe and the U.S.A. It seems that many Japanese companies are busy trying to find ways of increasing the local sales amount and securing/fostering manpower of local companies.

(1) Functions to increase overseas business development operations in future

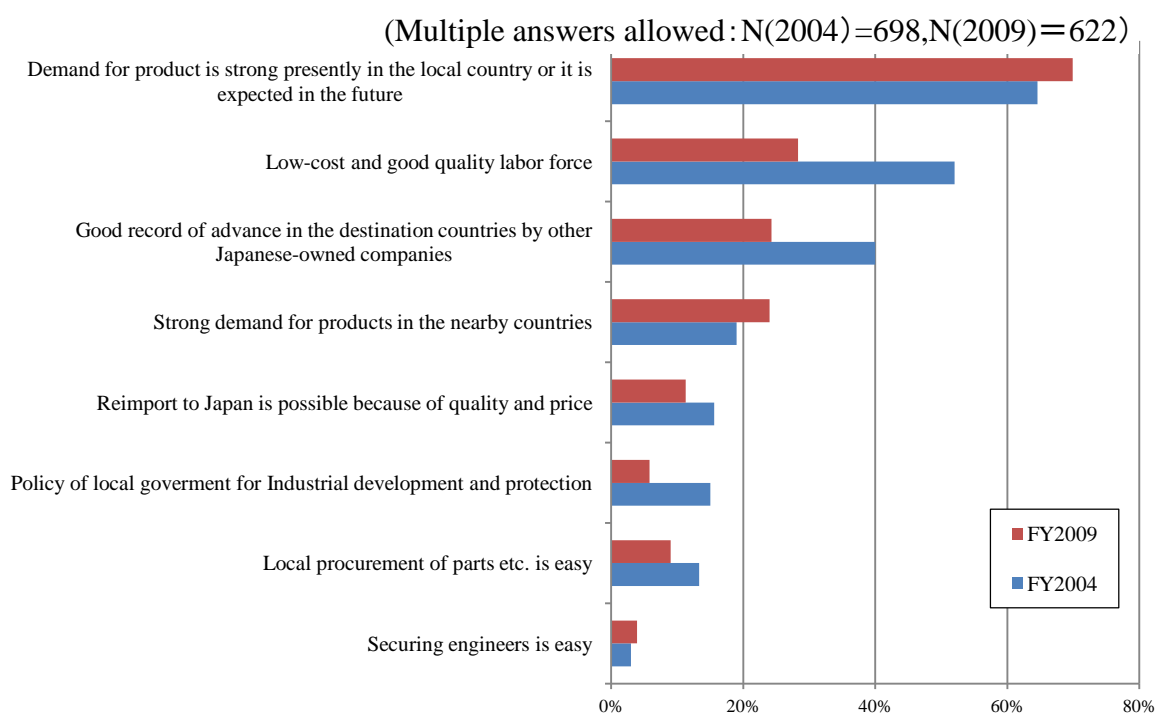
(A) Purpose of direct investment and market determinants

As already mentioned in the previous section, according to the questionnaire-based survey of the Japan Economic Foundation (2011), about 80% of Japanese manufacturers, when asked “What factors do you attach great importance on for the purposes of direct investment?” replied that they attach great importance to “the development and acquisition of the local market”. A lot higher than for the answer: “cost reduction in local countries” (approximately over 50%) (Figure 3-1-2-21). In addition, according to the Survey on Overseas Business Activities (2009), for a “point of direct investment determination”, 70% of manufacturers and more than 60% of non-manufacturers listed “Active demand or expected future demand for the product in the local countries” as their answer, and this trend has continued to increase since 2004, but the answer “Good-quality and low-cost labor” has been decreasing. This indicates that the direct investment determination factors are greatly changing from production cost to market (demand) procurement factors (Figure 3-2-1-1). Furthermore, according to the

“questionnaire-based survey of Corporate Behavior (2009)” by the Cabinet Office, as for the “reason to set up operations overseas”, the answer “Strong demand exists, or demand is expected to expand, for our products in the local market and markets in neighboring countries”, “Labor costs are low”, and “We can cater effectively to overseas users needs” ranks high in that order. This suggests that Japanese companies set up operations overseas, not only for reasons responding to strong demand in local countries, but also for the factors for activities required for local customer needs (Figure 3-2-1-2).

Figure 3-2-1-1 Decision points of direct investment

○ Manufacturers

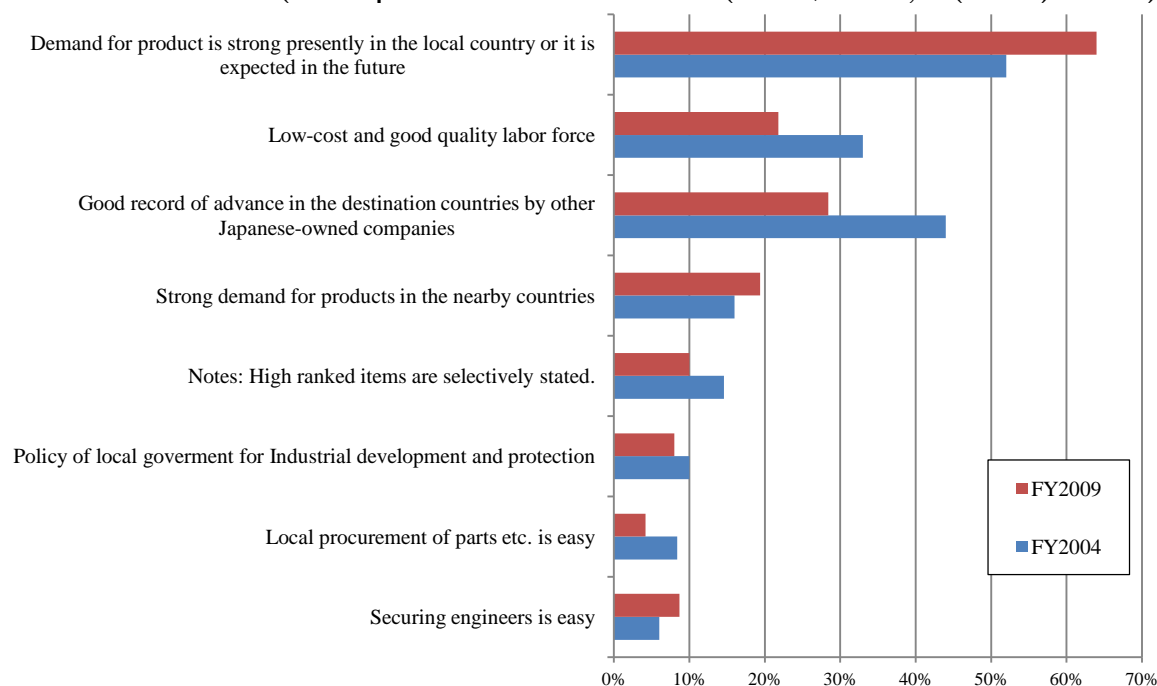


Notes: High ranked items are selectively stated.

Sources: “Survey on Overseas Business Activities” Ministry of Economy, Trade and Industry

○ Non-manufacturers

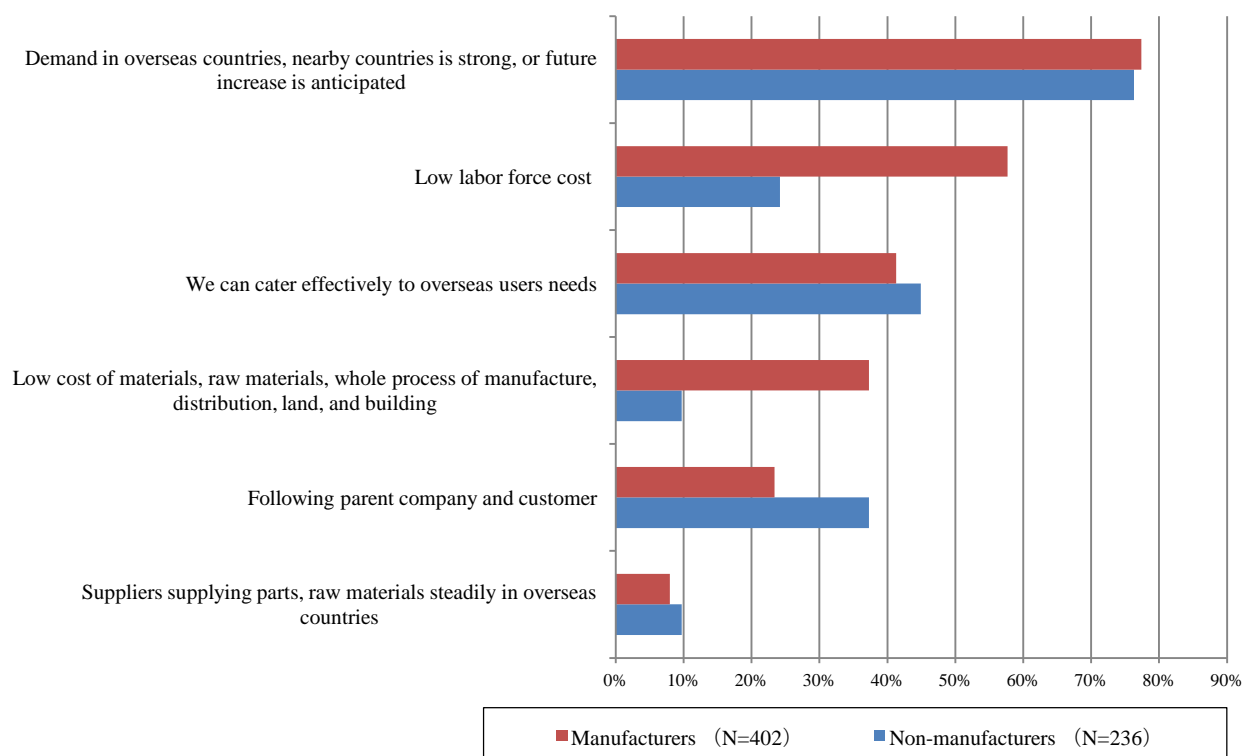
(Multiple answers allowed: N(2004)=261, N(2009)=289)



Notes: High ranked items are selectively stated.

Sources: "Survey on Overseas Business Activities" Ministry of Economy, Trade and Industry

Figure 3-2-1-2 Reason to advance overseas



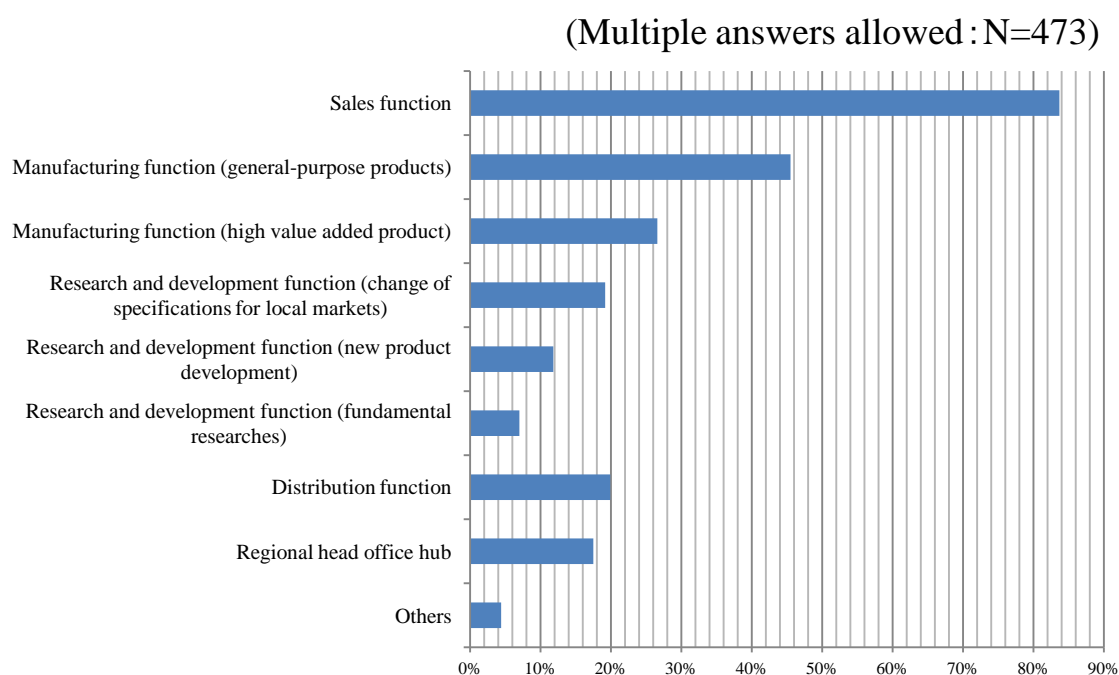
Notes: Multiple answers are allowed. Top six answers are shown.

Sources: "Questionnaire survey about corporate activity (2009)" Cabinet Office

(B) Functions, which will increase overseas business operation in the future

According to “JETRO overseas business development survey” (2010), when JETRO questioned what function they will expand in overseas business development to the companies that have intention of expanding their overseas business scale in the future, the highest-ranked answer (about 80%) was “Sales function”. As for the “Manufacturing function” general-purpose products account for 50%, high value added products account for about 30%. “Distribution function” is 20%. As for “the research and development function”, “Specifications change for local markets” is the highest ranked answer (about 20%) (Figure 3-2-1-3).

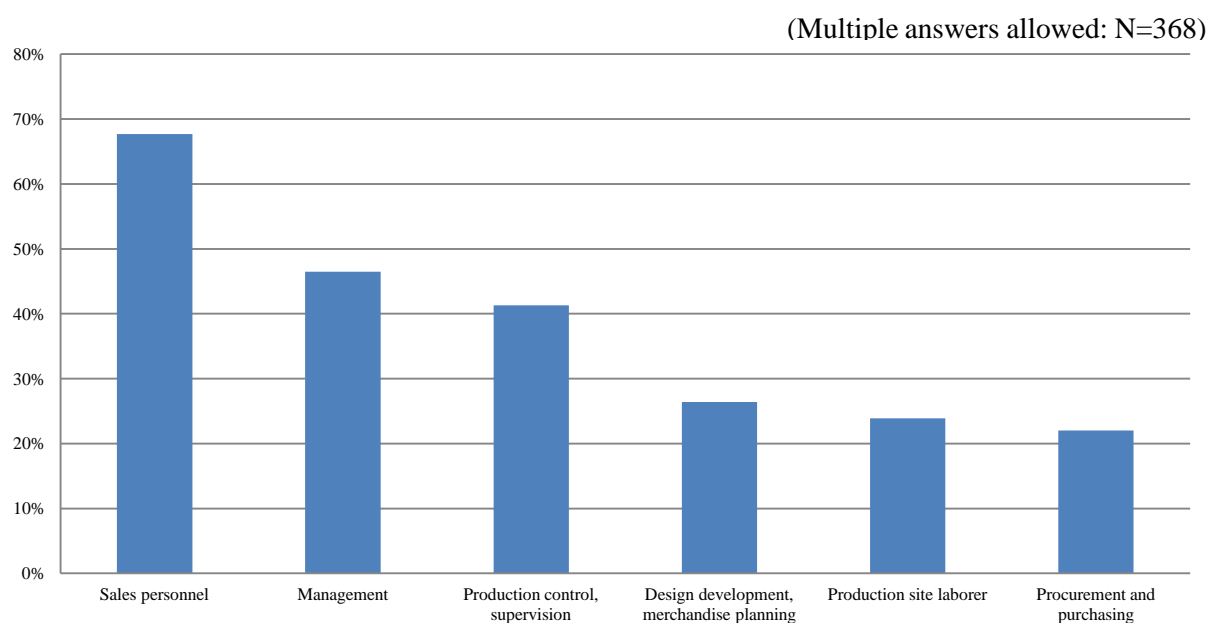
Figure 3-2-1-3 Functions that will increase in future overseas business development



Sources: “Survey of Overseas Business Activities” (2010) JETRO

In addition, according to the survey by the Japan Economic Foundation (2011), to a question about “Non-Japanese personnel required in overseas offices”, nearly 70% of companies listed the sales staff. This answer suggests that non-Japanese manpower is very important in strengthening sales function in the future. Also nearly 50% of companies mentioned the need for management staff (Figure 3-2-1-4).

Figure 3-2-1-4 Non-Japanese personnel required



Sources: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition"

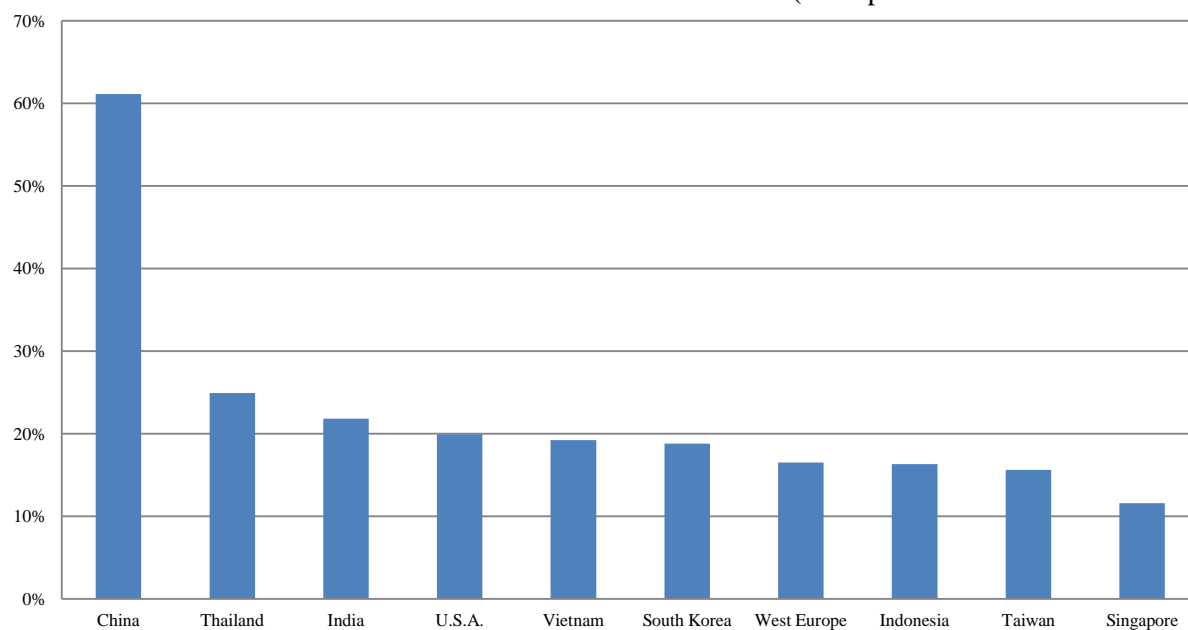
(C) Country/industry field in which sales functions will expand in the future

When examining the company's answers saying that they will expand sales functions in the future according to country/region, the ratio of expansion in emerging countries such as China, Thailand, India, and Vietnam is highest in that order (Figure 3-2-1-5), and as for the ratio by business category, all industries have a high ratio for expansion, but the electric machine industry is especially high (Figure 3-2-1-6).

Figure3-2-1-5 Countries/regions in which the sales function abroad will be enhanced in the future

○ Sales function

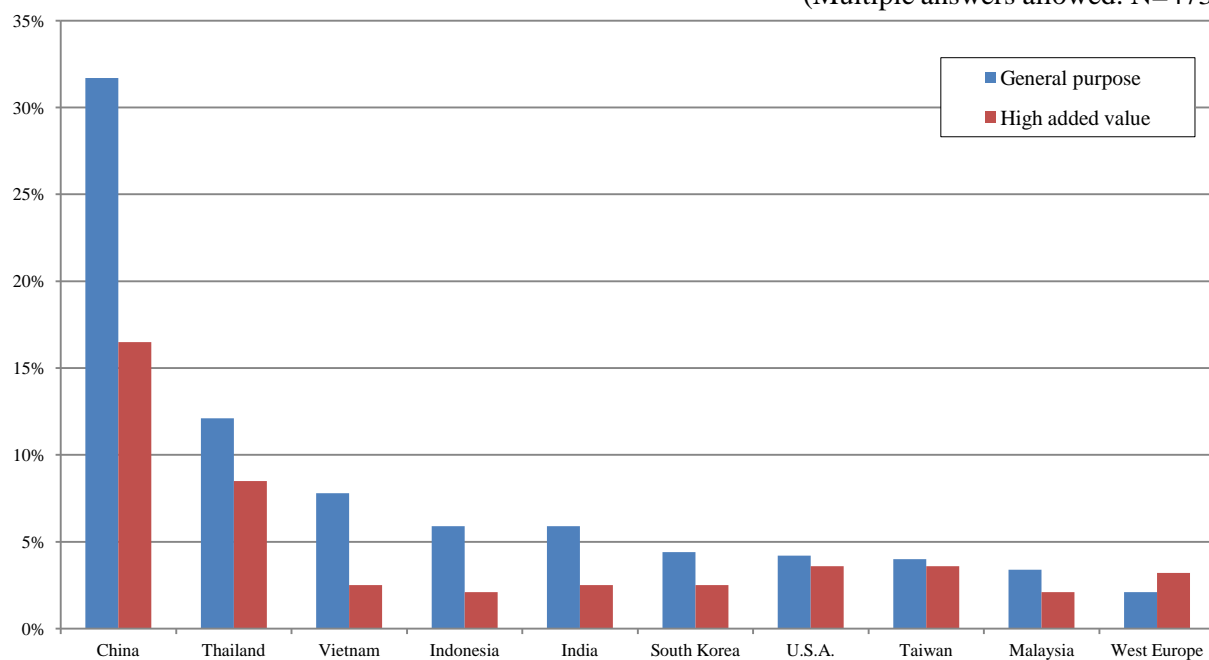
(Multiple answers allowed: N=473)



Sources: “Survey of Overseas Business Development” (2010) JETRO

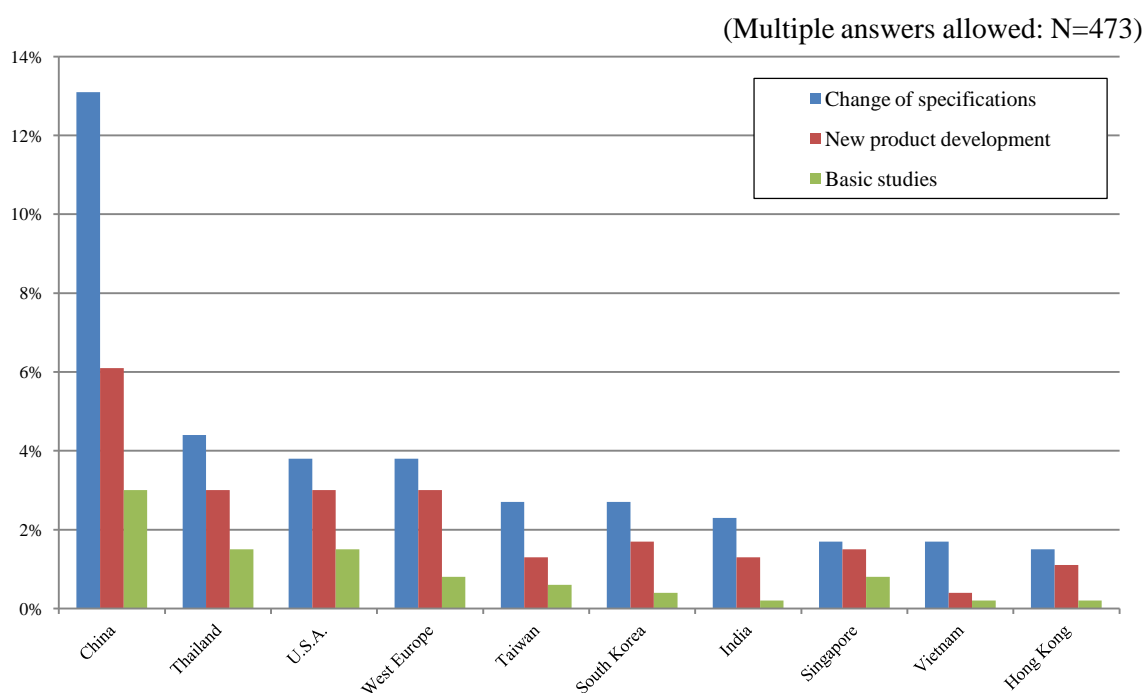
○ Manufacturing function

(Multiple answers allowed: N=473)



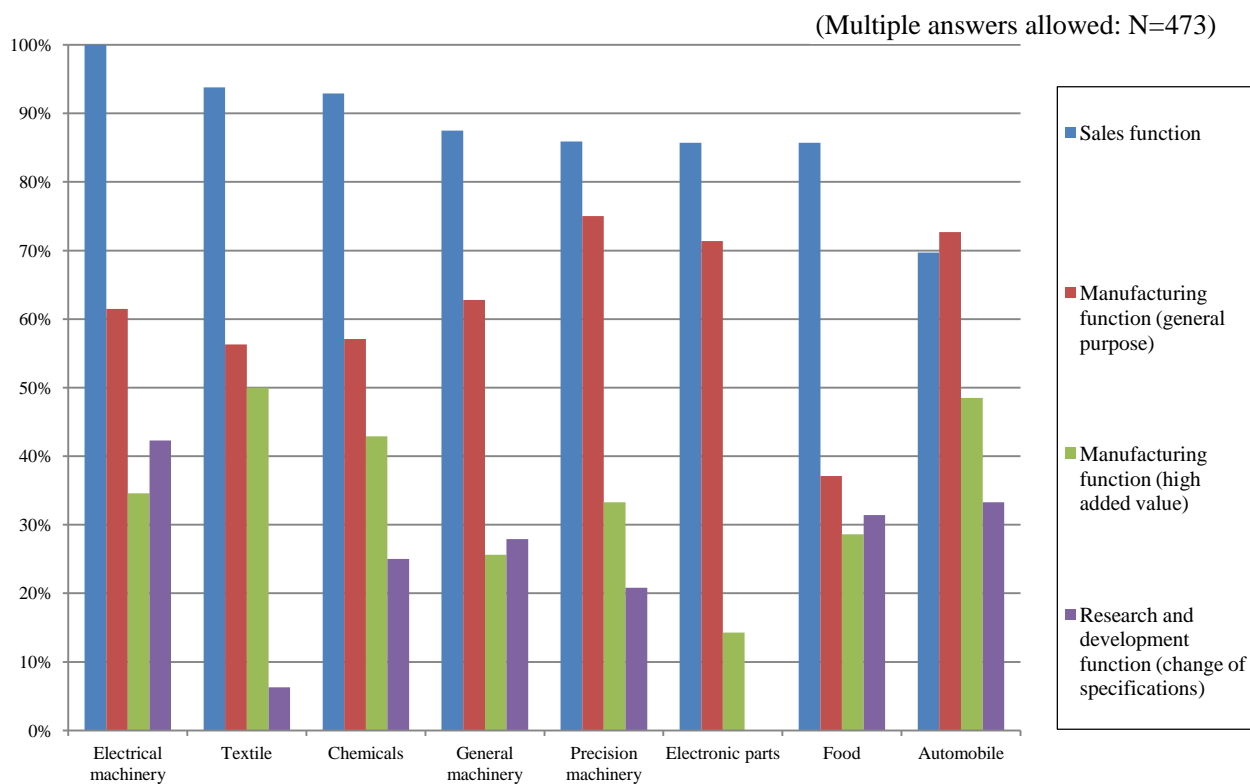
Sources: “Survey of Overseas Business Development” (2010) JETRO

○ Research and development



Sources: “Survey of Overseas Business Development” (2010) JETRO

Figure 3-2-1-6 Industries that have a high percentage of expanding various functions abroad in the future



Notes: There is no data in research and development function (change of specifications) of electronic parts, so there is no bar for that portion.

Sources: “Survey of Overseas Business Development” (2010) JETRO

Similarly, when examining manufacturing function according to country/region, China is the top in both general-purpose products and high value added products (Figure 3-2-1-5). By business category in the car and the chemistry industries, the ratio that not only the general-purpose products but also the high value added products are produced overseas is relatively high. In the electronic parts and the general machine industries, while the ratio of overseas production of general-purpose products is high, the ratio of high value added products is relatively low, and the trend that production sharing by product is largely conducted in domestic and overseas markets can be observed (Figure 3-2-1-6).

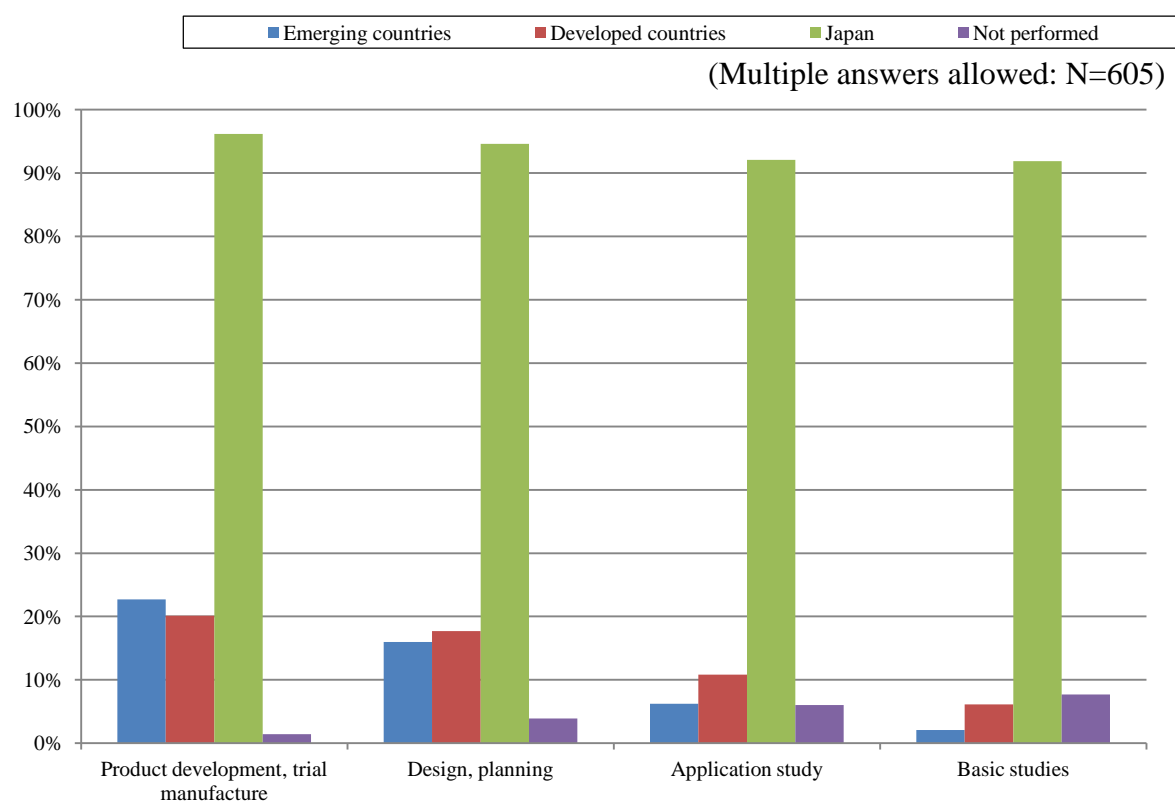
In addition, among “research and development about specifications change for local markets”, the ratio by country and region shows that China is particularly high, but the needs for Europe and the U.S.A. are located in the high rank category. So the trend is not necessarily special to emerging countries only (Figure 3-2-1-5).

By business category, the consumer goods industry including electric machines and the car and food industries ranked high (Figure 3-2-1-6).

(D) Regions and industries in which “development of products and trial manufacture function” will expand in the future

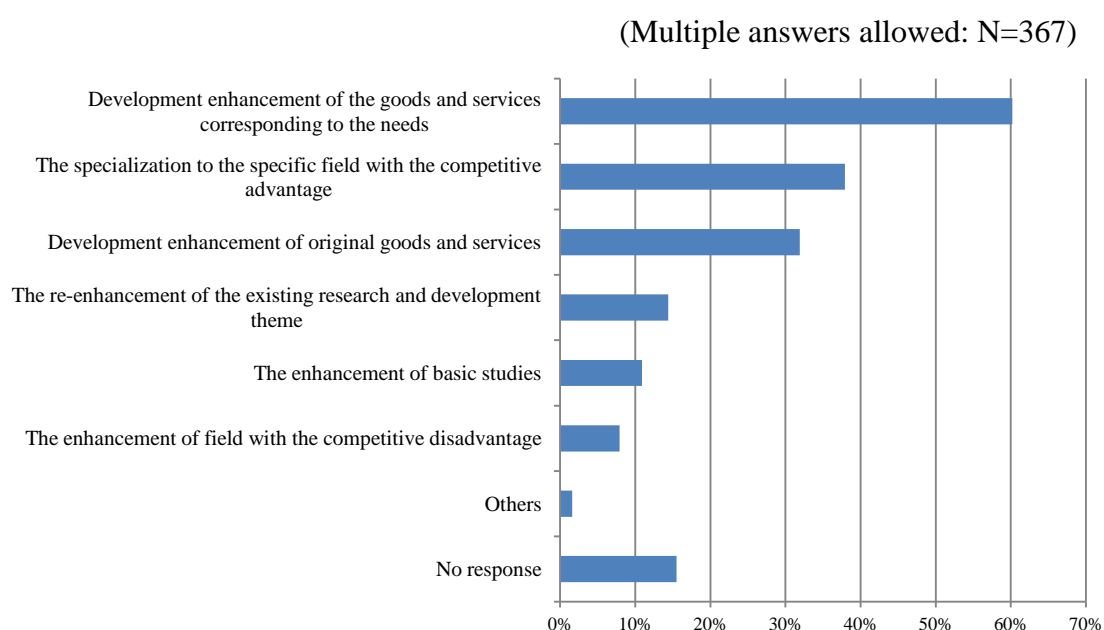
According to the “direct overseas investment related questionnaire” (2010) by the JBIC, as for the place of research and development operation, “product development/trial manufacture” is conducted more in emerging countries (23%) than in developed nations (20%) (Figure 3-2-1-7). And also, according to the Japan Economic Foundation survey (2011), for the research and development in overseas countries, approximately 60% of companies consider that “accelerated development of product and service to meet the needs is important”. This suggests the importance of product development and trial manufacture to meet the needs in emerging countries (Figure 3-2-1-8).

Figure 3-2-1-7 Places where research and development are performed



Sources: Compiled from “JBIC direct overseas investment questionnaire” (2010).

Figure 3-2-1-8 The directivity of the research and development in foreign countries



Sources: "Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment" The Japan Economic Foundation

(2) Characteristics of the direct investment of Japan abroad

Security investment accounts for approximately 50% of Japanese overseas investment, and direct

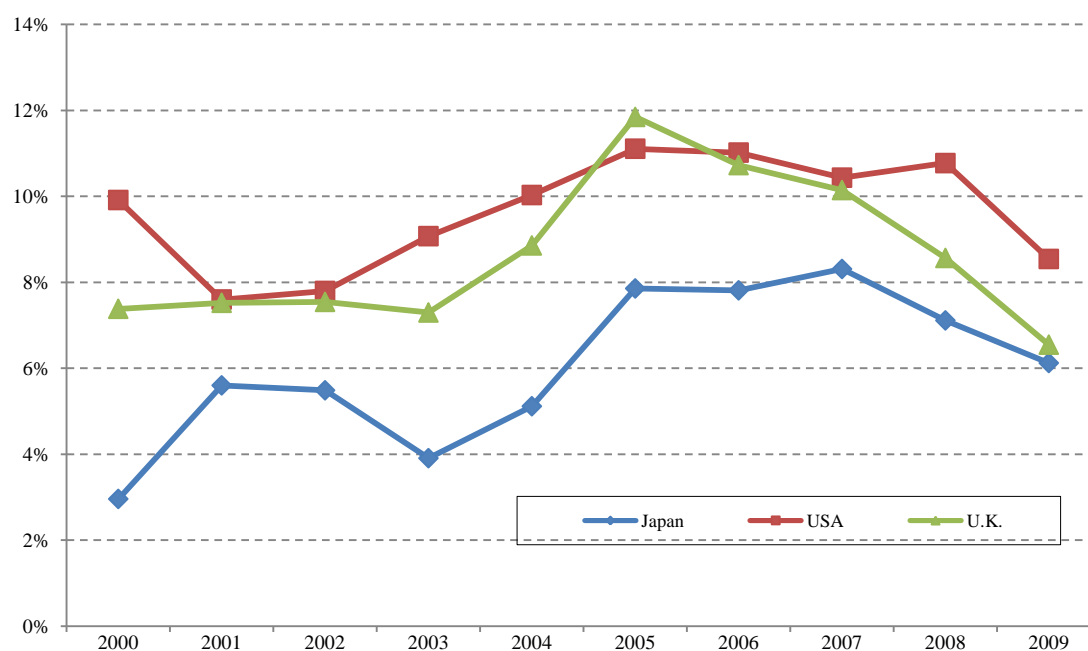
investment accounts only for over 10%. It can be said that Japanese foreign investment is too unbalanced in security investment in comparison with that of the U.S. In addition, the total direct Japanese investment is only approximately 10% that of the U.S and approximately 30% of the UK. Judging from the economic scale of Japan, it is too little (Table 3-2-1-9). In addition, the rate of return from direct investment of Japan tends to be at a lower level than that of the U.S. and the UK (Figure 3-2-1-10).

Table 3-2-1-9 Comparison of the percentage of Japanese direct investment balance in foreign assets balance with those of Europe and the U.S.

		Japan	USA	U.K.
Constituent ratio by type of foreign assets balance (2009)		\$60 trillion	\$14.1 trillion	\$18.4 trillion
Breakdown	Direct investment balance	12.3%	22.0%	11.9%
	Security investment balance	47.2%	32.6%	21.6%
	Other investment balance	22.3%	24.1%	40.7%
	Financial derivatives (balance)	0.8%	19.1%	25.4%
	Foreign currency reserves (balance)	17.4%	2.2%	0.5%

Source: Compiled from the data of BOP IMF

Figure 3-2-1-10 Comparison of the rate of return of the direct investment of Japan with those of Europe and the U.S.



Sources: "Compiled from the data of BOP IMF

(3) Increasing direct investment for emerging countries

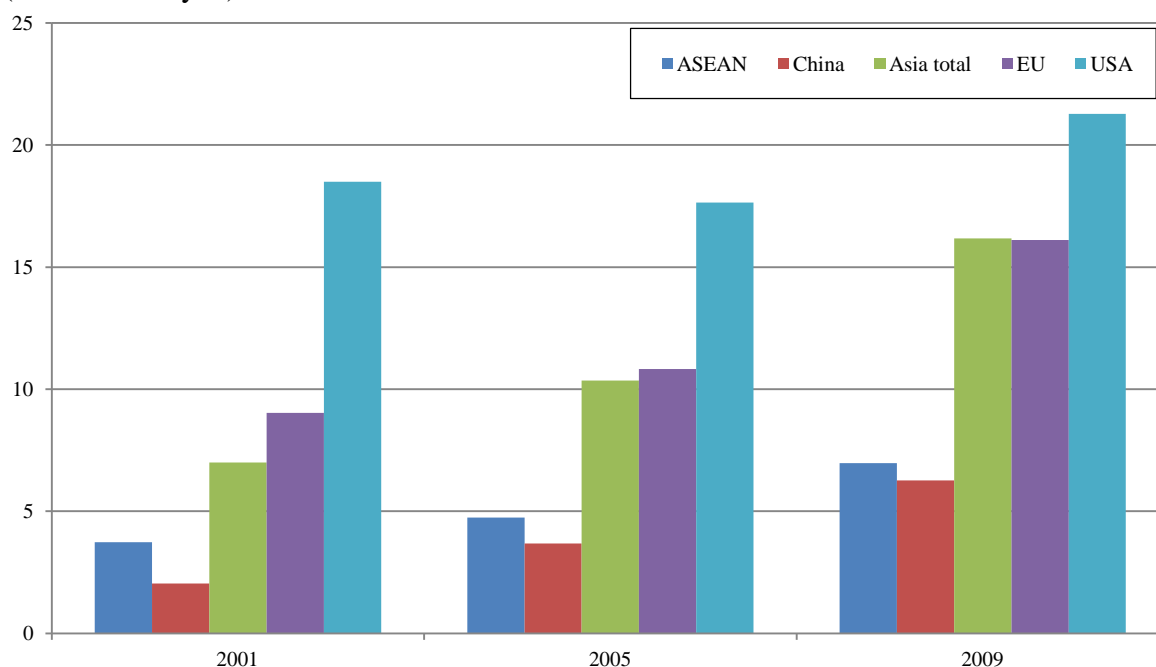
(A) Trend of the direct Japanese investment abroad for emerging countries

Based on the data of “International Trade Balance Statistics” (Kokusai Shushi Tokei” (2009), Europe and the United States held more than 50% of all the balance, but in recent years the balance in ASEAN and China has increased rapidly, and the total balance in Asia exceeded that of the EU for the first time

in 2009 (Figure 3-2-1-11). (From now on, “ASEAN” shown on the chart means “ASEAN10”, but “ASEAN4” is used, when due to the restriction on data, ASEAN4 must be used as a necessity).

Figure 3-2-1 -11 Change of Japan’s direct investment balance by country

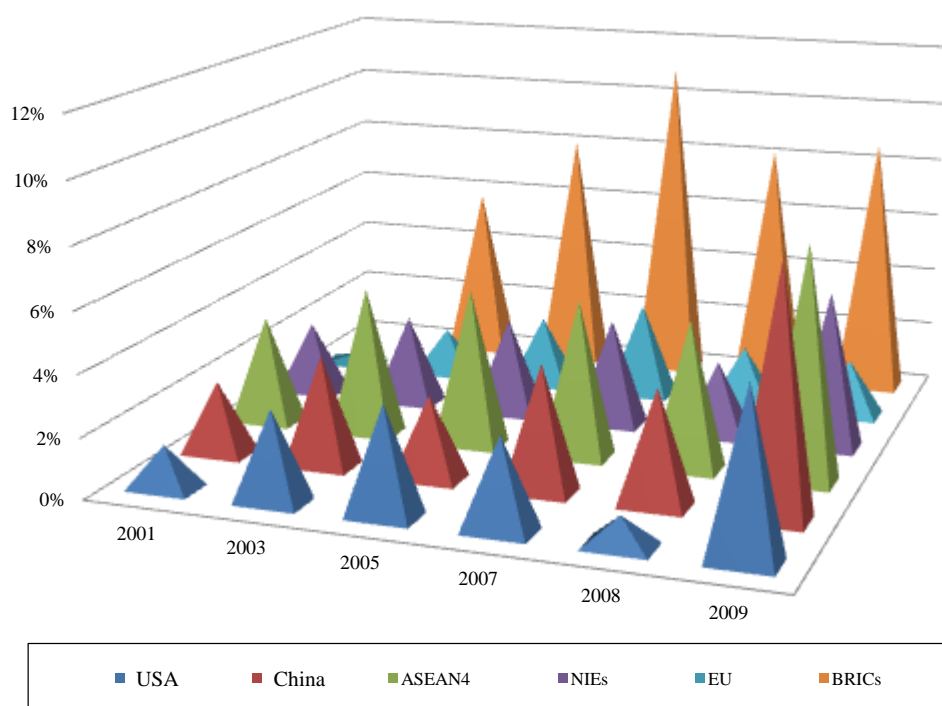
(Unit: trillion yen)



Sources: "International trade balance statistics" (Bank of Japan)

In addition, according to the “Survey on Overseas Business Activities” (2009), the operating profit on sales of Japanese overseas corporations (all industries) was higher in China and BRICs (except in 2009) than in the U.S and the EU, and especially in BRICs it has been constantly high at more than 8%. This data shows that profitability of the business in emerging countries around Asia has been generally better than in Europe and the U.S. (Figure 3-2-1-12).

Figure 3-2-1-12 Change of operating profits on sales of Japanese-owned overseas affiliated companies

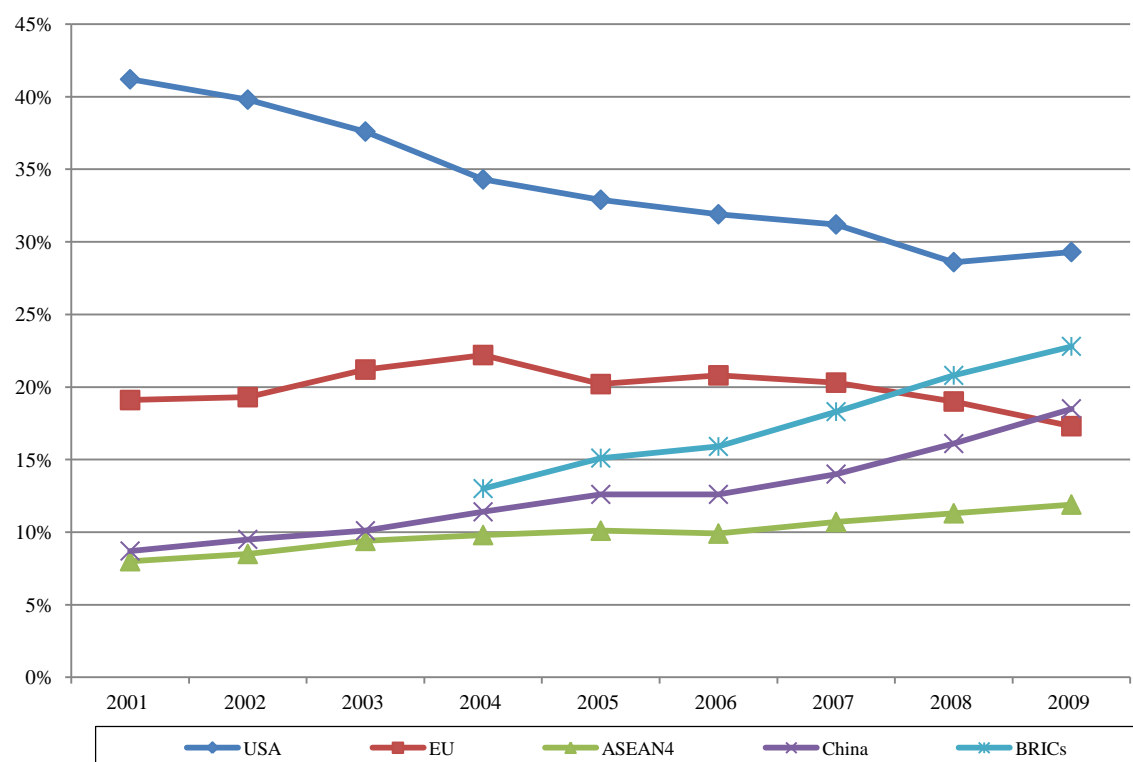


Sources: “Survey on Overseas Business Activities” (2009) (Ministry of Economy, Trade and Industry)

In addition, comparison of sales amounts and ordinary profits by region for overseas Japanese corporations (all industries) in the recent years shows that the proportion in the U.S has continuously decreased in both value, and the ratio of China and BRICs increased greatly. Also, as for the proportion of sales amounts, the U.S was still the top in 2009, and BRICs were catching up, but in terms of ordinary profit, emerging countries such as BRICs come to the top rank in proportion after 2008, and after the world financial crisis of 2008, we can see the situation that the source of profits earned by Japan-based companies largely shifted from developed nations to emerging countries (Figure 3-2-1-13).

Figure 3-2-1-13 Percentage of sales amounts and ordinary profits of the Japanese-owned overseas affiliated companies (total industry)

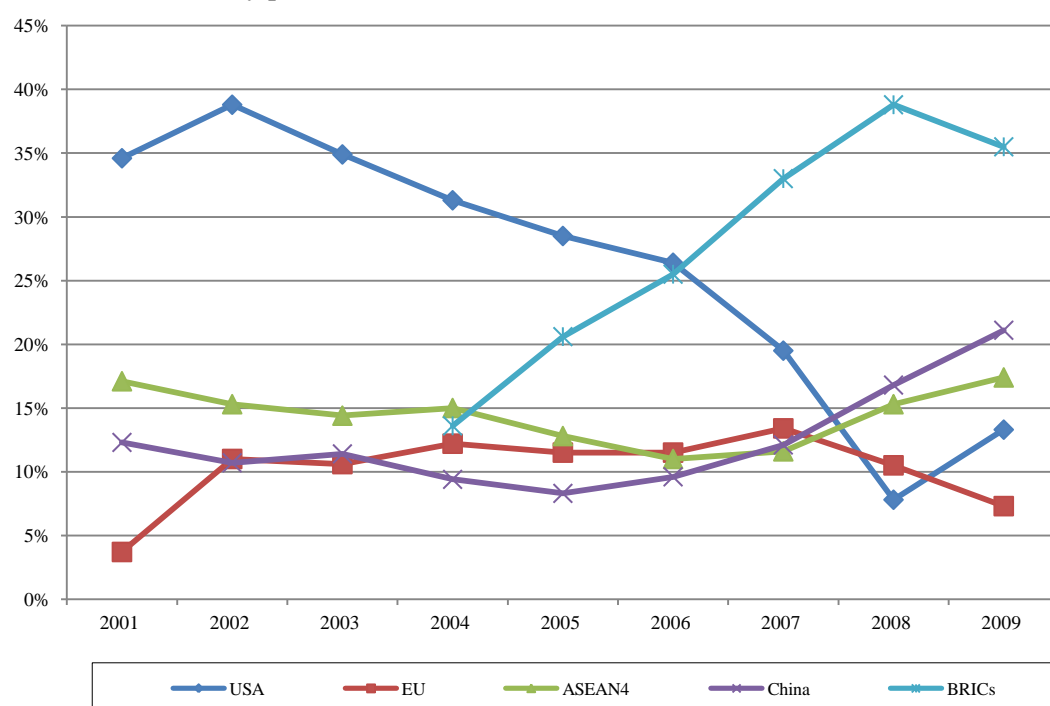
○ Percent of sales amount



Notes: BRICs surveys started from 2004; therefore the data for 2001-2003 are not available. Hong Kong is included in BRICs and China.

Sources: “Survey on Overseas Business Activities” (2009) (Ministry of Economy, Trade and Industry)

○ Percent of ordinary profit



Notes: BRICs surveys started from 2004; therefore the data for 2001-2003 are not available. Hong Kong is included in BRICs and China.

Sources: “Survey on Overseas Business Activities” (2009) (Ministry of Economy, Trade and Industry)

On the other hand, the percentage of Japanese direct investment in the major Asian countries is relatively high in Thailand or Indonesia, but in China and India, it is declining, suggesting that the presence of Japanese companies in the direct investment to Asia is not necessarily high (Table 3-2-1-14).

Table 3-2-1-14 Change of percentage of Japan in the inward direct investment of major Asian countries

	2001	2002	2003	2004	2005	2006	2007	2008	
China	9.3	7.9	9.4	9.0	9.0	6.6	4.3	3.4	Flow
India		6.7	5.7	3.7	3.1	3.9	3.5	1.5	Flow
Indonesia				-1.6	18.5	21.5	16.2	18.0	Flow
Malaysia	11.4	11.6	14.7	9.2	3.2	20.5	3.5	2.6	Flow
Thailand	38.7	55.5	44.5	55.5	45.0	24.6	30.7	33.5	Flow
Philippines	68.6	47.9	8.2	6.3	3.3	1.9	28.3	4.2	Flow
Vietnam	5.2	3.4	3.8	17.3	13.8	12.4	6.5	11.8	Flow
Singapore	13.8	14.4	13.8	13.5	13.8	12.1	10.2		Stock

Source: “Collection of direct investment statistics data of the world’s major countries” (2010) (Institute for International Trade and Investment)

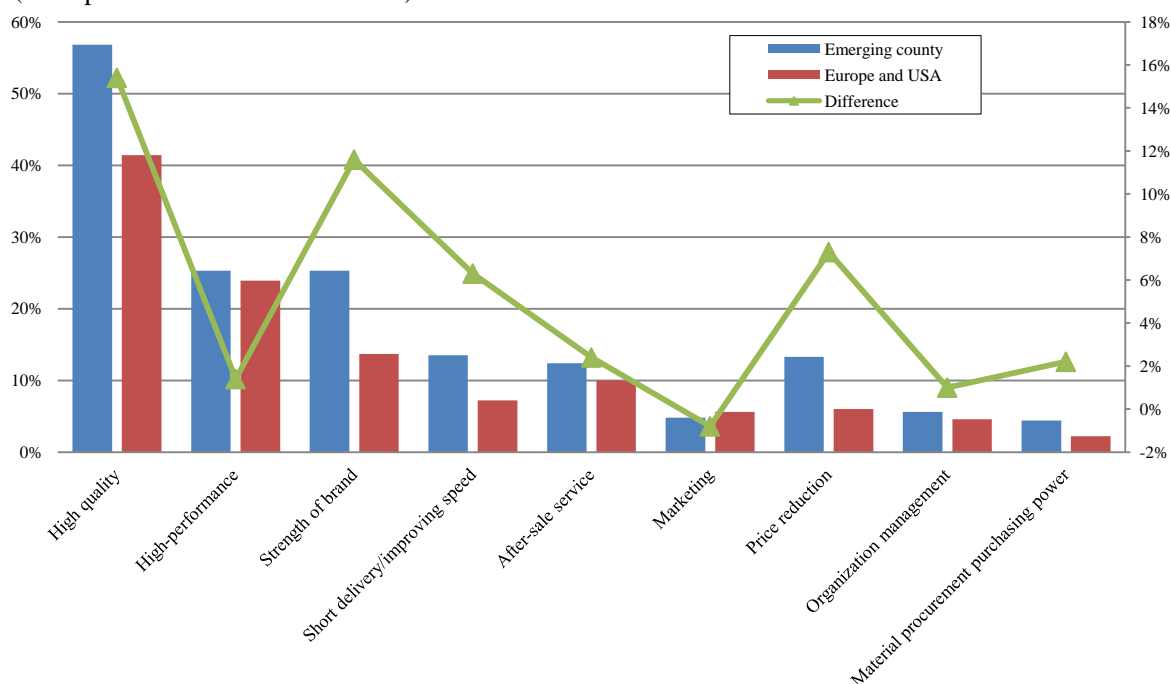
(B) Comparison of strengths and weaknesses of the Japanese companies in Europe and America with those in emerging countries

According to the survey of the Japan Economic Foundation, the advantages of Japanese companies in the emerging countries are ranked high for “high quality,” “high performance” and “quality brand products”. But for businesses in Europe and the U.S, it can be said that “high quality”, “strength of brand”, “short delivery/improving speed”, “after-sales service” are factors that determine the advantages similarly with those in emerging countries (Figure 3-2-1-15).

Figure 3-2-1-15 Comparison of advantages and weak points of Japanese companies in emerging countries and developed countries

◇ Advantage

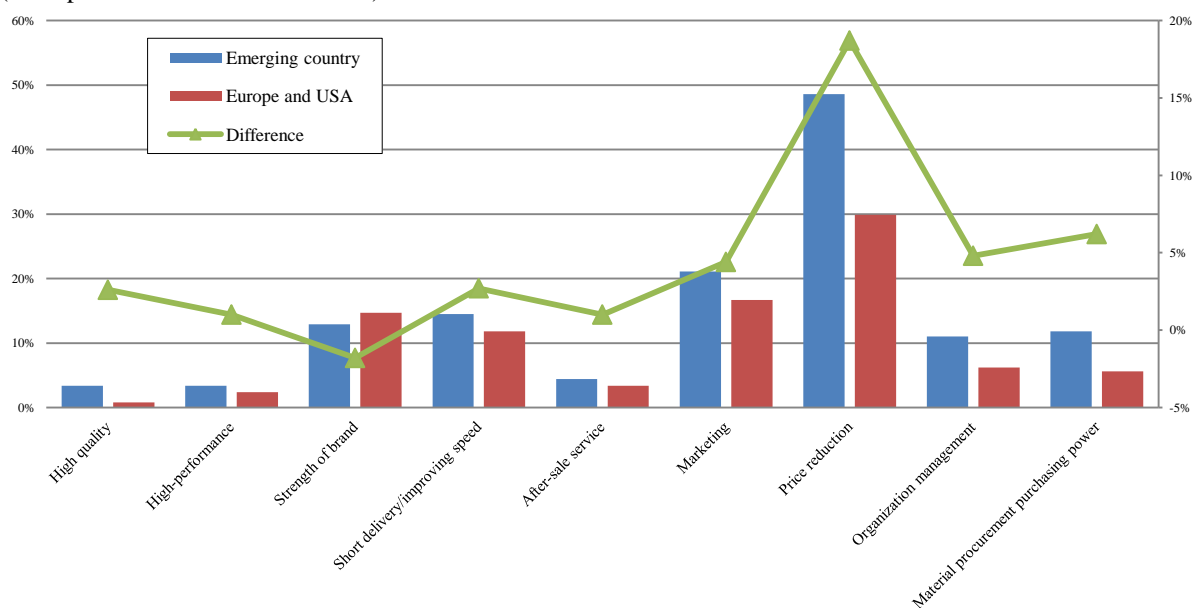
(Multiple answers allowed: N=498)



Sources: “Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment” The Japan Economic Foundation

◇ Weak points

(Multiple answers allowed: N=498)



Sources: “Research about Japanese industrial competitive power enhancement corresponding to the change of the competition environment” The Japan Economic Foundation

On the other hand, as for the weak points of the business in emerging countries, “Price reduction” and “Marketing” ranked high, but for the businesses in Europe and the U.S., it can be said that particular characteristic weaknesses are “Price reduction”, “Material procurement power”, “Organization management power”, and “Marketing power” (Figure 3-2-1-15).

In this way, as for business in emerging countries, it may be important to consider after-sales service and short delivery time/improving speed as the advantage, other than high quality, high-performance and strength of brand. Also, as for weak points, price reduction requirements and marketing difficulties are to be overcome by Japanese companies when entering into the market of the emerging countries in the future.

(C) Approaches and problems for market development in emerging countries

As already mentioned in the previous section, answering to a question in a survey by Japan Economic Foundation regarding the future direction of market development, nearly 30% of the Japanese manufacturers of goods and services in the market for emerging countries selected, “Maintaining function and quality plus price reduction”, and on the downward trend over 30% selected “High value-addition strategy through improvement of function, performance, and quality” while on the upward trend, “Maintaining quality and function plus short delivery time” was selected by over 10%, and again, with a downward trend, “Limiting function and quality plus price reduction” was selected by over 20%, and the same was with the upward trend. It is certain that price reduction is an important factor, but it is not only factor, and strategies aiming at enhancement of value-addition and the shortening of delivery times are also recognized to a certain degree (Figure 3-1-2-14).

In addition, based on the reply to the questionnaire from the companies, Japanese companies, when asked about their strategy in market development in emerging countries, listed their endeavors, for example, including factors like short time delivery measures, changing specifications for local markets, improvement of after-sales service, early model changes, timely promotion, and flexible responses to stores with increased power of negotiation. It is highlighted that measures to customize services are becoming more and more important for success. (Table 3-2-1-16, Figure 3-2-1-17).

Table 3-2-1-16 Specific example case of customizing measures

○ Measures for requirement of short time delivery
: Due to the intensifying competition in the market of LCD TVs, requirement for low prices and short delivery times is serious (electrical equipment manufacturer Company “A”).
○ Measures to change specifications suitable for local markets
: We established a research institute in an overseas country to meet a variety of market requirements (bad roads, high temperature and humidity, etc.) and customers’ requirements (external/internal packaging), and highly detailed responses are provided (auto maker Company “B”).
: The design of white goods is conducted in Thailand, Indonesia, and the Philippines. The objective is to develop the products corresponding to local needs, to reduce development costs, and to shorten the time for developing products (electrical equipment manufacturer Company “C”).
○ Timely implementation of promotion
: Policy to develop local stores in the district where the mainstream sales technique is to utilize shared territorial bonding and blood relatives (electrical equipment manufacturer Company “D”).
: The importance of promotion is rapidly increasing and we are running special promotions depending on product timing (electrical equipment manufacturer Company “E”).
○ Improvement of after-sales service
: On the occasion of selecting the store which deals with our products, we make it an essential requirement that the store can implement sales, after-sales service, and the supply of parts (car manufacturer Company “F”).
: After-sales service is extremely important to increase sales share, and because there are many islands in Indonesia, we have established service stations for quick repairs, and also we have established call centers for the implementation of detailed service. We are preparing a similar system in India (electrical equipment manufacturer Company “G”).
○ Measures against frequent model changes
: Model changes and the change in generations of PCs are very frequent, and manufacturers are required to respond quickly (electrical equipment manufacturer Company “H”).
○ Measures against the increasing negotiation power of distributors
: In India, the oligopoly in the distribution is not so advanced compared with those in developed countries, but some nationwide mass sales stores are expanding their market. The negotiation power of the distributors is increasing, and flexible responses are required (electrical equipment manufacturer Company “I”).

Figure 3-2-1-17 Survey of the current living conditions of the middle-income group in emerging countries

Enhancement of strength of the product: Survey of the current living conditions of the middle-income group



- * Family of four (husband and wife, two children)
- * One door refrigerator of 160L
- * Many fruits on a tray
- * Tap water is boiled for drinking

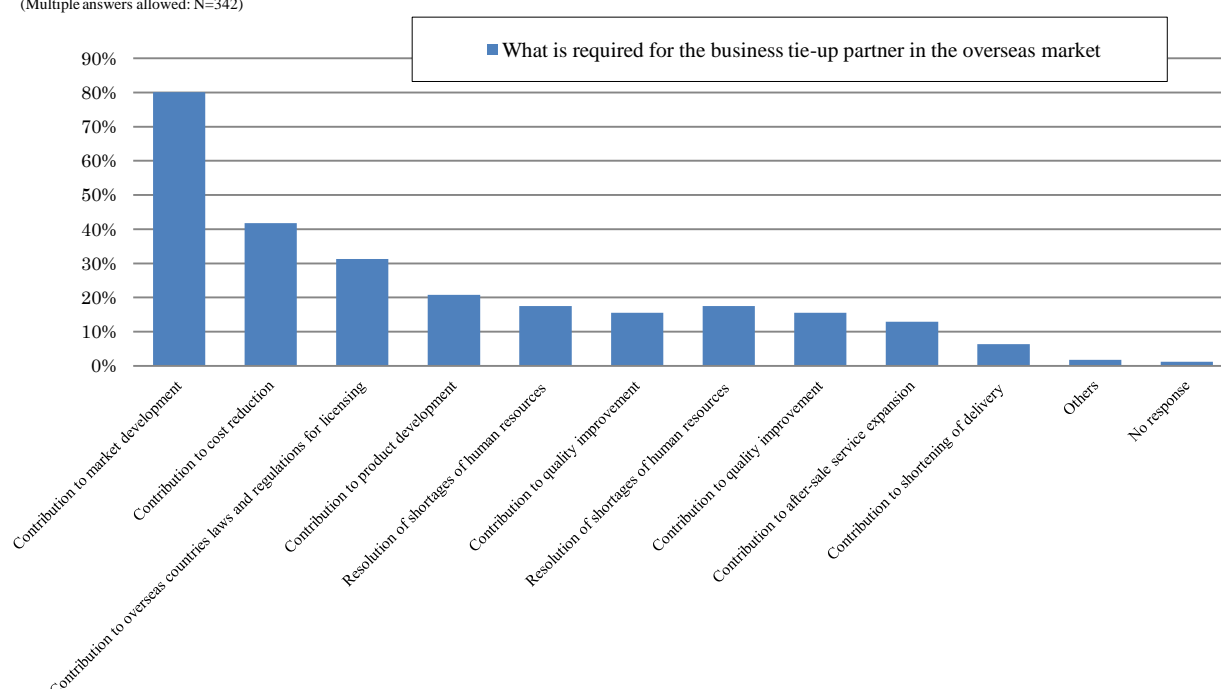


Source: Panasonic Corporation

And also, as we already mentioned in the foregoing paragraph that as the problems faced by Japanese manufacturing industries in market development in emerging countries, “Insufficiency of overseas manpower” and “Decline of profit by intensifying competition in price and cost” are the most frequent reported responses (Figure 3-1-2-10). Some companies intend to solve these issues in sales and costs through cooperation with business tie-up partners in overseas countries (Figure 3-2-1-18).

Figure 3-2-1-18 What is required for business tie-up partners in the overseas market

(Multiple answers allowed: N=342)



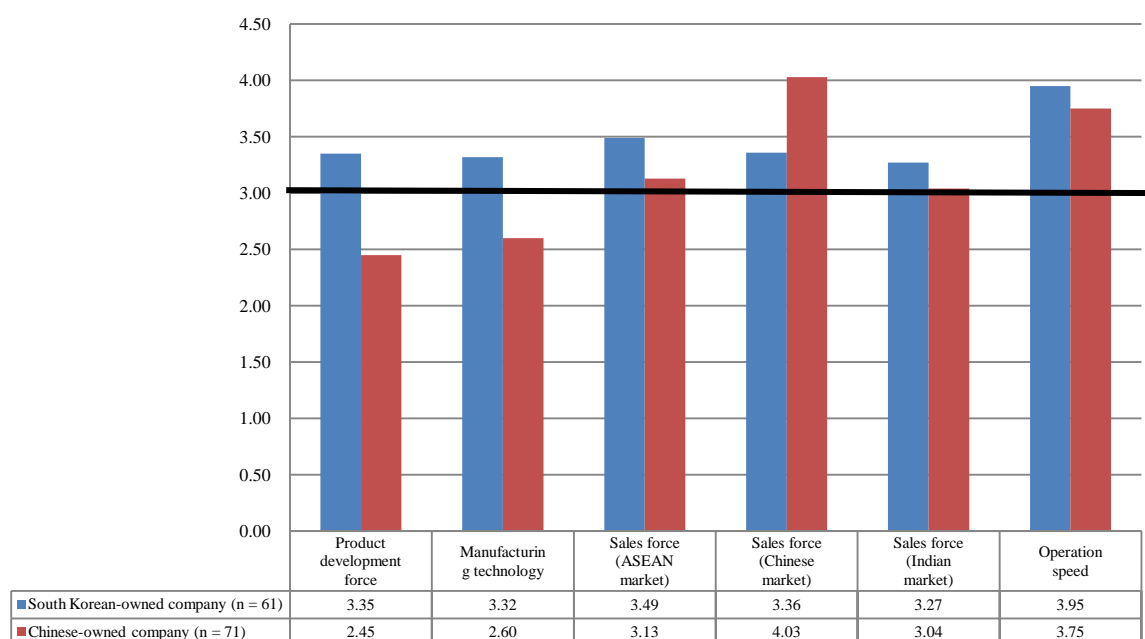
Sources: “Research on Japanese industrial competitive power enhancement corresponding to the change of the competition environment” The Japan Economic Foundation

(D) Competition in the markets of emerging economies

In the business fields of electric equipment and electronics, Korean owned companies have higher assessment standards than Japanese companies, indicating that they have an advantage particularly in “Operation speed” and “Sales power” (ASEAN market) compared with Japanese companies. And also, Chinese owned companies are not as good as the Japanese companies in product development power and production technology (less than 3), but, in other fields they have advantage (more than 3) over Japan, particularly in sales power (in the China market). As for the car industry, a similar trend is observed, but they are not so remarkable in the electrical and electronics goods fields (Figure 3-2-1-19).

Figure 3-2-1-19 Evaluation of Japanese companies compared to South Korean-owned and Chinese-owned companies

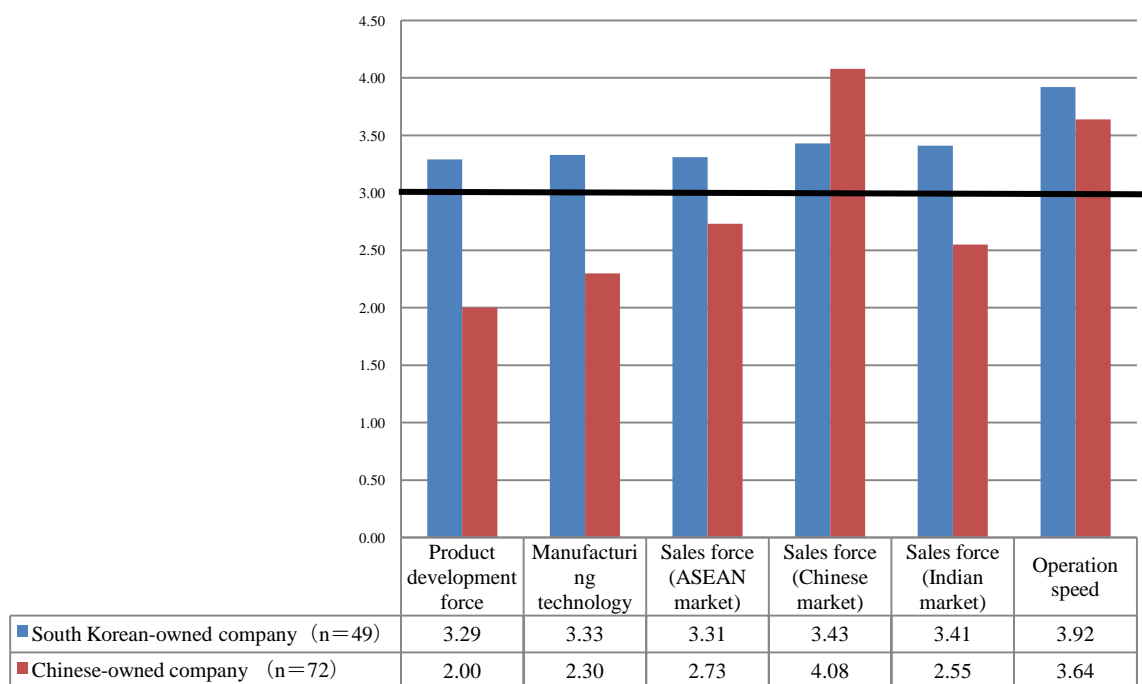
(1) Electric and electronics equipment (2010)



Notes: An evaluation point more than 3 refers to the evaluation equivalent to or more than that Japanese company.

Sources: Compiled from the data of “2010 direct overseas investing questionnaire” (JBIC)

(2) Automobiles (2010)



Notes: An Evaluation point more than 3 refers to the evaluation equivalent to or more than that Japanese company.

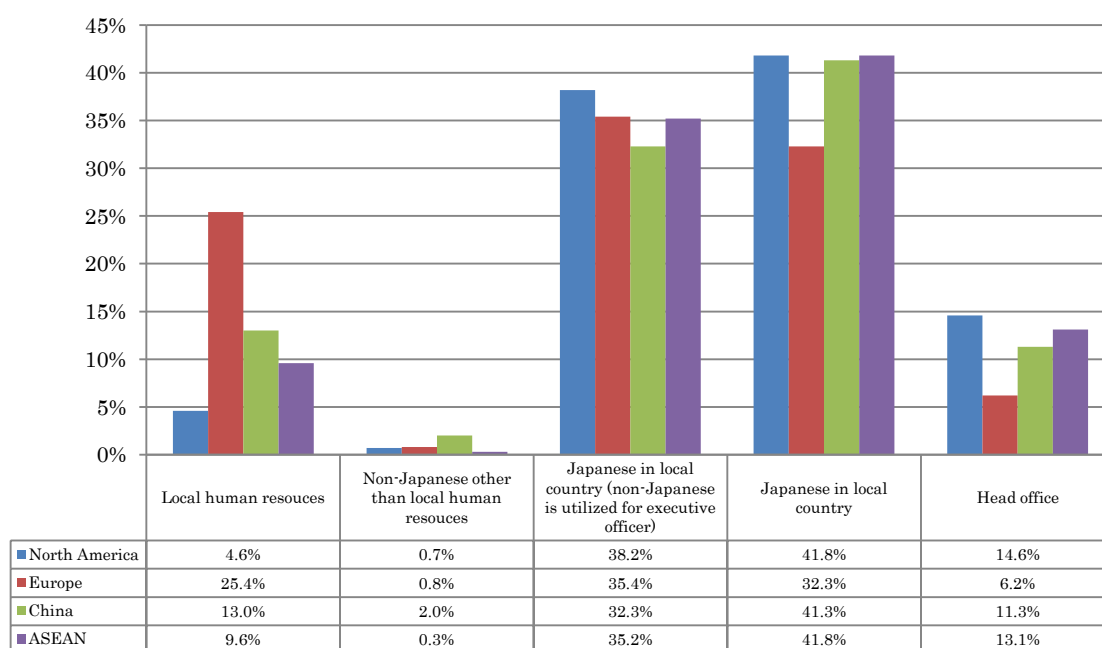
Sources: Compiled from the data of “2010 direct overseas investing questionnaire”(JBIC)

Although the opinion below is based on subjective views from Japanese companies, Japan might have fallen behind Korean owned and Chinese owned companies in competition superiority commonly in the electric equipment and car sectors, especially in “sales power” and “operation speed” in the Asian market. This suggests that the above is the most important problem facing Japan in any future competition.

(4) Conceding the power of authority to local personnel for managerial decisions in the emerging countries

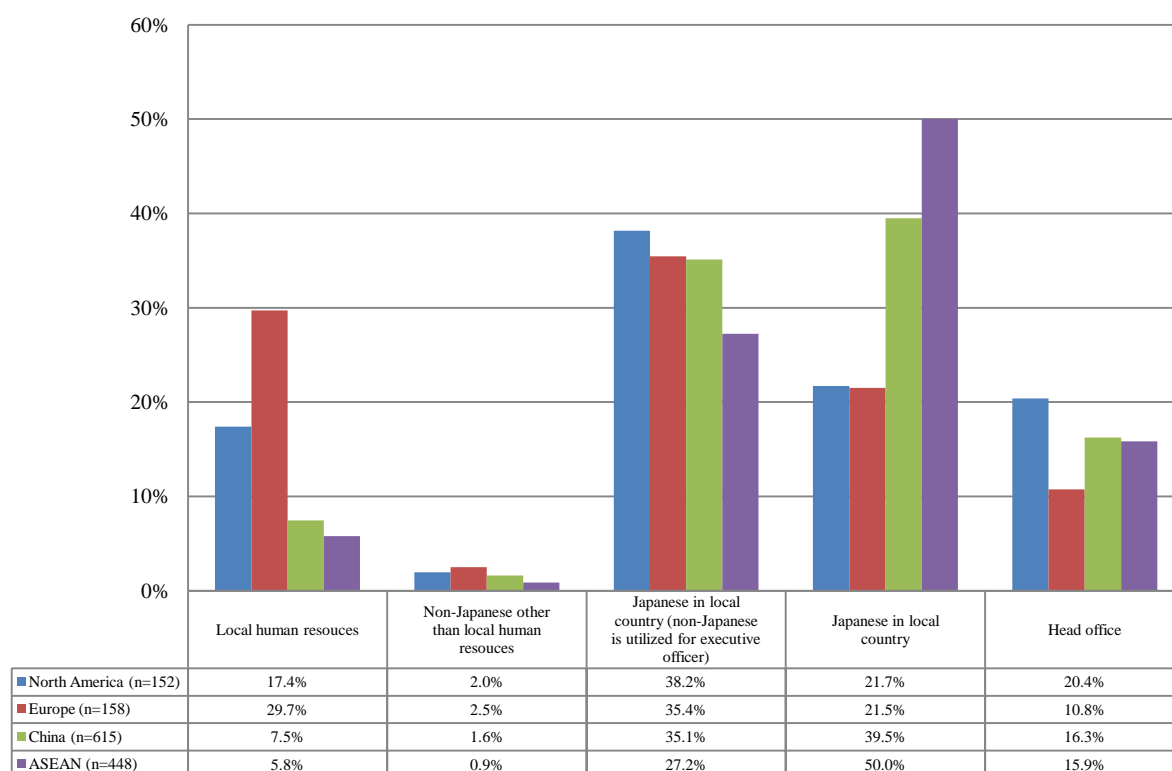
According to the “Survey on Overseas Business Activities” (2007), the data on affiliated Japanese overseas companies in the electric machine and car industries reveals the fact that, in comparison with Europe and the U.S., the ratio of entrusting managerial decisions to top local personnel or utilizing non-Japanese staff in management is generally lower in China and ASEAN countries. In most cases, the Japanese staffs in overseas countries perform all the managerial decisions. In addition, in China and ASEAN, compared with the electric equipment and machine industries, the power of authority is frequently given to local personnel mainly in the car industry. As a result, a lower percentage of managerial decisions are made in the head office in Japan (Figures 3-2-1-20, and 3-2-1-21).

Figure 3-2-1-20 Managerial decision authorization in overseas affiliated companies in the automobile industry



Sources: “Survey on Overseas Business Activities” (2007) (Ministry of Economy, Trade and Industry)

Figure 3-2-1-21 Managerial decisions authorization in overseas affiliated companies in the electrical machinery industry



Notes: The above shows the result of calculations from the total sum of information and communication machinery and electrical machinery in this survey.

Sources: “Survey on Overseas Business Activities” (2007) (Ministry of Economy, Trade and Industry)

Based on the result of the questionnaire to Japanese companies, it was stated that even in the same type of industrial field, some companies conceded the right of making managerial decisions to local staff. It was done judging from a process of running the company on a joint management basis in the beginning or it was done judging from their experience in the local region, though other companies considered that in the present situation, it would be best to transfer authority to Japanese staff in overseas locations. It is not surprising that the measures vary depending on the company (Table 3-2-1-22). Accordingly, it may not be necessarily the best policy to transfer the authority to local staff or hire many local persons as managing staff. Each company is trying to seek the best possible way to maximize profits. This is done on the basis of past experiences in overseas business operations. The consideration is also given to such factors as the process, experience, increasing the local sales ratio in the overall total sales amount, and the necessity of securing/fostering manpower in overseas countries.

Table 3-2-1-22 Detailed examples of concession of authority

(The case in which managerial decisions are transferred to local country staff)

- In India, Indian staffs take posts of not only the manager but also chairperson and president, and the needs, viewpoints, and ideas of the overseas country are incorporated in the operation. (Car manufacturer Company “A”).

(The case in which a Japanese member in an overseas country makes managerial decisions)

- The Japanese staff resides both in China and India and acts as a general manager who has the right to make decisions. Importance is placed on the speed of managerial decisions. (Car manufacturer Company “B”).

(The case in which a part of the operation is transferred to overseas staff, and the important matters are decided finally in Japan)

- In India, an Indian member of staff is appointed as the person in charge of the region concerned, and the operation of the local office is transferred to him. However, as for the outline of income and expenditure of the operation, settlement of accounts, investments, large amount of advertising, the personnel numbers for employment, Japanese management holds the final decision-making authority (electrical equipment manufacturer Company C).

(The case in which local personnel are appointed as the executive officers and operational decisions are transferred, and the Japanese leader makes managerial decisions in the head office of the group company)

- In China, a local person is appointed as the top of some group businesses and operational decisions are transferred to that person. A local person is appointed as the director in a major company. Decision rights are transferred to the Japanese leader in the head office of the group company, and the director of the head office resides there as a region representative and has the final authority for the total strategy of the companies in the region (electrical equipment manufacturer Company “D”).

2. Impact on the Japanese economy of localization in emerging countries

Localization in emerging countries tends to contribute positively to the Japanese economy, by bringing in the necessity for increased research and development activities and opportunities for capital investments in Japan, through the repatriation of profit to the home country, along with an increase of intermediate commodity exports from Japan to overseas countries and an increase in income in the form of direct investment of profits earned abroad or income from patent rights, etc. But, the increase of intermediate commodity exports and repatriation of direct investment profit to Japan will vary depending on changes of the competition environment, and therefore cannot be always sustainable. Thus, to achieve more effect, it is necessary to improve the competitiveness of the intermediate commodity exports and develop a better environment for the domestic repatriation of funds. And also, localization to emerging countries, from a macro-economic standpoint, does not always have a positive effect on domestic employment. Accordingly, due attention should be paid on the impact that localization can make on domestic employment, while the efforts for market procurement by Japanese companies in the emerging countries will progress more in the future. It is important to consider what kind of influence this action will have on the domestic employment situation, and what kind of function should be integrally expanded in the domestic business simultaneously.

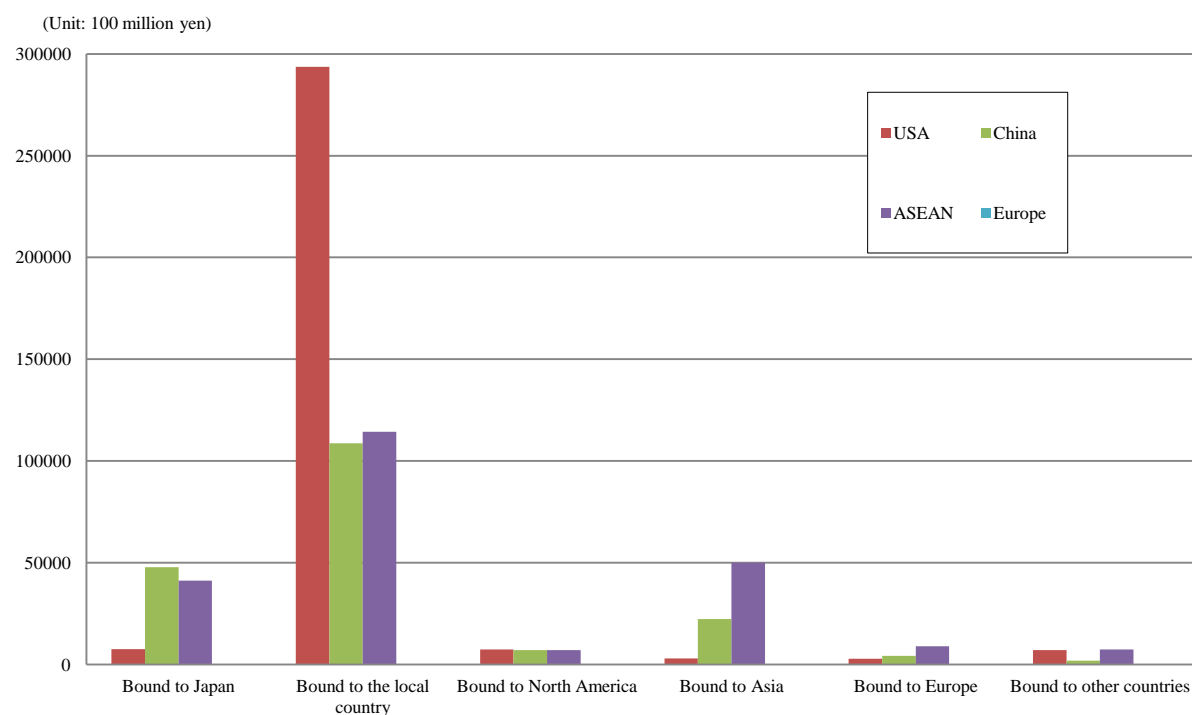
(1) Status of sales to local customers by affiliated Japanese-overseas companies

According to the “Survey on Overseas Business Activities” (2007, 2009), as for the destinations of sales of the entire manufacturing industry, in 2007, in the U.S., products for the domestic market amounted to approximately 29 trillion yen. In China and ASEAN, the amount of sales for the domestic market was approximately 11 trillion yen for both of these countries, which is only one-third of that of the U.S.

In 2009, after the world financial crisis, the amount of domestic market sales in the U.S. decreased to approximately by 14 trillion yen, while that of China and ASEAN reached the level of approximately 90% and 60% of the U.S., respectively. In terms of the sales amount to local customers of the Japanese manufacturers, the U.S. accounted for the largest proportion, while standard level of consumption in emerging countries will increase remarkably in the future, and it is expected to increase the sales to local customers further in emerging countries such as China or ASEAN (Figure 3-2-2-1).

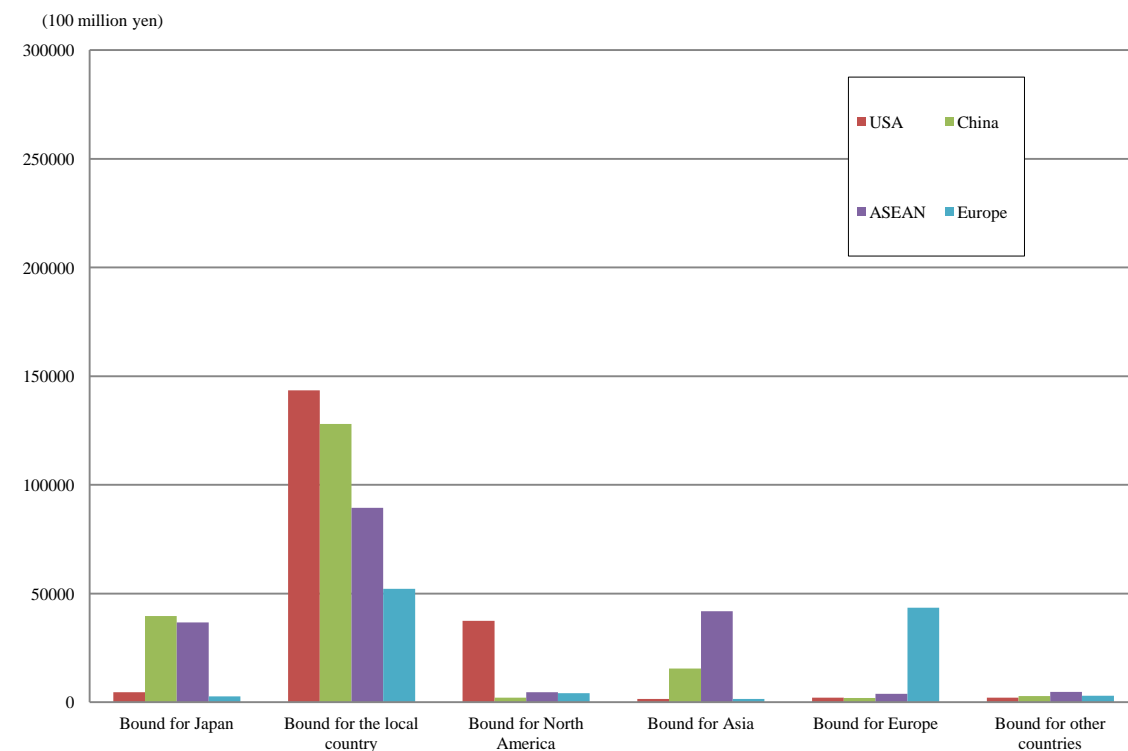
Figure 3-2-2-1 Comparison of sales by destination in Japanese-owned overseas affiliated companies (manufacturers)

○ 2007



Sources: “Survey on Overseas Business Activities” (2007) (Ministry of Economy, Trade and Industry)

○ 2009

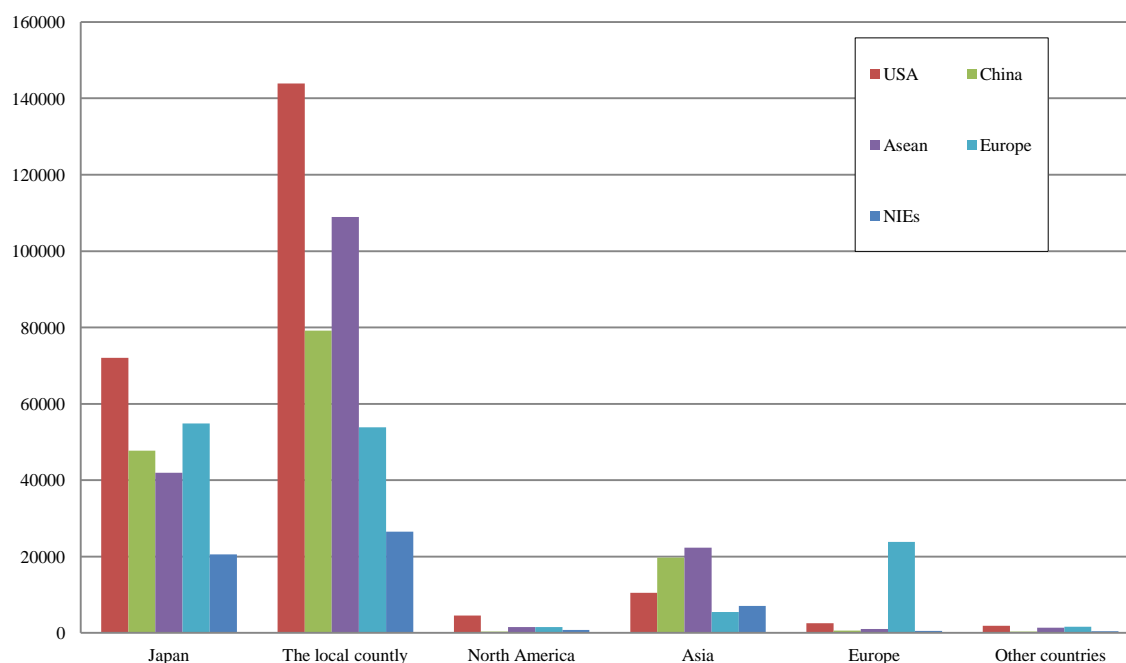


Sources: “Survey on Overseas Business Activities” (2009) (Ministry of Economy, Trade and Industry)

Figure 3-2-2-2 Comparison of procurement source of Japanese-owned overseas affiliated companies (manufacturers)

○ 2007

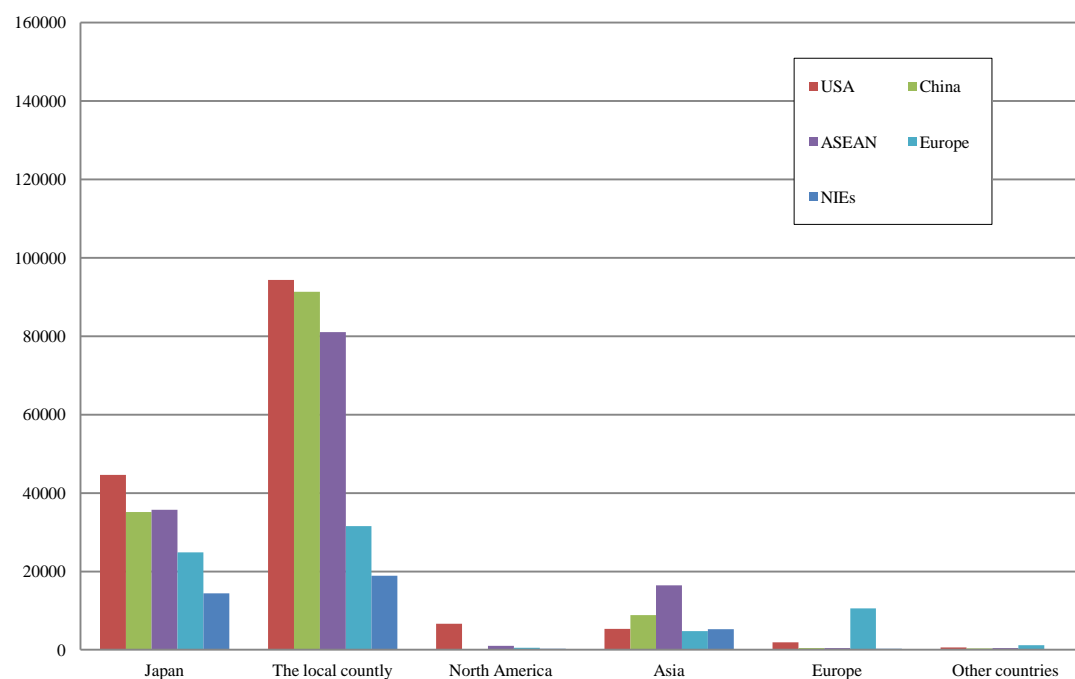
(Unit: 100 million yen)



Sources: “Survey on Overseas Business Activities” (2007) (Ministry of Economy, Trade and Industry)

○ 2009

(100 million yen)

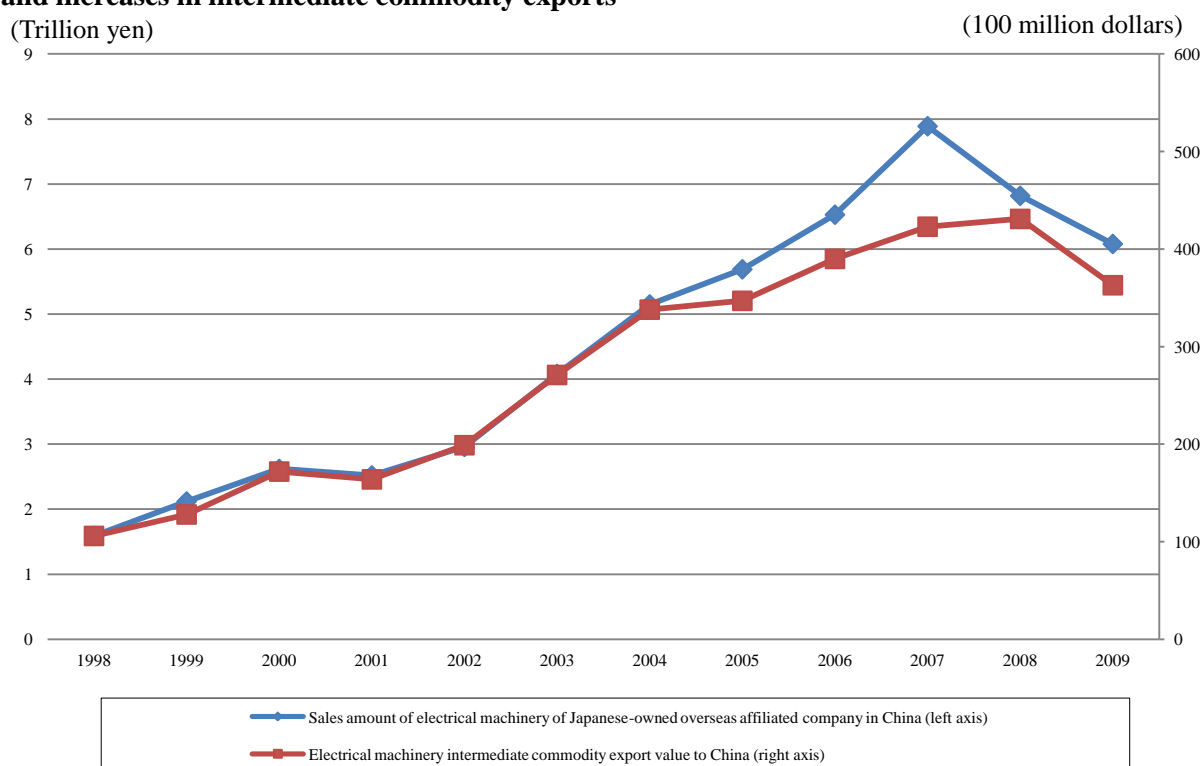


Sources: “Survey on Overseas Business Activities” (2009) (Ministry of Economy, Trade and Industry)

(2) Impact on intermediate commodity exports by increases in overseas countries' sales

While affiliated Japanese-overseas companies increase local procurement together with overseas operation, they tend to make procurements from Japan simultaneously to a certain degree. The affiliated Japanese overseas companies in the U.S. procured approximately 4 trillion yen from Japan in 2009, and companies in China and ASEAN procured approximately 3 trillion yen from Japan (Figure 3-2-2-2). Especially in China, in line with the increase of Japanese-owned overseas companies' sales (note: this is including exports from overseas countries in addition to sales to local customers), the export of intermediate commodities from Japan tended to increase (Figure 3-2-2-3). In this situation in which the proportion of the local market is increasing, it can be said that not only the amount of local procurement but also the amount of procurement from Japan increased in 2008 and 2009, it decreased due to the impact of the world financial crisis).

Figure 3-2-2-3 Relationship of increase of Japanese-owned overseas affiliated companies' sales and increases in intermediate commodity exports

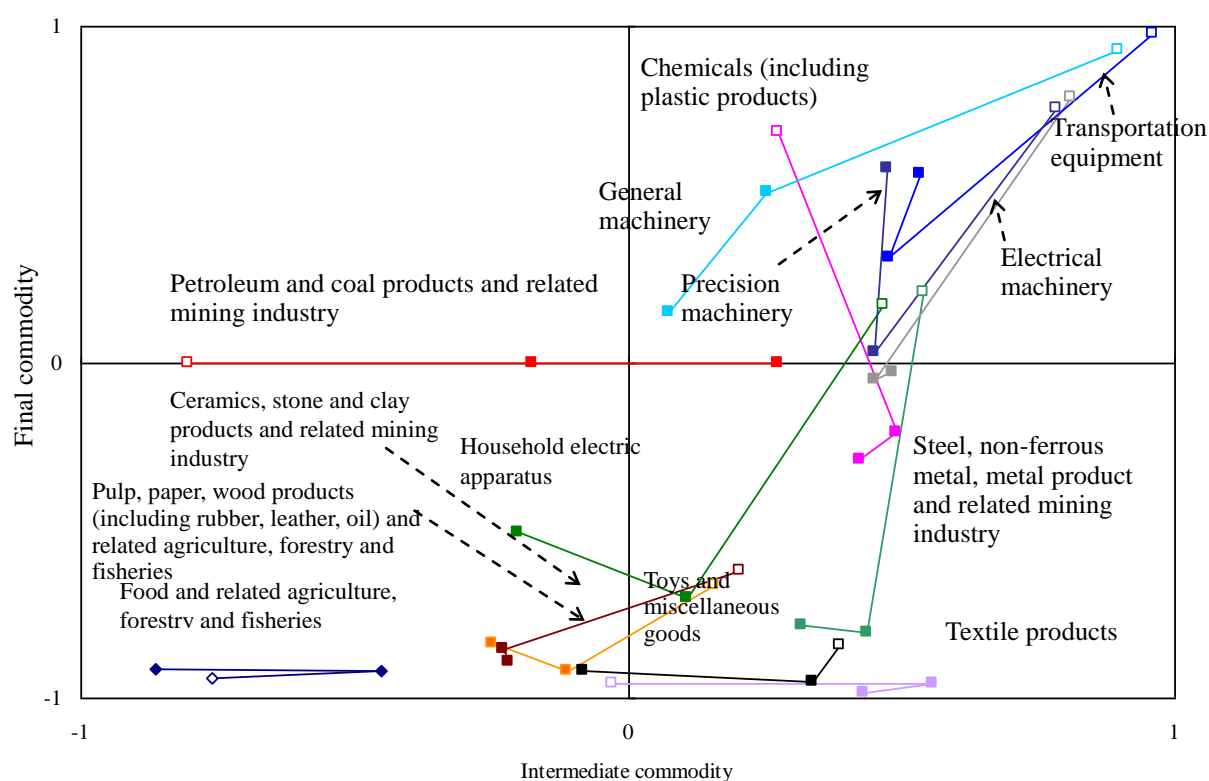


Sources: "Survey on Overseas Business Activities" (2009) (Ministry of Economy, Trade and Industry) and RIETI-TID2009

However, on the other hand, as for the trade specialization coefficient with China and Korea, in line with improved competitive power in intermediate commodities of China and Korea, the intermediate commodity export competitiveness of Japan, for instance in the electric machinery business, indicates a downward trend (the specialization coefficient line declines in the lower left of the graph) (Figure 3-2-2-4).

Figure 3-2-2-4 Change of Japanese trade specialization index by type of goods (For China, Korea)

(1) For China



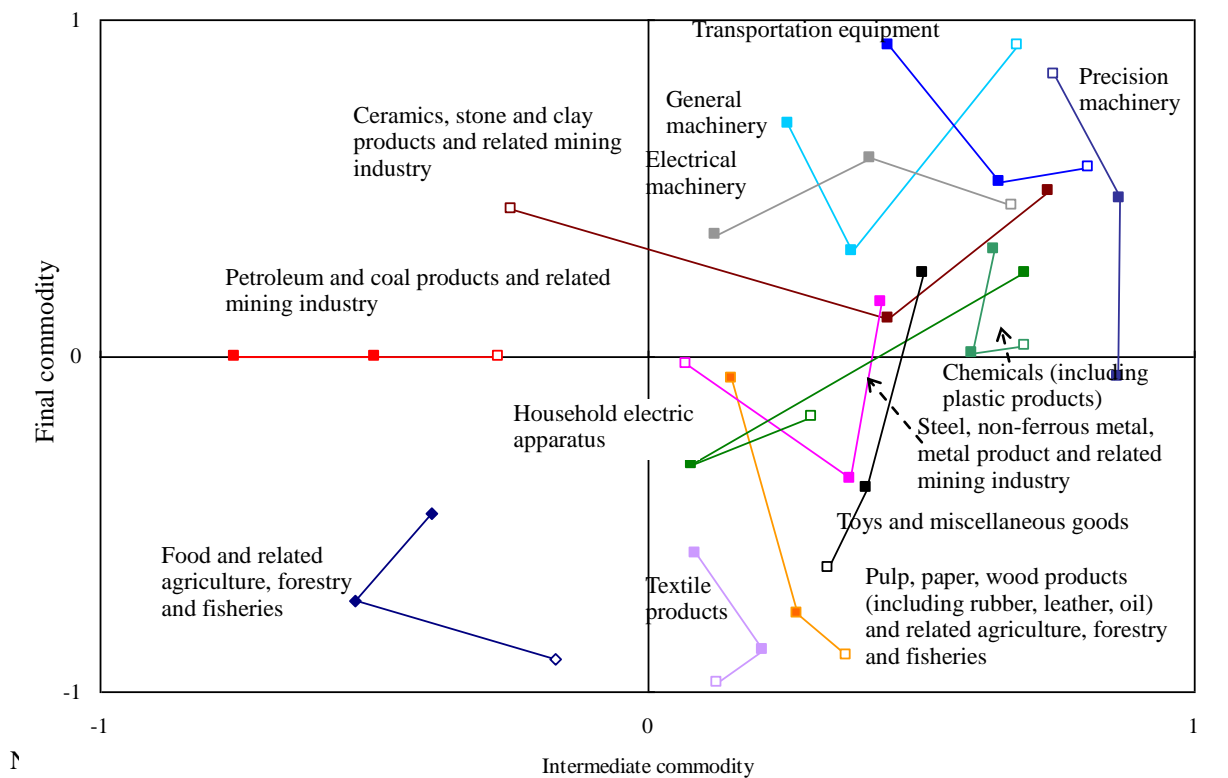
1

Note 2: Trade specialization index = (export - import) / (export + import)

Note 3: Change in 1990, 2000, 2008 are plotted for various products. Explanatory notes in white outline character shows calculation of 1990. Figures of 1990 are average of 1989-1991, 2000 - average of 1999-2001, and 2008 average of 2006-2008.

Note 4: There is no final commodity for "petroleum and coal products and the related mining industry" in the industrial classification.

(2) For Korea



Note 2: Trade specialization index = (export - import) / (export + import)

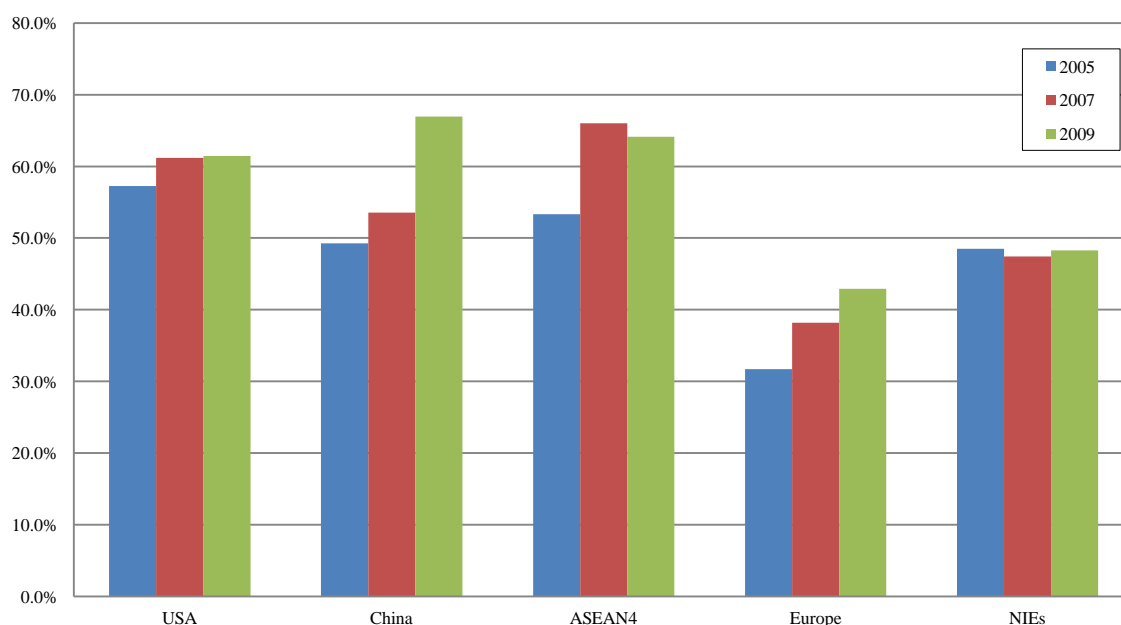
Note 3: Change in 1990, 2000, 2008 are plotted for various products. Explanatory notes in white outline character shows calculation of 1990. Figures of 1990 are average of 1989-1991, 2000 - average of 1999-2001, and 2008 average of 2006-2008.

Note 4: There is no final commodity for "petroleum and coal products and the related mining industry" in the industrial classification.

And also, in these past several years, the local content rate points to an upward trend, while on the other hand, the procurement rate from Japan displays a downward trend. Taking the increase of local content rate in accordance with the progress of technology in local countries in the future into consideration (Figure 3-2-2-5), it is not always true that intermediate commodity exports of Japan are steadily growing and extending from now onward in line with the continuous market expansion of emerging Asian countries, including China.

Figure 3-2-2-5 Comparison of Japanese-owned overseas affiliated companies' source of procurement ratio (manufacturing industry)

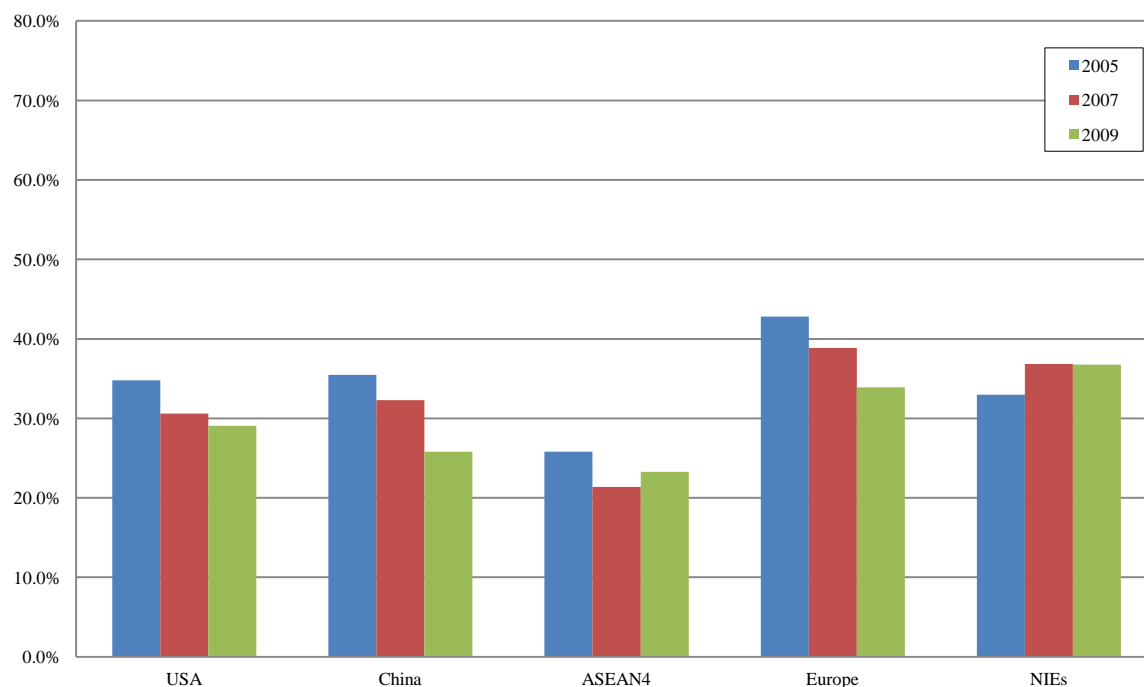
○ Change of local procurement rate



Notes: As for ASEAN, we used all ASEAN4 data from 2005 through 2009, because ASEAN10 data was not available in 2005.

Source: "Survey on Overseas Business Activities" (2005, 2007, 2009) (Ministry of Economy, Trade and Industry)

○ Change of rate of procurement from Japan



Notes: As for ASEAN, we used all ASEAN4 data from 2005 through 2009, because ASEAN10 data was not available in 2005.

Source: "Survey on Overseas Business Activities" (2005, 2007, 2009) (Ministry of Economy, Trade and Industry)

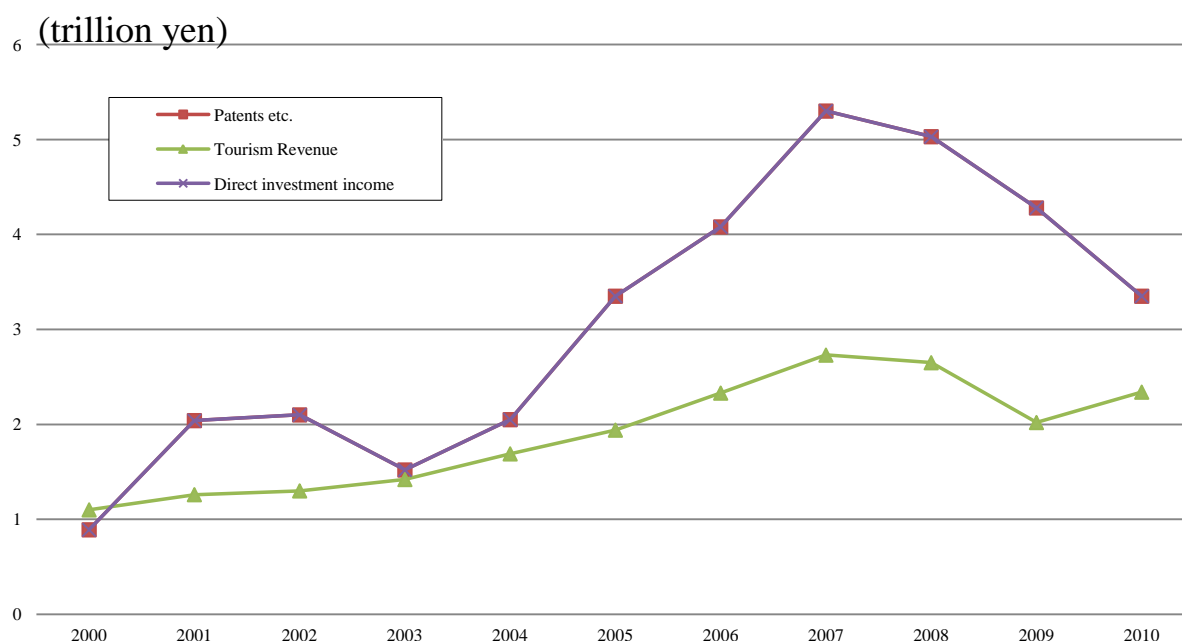
Accordingly, it is important that we support the reinforcement of the export competitiveness in intermediate commodities through the promotion of economic collaboration or support for research

and development, where emerging country markets expand.

(3) Direct investment profit and the income from patents etc.

In line with the increase of direct investment abroad, direct investment profit kept increasing, and after the amount exceeded over 5 trillion yen in 2007, it was a little over 3 trillion yen in 2010. In addition, by the increase of royalty income from overseas countries, the incomes from patents kept expanding, and in recent years it has amounted to more than 2 trillion yen (Figure 3-2-2-6).

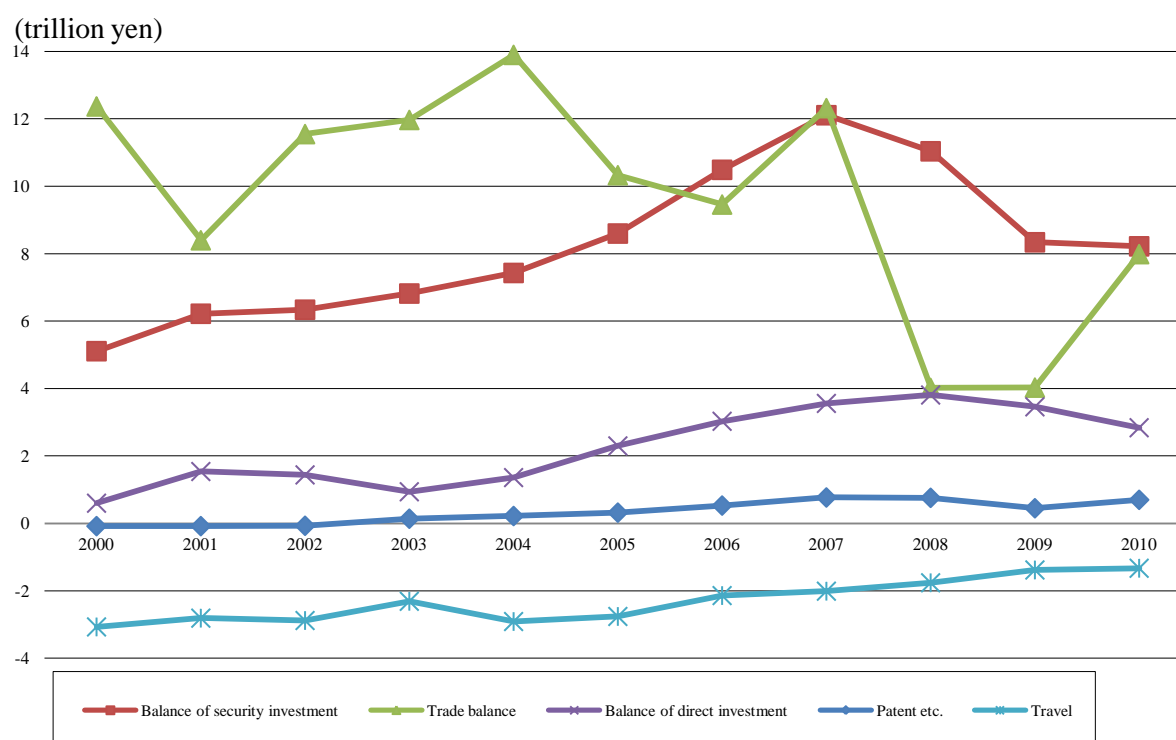
Figure 3-2-2-6 Change of Japanese direct investment income, patents etc. income and tourism revenue



Sources: “International trade balance statistics” (Bank of Japan)

In addition, when compared in terms of the balance of payments level, the balance of payments of direct investment has grown to an equal level of the trade balance for 2008, and the balance of payments of patents has also grown to 700 billion yen (Figure 3-2-2-7). Owing to an expansion of direct investment income and increase of income such as patents in line with the increase of direct investment abroad, it can be said that these incomes are now important moneymakers in the foreign income of Japan.

Figure 3-2-2-7 Change of Japanese direct investment balance, and balance of patents, etc.



Sources: "International trade balance statistics" (Bank of Japan)

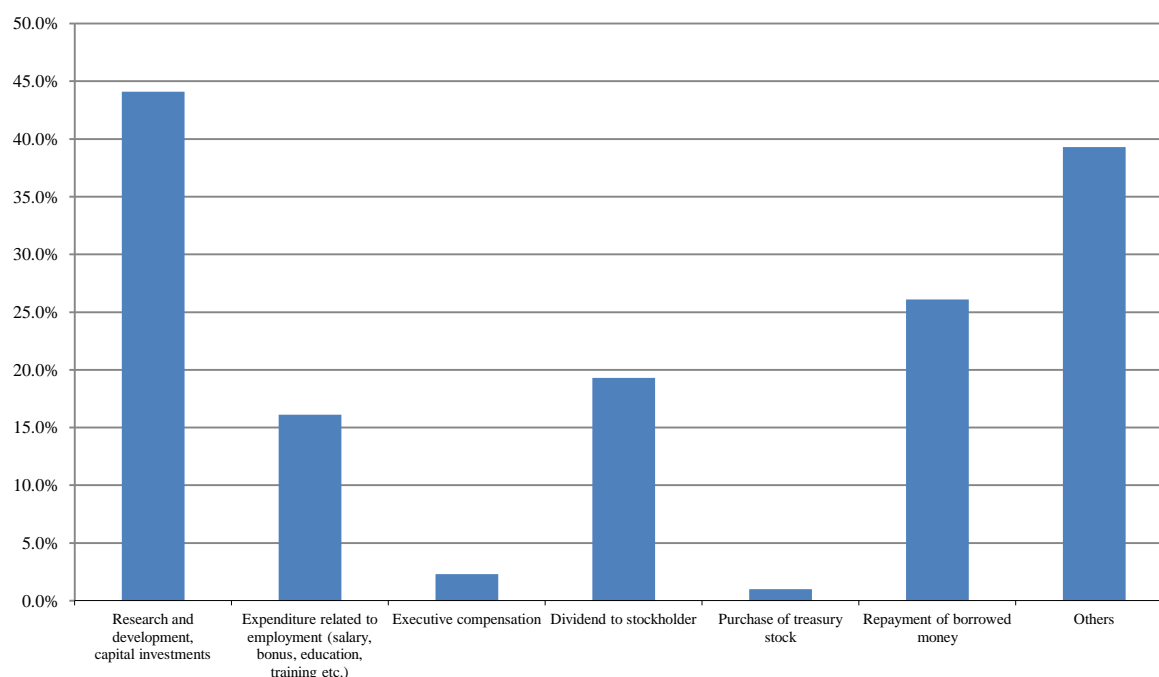
(4) The purpose of using the repatriated funds before and after introduction of the foreign dividend exemption system by Japanese-overseas affiliated companies

As already mentioned in the previous section, according to the Japan Economic Foundation survey (2011), the purpose of using overseas subsidiary profit before and after the introduction of the foreign dividend exemption system, in the manufacturing industry, the percentage of companies that reserve profits in overseas countries decreased after the introduction of the system, and the percentage of companies that returned a dividend to Japan increased, suggesting a strong trend to return overseas profits back to Japan (Figure 3-1-4-8).

And also, according to the Survey of Overseas Business Activities (2009) conducted by the Ministry of Economy, Trade and Industry, dividends from the overseas affiliated companies are spent for research and development and capital investments (44.1%), repayment of borrowed money (26.1%), dividends to stockholders (19.3%), and expenditure related to employment (16.1%) (Figure 3-2-2-8).

Figure 3-2-2-8 Purpose of use of the surplus funds repatriated to Japan

(Multiple answers allowed: N=1,887)



Sources: "40th Survey on Overseas Business Activities" Ministry of Economy, Trade and Industry

On the other hand, some emerging countries often restrict foreign companies from remitting the investment returns and the royalty income earned in that country to the home country. This might impede the effective global utilization of the profits of the enterprise. Accordingly, in advancing the economic collaboration with these countries, we must try to require the abolition of regulation for these investments.

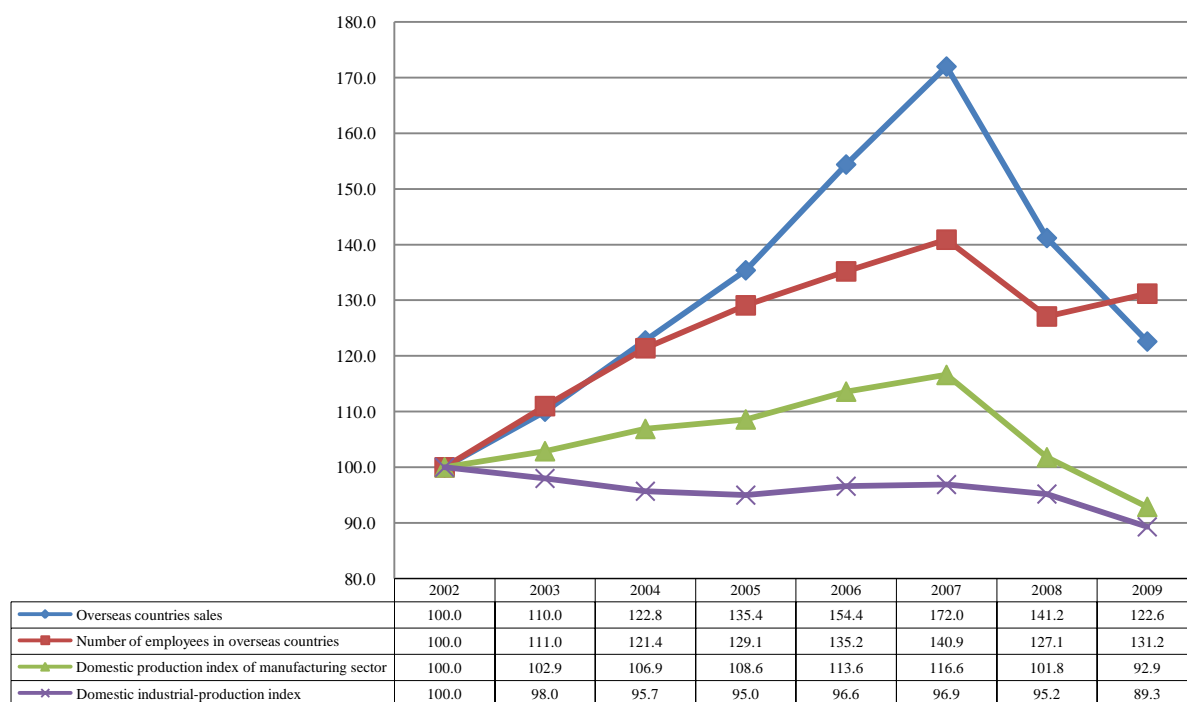
(5) Impact on domestic employment in line with the progress of localization

In line with progress of localization in emerging countries, while the number of employees of the manufacturing industry in overseas affiliated companies increased by approximately 40% from 2002 through 2007, the number of employees in the domestic manufacturing industry decreased by approximately 3% for the same period. Simply, any shifting of production overseas might be considered to have caused a decrease in domestic employment, but domestic production indexes of manufacturing sector increased approximately by 17% for the same period. In addition, in 2005 to 2007, the number of domestic employees increased by approximately 2%. Accordingly, it is difficult to conclude based on these data that the decrease of the number of employees in the manufacturing industry was caused by the progress of localization. There is a possibility that this situation might be caused by the domestic manufacturing industry's efforts to increase productivity. And also, it is after 2008 when the impact of the Lehman shock became serious and the number of domestic employees really dropped, and this does not correspond to the expanding phase (2002-2007) of overseas localization (Figure 3-2-2-9). In addition, the number of domestic employees on the basis of an all-industry evaluation keeps increasing by around 1% for the same period, because the increase in the service industry made up for a decrease in the construction industry and the manufacturing industry,

but after 2008, it turned to a decrease (Figure 3-2-2-10). In that period, the number of employees in the manufacturing industry did not decrease continuously as with the construction industry, but in 2005 to 2007, the number had increased, contributing to the increase of employees in Japan (Figure 3-2-2-10).

In any case, especially in manufacturing industries, it is necessary to pay continuous attention to the type of influence the progress of the localization in emerging countries has on the domestic employment system.

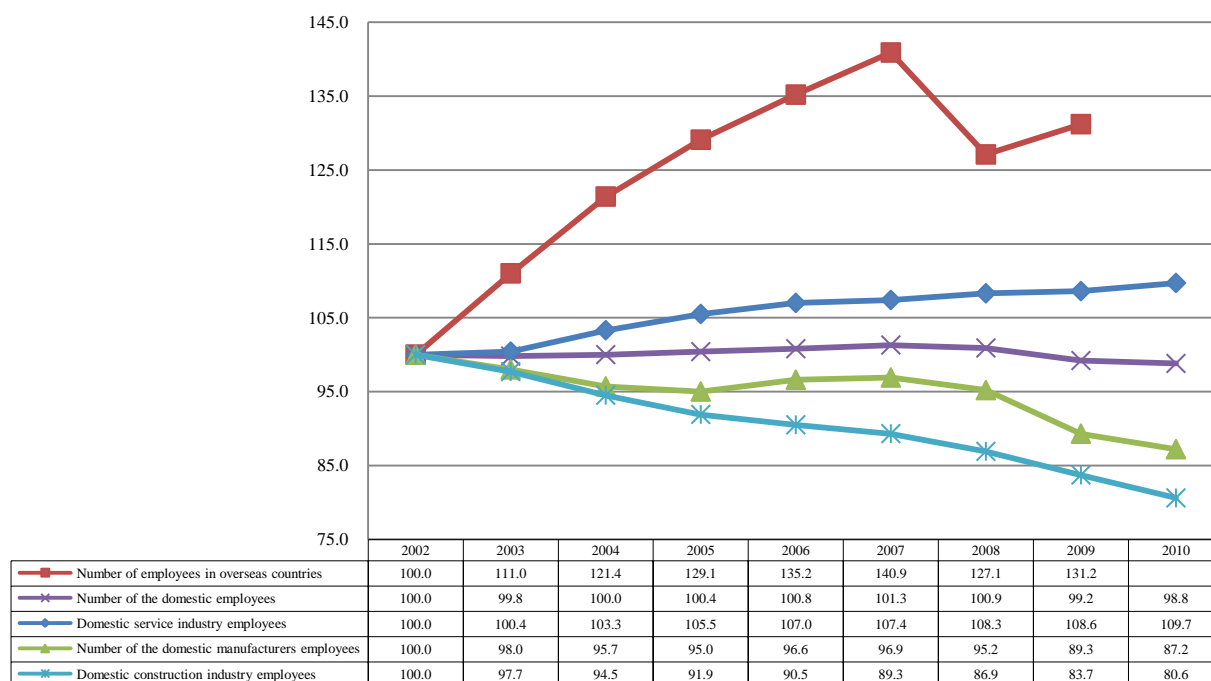
Figure 3-2-2-9 Comparison of number of employees of overseas affiliated companies and domestic corporations (1)



Notes: The above percent is the index with reference year 2002 =100. (The industrial-production index is recomputed data of the original index based on 2005 using reference year 2002 = 100).

Source: Compiled from the data of “Survey on Overseas Business Activities”, “Industrial production index” (Ministry of Economy, Trade and Industry) and "Labour force survey" (Ministry of Internal Affairs and Communications)

Figure 3-2-2-10 Comparison of number of employees of overseas affiliated companies and domestic corporations (2)



Notes: The above percent is the index with reference year 2002 =100.

Source: Compiled from the data of "Survey on Overseas Business Activities", "Industrial production index"(Ministry of Economy, Trade and Industry) and "Labour force survey" (Ministry of Internal Affairs and Communications)

(6) Relationship between localization in emerging countries and the Japanese economy

Based on the foregoing discussion, we studied the relationship between localization in emerging countries and the Japanese economy on the basis of short term, middle term and medium-and-long term business relationships (Figure 3-2-2-13).

At first, in line with progress of the localization in emerging countries, material exports from Japan may increase, but it is considered that the growth will gradually slow down in the medium term due to competition with Chinese, Korean, and Taiwanese enterprises in materials supply and also due to increases in the local content rate. On the other hand, it is also expected that final product exports from Japan will increase as domestic demand in emerging countries expands.

Accordingly, in line with economic growth in emerging countries, the items to be exported from Japan may change qualitatively from one item group, which mainly consists of intermediate commodities to an item group including a certain proportion of final products as well as intermediate commodities.

And also, in order for the Japanese economy to achieve integral growth with the overseas economy, it is desirable that localization in emerging Asian countries and the activation of domestic innovation are achieved simultaneously, and capital needs expands to growing fields in Japan. It is considered that an increased portion of the direct investment income is more likely to go to the reinvestment in overseas countries in the short term, but, if the funds are recycled in Japan over the medium term, through facilitation of the fund repatriation by the foreign dividend exemption system and economic

collaboration, the utilization of the funds in domestic research and development investment or capital investments may possibly activate innovation in Japan.

It is expected that more sophisticated final products and services are offered on a long term basis to the increasing high-income class in emerging countries through possible innovation in Japan linked to overseas demand and activation of original Japanese product development. Based on the survey by JETRO (2010), to a further question asking “What kind of function are you trying to increase?” the responses by the companies were, “We will try to increase business scale in Japan in the future”.

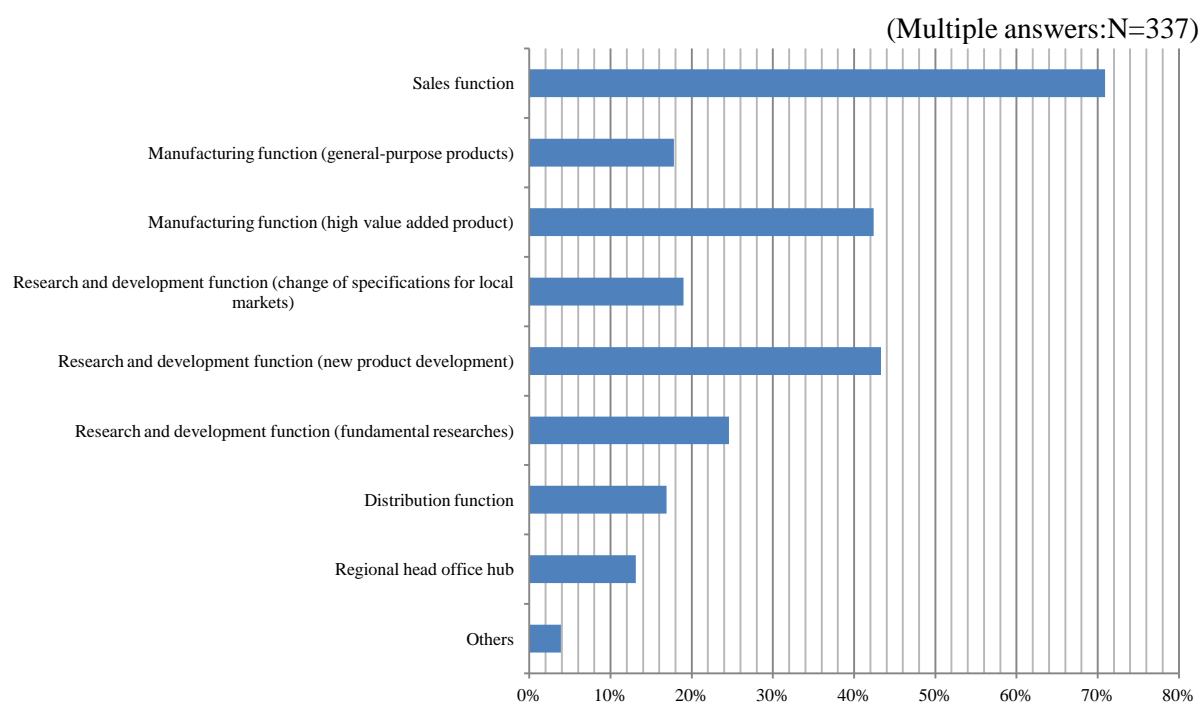
The top answer was sales function (approximately 70%), followed by manufacturing function of the high value added product (approximately 40%), research and development function for developing new products (approximately 40%), and the research and development function for fundamental research (approximately over 20%). Accordingly, it is important to further accumulate manufacturing, product planning, and research and development functions, focusing on high value-added final products and sophisticated parts and materials in Japan in the future (Figure 3-2-2-11). The survey mentioned above suggests that as for the research and development function, it is necessary for changes of specifications for local markets to be transferred to emerging countries to a certain extent for “localization” through customized measures, but as for functions such as fundamental research and the new product development, it is appropriate that more accumulation is achieved within Japan. For this purpose, it is necessary to improve the location environment of Japan by economic collaboration and correction of the high-cost structure etc. Through these approaches, if a high value-added function is further accumulated in Japan, the innovation linked with overseas demand will be activated, and as a result leading Japanese companies must become problem solving “integrators” in Asia, or high quality parts device suppliers essential for the global supply chain. In this case “integrators” refers to the companies that will solve the purchaser's problem by deeply mastering technology and the market trends, and utilizing various technologies, funds, and know-how.

The Japanese economy can only realize economic growth continuously to a certain extent, through the benevolent cycle generated by such a situation, not only by domestic demand but also exports to emerging countries and the steady increase of investment returns, and the accompanying ripple effects on domestic demand (Figure 3-2-2-12).

In a situation where economic growth led by domestic demand is not easy, as a result of the aging population combined with the diminishing number of children, we must, more than before, more surely strengthen the ties of Japanese economy with the overseas economy, and create a benevolent cycle that produces ripple effects in both economies.

It is essential to positively support companies which are going to steadily obtain the dynamism of the emerging countries, by pushing forward localization to emerging countries simultaneously, while maintaining or enhancing a role and a function which are produced only by us within Japan. (Smaller companies tend not to export or perform direct investment, therefore in the future, regardless of size, it is important for us to improve support for SMEs that endeavor to maintain or expand their domestic bases, and try to challenge foreign markets.) (Figure 3-2-2-13).

Figure 3-2-2-11 Functions that will increase in Japan



Source: “Survey of Overseas Business Activities” (2010) JETRO

Figure 3-2-2-12 Evolution of Japanese economy accompanying with progress of localization into emerging countries

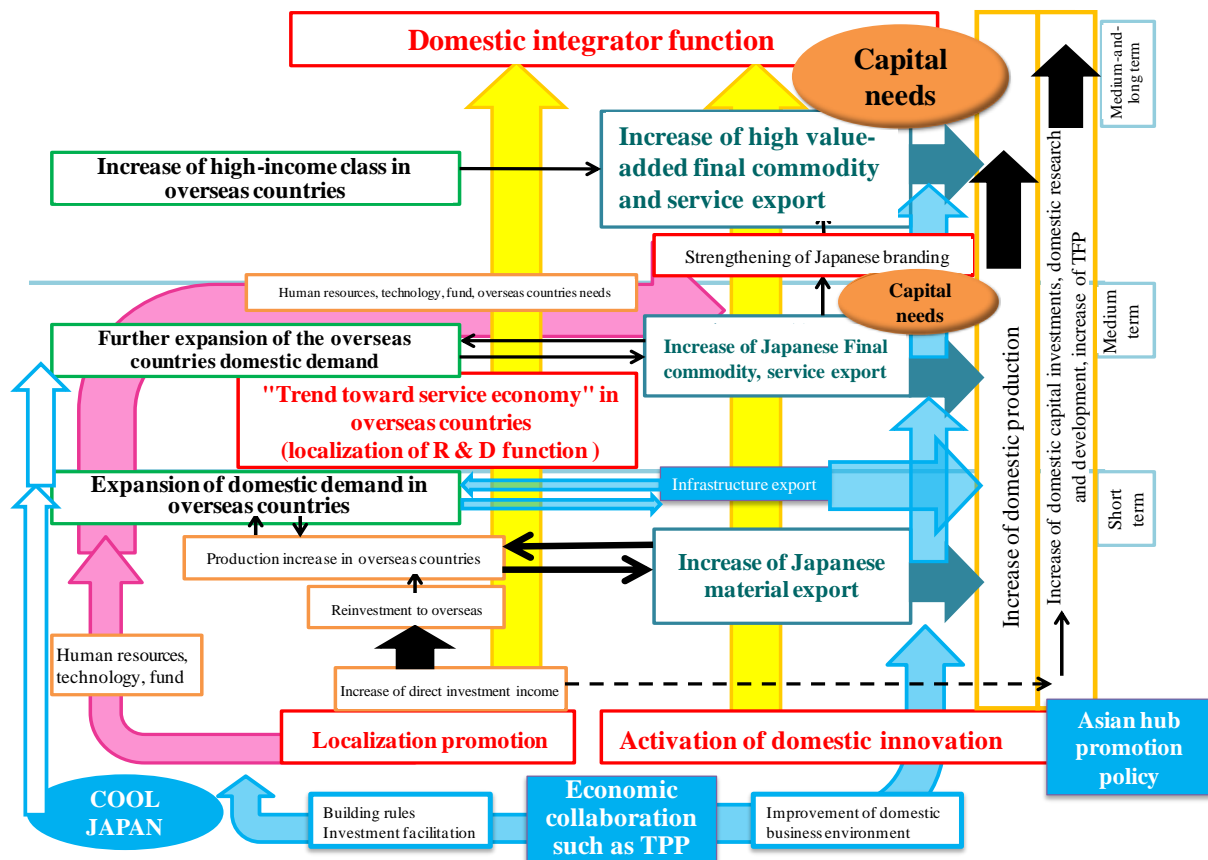
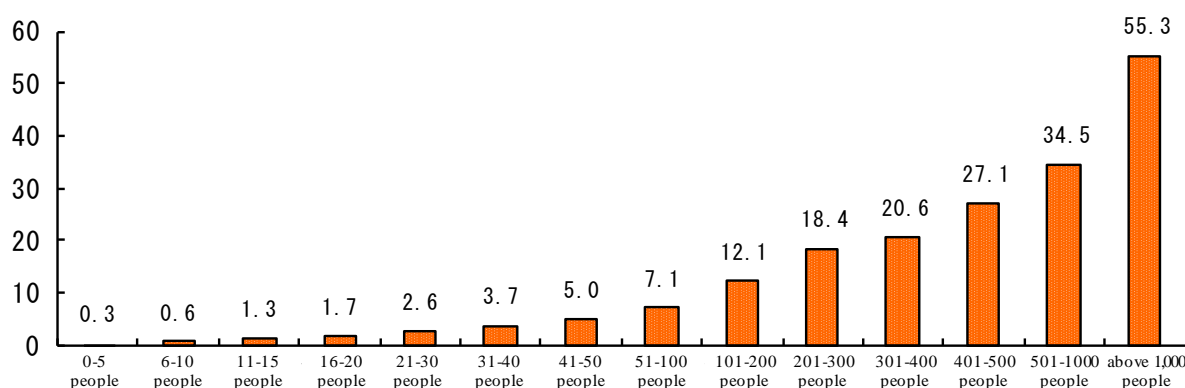


Figure 3-2-2-13 Proportion of direct investment companies and export companies by company size

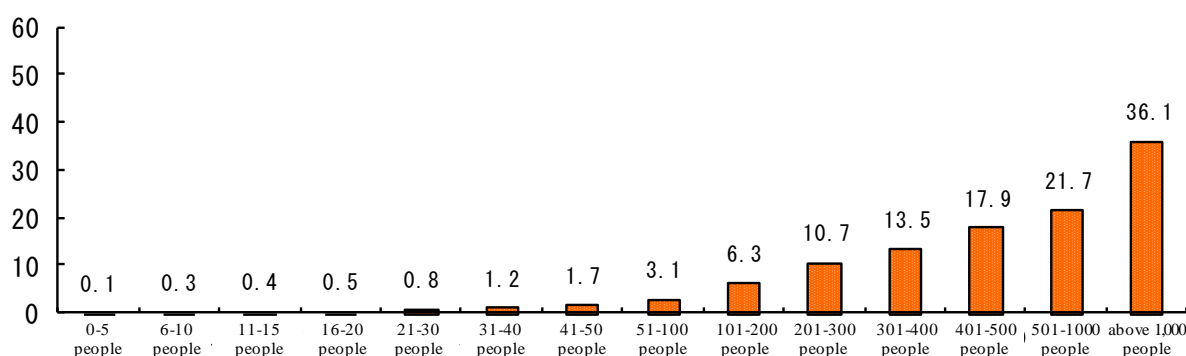
○Proportion of export company by company size (manufacturing industry)



Source: "Industry statistic chart 2007" was recompiled and processed. (Ministry of Economy, Trade and Industry)

(Notes) The industry statistic chart in 2005 was used to calculate the size of employees, and the sum of the number of employees of businesses was used as the number of employees of the company. Therefore the company which office code was changed by the merger of cities, towns and villages after 2005 are not included in the figures.

○Proportion of direct investment company by company size (all industry)



Source: "Business Company statistics research in 2006" was recompiled and processed (Ministry of Internal Affairs and Communications)

(Notes) The small businesses are not included.

Column 5 The possibility of the BOP market for the acquisition of the next volume zone

(i) Background and significance of the BOP business support

As a new market in the world economy, competition in emerging countries markets, especially the middle-income group market (the so-called "volume zone") is becoming fiercer. In addition, as a promising market with a bigger potential, the low-income group in developing countries, the so called "BOP" (Base of the Economic Pyramid¹) group is drawing attention.

The population of the BOP group is approximately 4 billion people, approximately 72% of world population, marking an extremely huge market on a 5 trillion dollar-scale, which corresponds to a real gross domestic product of Japan in terms market size. Besides, as pointed out in the "White Paper on

¹ World Resource Institute, International Finance Corporation (2007)「The next 4 billion」.

The group's annual income is less than 3,000 dollars for purchasing power parity per person for year of 2002, Approximately 4 billion of the world's population, which accounts for 70%.

International Economy and Trade 2010²”, it will possibly grow to become the above-mentioned middle-income group in the mid-and-long term. On that account this group is also called the “next volume zone” or “the post-new market”. On the other hand, the BOP group has societal problems, such as poverty, hygiene issues and poor social infrastructure. Economic cooperation to solve these issues is strongly required.

A lot of examples are observed, i.e., for these BOP groups, European and American global companies are working positively as businesses, in cooperation with governments and aid communities and NGOs, aiming at solving various problems. On the other hand, in Japan, except for a few examples of some advanced companies, the companies working for the BOP problems are few compared with US and European countries at present.

In this situation, the Japanese government is conducting various actions for the expansion of BOP business, such as the economic cooperation and as the industrial policy for assisting overseas operations/new market procurement.

(ii) Outline of fundamental idea and support policy for the expansion of BOP business

In contrast with the active business policy measures undertaken by Europe and the U.S., the basic directions of the business promotion units of Japanese companies, that shall be emphasized in BPO business are summarized in the figure below, by taking into consideration the business sectors emphasized by support organizations in each country and their performance data, and distinction of the Japanese business sectors entering into BPO business, and the type of business sectors emphasized by official development agency (Column Figure 5-1).

² *White Paper on International Economy and Trade 2010, Chapter 3 Section 2 (A) Responding to the new global demand structure (a) Obtaining emerging markets*

Column Figure 5-1 Main promising sectors and Social issues for Japanese businesses

Three pillars	10 sectors	Objective (social issues to be solved)
1. Japan's commitment to reduce poverty	a) Education	To improve low adult literacy rate with adult and primary school enrollment rate
	b) Health and welfare	To improve high child mortality rate
	c) Water and hygiene	To improve population ratio which can get access to improved water source
	d) Agriculture, forestry and fishery	To expand income by improving efficiency of yields in agriculture, forestry and fishery
	e) Food, nutrition	To reduce famine and improve intake of nutrition
2. Japan's stronghold sectors	f) Environment and energy equipment	Electrification and network making use of energy conservation technologies
	g) Household appliances, industrial machines	To improve quality of life, to expand income by shifting to the secondary industry
3. Basic infrastructure which works as frame of the above	h) Information and communication	To develop social infrastructures that are required to realize the above a) ~g).
	i) Finance	
	j) Transportation equipment	

Source: BOP business policy research group report — Establishment of new business models in developing countries in collaboration with government-private sector (The Ministry of Industry, Trade and Economy) (March 2010)

Also, in light of its geographic proximity or prospect of business development (e.g., of a BOP population of approximately 4 billion, there are approximately 3 billion people in Asia.), etc., it is thought that developing countries shall be broadly considered, while maintaining the focus on Asia.

In addition, in consideration of support schemes of Japan, business circumstances and characteristics of the support schemes of the overseas organizations, the “BOP business policy research group” summarizes the following points required to promote entry into BOP business;

- a) Support in gathering information that are necessary for BOP business
- b) Support in establishing partnerships
- c) Support in disseminating and enhancing awareness toward local BOP groups and relevant parties
- d) Support in solving financial issues
- e) Support in promoting technology development
- f) Promoting development of business infrastructure (Hard and Soft) in developing countries
- g) Necessity of organic collaboration in various supporting measures, directivity of the countermeasures for development of BOP business promotion platform.

In consideration of this, since 2010, (a) The establishment, management, functional reinforcement of the BOP business support center, (b) support of specific business by the public-private cooperation (c) implementation of the various surveys, dissemination and clarification on business feasibility have been worked on (Column Figure 5-2).

Column Figure 5-2 Action in 2010 for promoting BOP business and future action plan

○Action of 2010 and future action plan * indicate new action (plans) in the future

<p>(a) The establishment, management, function reinforcement of the Japan Inclusive Business (BOP business) Support Center</p> <p>[The establishment, management, function reinforcement of the platform by collaboration of relevant ministries and agencies, support organizations, private enterprises and NGOs]</p> <ul style="list-style-type: none"> • A unified function for provision of information through a portal site • Matching (information exchange between the staff personnel, collaboration promotion) support function • Consultation office function
<p>(b) Support of specific business by the public-private cooperation</p> <p>[Support to solve the various problems by utilizing superior Japanese technology and service]</p> <ul style="list-style-type: none"> • Dispatching missions [JETRO] (new)* • Feasibility study support [JICA] • Proof support [METI] • Research and development support [NEDO] • Overseas countries partnership establishment support [JETRO] (new)* • Public finance support [NEXI, JBIC, JICA] • Personnel training support (example utilization of Japan Overseas Cooperation Volunteers) (P) (new)*
<p>(c) Implementation of the various surveys, dissemination and enlightenment business [base for supporting the business mentioned above]</p> <ul style="list-style-type: none"> • Various investigations into business <ul style="list-style-type: none"> - Precedent cases, potential needs - Finance related matters • Dissemination and enlightenment activities (international symposium, seminars, seminar by sector (new)* and others

(iii) BOP business support center

On October 13, 2010, the Ministry of Economy, Trade and Industry established the “BOP business support center” as an organization for supporting BOP business comprehensively.

This support center consists of members of enterprises, NGOs/NPOs, international organizations, and other support organizations, and is aiming at; (a) unified provision of information by the portal site, (b) support for matching (information exchange between the people concerned, promotion of cooperation), (c) promotion of the BOP business by Japanese companies through a consultation office (Column Figure 5-3).

Column Figure 5-3 The specific service contents of Japan Inclusive Business (BOP business) Support Center



Specific service contents

1) Unified provision of information by the portal site

Support policies/ frameworks	Support policies/ frameworks in conjunction with the BOP business by the government-affiliated organization
Support center related organizations	Name and contact address of organization offering cooperation to the support center
Matching support	Information about the partnership formation between a variety of staff personnel
Event information	Information of related events by the government-affiliated organization
Information/reports by country etc.	The information by country and related working papers (potential needs, precedent cases, F/S survey etc.)
Steering committee	Data and operation outline related to Steering committee
e-mail magazine	e-mail magazine for members

2) Support for matching (information exchange between the people concerned, promotion of cooperation)

- Information exchange between members and support of promotion of collaboration with partners such as enterprises and local countries NGOs and support organizations

3) Consultation office

- Correspond to inquiries through collaboration with support centers, JETRO, JICA etc.

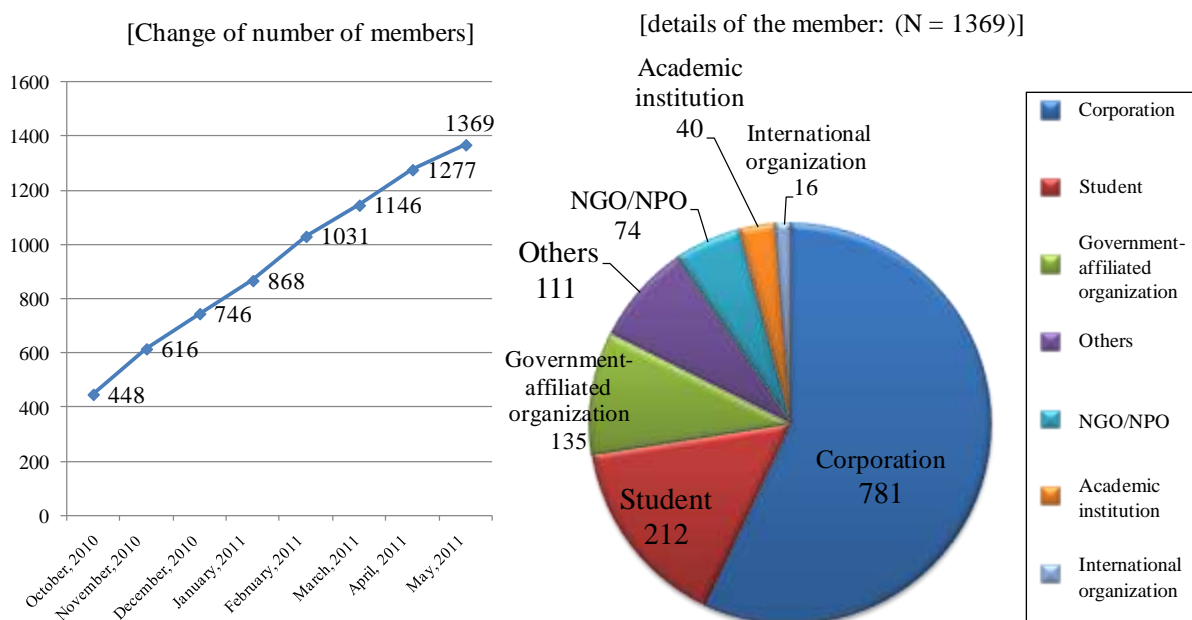
Source: Prepared by Ministry of Economy, Trade and Industry.

The members of this support center are increasing smoothly, and more than 1,300 members were registered as of May, 2011, indicating strong interest in the BOP business (Column Figure 5-4).

Column Figure 5-4 Change of number of the Japan Inclusive Business Support Center members and the details

[Change of number of members and access and the details]

○Change of number of members at May 25, 2011 and details of members are shown below (registered members 1,369)



Source: Compiled from the data of Ministry of Economy, Trade and Industry.

In addition, according to the questionnaire distributed to members, special interests are focused on Asian areas i.e. India, Bangladesh etc., and fields like education, environmental energy, equipment, water, and hygiene of the subject countries, are taken into consideration as subjects of interest (Column Figure 5-5).

(iv) Future direction of the BOP business support center

In consideration of the points to be improved that were obtained through questionnaires, consultative meetings and company sources and also the points to be newly worked on, so that in future, the following points are considered necessary and important;

- “1. Strengthening cooperation with other organizations”,
- “2. Strengthening provision for utilization of information”
- “3. Strengthening matching functions”
- “4. Promotion of awareness of the BOP business support center”

It is considered important to promote surveys focusing on gathering new information and organizing it, while putting a great deal of effort into the utilization of existing information and enhancement of cooperation with related organizations (Column Figure 5-6)

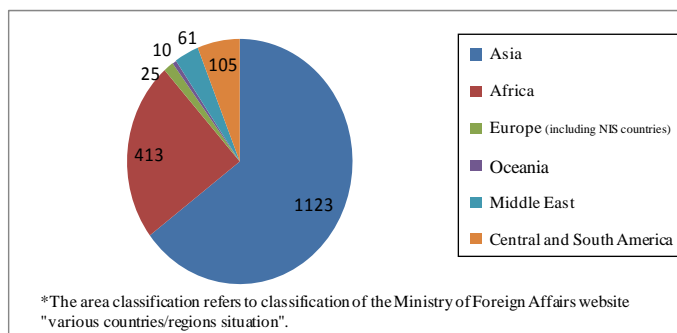
Column Figure 5-5 Subject countries and fields of BOP business of interest

[BOP business subject countries of interest] (N =1737)

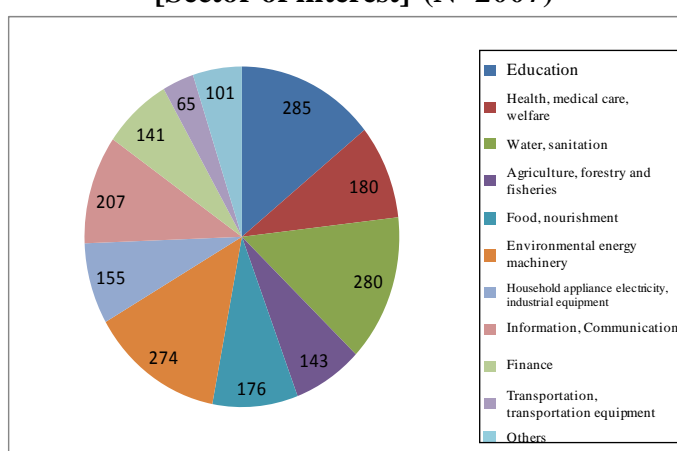
(Countries with total number more than 10 are extracted as follows)

First	India	275
Second	Bangladesh	176
Third	Indonesia	157
4th	Vietnam	108
5th	China	76
6th	Cambodia	67
7th	Kenya	64
8th	Thailand	58
9th	Philippines	53
10th	Tanzania	47
11th	Ghana	40
12th	Nigeria	39
13th	Uganda	36
14th	Brazil	35
15th	Laos	31
16th	The Republic of South Africa	27
16th	Myanmar	27
18th	Iraq	20
19th	Nepal	19
20th	Ethiopia	18
21st	Sri Lanka	17
22nd	Turkey	16
23rd	East Timor	15
23rd	Malaysia	15
25th	Iran	14
26th	Zambia	13
26th	Peru	13
26th	Rwanda	13
29th	Mozambique	12
30th	Pakistan	11
31st	Bolivia	10

[BOP business region of interest *] (N=1737)



[Sector of interest] (N=2007)



Source: Prepared by Ministry of Economy, Trade and Industry

Column Figure 5-6 The future direction of the Japan Inclusive Business Support Center (plan)

<p><u>1. Strengthening collaboration with other organization</u></p> <p>(1) Strengthening collaboration with the overseas agencies</p> <ul style="list-style-type: none"> * The enlargement of the collaboration contents with the existing collaboration organization (UNDP, IFC, USAID) * The expansion of collaboration target to UNICEF, ADB etc. <p>(2) Strengthening collaboration with domestic organizations</p> <ul style="list-style-type: none"> * The enlargement of the collaboration contents with the existing collaboration organization (JETRO, JICA, small and medium organizations) * Expansion of collaboration to the relevant ministries and agencies <p>(3) Strengthening collaboration with the organizations inside and outside the country (common subject matter)</p> <ul style="list-style-type: none"> * The request for sharing periodical report to the developing country local office * The active introduction of various organizations for applicant corporation or inquiry corporation to support system 	<p><u>2. Strengthening of the information provision function</u></p> <p>(1) Transmission of information, explanation from the viewpoint of the economic cooperation</p> <p>(2) Strengthening of the e-mail delivery function</p> <ul style="list-style-type: none"> * The delivery of timely mail for important update information (public offering information etc.) <p>(3) The improvement of contents of the portal site</p> <ul style="list-style-type: none"> * Publication of the information that was obtained by "1. Strengthening collaboration with other organizations" * The introductions of personnel training program offered in domestic and foreign support organizations <p>(4) The implementation of the detailed briefing session about system, policy</p> <p>(5) The improvement of function of the portal site</p> <ul style="list-style-type: none"> * The addition of user guide to various contents * Development of search function by item (country, sector of industry) * Development of the search function for the matching list <p>(6) Further promotion of English version portal site</p> <ul style="list-style-type: none"> * Matching page in English etc. 	<p><u>3. Strengthening of the matching function</u></p> <p>(1) Expansion of the information about the prospective business partner</p> <ul style="list-style-type: none"> * Publication of the list of prospective partners in the developing country (local corporation, NGO etc.) (Starting from the priority country step by step) * Publications of the procurement information (merchandise needs) by international organizations <p>(2) Provision of the place of information exchange and matching between companies</p> <ul style="list-style-type: none"> * Provision of the place of promoting information exchange and collaboration * Provision of the place of the matching with the prospective local partner based on the result of the overseas countries competitive show <p><u>4. Promotion of the dissemination and enlightenment of the support center</u></p> <p>(1) The holding of the dissemination and enlightenment event related to support center</p> <ul style="list-style-type: none"> * Dissemination, enlightenment of the support center business in the events held In inside and outside the country in cooperation with the related organization (JETRO, JICA, international organization etc.)
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Chapter 4 Trade and economic relation between Japan and the world as seen through the damage caused by Great East Japan Earthquake

Due to the impact of Great East Japan Earthquake, which occurred on March 11, 2011 (hereafter, in sections 1 and 2 of this chapter, referred to as "this earthquake") the Tohoku area of Japan suffered wide ranging damages and the production base of the Japanese industry were seriously damaged. In such a dire situation, since some parts of the Japanese automotive and electronic parts (such as semiconductors) industries, and related industrial manufacturing materials necessary for those productions are located in the three severely damaged Tohoku prefectures of Iwate, Miyagi, and Fukushima and neighborhood areas of Ibaraki etc. (herein after referred to as "disaster-stricken area"), a concern was expressed from various quarters that supply of parts and materials from disaster-stricken areas may be delayed or interrupted. In fact, some of the domestic and foreign production activities were affected.

Therefore, in this chapter we have analyzed importance of trade and economic relations between Japan and the world as seen through Great East Japan Earthquake damage, from the point of view of "Supply chain in global production activities" (production, distribution, and sale represent a flow of a series of activities starting from material production, to procurement of the parts, thereby constituting a global supply-chain).

In Section 1, after having surveyed the situation of production and export by Japanese manufacturers before and after this earthquake disaster, we will demonstrate that the percentage of export directly from the trade base located in the disaster-stricken area out of Japan's entire export volume is small and that the percentage of parts such as automobile parts or electronic parts which exert powerful influence on global supply-chain is also not so large, although some individual export items from the area concerned have a greater impact on Japanese trade.

In Section 2, we confirm that the reason why great concern to the global supply-chain had been expressed till now is due to the fact that export of automobile parts is relatively big in the entire export volume and in fact, it has great influence on the car production of various countries/regions. And we also explain the recent export structure of parts including electronic parts, which are widely used for the car production. In conjunction with the above viewpoint, it is necessary to understand the actual situation that parts are not only exported to the overseas production base directly from the supply base of the disaster-stricken area, but they are also delivered indirectly to global supply-chain from other areas such as Kanto area, which have direct connection with overseas countries. And it is also necessary to examine the route of the product supply and extent of the effect caused by the delay in supply. On that account, we focused our attention on automobile and electronic parts industries with greater delivery percentage among machine industries of the Kanto area, which are the main intermediate delivery destination of the manufacturing industry of Tohoku area. We demonstrate the fact that the damage to the production base of the disaster-stricken area by this earthquake has a big indirect effect on the export. and the area concerned has more connection with the global supply-chain than direct export relationship. And this is done by confirming supply, production, and export structure and also the importance of Tohoku area in the structure to do this. In Section 3, we summarize the influence of this earthquake disaster and subsequent accident in the nuclear power plant on Japanese economy, Japan's export commodities, and on distribution, sightseeing, and airline industries. And we point out the process of the public-private action and efforts by Japanese authorities for dissemination

of quick and accurate information to the global community, and to make use of this experience for a better future. We also indicate the need for Japan to take the lead in international discussions on measures for countering such an emergency and devise plans for an international cooperation system.

Section 1 The impact of the earthquake on Japanese production and trade

1. Status of production and export by Japanese manufacturers before and after the earthquake disaster

Due to this earthquake disaster, the production in the production base of the disaster-stricken area came to a halt, and rolling blackouts were conducted in Tohoku and Kanto areas to counter electricity shortage, which exerted a powerful influence on the production activities in Japan.

The industrial production of Japan in March, 2011 decreased by 15.5% throughout the entire industrial circle on a month-to-month basis (seasonally-adjusted). This exceeds records registered following the Hanshin Awaji great earthquake disaster (2.6% decrease) of 1995 and the world economy crisis (8.6% decrease at the maximum) of 2008. This is the lowest decline since February, 1953. Especially, in the disaster-stricken areas of Tohoku area and Ibaraki prefecture, the decline was much more greater than the above (Table 4-1-1-1). According the type of industry affected, the transportation equipment industry including car and automobile parts decreased by 46.7% on a month-to-month basis (the production of car decreased by 54.2%, and the automobile parts decreased by 42.1%), resulting in the largest negative contribution among all types of industries. Considering the level of production in chronological order, the production in transportation equipment industry in March and April 2011 sharply dropped to a level which is lower than the recent lowest level recorded just after the world economic crisis (Figure 4-1-1-2). The production in April, 2011 was generally picking up in addition to the above data including the general machine industry, and further recovery is anticipated in the future.⁹⁸

⁹⁸ According to Ministry of Economy, Trade and Industry "SEIZOKOGYO SEISANYOSOKU CHOSA (manufacturing industry production forecasting survey)" conducted in May, 2011 (published on May 31, 2011), a 8.0% increase is anticipated in May, 2011, on a month-to-month basis (seasonally-adjusted), and a further 7.7% increase is expected in June, 2011.

Table 4-1-1-1 Trend of Japanese industrial production (by business category) in March and April, 2011

○ Trends of production by business category of the whole country

Business category	March		April	
	Contribution (% point)	Month-to-month basis (seasonally- adjusted, %)	Contribution (% point)	Month-to-month basis (seasonally- adjusted, %)
Whole industries	-15.5%	-15.5%	1.0%	1.0%
Transportation equipment industry	-8.0%	-46.7%	-0.2%	-1.5%
(passenger car)	-4.8%	-54.2%	-0.5%	-9.9%
(automobile parts)	-2.1%	-42.1%	0.0%	1.4%
General machine industry	-1.8%	-14.5%	1.6%	12.8%
Electronic parts, device industry	-0.7%	-6.6%	-1.5%	-12.7%
(IC (integrated circuit))	-0.5%	-11.7%	-0.5%	-13.1%
Food, tobacco industry	-0.7%	-8.7%	-	-
Manufacture of iron and steel	-0.6%	-10.2%	-0.1%	-2.0%
Electrical machine industry	-0.6%	-10.2%	0.3%	4.6%
Metal product industry	-0.5%	-10.7%	0.1%	2.3%
Other industry	-0.5%	-9.4%	0.3%	6.0%
Plastic industry	-0.4%	-11.9%	0.2%	5.7%
Nonferrous metal industry	-0.3%	-16.5%	0.0%	2.2%
Information and communication machine industry	-0.3%	-8.0%	-0.6%	-17.2%
Manufacture of chemical	-0.3%	-2.3%	-	-
(manufacture of chemical (except pharmaceutical products))	-0.9%	-11.2%	-0.1%	-1.4%
Pulp, paper, processed paper products	-0.2%	-8.3%	0.0%	-0.4%
Precision machine industry	-0.1%	-12.9%	0.3%	24.7%
Ceramics, stone and clay products industry	-0.1%	-5.1%	0.0%	0.5%
Petroleum and coal products industry	-0.1%	-12.3%	0.0%	-0.4%
Textile industry	0.0%	-1.8%	0.0%	-0.6%

Notes: Arranged in descending order of negative contribution in March, 2011. Number of March, 2011 is authentic value, number of April is quick estimation.

"-" refers to the value which is not released at the quick estimation stage. The shaded area refers to the type of industry which month-to-month basis (seasonally-adjusted) value was minus moth in March and April 2011.

Source: Indices of Industrial Production (Ministry of Economy, Trade and Industry),

○ Trends of production of the Tohoku region by business category

Type of industry	Contribution (% point)	Month-to-month basis (seasonally-adjusted, %)
Whole industries	-35.0%	-35.0%
Electronic parts, device industry	-6.9%	-28.5%
(IC (integrated circuit))	-3.1%	-33.0%
Manufacture of chemical	-4.1%	-47.1%
(pharmaceutical products, pesticide)	-3.0%	-45.6%
Transportation equipment industry	-3.3%	-43.8%
(passenger car)	-1.6%	-56.6%
(automobile parts)	-1.6%	-35.7%
Food, tobacco industry	-3.2%	-36.0%
General machine industry	-2.7%	-26.7%
Information and communication machine industry	-2.2%	-29.1%
Manufacture of iron and steel	-2.2%	-65.6%
Pulp, paper, processed paper products	-2.0%	-59.3%

Notes: Arranged in descending order of negative contribution in March, 2011. Number of March, 2011 is authentic value,

Source: "Tohoku region Indices of Industrial Production" (Ministry of Economy, Trade and Industry, Tohoku Bureau of Economy, Trade and Industry)

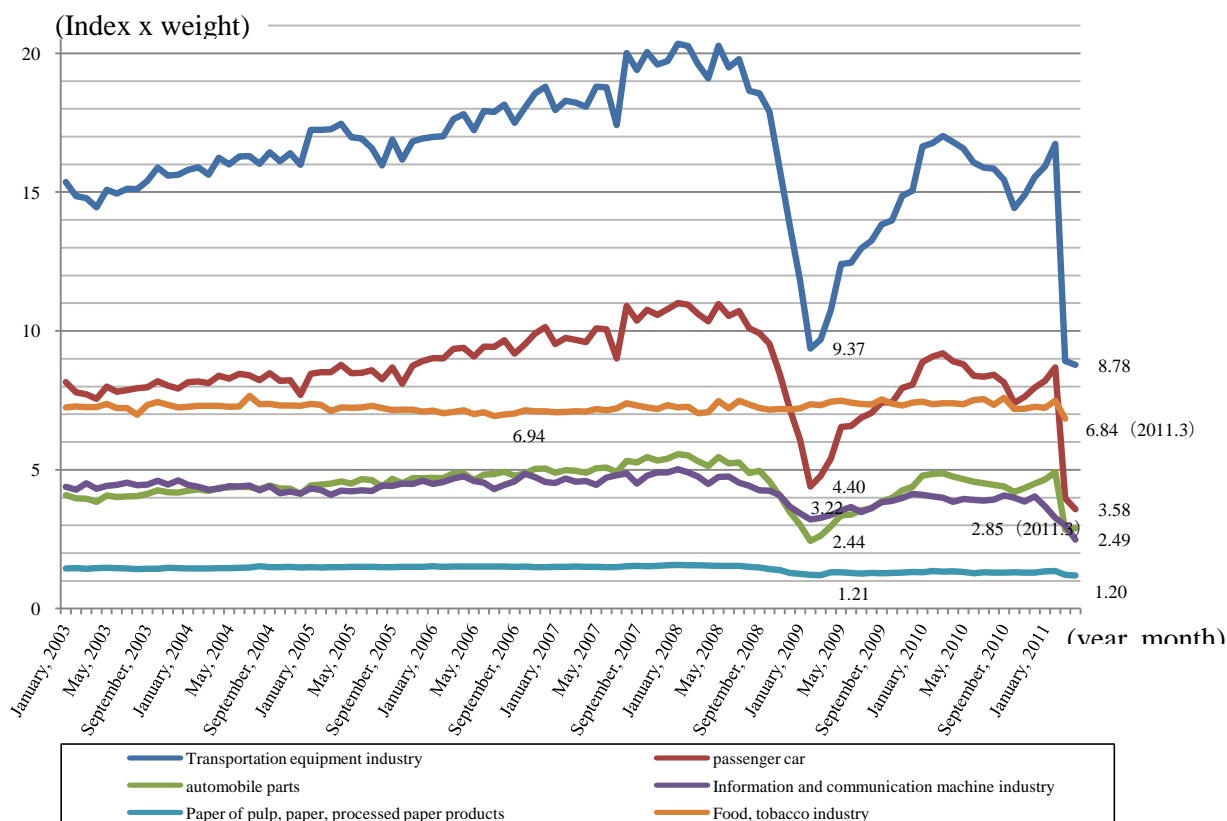
○ Trends of production of Ibaraki prefecture by business category

Type of industry	Contribution (% point)	Month-to-month basis (seasonally-adjusted, %)
Whole industries	-38.1%	-38.1%
Manufacture of chemical	-9.0%	-52.3%
General machine industry	-6.6%	-38.7%
Manufacture of iron and steel	-5.8%	-56.3%
Food, tobacco industry	-4.0%	-33.4%
Electrical machine industry	-2.8%	-26.4%
Plastic industry	-2.5%	-37.1%
Metal product industry	-2.0%	-35.9%

Notes: Arranged in descending order of negative contribution for industries with more than 2.0% point of negative contribution

Source: "Ibaraki prefecture Indices of Industrial Production" (Ibaraki prefecture)

Figure 4-1-1-2 The production trend of major industry and item which Japanese production of March and April 2011 was in minimized level in late years

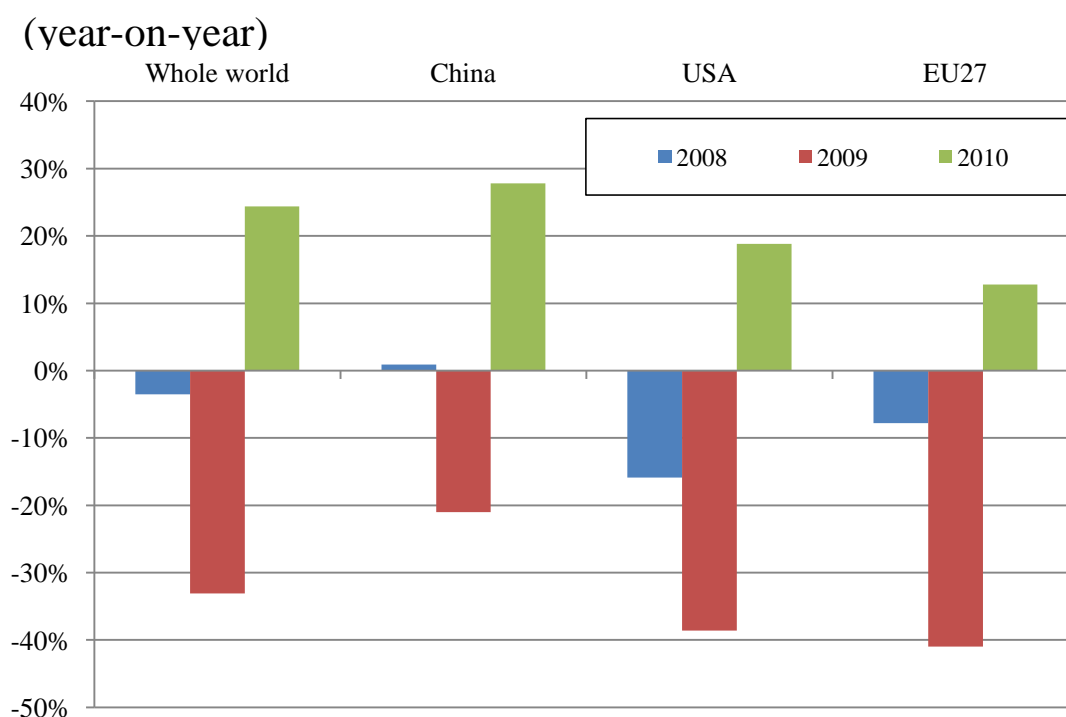


Notes: Main industries and items which have the lowest index in March, 2011 (authentic value) or in April (quick estimation-Food, tobacco industry was not released) after January, 2003 in industrial-production index (seasonally-adjusted), are extracted (although for automobile parts the third lowest value in March, 2011 next to March and February, 2009), and the product of index and weight for each month is calculated. Main industries and items here referred to those which have at least product of index and weight more than 1. In index 2005=100. The numbers in the figure show number in March, or April 2011 and in the month which has next lowest ones (as for the food, tobacco industry in July, 2006, as for the paper of pulp, paper, processed paper products paper in March, 2009, and other industries in February, 2009)

Source: Indices of Industrial Production (Ministry of Economy, Trade and Industry)

The status of Japan's export in 2010 before this earthquake disaster was on the track to recovery, making a complete turn from decrease of export in 2009 due to the world economy crisis (Figure 4-1-1-3). Even in this year, the export in January/February, 2011, recorded high growth particularly in general machine and electric apparatus (Tables 4-1-1-4 and 4-1-1-5). The export in the beginning of March, 2011 just before the earthquake disaster showed 14.8% increase year-on-year basis. By having been struck by this earthquake disaster under such a situation, the export of March, 2011 decreases by 2.3% in year-on-year basis (seasonally adjusted, month-to-month basis, a 7.7% decrease).

Figure 4-1-1-3 Change of export from Japan to major countries/regions



Source: "Foreign trade statistics" Ministry of Finance

Table 4-1-1-4 Trend of Japanese export from early 2011

2011	January	February	March	April
Whole world	1.4%	9.0%	-2.3%	-12.4%
China	0.9%	29.1%	3.7%	-6.8%
USA	6.0%	2.0%	-3.5%	-23.3%
EU27	-0.7%	12.7%	4.2%	-10.7%

Notes: The value shows year-on-year basis.

Source: "Foreign trade statistics" Ministry of Finance

Table 4-1-1-5 The items that marked double-digit growth in Japanese export year on year basis both in January and February, 2011

Items	Mineral fuel	Steel	General machinery	Metalwork machinery	Machinery for construction and mines	Cargo-handling machine	Cargo-handling machine	Bearing	Television set	Electrical measurement equipment
2011										
January 2011	44.4%	11.1%	19.3%	45.5%	58.0%	29.7%	12.3%	19.6%	13.2%	13.7%
February 2011	28.4%	20.5%	23.2%	60.1%	49.7%	50.7%	62.9%	24.6%	43.2%	21.0%

Notes: The value is year-on-year basis.

Source: "Foreign trade statistics" Ministry of Finance

Particularly, the transportation equipment decreases by 19.1% on year-on-year basis (the automobile parts decrease by 5.0% in the same basis), resulted in the largest negative contribution in all items

(Table 4-1-1-6). Similarly, in April 2011 decrease was 12.4% in all, transportation equipment greatly decreases by 43.2% (the automobile parts decrease by 14.8%), after all resulting in the largest negative contribution in all items. In addition, the decline of the IC (electronic parts) was big. In addition to above, the export from the port located in the disaster-stricken area decreases sharply.

Table 4-1-1-6 Trends of Japanese export in March and April 2011

○ Trend of export (by item) in the whole country

Item	March		April	
	Contribution (a % point)	Year-on-year basis (%)	Contribution (a % point)	Year-on-year basis (%)
Whole industries	-2.3%	-2.3%	-12.4%	-12.4%
Transportation equipment	-4.5%	-19.1%	-9.8%	-43.2%
(passenger car)	-3.3%	-27.3%	-7.7%	-67.9%
(automobile parts)	-0.2%	-5.0%	-0.7%	-14.8%
Electric appliance	-1.1%	-6.1%	-2.3%	-12.5%
(IC (integrated circuit))	-0.3%	-8.6%	-1.0%	-24.0%
Others	-0.1%	-0.8%	-0.5%	-4.3%
Food	0.0%	4.7%	-0.1%	-22.9%
Raw material	0.1%	7.3%	-0.2%	-12.6%
Mineral fuel	0.4%	26.7%	-0.8%	-46.1%
Chemicals	0.7%	6.6%	0.8%	8.0%
Manufactured goods	0.9%	6.8%	0.2%	1.6%
General machinery	1.4%	7.0%	0.3%	1.5%

Notes: Arranged in descending order of negative contribution in March, 2011. Values of March and April are confirmed report values in March, 2011. The shaded area for both March and 2011 shows the item that have dropped on year-on-year basis .

Source: "Foreign trade statistics" Ministry of Finance

○ Trend of export from the ports located in the disaster-stricken area

Port name	Prefecture	March	April
		Year-on year basis (%)	Year-on-year basis (%)
Aomori	Aomori	19.1%	15.9%
Hachinohe		-37.4%	-90.6%
Aomori Airport		-	-
Miyako	Iwate	-	-100.0%
Kamaishi		-45.3%	-98.4%
Ofunato		-27.6%	-5.4%
Shiogama, Sendai	Miyagi	-48.2%	-95.7%
Ishinomaki		43.6%	-100.0%
Kesennuma		-88.1%	-100.0%
Sendai Airport		-49.6%	-100.0%
Onahama	Fukushima	-31.2%	-55.6%
Soma		-48.7%	-87.4%
Fukushima Airport		-	-100.0%
Kashima	Ibaraki	-23.1%	-61.3%
Hitachi		-30.3%	-68.6%
Tsukuba		-5.9%	-9.3%

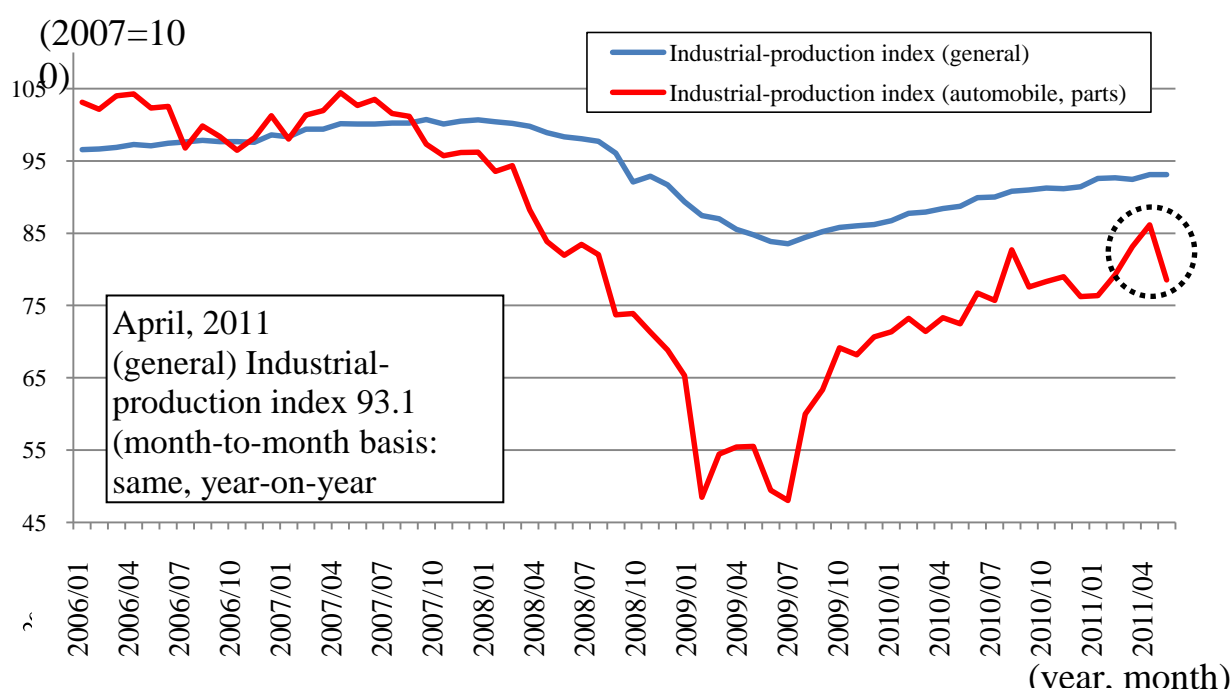
Notes: The numerical value is quick estimation. "-" indicates that there is no record.

Source: "Foreign trade statistics" Ministry of Finance

As described above, the most affected industry in production and export just after this earthquake disaster was transportation machine industry. Of the above, the delayed production of motor parts caused by the damage has influence on the overseas production through global supply-chain. For example, triggered by the decrease of export of motor parts from Japan, the production of automobile and parts in April 2011 of U.S.A. significantly decreased by 8.9% on a month-to-month basis (seasonally-adjusted)⁹⁹ (Figure 4-1-1-7).

⁹⁹ In a document released, dated May 17, 2011, FRB says that this is "mainly because of parts shortages that resulted from the earthquake in Japan".

Figure 4-1-1-7 Trends of the industrial production of U.S.A.



Notes: Seasonally-adjusted.

Source: Compiled from the data of FRB, CEIC Database.

Below, we investigate once more into importance of the trade and economic relation between Japan and the world which we have a glimpse from the generation of this earthquake disaster, through structural analyses on production/trade activities and production/export of parts industry such as the automobile parts having been performed in disaster-stricken area till now.

2. Influence of the direct import and export from disaster-stricken area

(1) The real facts of the trade value of the disaster-stricken area

At first, in order to clarify the percentage of the import and export that is conducted directly at trade base such as customs located in the disaster-stricken area in Japan's entire export and import, we confirmed the trade trend of 2010 from foreign trade statistics of the prefectures where customs agencies¹⁰⁰ did not perform all or a part of the work due to this earthquake disaster temporarily (five prefectures of Aomori, Iwate, Miyagi, Fukushima and Ibaraki, hereafter referred to as 5 disaster-affected prefectures) (Table 4-1-2-1).

¹⁰⁰ The customs agencies, which are located in the 5 disaster-affected prefectures, are divided into two jurisdiction areas of Hakodate Customs House and Yokohama Customs House. The details are as follows. However, after that, recovery is made rapidly, and reopening of the work is planned in various government agencies one after another.
(Data source - the latest edition of "Work operation information" of above mentioned customs).

Table 4-1-2-1 Trade trends of the 5 disaster-affected prefectures in 2010

Prefecture	Export			Import		
	Amount (million yen)	Growth rate year-on-year basis	Whole country ratio	Amount (million yen)	Growth rate year-on-year basis	Whole country ratio
Aomori	160,932	30.4%	0.24%	143,031	14.1%	0.24%
Iwate	18,888	73.7%	0.03%	18,129	5.8%	0.03%
Miyagi	349,169	24.3%	0.52%	568,153	30.4%	0.94%
Fukushima	52,789	64.3%	0.08%	412,283	18.6%	0.68%
Ibaraki	794,849	46.4%	1.18%	1,288,000	16.0%	2.12%
Total of 5 disaster-affected prefectures	1,376,627	39.0%	2.04%	2,429,596	19.4%	4.00%
Whole countries	67,399,627	24.4%	100%	60,764,957	18.0%	100%

Source: "Foreign trade statistics" (2010 total amount) (Ministry of Finance)

In entire Japan as a whole, trade value made a complete turn from decrease in 2009, and the import and export significantly improved with the increase of 20% level in 2010, and the trade value of the 5 disaster-affected prefectures has made sharp recovery more than the nationwide average (39.0% increase in export in year-on-year basis, 19.4% increase in the import in the same basis), and also increase trend was continuing even in the beginning of 2011. However, from the point of absolute amount of the trade, the trade value of 2010 from 5 disaster-affected prefectures were in export approximately 1,380 billion yen, and in import approximately 2,430 billion yen. The percentage in entire Japan value, remain at the level of approximately 2% in export and approximately 4% in import.

Furthermore, trade value in 2010 and operation situation of the customs work just after this earthquake disaster in each port where the customs agency is located are shown below; (Table 4-1-2-2). Total trade value amount in 2010 of the bases of these ports in which all or a part operation stopped as of March 17, 2011, were approximately 570 billion yen in export (0.85% of the total) and approximately 1,120 billion yen in import (1.84% of the total). The amount is less than half of the trade value of the whole 5 disaster-affected prefectures; the percentage in Japanese overall trade of this value is naturally much small. Furthermore, the amount of the bases where all the operation stopped at that time was export approximately 120 billion yen (0.18%), and import approximately 520 billion yen (0.86%).

Judging only from the direct trade value in the disaster-stricken area based on the above data, the value marks small percentage in Japan's "entire" trade, and the influence on Japan's whole trade is considered to be limited.

Table 4-1-2-2 Trade trends of ports located in the 5 disaster-affected prefectures in 2010

<<Export>>

Ranking	Port name	Prefecture	Export amount (million yen)	Constituent ratio	Operational status (as at March 17, 2011)
28	Kashima	Ibaraki	350,020	0.52%	○
29	Hitachi	Ibaraki	343,457	0.51%	○
31	Shiogama, Sendai	Miyagi	298,790	0.44%	△
42	Hachinohe	Aomori	151,688	0.23%	△
54	Tsukuba	Ibaraki	101,372	0.15%	○
77	Onahama	Fukushima	38,808	0.06%	×
81	Iahinomaki	Miyagi	31,424	0.05%	×
86	Sendai airport	Miyagi	18,367	0.03%	×
92	Soma	Fukushima	13,915	0.02%	×
95	Kamaishi	Iwate	10,387	0.02%	×
98	Aomori	Aomori	9,244	0.01%	○
100	Ofunato	Iwate	8,461	0.01%	×
123	Kesennuma	Miyagi	588	0.00%	×
135	Fukushima airport	Fukushima	65	0.00%	○
137	Miyako	Iwate	40	0.00%	×
	Complete suspension ports		121,990	0.18%	×
	Total of complete suspension ports, partial suspension port and 5 disaster-affected prefectures		572,468	0.85%	×
	Total of 5 disaster-affected prefectures		1,376,627	2.04%	
	Whole countries		67,399,627	100%	

<<Import>>

Ranking	Port name	Prefecture	Export amount (million yen)	Constituent ratio	Operational status (as at March 17, 2011)
15	Kashima	Ibaraki	1,046,369	1.72%	○
23	Shiogama,Sendai	Miyagi	474,062	0.78%	△
35	Onahama	Fukushima	323,748	0.53%	×
40	Hitachi	Ibaraki	230,527	0.38%	○
48	Hachinohe	Aomori	118,867	0.20%	△
55	Soma	Fukushima	88,303	0.15%	×
66	Ishinomaki	Miyagi	48,652	0.08%	×
69	Sendai Airport	Miyagi	44,633	0.07%	×
87	Aomori	Aomori	24,003	0.04%	○
100	Kamaishi	Iwate	12,427	0.02%	×
103	Tsukuba	Ibaraki	11,104	0.02%	○
121	Ofunato	Iwate	4,375	0.01%	×
130	Miyako	Iwate	1,327	0.00%	×
133	Kesennuma	Miyagi	806	0.00%	×
138	Fukushima airport	Fukushima	232	0.00%	○
139	Aomori airport	Aomori	161	0.00%	○
	Complete suspension ports		524,271	0.86%	×
	Total of complete suspension ports, partial suspension port and 5 disaster-affected prefectures		1,117,200	1.84%	×or△
	Total of 5 disaster-affected prefectures		2,429,596	4.00%	
	Whole countries		60,764,957	100%	

Notes: There are no import and export from Ibaraki Airport, and export from Aomori Airport. "Ranking" refers to the ranking in the trade value by major important port of Japan (2010 confirmed value). "operational status" shows the operational status of the customs work, ○ means normal operation, △ means that only the response at the window is possible (NACCS (system processing), telephone, FAX works suspended), X shows that all works were suspended. As for Hakodate Customs House jurisdiction (Aomori, Iwate) and the Yokohama Customs House jurisdiction (Miyagi, Fukushima, Ibaraki prefecture), data based on renewal information as of 17:00 on March 17, 2011. In Shiogama, Sendai Customs House branch, only the correspondence at the window of the Shiogama office was possible.

Source: "Foreign trade statistics" (2010 total amount) (Ministry of Finance)

(2) Influence on global trade seen from the trade situation of the disaster-stricken area by trade items

On the other hand, in the trade of the specific item, it is considered that the temporary stop of export from 5 disaster-affected prefectures can exert significant influence partially on the global trade. Therefore, we inspected the export trend of export from every port in 5 disaster-affected prefectures in 2010 by item and export destination country.

At first, in the export items from the port in which all of the customs work stopped as of March 17, 2011, we sorted out the export commodities of high percentage in Japan's entire export in 2010

period¹⁰¹ (Table 4-1-2-3). There are six items exported from these ports, which account for more than 10% in total Japanese export. The six items are (a) "Vinyl chloride" (a polymer of vinylidene chloride) from port of Onahama (53.9% in whole country ratio, export amount) 38,400,000 dollars, major export destination: China (33.4% of import from the whole world), Vietnam):

(b) From the Ishinomaki Port "Paper-products" (more than 10% pulp content) (42.6% in whole country ratio, export amount approximately 99,100,000 dollars), major export destination: Australia (80.3% of import from the whole world) New Zealand, South Korea),

(c) From the Ofunato Port "Paper-products" (plastic coated) (18.9% in whole country ratio)
Export amount 46,600,000 dollars, major export destination: Netherlands, United States, China)

(d) From Kamaishi Port "Steel product (rod of iron or non-steel alloy) (round shape in cross section))" (16.7% in whole country ratio), export amount 101,500,000 dollars, major export destination: China, United States, Malaysia)

(e) From Sendai Airport "movement for watch" (16.7% in whole country ratio, export amount 16,400,000 dollars),

(f) From the above airport "prepared marine products" (other than shrimps or crabs) (11.0% in whole country ratio, export amount 54,300,000 dollars)

"Parts of Turbojet or turbo propeller" from the Soma Port accounts for 8.5% in whole country ratio, of which more than 60% are for United States, but percentage of import from the Soma Port of the

Hakodate Customs House jurisdiction

(Aomori prefecture) Hachinohe Customs House branch, Aomori Customs House branch, Aomori Airport branch office

(Iwate prefecture) Miyako Customs House branch, Ofunato Customs House branch, Kamaishi branch office

Yokohama Customs House jurisdiction

(Miyagi prefecture) Sendai Shiogama Customs House branch, Shiogama office, Ishinomaki branch office, Kesennuma branch office, Sendai Airport Customs House branch

(Fukushima prefecture) Onahama customs branch, Soma branch office, Fukushima Airport branch office

(Ibaraki prefecture) Kashima Customs House branch, Hitachi branch office, Tsukuba branch office, Ibaraki Airport office

In March 17, 2011 just after the Great East Japan Earthquake, of the above mentioned customs agencies, in the Hakodate Customs House jurisdiction, all the works were stopped in all the Iwate prefecture government agencies, and a part of the work of the Hachinohe Customs House branch was stopped in Aomori. In the Yokohama Customs House jurisdiction, in government agency in Miyagi except the front office works of Sendai Shiogama Customs House branch Shiogama office, all works were stopped. In Fukushima all the works of the government agency except the Onahama customs branch Fukushima Airport branch office were stopped. In Ibaraki prefecture, until that day a part of work was not performed at Kashima Customs House branch Hitachi branch office, usual work is possible from the same day, and in all government agencies usual work became possible.

(Data Source for the above, Ministry of Finance Hakodate Customs House "Hakodate Customs House work operation information" (updated March 17, 2011 17:00))

Yokohama Customs House "Yokohama Customs House work operation information" (updated March 17, 2011 17:00) and "About Bond/Customs clearance-related procedure in customs agencies of Tohoku district affected by Great East Japan Earthquake" (Notice of partial recovery) (March 17, 2011 partially updated)).

However, after that, recovery is made rapidly, and reopening of the work is planned in various government agencies one after another.

(Data source - the latest edition of "Work operation information" of above mentioned customs).

¹⁰¹ To check them against the trade data in the export country for each item, we use "World Trade Atlas" by Global Trade Information Services, Inc., The unit of export is U.S. dollar. "Whole country ratio" is a value calculated by "export amount from the relevant port / total export amount of whole country" for the item concerned. HS cords "000000" are excepted in the above.

relevant item to the United States (for import from the whole world) remain in around 1.0%.

Next, we sorted out the export commodities of high percentage in Japan's entire export in 2010 of the items exported from the port in which a part of the work of the customs stopped as of March 17, 2011 (Hachinohe Port, Sendai Kamaishi Port), and the main important port of the Pacific side of the 5 disaster-affected prefectures among the ports which operated normally (Kashima Port, Hitachi Port) (Table 4-1-2-4). There are nine items exported from these ports, export amount of which are more than 100 million dollars and which account for more than 10% in whole country ratio. The nine items are;

(a) "Ferronickel" from the Hachinohe Port (91.0% in whole country ratio, export amount 575,100,000 dollars), major export destination: Taiwan, South Korea, China, India)

(b) "Tire" (rubber pneumatic tire for passenger car) from Sendai Shiogama Port (19.4% in whole country ratio, export amount 671,500,000 dollars, major export destination: United States, Canada, Germany, U.K.),

(c) "Iron pipe" (line pipe for transportation of oil or gas) from Kashima Port (32.1% in whole country ratio, export amount 305,300,000 dollars, major export destination: Malaysia, Saudi Arabia, France, UAE),

(d) "Vinyl chloride (not mixed)" from the above port (24.1% in whole country ratio, export amount 159,600,000 dollars, major export destination: China (approximately 60% of total),

(e) "Paraxylene" from the above port (20.1% in whole country ratio, export amount 476,600,000 dollars, major export destination: Taiwan, South Korea, and China),

(f) "Steel product" (flat roll products of iron or non-steel alloy with thickness more than 10 millimeters) from the above port, (17.8% in whole country ratio, export amount 460 million dollars, major export destination: South Korea (approximately 70% of total)),

(g) "Dump truck" from the Hitachi Port, (81.4% in whole country ratio, export amount 722,500,000 dollars, major export destination: Indonesia (approximately 60% in total)),

(h) "Mechanical shovels (upper structure of which rotates 360 degrees)" from the above port (14.4% in whole country ratio, export amount 1,022,800,000 dollars, major export destination: China, Australia, the Netherlands, Indonesia),

(i) "Front end type shovel loader" from the above port (13.3% in whole country ratio, export amount 130,800,000 dollars).

As for the individual items, approximately 10 items are confirmed as the item having high percentage in Japan's entire export and high degree of dependence on export in the export destination country. It is considered that these items might have much significant degree of the influence.¹⁰² However, as for the significant influence on global supply-chain due to the stop or delay in production or distribution of automobile parts or electronic parts in the disaster-stricken area, as far as judging from only the direct export from the area, we understand that it accounts for relatively small percentage in Japan's entire export.

Table 4-1-2-3 High rank export items from the ports which suffered the big damage (2010 total, six digits of HS cord bases)

¹⁰² Although many companies, which are considered to be the production entity of these items, stopped production due to the damage incurred, after that they are starting production activity rapidly with their persistent recovery activity. In fact a lot of companies have already accomplished complete recovery.

• Onahama port

Ranking	HS code	Item name	Export value (million dollars)	Whole country ratio
1	900211	Lense for camera etc.	47.6	2.7%
2	720449	Waste of steel (except cast iron, steel alloy)	39.2	1.4%
3	390450	Polymer of vinylidene chloride	38.4	53.9%
4	720421	Waste of steel alloy	27.6	9.2%
5	843149	Parts for crane, bulldozer etc.	23.6	0.9%

• Ishinomaki port

Ranking	HS code	Item name	Export value (million dollars)	Whole country ratio
1	890190	Cargo boats (except tanker, reefer)	114.4	0.7%
2	481029	Paper-products (more than 10% of pulp content)	99.1	42.6%
3	890120	Tanker	76.7	0.9%
4	720449	Waste of steel (except cast iron, steel alloy)	32.1	1.2%
5	720421	Waste of steel alloy	11.7	3.9%

• Sendai airport

Ranking	HS code	Item name	Export value (million dollars)	Whole country ratio
1	160590	Processed goods of marine products (other than shrimps etc.)	54.3	11.0%
2	854239	Integrated circuit (except processors etc.)	44.0	0.4%
3	911011	Movement of portable clock	16.4	16.7%
4	854232	Parts of integrated circuit	10.8	0.1%
5	852990	Parts for digital camera etc.	6.9	0.1%

Notes: Top five items of export value from each port which export value more than 1 million dollars are extracted. Miyako Port has no applicable export item.

Source: "World Trade Atlas" (Global Trade Information Services, Inc.)

• Soma port

Ranking	HS code	Item name	Export value (million dollars)	Whole country ratio
1	841191	Parts of turbojet or turbo propeller	133.9	8.5%
2	870422	Truck (heavier than 5 tons and below 20 tons)	4.2	0.1%
3	720449	Waste of steel (except cast iron, steel alloy)	3.8	0.1%
4	848340	Transmission	2.5	0.1%
5	870423	Truck (heavier than 20 tons)	1.6	0.1%

• Ofunato port

Ranking	HS code	Item name	Export value (million dollars)	Whole country ratio
1	481151	Paper-products (plastic coated)	46.6	18.9%
2	854190	Parts of semiconductor device etc.	17.5	2.5%
3	731210	Steel cable etc.	6.7	2.8%
4	030379	Frozen fish (herring, saury)	5.5	3.4%
5	842240	Packing machinery	3.7	1.3%

• Kamaishi port

Ranking	HS code	Item name	Export value (million dollars)	Whole country ratio
1	721391	Pole of iron or non-steel alloy (circular cross section)	101.5	16.7%
2	722790	Pole of steel alloy (Others)	16.0	3.2%
3	721399	Pole of iron or non-steel alloy (Others)	1.2	0.8%

• Kesennuma port

Ranking	HS code	Item name	Export value (million dollars)	Whole country ratio
1	030379	Frozen fish (herring, saury)	4.5	2.8%

Source: "World Trade Atlas" (Global Trade Information Services, Inc.)

Table 4-1-2-4 High rank export items from the ports which suffered the damage (2010 total, six digits of HS cord bases)

• Shiogama, Sendai Port

Ranking	HS code	Item name	Export value (million dollars)	Whole country ratio
1	401110	Rubber pneumatic tire for passenger car	671.5	19.4%
2	844399	Parts of printing machine	664.5	5.4%
3	840991	Parts for automobile engine	214.9	3.7%
4	290122	Propene (propylene)	92.1	11.2%
5	722790	Pole of steel alloy (Others)	88.5	17.4%

• Hachinohe port

Ranking	HS code	Item name	Export value (million dollars)	Whole country ratio
1	720260	Ferronickel	575.1	91.0%
2	844399	Parts of printing machine	425.9	3.4%
3	890120	Tanker	316.9	3.9%
4	848630	Machinery for flat-panel display manufacture	135.7	3.1%
5	890130	Reefer and refrigerated carrier	99.7	50.8%

• Kashima port

Ranking	HS code	Item name	Export value (million dollars)	Whole country ratio
1	290243	Paraxylene	476.6	20.1%
2	720851	Flat roll product of iron or non-steel alloy (thickness more than 10 millimeters)	460.0	17.8%
3	271019	Kerosene, light oil etc.	305.4	3.0%
4	730511	Iron pipe(line pipe for transportation of oil or gas)	305.3	32.1%
5	390410	Vinyl chloride (no mixture)	159.6	24.1%

• Hitachi port

Ranking	HS code	Item name	Export value (million dollars)	Whole country ratio
1	870324	Passenger car (cylinder capacity more than 3000cc ³)	1083.4	3.9%
2	842952	Mechanical shovel (upper structure turns 360 degrees)	1022.8	14.4%
3	870410	Dump truck	722.5	81.4%
4	842951	Front end type shovel loader	130.8	13.3%
5	870323	Passenger car (cylinder capacity more than 1500 and below 3000cc ³)	130.6	0.3%

Notes: Top five items of export value from each port are extracted

Source: "World Trade Atlas" (Global Trade Information Services, Inc.)

In addition, in some cases, products produced in disaster-stricken area may be exported from the port or airport other than the relevant area. In fact, a lot of related companies of automobile parts and the electronic parts industry in the Tohoku area are located in the manufacturing area developed along the national highway No. 4 that is a local main road or Tohoku Expressway, it is considered that their products are exported via a trade base in Kanto area such as Keihin port and Narita Airport. Therefore, as for the distribution trend of the export cargo (Table 4-1-2-5), the place of production of cargo exported from Tokyo Port, Yokohama Port or Narita airport which are the export base of Kanto area is basically Kanto area, and there is little percentage that Hokkaido, Tohoku area is a straight production center for percentage among 10.3% and the whole in 4.0%, Narita Airport in 10.0%, Yokohama Port in the Tokyo Port. In addition, the export of industrial products of the Tohoku area from Nagoya port is much less. On the other hand, as for the status of transportation of containerized cargo¹⁰³, 28.1% of

¹⁰³ Ministry of Land, Infrastructure and Transport (2009) "Whole National import and export purpose

cargo produced in Hokkaido and Tohoku area are packed into container in Kanto area (68.4% are packed within the production areas). Moreover, as for the cargo packed into a container in Hokkaido, Tohoku areas, nearly half of them are shipped from the ports of Kanto area such as Yokohama Port (26.9% of the whole) and Tokyo Port (26.1% of the whole).

Particularly, as for the export of automobile parts produced in Tohoku area, approximately three-fourths of them are exported from the ports of the other area, mainly from the ports in Kanto area. In particular, the prefectures that have convenience of the traffic access to the Kanto area such as Fukushima and Miyagi are high in the ratio (Table 4-1-2-6). However, export from Tohoku area is around 1% of total export of Japanese automobile parts (Table 4-1-2-7), and total export from three North Kanto prefectures (Ibaraki, Tochigi, and Gunma) account for only around 6.6%. In short, the export of disaster-stricken area account for very little proportion in the total export, even if the portion of export by way of the other area such as Kanto area (which route has become possible by the development of the domestic distribution network) is taken into consideration.

Therefore, products manufactured in the disaster-stricken area supports other local production as "intermediate input", and if this "intermediate input is impeded, it will have an influence on the global supply-chain. We will analyze this influence, in other word influence by the decrease in "indirect export", in the following section.

Table 4-1-2-5 The export from major ocean ports, airports from where cargo produced in Hokkaido, Tohoku areas are shipped

Major ocean freight shipping port	Percentage in whole country (%)	Percentage of production area in Hokkaido and Tohoku region	Prefecture with largest production and the percentage	
Tokyo port	8.5	10.0%	Fukushima prefecture	5.2%
Yokohama port	16.8	4.0%	Fukushima prefecture	2.1%
Nagoya port	17.6	1.6%	Iwate prefecture	1.6%
Major air freight shipping airport	Percentage in whole country (%)	Percentage of production area in Hokkaido and Tohoku region	Prefecture with largest production and the percentage	
Narita airport	62.9	10.3%	Fukushima prefecture	4.5%

Notes: The percentage is based on monetary amount.

Source: "Distribution trends survey of import and export cargo" (September, 2008 survey) (Ministry of Finance)

Table 4-1-2-6 Export direction of automobile parts produced in Tohoku region

Production area	Quantity of export cargo and share in the region		Quantity of export cargo from the ports in Tohoku region and ratio		Quantity of export cargo from the ports of other regions and ratio	
Total Tohoku region	7,086	100.0%	1,691	23.9%	5,395	76.1%
Aomori prefecture	586	8.3%	399	68.1%	187	31.9%
Iwate prefecture	504	7.1%	144	28.6%	360	71.4%
Miyagi prefecture	1,707	24.1%	190	11.1%	1,517	88.9%
Akita prefecture	1,309	18.5%	747	57.1%	562	42.9%
Yamagata prefecture	870	12.3%	166	19.1%	704	80.9%
Fukushima prefecture	2,110	29.8%	45	2.1%	2,065	97.9%

Notes: The unit of quantity of export cargo is freight ton / month. Total of share may not become 100% due to rounding off.

Source: Compiled from the data prepared by Tohoku international distribution strategy team secretariat ("Tohoku international distribution strategy team the fifth main conference information (c) February, 2011) based on "Import and export containerized cargo flow surveys in 2008 of the whole country"(Ministry of Land, Infrastructure and Transport)

Table 4-1-2-7 Percentage of automobile parts exported from Japan by production area

Production area	Quantity of export cargo	Percentage	(reference) Estimated export value (hundred million yen)
Hokkaido	5,370	0.81%	269
Tohoku	7,086	1.07%	354
Kanto	252,707	38.08%	12,642
Chubu	299,660	45.15%	14,991
Kinki	62,934	9.48%	3,148
Chugoku	23,518	3.54%	1,177
Shikoku	1,220	0.18%	61
Kyushu	10,863	1.64%	543
Okinawa	270	0.04%	14
Total whole country	663,628	100%	33,200
Tohoku plus three prefectures of North Kanto	44,067	6.64%	2,205

Notes: The unit of quantity of export cargo is freight ton / month. Three prefectures of North Kanto are Ibaraki Tochigi and Gunma. The estimation of the export value in region was obtained as follows; the annual export value which is calculated by multiplying the declared value in the survey period (one month of November, 2008) by 12, then the value is allocated in proportion of each prefectures, and added up according to region.

Source: Compiled by the date of report "Import and export containerized cargo flow surveys in 2008 of the whole country"(Ministry of Land, Infrastructure and Transport)

Section 2 The global supply-chain originating from Japan, recognition of which is renewed clearly through the earthquake damage

1. The influence that regional economies of Japan exert on the global supply-chain

(1) The global supply-chains, which are established according to each export item and region

In this section, at first we will demonstrate that there are slight variations between the global supply-chains, which are established separately according to the items exported from Japan and regions, and linked with various countries/regions of the world. Then we will analyze these facts, taking the automobile parts and electronic parts, the representative products export of which from Japan has a significant influence as an example.

(A) Structure of the global supply-chain of the automobile parts that is originating from Japan

There are some characteristics found in the items and the regions in the world of which influence on global supply-chain created worries just after this earthquake disaster. Particularly, these are relatively apparent in export for automobile parts to Europe and U.S.A. (especially to United States). On the other hand, in the Asian region, some people expect increase of receiving of order by means of the substitute production and reconstruction demand to be caused by this earthquake disaster. To inspect the connection between Japanese export of automobile parts¹⁰⁴ and supply chains with the world, we compared domestic areas of origin¹⁰⁵ of direct export to major export destination, using the foreign trade statistics of 2010 (Table 4-2-1-1). The total sum of export of automobile parts from Japan is approximately 3 trillion yen, and the biggest export area is Chubu area (export share 48.2%), followed by Kanto area (35.5%). The export from the above top two areas accounts for over 80%. The top two areas are followed by Kinki area (7.4%), and Chugoku area (5.9%) in that order. The (direct) export amount from Tohoku area is around 10 billion yen (0.3%)¹⁰⁶. As for the export unit price export products from Chubu area and Chugoku area is higher in the price in comparison with that of other areas.

¹⁰⁴ We extracted 70505 (car component) export amount of the Principal Commodity cord, from Ministry of Finance "foreign trade statistics" (Customs list by Principal Commodity by country). It is the total of 8707 (the body) and 8708 (component and accessories) with four digits of HS cord bases.

¹⁰⁵ The domestic areas are classified by the location of the customs of the export.

As for the area classification, we use the same area classification as in the classification of the district under jurisdiction of Bureau of Economy, Trade and Industry. This is because we analyze the Inter-regional I/O table (Chiikikan Sangyokanrenhyo) in the later section.

The details are as follows;

Hokkaido area: Hokkaido

Tohoku area: Aomori, Iwate, Miyagi, Akita, Yamagata, Fukushima

Kanto area: Ibaraki prefecture, Tochigi, Gunma, Saitama, Chiba, Tokyo, Kanagawa, Niigata, Yamanashi, Nagano, Shizuoka

Chubu area: Toyama, Ishikawa, Gifu, Aichi, Mie

Kinki area: Fukui, Shiga, Kyoto, Osaka, Hyogo, Nara, Wakayama

Chugoku area: Tottori, Shimane, Okayama, Hiroshima, Yamaguchi

Shikoku area: Tokushima, Kagawa, Ehime, Kochi

Kyushu area: Fukuoka, Saga, Nagasaki, Kumamoto, Oita, Miyazaki, Kagoshima

Okinawa area: Okinawa prefecture

¹⁰⁶ Whole export amount from Tohoku area that we estimated in Table 4-1-2-7 of the foregoing paragraph(based on place of production) is approximately 35 billion yen, and this is almost conformal with the result that the export from the port of Tohoku region is approximately a quarter in the total.

Table 4-2-1-1 Japanese export of automobile parts by region (2010 total)

Exporting area	Export value (hundred million yen)	Percentage (%)	Unit price (1,000 yen/kg)
Hokkaido	449	1.5%	1.02
Tohoku	105	0.3%	0.58
Kanto	10,947	35.5%	0.96
Chubu	14,861	48.2%	1.23
Kinki	2,272	7.4%	0.90
Chugoku	1,824	5.9%	1.15
Shikoku	2	0.0%	0.35
Kyushu	372	1.2%	0.55
Okinawa	1	0.0%	0.08
Whole country total	30,833	100.0%	1.07

Notes: Total of share may not become 100% due to rounding off.

Source: "Foreign trade statistics" (2010 total amount) (Ministry of Finance)

Now, let us see the major export destinations (Table 4-2-1-2). The two major export destination countries from Japan are China (export amount approximately 690 billion yen, export share 22.4%) and the United States (approximately 670 billion yen, 21.6%), and the amounts are almost in the same level as of 2010. As to the region, NAFTA is the largest export destination area (export share 29.8%). NAFTA's member countries include Mexico and Canada both of which are ranked in top 10 export destination countries. The following major export destinations include ASEAN4 (16.1%) in which Thailand, Indonesia and Malaysia are the member countries, EU27 (12.9%), U.K. and the Netherlands are member countries, NIEs (6.1%) South Korea is a member country. Below, we compare areas of origin of export for; (a) United States and NAFTA, (b) China, (c) EU27, and (d) NIEs and ASEAN4 (Table 4-2-1-3).

Table 4-2-1-2 Major export destination countries/regions of Japanese

Ranking	Export destination countries/regions	Export value (hundred million yen)	Percentage (%)
	Whole world total	30,833	100.0%
1	China	6,912	22.4%
2	U.S.A.	6,653	21.6%
3	Thailand	2,582	8.4%
4	Mexico	1,497	4.9%
5	Indonesia	1,191	3.9%
6	South Korea	1,102	3.6%
7	Canada	1,032	3.3%
8	U.K.	1,007	3.3%
9	Netherlands	898	2.9%
10	Malaysia	873	2.8%
	NAFTA	9,182	29.8%
	ASEAN4	4,979	16.1%
	EU27	3,981	12.9%
	NIEs	1,880	6.1%

Notes: Analysis are performed on countries/regions that are shaded.

Source: "Foreign trade statistics" (2010 total amount)(Ministry of Finance)

Table 4-2-1-3 Share of automobile parts exported from various domestic regions, in the export to various countries/regions of the world (2010 total)

Export direction	Whole world	NAFTA	USA	China	ASEAN4	NIEs	EU27
Export value (hundred million yen)	30,833	9,182	6,653	6,912	4,979	1,880	3,981
Export percentage	100.0%	29.8%	21.6%	22.4%	16.1%	6.1%	12.9%
Export unit price	1.07	1.12	1.17	1.26	0.90	1.07	1.14
Exporting area	Percentage of various regions in export from Japan						
Hokkaido	1.5%	4.4%	4.2%	0.2%	0.2%	0.1%	0.3%
Tohoku	0.3%	0.7%	1.0%	0.2%	0.1%	0.0%	0.3%
Kanto	35.5%	44.5%	46.1%	27.4%	41.2%	29.1%	30.9%
Chubu	48.2%	41.2%	37.4%	56.7%	35.2%	41.9%	59.7%
Kinki	7.4%	5.4%	7.2%	2.3%	16.0%	17.5%	5.2%
Chugoku	5.9%	2.6%	2.7%	11.4%	6.1%	9.5%	3.4%
Kyushu	1.2%	1.2%	1.3%	1.8%	1.3%	1.8%	0.2%

Notes: Shikoku region and Okinawa region, are omitted from the table, as all the shares in the export are less than 0.1%. The regions which are shaded indicate that the regions which share in the export for various regions is higher than the share in the export for whole world. Total of share may not become 100% due to rounding off. The unit of export unit price is 1,000 yen/kg.

Source: "Foreign trade statistics" (2010 total amount) (Ministry of Finance)

As for the export for United States and NAFTA, the export from Kanto area (export share 46.1% for United States) is more than the export from the Chubu area (37.4%), and is in reverse order as for proportion of the export for entire world. And also, the share of export from Hokkaido and Tohoku area, northern area to Kanto is higher than a share of the export for whole world from the area concerned. As for the export for China, the export from Chubu area (export share 56.7%) is considerably more than export from the Kanto area (27.4%), and this is conformal with the share according to the area of the export for whole world; that is the export from the Chubu area is more. Moreover, in the area from Chubu and to the west except Kinki area, share of export from Chugoku area and Kyushu area is higher than the share of export from the area for whole world. It may be said

that export from West Japan relatively increases. In addition, the export unit price for China is 1,260 yen/kg, which is not so much inferior to the export unit price for United States (1,170 yen/kg).

As for the export for EU27, export from Chubu area (export share 59.7%) is more than that from Kanto area (30.9%), this structure is conformal with the order of the export share for whole world as in export for China. The export ratio from the Chubu area further increases more than that in the case of products for China, showing dominant position of Chubu area.

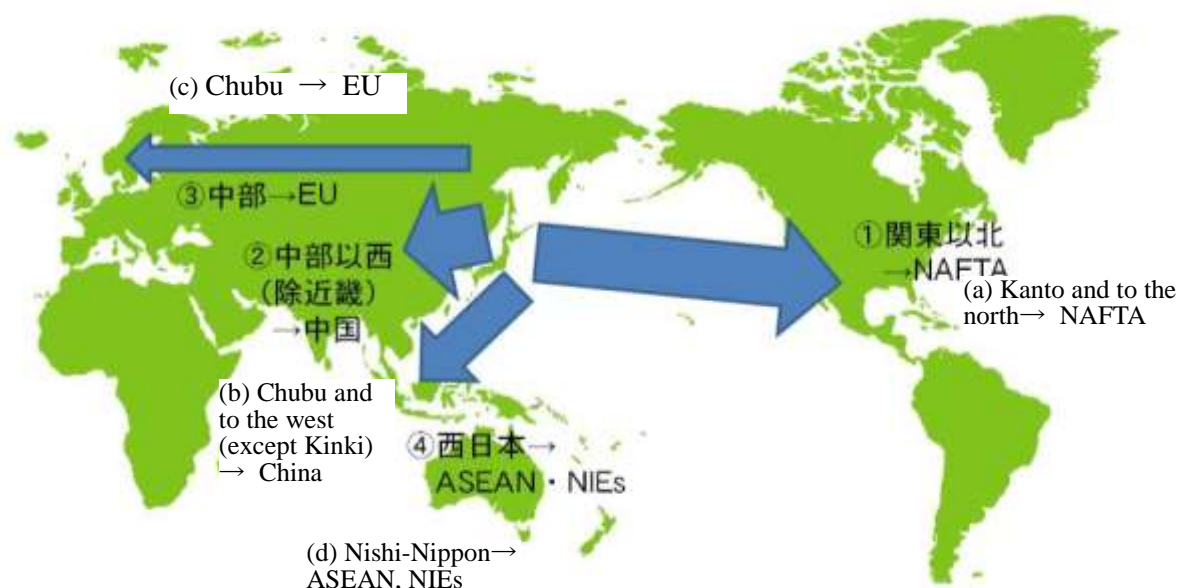
Finally in terms of export for ASEAN4 and NIEs, export from the Chubu area has relatively small proportion, which is less than a share of the export for whole world (for ASEAN4 35.2%, for NIEs 41.9%). Moreover, in Kanto area although export to ASEAN4 is larger compared with Chubu area (export share 41.2%), export for NIEs is relatively small (29.1%). In place of these two major exporting areas, share of the export from West Japan such as Kinki, Chugoku and Kyushu area is characteristically higher than the share of export from the area for whole world. In addition, the export unit price is in the low level as a whole in comparison with products for Europe and U.S.A. and for China.

Below is a summary about the links of the export of automobile parts according to areas of Japan with the supply chain of country/region in the world, as taken from the above data. It is confirmed that; (a) United States, NAFTA are relatively strong in the connection with areas from Kanto area and to the north, (b) China is relatively strong in terms of areas from Chubu area and to the west except Kinki area, (c) EU27 is relatively strong in Chubu area, (d) ASEAN4, NIEs are strong in the West Japan area (Figure 4-2-1-4).

Due to these characteristics of the export structure of Japanese automobile parts, Influence on the global supply-chains connected in each country/region which is originating from Japan caused by this earthquake disaster is considered to change little by little in its aspect. In addition, for factors which determine the export structure, various factors are considered such as the difference in strategy of companies located in the individual area for various countries/regions, the difference in development of the international distribution network¹⁰⁷ the difference in exported products, etc.

¹⁰⁷ In international routes of the transport by sea, the route from Japan for North America has many services from the East Japan area, and the route for China and other Asia has equal number of services from the West Japan area. This is regarded as one reason.
(From Ministry of Land, Infrastructure and Transport (2010) "Number of service (service/week) of regular overseas trade container calling at Japan").

Figure 4-2-1-4 Image of the global supply-chain of automobile parts originated from Japan



(B) Structure of global supply-chain of electronic parts originating from Japan

Next, as for the export of electronic parts like semiconductors (hereafter to be referred to as electronic parts) of Japan¹⁰⁸, we compare the domestic area, which is the origin of direct export to main export destinations. This will be helpful in order to understand the links with supply chains of the world, and for this, we will apply the same method as in the case of automobile parts (Table 4-2-1-5).

Table 4-2-1-5 Japanese export of electronic parts by region (2010 total)

Exporting area	Export value (hundred million yen)	Export value (hundred million yen)
Hokkaido	3	0.0%
Tohoku	158	0.4%
Kanto	15,972	38.5%
Chubu	3,268	7.9%
Kinki	18,303	44.1%
Chugoku	107	0.3%
Shikoku	86	0.2%
Kyushu	3,600	8.7%
Okinawa	31	0.1%
Total whole country	41,528	100.0%

Notes: Total of share may not become 100% due to rounding off.

Source: "Foreign trade statistics" (2010 total amount) (Ministry of Finance)

¹⁰⁸ We extracted 70323 (semiconductors etc.) export amount of the P.C. Code, from Ministry of Finance "foreign trade statistics" (Customs list by country by Principal Commodity).

By HS cord basis, the data is the total of 852352 (IC cards), 8540 (thermionic tubes), 8541 (individual semiconductor such as diode and transistor), and 8542 (integrated circuits such as IC card). Adding up of the amount is not possible because there are too many types of products, and the calculation of the product unit price is not possible.

The total sum of export of electronic parts for the whole world amount to approximately 4 trillion yen, approximately 1 trillion yen more compared with export of automobile parts. The largest exporting area is Kinki area (export share 44.1%), followed by Kanto area (38.5%). Export from these two major exporting areas exceeds 1,500 billion yen each and account for over 80% in the whole. The two areas are followed by Kyushu area (8.7%), and Chubu area (7.9%) in that order, and the export from Tohoku area is approximately 16 billion yen, accounting for 0.4% of the whole. The role that Chubu area undertakes as the largest exporting area of automobile parts is taken by Kinki area in the electronic parts, and Kanto area occupies the next position as same as for export of both parts.

As for the main export destination (Table 4-2-1-6), the largest export destination from Japan is China (export amount approximately 1,040 billion yen, export share 25.1%), and the largest export destination region is NIEs (approximately 1,720 billion yen, 41.5%). As for the region, main export destination regions are ASEAN4 (export share 15.9%), with Malaysia, Thailand and Philippines in the member nations are in the top 10 export destination nations, NAFTA (7.4%) with United States is in the top 10, and EU27 (7.4%) with Germany is in the top 10. Below, we compare areas of origin of export for; (a) China, (b) NIEs and ASEAN4 (c) United States and NAFTA, and (d) EU27 (Table 4-2-1-7).

Table 4-2-1-6 The major export destination countries/regions of electronic parts of Japan (2010 total)

Ranking	Export destination country /region	Export value (hundred million yen)	Export value (hundred million yen)
	Whole world total	41,528	100.0%
1	China	10,434	25.1%
2	Taiwan	6,536	15.7%
3	Hong Kong	5,281	12.7%
4	Singapore	3,057	7.4%
5	U.S.A.	2,681	6.5%
6	Malaysia	2,576	6.2%
7	Thailand	2,467	5.9%
8	South Korea	2,351	5.7%
9	Germany	1,229	3.0%
10	Philippines	1,177	2.8%
	NIEs	17,224	41.5%
	ASEAN4	6,613	15.9%
	EU27	3,074	7.4%
	NAFTA	3,073	7.4%

Notes: Analysis are performed on countries/regions that are shaded.

Source: "Foreign trade statistics" (2010 total amount) (Ministry of Finance)

Table 4-2-1-7 Share of electronic parts exported from various domestic regions, in the export to various countries/regions of the world (2010 total)

Export direction	Whole world	NAFTA	USA	China	ASEAN4	NIEs	EU27
Export value (hundred million yen)	41,528	3,073	2,681	10,434	6,613	17,224	3,074
Export percentage	100.0%	7.4%	6.5%	25.1%	15.9%	41.5%	7.4%
Exporting area	Percentage of various regions in export from Japan						
Hokkaido	0.0%	—	—	0.0%	0.0%	0.0%	0.0%
Tohoku	0.4%	0.9%	1.0%	0.7%	0.2%	0.1%	0.0%
Kanto	38.5%	46.2%	50.3%	35.3%	41.3%	38.7%	31.4%
Chubu	7.9%	12.0%	12.5%	8.5%	15.9%	3.0%	6.1%
Kinki	44.1%	37.4%	32.2%	42.0%	32.9%	50.3%	53.5%
Chugoku	0.3%	—	—	0.9%	0.0%	0.1%	0.0%
Shikoku	0.2%	0.0%	0.0%	0.5%	0.4%	0.0%	0.1%
Kyushu	8.7%	3.5%	3.9%	12.1%	9.3%	7.6%	8.9%
Okinawa	0.1%	—	—	—	—	0.2%	—

Notes: The regions which are shaded indicate that the regions which share in the export for various regions is higher than the share in the export for whole world. Total of share may not become 100% due to rounding off. Comparisons of 0.0% means that comparison is performed in the number of 2 digits after decimal point

Source: "Foreign trade statistics" (2010 total amount)(Ministry of Finance)

First, as for the export to China, which is, the largest export destination, export from two major exporting areas, the Kinki area (export share 42.0%) and Kanto area (35.3%), marks lower proportion compared with export for the whole world, under 80% in total. On the other hand, the other areas including Kyushu account for relatively high export proportion. This means that export for China is widely made from various Japanese areas.

Next as for the export for NIEs, which is the largest regional export destination, export from Kinki area (50.3%) and Kanto area (38.7%) account for approximately 90% of its trade with this region, and both areas have higher share in export for whole world. Export from other areas is relatively small. On the other hand, as for the export for ASEAN4, Kinki area's share (32.9%) in export is relatively low, Kanto area (41.3%) has the largest share, and this is in reverse order as for proportion of the export for entire world. Moreover, export from the Chubu and Kyushu areas has a higher proportion compared with the share of export for whole world from the relevant areas. As mentioned above, the structure of export for Asia of electronic parts is not uniform and it slightly varies according to country/region.

As for the export for United States and NAFTA, the export from Kanto area (export share 50.3% for United States) is more than the export from Kinki area (32.2%), and as in the case of export for ASEAN4, this is in reverse order as for proportion of export to entire world. This shows the same structure as in the case of exports from Kanto area, which is the largest in the export for United States of automobile parts. Moreover, export from Tohoku area and Chubu area also has a higher proportion compared with the share of export for whole world from the relevant areas. On the contrary, the export from Kinki area and to the west has relatively small proportion.

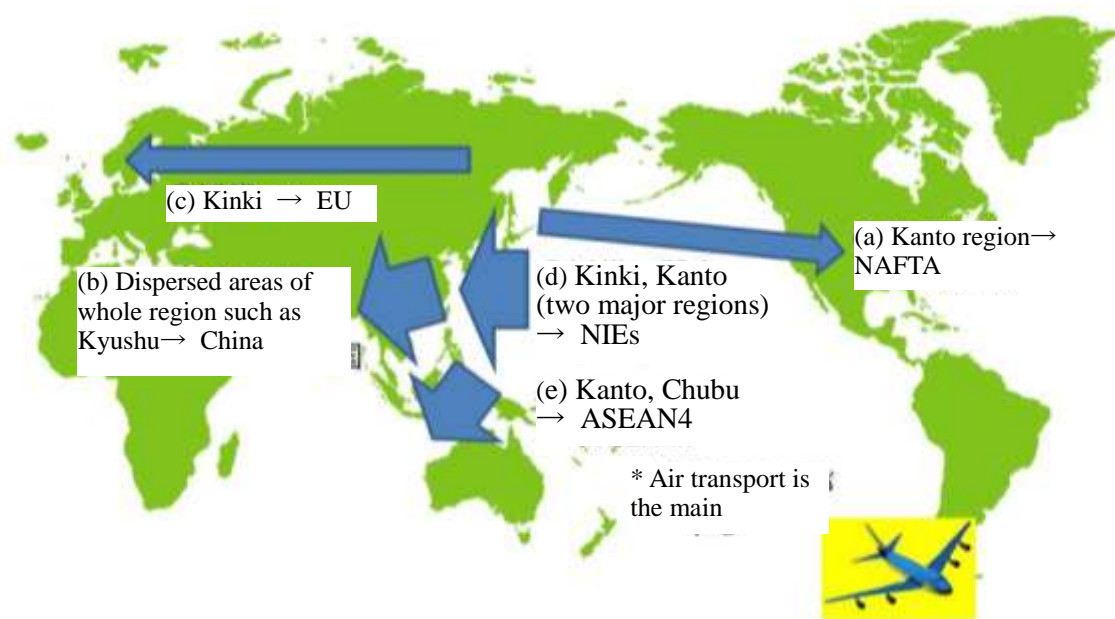
Finally, export from Kinki area (export share 53.5%) is considerably more than export from the Kanto area (31.4%), and this is conformal with the share of the export for the whole world. Export from Kinki area accounts for more than half, and exporting makers are more concentrated in the area. Moreover, export from the areas other than Chubu area except Kyushu area has a lower

proportion compared with the share of export for whole world from the relevant areas. This is the similar structure like the export for EU of automobile parts, too.

Below is a summary about the links of the export of electronic parts according to areas of the Japan with the supply chain of country/region in the world, taken from the above data. It is noted that; (a) United States, NAFTA are relatively strong in the connection with the neighborhood area of Kanto, (b) China has relatively a connection widely with the whole domestic area including Kyushu area as well as Kinki and Kanto area. (c) EU27 is relatively strong in the connection with Kinki area, (d) NIEs is relatively strong in connections with the two major areas of Kinki and Kanto area, (e) ASEAN4 is relatively strong in the connection with Kanto area and Chubu area. Besides, in the nature of the product, the transportation ratio as the air cargo is high¹⁰⁹ (Figure 4-2-1-8). In comparison with export structure of the automobile parts, the electronic parts include a variety of items, and also wide use. Accordingly such the definite export structure as in the case of automobile parts cannot be observed, particularly in the export for various Asian areas. However, about export for Europe and the U.S.A., the following is in common; Export for United States and NAFTA is made mainly around Kanto, and Export for EU27 has a big proportion in the largest exporting area (in the case of electronic parts- Kinki area, and for automobile parts- Chubu area). Besides, the facts that origin of export of total electronic parts is mainly West Japan such as Kinki area and Kyushu area, is considered to have something to do with the influence on the global supply-chain by this earthquake disaster.

¹⁰⁹ The electronic parts like semiconductor etc., due to its product nature , are often exported as air cargo via the airports. Approximately 70% of all are exported from various international airports including Narita Airport and Kansai Airport.

Figure 4-2-1-8 Image of the global supply-chain of electronic parts originated from Japan



Source: Compiled from the data of Ministry of Economy, Trade and Industry.

(C) The export structure of automotive IC tips from Japan

As for the influence on global supply-chain by this earthquake disaster in relation to electronic parts, more serious Influence is added to car industry than to the electronic industry.

Particularly, the supply system of automotive IC tip¹¹⁰ drew attention. In case of the disaster in the past, discontinued production of parts has affected the domestic and foreign supply chains of the car industry. For example, in the case of The Niigata-ken Chuetsu-oki Earthquake occurred in 2007, a production factory (located in Kashiwazaki-shi, Niigata) of piston ring¹¹¹ which is an indispensable part for the production of automobile suffered damage, the supply of the part stopped temporarily, resulting in great impact on entire automobile production. In the case of this earthquake disaster, since automotive IC tips factory is located in the disaster-stricken area (Ibaraki prefecture), the supply of the part stopped temporarily resulting in similar great impact on entire automobile production. Therefore about the export of microcontroller (hereafter a microcomputer) including the automotive IC tip from Japan, in order to understand the links with supply chains of the world, using the same method as before, we compared domestic areas of origin of export to major export destinations (Table 4-2-1-9)¹¹².

¹¹⁰ The IC tip used in automobile is a kind of the microcomputer (microcontroller unit: often abbreviated as MCU). It is difficult to grasp the IC tip for automobile as an export item from all the microcomputers. Microcomputers are used in wide range, from the household electrical appliance such as cell-phone, wireless remote controllers of TV to engine control system of the car.(It is said that approximately 150 MCUs are used in one standard household, and approximately 60 MCUs are used in one car in an average). The company having the factory suffered by this earthquake disaster is the world's largest company in the microcomputer production, and is believed to have 60% of domestic shares, 30% of world shares in the microcomputer market. Moreover, the use of microcomputer incorporated in an automobile includes Engine control, Electronic control suspension, An anti-lock braking system (ABS), Power steering, Power window, Air bag control, Windshield wiper control, and keyless entry.

¹¹¹ The piston ring is a ring-shaped part used for the engine for automobiles etc., and its function is to seal the combustion gases chamber in the piston and release the heat in the cylinder.

¹¹² Source: Ministry of Finance "foreign trade statistics" (List of Country Customs by Commodity

Table 4-2-1-9 Japanese export of microcomputers by region (2010 total)

Exporting area	Export value (hundred million yen)	Percentage (%)	Unit price (yen/unit)
Hokkaido	—	—	—
Tohoku	1	0.0%	147
Kanto	1,168	65.2%	165
Chubu	135	7.6%	176
Kinki	314	17.5%	150
Chugoku	2	0.1%	194
Shikoku	4	0.2%	93
Kyushu	166	9.3%	156
Okinawa	—	—	—
Whole country total	1,790	100.0%	162

Notes: Total of share may not become 100% due to rounding off.

Source: "Foreign trade statistics" (2010 total amount)(Ministry of Finance)

The export of microcomputers from Japan is approximately 180 billion yen, account for approximately 4.3% of export of electronic parts of more than 4 trillion yen¹¹³. By region, export from Kanto area is the largest, accounting for 65.2% of the total, followed by Kinki area (17.5%) and Kyushu area (9.3%) in that order. This is in contrast to the case that Kinki area has the largest proportion in the total electronic parts export, and Chubu area has the largest in total automobile parts export. In addition, in terms of the export unit price from the origin of major exporting manufactures, the price of export product from Chubu area is relatively high, followed by Kanto area.

As for the major export destination country/region of the microcomputer (Table 4-2-1-10) the share of export for NIEs is the largest, approximately 40% (38.4%), followed by export for EU27 (22.4%), for China (16.2%), for NAFTA (15.2% of which 14.7% for United States) and for ASEAN4 (7.0%). More than 99% of the export for the whole world is made for the above countries and regions. In addition, in comparison with the export of whole electronic parts, the proportion of the export for Europe and U.S.A. (NAFTA and EU27) is high. (export of entire electronic parts, proportion of both region is the same, i.e.7.4%). Below, we compared areas of origin of export for; (a) United States, NAFTA, and EU 27 - unit price of export products are relatively high, and (b) NIEs, ASEAN4 and China - unit price of export products are relatively low (Table 4-2-1-11).

Statistics). The most detailed HS cord 9-digit classification: 854231992 (MCU: microcontroller) is used. This item is a part of integrated circuits (IC) (HS8542) in the processor controller (HS854231).

¹¹³ The microcomputer like electronic parts in general, in the nature of the product, is often exported as air cargo via airport. Export from Narita Airport accounts for approximately 60%, and the export amount accounts for approximately 70%, if Kansai Airport is included.

Table 4-2-1-10 The major export destination countries/regions of microcomputer of Japan (2010 total)

Ranking	Export destination countries/regions	Export value (hundred million yen)	Percentage (%)
	Whole world total	1,790	100.0%
1	Hong Kong	327	18.2%
2	Chugoku	290	16.2%
3	U.S.A.	263	14.7%
4	Singapore	217	12.1%
5	Germany	200	11.2%
6	Netherlands	176	9.8%
7	South Korea	83	4.7%
8	Thailand	69	3.9%
9	Taiwan	61	3.4%
10	Malaysia	26	1.5%
10	Philippines	26	1.4%
	NIEs	687	38.4%
	EU27	400	22.4%
	NAFTA	272	15.2%
	ASEAN4	125	7.0%

Notes: Analysis are performed on countries/regions that are shaded.

Source: "Foreign trade statistics" (2010 total amount) (Ministry of Finance)

Table 4-2-1-11 Share of microcomputers exported from various domestic regions, in the export to various countries/regions of the world (2010 total)

Export direction	Whole world	NAFTA	USA	China	ASEAN4	NIEs	EU27
Export value (hundred million yen)	1,790	272	263	290	125	687	400
Export percentage	100.0%	15.2%	14.7%	16.2%	7.0%	38.4%	22.4%
Export unit price	162	204	202	148	121	139	229
Exporting area	Percentage of various regions in export from Japan						
Tohoku	0.0%	—	—	0.3%	0.1%	0.0%	—
Kanto	65.2%	64.6%	65.3%	46.5%	47.5%	71.2%	75.9%
Chubu	7.6%	18.8%	19.3%	11.3%	16.3%	0.8%	3.9%
Kinki	17.5%	7.2%	5.7%	36.3%	31.7%	20.0%	2.6%
Chugoku	0.1%	—	—	0.5%	0.3%	0.0%	—
Shikoku	0.2%	—	—	0.0%	3.2%	0.0%	—
Kyushu	9.3%	9.4%	9.7%	5.1%	0.8%	8.0%	17.5%

Notes: Hokkaido region and Okinawa region are omitted from the table as no export from the regions. The regions which are shaded indicate that the regions which share in the export for various regions is higher than the share in the export for whole world. Total of share may not become 100% due to rounding off.

Comparisons of 0.0% means that comparison is performed in the number of 2 digits after decimal point Unit of export unit price is yen/unit.

Source: "Foreign trade statistics" (2010 total amount) (Ministry of Finance)

As the characteristic of the export of microcomputers for Europe and U.S.A., export from the Kanto area has the largest like a share among the export for whole world (export share is 65.3% for EU27 and 75.9% for United States). And microcomputers of high unit product cost are exported from Chubu area, which account for nearly 20% (19.3%), particularly in the export for United States.¹¹⁴ As other

¹¹⁴ The unit product cost of the export for United States from Chubu area is 570 yen/ piece (the export

characteristics, export share from Kyushu area is relatively high, and from Kinki area relatively low. On the other hand, as the characteristic of the export for Asia, export from Kanto area is less than half in the product for China and ASEAN4, and relatively small proportion in comparison with export share for the whole world. On the other hand, the export for NIEs is more than 70% of the export for Europe and U.S.A. And export share from Kinki area is more than share of export from the area for the whole world, accounting for 30% level in the export to China and ASEAN4.

Summary of the export structure of the microcomputer shows that there is large amount of export to Asia such as NIEs, but large amount is exported to Europe and U.S.A. in comparison with the whole electronic parts export (especially export to EU27 is larger than that to NAFTA), The construction of this export is similar to that in export destination of the automobile parts. And also, in terms of origin of export Kanto area is the largest in the export to every region. This is in contrast to the case that Kanto area is the second largest exporting area in the whole electronic parts (largest is Kinki area) and in automobile parts (largest is Chubu area). Particularly, the automotive IC tips which is said to be high value added product in the microcomputer are exported a lot for the Europe and the U.S.A., and since export share from Kanto area to these areas is high, it is considered that the export structure of the microcomputer relates to Influence on the global supply-chain by this earthquake disaster.

(2) A meaning of the global supply-chain judging from the situation of the inventory control

As in the above, we clarified that there are slight variations between the global supply-chains which are established separately according to the items exported and regions, and linked with various countries/regions of the world, and the uneven distribution in export destination and region of origin of export of microcomputer used for automotive IC tip in the automobile parts and electronic parts, have affected the global supply-chain by this earthquake disaster.

In the following, as another viewpoint, we demonstrate that there are great differences between industries in Japan, judging from the situation of stock, particularly stock situation of parts, which affect the amount of circulation in the global supply-chain.

Using a Financial Statements Statistics of Corporations by Industry survey, we compared the difference between latest inventory-sales ratio (the end of 2009) and inventory-sales ratio (raw materials, goods in process inventory-sales ratio and product inventory-sales ratio¹¹⁵) in all production

amount approximately 5,100 million yen). The unit product cost of the export for EU is 667 yen/ piece (export amount approximately 1,600 million yen). The unit product cost of the export for United States from the Kanto area is 174 yen/ piece (export amount approximately 17,200 million yen). The unit product cost of the export for EU is 242 yen/ piece (export amount approximately 30,400 million yen).

¹¹⁵ Using annual survey (2009) of the Ministry of Finance "Financial Statements Statistics of Corporations", we performed the calculations of the under mentioned mathematical formula. for the following industries: **Total main manufacturing industries** (manufacture of pulp, paper and paper products) manufacture of chemical, manufacture of petroleum and coal products, manufacture of ceramic, stone and clay products, manufacture of iron and steel, manufacture of non-ferrous metals and products, manufacture of fabricated metal products. manufacture of general machinery, manufacture of production equipment, manufacture of industrial equipment, manufacture of electrical machinery, equipment and supplies, manufacture of information and communication electronics equipment, manufacture of transportation equipment as sub-category manufacture of manufacture of motor vehicles, parts and accessories and manufacture of miscellaneous transportation equipment), and 16 types of industry of the miscellaneous manufacturing industries.

* Inventory-sales ratio = inventory assets (end of the current period) / sales amount (end of the current period)) = (raw materials and supplies (current assets at end of the current period)) plus Goods in process

process, by business category of the main manufacturing industry (Table 4-2-1-12). As the result, the inventory-sales ratio of automobile and accessories manufacturing industry, the raw materials/goods in process inventory-sales ratio is 3.0% (approximately 10.8 days worth), product inventory-sales ratio is 1.7% (approximately 6.2 days worth), the total of inventory-sales ratio with combination of both is 4.6% (approximately 17.0 days worth), which is the lowest value in the main manufacturing industries¹¹⁶. In contrast, in the Manufacture of information and communication electronics equipment including electronic parts, device, electronic circuit manufacturers, raw materials/goods in process inventory-sales ratio is 5.1% (approximately 18.6 days worth), product inventory-sales ratio is 2.4% (approximately 8.9 days worth), total inventory-sales ratio is 7.5% (approximately 27.5 days). All these values are next to motor vehicles, parts and accessories, but each value is more than in the motor vehicles, parts and accessories. The other manufacturing industries have higher inventory-sales ratio than the above two industries. manufacture of general machinery and manufacture of production machinery which were classified as General machine appliance manufacturing industry conventionally and manufacture of iron and steel, manufacture of chemical and manufacture of non-ferrous metals and products, so-called process type industry have high inventory-sales ratio in general. On the other hand, from the inventory-sales ratio and inventory-sales ratio by production process in the chronological order for the car industry and electric machine industry (former classification of Manufacture of information and communication electronics equipment) (Figure 4-2-1-13), we can understand characteristics of the inventory control of each type of industry and the supply chain management (hereafter SCM).

Table 4-2-1-12 Comparison of inventory-sales ratio (at each production process) of Japanese main manufacturing industry (as at end of FY2009)

Item	Inventory-sales ratio	Inventory-sales ratio	Inventory-sales ratio
(calculating formula)	Stock (inventory assets)/sales amount	Stock of raw materials/goods in process/sales amount	Stock of product sales amount

(current assets at end of the current period) plus Product or merchandise (current assets at end of the current period)) / Sales amount (end of the current period)

* Raw materials, goods in process inventory-sales ratio = (raw materials and supplies (current assets at end of the current period)) plus Goods in process (current assets at end of the current period))÷Sales amount (end of the current period)

* Product inventory-sales ratio = (product or merchandise (current assets at end of the current period)) / sales amount (end of the current period)

¹¹⁶ About the inventory-sales ratio according to the item, we estimated the level in most recent years (2009 and 2010) using Ministry of Economy, Trade and Industry "dynamic statistics of production". (As for the method of estimate, we referred to Ministry of Economy, Trade and Industry (2005) "trend of the inventory-sales ratio" industrial activity analysis (July-September, 2005). As for the transportation machine products, Product inventory-sales ratio of the automobile parts (car air-conditioner only) is the lowest level of approximately 0.1 months, and also in the completed passenger car it was in low level of approximately 0.2 months. In contrast, the stock of product of electronic parts/device (semiconductor elements such as liquid crystalline element and integrated circuit and diode) was in slightly high level of approximately 0.4-1 months. And although as for the finished product of the consumer electronic machine, liquid crystal television was low (approximately 0.2-0.3 months), the automotive products such as car navigation system and car audio system it was slightly high.

In addition, as for the metalworking machine categorized in general machine it was further high with approximately 1-1.8 months.

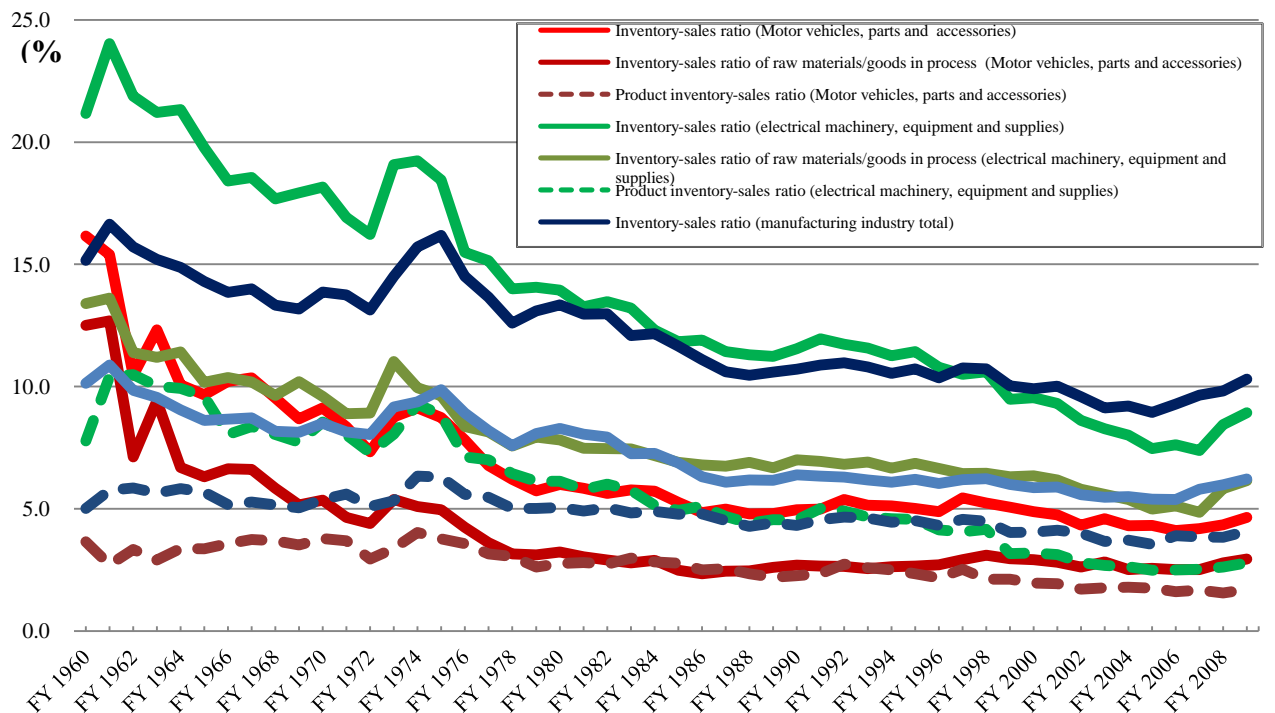
(relation)	(1) + (2)	(1)	(2)
(unit)	%	%	%
Motor vehicles, parts and accessories	4.6	3.0	1.7
Manufacture of transportation equipment	6.0	4.3	1.7
Manufacture of information and communication electronics equipment	7.5	5.1	2.4
Manufacture of pulp, paper and paper products	7.7	3.9	3.7
Manufacture of electrical machinery, equipment and supplies	8.9	6.2	2.8
Miscellaneous manufacturing industries	10.2	5.0	5.2
Manufacture of fabricated metal products	10.3	6.6	3.7
Manufacture of industrial equipment	11.2	6.8	4.4
Manufacture of petroleum and coal products	11.2	7.9	3.3
Manufacture of ceramic, stone and clay products	11.7	5.7	6.0
Manufacture of chemical	12.9	5.6	7.3
Manufacture of general machinery	14.4	11.3	3.1
Manufacture of non-ferrous metals and products	15.3	10.9	4.3
Miscellaneous transportation equipment	16.2	14.9	1.3
Manufacture of iron and steel	18.7	12.4	6.3
Manufacture of production equipment,	20.1	14.4	5.7
Manufacturing industries total	10.3	6.2	4.1

Notes: Because of rounding off, sum of Inventory-sales ratio of raw materials/goods in process by various business category, and Product inventory-sales ratio may not become the value of the inventory-sales ratio.

Motor vehicles, parts and accessories and Miscellaneous transportation equipment (Manufacturing industries of railroad, vessel, aircraft, industrial use transportation vehicles etc.) are a breakdown of the Manufacture of transportation equipment.

Source: "Financial Statements Statistics of Corporations by Industry" (annual survey (FY2009)) (Ministry of Finance)

Figure 4-2-1-13 Comparison of inventory-sales ratio of car industry and electrical machinery industry of Japan (after the end of 1960: in chronological order)



Notes: Because of classification of type of industry, the numerical value of the Manufacture of information and communication electronics equipment exists only after the end of 2004, numerical value of the Manufacture of electrical machinery, equipment and supplies in which the same industry was included till then is used. There are almost no change in inventory-sales ratio level of both types of industries.

Source: "Financial Statements Statistics of Corporations by Industry" (annual survey (data of each fiscal year)) A(Ministry of Finance)

the low as of current level at around 5% since the late 1980s. And, whereas stock of product particularly has been always in low level after the 1960s with almost no change, inventory of raw materials and goods in process continues declining until it becomes to the level of stock of product by the late 1970s, then the level becomes higher than that of stock of product again after the late 1990s. This stock trend of the car industry is considered to have close relationship with production system and SCM, the level of the stock of product has been held low constantly for the build-to-order manufacturing system in the past, In contrast, the stock of raw materials/goods in process has had a change every year though it is in low level. From inventory-sales ratio of raw materials/goods in process we can clearly find the change of the car industry that has been trying to find out domestic and foreign consumers' preference flexibly, in order to realize shortening of working hour in the field of production system while minimizing stock between processes in the light of inventory control, and to capture the final demand properly,

We have experienced many changes in management techniques such as the era of large-lot production of a narrow product range of until early 1970s, the era of limited production of a wide variety of products from late 1970s through early 1990s, the era of **variable order of different types and quantities of products with matching production** when predicting the demand was very difficult after late 1990s. The change of the management techniques and trend of change of the raw materials/goods in process inventory-sales ratio are interacted each other and the industries have been

always conscious the SCM seriously. In other words, it is considered that the car industry have appropriately managed and controlled the complicatedly build global supply-chain under the effective inventory control as a technique.

From the rough comparison of SCM between electric machine industry and the car industry (Table 4-2-1-14), we can understand the contrast between the above-mentioned car industry's method of constructing SCM and the method of electric machine industry. The electric machine industry intends reduction of production cost in performing lot production with reduced arrangement change, and by conducting make-to-stock production while approving the stock between processes as buffering, adopt the technique to build SCM having some amount of stock of product.

However, SCM of both industries adopts the effective technique most suitable for their type of industry. For example, when comparing "the ratio of inventory-sales ratio and sales administrative expense" with inventory-sales ratio (Figure 4-2-1-15), we can understand that both industries have maintained a reasonable level with some difference in each industry. In order to further strengthen SCM which is established minutely in accordance with each industry, efforts to strengthen the objective risk management are now under way in various fields, in addition to the effective mechanism in the past and business relationship between the concerned parties based on trust and reliance which is an advantage of Japanese industry¹¹⁷.

Table 4-2-1-14 Comparison of SCM between car industry and electrical machinery industry of Japan

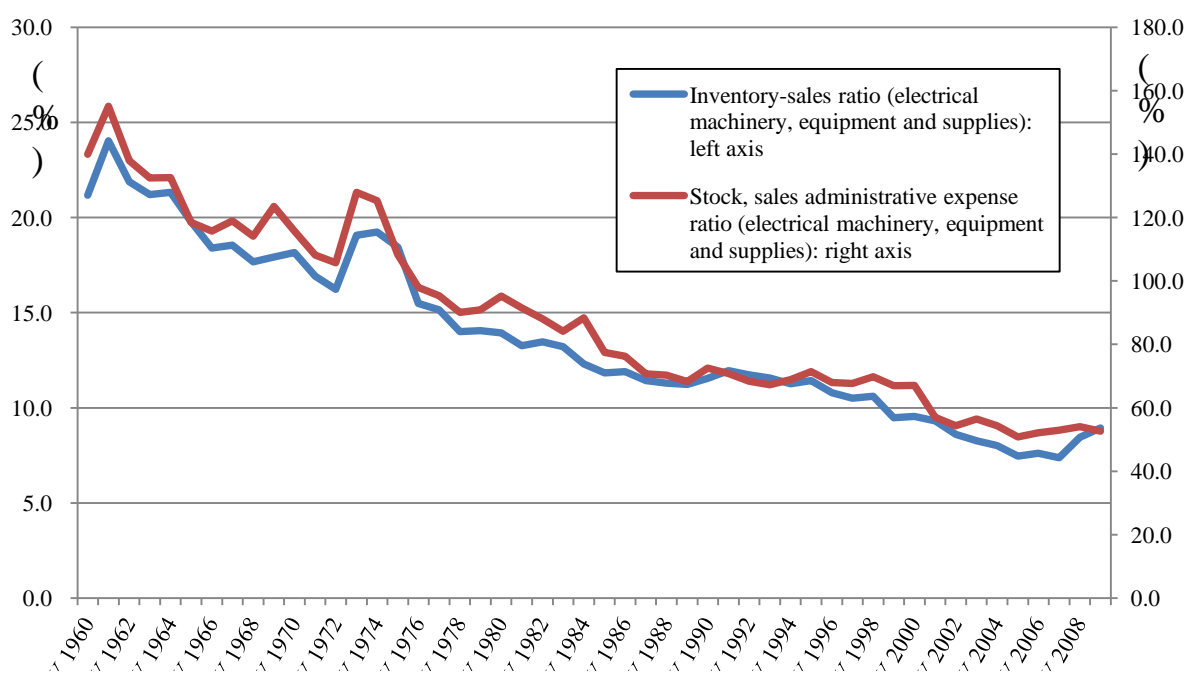
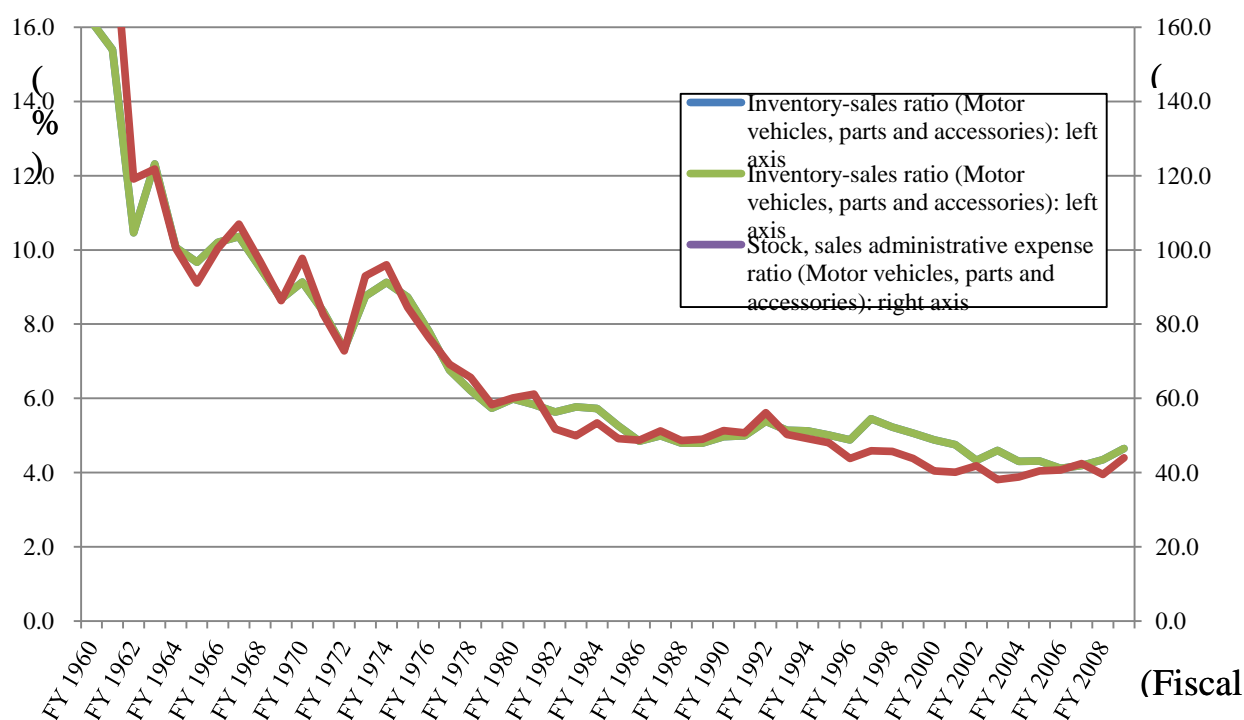
	Production system	Production method	Stock between processes	Stock of product	Stock of product
Car industry	Multiple type variable quantity production (one by one production)	Build-to-order manufacturing	Minimum	Minimum	Shortening of the arrangements time (single arrangements)
Electrical machinery industry	Lot production	Make-to-stock production	Stock (Buffer stock)	Stock	focus on reduction of frequency

Source: "Investigation and study report on development directivity of the accumulation and possibility of location in Tohoku region of Automobile related industry (2009)" (March, 2010) (Japan Machinery Federation and Japan Industrial Location Center)

Figure 4-2-1-15 Relationship of stock and sales administrative expense in Japanese car industry and electrical machinery industry (after the end of 1960: in chronological order)

¹¹⁷ About the advantage of the cooperation system based on the relationship of mutual trust between Japanese companies (particularly, in the car industry) at the time of the disaster, it is pointed out in Yossi Sheffi's <Watanabe, K. K. Yoshihiro supervising and translation>(2007) "Company Resilience and the business continuation management" Nikkan Kogyo Shimbun, Ltd, and in Fumiko Kurokawa's (2008) "Car industry strategy in the 21st century" Zeimu Keiri Kyokai.

On the other hand, there is an argument that promotion of the natural disaster risk management is not necessarily complimentary with the supplier system which has functioned stably and effectively till now (Tanaka, K. T. Uenoyama (2008)) as has been shown in "Natural disaster risk management and supply chain" (ESRI Discussion Paper Series No. 200) Cabinet Office Economic and Social Research Institute.



Notes: Inventory-sales ratio = inventory assets (end of the current period)/ sales amount (end of the current period)); Stock, sales administrative expense ratio = inventory assets (end of the current period)/ sales cost and administrative expense (end of the current period))

Source: "Financial Statements Statistics of Corporations by Industry" (annual survey (data of each fiscal year)) (Ministry of Finance)

2. Significance of the disaster-stricken area with the global supply-chain which became clear through the earthquake disaster

(1) Rough positioning of "Tohoku area"¹¹⁸ in the industrial linkage between areas

As we inspected in Section 1, since direct export from disaster-stricken area is not so large compared with Japan's entire export, indirect export from disaster-stricken area (hereafter "indirect export") must be taken to consideration. "Indirect export" defined here referred to the situation where "the production activity (products etc.) in one area is intermediately input into the production activity(products etc.) in the other area, and the products produced in other areas as a result of the input are exported abroad". We will explain the importance of taking the indirect export into consideration.

Particularly, stagnation of the production activity in the disaster-stricken area just after this earthquake disaster has affected not only on inside of Japan but also on the supply chain of overseas production base. Therefore, in the case exported products are commodities to be input intermediately to production activity in foreign countries such as parts, we analyzed them with precedence, since they are considered to have greater influence on global supply-chain.

At first to grasp influence of "the indirect export", we inspected what kind of intermediate commodity Tohoku region of the disaster-stricken area input to the other areas. We extracted the intermediate demand sections (endogenous sector) in each local area which have much amount of intermediate input from the Tohoku area, using the 12- sections table in "HEISEI 17-NEN (2005) CHIIKIKAN SANGYO KANRENHYO Inter-regional I/O table" (hereafter CHIIKIKANHYO inter-regional table) which was released in March, 2010 (Table 4-2-2-1).

The total sum of intermediate input from the Tohoku area including that of [the region one belongs to](#) is approximately 25 trillion yen. As for the intermediate demand section receiving a lot of intermediate input other than that of [the region one belongs to](#), the top is the machinery division of Kanto area, with approximately 1,690 billion yen (6.8% of the total), followed by the service sector of Kanto area, with approximately 1,110 billion yen (4.4%). Other various sections in Kanto area also receive a lot of intermediate input following the above two sections, Sector in the other area than Kanto area is the machinery division of the Chubu area (approximately 400 billion yen, 1.6%) which is significantly ranked low. Based on this data, intermediate sections which receive the largest portion of products of Tohoku area as intermediate input is the manufacturing industries in Kanto area particularly machine industry.

¹¹⁸ In the case of this earthquake disaster in the Kanto area including the Ibaraki prefecture except the Tohoku area, the significant damage was caused by the earthquake or the tsunami which occurred immediately after that. The Kanto region in the Inter-Regional I/O Tables (CHIIKIKANHYO) is classified into the broad-based Kanto region (Ibaraki prefecture, Tochigi, Gunma, Saitama, Chiba, Tokyo, Kanagawa, Niigata, Yamanashi, Nagano, Shizuoka). On that reason, instead of identifying strict disaster-stricken area, we have made our consideration on influence of "the indirect export" from disaster-stricken area by analyzing influence of the "indirect export from the data of Tohoku area in the Inter-Regional I/O Tables (CHIIKIKANHYO) (Aomori, Iwate, Miyagi, Akita, Yamagata, Fukushima).

Table 4-2-2-1 Intermediate demand (endogenous) sector in various domestic regions which have large amount of intermediate input from Tohoku region

Ranking	Region	Sector	Amount (hundred million yen)	Percentage (%)
	Whole country	Endogenous sector total	249,803	100.0%
(Reference)	(Tohoku)	(Export)	33,245	
1	Tohoku	Service	37,195	14.9%
2	Tohoku	Machinery	26,284	10.5%
3	Tohoku	Other manufacturing industries	17,786	7.1%
4	Tohoku	Commerce, transportation	17,571	7.0%
5	Kanto	Machinery	16,907	6.8%
6	Tohoku	Construction	14,819	5.9%
7	Tohoku	Food and beverage	11,797	4.7%
8	Kanto	Service	11,104	4.4%
9	Tohoku	Public utilities	10,931	4.4%
10	Tohoku	Finance, insurance, real estate	9,749	3.9%
11	Tohoku	Metal	6,930	2.8%
12	Tohoku	Agriculture, forestry and fisheries	6,842	2.7%
13	Kanto	Other manufacturing industries	6,231	2.5%
14	Kanto	Food and beverage	5,053	2.0%
15	Kanto	Construction	5,029	2.0%
16	Chubu	Machinery	3,958	1.6%
17	Tohoku	Information and communication	3,785	1.5%
18	Kanto	Commerce, transportation	3,530	1.4%
19	Kanto	Metal	2,737	1.1%
20	Kinki	Service	2,151	0.9%
21	Kanto	Information and communication	1,962	0.8%
22	Kinki	Machinery	1,897	0.8%
23	Chubu	Service	1,610	0.6%
24	Kinki	Food and beverage	1,588	0.6%
25	Kinki	Other manufacturing industries	1,428	0.6%
26	Kyushu	Machinery	1,311	0.5%
27	Chubu	Other manufacturing industries	1,262	0.5%
28	Kanto	Public utilities	1,090	0.4%
29	Kyushu	Service	1,060	0.4%
30	Hokkaido	Service	1,022	0.4%

Notes:

1. The intermediate demand of various domestic regions (each endogenous sector) is extracted, where there is the intermediate input amount more than 100 billion yen from endogenous sector total of the Tohoku region.

2. The green shaded area is intermediate demand section of the Kanto region. The orange shaded area is intermediate demand sector of other regions.

Source: "HEISEI 17-NEN (2005) CHIIKIKANN SANGYO KANRENHYO (12 sections transaction amount table)" (March, 2010) (Ministry of Economy, Trade and Industry)

(2) Intermediate input from the Tohoku area to the parts industry in other areas

For further understanding, we inspected the details of individual sectors in which the amount of the intermediate input from Tohoku area is large, and that of machine industry in Kanto area, using Transaction amount table of the 53-sector table which is the most detailed in Inter-Regional I/O Tables (CHIIKIKANHYO) (Table 4-2-2-2). Among the intermediate input to the machinery division of Kanto area, the sector with largest amount of input is automobile parts, accessories (hereafter automobile parts) sector, with approximately 370 billion yen, accounting for approximately 22% of whole machinery division. Second largest is general machinery divisions (approximately 260 billion yen, 15.4% of the total), followed by electronic parts sector (approximately 220 billion yen, 13.3%), and passenger car sector (approximately 160 billion yen, 9.2%). From this result, we can understand that proportion of input to parts industry in Kanto area are large in the intermediate input from the Tohoku area. Therefore, it is necessary to conduct detailed study about the automobile parts and electronic parts that is considered to have greater influence on global supply-chain, in addition to the direct export of goods produced in Tohoku area.

Table 4-2-2-2 Details of machinery sector in Kanto region which have large amount of intermediate input from Tohoku region

Ranking	Region	Sector	Amount (hundred million yen)	Percentage (%)
	Kanto	Machinery total	16,907	100.0%
1	Kanto	Automobile parts, accessories	3,709	21.9%
2	Kanto	General machinery	2,597	15.4%
3	Kanto	Electronic parts	2,247	13.3%
4	Kanto	Passenger car	1,562	9.2%
5	Kanto	Communications machinery, related machinery	1,380	8.2%
6	Kanto	Other electrical machinery	1,062	6.3%
7	Kanto	Other automobiles	1,000	5.9%
8	Kanto	Industrial use electric appliance	738	4.4%
9	Kanto	Equipment for office works and service	716	4.2%
10	Kanto	Computer, attachment	693	4.1%
11	Kanto	Precision machinery	625	3.7%
12	Kanto	Other transportation machinery	325	1.9%
13	Kanto	Consumer electric appliance	253	1.5%

Source: "HEISEI 17-NEN (2005) CHIIKIKANN SANGYO KANRENHYO (12 sections transaction amount table)" (March, 2010) (Ministry of Economy, Trade and Industry)

(A) Status of intermediate input into automotive parts industry in Kanto region

Furthermore, in order to understand from which area/sector the intermediate input is made to automobile parts sector of Kanto region, we extracted intermediate input sector with much input amount in each region of Japan (Table 4-2-2-3). In total input of approximately 8,800 billion yen from endogenous sector, and input from automobile parts sector in the [region one belongs](#) accounts for approximately 39% (approximately 3,420 billion yen) of the total input. In the second place, the intermediate input from the sector of the Chubu region is large (approximately 710 billion yen, 8.1% of the total). The amount of intermediate input from the same sector in Tohoku region is approximately 200 billion yen (2.3%), and it is about one seventeenth of the input from the region one belongs, and in the input scale, approximately two seventh of input comes from Chubu region. In

addition, "the regional production" of the automobile parts of the Kanto region in the Inter-Regional I/O Tables (CHIIKIKANHYO) is approximately 11 trillion yen, which account for 38.5% next to the Chubu region for a domestic production value share.

Table 4-2-2-3 The intermediate input sector of various domestic regions which have large amount of intermediate input to automobile parts in Kanto region

Ranking	Region	Sector	Amount (hundred million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	8,751,232	100.0%
1	Kanto	Automobile parts, accessories	3,420,007	39.1%
2	Chubu	Automobile parts, accessories	711,535	8.1%
3	Kanto	Commerce	574,118	6.6%
4	Kanto	Steel	440,793	5.0%
5	Kanto	Education, research	327,527	3.7%
6	Kanto	Nonferrous metal	245,475	2.8%
7	Tohoku	Automobile parts, accessories	198,612	2.3%
8	Kanto	Other service for office	186,196	2.1%
9	Kanto	Plastic products	185,719	2.1%
10	Kanto	Industrial use electric appliance	117,056	1.3%
11	Kinki	Automobile parts, accessories	107,937	1.2%
12	Kanto	Transportation	105,819	1.2%
13	Kanto	Other manufacturing industry products	97,983	1.1%
14	Kanto	Chemical end product	86,436	1.0%
15	Kanto	Metal product	86,001	1.0%
16	Kinki	Steel	82,439	0.9%
17	Chugoku	Automobile parts, accessories	79,664	0.9%
18	Kanto	Electronic parts	78,560	0.9%
19	Kanto	Electricity	76,762	0.9%
20	Kanto	Finance, insurance	65,929	0.8%

Notes:

1. Top 20 intermediate input sector of various domestic regions which have large amount of intermediate input to automobile parts in Kanto region are extracted

2. The green shaded area is automobile parts, accessories sector of Tohoku region. The yellow shaded area is automobile parts, accessories sector of other regions. The orange shaded area is electricity, transportation sector of Kanto region.

Source: "HEISEI 17-NEN (2005) CHIIKIKANN SANGYO KANRENHYO (53 section transaction amount table)" (March, 2010) (Ministry of Economy, Trade and Industry)

From the result of the above, we can understand that the percentage of intermediate input from the automobile parts sector of the Tohoku region in the same sector in Kanto region is relatively few. Therefore, although in short-term we cannot deny that impact of the damage of the office in Tohoku region is more likely to involve the automobile parts sector in Kanto region, in a little bit longer period, say, several years, there is the possibility that the impact is much limited. In addition, there is relatively much intermediate input from infrastructure sector, for example, transportation sector (approximately 106 billion yen, 1.2% of the total) and electricity sector (approximately 77 billion yen, 0.9% of the total) in Kanto region. Therefore, it is necessary to consider the impact of these sectors.

(B) Status of intermediate input into electronic parts industry in Kanto region

Furthermore, we collect the data about from which region/sector intermediate input was made to

electronic parts sector in Kanto region as in the automobile parts (Table 4-2-2-4). In total inputs approximately 3,900 billion yen from endogenous sector, the Input from the electronic parts sector of the own region is the largest and accounts for approximately 23% (approximately 920 billion yen). This is the same input structure as in automobile parts in Kanto region. Next to the above, intermediate input from the electronic parts sector of other regions such as Chubu region and Kinki region amount much (approximately 200 billion yen, and approximately 190 billion yen respectively, around 5% of the total), and the intermediate input from the same sector in Tohoku region is little bit smaller, approximately 150 billion yen (3.7%), which is approximately one-sixth in input scale from Kanto region.

In addition, in the Inter-Regional I/O Tables (CHIIKIKANHYO) "regional production" of electronic parts in Kanto region is approximately 5,350 billion yen, account for 33%, the largest percentage in domestic production value share.

From the above result, we can understand that the percentage of intermediate input from Tohoku region in electronic parts sector in Kanto region is slightly more than percentage of input of automobile parts , but it is low as for percentage in the total as was expected, indicating that there is much input from the own region. Therefore, in short-term, in a similar way as in the case of automobile parts sector in Kanto region, we cannot deny the possibility that the damage of the office of the Tohoku region would affect the electronic parts sector In Kanto region, but in a little bit longer period, there is the possibility that the impact is relatively slight. In addition, the intermediate input from infrastructure sector such as electricity sector (approximately 76 billion yen, 1.9% of the whole) and transportation sector (approximately 64 billion yen, 1.6%) in Kanto region is much more in comparison with the percentage of input into the automobile sector in Kanto region. Therefore, it is necessary to carefully consider those impacts.

Table 4-2-2-4 The intermediate input sector of various domestic regions which have large amount of intermediate input to electronic parts sector in Kanto region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	3,930,253	100.0%
1	Kanto	Electronic parts	921,736	23.5%
2	Kanto	Education, research	446,669	11.4%
3	Chubu	Electronic parts	196,389	5.0%
4	Kinki	Electronic parts	189,073	4.8%
5	Kanto	Commerce	168,043	4.3%
6	Kanto	Other service for office	162,201	4.1%
7	Tohoku	Electronic parts	145,982	3.7%
8	Chugoku	Electronic parts	120,954	3.1%
9	Kanto	Nonferrous metal	119,091	3.0%
10	Kanto	Plastic products	78,350	2.0%
11	Kanto	Electricity	76,358	1.9%
12	Kyushu	Electronic parts	69,929	1.8%
13	Kanto	Metal product	68,034	1.7%
14	Kanto	Transportation	64,096	1.6%
15	Kanto	Commodity lease service	62,569	1.6%
16	Kanto	Other electrical machinery	59,812	1.5%
17	Kanto	Ceramics, stone and clay products	59,564	1.5%
18	Kanto	Finance, insurance	56,688	1.4%
19	Chubu	Ceramics, stone and clay products	43,794	1.1%
20	Kanto	Construction	38,100	1.0%

Notes:

1. Top 20 intermediate input sector of various domestic regions which have large amount of intermediate input to electronic parts sector in Kanto region are extracted

2. The green shaded area is electronic parts sector of Tohoku region. The yellow shaded area is electronic parts sector of other regions. The orange shaded area is electricity, transportation sector of Kanto region.

Source: "HEISEI 17-NEN (2005) CHIIKIKANN SANGYO KANRENHYO (53 sector transaction amount table)" (March, 2010) (Ministry of Economy, Trade and Industry)

(C) Status of intermediate input into automobile parts, and electronic parts industries in other regions

Furthermore, we have captured the situation of intermediate input from Tohoku region to the automobile parts and electronic parts sectors in the regions other than Kanto region similarly to the above, and at the same time, we conducted a structural comparison of the parts industries in various regions (Tables 4-2-2-5 and e 4-2-2-6).

As a result, it is indicated that there is no region that has more amount of input from the automobile parts and electronic parts sectors in Tohoku than Kanto region. In the input to Tohoku region, although in the electronic parts sector, the amount of input to the relevant sector in the region one belongs exceeds input to Kanto region (amount of input to Kanto region is approximately 150 billion yen, while the amount of input to the region one belongs is approximately 360 billion yen), in the automobile parts sector it is far below the amount of input to Kanto region (amount of input to Kanto region is approximately 200 billion yen while the amount of input to the region is approximately 80 billion yen).

This analysis proves that in a comparison between automotive parts industry and the electronic parts industry, there is a different structure in uneven regional distribution of intermediate input or input

percentage even in the parts industry.

The automobile parts sector is divided definitely into regions in which percentage of input from the same sector of the region one belongs is as much as 30-40 % (Chubu, Kanto, and Chugoku), greater than the regions with small percentage of input (the other regions). The region with high percentage of input from a particular region is the major automobile production region. The other regions receive particularly high percentage input from Chubu region. But on the contrary, as for the electronic parts sector, input percentage from the same sector is not so diverse in all regions. Input from the same sector to the region accounts for the largest percentage, except Hokkaido. However, the region with higher percentage of regional input rate lies in the automobile parts sector if the input rate is before and after 20% is lower than what is as above 30%. It is understood that, though relatively, the division of labor within domestic areas of the region is done evenly in average.

Table 4-2-2-5 The intermediate input sector of various regions which have large amount of intermediate input to automobile parts in various domestic regions

○Intermediate input to the automobile parts sector in Chubu region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	9,426,149	100.0%
1	Chubu	Automobile parts, accessories	3,981,873	42.2%
2	Kanto	Automobile parts, accessories	606,506	6.4%
3	Chubu	Steel	360,926	3.8%
4	Chubu	Education, research	321,276	3.4%
5	Kanto	Commerce	280,048	3.0%
6	Chubu	Nonferrous metal	270,651	2.9%
7	Chubu	Plastic products	268,747	2.9%
8	Kinki	Automobile parts, accessories	239,073	2.5%
9	Chubu	Commerce	217,449	2.3%
10	Chubu	Industrial use electric appliance	196,241	2.1%
11	Chubu	Other service for office	156,150	1.7%
12	Kinki	Commerce	133,320	1.4%
13	Chubu	Electronic parts	114,677	1.2%
14	Chubu	Electricity	104,178	1.1%
15	Kinki	Steel	93,740	1.0%
16	Chubu	Transportation	81,934	0.9%
17	Hokkaido	Automobile parts, accessories	74,264	0.8%
18	Kyushu	Automobile parts, accessories	71,614	0.8%
19	Chubu	Other manufacturing industry products	69,006	0.7%
20	Kanto	Steel	67,593	0.7%
28	Chugoku	Automobile parts, accessories	53,319	0.6%
44	Tohoku	Automobile parts, accessories	22,154	0.2%

○Intermediate input to automobile parts sector in Kanto region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	8,751,232	100.0%
1	Kanto	Automobile parts, accessories	3,420,007	39.1%
2	Chubu	Automobile parts, accessories	711,535	8.1%
3	Kanto	Commerce	574,118	6.6%
4	Kanto	Steel	440,793	5.0%
5	Kanto	Education, research	327,527	3.7%
6	Kanto	Nonferrous metal	245,475	2.8%
7	Tohoku	Automobile parts, accessories	198,612	2.3%
8	Kanto	Other service for office	186,196	2.1%
9	Kanto	Plastic products	185,719	2.1%
10	Kanto	Industrial use electric appliance	117,056	1.3%
11	Kinki	Automobile parts, accessories	107,937	1.2%
12	Kanto	Transportation	105,819	1.2%
13	Kanto	Other manufacturing industry products	97,983	1.1%
14	Kanto	Chemical end product	86,436	1.0%
15	Kanto	Metal product	86,001	1.0%
16	Kinki	Steel	82,439	0.9%
17	Chugoku	Automobile parts, accessories	79,664	0.9%
18	Kanto	Electronic parts	78,560	0.9%
19	Kanto	Electricity	76,762	0.9%
20	Kanto	Finance, insurance	65,929	0.8%

○Intermediate input to automobile parts sector in Chugoku region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	1,720,558	100.0%
1	Chugoku	Automobile parts, accessories	518,422	30.1%
2	Chubu	Automobile parts, accessories	202,217	11.8%
3	Chugoku	Steel	97,583	5.7%
4	Kanto	Automobile parts, accessories	77,321	4.5%
5	Kinki	Automobile parts, accessories	69,373	4.0%
6	Chugoku	Education, research	67,486	3.9%
7	Kanto	Commerce	47,481	2.8%
8	Kinki	Commerce	36,044	2.1%
9	Chugoku	Plastic products	35,169	2.0%
10	Chugoku	Commerce	28,055	1.6%
11	Chugoku	Nonferrous metal	22,725	1.3%
12	Kinki	Steel	22,497	1.3%
13	Chugoku	Other service for office	21,848	1.3%
14	Chugoku	Transportation	20,651	1.2%
15	Kyushu	Automobile parts, accessories	20,438	1.2%
16	Chubu	Commerce	18,590	1.1%
17	Chugoku	Electricity	18,405	1.1%
18	Kinki	Industrial use electric appliance	17,098	1.0%
19	Kanto	Steel	14,892	0.9%
20	Chugoku	Electronic parts	14,733	0.9%
64	Tohoku	Automobile parts, accessories	2,550	0.1%

○Intermediate input to the automobile parts sector in Kinki region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	1,251,090	100.0%
1	Chubu	Automobile parts, accessories	295,106	23.6%
2	Kinki	Automobile parts, accessories	173,054	13.8%
3	Kanto	Automobile parts, accessories	101,534	8.1%
4	Kinki	Commerce	56,993	4.6%
5	Chugoku	Automobile parts, accessories	53,302	4.3%
6	Kinki	Steel	52,690	4.2%
7	Kinki	Education, research	39,381	3.1%
8	Kinki	Industrial use electric appliance	27,133	2.2%
9	Kanto	Commerce	25,067	2.0%
10	Kinki	Other service for office	24,658	2.0%
11	Kinki	Nonferrous metal	24,254	1.9%
12	Chubu	Nonferrous metal	17,135	1.4%
13	Chubu	Steel	16,035	1.3%
14	Kinki	Plastic products	14,879	1.2%
15	Kinki	Electricity	14,761	1.2%
16	Kinki	Transportation	13,381	1.1%
17	Kanto	Education, research	13,002	1.0%
18	Kinki	Metal product	12,369	1.0%
19	Chugoku	Steel	12,118	1.0%
20	Kinki	Electronic parts	11,011	0.9%
23	Tohoku	Automobile parts, accessories	10,060	0.8%

○Intermediate input to the automobile parts sector in Kyushu region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	831,515	100.0%
1	Chubu	Automobile parts, accessories	141,765	17.0%
2	Kanto	Automobile parts, accessories	123,068	14.8%
3	Kyushu	Automobile parts, accessories	121,592	14.6%
4	Kyushu	Steel	34,241	4.1%
5	Chugoku	Automobile parts, accessories	28,276	3.4%
6	Kyushu	Commerce	27,975	3.4%
7	Kyushu	Education, research	24,695	3.0%
8	Kyushu	Other service for office	18,809	2.3%
9	Kyushu	Plastic products	15,939	1.9%
10	Kinki	Automobile parts, accessories	13,388	1.6%
11	Kyushu	Nonferrous metal	13,106	1.6%
12	Kanto	Commerce	12,584	1.5%
13	Kyushu	Electronic parts	12,545	1.5%
14	Kanto	Education, research	11,307	1.4%
15	Kyushu	Transportation	10,936	1.3%
16	Kinki	Steel	9,899	1.2%
17	Tohoku	Automobile parts, accessories	8,860	1.1%
18	Kinki	Commerce	8,304	1.0%
19	Kyushu	Electricity	8,042	1.0%
20	Kanto	Steel	7,147	0.9%

○Intermediate input to automobile parts sector in Tohoku region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	563,262	100.0%
1	Chubu	Automobile parts, accessories	119,919	21.3%
2	Tohoku	Automobile parts, accessories	80,253	14.2%
3	Kanto	Automobile parts, accessories	53,794	9.6%
4	Kanto	Commerce	27,186	4.8%
5	Tohoku	Education, research	19,680	3.5%
6	Tohoku	Nonferrous metal	17,352	3.1%
7	Chugoku	Automobile parts, accessories	13,637	2.4%
8	Tohoku	Steel	13,605	2.4%
9	Tohoku	Commerce	11,698	2.1%
10	Tohoku	Electricity	10,855	1.9%
11	Tohoku	Plastic products	10,850	1.9%
12	Kanto	Steel	10,491	1.9%
13	Kanto	Industrial use electric appliance	8,869	1.6%
14	Kanto	Education, research	8,590	1.5%
15	Tohoku	Other service for office	8,445	1.5%
16	Kanto	Nonferrous metal	7,702	1.4%
17	Kanto	Plastic products	7,669	1.4%
18	Chubu	Industrial use electric appliance	6,984	1.2%
19	Tohoku	Transportation	6,600	1.2%
20	Kinki	Commerce	5,008	0.9%
21	Tohoku	Electronic parts	4,803	0.9%

○Intermediate input to the automobile parts sector in Hokkaido region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	140,880	100.0%
1	Chubu	Automobile parts, accessories	34,490	24.5%
2	Chugoku	Automobile parts, accessories	12,239	8.7%
3	Hokkaido	Commerce	7,899	5.6%
4	Hokkaido	Steel	6,907	4.9%
5	Kanto	Education, research	6,490	4.6%
6	Hokkaido	Other service for office	5,994	4.3%
7	Kanto	Steel	4,413	3.1%
8	Kanto	Automobile parts, accessories	3,944	2.8%
9	Hokkaido	Automobile parts, accessories	3,624	2.6%
10	Hokkaido	Electricity	3,550	2.5%
11	Hokkaido	Education, research	3,330	2.4%
12	Hokkaido	Nonferrous metal	2,908	2.1%
13	Kanto	Commerce	2,515	1.8%
14	Kanto	Metal product	2,219	1.6%
15	Hokkaido	Transportation	2,059	1.5%
16	Kinki	Steel	1,692	1.2%
17	Chubu	Steel	1,572	1.1%
18	Hokkaido	Finance, insurance	1,360	1.0%
19	Hokkaido	Metal product	1,346	1.0%
20	Kanto	Nonferrous metal	1,109	0.8%
65	Kinki	Automobile parts, accessories	238	0.2%
113	Tohoku	Automobile parts, accessories	53	0.04%

○Intermediate input to the automobile parts sector in Shikoku region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	10,204	100.0%
1	Chubu	Automobile parts, accessories	2,988	29.3%
2	Chugoku	Automobile parts, accessories	966	9.5%
3	Kanto	Automobile parts, accessories	739	7.2%
4	Shikoku	Education, research	444	4.4%
5	Shikoku	Steel	380	3.7%
6	Kanto	Commerce	302	3.0%
7	Shikoku	Automobile parts, accessories	258	2.5%
8	Shikoku	Other service for office	237	2.3%
9	Kinki	Commerce	224	2.2%
10	Shikoku	Electricity	188	1.8%
11	Kinki	Steel	183	1.8%
12	Shikoku	Transportation	167	1.6%
13	Chubu	Steel	146	1.4%
14	Chugoku	Steel	139	1.4%
15	Chubu	Plastic products	138	1.4%
16	Shikoku	Commerce	119	1.2%
17	Shikoku	Finance, insurance	114	1.1%
18	Kanto	Education, research	101	1.0%
19	Chubu	Commerce	100	1.0%
20	Kanto	Plastic products	90	0.9%
39	Kinki	Automobile parts, accessories	35	0.3%
83	Tohoku	Automobile parts, accessories	11	0.1%

(Reference)	Regional production amount of automobile parts	
Region	Amount (million yen)	Percentage (%)
Whole regions	28,648,620	100.0%
Chubu	11,907,913	41.6%
Kanto	11,040,432	38.5%
Chugoku	2,176,785	7.6%
Kinki	1,568,162	5.5%
Kyushu	1,039,575	3.6%
Tohoku	717,719	2.5%
Hokkaido	183,820	0.6%
Shikoku	14,195	0.0%
Okinawa	19	0.0%

Notes:

1. Top 20 intermediate input sectors of various domestic regions which have large amount of intermediate input to automobile parts sector in each region are extracted
2. The green shaded area is automobile parts sector of Tohoku region. The light blue shaded area is automobile parts sector of the region to which it belongs. The yellow shaded area is automobile parts sector of other regions. The orange shaded area is electricity, transportation sector of the region to which it belongs.

Source: "HEISEI 17-NEN (2005) CHIIKIKANN SANGYO KANRENHYO (Inter-regional I/O table) (53 sector transaction amount table)" (March, 2010) (Ministry of Economy, Trade and Industry)

Table 4-2-2-6 The intermediate input sector of various regions which have large amount of intermediate input to electronic parts sector in various domestic regions

○Intermediate input to electronic parts sector In Kanto region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	3,930,253	100.0%
1	Kanto	Electronic parts	921,736	23.5%
2	Kanto	Education, research	446,669	11.4%
3	Chubu	Electronic parts	196,389	5.0%
4	Kinki	Electronic parts	189,073	4.8%
5	Kanto	Commerce	168,043	4.3%
6	Kanto	Other service for office	162,201	4.1%
7	Tohoku	Electronic parts	145,982	3.7%
8	Chugoku	Electronic parts	120,954	3.1%
9	Kanto	Nonferrous metal	119,091	3.0%
10	Kanto	Plastic products	78,350	2.0%
11	Kanto	Electricity	76,358	1.9%
12	Kyushu	Electronic parts	69,929	1.8%
13	Kanto	Metal product	68,034	1.7%
14	Kanto	Transportation	64,096	1.6%
15	Kanto	Commodity lease service	62,569	1.6%
16	Kanto	Other electrical machinery	59,812	1.5%
17	Kanto	Ceramics, stone and clay products	59,564	1.5%
18	Kanto	Finance, insurance	56,688	1.4%
19	Chubu	Ceramics, stone and clay products	43,794	1.1%
20	Kanto	Construction	38,100	1.0%

○Intermediate input to the electronic parts sector in Chubu region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	2,318,200	100.0%
1	Chubu	Electronic parts	714,356	30.8%
2	Chubu	Education, research	223,550	9.6%
3	Kanto	Electronic parts	155,961	6.7%
4	Kinki	Electronic parts	91,181	3.9%
5	Chubu	Other service for office	66,184	2.9%
6	Chubu	Nonferrous metal	62,274	2.7%
7	Chubu	Ceramics, stone and clay products	51,051	2.2%
8	Chubu	Electricity	50,720	2.2%
9	Kanto	Commerce	46,722	2.0%
10	Chugoku	Electronic parts	44,102	1.9%
11	Kanto	Education, research	41,960	1.8%
12	Tohoku	Electronic parts	41,434	1.8%
13	Chubu	Commerce	37,430	1.6%
14	Chubu	Plastic products	28,376	1.2%
15	Chubu	Finance, insurance	25,778	1.1%
16	Kanto	Other electrical machinery	25,124	1.1%
17	Chubu	Transportation	23,434	1.0%
18	Kinki	Commerce	22,369	1.0%
19	Chubu	Commodity lease service	22,093	1.0%
20	Kanto	Nonferrous metal	21,367	0.9%

○Intermediate input to the electronic parts sector in Kinki region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	1,819,664	100.0%
1	Kinki	Electronic parts	365,616	20.1%
2	Kinki	Education, research	190,447	10.5%
3	Chubu	Electronic parts	112,185	6.2%
4	Kanto	Electronic parts	111,040	6.1%
5	Kinki	Other service for office	71,871	3.9%
6	Kinki	Commerce	66,023	3.6%
7	Kanto	Education, research	61,995	3.4%
8	Kinki	Ceramics, stone and clay products	51,541	2.8%
9	Chugoku	Electronic parts	50,629	2.8%
10	Kinki	Nonferrous metal	39,009	2.1%
11	Kinki	Transportation	31,455	1.7%
12	Kinki	Electricity	31,218	1.7%
13	Kanto	Commerce	28,628	1.6%
14	Kinki	Commodity lease service	27,982	1.5%
15	Kinki	Finance, insurance	25,483	1.4%
16	Kyushu	Electronic parts	24,978	1.4%
17	Kinki	Other electrical machinery	24,942	1.4%
18	Kinki	Metal product	23,825	1.3%
19	Kanto	Other electrical machinery	22,605	1.2%
20	Kinki	Plastic products	19,256	1.1%
23	Tohoku	Electronic parts	17,558	1.0%

○Intermediate input to electronic parts sector in Tohoku region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	1,349,549	100.0%
1	Tohoku	Electronic parts	362,876	26.9%
2	Tohoku	Education, research	158,808	11.8%
3	Kanto	Electronic parts	101,356	7.5%
4	Kanto	Education, research	68,211	5.1%
5	Kanto	Commerce	39,756	2.9%
6	Kinki	Electronic parts	39,007	2.9%
7	Tohoku	Electricity	36,962	2.7%
8	Tohoku	Nonferrous metal	35,764	2.7%
9	Chubu	Electronic parts	29,701	2.2%
10	Tohoku	Other service for office	29,255	2.2%
11	Tohoku	Commerce	18,574	1.4%
12	Tohoku	Plastic products	17,536	1.3%
13	Tohoku	Transportation	16,778	1.2%
14	Tohoku	Finance, insurance	15,992	1.2%
15	Kanto	Nonferrous metal	15,841	1.2%
16	Kanto	Plastic products	15,816	1.2%
17	Tohoku	Metal product	14,655	1.1%
18	Kanto	Other electrical machinery	14,241	1.1%
19	Kanto	Metal product	13,563	1.0%
20	Tohoku	Ceramics, stone and clay products	13,464	1.0%

○Intermediate input to the electronic parts sector in Kyushu region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	1,235,025	100.0%
1	Kyushu	Electronic parts	213,241	17.3%
2	Kyushu	Education, research	115,078	9.3%
3	Kanto	Electronic parts	94,067	7.6%
4	Chubu	Electronic parts	68,019	5.5%
5	Kyushu	Other service for office	55,582	4.5%
6	Kanto	Education, research	50,312	4.1%
7	Kyushu	Electricity	41,150	3.3%
8	Kyushu	Commerce	37,387	3.0%
9	Kinki	Electronic parts	35,344	2.9%
10	Kyushu	Ceramics, stone and clay products	25,538	2.1%
11	Kyushu	Nonferrous metal	23,795	1.9%
12	Shikoku	Electronic parts	23,614	1.9%
13	Tohoku	Electronic parts	23,435	1.9%
14	Kyushu	Transportation	22,765	1.8%
15	Kinki	Ceramics, stone and clay products	22,423	1.8%
16	Kyushu	Finance, insurance	19,666	1.6%
17	Kinki	Education, research	16,725	1.4%
18	Kanto	Commerce	16,226	1.3%
19	Kyushu	Commodity lease service	16,178	1.3%
20	Kyushu	Plastic products	14,316	1.2%

○Intermediate input to the electronic parts sector in Chugoku region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	926,464	100.0%
1	Chugoku	Electronic parts	228,960	24.7%
2	Chugoku	Education, research	98,489	10.6%
3	Kanto	Electronic parts	77,806	8.4%
4	Chubu	Electronic parts	42,657	4.6%
5	Chugoku	Other service for office	29,680	3.2%
6	Chugoku	Electricity	22,586	2.4%
7	Kinki	Electronic parts	21,439	2.3%
8	Kanto	Education, research	18,926	2.0%
9	Kyushu	Electronic parts	18,049	1.9%
10	Chugoku	Nonferrous metal	16,681	1.8%
11	Kanto	Commerce	16,362	1.8%
12	Chugoku	Transportation	13,177	1.4%
13	Chugoku	Plastic products	13,084	1.4%
14	Kinki	Commerce	12,431	1.3%
15	Chugoku	Finance, insurance	12,355	1.3%
16	Kyushu	Ceramics, stone and clay products	11,577	1.2%
17	Chugoku	Metal product	11,241	1.2%
18	Chugoku	Commerce	10,556	1.1%
19	Tohoku	Electronic parts	9,667	1.0%
20	Kinki	Education, research	9,012	1.0%

○Intermediate input to the electronic parts sector in Shikoku region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	227,151	100.0%
1	Shikoku	Electronic parts	27,865	12.3%
2	Shikoku	Education, research	25,749	11.3%
3	Kanto	Electronic parts	22,281	9.8%
4	Kinki	Electronic parts	14,924	6.6%
5	Shikoku	Electricity	7,782	3.4%
6	Shikoku	Other service for office	7,519	3.3%
7	Tohoku	Electronic parts	7,234	3.2%
8	Chubu	Electronic parts	6,873	3.0%
9	Kyushu	Electronic parts	5,911	2.6%
10	Kanto	Education, research	5,747	2.5%
11	Kanto	Commerce	4,699	2.1%
12	Kinki	Other electrical machinery	4,494	2.0%
13	Shikoku	Finance, insurance	4,194	1.8%
14	Shikoku	Nonferrous metal	4,142	1.8%
15	Shikoku	Other electrical machinery	3,900	1.7%
16	Kinki	Commerce	3,505	1.5%
17	Shikoku	Transportation	3,316	1.5%
18	Kinki	Education, research	3,016	1.3%
19	Hokkaido	Electronic parts	2,509	1.1%
20	Shikoku	Commodity lease service	2,315	1.0%

○Intermediate input to the electronic parts sector in Hokkaido region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Input total from endogenous sector	81,934	100.0%
1	Kanto	Electronic parts	16,114	19.7%
2	Kanto	Education, research	8,587	10.5%
3	Hokkaido	Electronic parts	6,545	8.0%
4	Tohoku	Electronic parts	4,693	5.7%
5	Hokkaido	Education, research	4,433	5.4%
6	Shikoku	Electronic parts	2,869	3.5%
7	Chubu	Ceramics, stone and clay products	2,330	2.8%
8	Hokkaido	Electricity	2,313	2.8%
9	Hokkaido	Commerce	2,173	2.7%
10	Kanto	Metal product	2,014	2.5%
11	Hokkaido	Other service for office	1,866	2.3%
12	Kyushu	Ceramics, stone and clay products	1,703	2.1%
13	Kinki	Education, research	1,316	1.6%
14	Kanto	Nonferrous metal	1,238	1.5%
15	Hokkaido	Transportation	1,238	1.5%
16	Hokkaido	Nonferrous metal	1,145	1.4%
17	Kanto	Ceramics, stone and clay products	931	1.1%
18	Chubu	Nonferrous metal	928	1.1%
19	Hokkaido	Finance, insurance	873	1.1%
20	Kinki	Electronic parts	870	1.1%

(Reference) The regional production amount of electronic parts

Region	Amount (million yen)	Percentage (%)
Whole industries	16,211,756	100.0%
Kanto	5,345,149	33.0%
Chubu	3,108,697	19.2%
Kinki	2,487,176	15.3%
Tohoku	1,848,970	11.4%
Kyushu	1,748,011	10.8%
Chugoku	1,248,958	7.7%
Shikoku	314,439	1.9%
Hokkaido	110,356	0.7%
Okinawa	0	0.0%

Notes:

1. Top 20 intermediate input sector of various domestic regions which have large amount of intermediate input to electronic parts sector in each region are extracted

2. The green shaded area is electronic parts sector of Tohoku region. The light blue shaded area is electronic parts sector of the region one belongs to. The yellow shaded area is electronic parts sector of other regions. The orange shaded area is electricity, transportation sector of the region one belongs to.

Source: "HEISEI 17-NEN (2005) CHIIKIKANN SANGYO KANRENHYO (Inter-regional I/O table) (53 sector transaction amount table)" (March, 2010) (Ministry of Economy, Trade and Industry)

(D) The status of intermediate input destination of the parts industry of the Tohoku region

So far, we inspected situation of automobile parts and electronic parts such as the Kanto region which was demand side of the intermediate input from Tohoku region, but now, from a contrasting viewpoint, we inspected to which region/sector the automobile parts and electronic parts sectors of Tohoku region provided intermediate input (Table 4-2-2-7). There are points, which are common, and also there are points of difference in the structure of intermediate input from the automobile parts sector and that from electronic parts sector in Tohoku region. The common point is that both sectors have much intermediate input to Kanto region other than the region one belongs, which is in accord with the structure viewed from demand side of the regions. However, there is a big difference between the two sectors as follows. In the automobile parts sector, the amount of input to automobile parts sector in Kanto region is the largest and accounts for approximately 30% in the total intermediate input, and input to the main automobile-related sectors in Kanto region (automobile parts, passenger car, other automobiles, other service to the office (automobile wholesales etc.)) and other transportation machines) accounts for nearly half of the total. The input to the automobile parts sector to Tohoku from the own region is merely 10% in the total, and total of the main automobile-related sector in the own region is merely 30% of the total.¹¹⁹ But on the contrary, in the electronic parts sector, input to the main electronic related sectors of the own region (electronic parts, computer and its attachment, communication machine and related equipment) accounts for three top ranks, and in the whole endogenous sector of the own region, it accounts for over half. The input to main electronic related

¹¹⁹ As for the export amount taken from the region in the Inter-Regional I/O Tables (CHIIKIKANHYO), the export amount of the product produced in the relevant region is accounted. Therefore the export amount of the automobile parts from Tohoku region is approximately 33,800 million yen, it is more than 3 times larger compared with the amount in the foreign trade statistics (approximately 10,500 million yen) which is actual amount exported from the port of the region. In addition, this is the same scale with production-based export amount (approximately 35,400 million yen) which we estimated from export freight flows in the previous section.

parts in Kanto region is merely 20% of the input to the own region, and in the whole endogenous sector it is only in the level of 30% (Table 4-2-2-8). In other words, whereas the automotive parts industry in the Tohoku region has stronger linkage with Kanto region, the electronic parts industry in Tohoku region has weak linkage with Kanto region compared with that of automotive parts industry. In addition, as for the total sum of the intermediate input, electronic parts sector has approximately 2.3 times larger sum than automobile parts sector. Also the level of the intermediate input to the parts industry is different. As for the destination of input of the automobile parts of Tohoku region, the relevant sector of each region is merely 50% (46.3%), and the input to finished products are small, but as for the destination of input of the electronic parts of Tohoku region, the relevant sector of each region remains in the level of less than 40% (38.8%). The proportion of input into the finished products line is relatively large. That is, it may be assumed that the automotive parts industry of Tohoku region includes not only manufacturing enterprises of primary parts (hereafter referred to as Tier1) but also many secondary parts or sub-parts manufacturers, (hereafter Tier2) in comparison with the electronic parts industry of the same region.

Table 4-2-2-7 Destination of intermediate input of the automobile parts and electronic parts sectors of Tohoku region

○ Destination of Intermediate input of the automobile parts of the Tohoku region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Endogenous sector total	697,139	100.0%
(Reference)	(Tohoku)	(Export)	33,843	
1	Kanto	Automobile parts, accessories	198,612	28.5%
2	Kanto	Passenger car	103,023	14.8%
3	Tohoku	Automobile parts, accessories	80,253	11.5%
4	Kanto	Other automobiles	67,959	9.7%
5	Tohoku	Passenger car	59,192	8.5%
6	Tohoku	Other service for office	46,278	6.6%
7	Kyushu	Passenger car	27,183	3.9%
8	Kanto	Other service for office	22,158	3.2%
9	Chubu	Automobile parts, accessories	22,154	3.2%
10	Chubu	Passenger car	21,770	3.1%
11	Kinki	Automobile parts, accessories	10,060	1.4%
12	Kyushu	Automobile parts, accessories	8,860	1.3%
13	Kinki	Passenger car	4,539	0.7%
14	Chugoku	Passenger car	3,552	0.5%
15	Kyushu	Other automobiles	3,359	0.5%
16	Kanto	Other transportation machinery	3,294	0.5%
17	Kyushu	Other service for office	3,144	0.5%
18	Chugoku	Automobile parts, accessories	2,550	0.4%
19	Kinki	Other automobiles	2,062	0.3%
20	Chubu	Other automobiles	2,015	0.3%
21	Kinki	Other service for office	1,519	0.2%
22	Tohoku	Other transportation machinery	760	0.1%
23	Chubu	Other service for office	604	0.1%
24	Kinki	Other transportation machinery	508	0.1%
25	Chubu	Other transportation machinery	478	0.1%
26	Chugoku	Other automobiles	364	0.1%
27	Chugoku	Other service for office	173	0.0%
28	Tohoku	Other automobiles	163	0.0%
29	Hokkaido	Other service for office	116	0.0%

Notes:

1. The intermediate demand of various domestic regions (each endogenous sector) is extracted, where there is the intermediate input amount more than 100 million yen from automobile parts, accessories sector of Tohoku region.
2. The green shaded area is intermediate demand sector of the Kanto region. The orange shaded area is intermediate demand sector of other regions.

Source: "HEISEI 17-NEN (2005) CHIIKIKANN SANGYO KANRENHYO(Inter-regional I/O table) (53 sector transaction amount table)" (March, 2010) (Ministry of Economy, Trade and Industry)

○ Destination of Intermediate input of electronic parts of the Tohoku region

Ranking	Region	Sector	Amount (million yen)	Percentage (%)
	Whole country	Endogenous sector total	1,580,525	100.0%
(Reference)	(Tohoku)	(Export)	639,706	
1	Tohoku	Electronic parts	362,876	23.0%
2	Tohoku	Computer, attachment	183,149	11.6%
3	Tohoku	Communications machinery, related machinery	177,795	11.2%
4	Kanto	Electronic parts	145,982	9.2%
5	Kanto	Communications machinery, related machinery	84,982	5.4%
6	Kanto	Computer, attachment	48,377	3.1%
7	Kanto	Other electrical machinery	47,252	3.0%
8	Tohoku	Precision machinery	43,200	2.7%
9	Chubu	Electronic parts	41,434	2.6%
10	Kanto	Other service for office	30,657	1.9%
11	Tohoku	Equipment for office works and service	28,192	1.8%
12	Kanto	Precision machinery	27,459	1.7%
13	Tohoku	Other electrical machinery	26,565	1.7%
14	Kanto	Equipment for office works and service	23,986	1.5%
15	Kyushu	Electronic parts	23,435	1.5%
16	Tohoku	Other service for office	22,066	1.4%
17	Kinki	Electronic parts	17,558	1.1%
18	Chubu	Communications machinery, related machinery	14,333	0.9%
19	Kanto	Industrial use electric appliance	12,081	0.8%
20	Chugoku	Electronic parts	9,667	0.6%
21	Kanto	Automobile parts, accessories	9,365	0.6%
22	Kanto	General machinery	8,475	0.5%
23	Tohoku	Public service	8,140	0.5%
24	Tohoku	Industrial use electric appliance	8,134	0.5%
25	Shikoku	Electronic parts	7,234	0.5%
26	Kinki	Communications machinery, related machinery	6,911	0.4%
27	Chubu	Computer, attachment	6,210	0.4%
28	Chubu	Equipment for office works and service	6,134	0.4%
29	Tohoku	General machinery	5,473	0.3%
30	Kanto	Other manufacturing industry products	5,070	0.3%

Notes:

1. The intermediate demand of various domestic regions (each endogenous sector) is extracted, where there is the intermediate input amount more than 5 billion yen from electronic parts sector of Tohoku region.
2. The green shaded area is intermediate demand sector of the Kanto region. The orange shaded area is intermediate demand sector of other regions.

Source: "HEISEI 17-NEN (2005) CHIIKIKANN SANGYO KANRENHYO(Inter-regional I/O table) (53 sector transaction amount table)" (March, 2010) (Ministry of Economy, Trade and Industry)

Table 4-2-2-8 Comparison of the destination region of intermediate input of the automobile parts and electronic parts sectors of Tohoku region

○Automobile parts

Region	Amount (million yen)	Percentage (%)
Whole country	697,139	100.0%
Hokkaido	173	0.0%
Tohoku	186,720	26.8%
Kanto	395,183	56.7%
Chubu	47,025	6.7%
Kinki	18,708	2.7%
Chugoku	6,646	1.0%
Shikoku	77	0.0%
Kyushu	42,607	6.1%
Okinawa	0	0.0%

○Electronic parts

Region	Amount (million yen)	Percentage (%)
Whole country	1,580,525	100.0%
Hokkaido	15,230	1.0%
Tohoku	881,706	55.8%
Kanto	475,477	30.1%
Chubu	90,316	5.7%
Kinki	46,826	3.0%
Chugoku	17,998	1.1%
Shikoku	13,741	0.9%
Kyushu	38,306	2.4%
Okinawa	925	0.1%

Notes: The Destination of Intermediate input is endogenous sector total of each regions.

Source: "HEISEI 17-NEN (2005) CHIIKIKANN SANGYO KANRENYO(Inter-regional I/O table) (53 sector transaction amount table)" (March, 2010) (Ministry of Economy, Trade and Industry)

(3) Structure of Japanese parts industry which can be observed from Tohoku region

We made the comparison between the regions to find out whether structure of the parts industry of the Tohoku region has any difference with structure of the parts industry of other regions.

At first we compared the structure in the intermediate destination of input and its percentage (Table 4-2-2-9). The input structure of the automobile parts sector varies depending on the region significantly. As for [intermediate input destination](#) of the automobile parts sector of Kyushu region, which has a scale of intermediate input of the same level as in the automobile parts sector of Tohoku region, Kyushu's intermediate input to the Kyushu region is the largest accounting for more than half of its total input and the second largest input is to Kanto, and Chubu regions, less than 20% in each region. This is significantly different from the structure of the same sector of Tohoku region. Also the input rate of the same sector of Hokkaido to the own region is less than that of Tohoku region, and the input to Chubu region, not to Kanto region, accounts for more than 70%. The two major regions of input source, input destination of the automobile parts in Kanto and Chubu make the input to the own region in around 70% level and secondly to the mutual region. Furthermore, the same sector of the Kinki region that has the bigger scale of intermediate input than Tohoku region make more input to adjacent Chubu region rather than to the own region, and the same sector of the Chugoku area make a lot of input to the own region and has a relatively little linkage with other regions.

Table 4-2-2-9 Comparison of the destination regions of intermediate input of automobile parts, electronic parts sectors of various domestic regions

○ Automobile parts

Destination of Input	Hokkaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Whole country
Destination of input Hokkaido	5.7%	0.0%	0.1%	0.9%	0.1%	1.6%	0.2%	0.0%	0.0%	0.6%
Tohoku	0.4%	26.8%	1.3%	2.6%	0.5%	1.7%	0.4%	1.1%	0.0%	2.5%
Kanto	13.7%	56.7%	73.5%	14.0%	15.9%	7.7%	6.6%	17.6%	0.0%	38.5%
Chubu	73.2%	6.7%	16.2%	66.6%	32.1%	5.5%	9.9%	18.9%	0.0%	37.0%
Kinki	2.4%	2.7%	2.0%	5.9%	31.0%	6.0%	44.2%	1.3%	0.0%	5.5%
Chugoku	1.1%	1.0%	1.6%	4.0%	14.2%	67.0%	7.0%	6.0%	0.0%	8.6%
Shikoku	0.0%	0.0%	0.1%	0.3%	0.0%	0.6%	21.9%	0.0%	0.0%	0.2%
Kyushu	3.6%	6.1%	5.1%	5.5%	6.2%	9.6%	9.7%	55.1%	0.0%	7.1%
Okinawa	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.0%	0.0%	100.0%	0.1%
Whole country	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Amount of intermediate input (hundred million yen)	1,623	6,971	99,607	102,926	13,387	20,063	154	7,001	1	251,735

○ Electronic parts

Destination of Input	Hokkaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa	Whole country
Destination of input Hokkaido	20.6%	1.0%	1.1%	0.0%	0.2%	0.0%	3.7%	0.1%	0.0%	0.8%
Tohoku	2.5%	55.8%	5.6%	2.7%	4.7%	1.0%	5.6%	1.4%	0.0%	10.1%
Kanto	52.0%	30.1%	71.3%	22.2%	28.8%	34.0%	50.8%	38.4%	0.0%	44.0%
Chubu	3.7%	5.7%	7.6%	57.4%	9.8%	10.4%	2.8%	5.6%	0.0%	18.0%
Kinki	9.1%	3.0%	6.6%	10.5%	50.3%	12.0%	2.8%	7.8%	0.0%	14.1%
Chugoku	2.8%	1.1%	3.4%	2.8%	2.1%	41.2%	0.8%	3.9%	0.0%	5.8%
Shikoku	4.0%	0.9%	1.0%	0.5%	1.4%	0.2%	18.9%	1.3%	0.0%	1.3%
Kyushu	5.2%	2.4%	3.3%	3.9%	2.8%	1.2%	14.5%	41.5%	0.0%	5.8%
Okinawa	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.1%
Whole country	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Amount of intermediate input (hundred million yen)	1,134	15,805	46,492	27,779	20,286	10,909	2,898	8,592	4	133,899

Notes: Destination of Intermediate input is the endogenous sector total. The yellow shaded area indicates the rate of intermediate input to the region one belongs to. The green shaded area indicates the regions which have intermediate input percentage of higher than 10%. The orange shaded area indicates regions which have intermediate input percentage higher than that to the region one belongs to. Total may not become 100% due to rounding off.

Source: "HEISEI 17-NEN (2005) CHIIKIKANN SANGYO KANRENHYO(Inter-regional I/O table) (53 sector transaction amount table)" (March, 2010) (Ministry of Economy, Trade and Industry)

The electronic parts sector has a structure different from the automobile parts sector, and the input structure is supposed to have characteristics in common with various regions. The dispersion in the amount of intermediate input from various regions is smaller than in automobile parts sector. Input to Kanto region is the biggest with 44%, input to Chubu, Kinki, and Tohoku exceeds 10%, dispersion in input source and input destination is generally big. And also, Except Hokkaido, Shikoku region with

little intermediate input amount, each region has made the largest input to the own region, and the second largest input is to Kanto region.

Then, we compared the structure of the re-input in the sector (Table 4-2-2-10). The entire structure of the automobile parts sector, like the same sector of Tohoku region in the whole country level, has 10% more re-input rate in the same sector than electronic parts sector (47.4% in automobile parts, 37.3% in electronic parts), resulting in the vertical specialization production structure. Further, the intermediate destination of input of the automobile parts sector of Kyushu region that has a scale of intermediate input of the same level as in the automobile parts sector of Tohoku region has lower re-input rate in the sector in contrast. The re-input percentage in sector from Kinki area and to the west is lower than national average. And the biggest regions for re-destination of input in the total are Chubu region, indicating that the degree of accumulation of the automotive parts industry is big there.

Table 4-2-2-10 Re-input etc. by the automobile parts, the electronic parts sectors of various domestic regions to the same sectors

(Automobile parts)	Amount of re-input to automobile parts (hundred million yen)	Total amount of intermediate input (hundred million yen)	Rate of re-input (%)	The first place re-input region	The second place re-input region
Hokkaido	915	1,623	56.4%	Chubu	Kanto
Tohoku	3,226	6,971	46.3%	Kanto	Tohoku
Kanto	43,869	99,607	44.0%	Kanto	Chubu
Chubu	54,899	102,926	53.3%	Chubu	Kanto
Kinki	6,040	13,387	45.1%	Chubu	Kinki
Chugoku	7,598	20,063	37.9%	Chugoku	Kanto
Shikoku	51	154	33.0%	Kinki	Chugoku
Kyushu	2,780	7,001	39.7%	Kyushu	Chubu
Okinawa	0	1	0.0%		
Whole country	119,378	251,735	47.4%	Chubu	Kanto
(Electronic parts)	Amount of re-input to automobile parts (hundred million yen)	Total amount of intermediate input (hundred million yen)	Rate of re-input (%)	The first place re-input region	The second place re-input region
Hokkaido	402	1,134	35.5%	Kanto	Hokkaido
Tohoku	6,129	15,805	38.8%	Tohoku	Kanto
Kanto	15,004	46,492	32.3%	Kanto	Chubu
Chubu	11,705	27,779	42.1%	Chubu	Kanto
Kinki	7,575	20,286	37.3%	Kinki	Kanto
Chugoku	4,583	10,909	42.0%	Chugoku	Kanto
Shikoku	998	2,898	34.4%	Kanto	Shikoku
Kyushu	3,491	8,592	40.6%	Kyushu	Kanto
Okinawa	0	4	0.0%		
Whole country	49,886	133,899	37.3%	Kanto	Chubu
(Electronic parts)	Amount of input to automobile parts (hundred million yen)	Total amount of intermediate input (hundred million yen)	Rate of re-input (%)	The first place re-input region	The second place re-input region
Hokkaido	28	1,134	2.5%	Kanto	Hokkaido
Tohoku	206	15,805	1.3%	Kanto	Chubu
Kanto	1,164	46,492	2.5%	Kanto	Chubu

Chubu	1,334	27,779	4.8%	Chubu	Kanto
Kinki	349	20,286	1.7%	Kinki	Chubu
Chugoku	345	10,909	3.2%	Chugoku	Chubu
Shikoku	94	2,898	3.3%	Kanto	Kyushu
Kyushu	265	8,592	3.1%	Kyushu	Kanto
Okinawa	0	4	0.0%		
Whole country	3,785	133,899	2.8%	Chubu	Kanto

Notes: The yellow shaded area indicates that the region has re-input percentage higher than that of national average. The re-input region is re-input region other than the region one belongs to.

Source: "HEISEI 17-NEN (2005) CHIIKIKANN SANGYO KANRENHYO(Inter-regional I/O table) (53 sector transaction amount table)" (March, 2010) (Ministry of Economy, Trade and Industry)

And also, Kanto region is the largest destination of re-input of the electronic parts sector, which indicates that accumulation of the electronic parts industry is most advanced.

In consideration of a lot of electronic parts such as IC tips for vehicle being incorporated in automobile parts in late years, we checked about the input from electronic parts sector to automobile parts sector (the input from electronic parts to completed automobile was very little). The input rate is not so high, 2.8% on national average, and amount of input from Kanto region is more than 100 billion yen which amount next to Chubu region, but the input rate was 2.5% that is less than the national average. On the other hand, Chubu region has the highest input rate of 4.8%. The Nishi-Nippon region excluding Kinki region has the higher input rate than the national average.

Finally we compare the percentage of export with the intermediate input mainly by inspecting demand for parts industry constitution in various regions (Table 4-2-2-11). First of all the ratio of the intermediate input is different from export (on the industrial linkage it is classified as a part of final demand) between both sectors significantly even in the same parts industry. On national average, rate of automobile parts of export is 13.7%, domestic intermediate input is 85.8%, whereas the rate in the electronic parts is 31.9% and 66.9% respectively. Export rate of the latter is nearly 20% above. The ratio of export of Tohoku region is lower than national average; especially the export of automobile parts ratio is significantly lower, 4.6%.

On the other hand, the Kyushu region with almost the same scale in both sectors has the quite different structure. In export ratio, automobile parts (34.8%) and electronic parts (55.8%) exceed national average significantly, marking the best ratio in the region. And also, in automobile parts sector the export ratios from Kinki and Chubu regions are higher than national average, and in electronic parts sector, export ratio from Kanto and Kinki region is higher than national average. Greater amount of production does not necessarily correspond with higher export ratio.

Table 4-2-2-11 Comparison of the demand structure of automobile parts, electronic parts of various domestic regions

(Automobile parts)	Structure	Whole country	Hokkaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa
Intermediate input	(1)	85.8%	86.2%	94.9%	87.9%	84.9%	83.1%	89.8%	95.7%	64.7%	80.4%
Domestic final demand	(2)	0.5%	0.8%	0.5%	0.4%	0.5%	0.8%	0.4%	2.0%	0.4%	9.8%
Export	(3)	13.7%	13.0%	4.6%	11.6%	14.6%	16.1%	9.8%	2.3%	34.8%	9.8%
Total demand	(4)=(1)+(2)+(3))	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Import	(5)	-2.3%	-2.3%	-2.3%	-2.6%	-1.8%	-2.7%	-2.6%	-11.9%	-3.9%	-81.4%
Production in the region	(4)-(5)	97.7%	97.7%	97.7%	97.4%	98.2%	97.3%	97.4%	88.1%	96.1%	18.6%
(Amount of total demand)	(4) Amount (hundred million yen)	293,261	1,882	7,350	113,296	121,297	16,114	22,347	161	10,813	1
(Rate of total demand)	(4) Share of region	100.0%	0.6%	2.5%	38.6%	41.4%	5.5%	7.6%	0.1%	3.7%	0.0%
(Electronic parts)	Structure	Whole country	Hokkaido	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu	Okinawa
Intermediate input	(1)	66.9%	85.9%	70.2%	66.2%	72.8%	66.9%	74.0%	80.6%	44.4%	80.2%
Domestic final demand	(2)	1.2%	1.3%	1.4%	1.5%	1.1%	1.0%	2.3%	1.7%	-0.1%	19.8%
Export	(3)	31.9%	12.8%	28.4%	32.3%	26.0%	32.1%	23.7%	17.7%	55.8%	0.0%
Total demand	(4)=(1)+(2)+(3))	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Import	(5)	-19.0%	-16.4%	-17.9%	-23.8%	-18.5%	-18.0%	-15.3%	-12.6%	-9.7%	-100.0%
Production in the region	(4)-(5)	81.0%	83.6%	82.1%	76.2%	81.5%	82.0%	84.7%	87.4%	90.3%	0.0%
(Amount of total demand)	(4) Amount (hundred million yen)	200,201	1,321	22,529	70,177	38,134	30,338	14,738	3,597	19,363	5
(Rate of total demand)	(4)Share of region	100.0%	0.7%	11.3%	35.1%	19.0%	15.2%	7.4%	1.8%	9.7%	0.0%

Notes: Destination of Intermediate input is the endogenous sector total. Total may not become 100% due to rounding off.

Source: "HEISEI 17-NEN (2005) CHIIKIKANN SANGYO KANRENHYO(Inter-regional I/O table) (53 sector transaction amount table)" (March, 2010) (Ministry of Economy, Trade and Industry)

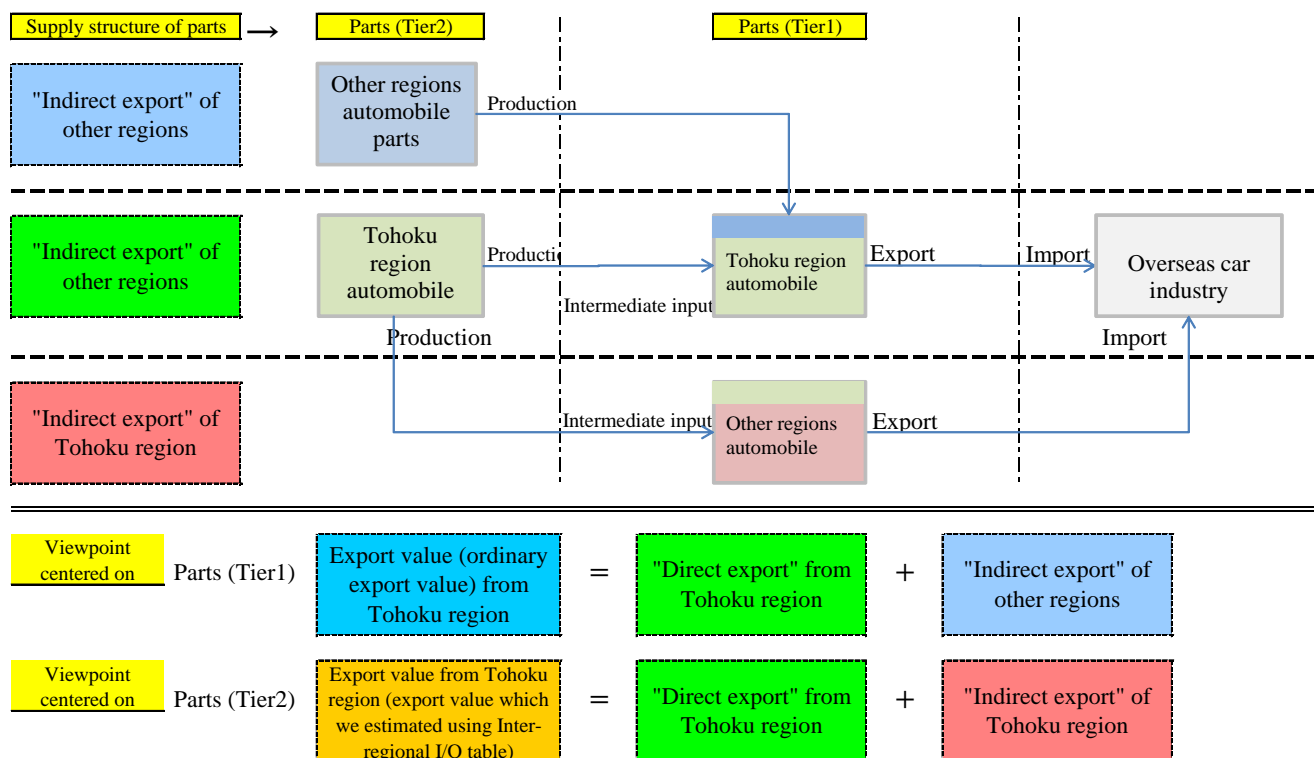
(4) The impact that Tohoku region gives to the export of automobile parts of Japan

As stated above, although direct export ratio of Tohoku region especially of automotive parts industry is low, "indirect export"¹²⁰ is done in particular through intermediate input into production/export of automotive parts from Kanto region. In global supply-chain, to inspect export structure of Japanese automotive parts industry adopting the vertical specialization of production system, it is important for us to consider not only the direct export from the region but also the indirect export. By estimating these indirect exports, we analyzed the size of the impact on the global supply-chain caused by stagnation of export of automobile parts from the Tohoku region due to this earthquake disaster. First of all, we have broken down the structure of the global supply-chain of the automobile parts originating from the Tohoku region into patterns (Figure 4-2-2-12)¹²¹.

Figure 4-2-2-12 Global supply-chain of automobile parts originated from Tohoku region

¹²⁰ The definition of indirect export is indicated in the first paragraph of Section 2-2 (1).

¹²¹ In order to classify the pattern clearly, we have divided the automobile parts sector focusing on only two kinds of Tier1 and Tier2 in this report, but actually in order to understand indirect export, it is necessary to consider the **tertiary parts** (Tier3) or even the parts under **sub-category**, which are incorporated in these primary and secondary parts.



Notes: "Direct export" refers to the export of the portion which production and intermediate input of the entire parts (both Tier1 and Tier2) are completed within the region, and "Indirect export" refers to the export of the portion which is exported after the parts (Tier2) produced in the region were intermediately input into the parts (Tier1) produced in the other regions.

Source: Compiled from the data of Ministry of Economy, Trade and Industry.

The export from Tohoku region is roughly divided into three patterns. The first is the case where both the production of the parts (Tier2) and the production of export parts (Tier1) into which the intermediate input was made, are performed in Tohoku region. We will call this as "direct export from Tohoku region". The second is the case where the production of Tier2 is conducted in the region other than Tohoku, and it is **input intermediately** into Tier1, which is manufactured in Tohoku region. We call this as "indirect export of the products produced in other regions". The third is the case where, Tier2, which was produced in Tohoku region, is input intermediately into Tier1, which was produced in other regions. We call this "indirect export of products of Tohoku region".

According to this classification, the export amount from Tohoku region included in the ordinary region table is the sum of "direct export from Tohoku region" and "indirect export to other regions". The export amount included is the export amount focusing on Tier1, which was produced in Tohoku region. On the other hand, the export amount focusing on Tier2 produced in Tohoku region, which can be estimated by using Inter-Regional I/O Tables (CHIIKIKANHYO)¹²² is the sum of "direct export

¹²² For example, "The indirect export of products of Tohoku region" is estimated from the following calculation. The ratio of amount, input intermediately from automobile parts sector of Tohoku region is determined by the total sum (total of endogenous sector) intermediately input to automobile parts sector of other regions such as Kanto region. The above ratio is multiplied by export amount of the automobile parts sector from other regions such as Kanto region. We have made estimation in other regions by using similar method for the followings.

from Tohoku region" and "indirect export of the products of Tohoku region", and if this export amount is bigger than ordinary export amount, the impact that Tohoku region gives on the global supply-chain may be supposed to be potentially bigger one than expected.

The result from the estimation (Table 4-2-2-13) shows that the export amount of the automobile parts from Tohoku region by estimate is approximately 63 billion yen, which account for approximately 1.6% of export from the whole country. The export amount usually included is approximately 34 billion yen, approximately 0.8% of national export and becomes the size of approximately 2 times larger when indirect export is taken into consideration. The export structure of the automobile parts from Tohoku region, and the ratio of the indirect export is as high as more than 60%, two times larger than direct export ratio, unlike major export regions such as Chubu region and Kanto region. The data shows that Tier2 produced in Tohoku region is exported after it was input intermediately into Tier1 of mainly Kanto region (more than 70%).

Table 4-2-2-13 Export structure of automotive parts industry in consideration of Japanese indirect export

	①	②	③	①+②		①+③				
Region	"Direct export" from the region one belongs to	"Indirect export" of other regions	"Indirect export" of the region one belongs to	The export value from the region concerned (viewpoint centered on Tier1)	Percentage by region	The export value from the region concerned (viewpoint centered on Tier2)	Percentage by region	Ratio of "direct export"	Ratio of "indirect export"	The largest input region (percentage in the whole) of the left column
Hokkaido	15,601	8,857	16,154	24,458	0.61%	31,754	0.79%	49.1%	50.9%	Chubu (86.6%)
Tohoku	22,355	11,488	40,534	33,843	0.84%	62,889	1.57%	35.5%	64.5%	Kanto (73.8%)
Kanto	1,142,951	175,817	204,750	1,318,768	32.91%	1,347,701	33.64%	84.8%	15.2%	Chubu (55.8%)
Chubu	1,573,766	200,960	271,634	1,774,726	44.29%	1,845,400	46.06%	85.3%	14.7%	Kanto (39.5%)
Kinki	162,353	97,320	76,240	259,673	6.48%	238,594	5.95%	68.0%	32.0%	Chubu (59.0%)
Chugoku	170,959	47,372	48,892	218,331	5.45%	219,851	5.49%	77.8%	22.2%	Kyushu (26.2%)
Shikoku	194	169	938	363	0.01%	1,133	0.03%	17.2%	82.8%	Kinki (73.5%)
Kyushu	233,656	142,881	25,726	376,537	9.40%	259,383	6.47%	90.1%	9.9%	Chubu (52.4%)
Okinawa	5	5	0	10	0.00%	5	0.00%	100.0%	0.0%	None
Whole country total	3,321,840	684,869	684,869	4,006,709	100.00%	4,006,709	100.00%	82.9%	17.1%	Chubu (29.3%)

Notes: Unit is million yen except the percentage.

Source: "HEISEI 17-NEN (2005) CHIIKIKANN SANGYO KANRENHYO (Inter-regional I/O table) (53 sector transaction amount table)" (March, 2010) (Ministry of Economy, Trade and Industry)

According to survey¹²³ of the Tohoku Bureau of Economy, Trade and Industry 2004, characteristics of the automobile related industry in Tohoku region include; (a) The wide-area collaboration type accumulation open to the outside the area is formed in business relationship, and (b) structure of the region industry such as electricity, information and communication equipment, electronic parts, precision instruments, and industrial accumulation are formed with variety. As we have inspected so far, products of Tohoku region, in particular automobile parts are input intermediately in large quantities to machine industry mainly automotive parts industry in outside of the region. The relationship between procurement and sales including the relationship in the own regions and electronic parts industries are presently getting closer, and it is considered that this characteristic is more clearly observed¹²⁴.

And also, it seems that export structure of the automotive parts industry in various regions have different characteristic in each. The regions having large ratio of indirect export focused on Tier2 like Tohoku region are Hokkaido and Shikoku region. The Chubu region have received much input to

¹²³ Tohoku Bureau of Economy, Trade and Industry (2004): "A survey toward accumulation, activation of the automobile related industry in Tohoku" P.26-31.

¹²⁴ The approach based on the policy is under way. In May, 2007, "Collaboration conference for Tohoku car industry accumulation" was established, measures of the wide-area collaboration which six prefectures of Tohoku participating in. The conference is intending to establish "A big accumulation base in the Northern territory" of Japanese automobile related industry, through the activities; (a) Information sharing, (b) Seminar and exchange party, (c) Technical exhibition and trade fair (d) Business expansion support, (e) Promotion of Research and development etc.

Tier1 from Hokkaido, and Kinki region have much from Shikoku region, each have different region connection. The automotive parts industry of Kyushu region has considerably different structure from these with focus on Tier2. Since this industry has big direct export ratio of approximately 90% of Tier1, and much intermediate input of Tier2 from other regions, the estimated export amount is around two-thirds of the ordinary export amount. Tohoku region and Kyushu region have characteristic in common in increased industrial accumulation including automobile parts in late years, but structure of the automotive parts industry in the region is different each other. As for the impact on export, it is necessary to evaluate after having fully considered the position of each region in global supply-chain.

In this section-2, we have examined not only the direct export from the own region but also the situation of the intermediate input from various domestic regions to the major export regions from Inter-Regional I/O Tables (CHIIKIKANHYO), focusing on automobile parts, electronic parts industry of Tohoku region, and we confirmed that each region in Japanese economy is connected indirectly with the world economy. In conclusion, in only two parts industries i.e. automobile parts and electronic parts, there are considerable different structures by sector and by regions. Therefore it is necessary to examine the situation of the Japanese economy, in consideration of varieties of worlds with which each Japanese region is in contact¹²⁵.

3. Measures undertaken by the industry toward the recovery of global supply-chain

(1) Status of production activities, and procurement of raw materials/ parts/ materials after the earthquake disaster

Just after the earthquake disaster, production stops at many bases around the disaster-stricken area, production activities of the domestic companies had a significant influence over that. At the same time all parts of the world expressed concerns over stoppage of the global supply-chain from Japan (Figure 4-2-3-1). In fact, by suspended or reduced production activities of large number of companies with world eminent production share, parts and materials are not supplied stably, which affected the production activity not only in Japan but also in some companies overseas.

On April 26, 2011, Ministry of Economy, Trade and Industry prepared "Industry actual state emergency survey after the Great East Japan Earthquake"¹²⁶ and later announced the results. As of the beginning of April, approximately more than 60% of the damaged production base of the respondent manufacturing companies has already finished recovery, and meanwhile recovery is steadily on the way in other bases, the remaining 30% of the damaged bases are considered to have completed recovery possibly by the middle of July (Figure 4-2-3-2).

The quick recovery may be attributable to quick first action of the Japanese manufacturing enterprise in early stage. The company, which had grasped the impact on company's supply chain (damage situation of the procurement, availability of the material procurement) within one week after this earthquake disaster accounts for more than 60% in material industry, 40% in processing industry.

¹²⁵ As the principal objective is to investigate the structure, all the values are based on Inter-Regional I/O Tables (CHIIKIKANHYO), 2005, they may not reflect the most recent trend completely.

¹²⁶ The survey was conducted in order to understand the industry's actual state after this earthquake disaster (recovery situation and prospect of the production base in the stricken area, the stagnation of production through supply restriction of products and materials caused by the earthquake disaster and impact on consumption by the expanse of self-restraint mood etc.). The survey period: from April 8 to April 15, 2011: Companies interviewed: 80 companies (55 manufacturing industries and 25 retail, service industries).

Additionally, as for the alternative procurement of raw materials, parts and materials, which are difficult to procure by this earthquake disaster, over 80% of the processing industries and over 60% of the material industries have secured alternative source of procurement (Figure 4-2-3-3). Furthermore, the alternative Source: of procurement are located not only in overseas countries but also widely located in various domestic regions in Japan (Figure 4-2-3-4).

Furthermore, about time (estimation) by which enough quantity of procurement can be secured, in the raw material industry, 54% of companies (including 8% which have completed procurement in respondents) are expecting normalization of procurement by July, 85% are expecting by October. Additionally, in the processing industries, 29% of companies (including 6% which have completed procurement in respondents) are expecting normalization of procurement by July, 71% are expecting by October (Figure 4-2-3-5).

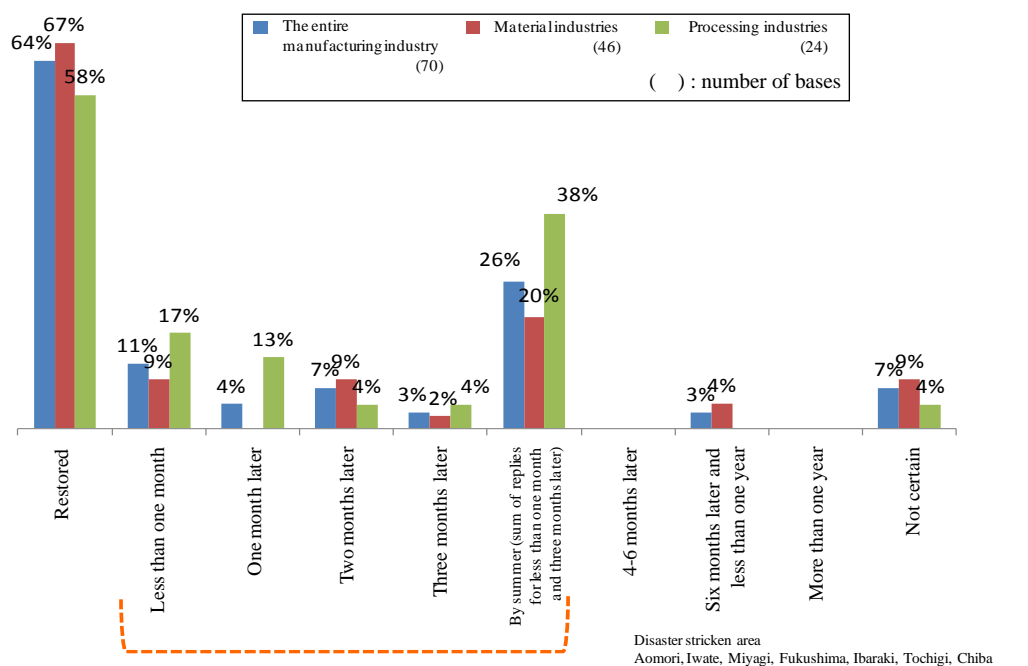
As stated above as of approximately one month after this earthquake disaster, although there is the variety depending on individual company and the base location, it can be said that the production activities have been recovered to some extent. The recovery activities are under way continuously, and early recovery of the global supply-chain where Japanese companies play an important role is expected.

Figure 4-2-3-1 Expression of concern in the economic report by FRD of U.S.A. (published on April 13, 2011)

Summary of U.S district FRB economic report (Beige book) (published on April 13, 2011)	
<p>About US economic activities from the end of February, 2011 to early April,</p> <p>(a) As the economic assessment it reported that "economic activity generally continued to improve" and reports from the twelve Federal Reserve Districts indicated that recovery continued since the last report in March.</p> <p>(b) 7 Districts including Boston and Philadelphia mentioned their concern about impact on supply chain (procurement, supply network) saying that "stoppage of sale and the production happened and might happen" by an earthquake disaster. Also dropping of Japanese tourism in Hawaii was reported.</p>	
District	Mention about the impact of the Great East Japan Earthquake
Boston	Concern about electronic parts-related supply chain.
Philadelphia	The retail stock of the electric appliance is insufficient. At a dealer stage "beginning" of supply interruption of vehicle and parts.
Richmond	Restriction on order for automotive paint
Atlanta	There is not the stoppage of the specific supply chain, but concerned about temporary interruption in automobile and IT.
Chicago	Along with an increase in gas price, concern of production activity restraint caused by the earthquake disaster of Japan.
Minneapolis	41% of companies replied that they were under some kind of influences by the earthquake disaster, such as delayed delivery of the plastic resin,
Dallas	Adverse effects on exporters. Some company are pessimistic that vessel service may not be normal until September.
San Francisco	Japanese tourists to Hawaii largely decreased.

Source: "FRB economic report" (Beige book) (published on April 13, 2011) (FRB)

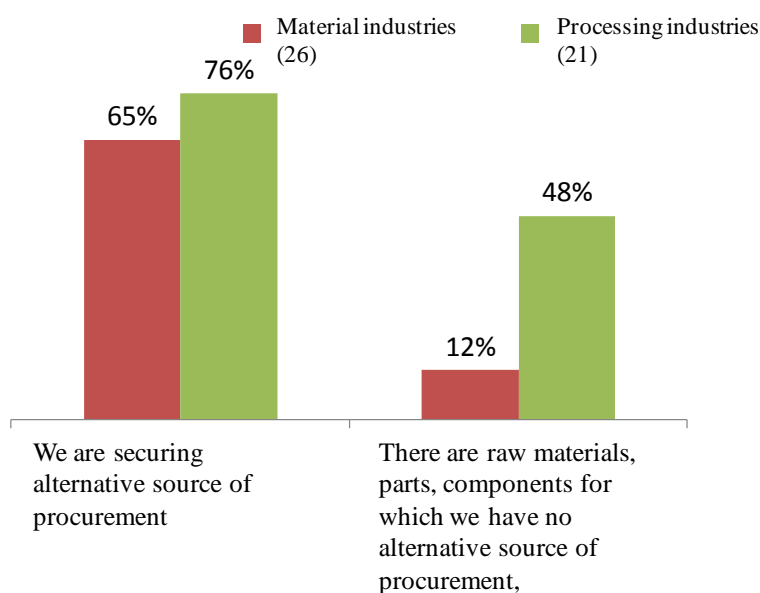
Figure 4-2-3-2 Status and forecasts of production base recovery in the disaster stricken area



Notes: Some companies have damage at plural bases, and therefore the number of the bases (70) is bigger than the number of the companies (55).

Source: "Urgent survey on industry actual state after the Great East Japan Earthquake" (April, 2011) (Ministry of Economy, Trade and Industry)

Figure 4-2-3-3 Alternative source of procurement for raw materials, parts, components of Japanese companies

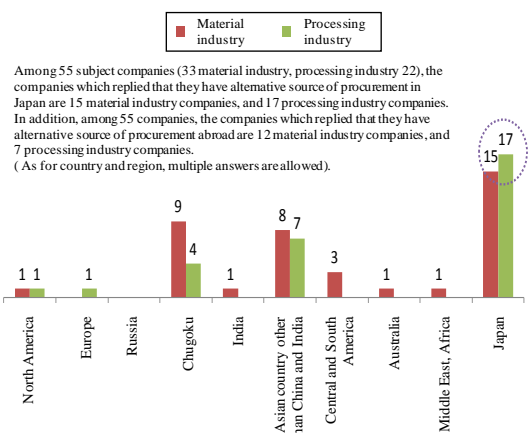


Notes: Some companies use a plurality of raw materials, parts, components, so multiple answers are allowed.

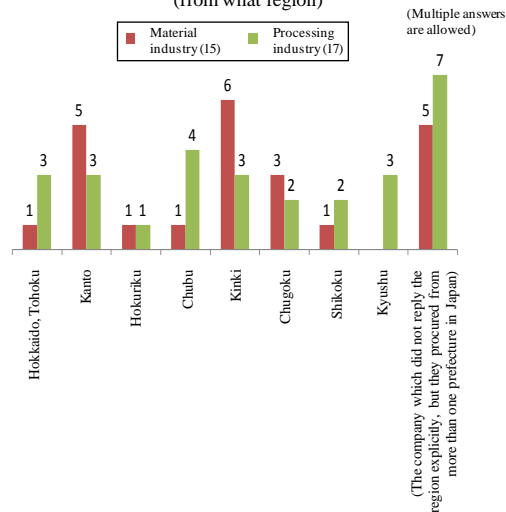
Source: "Urgent survey on industry actual state after the Great East Japan Earthquake" (April, 2011) (Ministry of Economy, Trade and Industry)

Figure 4-2-3-4 Alternative source of procurement of Japanese company (inside and outside the country) by region

Alternative source of procurement

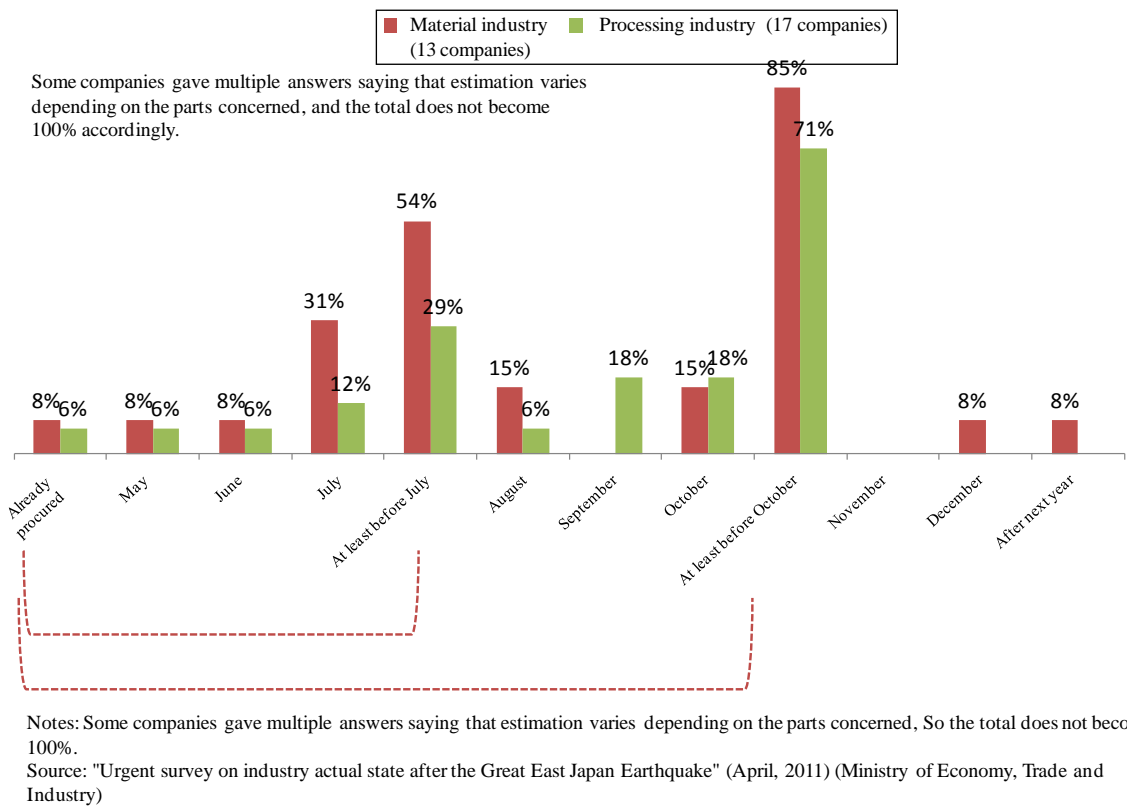


Alternative source of procurement in Japan (from what region)



Source: "Urgent survey on industry actual state after the Great East Japan Earthquake" (April, 2011) (Ministry of Economy, Trade and Industry)

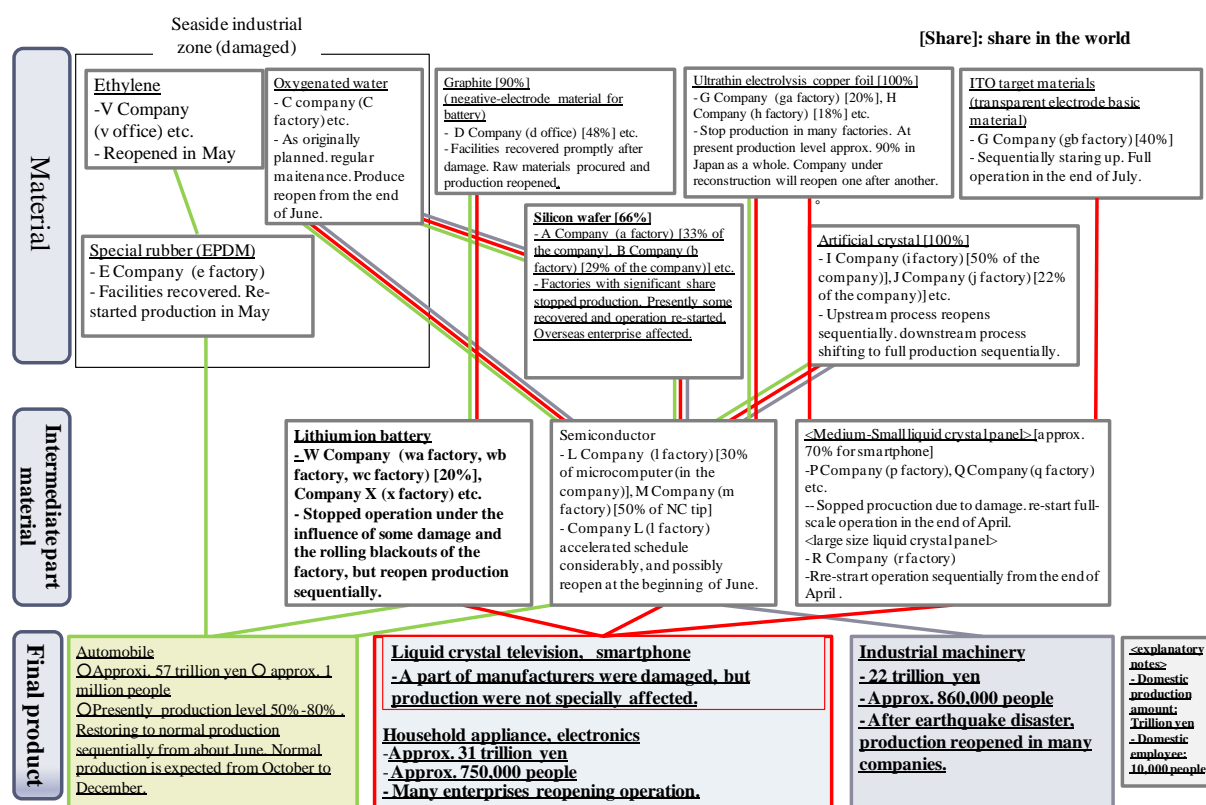
Figure 4-2-3-5 The time (estimation) when Japanese company can secure enough procurement volumes



(2) Measures undertaken by the industry toward the recovery of global supply-chain

With their whole-hearted efforts, and support by the nationwide related business circles, the damaged companies and the areas, have started the recovery of their damaged production base making progress rapidly than initially envisioned. The factory of the major enterprise reopened the operation ahead of schedule one by one; and continue efforts for full operation and increase in production. In some factories, the impact of this earthquake disaster is so big that the situation must be watched closely, but if we look around the whole economy of Japan, we can find positive and steady movement for reconstruction, such as reinforced power supply to the electric company by the blast furnace companies, the surges in demand for electric wire for houses. Below, we will give an overview of situation of approaches by the industry as of the end of May, 2011 (Figure 4-2-3-6).

Figure 4-2-3-6 The impact of this earthquake disaster extended to the whole supply chain of Japan



Source: Compiled from "The subcommittee on basic policy of the Industrial Structure Council (Third) data 3" (May 31, 2011) (Ministry of Economy, Trade and Industry)

(A) The general condition of the electronics related industry

Although the factories, which produce materials and parts, were damaged by this earthquake disaster, they are recommencing production one after another. It is expected that there is no significant impact on production of electronics products such as thin-screen TV, cell-phone, smart phone, and lithium ion battery. For example, one enterprise that were producing/exporting silicon wafer¹²⁷ received damage on the factory by this earthquake disaster, but already the factory has reopened the operation one after another. They are expecting to return the production to the previous level before the earthquake disaster by about the end of June.

(B) The general condition of the aircraft related industry

Although in some factories production are stopped or reduced temporarily just after this earthquake disaster, they are now restored, or they have started operation totally in May. The full-scale production is expected to begin soon in June. For example, in one enterprise producing and exporting turbine blade and engine disk¹²⁸ used in the aircraft engine, although their factory suffered damage from this

¹²⁷ Single crystal of high purity silicon (99.99999999%) cut to a sliced laminate. Used as a board of semiconductors for cell-phone, digital appliance and automotive microcomputer.

¹²⁸ A turbine blade is normally a slim board with wing shaped blades, which rotates a disk by receiving flow of gas from the front. An engine disk is a disk attached to the shaft of the engine. Turbine blades are

earthquake disaster, they started operation in all processing line building on May 9, and full-scale production was started, and they will catch-up with their delivery schedule from this point onward. Additionally, they are now devising a new production schedule toward further increase in production.

(C) The general condition of the automobile related industry

Just after the earthquake disaster, the production of automobile was reduced or stopped in the whole country, but now, production has gradually started with adjusted operation speed for the car model that is possible to manufacture.

For example, one enterprise that was producing/exporting oil seal parts, although their factory suffered damage, they have already restarted production. In one enterprise that was producing/exporting luster pigment used in painting, the factory suffered damage and stopped production temporarily, but it has started the normal operation on May 8. In one company that was producing/exporting ECU, airflow sensor, and power module for inverter¹²⁹ stopped the production temporarily due to the damage, but has now almost completed the recovery process by the end of March.

And, In one enterprise that was producing/exporting the microcomputer which is utilized in a wide range of products such as automobile, electric machine, and industrial machine, the factory stopped the operation due to the earthquake disaster, but as a result of their full scale efforts for restarting production (mass production wafer) in 200mm product line, they have significantly moved up the restarting schedule to June 15 which was originally scheduled for July. After that on May 11 they announced that the production using 200mm product line (mass production wafer) will be reopened on June 1 (original schedule June 15), and the production using 300mm product line will be reopened on June 6 (original schedule July).

In other industries, for example, in steel and the chemical industries, the production in the major factory has been reopened about the middle of May and, machine industry returned to almost the same production level existing before this earthquake disaster. In short, the production in most of the production bases has been reopened.

This situation indicates "toughness" of the Japanese industries anew. From now on the government will provide assistance at full scale to make the global supply-chain stronger than ever by supporting the recovery, strengthening the collaboration of upstream and downstream industries, enhancing competitive power of the core parts and raw material industries to Japanese advantage, and build the global supply-chain with efficiency and increase capabilities to withstand any risk.

attached to the circumference of the disk.

¹²⁹ ECU is a device to control engine, transmission, air bag etc. electronically. An air flow sensor is a sensor measuring quantity of air inhaled by engine, one of the important components affecting gasoline mileage performance. A power module for inverter is a device which converts DC to AC.

Section 3 Utilizing the experience of the earthquake disaster

1. Trends of various enterprises in overseas countries/regions, after the earthquake, and nuclear plant accident

(1) Arrangements regarding navigation to Japan

In consideration of the earthquake disaster and the Fukushima Dai-ichi Nuclear Power Station (NPS) situation, various overseas countries/regions issued warnings against travel to Japan, recommending prompt departure from Japan, or evacuation from particular areas for their citizens staying in Japan. Hong Kong and Taiwan issued travel bans to particular areas and recommended prompt departure from Japan; China called for a warning against travel covering all of Japan, and the United States and the UK implemented warnings against traveling to particular areas in Japan. Although some differences were seen in these series of measures according to the country, in contrast with the response of international organizations such as the ICAO or WHO, which quickly notified that they were placing no restrictions on travel to Japan, and announced that the radiological level of the atmosphere and food in Japan is not at a level to impact health, various countries/regions have shown careful responses regarding ensuring the safety of their citizens. This impact involves airlines, especially as the situation with Fukushima Dai-ichi NPS became clearer. Airlines have taken measures; for example switching away from Narita and change stopovers to via Kansai Airport, Chubu Airport or nearby airports in neighboring companies, changing the procurement of the in-flight meals and accommodation of flight crews, etc.

Based on Ministry of Justice data, the number of foreigners entering into Japan in one week just before March 11 was about 157,000 people, but plummeted to about 58,000 in the week following the disaster. (Figure 4-3-1-1). Especially, the entry of tourists and businesspersons (office workers) with no re-entry permission decreased significantly from about 127,000 to around 38,000.

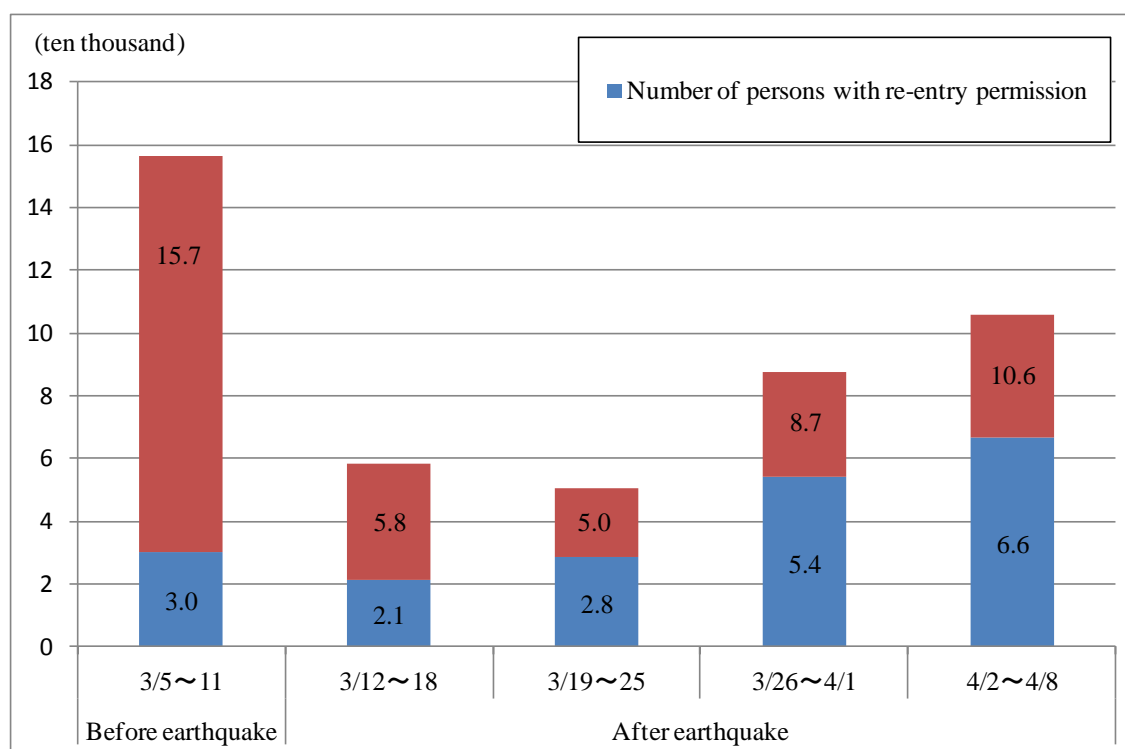
After that, the change in the weekly number of foreign tourists and businesspersons entering Japan in the following three weeks at 20,000, 37,000 and 36,000 respectively represented only 10% of pre-disaster levels. On the other hand, the total number of foreigners entering Japan shows a recovery from about 58,000, 50,000, 87,000 to 106,000 people each week. This indicates that a number of the permanent foreign residents in Japan (persons with entry permits) who left Japan just after the disaster began to return to Japan after the end of March.

On the other hand, the number of foreigners leaving Japan was 140,000, but it increased rapidly to approximately 244,000 in one week just after the earthquake. (Figure 4-3-1-1). Especially, as for the foreigners with re-entry permission (working in Japan or with family here), the number that left increased to about 120,000 from the usual level of about 30,000. After that the departure of those with re-entry permission was about 110,000, 50,000, and 30,000 respectively over the three weeks following the earthquake, and the level of departures exceeded that of before the earthquake. As for the tourists with re-entry permission, around 124,000 people left in the first week following the disaster and the entry of tourists decreased sharply, the number departures decreased, too.

In addition of the sharp decline of tourists and businesspersons to Japan, many foreigners who had settled down in this country left Japan. And also, as of the beginning of April, there is no sign of recovery of the entry of tourists and office workers to Japan, although a portion of the permanent foreign residents in Japan who left Japan returned to Japan, it is supposed that that there are many foreigners who are still out of Japan. For example, for those with their main occupation in Japan, some

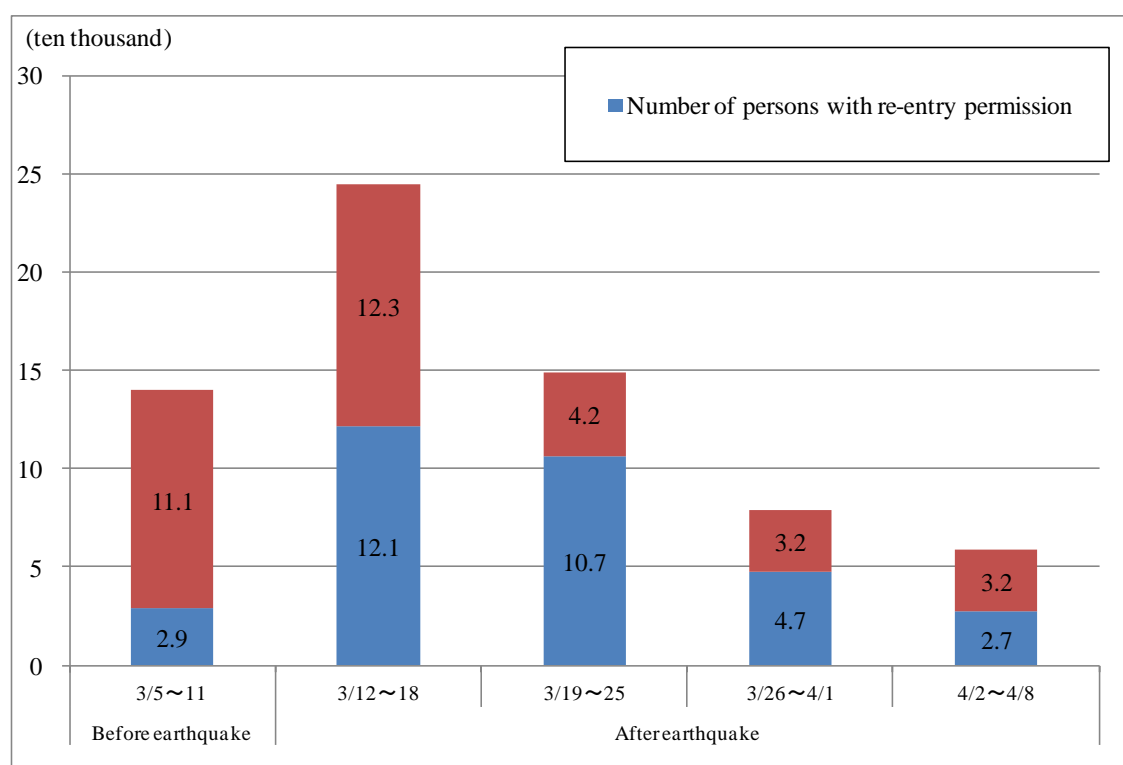
returned here to work, leaving their families behind.

Figure 4-3-1-1 Change of number of the foreign nationals entering Japan after March 5, 2011



Source: Ministry of Justice Immigration Bureau.

Figure 4-3-1-2 Change of number of the foreign nationals leaving Japan after March 5, 2011



Source: Ministry of Justice Immigration Bureau.

(2) The response of residents of embassies in Tokyo and foreign enterprises

Following March 11, 32 nations (one nation in Asia, five nations in Europe, four nations in Central and South America, 3 nations in Middle East, 19 nations in Africa) closed their embassies in Tokyo temporarily, and took actions to transfer their function to western Japan, and outside of Japan. After that, since the end of March, the embassies of various nations that moved their function from Tokyo have reopened in Tokyo, and all the embassies in Tokyo recommenced on the end of May.

Additionally, some Tokyo-based foreign companies, decided to temporarily close their bases or offices located in the East Japan Pacific coastal area or move the employees to overseas countries or the Kansai region, but they gradually reopened and resumed operations at the end of March and many enterprises returned their head office function back to Tokyo.

(3) The measures undertaken for export from Japan by various foreign countries

In relation to the Fukushima Dai-ichi NPS situation, in some countries/regions, took measures to strengthen regulations such imposing radiological tests of goods exported from Japan. The Japanese government is approaching various nations about their import restrictions through leader's conferences so as to convince them not to impose excessive regulations, and providing correct information through our diplomatic missions abroad and foreign embassies in Tokyo. On the other hand, there are some cases where private enterprises have encountered substantial difficulties such as having their shipments rejected. Exports of agricultural, forestry and marine products and food for April 2011 decreased by 14.7% from the year earlier. Of these, as for food for which import restrictions were strengthened in various foreign countries, the April shipments decreased by 22.9% from the year

earlier, and those of May by 22.2%. Especially, there was a large decline in food exports to countries where import restrictions are severe such as China and the EU. Exports to China in April decreased by 64.1% from the year earlier, and those for the EU marked a decrease of 54.2%. The following describes the toughening of inspections in various major countries (based on information as of June 10).

(A) The United States

For food and agricultural products, the FDA issued an import alert on March 22, 2011, and started to quarantine milk, dairy products, fruit and vegetables, and the processed goods from certain prefectures of Japan without inspection.

After several reviews, as of April 12, 2011, (a) some vegetables from Fukushima, Gunma, Ibaraki and Tochigi prefectures and milk from Fukushima and Ibaraki prefectures were not cleared by customs; (b) all milk, dairy products, fruit and vegetables and processed goods from Fukushima, Gunma, Ibaraki Tochigi, Chiba and Saitama prefectures, except items included in (a) were warehoused. In addition inspections of food and fodder from Fukushima, Gunma, Ibaraki Tochigi, Chiba and Saitama prefectures were strengthened, except for the items included in (b). After that, based on the test results of the Japanese government, several reviews were conducted, and, as of May 17, subject items included in (a) were restricted to products from Fukushima and Tochigi prefectures, and subject items included in (b) and placed under stricter inspection were restricted to products from Fukushima, Ibaraki and Tochigi prefectures.

Regarding import cargo, on March 23, 2011, the Department of Homeland Security and the Coast Guard, after notifying the Coast Guard, issued a notice for additional radiological examination of shipments vessels that had navigated within the 50 miles, of Fukushima Dai-ichi NPS in addition to simple radiological examination of cargo.

(B) EU

About food, farm and marine products and fodder, on March 27, 2011, the EU applied common rules in the member nations for the radiological examination of food and fodder exported after March 28 on, (a) products produced before March 11, (b) produced in prefectures other than 12 subject prefectures (Fukushima, Gunma, Tochigi, Ibaraki, Miyagi, Yamagata, Niigata, Nagano, Yamanashi, Saitama, Tokyo, Chiba) or in the case of the products from 12 subject prefectures, and demanded the attachment of a certificate verifying that the radiation level was within the EU's upper limit, and sample examinations have been conducted by the EU side. And also, on May 25, 2011, they added Kanagawa to the import limitation area, and extended the implementation period to the end of September from the end of June.

Regarding industrial products, on April 14, 2011, the European Commission determined the common threshold value of pollution assessment for vessels and containers leaving Japan after March 12 to be 0.2 microsieverts (0.2 μ Svs) (additional to the background value), and also decided to recommend additional measures when the value exceeds this. In addition, the European Medicines Agency requested pre-export radiological examination of pharmaceutical products manufactured in 13 prefectures. In addition to these as measures, Italy implemented sample cargo examinations (excepting agricultural products) from Japan, and Germany implemented random inspections of vehicle and home

electronics.

(C) China

Regarding food, farm and marine products, on March 25, 2011, China, announced import suspension measures from such products from Fukushima, Ibaraki, Tochigi, Gunma and Chiba prefectures. Measures were further strengthened from April 9, 2011, when it expanded the embargo area to include Miyagi, Yamagata, Niigata, Nagano, Yamanashi, Saitama, Tokyo prefectures and items to include all food, farm products and fodder. It also requested certificates of origin and radiological examination certificates by the Japanese government for food imported from other areas, and also implemented sample inspections. Food produced before March 11, 2011 that left port before April 8 was accepted. Following a top-level meeting between Japan and China on May 22, 2011, China proposed to (a) exclude Yamanashi and Yamagata prefectures from the import ban and (b) scrap the radiological examination certificate stipulation for food except dairy products, vegetables, marine products from the 10 prefectures of import ban areas, while keeping the certificate of origin requirement). On May 27, an agreement was concluded temporarily about the forms of the certificate of origin and radiological examination certificates for only marine products.

On April 29, 2011, China announced that it had found 30 cases of the radiation exceeding standard values from persons, aircraft, and containers that entered the country from Japan over the period March 16, 2011 to April 28, 2011.

(D) South Korea

Regarding food, farm and marine products, South Korea decided to temporarily suspend the import of farm products from six prefectures (Fukushima, Gunma, Tochigi, Ibaraki, Chiba and Kanagawa) that the Japanese Government had already placed restrictions on. In addition, radiological examination certificates were required for all food items from 13 prefectures (Fukushima, Gunma, Tochigi, Ibaraki, Chiba, Tokyo, Miyagi, Yamagata, Niigata, Nagano, Saitama, Kanagawa, Shizuoka) (except products under the import suspension from the above six prefectures), and for food, farm and marine products from all 34 prefectures except 13 prefectures, presentation of a place-of-production certificate issued by the Japanese government became a requirement.

It also enforced radiological examination of containers and outer packing cargo. The standard values were 0.04 Becquerels/cm² for alpha rays, and 0.4 Becquerels/cm²) for non-alpha ray emissions as the mean value measured for a 300cm² surface area.

(E) Malaysia

Regarding food, farm and marine products, after April 15, for all foods and pharmaceutical products and cosmetics (produced in Fukushima, Ibaraki, Gunma, Tochigi and Chiba) imported from Japan, a radiological examination certificate is required, and for the pharmaceutical products and cosmetics, sample inspections were conducted for every batch. Food items with a dated place of production or radiological examination certificate attached were accepted from April 27.

(F) Indonesia

For food, farm and marine products, imported after March 11 from Japan, a radiological examination

certificate approved by the Japanese government was required, subject to inspection by Indonesia. Pharmaceutical products are inspected individually based on the attached document provided by the importer (manufacturer or transportation route).

(G) Thailand

Regarding food, farm and marine products, all products required certificates issued by Japanese Government organization or local government indicating the place of production. Furthermore, radiological examination results for food from 12 prefectures including Fukushima (Fukushima, Gunma, Tochigi, Ibaraki, Miyagi, Yamagata, Niigata, Nagano, Yamanashi, Saitama, Tokyo, and Chiba), was required. On May 13, the requirements and forms of the place of production certificate were determined between the Japanese and Thai governments.

Table 4-3-1-3 Status of radiation inspection being implemented in the various overseas countries/regions (industrial products field) (as at May 26)

Countries/ regions	Target articles	Standards, implementation contents
U.S.	Vessels and imported goods from Japan	<ul style="list-style-type: none"> • Officer of the United States Customs and Border Protection (CBP) implements a simple first inspection of the airplane/ ship. When a radiation dose over a certain level is detected in the first inspection, a detailed second inspection is implemented. • For the vessels that navigated within 50 miles (approximately 80 kilometers) of the Fukushima-Daiichi nuclear power plant, The Coast Guard implements an examination of radiation separately from inspection of CBP before the arrival in port.
EU	Vessels and containers from Japan	<ul style="list-style-type: none"> • All the EU member countries are recommended to adopt 0.2 $\mu\text{Sv/h}$ for the radioactive contamination assessment standard of vessels and containers from Japan.
Germany	Imported goods (automobile, electronic equipment) from Japan	<ul style="list-style-type: none"> • Implementation of sample inspections.
	Vessels from Japan	<ul style="list-style-type: none"> • Implementation of radiation test in the Hamburg Port (0.2 $\mu\text{Sv/h}$).
Netherlands	Imported goods from Japan	<ul style="list-style-type: none"> • At Rotterdam Port, sea-based inspection of vessels from Japan, and inspection of containers (4Bq/cm²) before devanning.
Italy	Imported goods from Japan	<ul style="list-style-type: none"> • Implementation of sample inspections.
Russia	Imported goods from Japan	<ul style="list-style-type: none"> • Implementation of simple tests from the outside without opening containers (whole quantity inspection). • When values exceeding the standard value are detected, extract a sample from the cargo concerned, and implement a detailed inspection. • The standard value is 0.3$\mu\text{Sv/h}$ (except the natural radiation dose).
Ukraine	Imported goods (especially those which from the region where an accumulation of radiation is anticipated due to nuclear power plant accident of Japan)	<ul style="list-style-type: none"> • Require radiation tests for imported goods by existing laws and ordinances. • On March 29, radiation screening for the imported cargo was strengthened.
Lebanon	Imported goods from Japan, products which the country of origin is Japan	<ul style="list-style-type: none"> • Certificate of radiological examination is required. Standards are not officially announced.
Egypt	Used car parts / scrap from Japan	<ul style="list-style-type: none"> • Import ban.
	Import goods other than the above	<ul style="list-style-type: none"> • Implementation of radiological testing. Standards are not officially announced.
Sri Lanka	All the cargoes arriving from the region and its neighboring ports of Japan which suffered	<ul style="list-style-type: none"> • Standards are not officially announced on the website.
Singapore	Cargo from Japan	<ul style="list-style-type: none"> • Implementation of whole quantity radiological inspection by Maritime and Port Authority of Singapore in the ports, and by Changi Airport group at the airports. • The standard value is 1$\mu\text{Sv/h}$.

Myanmar	Import goods from Japan	<ul style="list-style-type: none"> • Implementation of radiological test at Yangon port and Yangon International Airport. • The standard value is 3μSv/h .
China	Vessels, aircraft, import goods from Japan	<ul style="list-style-type: none"> • Department of Supervision on Animal and Plant Quarantine, Import and Export Food Safety requests monitoring of nuclear materials and radiation levels at port customs clearance by inspection quarantine organizations in various regions. *The object examination or laboratory procedures for cargoes varies by region.
Hong Kong	Air freight and ocean freight from Japan	<ul style="list-style-type: none"> • Implementation of surface inspection for all the air freight and sample surface inspection for ocean freight.
	Drugs and cosmetics from Japan	<ul style="list-style-type: none"> • Implementation of sample inspection.
Taiwan	658 items of imported good from Japan, including machines, electrical goods, electronics, manufacture of chemicals, electronic information communications instruments	<ul style="list-style-type: none"> • Implementation of sample inspection. • Atomic Energy Commission sets the standards as follows. <ul style="list-style-type: none"> - Radiation control provisional standard is determined as 0.2μSv/h (including natural radiation). - In the case of the result under 0.2 μSv/h , all goods are passed: if the measurement is over 0.2 μSv/h , the owner must decontaminate, or send back the goods directly.
	All containers from 13 ports around the disaster-stricken area (Sendai Shin-ko port, Miyagi etc.)	<ul style="list-style-type: none"> • When radiation dose of 0.2μSv/h or over is detected, the importer must notify the responsible authority and, notify the exporter to perform decontamination or adopt the arrangement of returning the merchandise.

Notes: The above is the information sorted out in reference to public information at the time of this release.

When actually exporting, please refer to the websites of the various countries/regions.

Source: Compiled from the data of Ministry of Economy, Trade and Industry publication data.

Table 4-3-1-4 Status of radiation inspection and regulation in the major countries/regions (Vessels, marine containers, etc.) (as at May 12)

Region	Country/ region	For	Method of inspection	Control standard	Grounds	Remarks
Asia	China	Both for vessels and import cargo * Only for the important point	First inspection: Gamma ray inspection Inspection with the all quantity gate type radiation inspection equipment by inspection and quarantine staff (sample survey with portable monitors when the equipment mentioned above is not available). Opening of the containers is not conducted in principle.	Gamma ray dose rate $\geq 3X$ the background value	Generic Procedures for Assessment and Response during Radiological Emergency. (2000) procedure book D2 (decontamination of humans and equipment)	
			Second inspection: Alpha ray inspection, Beta ray inspection Method of inspection is the same as the first inspection. Based on surface criteria. When a value over the standard value is detected, inspection by specialized agencies of the environmental protection sector in each place is performed, and further alpha ray, beta ray inspections are implemented. If the value is still over the standard value, a specialized processing method is implemented.	Alpha ray value $\geq 0.04 \text{ Bq/cm}^2$ Beta ray value $\geq 0.4 \text{ Bq/cm}^2$	Chinese safety standard * GB18871-2002 "Basic standards for protection against ionizing radiation and for the safety of radiation sources" Table B11 (the radiation surface contamination control level of the work area) "hand, skin, underwear, socks for work" * GB-11806-2004 "Regulations for the safe transport of radioactive material" 3.14 (surface contamination)	The background values are set from the daily measurements at various cities, airports and ports.
	South Korea	Marine container and import cargo	Measurement for 300 cm ² of containers and cargo outer packing surface at random	Alpha ray value $\geq 0.04 \text{ Bq/cm}^2$ Others $\geq 0.4 \text{ Bq/cm}^2$	The standard is based on the nuclear energy law by the educational science engineering department (law determining regulation about atomic research and development, production and use)	No ground method about the implementation of the radiation dose examination
	Hong Kong	Marine container	Implementation of surface inspection with a Geiger counter for 20 samples extracted per day, focusing on articles shipped from ports including Tokyo, Yokohama comparatively near to the Fukushima Dai-ichi NPS. * However, sample inspection by cargo for food (food safety center), pharmaceutical products (Food Health and Medical Bureau Medical section), cosmetics and hygienic goods coming in touch with the human body (Hong Kong Customs House). Implementation of the final inspection in government laboratory on the sample detected any reaction,	30 Bq/cm ²	Regulation by Hong Kong government (1993 ...) in relation with accident at Daya Bay NPS in Shenzhen	No inspection is implemented vessel by vessel, but, acceptance of entering port may be judged from the declared information basis of container.

	Taiwan	Marine container	<p>Customs: Inspection of outside surface of container (whole quantity) by customs staff with radioactivity detector</p> <p>Target container: All marine containers from Sendai Port, Sendai Shioyama Port, Ishinomaki Port (Miyagi), Onahama port, Soma Port (Fukushima), Ibaraki Port, Kashima Port, Kawashiri Port, Otsu Port, Ooarai Port (Ibaraki), Kamaishi Port, Miyako Port (Iwate), Hachinohe Port (Aomori).</p> <p>When the value over the standard value is detected, notify responsible authority and ask the importer whether to conduct decontamination of radioactivity or return the container.</p>	Control temporary standard 0.2μSv/h (not including natural radiation dose (background value))	Administrative Atomic Energy Commission decision "Merchandise inspection control temporary standard about the radioactive substance contamination" (March 21)	The decontamination is performed by 11 organizations permitted by the Atomic Energy Commission, including Republic of China Association of prevention of radiation National Qinghua University, and Atomic Energy Research Institute.
Asia		Import cargo: Electrical goods, electronics, fodder, manufacture of chemicals, machinery (in containers)	Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs: Customs staff use handheld radioactivity measuring equipment, approaching the cargo and measure the radiation level. When the value over the standard value is detected, deal the problem based on the temporary standard of the Atomic Energy Commission. * Implementation based on the inspection ratios of sampling and lot			
	Vietnam	Import cargo	The merchandise suspected of radioactive contamination undergoes inspection before import permission, and when radiation doses over the standard are found in merchandise, import is not approved.	No specific numerical value		
	Singapore	Import cargo	Implementation of whole quantity inspection by Maritime and Port Authority of Singapore	1.0μSv/h	IAEA Standard value	
	Indonesia	No implementation of radiation inspection				
	Thailand					
	Malaysia					
	Philippines					
	India					
Americas	USA	Import cargo	There is no definite answer about the method of inspection due to confidential information.	<p>*DOT standard: Less toxic alpha ray, beta ray, gamma ray $\leq 0.4\text{Bq/cm}^2$</p> <p>* Decontamination required or under DOT control: $0.4\text{Bq/cm}^2 <$</p> <p>Less toxic alpha rays, beta rays, gamma rays $\leq 4\text{Bq/cm}^2$</p>	Section 5101 of Title 49 of the U.S. Code	* DOT = U.S. Department of Transportation
	Mexico	Marine container	Check the outside of the container. For the cargo beyond the regulation value found by the check of the container, inspection for inside the cargo is implemented.	1.8μSv/h	The hearing from the Department of Energy national nuclear energy safety, security measures Committee	No radiation dose standard for vessel, sailor, crew, traveler, and

		Marine import cargo	Check the cargo in the container. When the value over the standard value is detected, the cargo is opened for inspection, and re-inspection after decontamination.	20μSv/h	radiation safety team.	baggage. Implementation of all the cargoes not limiting to Japanese cargo.
Oceania	Australia	No implementation of radiation inspection				
	New Zealand	Vessel and import cargo	No clear answer. (national radiation laboratory in charge of the inspection)	•β*Beta, gamma and less penetrative alpha radiation: 4Bq/cm ² *Other alpha rays: 0.4Bq/cm ² .	"IAEA radiation substance transportation rule"2009, "ICRP radioprotection recommendation"2007, "IAEA Generic Procedures for Assessment and Response" and "Emergency intervention due to radiation exposure" Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).	Grounds laws and ordinances: Radioprotection law 1965 and Radioprotection rule 1982.
Europe	EU	Vessels and marine container	Surface inspection of ship body, deck, and containers.	0.2μSv/h * background value not included	Recommended document (15 2011 April ENER/D4/AJ/SM/cn Ares (2011) issued by European Commission Directorate General for Energy.	Recommendation value for the member countries, No binding force.
	Germany	Vessel and import cargo	When radioactivity over the regulation value is measured by ship inspection, performed by the customs.	4 Bq/cm ² * radiation maximum value.	Germany Federal Ministry for the Environment 4/8 press release (recommendation).	
	(Hamburg)	Vessels and marine container	When evidence of no risk is not provided by prior declaration, state water police firefighters implement checks on the upper crew deck, air conditioner filter, and engine ventilation filter, while traveling from the neighborhood of Elbe estuary to Hamburg Port. When the value over the standard value is detected, reexamination is conducted in an anchoring at Finkenwerder Phaehlen outside Hamburg Port. If the value still exceeds the standard in the reexamination, irrigation must be considered. The cargo is inspected by customs.	0.2 μSv/h * Unknown whether background value is excluded.	State of Hamburg Department of the Interior 4/12 press release.	
	Netherlands	Import cargo: Food and fodder, consumer products, electric appliances and plants	(4) Specific cargo inspection by Netherlands Food, Consumer Safety Agency (nVWA). Individual inspection for the specific cargo in the left column			
	UK	Marine containers and import cargo	Implementation of radioactive substance search to perform screening of illegal radioactive substance into the UK for all cargoes, travelers arrived at the British ports. Apply to average of any surface 300 square centimeters. When the value over the standard is detected on ocean freight, required contamination prevention measures are instructed.	* Beta, gamma, less toxic alpha rays: 4Bq/ cm ² * Other alpha radiators: 0.4 Bq/ cm ²	IAEA "Rule about the safety of the transportation of radioactive substances" (TS-R-1) Clause 507)	

	Romania	Vessel and import cargo	Measurement at 10cm from the surface.	0.1µSv/h or under * background value not included	Radioactive Substances Basic Safety Regulations Article 4 determined based on Romanian nuclear energy activity control national committee commissioner directive (14/21.01.2000)	
	Sweden	Vessels and marine containers	The radiation safety agency in Sweden instructs Swedish customs authorities to follow EU recommendations . No answer regarding the specific method of inspection.	0.2µSv/h * background value not included	Application with necessary changes of the European Commission recommendation	
	Italy	No implementation of radiation inspection				
	Spain					
	Norway					
	Denmark					
Europe	Russia	Vessel and import cargo	Implementation of inspection by federal supervision agency for consumers rights protection and welfare implementation of whole quantity inspection for vessels in port, for import cargo at the time of loading and unloading.	0.3µSv/h	* The Customs Act of the customs union * Russian Customs Committee law 303, May 5, 1995 " About the introduction of customs inspection specialist for fissile, radioactive substances" Russian Customs Committee law 154, February 4, 2004 "Approval of instructions about the activity of customs staff in pursuance of custom inspection for fissile, radioactive substances"	
	Turkey	Marine containers, import cargo	Inspection of all containers with a large-sized gate-type radiation detector. When a value over the standard value is detected, Additional inspection and decontamination is carried out at another place. Uncontaminated cargo can be cleared through customs, even if it is stored in the container where a contamination level over the standard is confirmed,			
	Kuwait	Vessel and import cargo	By collaboration with the Ministry of Health, customs inspection is carried out the port.	*Beta, gamma, less toxic alpha radiator: 0.4 Bq/ cm ² * high toxic alpha radiator: 0.04Bq/ cm ² * background value is excluded	a	
	Egypt	No implementation of radiation inspection				

Notes: The above is the information sorted out in reference to public information at the time of this release. When actually exporting, please refer to the websites of the various countries/regions.

Source: Compiled from the published data of Ministry of Land, Infrastructure and Transport.

2. Japan's measures for quick dissemination of accurate and transparent information

Due to the earthquake disaster and the accident at Fukushima-Dai-ichi NPS, travel restrictions to Japan and evacuation recommendations to foreign residents in Japan were issued by various countries. This had a significant negative impact on Japan including the Tokyo metropolitan area. The successive departure of foreigners and cancellation of visits to Japan was not a welcome phenomenon. Furthermore, in some countries/regions, action has been taken to strengthen inspections and restrictions concerning Japanese exports. In such a situation, Japan is required to quickly provide accurate and transparent information to the global community and is currently doing its best. For example, the reduction in various numerical values of radiation is shown for the results of tests monitoring for example the atmosphere, water and food. The tests show various worsening values for atmosphere, water, and food. We will continue reliable monitoring in the future and offer the "security and safety" of Japan to the world. We will distribute our measurement data to various quarters as follows.

(1) The monitoring system, which we expanded over a short amount of time

(A) Environmental radiation monitoring

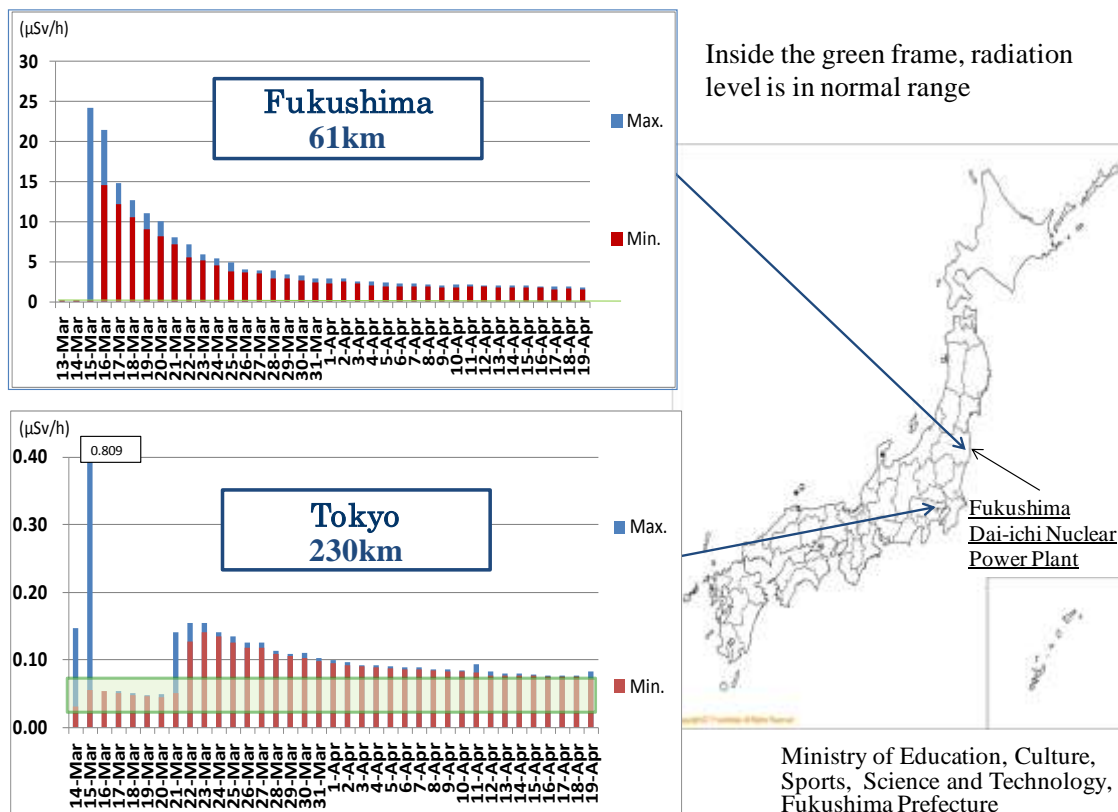
In response to the accident of the Fukushima Dai-ichi NPS, with the participation of Fukushima Prefecture and TEPCO, we officially publish results of the measurement of the air radiation dose rate, atmospheric floating dust, and the soil radiation levels in, around and beyond the 20 kilometer exclusion zone of Fukushima Prefecture. Furthermore, we measure the air radiation dose rate in elementary schools, junior high schools and kindergartens in Fukushima Prefecture. We also carry out radiation monitoring in the sea and check aircraft for radiation.

In addition to the area around Fukushima Dai-ichi NPS, we officially publish the results of the environmental radioactivity level surveys from monitoring posts installed in various prefectures (Figure 4-3-2-1). We also publish the results of water supply (tap water) measurement and fallout in various prefectures. With the cooperation of universities and technical colleges around the nation, we also measure the level of atmospheric radiation in the yards of universities in various major cities.

The results so far demonstrate that the level of atmospheric radiation outside of the evacuation zone in major cities does not present any danger to public health.

In Tokyo, which is more than 230km away from the NPS, although the numerical value increased temporarily to 0.809 μ Gy/h (μ Sv/h) on March 15 just after the earthquake disaster, it has returned to almost the normal measurement range as before the NPS accident. Moreover, the observed values in Osaka and Hokkaido, which are distant from the NPA, are consistently in the range observed before the earthquake disaster and just after the accident. In Fukushima on March 15-16, the high numerical value of 25 μ Sv/h level was observed, but after that the value changed to within the level of 1 - 3 μ Sv/h. To put these into perspective, when we are continually exposed to radiation of 2 μ Sv/h outdoors for one year, dose the human body receives is 17,500 μ Sv/h annually. This corresponds to the amount of radiation received from 2.5 CT scans. Moreover, if there is shielding, such as building materials, between the human body and the radiation source, the radiation dose is reduced, and the radiation dose to the body actually becomes less than the atmospheric value.

Figure 4-3-2-1 Change of atmospheric radiation levels



Source: Compiled from the website of Ministry of Education, Culture, Sports, Science and Technology, and Fukushima prefecture website.

(B) Monitoring of tap water

Because radioactive iodine of 210Bq/kg was detected on March 22 in tap water, which is over the 100Bq/kg limit set as safe for infants, the Tokyo Metropolitan Government advised issued an advisory recommending parents to not to give tap water to infants. Two days later, it was confirmed that the numerical value fell to 79Bq/kg, and currently the value has been at a level in which radioactive iodine has not been detected at all or it only a very small amounts. The situation was almost the same in Chiba, Ibaraki and Tochigi prefectures where higher radioactive iodine levels were detected. In Iitate-mura, Fukushima Prefecture, the radioactive iodine levels of 965Bq/kg, 300Bq/kg over the permissible limit, were detected, and restrictions on tap water intake for adults and infants were announced. However the restrictions on water intake were canceled on April 1 for adults and on May 10 for infants. And at present, the situation has been similar in other prefectures, too.

(C) Monitoring of airports and ports

In response to the Fukushima Dai-ichi NPS situation, implementation and enhancement of the radiation examination for containers, aircraft and vessels departing from Japan, and cancellation of calling at Keihin ports were recognized. In response, the Japanese government implemented measuring at Narita and Haneda Airports from March 20, and from the middle of March, results of atmospheric and seawater radiation levels in and around the ports were officially on the Ministry of Land, Infrastructure and Transport's website. As for export containers and vessels, radiation measurement was implemented from April 28 based on the "Guidelines on Radiation Measurements

for Export Containers in Ports” and “Guidelines on Radiation Measurements of Ships” issued on April 22.

(2) Safety of Japan’s exports

(A) Food and agricultural products

As atmospheric radioactivity was detected in following Fukushima Dai-ichi NPS accident, temporary restrictions were imposed on food intake by the Nuclear Safety Commission according to the Food Sanitation Act, and local governments were notified on March 17 that food items with radiation level exceeding limits set by the government should not be provided for consumption.

On the other hand, for fishery products for which the Nuclear Safety Commission did not specify any limit, local governments were notified on April 5 that they should apply a limit of 2,000Bq of radioactive iodine /kg of culinary vegetables to fishery products.

Following the fact that in some food items, radiation exceeding the limits set on the basis of the Food Sanitation Act was detected in various prefectures after March 21, the Prime Minister, who is the head of the Nuclear Emergency Response Headquarters, issued shipment restrictions on food items produced in these areas and restrictions were also imposed on water intake, and the local governments concerned were also notified accordingly. When it was found that the set radiation limit was consistently lower than the temporary standard, further monitoring was discontinued, and restrictions on such items were withdrawn with permission from the Nuclear Emergency Response Headquarters. Furthermore, movements such as strengthening of inspections were found in various foreign countries, and in response to this, the Ministry of Agriculture, Forestry and Fisheries sent delegates to major export destination countries/regions individually, in order to promote resumption of exports of food items and agricultural products from Japan. Thus, the government of Japan organized lobbying activities by providing information about the steps taken by Japan and the results of the tests performed in Japan. At the same time, the Ministry began providing Japanese exporters with information about the enhancement of food regulations in major export destination countries/regions and paid subsidies for export inspection fees, and subsidies to inspection bodies for introduction of inspection equipment.

(B) Industrial products

When exporters are required to submit evidence about the radiation levels to their overseas customers, the information regarding the inspection institutions for checking the radiation levels and information of certificate services provided by chambers of commerce are supplied to them. In addition, JETRO has established emergency consultation offices to provide consultation services to companies individually at the trade information centers located at 36 places around the country. Moreover, in order to prevent blockages to distribution due to damage done to the reputation of exporters through unfounded rumors, and to facilitate trade, the government will subsidize the cost of radiological inspections on exports (including agriculture and forestry and fisheries products) performed by government-designated inspection institutions.

* Subsidy for trade facilitation projects

(Earmarked in the first supplementary budget in 2011)

Total of approximately 700 million yen

Subsidy rate:

Small and medium-sized enterprises: 90%, and

Large enterprises: 50%

(C) Certification systems in ports

Based on the “Guidelines on Radiation Measurement for Export Containers in Ports” and the “Guidelines on Radiation Measurement of Ships,” from April 28, certificates of radiological examination of export containers and vessels by public institutions (government authorities, port management institutions, and the Nihon Kaiji Kyokai) were started consecutively.

(D) Industry groups

Not only the government but also the industry groups have been taking necessary steps. The Japan Automobile Manufacturers Association, Inc. announced on April 18 plans to implement radiological testing mainly for finished vehicles bound for export. In addition, the National Institute of Advanced Industrial Science and Technology provided radiation measuring equipment and sent experts for radiological testing of industrial products in Fukushima.

Chambers of commerce and industry round the country started to issue “radiological testing inspection certificates” which were required by exporters since March 28 (Figure 4-3-2-2). “These certificates were provided as “written oaths of non-contamination.” The number of such certificates issued increased, and by May 20, 19 major chambers of commerce and industry issued 2,754 certificates of which the industrial product-related certificates accounted for 65.2% of the total (based on the data from Japan Chamber of Commerce and Industry). Chambers of commerce and industry in each region provided “samples of the written oath of non-contamination” which refer to readings of environmental radioactivity levels of the Ministry of Education, Culture, Sports, Science and Technology, and the standard value of the International Commission on Radiological Protection (ICRP). These were utilized on the requests by enterprises around the, and were issued by 236 chambers of commerce and industry as of May 20. On the other hand, on May 22, domestic radiation inspection institutions were located in 21 places, and also additionally, prefectures were also taking radiation readings.

(E) Measures taken by export insurance companies to deal with the damage done to Japan’s reputation through dissemination of unfounded rumors

On April 11, 2011 Nippon Export and Investment Insurance (NEXI), officially announced concrete examples of losses caused by import barriers and prohibition of imports for the reason of radioactive contamination, and discussed cases covered by export insurance including cases of prohibition or restriction of import by the introduction of new regulations or cases of illegal or discriminatory measures imposed by the governments of export destinations, which damaged Japan’s reputation through dissemination of unfounded rumors. In addition, a consultation office was established within NEXI, and consultations on the damage to Japan’s reputation through unfounded rumors were widely accepted from members including those who have not joined the export insurance scheme.

Figure 4-3-2-2 “Sample of exporter's written oath” in the form quoting the official Environmental Radioactivity Level published by the Japanese government (prepared and published by the Tokyo Chamber of Commerce and Industry)

(SAMPLE)

, 2011

To:

CERTIFICATE OF ENVIRONMENTAL RADIOACTIVITY LEVEL

In accordance with the official Environmental Radioactivity Level by Prefecture report published by the Ministry of Education, Culture, Sports, Science and Technology of Japan, ABC Corporation hereby notifies you of recent environmental radioactivity level monitoring results in the principal city of the prefecture in which the manufacturer produced the cargo for exportation described below. This is one of the most reliable sources of information on environmental radioactivity levels in Japan.

In addition to the above, ABC Corporation certifies that the annualized radiation dose in Item 3-b. is below the individual dose limit (public exposure) in a year (cites in International Commission on Radiological Protection (ICRP) publication 103)

1. Monitoring date:
2. Monitoring site (as described above):
3. Monitoring results:
 - a. Average radiation dose : μ Sv/h
 - b. Annualized radiation dose(a. x 24h x 365d): μ Sv/y
4. Individual dose limit (public exposure) in a year (cites in ICRP publication 103): 1,000 μ Sv/y
5. Name and address of exporter:
6. Name and address of importer:
7. Invoice number.:
8. Description and quantity of cargo for exportation:
9. City of manufacturer's location:
10. Date of scheduled shipment(on or about):

ABC Corporation

 (Signature)

 Taro Yamada
 General Manager

Source: The Tokyo Chamber of Commerce and Industry

(3) Quick transmission of correct information overseas

(A) Transmission of information to governments

At a top-level meeting between Japan and France on March 31 and one between Japan and Australia meeting on April 21, Prime Minister Kan explained about the Great East Japan Earthquake and subsequent situation and an explanation was provided by Minister of Economy, Trade and Industry Kaieda at the April 24 Economic Ministers Meeting between Japan, China and South Korea and also at the end of June at the IAEA Cabinet meeting on nuclear energy safety. In addition, an explanation was provided by Foreign Minister Matsumoto at the March 14 G8 meeting and at the meeting of Foreign Ministers of Japan, China and South Korea on the 19th, at the special meeting of Ministers of Foreign Affairs of Japan and ASEAN of April 9, and at the Japan-U.S. Ministers of Foreign Affairs meeting of 17th (Figure 4-3-2-3). In addition, at the APEC ministers of trade meeting held at the end of May, at the fourth Japan China and South Korea summit, at the meeting of the OECD Council at ministerial level and at the G8 Deauville summit, we provided explanations regarding the current situation of Japan, and about the import and export-related measures taken by various countries in various outcome documents, and the importance of the authorities concerned of various countries implementing proper measures based on scientific grounds was confirmed (Table 4-3-2-4).

The government decided as a general rule to conduct a briefing session every day from March 13, and from May 18, on a three days a week basis, it provided information on water and food safety, as well as the safety of ports, and airports, to the diplomatic corps in Tokyo and other international organizations, and spoke mainly on the situation over the Fukushima Dai-ichi NPS accident, and tried to transmit accurate information through explanations and questions and answer sessions. On April 27, a briefing session was arranged for the diplomatic corps in Osaka.

Figure 4-3-2-3 Speech of Mr. Kaieda, Minister of Economy, Trade and Industry at the IAEA Ministerial Conference



Table 4-3-2-4 The outcome document of the international conference (Portion related to the reputation damage through unfounded rumors)

1	APEC Meeting of Ministers Responsible for Trade (May 19, 20) Chairperson's Statement of the Chair	"We agree to refrain from taking WTO-inconsistent measures in the aftermath of recent natural disasters in the region, recognizing the importance of securing the prompt return of the smooth flow of goods, services, and people in the Asia-Pacific region."
2	Joint statement between Ministry of Economy, Trade and Industry and the China's Ministry of Commerce (May 21)	"In order to prevent damage from harmful rumors obstructing the economic and trade cooperation of the two countries, the both ministries agreed to promote smooth development of the trade of the two countries."
3	The Leaders Declaration of the fourth Japan, China and Korea Summit (May 22); attached document: "Cooperation on Nuclear Safety"	"We shared the view that it is important to take necessary responses prudently on the safety of products based upon scientific evidence in case of a nuclear accident."
4	Chairman's summary statement in Meeting of the OECD council at ministerial level (May 25, 26)	"Ministers renewed their commitment to resist protectionism, and shared the view of the need to refrain from taking WTO-inconsistent measures in the aftermath of recent natural disasters."
5	The Leaders Declaration of 5 G8 Deauville Summit (May 26, 27)	"The Prime Minister of Japan explained that his country would make every effort to minimize the uncertainty that the disaster might add to the global economy, including as a result of the nuclear accident. In particular, he committed to provide all relevant information regarding the nuclear emergency in a timely manner, and he ensured that products exported from Japan are safe. We stressed that measures on goods and travel should be based on scientific evidence."
6	Japan-EU Summit Joint Press Statement (May 28)	The EU and Japan leaders agreed on recognition that it is important to take the measures based on a sufficient scientific basis including the flow of goods and people.

Source: Compiled from Ministry of Economy, Trade and Industry data

(B) Transmission of information to industry and foreign media

The Ministry of Foreign Affairs gave direction to all diplomatic missions abroad (embassies, consulate generals, etc.) to enhance transmission of earthquake disaster-related information, and held briefing sessions all over the world from April 20 with the cooperation of Japan's overseas diplomatic missions, JETRO and (as of June 3, sessions were held in Beijing, London, Shanghai, Los Angeles Bangkok Seoul Paris Dusseldorf and Taipei sponsored by the International Exchange Association), 12 countries/regions including Mexico City, Hong Kong, Milan, Singapore, New York and Brussels, and 15 other cities) (Figure 4-3-2-5). Documents about the present situation of Fukushima Dai-ichi NPS were sent to all diplomatic missions. The missions are working to provide information, as are VIPs and well-informed persons, and sending correct information to concerned parties of the various countries through local media and the Internet, requesting that any countermeasures be based on scientific grounds. The transmission of information and lobbying activities by diplomatic missions abroad succeeded in offering accurate disaster related data on more than 1,500 occasions all over the world, through giving interviews and television appearances by Japanese Ambassadors, and circulating press releases, disseminating correct information on mini-blogs, etc. (as of May 11).

Figure 4-3-2-5 Briefing sessions held in overseas with the cooperation of diplomatic missions and JETRO concerning the Great East Japan Earthquake and Fukushima Dai-ichi NPS, and some

of the materials presented.

Beijing (April 20)



Data (English version)

Great Support of the International Community

Japan deeply appreciates the assistance offered from

156 countries and regions and 41 international organizations

Rescue teams were sent from 28 countries, regions and international organizations



US Navy US Pacific Command (Operation Tomahawk)

(As of May 19th)

London (April 21)



Data (Russian version)

Обеспечение безопасности продуктов питания, питьевой воды, рабочих станций, промышленной продукции, портов и аэропортов Обеспечение безопасности продуктов питания

Япония ежедневно проверяет продукты питания на радиоактивность и, принимая во внимание распространение загрязнений, ограничивает дистрибуцию продуктов питания, не удовлетворяющих уровню временных нормативных показателей.

Инструкции (на 16 мая 2011 г.)

... Не отгружается

* **Префектура Фукусима**

- Сырое молоко
- Бесконечные листовые овощи (напр., шпинат)
- Кочанные листовые овощи (напр., капуста)
- Капустоцветные овощи (напр., брокколи, цветная капуста)
- Турнепс
- Грибы «шитаке», выращенные на дереве (на открытых плантациях)
- Бамбука стрелять
- Страуса папоротника
- Молодь (мальки) японской песчанки

* **Префектура Ибараки**

- Шинат

<http://www.mhlw.go.jp/english/topics/2011eq/index.html>

Источник: Министерство здравоохранения, труда и социального благополучия

1

Chinese version



Korean version

공업제품의 안전 확보

- 일본의 제조업체는 자사 제품의 안전성 확보를 위해 전력을 다하고 있다.
- 검사기관과 업체단체는 수출용 제품의 방사선량을 측정하고 안전을 확인하고 있다.

주된 검사기관

- 일본해사검정협회
- 신일본검정협회
- 전일본검수협회

JETRO 홈페이지에 게재
http://www.jetro.go.jp/world/china/20110318_11.html



일본자동차공업회(JAMA)는 후쿠시마 원자력발전소 사고에 따른 방사선량 측정에 대해 회장 코멘트를 발표했다.(2011년 4월18일)

<발해>

JAMA 홈페이지

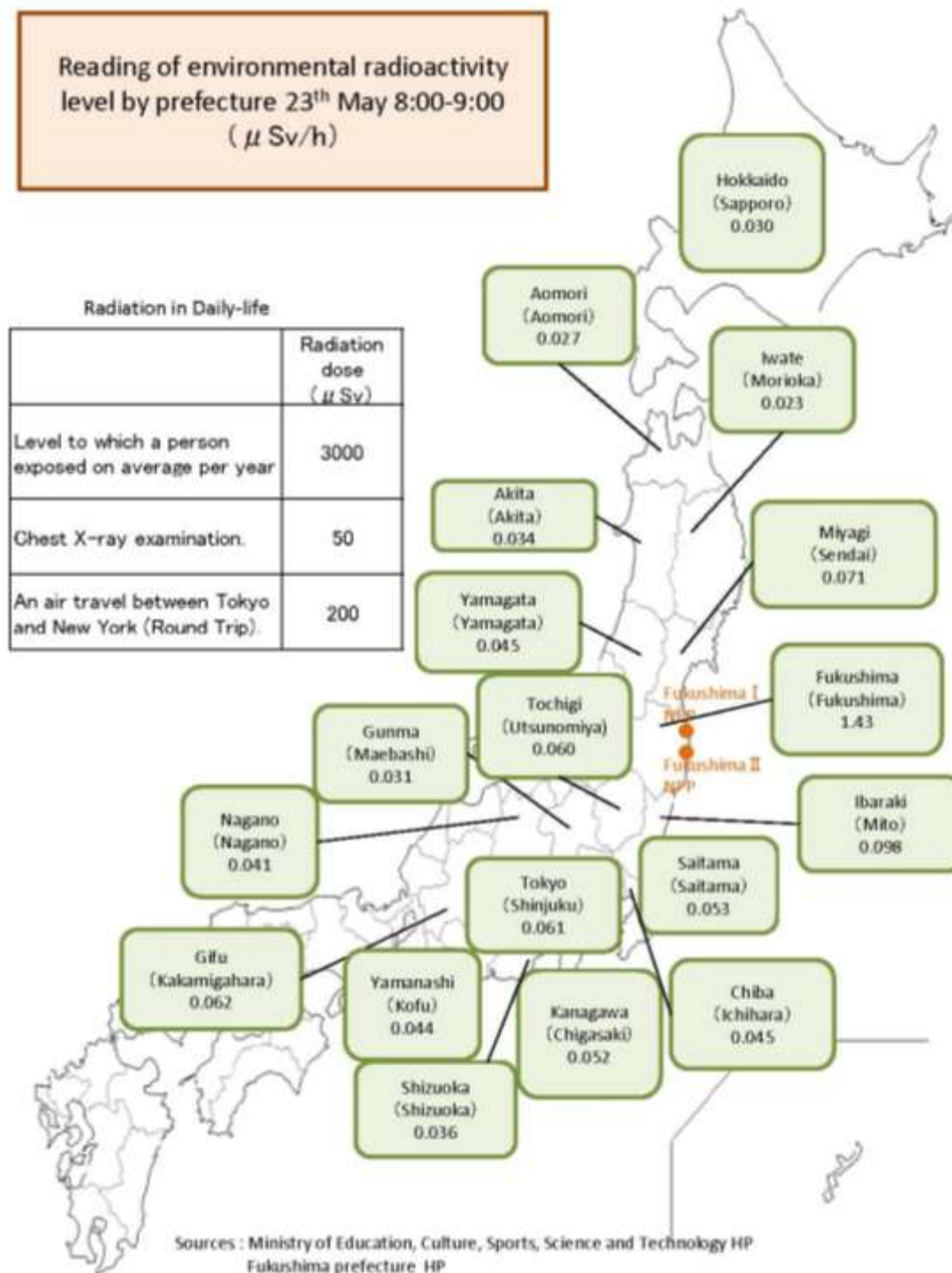


Source: Compiled from Ministry of Economy, Trade and Industry data

Also in Japan, various briefing sessions were held on March 31 and April 28 in Tokyo for industry, and on June 2 in Osaka, and 266 people participated in total. The Ministry of Economy, Trade and Industry has been providing information by e-mail to foreign governments, opinion leaders, the media, and experts every day since March 14, about the earthquake disaster and nuclear power plant accident (Figure 4-3-2-6). As of April 27, approximately 41,800 e-mails were sent out.

In addition, press conferences and briefings were given for foreign media correspondents in Tokyo almost every day following the earthquake disaster until the end of April, and also the same media events were arranged even after then as necessity dictated. Interviews for foreign media were given on March 20 and 21 by Deputy Chief Cabinet Secretary Fukuyama, on April 12 by Chief Cabinet Secretary Edano, and on April 17, 27 and on May 9 and 19 by Prime Ministerial aide Hosono respectively. Furthermore, positive explanations were provided to opinion leaders, for example Chief Cabinet Secretary Edano transmitted a message to the World Economic Forum Global Risk Conference. Other activities by the government included responses to requests for interviews by foreign media for the Prime Minister or cabinet ministers and quick transmission of related information through press releases in English. Prime Minister Kan contributed to the Washington Post, and Foreign Minister Matsumoto to the International Herald Tribune. The government is going to continuously work on aggressive transmission of information to the foreign media in the future.

Figure 4-3-2-6 Map of radiation levels by prefecture delivered by e-mail every day from the government



Source: Compiled from the website of the Ministry of Education, Culture, Sports, Science and Technology, and Fukushima Prefecture website.

(4) The response from international organizations

(A) The International Civil Aviation Organization (ICAO): “No restrictions on travel to Japan”

On March 18, 2011, the ICAO issued a press release that stated that it was recommending “No

restrictions on travel to Japan.” The ICAO’s announcement was in the form representing five organizations of United Nations¹³⁰ including the World Health Organization (WHO), and the International Atomic Energy Agency (IAEA). According to the press release, international aviation transportation to and from Japan could be safely carried out as usual. Naturally, the airports directly affected by tsunami were excluded for use. The restriction on international air travel to and from Japan was not necessary based on the extant medical grounds, and the UN said it would continuously monitor the situation and give advice as needed. In addition, at that moment, radioactivity screening for international travelers from Japan was not required. An increase in radioactivity levels was found at some airports, but there was no health risk at all at that point in time.

On April 1, as a follow-up of the press release from the ICAO as mentioned above, a new press release was announced the “Current radioactivity level in Japan and advice on travelling,” which confirmed that, since the monitoring results Fukushima Dai-ichi NPS remained unchanged, there was no risk to the health or safety of air transportation and radioactivity screening was not required for travelers presently arriving from Japan.

On April 14, as a follow-up of the press release dated April 1, another press release titled “The present situation of travel and transportation to and from Japan” was issued. According to that, the UN agency, which was closely monitoring the impact of Fukushima Dai-ichi NPS was convinced that the current radiation level did not pose any risk in respect of the health of passengers and crew and the safety of transportation. Radiological monitoring around airports and ports of Japan continuously showed that radiation levels were within the safety range for human health. Thus far, the result of monitoring conducted by various countries on travelers, crews and cargo from Japan revealed no health risk and it was all safe. This means that presently it is not necessary to conduct radiation screening for the purpose of securing health and safety at airports and seaports around the world.

(B) International Air Transport Association (IATA): “No restrictions on travel to Japan”

Following ICAO's above press release titled “No restrictions on travel to Japan” dated March 18, an identical press release was issued by IATA on March 19, which also said, “No restrictions on travel to Japan,” In the press release, the IATA supported the ICAO representing five UN organizations in respect of their declaration of the safety of air travel to and from Japan. In this way, their confirmation that there was no medical need to perform radiation screening for travelers from Japan, and that there was no radiation related health risk at all at Japanese airports benefited Japan immensely.

Further on April 1, following ICAO's press release titled “Current radioactivity level in Japan and advice on traveling,” another press release was issued on the same day by IATA that said, “The UN agency confirmed the safety of aviation in Japan - Screening of travelers is unnecessary.” The contents of the press release was the same as that of the ICAO, which confirmed that radiological monitoring of Fukushima Dai-ichi NPS showed that the situation remained unchanged, so that there was no health or safety risk with regard to transportation to and from Japan and that radiological screening was not required for travelers arriving from Japan.

¹³⁰ The U.N. agencies, which are involved in monitoring process of this project are the World Health Organization (WHO), the International Atomic Energy Agency (IAEA), the World Meteorological Organization (WMO), the International Maritime Organization (IMO), and the International Civil Aviation Organization (ICAO).

(C) The International Maritime Organization (IMO): “There is no health damage caused by the radioactivity at Japanese ports”

On March 21, the IMO issued a press release with the same contents as that of ICAO’s dated March 18 as mentioned above. On March 24, the IMO issued a press release informing that it had send a circular entitled “About navigation in ocean surrounding Japan following the earthquake and the tsunami of March 11, 2011” to member countries. According to the press release, following the damage to the Fukushima Dai-ichi NPS, the IMO issued the above circular recommending ship owners and ship captains to follow the latest navigation warning issued by the coordinator of NAVAREA XI (Japan) for member countries. The circular stated that Japan’s Ministry of Land, Infrastructure and Transport confirmed that the international ports undamaged by the earthquake and the tsunami were operating normally, and that the radioactivity measured by local governments indicated that the radioactivity around these ports would pose no health hazard. In addition, on April 1, the IMO issued a press release telling that it had send a circular entitled “the current radioactivity level in Japan and navigation information” to member countries (with the same contents as those issued on the same day by the ICAO).

Furthermore, a press release entitled “the present situation about travel and transportation to and from Japan” was issued from the IMO on April 15, which was circulated to the member countries together with the press release. The main contents were as follows.

- (a) The UN agency that minutely monitors the impact of Fukushima Dai-ichi NPS was convinced that the current radiation level did not pose any hazard to the health of passengers and crew and that it is safe for sea borne traffic and transportation.
- (b) Radiological monitoring around the airports and the ports of Japan continuously confirmed that the radiation level was within the safety range from the viewpoint of human health. Furthermore, the monitoring of crew, passengers and the cargo originating or returning from Japan, which was conducted until then was based on the policies of various countries revealed no risk to human health and was absolutely safe for all concerned. Accordingly, it was considered unnecessary to conduct any physical examination at various airports and seaports for radiation.
- (c) The information on travel and transportation to and from Japan had no connection with the INES assessment.

3. Utilizing the experience of the earthquake disaster

As mentioned above, the aftereffect of the earthquake, tsunami and subsequent leakage of radiation from Fukushima Dai-ichi NPS had a great impact on the economy of Japan. The impact extended to transportation and distribution, sightseeing, shipping and aviation. As a result of the radiation leakage, some countries/regions strengthened inspections of Japan’s export goods, and some countries even banned the import of Japan’s agricultural products.

Japan was required to provide quick and accurate information about radiation to the global community and Japan tried its best to comply. Radiological testing with proper monitoring systems for detection of atmospheric and water contamination were established immediately after the earthquake and resulted in the abovementioned press releases about the safety of Japan by international organizations.

This damage to Japan’s reputation through unfounded rumors was very costly for Japan, causing the

suspension of exports in some cases. As a result, Japanese enterprises lost their edge in international competitiveness, and additionally, they faced very difficult problems in coping with the situation. In the future, to prevent “a secondary disaster” following in the wake of a natural disaster, it is important to secure the global economy and international trade and commerce from any unwarranted damage. In that respect, it is worthwhile to evaluate measures and develop an international cooperation system as a countermeasure in case such an emergency hits again in the future. Presently, Japan is proceeding with activities for recovery and reconstruction with great support from various countries/regions in the world. In order to express gratitude for such support, it will be one of the duties for Japan to promote sharing its experiences and the lessons learned, and take the lead in discussions to build a system of countermeasures for worldwide cooperation to deal with future emergencies.

Chapter 5 Overcoming the earthquake disaster, and revitalizing the Japanese economy

The Great East Japan Earthquake has had a tremendous impact on the Japanese economy and economic policy management. Our country needs to overcome the constraints caused by the disaster steadily, strengthen initiatives for achieving new growth, and restore the growth potential of our economy. And at the same time, we need to tackle the structural issues we faced before the earthquake. This chapter presents our basic way of thinking and initiatives concerning future policy management in response to this unprecedented earthquake disaster.

Section 1 introduces “The Guideline on Policy Promotion” decided by the Cabinet on May 17, 2011, and presents the government’s policy for reconstruction from the disaster and Japan’s revitalization.

Section 2 discusses the importance of strengthening the bonds of friendship between countries and our concrete initiatives, such as promoting economic partnerships and establishing economic security. We have to turn our attention to the significance of economic partnerships once more, against a backdrop of the need for our economy to enhance its export competitiveness amid severe global competition.

Amid the concern that the earthquake disaster may be causing further deterioration of Japan’s competitive edge as a business location, Section 3 discusses the importance of strategically promoting a series of measures to prevent the hollowing out of domestic industry and develop overseas markets towards enhancing Japan’s locational competitiveness, and presents concrete initiatives to this end.

Section 1 Policy promotion for the revitalization of Japan

1. Guideline for Japan’s revitalization (“Guideline on Policy Promotion”)

On May 17, 2011, the Japanese government issued its “Guideline on Policy Promotion” to re-launch initiatives for revitalizing Japan, with the aim of underpinning the reconstruction of eastern Japan and deal with the challenges that have been facing us since prior to the earthquake.

This guideline presents basic policies for economic and fiscal management based on the immediate future, the short-term, and the medium to long-term (see Figure 5-1-1-1). Under the basic policies, seven basic principles for restarting the effort for Japanese revitalization are presented, as are concrete procedures for promoting each major policy under the two pillars of “ensuring the sustainability of public finances and social security”, and “redesigning national strategies towards new growth”.

The Guideline on Policy Promotion (Excerpt)

(1) Basic policies for economic and fiscal management after the Great East Japan Earthquake

• Basic policies for economic and fiscal management for the immediate future, short-term, and medium to long-term

We will overcome the restrictions brought about by the great earthquake—such as by restoring the economy as soon as possible—in a sequential and steady manner.

At the same time, we will strengthen initiatives for achieving new growth and restore the growth potential of Japan’s economy.

The need to ensure the sustainability of public finances and social security and maintain confidence in such institutions, which already had been major issues before the disaster, has increased all the more because of the earthquake. As such, we will promote sound initiatives for achieving this.

(A) Immediate future: Prompt recovery from the Great Earthquake

- We will place the highest priority on assistance for the disaster's victims, assistance for the victims of the nuclear incident, disaster relief, and promptly responding to the accident at Fukushima Dai-ichi Nuclear Power Station (NPS). At the same time, we will also promote a variety of policies in a concentrated manner, including clearing away the mood of self-restraint, rebuilding production equipment and facilities, measures for electricity supply and demand, restoring and reconstructing supply chains, employment measures (such as the creation of direct and indirect employment for reconstruction projects and the agricultural, forestry and fishery industries, etc.), and the prevention of damage from rumors in Japan and abroad.

- These policies will be promoted through measures such as the early implementation of the FY2011 first supplementary budget and prompt revisions of regulations and systems. We will promote initiatives that maintain their comprehensive and coherent nature as we go about clearly laying out the economic effects of the policies as a whole.

- The stability of the financial and capital markets and the foreign exchange market is extremely important for the sake of restoring the smooth circulation of the real economy. What is more, we expect the Bank of Japan to share the basic perspectives with the government with regard to the macroeconomic management indicated within the guideline, and to continue to prop up the economy through proper and flexible monetary policy management via close exchange of information and cooperation with the government.

- Attention must be paid to the rising cost of primary products such as oil, due to the conflicts in the Middle East and North Africa and increased energy demand from newly emerging countries, as well as the financial problems in Europe.

(B) Short-term (about three years from now): Lay the foundations for self-sustaining growth

- We will support the full-scale reconstruction of the disaster region. At the same time, we will also promote measures such as policy responses to the electricity restrictions and the construction of a system for supplying energy that is resistant to disasters. We will also promote moves such as restoring and strengthening the "Japan brand," preventing outflows of companies and human resources overseas and ensuring inflows of human resources from overseas and restoring tourism by overcoming the damage from rumors in Japan and abroad.

- We will create a virtuous cycle of fostering new seeds of growth (including the construction of compact cities and Eco-Towns; energy conservation and new energy businesses; the development of decentralized energy systems; social security services suited to regional needs; and turning agricultural, forestry, and fishery industries into value-added sextic industries, etc.) and expanding capital demand (promoting private investment through funds and encouraging the use of private finance initiatives and public-private partnerships, etc.).

- We will proactively respond to requests for the implementation of these initiatives in the disaster-hit region in the form of pilot models.

- Throughout this period, we will secure the financial resources needed for reconstruction following the earthquake and put into practice integrated reform of the social security and tax systems.

(c) Medium to long-term: Achieve sustainable and self-sustaining growth

- We will strengthen initiatives aimed at realizing new energy and environmental structures capable of meeting appeals for a safe and stable supply, efficiency, and for the environment, as well as robust economic structures that are fortified against enormous risks. At the same time, we will also achieve

sustainable and self-sustaining growth by means of promoting the expansion of new growth sectors.

- We will firmly establish the sustainability of public finances and social security by carrying on with the integrated reform of the social security and tax systems.

(2) Restarting toward Japan's revitalization

• Seven basic principles for restarting

(a) Japan's revitalization will underpin the reconstruction of East Japan, and the reconstruction of East Japan will serve as a trailblazing example for Japan's revitalization.

(b) Establish economic and social structures that are fortified against enormous risks

(c) Maintain confidence (public finances/social security, and the Japan brand)

(d) Concentrated investment in new growth fields under resource restrictions, such as those on financial resources and electric power

(e) Realize local empowerment and private sector vitality

(f) Revitalize the economy in an open manner by strengthening “Kizuna” (the bonds of friendship) with other countries

(g) Promote understanding in Japan and overseas regarding Japan's revitalization

Procedures for each major policy

I. Ensuring the sustainability of public finances and social security

○ Integrated reform of the social security and tax systems

- Discussions are proceeding at the Council for Intensive Discussion on Social Security Reform, and the council's final draft will be obtained by the end of June in accordance with the Cabinet decision at the end of last year.

○ Fiscal management strategy

- We will revise the Medium-term Fiscal Framework around the middle of this year, thereby steadily pursuing fiscal consolidation in an integrated manner with economic growth and social security reforms.

II. Redesigning and refortifying national strategies towards new growth

○ Growth strategy

- The Council on the Realization of the New Growth Strategy will be resumed in May.

- With regard to the New Growth Strategy, it will inspect items requiring a qualitative shift, those which are adhering to their objectives but for which their schedules should be revised, those adhering to both their objectives and schedules, those to be newly addressed, and so on by this summer. It will then present a concrete image for the strategy within the year for the sake of revitalizing Japan.

○ Innovative strategy for energy and the environment

- The Council on the Realization of the New Growth Strategy will start making considerations for revising the strategy for becoming an environmental and energy power.

- We will consider an innovative strategy for energy and the environment consisting of short, medium, and long-term strategies that not only overcome the power restrictions and strengthen safety measures, but that also correct the distortions and vulnerabilities in the energy system and meet the need for a safe and stable supply, efficiency, and for the environment.

○ Strategy for preventing the hollowing-out of industry and for developing overseas markets

- The Council on the Realization of the New Growth Strategy will re-examine initiatives such as the Inward Investment Promotion Program, promotion of Japan as an Asian industrial center, fostering of global talent, and the overseas deployment of integrated infrastructure systems.

- In addition to the responses that should be taken immediately (restoring and reconstructing supply chains, preventing harmful rumors, etc.), we will also explore other measures, such as improving Japan's competitiveness as a business location, creating economic and industrial structures which are fortified against enormous risks, and promoting strategic and focused innovations that will pave the way to the future.

○ Strategy for strengthening bonds between countries

- The Minister-level Meeting on FTAAP (Free Trade Area of the Asia-Pacific)/EPA (Economic Partnership Agreements) will consider the basic policy for strengthening “Kizuna” (bonds of friendship) with other countries through such measures as promoting high-level economic partnerships based on the “Basic Policy on Comprehensive Economic Partnerships” and establishing economic security, taking into consideration factors such as the sentiments of the farmers and fishery industry workers who have suffered enormous damage by the earthquake and the nuclear incident, the progress in international negotiations, and concerns regarding the hollowing out of industry.

- The timing of a decision on whether to join negotiations for the Trans-Pacific Partnership (TPP) Agreement will be considered from an overall perspective.

○ Strategy for the revitalization of the agriculture, forestry, and fisheries

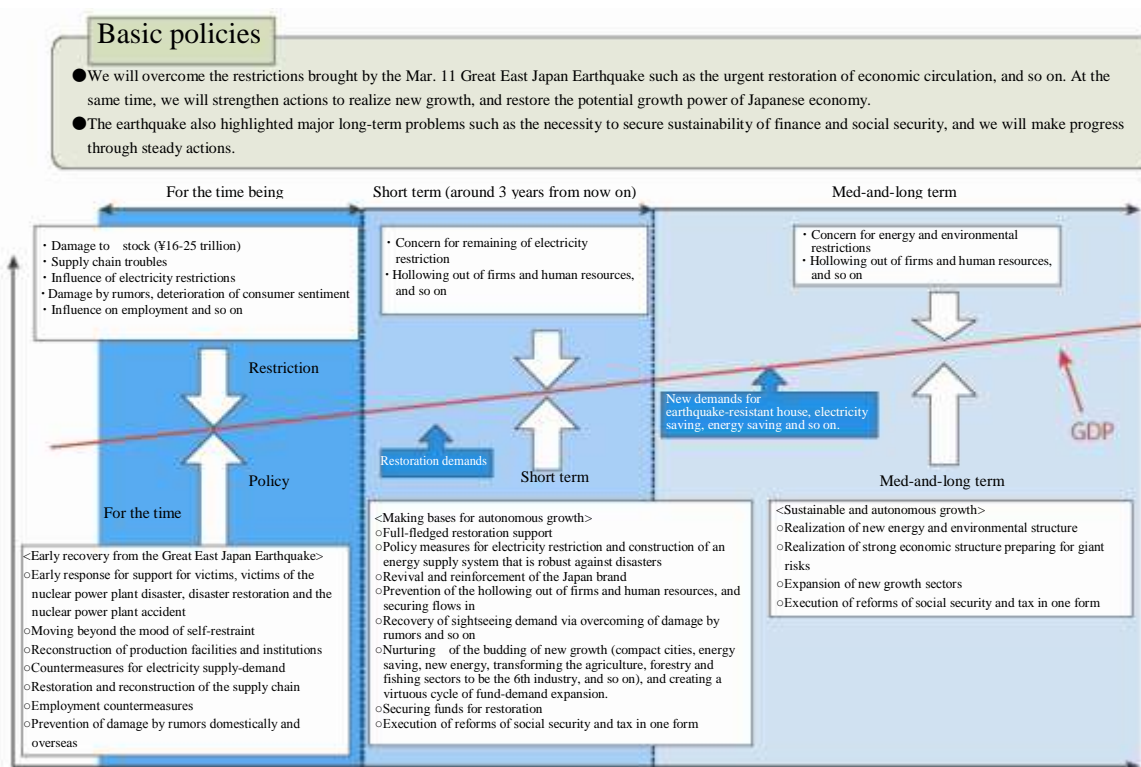
- Considering the enormous damage to the agriculture, forestry, and fisheries sectors caused by the Great East Japan Earthquake, every effort will be made for the restoration and reconstruction from the disaster. The Council to Promote the Revitalization of Food, Agriculture, Forestry and Fishery Industries will consider measures to cope with new challenges of rehabilitating the agriculture, forestry, and fishery industries in East Japan and restoring confidence in Japan's agricultural and marine products.

- As for the basic policy to be formulated at around June and an action plan to be drawn up at around October based on the “Basic Policy on Comprehensive Economic Partnership”, the new timelines will be considered to replace the intended schedules, taking into account the overall schedule for the revitalization of Japan and the progress in restoration and reconstruction.

(3) Towards substantiating the guideline

In accordance with the guideline, for the future we will move forward with examinations of initiatives in the various policy fields at the related agencies, councils, and so on, and will compile and publicly announce an overall view of the policies being promoted in the middle of the year (see Figure 5-1-1-1).

Figure 5-1-1-1 Future policy responses (for the time being, short term and medium-and-long term). Reference materials in “Policy Promotion Guidance”



Notes: This material is made by Cabinet Office as reference for "Policy Promotion Guidance" (approved by Cabinet meeting on May. 17, 2011.)

2. Towards Japan's revitalization

As a result of the earthquake and the nuclear incident, Japan's policy management has been interrupted in many ways. When restarting, we should not make it a simple resumption, but rather we need to view the current situation as an important opportunity to “revitalize Japan”, and pursue simultaneously both the revival of East Japan and tackling of the challenges we faced before the earthquake. To this end, policy management should be designed to rebuild the economy, industry, and local communities with resilient structures through a “qualitative shift” in our strategy towards new growth while also fostering the human resources to sustain these, and it should be also aimed at regenerating a dynamic and powerful Japan by overcoming the weaknesses that were laid bare by the Great East Japan Earthquake, restoring our wounded credibility, and strengthening our bonds of friendship with the world. For its realization, it is necessary to manage various policy measures based on the aforementioned “Guideline on Policy Promotion”. It is Japan's responsibility to contribute to the international community through such future-oriented, robust restoration/ reconstruction and also by creating a vision of what the new society should be like.

And, following this nuclear incident, we need to discuss without any presupposition what our energy policy, including the Basic Energy Plan, should be like, based on a thorough investigation of the causes of the accident, while collecting opinions from all levels of people in Japan. On that occasion, we need to conduct thorough discussions from the perspective of how to realize a ‘best mix’ of energy sources by considering such issues as what to do with nuclear power, the expanded introduction of renewable energy, effective utilization of fossil fuels, and further promotion of energy conservation by society as a whole. Furthermore, innovations in new energy technologies are an important factor for

our New Growth Strategy; hence we will put an emphasis on their promotion from this perspective as well.

The aforementioned Guideline on Policy Promotion cites the strategy for strengthening bonds between countries, and that for preventing the hollowing-out of industries and for developing overseas markets, as major policy measures for Japan's revitalization. These are the pillars of our external economic policy. While the deterioration of Japan's export competitiveness and locational competitiveness has been a matter of concern for some time, there is a possibility that the earthquake disaster may exacerbate the tendency. For our country to contribute to the growth of emerging economies and the world as a whole in terms of both exports and direct investment, and achieve our own growth along with them, we need to pay attention to the importance of economic partnerships once more. At the same time, it is also very important to improve Japan's locational competitiveness and strategically promote a series of other measures designed to prevent the hollowing-out of industries and to develop overseas markets, to the end of strengthening our competitiveness in exports and investment. The concrete initiatives are discussed in more detail in the following sections.

Section 2 Promotion of the multilateral free trade system and creation of strategic external economic relations

While it is undeniable that the Great East Japan Earthquake has caused tremendous damage to Japan, we need to launch initiatives to revitalize our country so that we can secure the reconstruction of East Japan and deal with the challenges that had been facing us since prior to the earthquake. To this end, this section explains our initiatives for promoting a multilateral free trade system and building strategic external economic relations, which are necessary to improve Japanese companies' competitiveness, expand exports from Japan, increase employment, and create an environment facilitating Japanese companies' strength overseas.

1. FTAs/EPAs and active promotion of regional economic integration

(1) Movements related to FTAs/EPAs in recent years

As mentioned in Section 3 of Chapter 1, the number of FTAs/EPAs has been increasing year after year, as a result of the accelerated movements toward regional integration, driven by the changes in the global economic environment and development strategies around the world, since the 1990s. The reasons for such an increase in FTAs/EPAs include the following: [1] Moves have accelerated in the United States and Europe toward economic partnerships with their economically-linked neighboring countries through liberalization and the promotion of trade and investment, illustrated by the accelerated efforts by the U.S. and the EC for NAFTA (in effect since 1994) and the EU (established in 1993), respectively; [2] While NIEs and ASEAN have achieved high economic growth by opening up their markets ahead of other countries, emerging economies, such as Chile, Mexico and Peru, have changed their economic policies, liberalizing trade and investment and introducing market mechanisms. In doing so, they have adopted the strategy of utilizing FTAs /EPAs; and [3] East Asian countries, including Japan, have changed their stances in favor of EPAs/FTAs, etc. The number of regional trade agreements reported to the WTO reached 474 as of July 31, 2010.

With regard to this expanding network of FTAs/EPAs, their two characteristics in recent years are signing of high-quality agreements on top of the increase in the number, and increasingly active initiatives for broader regional economic partnerships in the Asia Pacific.¹³¹

(A) The spread of high-quality FTAs/EPAs

One of the major objectives of FTAs/EPAs is to promote trade by reducing tariffs among signatory nations, and it is customary to show the extent of tariff elimination as liberalization rates of FTAs/EPAs. Under international economic rules, FTAs/EPAs are treated as an exception to the GATT (General Agreement on Tariffs and Trade) /WTO (World Trade Organization) regime, and GATT signatories are allowed to conclude preferential free trade agreements with other member nations on the condition that “within a reasonable length of time” the duties and other restrictive regulations are eliminated on “substantially all the trade between the constituent territories in products originating in such territories”.¹³² Although there is no established interpretation concerning the conditions for

¹³¹ With regard to the individual FTAs of the U.S., Europe and other major countries/regions, see the Ministry of Economy, Trade and Industry, Japan, (2011), FUKOUSEI BOUEKI HOUKOKUSHO 2011 edition, p.474 onwards.

¹³² GATT Article XXIV 5 (excerpt) Accordingly, the provisions of this Agreement shall not prevent, as between the territories of contracting parties, the formation of a customs union or of a free-trade area or the adoption of an interim agreement necessary for the formation of a customs union or of a

concluding FTAs under these GATT rules, the general understanding is that tariffs should be eliminated on at least 90% of trade (in terms of trade value or tariff lines) within 10 years, and each agreement's tariff elimination within the 10-year time frame is used for comparison as representing the liberalization rate.

With regard to the FTAs concluded among developed nations/major countries in recent years, an increasing number of them achieved the liberalization rate of no less than 95% on a tariff line basis. For example, in the case of the FTAs signed by the U.S., the rates for the U.S.-Chile FTA (effective January 2004) are the U.S.'s 97.6% and Chile's 97.7%, while those for the U.S.-Australia FTA (effective January 2005) are the U.S.'s 96.0% and Australia's 99.9%. The liberalization rates for the U.S.-South Korea FTA (signed June 2007) are the U.S.'s 99.2% and South Korea's 98.2% (those for the revised 2010 agreement are even higher). The rates for the U.S.-Peru FTA (effective February 2009) are the U.S.'s 98.2% and Peru's 99.3%.¹³³ In the case of the EU-South Korea FTA signed in October 2010, the liberalization rates are the EU's 99.6% and South Korea's 98.1%

The high liberalization rates mean that economic actors in the signatory nations can trade without tariff barriers on a larger number of items, and such high-quality FTAs are expected to make considerable contributions to the signatory nations' trade expansion and economic growth.

(B) Movements toward broader regional economic partnerships in the Asia Pacific

Along with the spread of high-quality FTAs, another noteworthy movement in recent years is the increasingly active initiatives aimed at broader regional economic partnerships in the Asia Pacific.

In 2010, the tariffs among the six original ASEAN Member Countries (Indonesia, Singapore, Thailand, Philippines, Malaysia and Brunei) were eliminated in principle, and in the goods sector, all of the "ASEAN plus 1" FTAs came into effect, causing observers to say that the FTAs in East Asia have entered a new stage.¹³⁴ The "ASEAN + 1" FTA is a FTA that ASEAN signed with each one of the six countries in the ASEAN neighborhood (Japan, China, South Korea, India, Australia, NZ) separately. As a result, an East Asian-wide FTA network emerged, with ASEAN serving as its hub. Specifically, the Japan-ASEAN EPA (AJCEP) (negotiations ongoing for investment and services) went into effect in 2008.¹³⁵ With regard to the China-ASEAN FTA, the agreement for the goods sector went into effect in 2005, followed by that for the services in 2007, and then in 2010, that for the investment

free-trade area; Provided that:

(c) Any interim agreement referred to in sub-paragraphs (a) and (b) shall include a plan and schedule for the formation of such a customs union or of such a free-trade area within a reasonable length of time.

GATT Article XXIV 8 (excerpt) For the purposes of this Agreement: (b) A free-trade area shall be understood to mean a group of two or more customs territories in which the duties and other restrictive regulations of commerce (except, where necessary, those permitted under Articles XI, XII, XIII, XIV, XV and XX) are eliminated on substantially all the trade between the constituent territories in products originating in such territories.

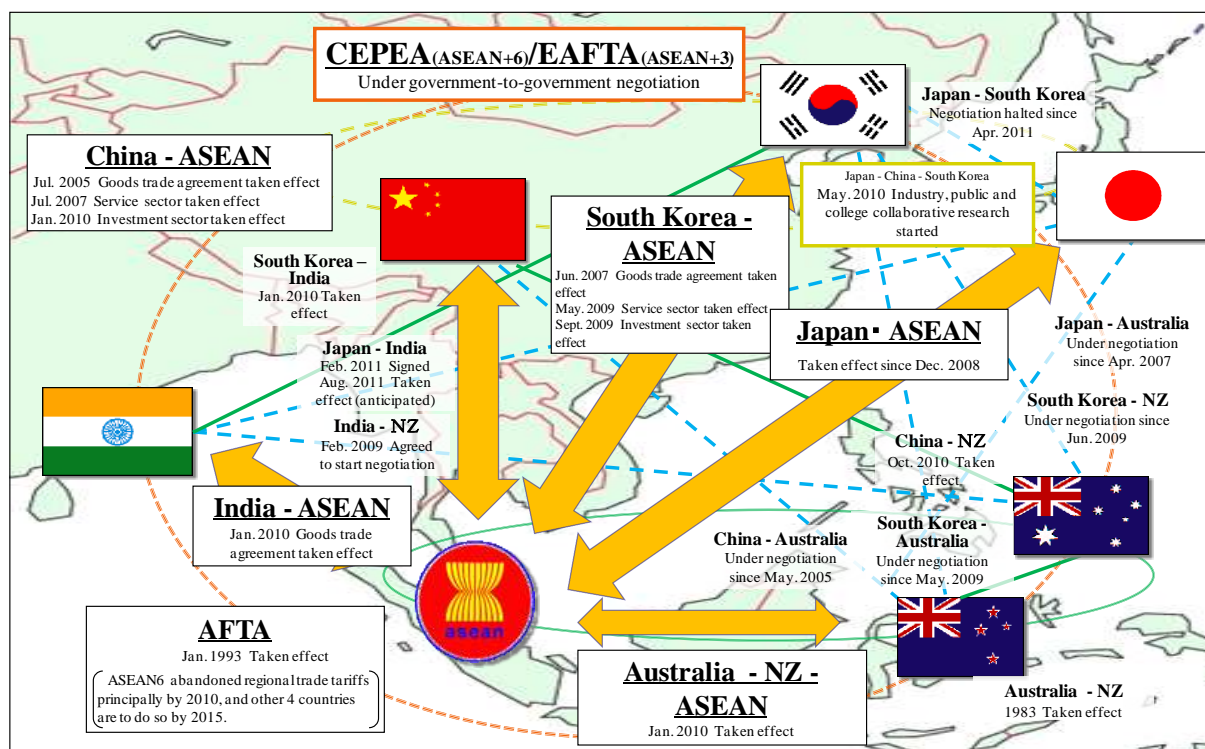
¹³³ Cabinet Secretariat, "HOUKATSUTEKI KEIZAI RENKEI NI KANSURU KIHON HOUSHIN NI TSUITE" (January, 2011). Figures on a tariff line basis.

¹³⁴ With regard to Australia and New Zealand, it's a tripartite FTA between these two countries and ASEAN.

¹³⁵ The EPA came into effect on December 1, 2008 between Japan and the ASEAN countries of Singapore, Laos, Vietnam and Myanmar, followed by Japan-Brunei on January 1, 2009, Japan-Malaysia on February 1, 2009, Japan-Thailand on June 1, 2009, Japan-Cambodia on December 1, 2009, and Japan-the Philippines on July 1, 2010.

sector came into force as well. The South Korea-ASEAN FTA went into effect in 2007 for the goods sector, followed by that for services and investment in 2009. With regard to the India-ASEAN FTA, that for the goods sector came into force in January 2010, while the ASEAN-Australia/New Zealand FTA, a comprehensive one covering goods, services and investment, went into effect also in January 2010. And, with regard to the bilateral FTAs among the countries in the ASEAN neighborhood as well, there has been steady progress (see Figure 5-2-1-1).

Figure 5-2-1-1 Movements of economic partnerships in East Asia



Source: Ministry of Economy, Trade and Industry.

Following the spread of these FTA networks in the East Asia/Asia Pacific region, the next important step would be to launch initiatives for a broader regional economic partnership. Partly as a result of the building of the FTA networks, there has been a considerable development of the cross-border production sharing as well as the concentration/optimal allocation of production resources. Companies' initiatives to upgrade their supply chains all over Asia would be encouraged even further, if, through a broader regional economic partnership, tariffs are cut under a more unified market access schedule, the Cumulative Rules of Origin (CRO) are enabled, and various rules concerning business activities are unified. Under such an environment, companies would be able to optimize their business processes, while individual countries can realize the combinatorial optimization of comparative advantages and even more efficient economies, enabling the region as a whole to grow more.

As for the movements for broader regional economic partnerships in East Asia, there is an initiative to create a trilateral FTA among Japan, China and South Korea, and joint study meetings by these countries' representatives of industry, the government and academia have been held four times since May 2010 (as of April 2011). And at present, inter-governmental discussions have been underway also with respect to the East Asia Free Trade Area (EAFTA) by the "ASEAN plus 3" embracing ASEAN 10

and the three countries of Japan, China and South Korea, as well as concerning the Comprehensive Economic Partnership in East Asia (CEPEA) by the “ASEAN plus 6” comprising the “ASEAN plus 3”, Australia, New Zealand and India, by identifying specific fields for the talks. There have been also initiatives which are not limited to East Asia but extend to the Asia Pacific as a whole, such as the Free Trade Area of the Asia-Pacific (FTAAP) proposed in November 2006 by the U.S. (under then-president George W. Bush), and the Trans-Pacific Partnership (TPP) Agreement which initially entered into force in 2006 as the Trans-Pacific Strategic Economic Partnership Agreement (the so-called P4 agreement) between Singapore, New Zealand, Chile and Brunei, and is now being renegotiated as part of the expansion in membership to include the U.S., Australia, Peru, Vietnam, and Malaysia. The FTAAP is an initiative which aims at free trade in the Asia Pacific, and at the APEC Economic Leaders' Meeting held in Yokohama in November 2010, it was confirmed that an “FTAAP should be pursued as a comprehensive free trade agreement by developing and building on ongoing regional undertakings, such as ASEAN+3, ASEAN+6, and the Trans-Pacific Partnership, among others”, and it was declared that concrete steps would be taken toward its realization.¹³⁶

Thus, in East Asia and the Asia Pacific, various initiatives aimed at broader regional partnerships are in progress in a multilayered manner, with a synergistic effect to promote them. Details of each initiative's specific situation would be explained in “(3) Japan's efforts for economic partnerships based on the ‘Basic Policy’”.

(2) Japan's efforts thus far and formulation of the “Basic Policy on Comprehensive Economic Partnerships”

(A) Efforts thus far and Japan falling behind

Since our first EPA, with Singapore, came into effect in November 2002, Japan has concluded EPAs with 10 countries and one economy. (There are also agreements with two other countries which were already signed but have yet to go into effect) (see Table 5-2-1-2).

¹³⁶ Pathways To A Free Trade Area Of The Asia Pacific (FTAAP) (APEC Leaders' Meeting on November 13-14, 2010)

Table 5-2-1-2 EPAs that Japan has thus far concluded or signed

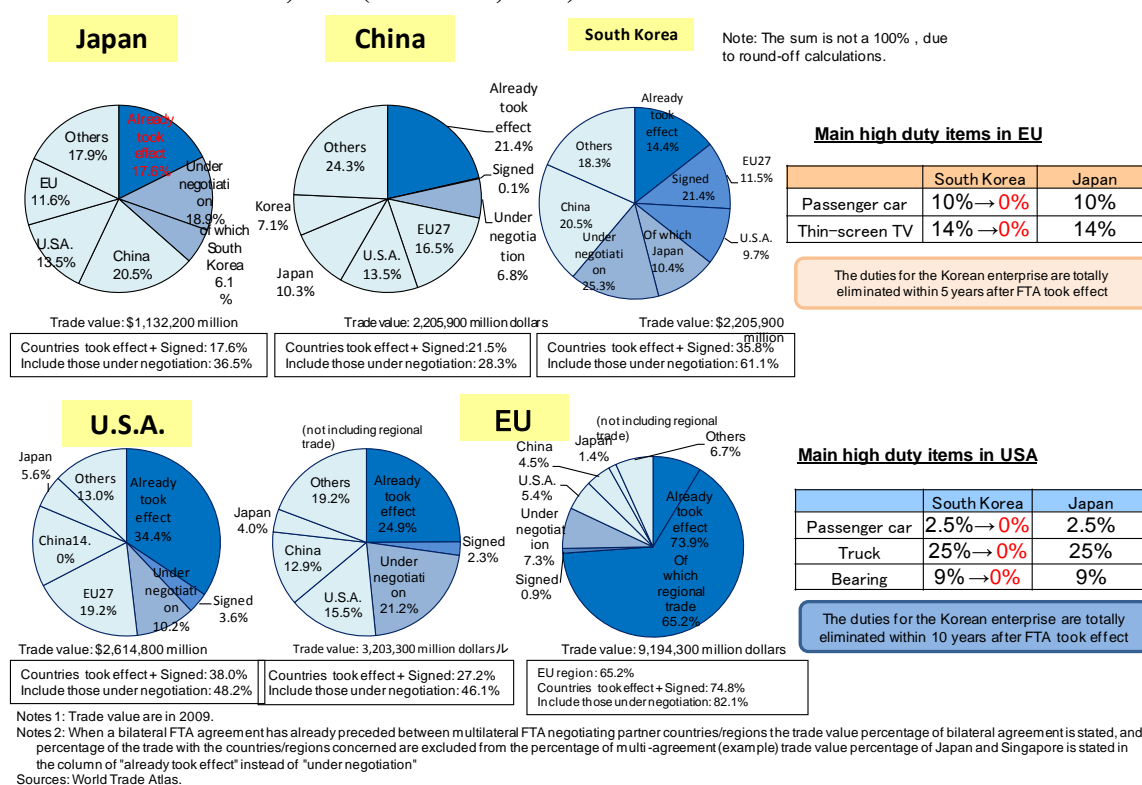
Partner countries/regions	Date of Effect
Singapore	November, 2002
Mexico	April, 2005
Malaysia	July, 2006
Chile	September, 2007
Thailand	November, 2007
Indonesia	July, 2008
Brunei	July, 2008
ASEAN	December, 2008 -
The Philippines	December, 2008
Switzerland	September, 2009
Vietnam	October, 2009
India	February, 2011 (Signed / not having taken effect)*
Peru	May, 2011 (Signed / not having taken effect)

Note: EPA between Japan and India will become effective on August 1, 2011.

Source: Compiled from the data of Ministry of Economy, Trade and Industry.

But the ratio of trade covered by the signed and effective FTAs/EPAs to the country's total trade value is mere 17.6% in the case of Japan, compared with 38.0% for the U.S., 35.8% for South Korea and 21.5% for China, showing a delay in the Japanese efforts (see Figure 5-2-1-3).

Figure 5-2-1-3 Proportion of FTA/EPA in the trade value of the major country, and major high tariff rate items of the EU, U.S. (as at June, 2011)

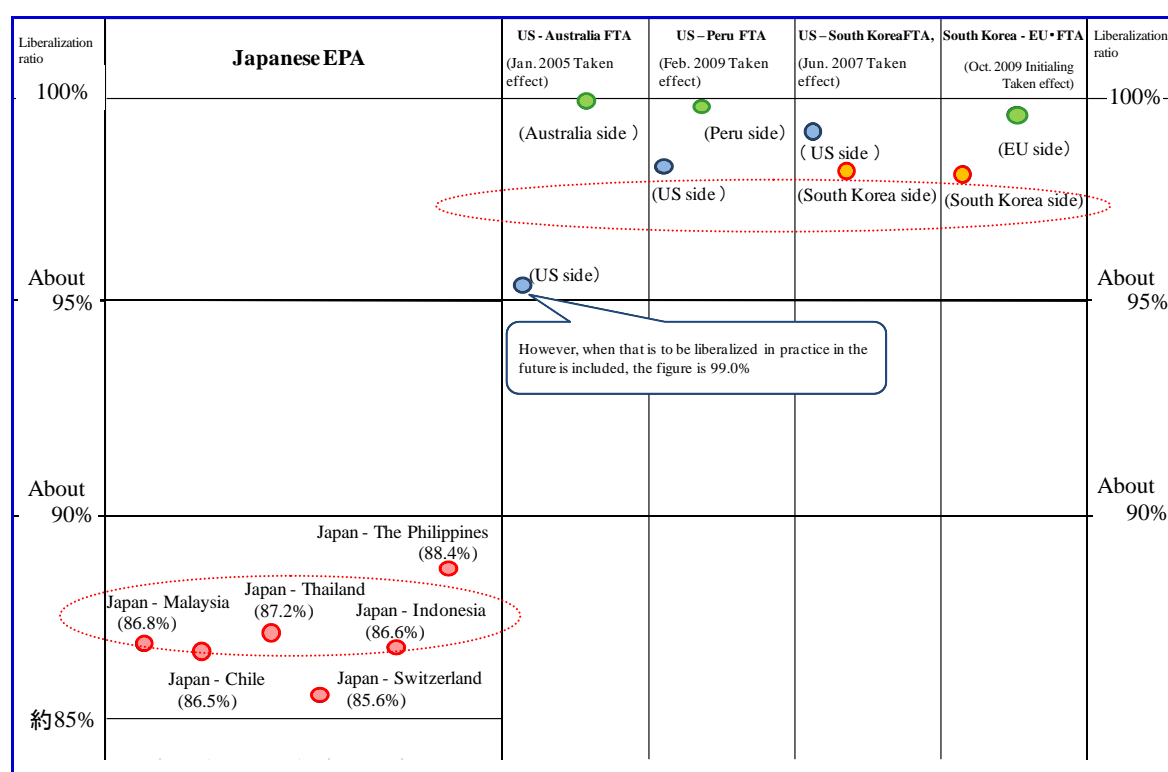


What is thought to be a major cause of such a delay is the Japanese EPAs' low liberalization rate in

comparison to international standards. The liberalization rate of the EPAs concluded by Japan stands at no less than 90% on a trade value basis, but it is about 86-87% on a tariff line basis. This reflects the fact that Japan has set up many exceptions to the liberalization. As mentioned before, an increasing number of FTAs, especially those between developed countries, have achieved liberalization rates of no less than 95%, and almost 100% on a tariff line basis. In view of this fact, there is no denying that the liberalization rate of the FTAs concluded by Japan thus far has been low (see Figure 5-2-1-4). The more the number of items treated as exceptions to liberalization, the more it would become difficult for us to seek our trading partners' liberalization with regard to the items of interest to us. And, resultant limitations on the room for negotiations cause an impasse in the trade talks itself.

In a sense, to this day Japan has selected/concluded the EPAs which allow many exceptions to the liberalization principle in a bid to start with what it can do. But, now that the EPAs with the ASEAN and South American countries, which are positive towards them, have been basically settled, Japan would need to accept a higher level of liberalization commitments in view of the sort of countries/regions with which Japan should actively promote the EPAs from now on. Thus, Japan's efforts for significantly reducing the exceptions to the liberalization principle become essential so that Japan can catch up with other countries in the promotion of EPAs.

Figure 5-2-1-4 Comparison of liberalization rate between EPAs of Japan and FTAs of U.S.A., etc.¹³⁷



Notes: This table shows liberalization ratio on item basis (ratio of items to be abolished duty within ten years in proportion of all items).

However, when it comes to Japanese EPA, liberalization ratios on trade value basis are generally achieved more than 90% (ratio of items to be abolished duty within ten years in proportion of import-value).

¹³⁷ Source: Cabinet Secretariat-sponsored “KAIKOKU FORUM: HEISEI NO KAIKOKU TO WATASHITACHI NO KURASHI”

More than 99% in Japan-Brunei EPA and Japan-Switzerland one, and more than 95% in Japan-Singapore EPA, Japan-Malaysia and Japan-Vietnam ones.

Material: Compiled from “Opening the Country Forum”, Cabinet Secretariat

(B) The need for high-level EPAs and formulation of the “Basic Policy on Comprehensive Economic Partnerships”

If Japan's trade and investment environment becomes less attractive than in other countries as a result of the delay in taking the initiative for EPAs, there is a possibility that future employment opportunities will be lost because of the impaired locational/export competitiveness. These adverse effects on Japanese companies' competitiveness are particularly significant in relation to South Korea. While South Korea has already surpassed Japan in the overseas market share of some products in sectors such as electric machinery and electronics, some Japanese items will be forced to bear the burden of EU and/or U.S. import tariffs, estimated to be higher by as much as 10% or more compared with those imposed on South Korean products in these huge markets if South Korea's already-signed FTAs with the EU and the U.S. come into effect (see Figure 5-2-1-3 Reprint). In a global marketplace where companies (especially manufacturers) are engaged in intense cost-conscious competition, such percentage differences in the level of tariffs are significant.

Japan's manufacturing sector is already shrinking, with the number of production bases and employment both decreasing. The shrinkage of Japan's domestic manufacturing industry can be attributed to non-EPA factors such as a change in the industrial structure itself, exchange rates, the cheap labor cost overseas and corporate taxes, but the delay in making efforts for EPAs is also considered one of the causes of hollowing-out.

If we wish to overcome this situation and achieve sustained growth amid the expectation of a shrinkage of the domestic market, we need to rebuild the infrastructure for future growth and development by capturing the potential for growth in Asian and emerging countries, the U.S., Europe, and resource-rich countries, etc. through the cultivation of deeper economic ties with them.

Based on such understanding, on November 9, 2010, the Japanese Cabinet approved a “Basic Policy on Comprehensive Economic Partnerships” (hereafter referred to as the “Basic Policy”). It expressed the firm resolve to open up the country, stating that the government of Japan “will take major steps forward from its present posture and promote high-level economic partnerships with major trading powers that will withstand comparison with the trends of other such relationships”. It says: “With regard to EPAs or broader regionaleconomic partnerships that are politically and economically important and will be of especially great benefit to Japan, the Government of Japan, while taking into consideration the sensitivity of trade in certain products, will subject all goods to negotiations for trade liberalization and, through such negotiations, pursue high-level economic partnerships.” Meanwhile, there is necessity for “fundamental domestic reforms in order to strengthen the competitiveness it will need for economic partnerships of this kind.” In particular, agriculture is a field where “considering Japan's aging farming population, the difficulty farmers have in finding people to take over their farms when they are ready to retire, and the low rate of profit, there is a risk that sustainable agriculture will not be possible in the future.” The “Basic Policy” stipulates that with a view to “opening the country” as well as pursuing high-level economic partnerships, the Japanese government will first promote appropriate domestic reforms with respect to areas of the agricultural industry, movement of natural persons, and regulatory reforms.

With regard to specific efforts for economic partnerships, it says that in the Asia Pacific region Japan will increase its efforts to conclude the ongoing EPA negotiations, start talks for broader regional economic partnerships which have been studied, and promote EPAs with major countries/regions with which Japan has not yet started negotiations. Concerning the TPP Agreement, it states that “it is necessary to act through gathering further information, and Japan, while moving expeditiously to improve domestic environment, will commence consultations with the TPP member countries.” It is also stipulated that Japan will make efforts with regard to major countries/regions¹³⁸ outside the Asia-Pacific such as EU and GCC (Gulf Cooperation Council) countries, and other countries/regions, especially newly emerging nations and resource-rich countries (see Table 5-2-1-5).

¹³⁸ Bahrain, Kuwait, Qatar, Oman, Saudi Arabia, and the United Arab Emirates.

Table 5-2-1-5 Basic policy on comprehensive economic cooperation (excerpt)¹³⁹

Basic Policy on Comprehensive Economic Cooperation (approved by Cabinet meeting on Dec. 9, 2010)

1. The environment surrounding Japan, and promotion of high level economic cooperation

Japan now faces a big change that could be called a watershed. When it comes to the global economy, structural change is ongoing in that the relative position of Japan is decreasing while emerging economies rapidly develop. In addition, although the reinforcement of international trade rules through the agreement of the WTO Doha Development Agenda negotiations remains important, high level FTA/EPA networks among major trading countries are expanding while the prospect of negotiations is unclear. However, Japan's response has been rather slow.

Under such conditions, When Japan's trade and investment environment is unfavorable to other countries, future employment opportunities could be lost. In order to realize a "strong economy" shown in the "New Growth Strategy" (approved by Cabinet meeting on Jun. 18, 2010), it is necessary to deepen economic relations between Asian countries and emerging countries, and, where can be expected, European countries and resource-rich countries, and to reconstruct bases for growth and development toward building a better future for Japan.

Under such recognition, we make solid decisions for the sake of "opening the country" and "opening the future", making a big step away from our past position, and promote high-level economic cooperation between the world's major trading countries that keep pace with global trends. At the same time, we will promote radical domestic reforms such as strengthening the competitive edge that is necessary for high-level economic cooperation and so on.

Especially, since the agricultural sector is not only the most likely to be affected by the liberalization of trade but also, taking the aging of Japan's agricultural work force, the shortage of successors, and low profitability into consideration, the future sustainability of the sector is a major concern, and a bold measurable response that boosts the potential domestic agricultural sector such as strengthening its competitive edge and expanding of overseas demand is needed.

Especially, the Asia-Pacific region is the most critical region for the politics, economy and security of Japan, and this region's stability and prosperity is a life and death issue. The Free Trade Area of Asia Pacific (FTAAP) is important in forming a seamless Asia-Pacific region with Japan, and it is necessary to show leadership for its realization.

Therefore, we will take a leading role in the aggressive promotion in bilateral EPAs in the Asia-Pacific region, and promoting broad regional economic cooperation and tackling according to each sector in APEC, and work toward forming trade and investment rules in the Asia-Pacific region fit for the 21st century.

2. Concrete actions strengthening comprehensive economic cooperation

Based on the international and regional environment surrounding Japan, we will execute the following concrete actions to reinforce comprehensive economic cooperation with the major trading partner countries and regions for Japan. Particularly politically, concerning EPAs and broad regional economic cooperation that are important politically and economically that bring big benefits to Japan, paying consideration to sensitive items, making all items to be subject of liberalization negotiation, we intend to high level economic cooperation via negotiation.

- (1) Action in the Asia-Pacific region
- (2) Action with major countries and regions other than the Asia-Pacific region
- (3) Action with other countries and regions

3. Integral execution of economic cooperation negotiations and domestic measures

- (1) Agriculture
- (2) Movement of human resources
- (3) Reforms of the regulatory system

¹³⁹ For the full text, see <http://www.npu.go.jp/pdf/20101109/20101109.pdf> (National Policy Unit)

Following the adoption of the “Basic Policy”, the “Ministerial Meeting for FTAAP/EPA”, “Headquarters for the Revitalization of Food, Agriculture, Forestry, and Fisheries” (established within the Cabinet) and the “Working Group on the Movement of Natural Persons” (established under the Minister of State for National Policy) were established, with the aim of considering the specifics of how to promote economic partnerships and domestic reforms. Through these and their subsidiary meetings, discussions, including those at the ministerial level, have been ongoing. In addition, with regard to some of the related reforms of regulations and systems, discussions were conducted under the Government Revitalization Unit.

For the purpose of explaining the government’s thinking on “Opening of Japan in our modern Heisei era” advanced by Prime Minister Naoto Kan, and hearing firsthand opinions of the people from a wide variety of fields for future reference, a plan was made after the formulation of the “Basic Policy” that the Cabinet Secretariat tried to sponsor the “Opening-of-the-country forum: Heisei Opening and our Lives” from February to March of 2011 in a total of nine cities across Japan. Although the forums except for those in Saitama, Kanazawa and Sendai cities were cancelled as a result of the effects of the March 11 Great East Japan Earthquake, the three forums were attended by the Minister for National Policy Koichiro Genba, Minister of Economy, Trade and Industry Banri Kaieda, Senior Vice Minister of Cabinet Office Tatsuo Hirano, and Senior Vice Minister of Finance Fumihiko Igarashi, as well as by expert panelists from fields such as the agriculture, forestry and fisheries, and the business, labor and consumer sectors. They, together with participants recruited from the general public, were engaged in the discussions.

Furthermore, on May 17, 2011, the Japanese Cabinet approved the “Guideline on Policy Promotion” which set out principles on the occasion of re-launching efforts to revitalize Japan following the March 2011 Great East Japan Earthquake. As one of the “Seven Basic Principles for Restarting”, this guideline spells out the need to “revitalize the economy in an open manner by strengthening ‘Kizuna’ (the bonds of friendship)”, and, with regard to FTAs/EPAs, it says “the Minister-level Meeting on FTAAP/EPA will consider the basic policy for strengthening “Kizuna” (the bonds of friendship) with other countries, such as promoting high-level economic partnerships based on the “Basic Policy on Comprehensive Economic Partnership” and establishing economic security, taking into consideration factors such as the sentiments of the farmers and fishing industry personnel who have suffered enormous damage by the earthquake and the nuclear incident, the progresses in the international negotiations, and concerns of de-industrialization.” At the same time, it was confirmed that the basic thinking and direction of the “Basic Policy” would be maintained.

Figure 5-2-1-6 Policy Promotion Guidance -- for Revival of Japan -- (excerpt)¹⁴⁰

2. Restart for Japan's revival

(1) Basic 7 principles for revival

6) Opened economic revival via strengthening of bond between state and state

(2) Ways to promote each major policies

II. Redesigning and re-strengthening of national strategy for new growth

○ Strategy to strengthen interstate bonds

• In FTAAP and EPA-related ministerial meetings taking into account the needs of farmers and fishing industry workers hit by the Great East Japan Earthquake, the progress of international negotiation and concerns about industrial hollowing out, we are considering our basic stance about strengthening interstate bonds such as the promotion of high level economic cooperation and economic security and so on.

• We are considering when to participate in TPP agreement negotiations.

○ Revival strategy for agriculture and fisheries

• In the “realization of the revival of the food and agriculture, forestry and fisheries meeting”, we are considering measures to meet requirement for new problems regarding the revival of East Japan's agriculture, forestry and fishery industries, and promoting a recovery in confidence of the agricultural and marine products of Japan.

• When it comes to new basic policy settled in the “Basic Policy on Comprehensive Economic Cooperation” and new processes instead of the October Action Plan, we will consider them based on conditions of the progress of Japan's revival as a whole.

¹⁴⁰ For the full text, see <http://www.npu.go.jp/policy/pdf/001.pdf> (National Policy Unit)

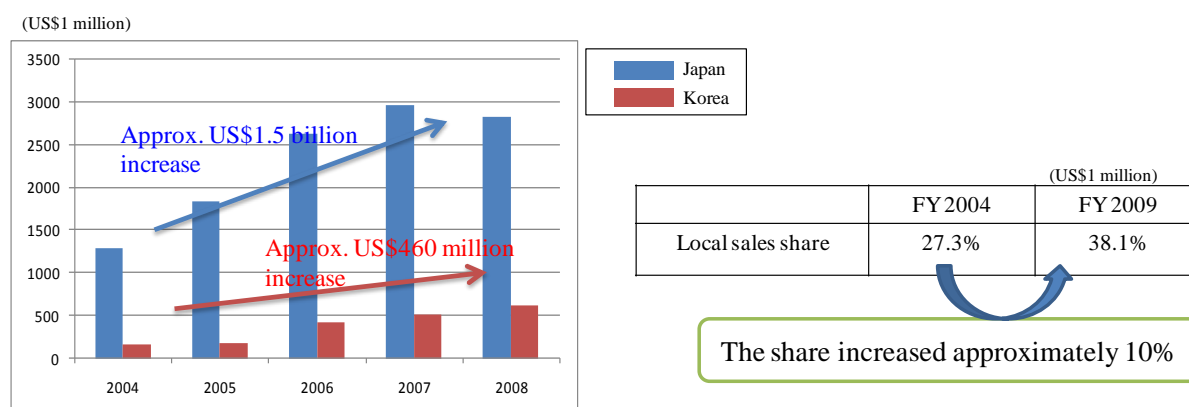
Column 6 Significance of FTAs/ EPAs

The primary significance of Free Trade Agreements/ Economic Partnership Agreements (FTAs/ EPAs) is supposed to be expansion of trade promoted by tariff reductions among member countries. However, FTAs/ EPAs usually stipulate matters in various areas including services, investment, intellectual property, government procurement and others. Establishment of new rules covering a whole region is especially meaningful in the regional economic partnership for which efforts for accomplishment are supposed to be accelerated in the future. Therefore, the significance of FTAs/ EPAs is discussed in the light of tariffs and rules focusing on examples of the existing FTAs/ EPAs¹⁴¹.

<Merits of tariff reduction>

Trade of commodities that gained price competitiveness caused by tariff reduction of an FTA/ EPA may increase between contracting countries. For example, examining the transition of export volumes of Japan to the EPA partner countries after the EPA became effective, exports to Mexico (effective in April 2005) increased 1.8-fold between 2004 and 2008; exports to Malaysia (effective in July 2006) increased 1.5-fold between 2005 and 2008.¹⁴² Such merits as increased trade can be effectively achieved by contracting FTAs/ EPAs ahead of other countries. The EPA between Japan and Mexico which had gone ahead of Korea, resulted in a significant increase in Japanese automobile exports to Mexico compared to those of Korea's. The share of Japan's automobile sales in Mexico showed a substantial expansion and reached 38.1% in 2009 from 27.3% in 2004 (Figure 6-1). With the accelerating hollowing-out of manufacturing industry, it may possible that equalizing production conditions via tariffs between Japan and the partner countries may prevent the hollowing out of industry and maintain the job opportunities in Japan.

Column Figure 6-1 Exports to Mexico and local sales shares before and after the Mexico EPA



Sources: Global Trade Atlas

Sources: White paper on trade and investment 2009 edition, JETRO

Adversely, when Japan is behind the third countries, as already described in Chapter 5, Section 2, 1 (2) (B), it may possible to escalate exporting production. Japan's manufacturing industry accelerated its transfer of production bases to Thailand due to the Thailand-Australia FTA, which became effective

¹⁴¹ Addition to the increased trade and investment by the tariff reduction and unification of rules, it is expected that companies' production methods, technology and skills can be improved to enhance productivity and profitability in the course of deepening economic unification and bring positive impact to the entire economy.

¹⁴² For details, refer to White Paper on International Economy and Trade 2010, page 383 and below.

in January 2005, while the Japan-Australia EPA has not been signed yet. A flow has been established that Japanese automobiles have been manufactured in Thailand and exported to Australia. This caused a significant decline in the share of Japanese automobiles imported to Australia. (Figure 6-2). It has a great merit as Japanese manufacturing industry can its operations overseas aiming at optimum locations; a part of the profit yielded by expansion of local production returns to Japan; exports of parts that can be manufactured only in Japan are increased. On the other hand, it may cause a substantial negative impact on domestic employment and administration of local governments due to the overseas transfer of core production bases. Especially small and medium enterprises are severely affected by the shift due to difficulties locating abroad. The equalizing competitiveness which can be partially achieved through FTAs/ EPAs is strongly required.

Column Figure 6-2 Effect of the Thailand-Australia FTA and movement of commercial car imports to Australia

Movement of commercial cars import to Australia

			2004	2009	(ratio to 2004)
Commercial cars	Total import amount		2,556	3,484	
	Share	Japan	43.8	23.4	-20.4
		Thailand	25.3	50.4	+25.0

(Unit: US\$1 million, %)

Effect of Thailand Australia FTA (January 2005)




Sources: Australia Trade Statistics

1

<Merits of rule formulation>

The importance of FTAs/ EPAs other than tariff reduction included the improvement of business activities by the formulation of rules. It is really effective to establish common rules for global business activities to reduce various transaction costs, maintain the equality of Japanese companies' exports and investments in other countries and to make Japan more desirable for inward FDI. (Table 6-3 column).

Table 6-3 column Composition of chapters in the Japan-Switzerland EPA, Japan-India EPA and Japan-Peru EPA

	 Japan-Switzerland EPA (Took effect in September, 2009)	 Japan-India EPA (Signed in February, 2011)	 Japan-Peru EPA (Signed in May, 2011)
Ch. 1	General	General	General

Ch. 2	Trade of goods	Trade of goods	Trade of goods
Ch. 3	Customs procedures and smoothing trade	Country of origin rules	Country of origin rules
Ch. 4	Sanitary and plants quarantine measure	Customs procedures	Customs procedures and smoothing trade
Ch. 5	Compulsory standards, adoptive standards and adequacy assessment procedures	Compulsory standards, adoptive standards and adequacy assessment procedures and sanitary and plants quarantine measure	Plants quarantine measure
Ch. 6	Trade of services	Trade of services	Compulsory standards, adoptive standards and adequacy assessment procedures
Ch. 7	Movement of natural person	Movement of natural person	Trade of services across border
Ch. 8	Electronics commercial transaction	Investment	Electric and communication services stay for commercial purpose
Ch. 9	Investment	Intellectual property	Immigration and temporary
Ch. 10	Competition	Government procurement	Government procurement
Ch. 11	Intellectual property	Competition	Intellectual property
Ch. 12	Government procurement	Preparation of business environment	Competition
Ch. 13	Closeness of economic relationship	Cooperation	Preparation of business environment
Ch. 14	Dispute settlement	Dispute settlement	Cooperation
Ch. 15	Administration of the agreement	Final regulations	Dispute settlement
Ch. 16	Final regulations		Final regulations

Source: Ministry of Economy, Trade and Industry

Unlike tariff reductions, effects provided by the formulation of rules are difficult to measure with figures, but, for example, the formulation of the government procurement rules in the Japan-Mexico EPA stipulated that “the government procurement is principally carried out by the domestic bidding”. This stipulation enabled Japanese companies to enter the Mexican government procurement market and to receive orders along with the Mexican and FTA countries’ companies on equal terms, though international bidding had been opened only for Mexican and FTA countries’ companies. In addition, the “Sub-committee on Improvement of the Business Environment”, stipulated in the chapter of the business environment improvement of EPAs with Asian countries, Chile and Mexico, is very useful to solve companies’ specific issues on partner countries’ business environment such as improvement of customs clearance, infrastructure, maintaining public safety, measures against faked products and improvement of authentication standards¹⁴³.

Moreover, recently Japanese companies especially in the service industry increasingly have deployed shops and stores and have operated the business in ASEAN countries utilizing advantage of know-how on retail sales, distribution and service to customers which have been cultivated in the domestic market for years. Preparation of rules for chapters of service and investment may facilitate matters

¹⁴³ For details, refer to “Unfair trade report 2011” (Ministry of Economy, Trade and Industry) page 727 and below.

such as the easing of regulations and enhancing the transparency for Japanese companies operating in the partner countries, the elimination of conditioning to business activities, dialogue and dispute settlement for problems when they happen.

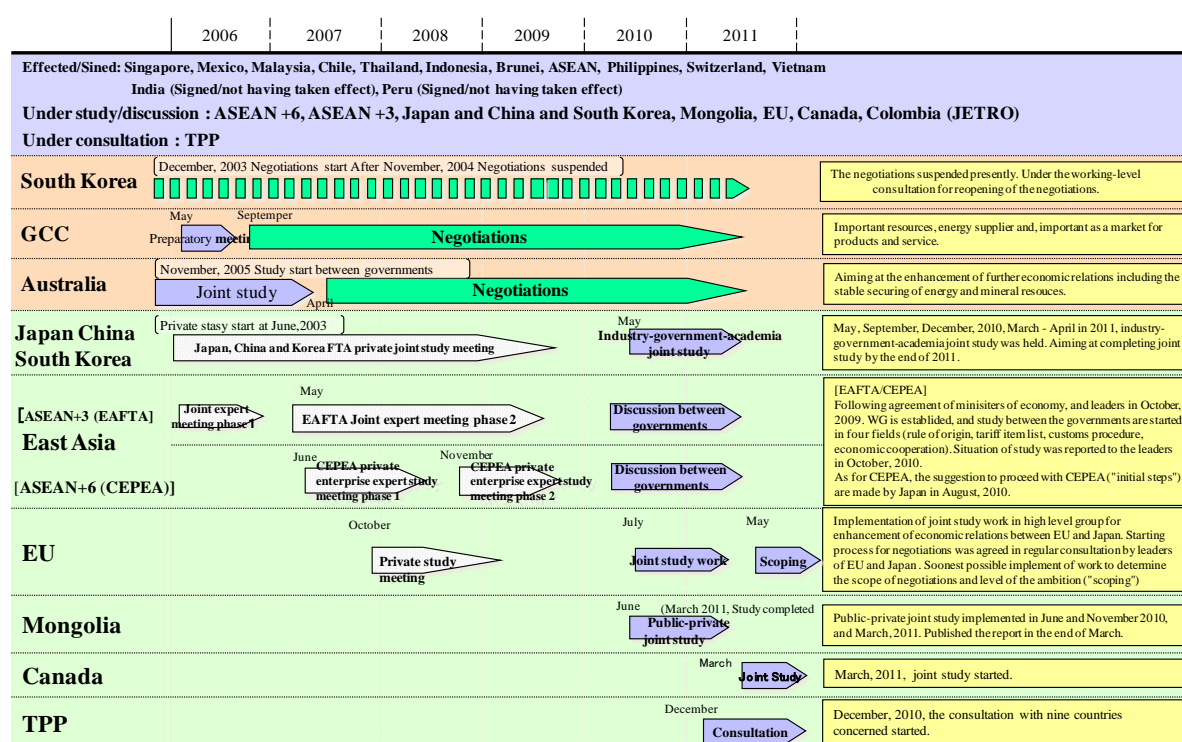
Establishment of rules for economic partnership is effective to promote business activities of Japanese companies operating in foreign countries to reduce risks and local costs.

(3) Japan's efforts toward economic partnerships based on the “Basic Policy”

(A) FTAs/EPAs under negotiation, discussion or study

As mentioned at the beginning, countries are increasingly active in their efforts for FTAs/EPAs. With a view to helping Japanese companies expand their global reach, our country will continue to be active in promoting FTA/EPA negotiations while taking into consideration factors such as the sentiments of the farmers and fishing industry workers who have suffered enormous damage by the earthquake and the nuclear incident, progress in the international negotiations, and concerns about de-industrialization. Here we will explain our current efforts by classifying them into those in (a) the Asia-Pacific region, (b) major countries and regions outside the Asia-Pacific, and (c) other countries and regions (see Figure 5-2-1-7).

Figure 5-2-1-7 Conditions of Japanese actions toward EPAs



Source: Ministry of Economy, Trade and Industry.

(a) Efforts in the Asia Pacific region

The Asia Pacific region is important for Japan from the political, economic and security points of view, and it is very beneficial for the prosperity of Japan to deepen its partnership with the region. FTAs/EPAs could become an important tool to create a seamless market in the Asia Pacific and

capture the vitality of the region. Japan has already concluded an EPA with ASEAN as a whole, in addition to seven bilateral EPAs with ASEAN countries (Singapore, Malaysia, Thailand, Indonesia, Brunei, Philippines, and Vietnam). With regard to the efforts for EPAs in the Asia Pacific region other than the ASEAN, Japan concluded the negotiations successfully with India and Peru (the EPA with India was signed in February 2011, and is scheduled to go into effect on August 1, while that with Peru was signed in May 2011). Furthermore, the EPA with Australia is under negotiation, while that with South Korea has been suspended. The EPAs with Mongolia and Canada are under consideration.

Negotiations with India were launched in January 2007, signed in February 2011, and scheduled to go into effect on August 1. India has a population of more than 1 billion people and is the third-largest economy in Asia, enjoying considerable economic growth in recent years. By joining hands with India towards trade liberalization/facilitation, investment promotion and improvement of rules/systems in related fields, we can expect further expansion of business opportunities, even stronger bilateral economic ties, and thus a closer Japan-India relationship as a whole. At present, the Japan-India economic relationship is not necessarily reflective of the two countries' economic size. For example, Japan's exports to India (791.7 billion yen in 2010) account for only 1.1% of our total exports, while the ratio of imports from India to total Japanese imports is as low as 0.8% (496.7 billion yen in 2010). With the Japan-India EPA coming into effect, it is hoped that the bilateral trade/economic relations will be strengthened.

EPA negotiations with Peru started in May 2009, leading to the signing of an agreement in May 2011. Peru has achieved high economic growth in recent years (maintaining growth for 11 consecutive years till 2009). Through measures such as reduction of the 44% tariff (in 2009 on a trade value basis), Japan can hope to strengthen its economic partnership with this growing market. In recent years Peru has been active in promoting FTA talks. Peru's FTAs with countries such as the U.S., China and Canada have been already in effect, while those with the EU, South Korea, Panama, Costa Rica and Mexico have been signed (yet to go into effect). Thus, the EPA with Peru has become all the more important for Japan so that Japanese companies do not lose their competitive edge in the Peruvian market. Furthermore, Peru is one of the major sources of Japan's mineral resource imports (zinc: 3rd, copper: 3rd in 2009), so it's also important from the perspective of securing a stable supply of natural resources for Japan. The Japan-Peru EPA, signed in May 2011, will eliminate tariffs on goods accounting for more than 99% (albeit excluding used goods) of two-way trade value between the two countries in ten years after coming into effect, so its early implementation is desirable.

The EPA negotiations with Australia were launched in April 2007. The EPA with Australia is expected to help strengthen the "comprehensive strategic relationship" with the country, which shares fundamental values and strategic interests with us, and also boost bilateral trade and investment through such measures as tariff elimination. Furthermore, Japan relies on Australia heavily for iron ore, coal and other raw materials. So, the EPA with Australia is also expected to be helpful from the viewpoint of securing a stable supply source of natural resources, energy and food.

The EPA negotiations with South Korea, which began in December 2003, were suspended after the 6th meeting in November 2004. Since 2008, both countries have started moving towards resuming negotiations. Under the agreement made between the top leaders in April 2008, working-level meetings to build up an environment for discussion and study were held four times by the end of 2009 in order to work towards resuming negotiations. And, at the May 2010 summit talks, Japanese and

South Korean leaders agreed to launch a high-level prior consultation towards resuming negotiations, and in September 2010 and May 2011 the prior consultation meetings were held at the level of director-generals. As of June 2011, the negotiations have not yet resumed. But the EPA is supposed to symbolize a “new era” in Japan-South Korea relations which was agreed upon at the summit meeting of February 2008, and it is also significant from multifaceted perspectives like the expansion of bilateral trade/investment and the two countries’ international competitiveness. Therefore, an early resumption of negotiations is hoped for.

The EPAs with Mongolia and Canada have been also under consideration. With regard to Mongolia, the governments of Japan and Mongolia held the joint public-private study meetings on a bilateral EPA in June 2010, November 2010 and March 2011, with the participation of representatives from government, industrial and academic sectors of the two countries. As a result, they finalized a joint study group report recommending to the leaders of both countries that they should launch negotiations on the Japan-Mongolia EPA immediately. Mongolia, a country endowed with rich mineral resources, has not yet concluded any FTA or EPA with foreign countries. If Japan becomes Mongolia’s first EPA partner, it would be of great significance not only from the standpoint of securing a stable supply source of natural resources but also for strengthening our friendly relationship with Mongolia.

With regard to Canada, the joint study on the overall economic relations between the two countries under the “Japan-Canada Economic Framework” was completed in October 2007, with the two countries agreeing to revisit the possibility of an EPA to follow up the study through appropriate channels. Following the November 2010 summit meeting where the two countries’ leaders agree to positively consider promotion of economic partnership, the two sides discussed the issue at a vice-minister level economic meeting in February 2011 and agreed to launch a joint study. The first joint study meeting was held in March in Toronto, followed by the second one in April in Vancouver. Canada, a country endowed with abundant energy and mineral resources, holds the world’s second-largest reserves of oil (including oil sands) behind Saudi Arabia, and ranks second in the production of uranium, third in nickel, and fourth in zinc, etc. With a view to securing a stable supply of these natural resources, it would be of great significance to deepen economic ties with Canada.

Among efforts covering large areas are a proposed FTA among Japan, China and South Korea, CEPEA and EAFTA. (TPP will be discussed in (B))

Japan, China, and South Korea had conducted joint research at the private-sector level about an FTA among these three countries since 2003. It was decided at the 6th Japan-China-Republic of Korea Trilateral Economic & Trade Ministers’ Meeting to start joint research involving government, business, and academia in the first half of 2010. This decision was made based on the talks at the 2nd Japan-China-Republic of Korea Trilateral Summit Meeting held earlier in October 2009. The first joint study meeting on the FTA, involving the three countries’ government officials and experts from industrial and academic sectors, was held in May 2010. By April 2011 this meeting had been held four times in total. And, at the Japan-China-ROK Trilateral Summit held on May 21/22, 2011, the three countries’ leaders agreed to accelerate the Joint Study on a trilateral FTA so that the study will be concluded within this year, moving up the initial goal of completing it before the trilateral summit of 2012.¹⁴⁴ To this end, we intend to continue vigorous discussions hereafter.

¹⁴⁴ Japan-China-ROK Trilateral Summit Declaration (excerpt) “Taking into account the current circumstances in Japan and their implications and noting the progress of the Joint Study on a trilateral

The East Asia Free Trade Area (EAFTA) initiative of “ASEAN+3”, which consists of ASEAN 10 countries and the three countries of Japan, China and South Korea, has been under study by the joint expert group since 2005, while the Comprehensive Economic Partnership for East Asia (CEPEA) initiative of “ASEAN+6” (Japan, China, South Korea, India, Australia and New Zealand), proposed by Japan in 2006, has been studied by experts from the private sector since 2007. The final reports on these two proposals were submitted to economic ministers and top leaders in 2009, and it was agreed that they would launch intergovernmental discussions on the contents of the reports. For the intergovernmental discussions, four working groups in charge of rules of origin, tariff nomenclature, customs procedures, and economic cooperation were set up, and the rules/management of five “ASEAN+1” FTAs have been compared/analyzed within each group.

At the meeting of ASEAN+6 Economic Ministers in August 2010, Japan put forward its concept paper titled “Initial Steps towards Regional Integration in East Asia: A Gradual Approach” which depicts the medium- to long-term direction of economic integration of ASEAN+6. This is a comprehensive proposal designed to promote the discussions within aforementioned working groups in the four fields and help move towards a greater economic integration based on a two-axis approach promoting liberalization on the one hand and facilitating development on the other. It also expressed expectation for intellectual contributions by the Economic Research Institute for ASEAN and East Asia (ERIA) (see Column 7). Also in August in 2010 at the ASEAN+3 Economic Ministers Meeting, China proposed a EAFTA-related roadmap on trade facilitation which aims to reduce the trade cost within ASEAN+3 by at least 5% by 2015.

At the ASEAN Plus Three Summit held in October 2010, the current status of examination by working groups was reported. And the leaders welcomed the Japanese and Chinese proposals, and tasked relevant officials to recommend specific targets and timelines with regard to the efforts for regional economic integration.

With regard to CEPEA and EAFTA, two of the “ASEAN plus” moves for broader regional economic partnerships, the Chair’s Statement of the May 2011 ASEAN Summit noted that the leaders tasked the officials to intensify efforts with a view to making a recommendation for a possible modality using the existing five “ASEAN Plus One” FTAs as the building blocks and the basis for the evolving architecture of regional economic integration.¹⁴⁵ This is a new movement with regard to this matter. Through such efforts for broader regional economic integration in East Asia, we can expect to promote cross-border production sharing as well as the concentration/optimal allocation of production

Free Trade Agreement (FTA) and the recommendation from the Economic and Trade Ministers as well as Foreign Ministers, we decided to accelerate the Joint Study on a trilateral FTA so that the study will be concluded within this year and follow-ups will be taken thereafter.”

¹⁴⁵ Paragraph 43 of Chair’s Statement of the ASEAN Summit: “We took note of the progress on the work of the four ASEAN Plus Working Groups that were tasked to look into the recommendations in the Studies on the East Asia Free Trade Area (EAFTA) and the Comprehensive Economic Partnership in East Asia (CEPEA) in parallel. To ensure and strengthen ASEAN centrality in its objectives to promote partnership with wider region, we tasked the officials to intensify efforts to accelerate the process of consolidating ASEAN’s Plus One FTAs by identifying the gaps and making a recommendation for a possible modality, using the ASEAN Plus One FTAs as the building blocks and the basis for the evolving ASEAN-centered regional architecture.” With regard to the specifics of the ASEAN-related economic ministers meetings of 2010, including Japanese proposals, see the METI website:

(http://www.meti.go.jp/policy/trade_policy/ASEAN/html/ASEAN1008.html).

bases, thus boosting the efficiency of the economy as a whole and international competitiveness of the industries in East Asia.

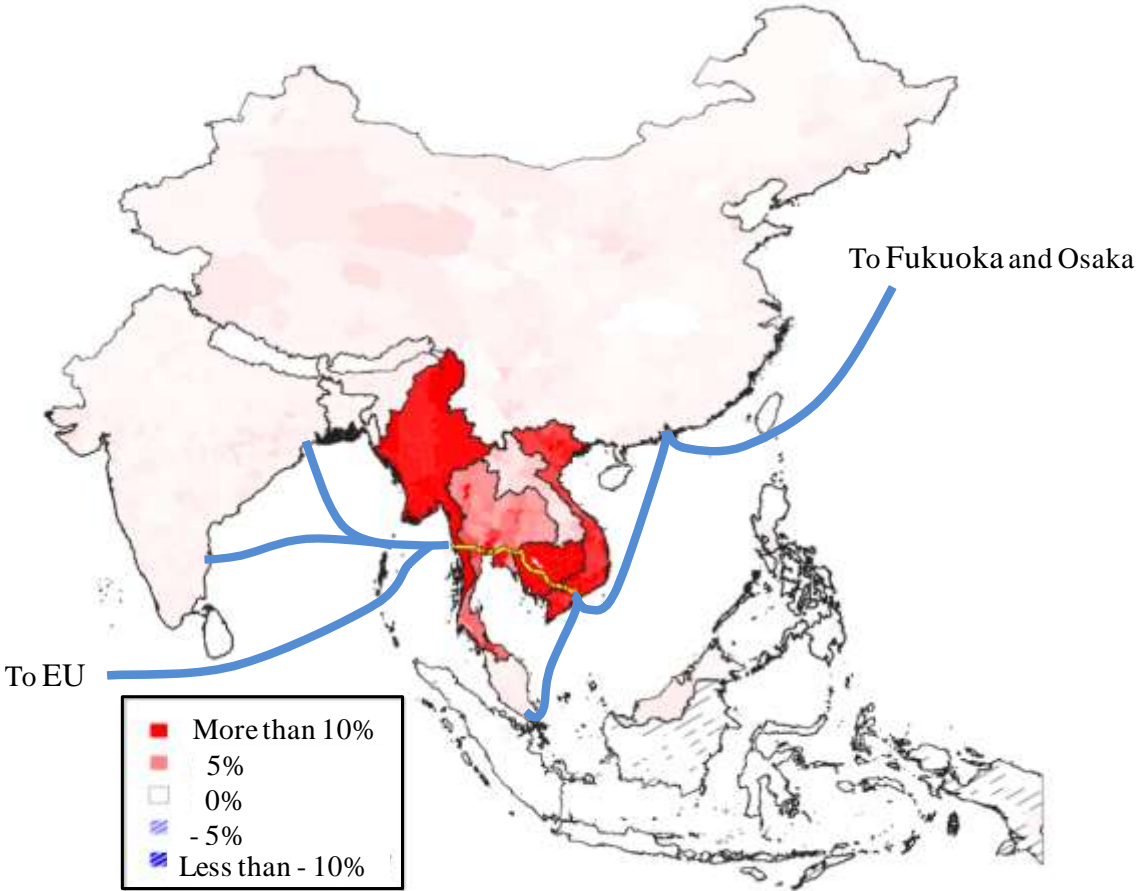
Along with efforts for broader regional economic partnerships, Japan would be able to support the realization of the “Master Plan on ASEAN Connectivity” adopted at the ASEAN Summit Meeting as well as the “Comprehensive Asia Development Plan” proposed by ERIA (Economic Research Institute for ASEAN and East Asia) at the East Asia Summit in 2010, thus helping promote the broader regional infrastructure development and strengthen regional connectivity in both hard and soft aspects. A study made by ERIA after the Great East Japan Earthquake¹⁴⁶ also shows that strengthening of intra-Asian connectivity will bring about the recovery of the Japanese economy. For example, construction of bridges and highways in Asia, infrastructure development of the Mekong-India Economic Corridor (MIEC)¹⁴⁷ including opening of a new port, and strengthening of partnerships between Japan and MIEC-related countries in “soft” aspects such as reinforcement of air and sea routes and reduction of non-tariff barriers will not only bring high economic growth to Asian nations but is also expected to boost Japanese GDP by 4.14%, according to the ERIA study (see Figures 5-2-1-8, 9, 10).

Thus, strengthening links between Japan and Asian countries and reinforcing intra-regional connectivity would bring growth not only for the economies of Asian nations but also for that of Japan as well.

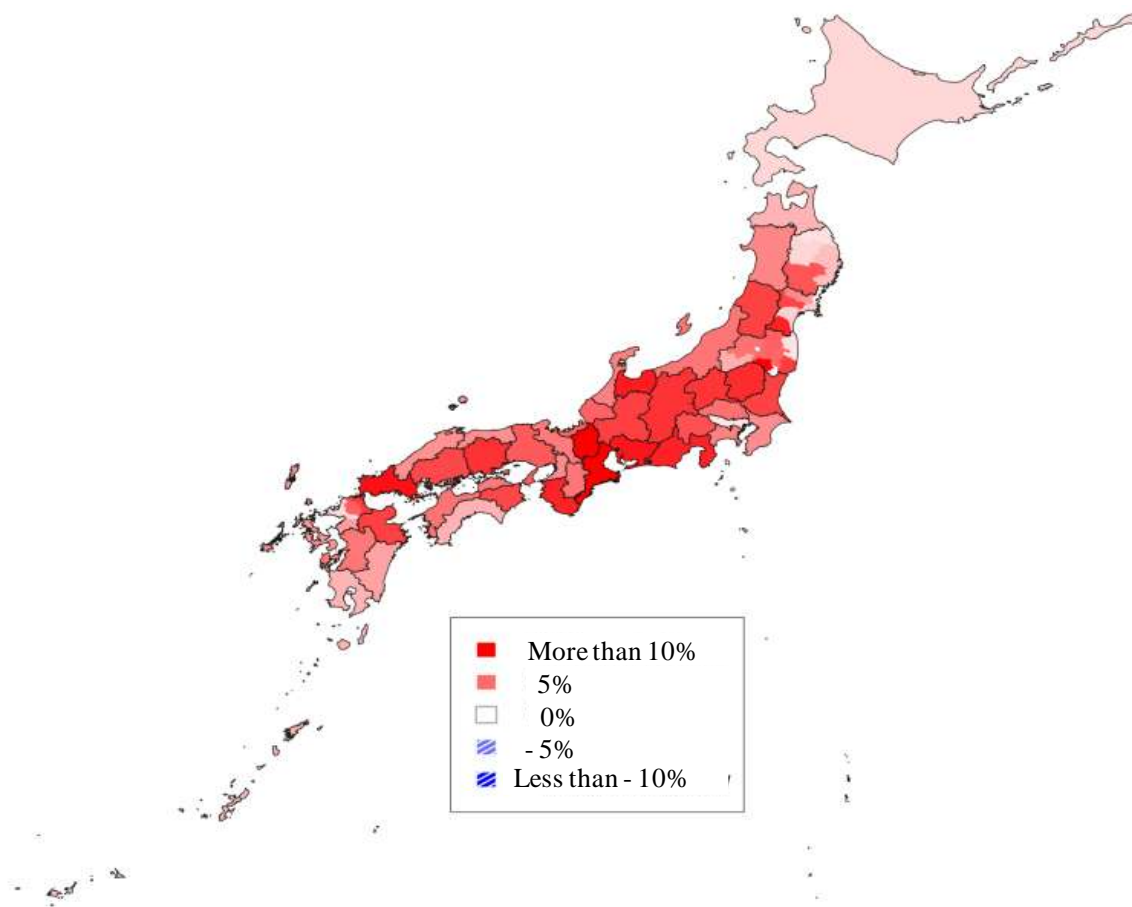
¹⁴⁶ This research uses the Geographical Simulation Model (GSM) to analyze the earthquake disaster’s long-term effects on the economies of Japan and Asian nations, as well as the effects of the measures taken by Japan after the earthquake. GSM is a model utilizing detailed data of Japanese and Asian industries/population based on theories of spatial economics.

¹⁴⁷ Mekong-India Economic Corridor (MIEC) connects Vietnam, Cambodia, Thailand and Myanmar by land route, and link it to India by sea route.

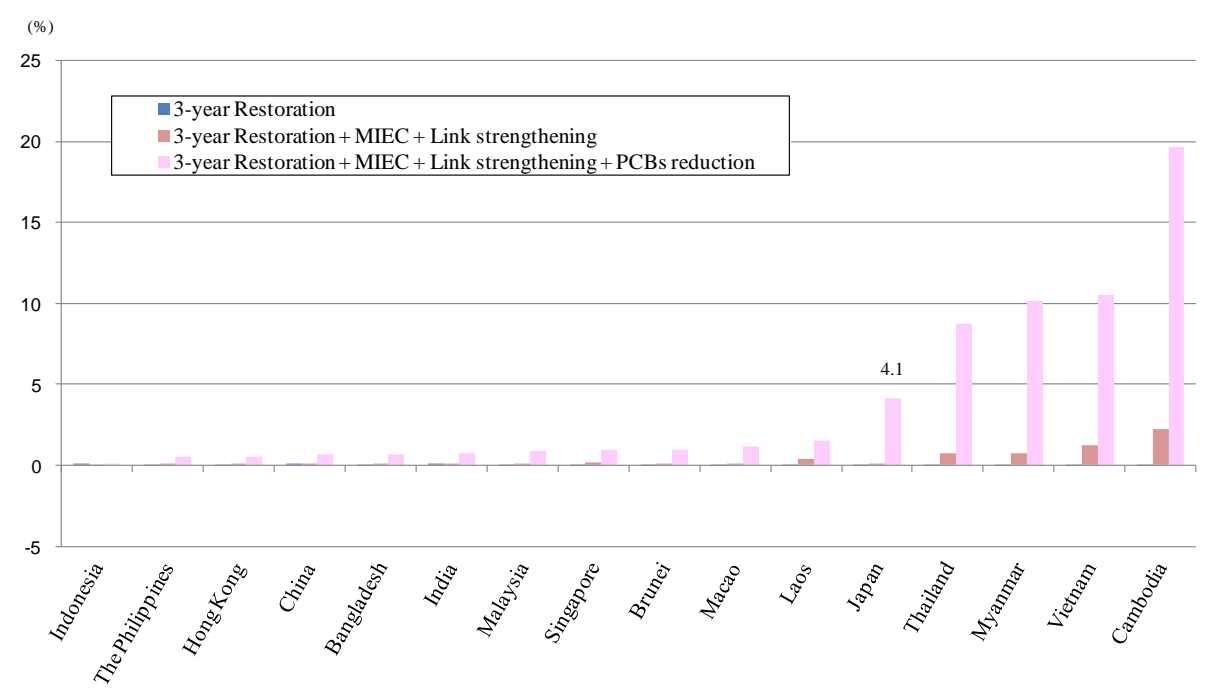
Figures 5-2-1-8 Economic effect to Asia by ERIA simulation (2030, base line ratio)



Figures 5-2-1-9 Economic effect inside Japan by ERIA simulation (according to each prefecture, base line ratio)



Figures 5-2-1-10 Economic effect to each country by ERIA simulation (according to each country, base line ratio)



Note: Simulation by ERIA (GSM Asia-Japan linkage model)
Source: Compiled from ERIA

Column 7 Undertaking of Economic Research Institute for East Asia and ASEAN (ERIA)

ERIA is an international organization intending to promote the economic unification of East Asia, which is constructed by the 16 member countries of the East Asia summit (10 countries of ASEAN, Japan, China, Korea, India, Australia and New Zealand). ERIA is carrying out research to solve common regional problems and to accomplish an affluent society in Asia as a world growth center and results of the research are submitted as recommendations to policy to the leaders and ministers of the countries.

ERIA started its history in August 2006 at the ASEAN Finance Ministers Meeting when the ministers discussed and proposed the framework of an “East Asian edition of the OECD”. After discussion by leaders and ministers at several meetings, the inaugural meeting was held on June 3, 2008 based on the Chairman’s Statement at the 3rd East Asia Summit meeting in November 2007. Surin Pitsuwan, Secretary General of ASEAN and representatives of 16 East Asian countries attended the meeting and formally declared the establishment of ERIA.

ERIA set the three pillars as its main tasks of policy research projects, i.e. “promotion of East Asia economic unification”, “correction of disparities of economic development within the region” and “accomplishing of sustainable growth”. In 2010, ERIA proposed an “Overall Asian Development Plan” to comprehensively integrate the infrastructure development and growth strategy and other several formulas to accomplish the sustainable development in the East Asia region. In addition, as ERIA places ASEAN economic unification aiming at construction of the ASEAN Community by 2015 as the most important task for the research, it conducted the research projects including an “ASEAN

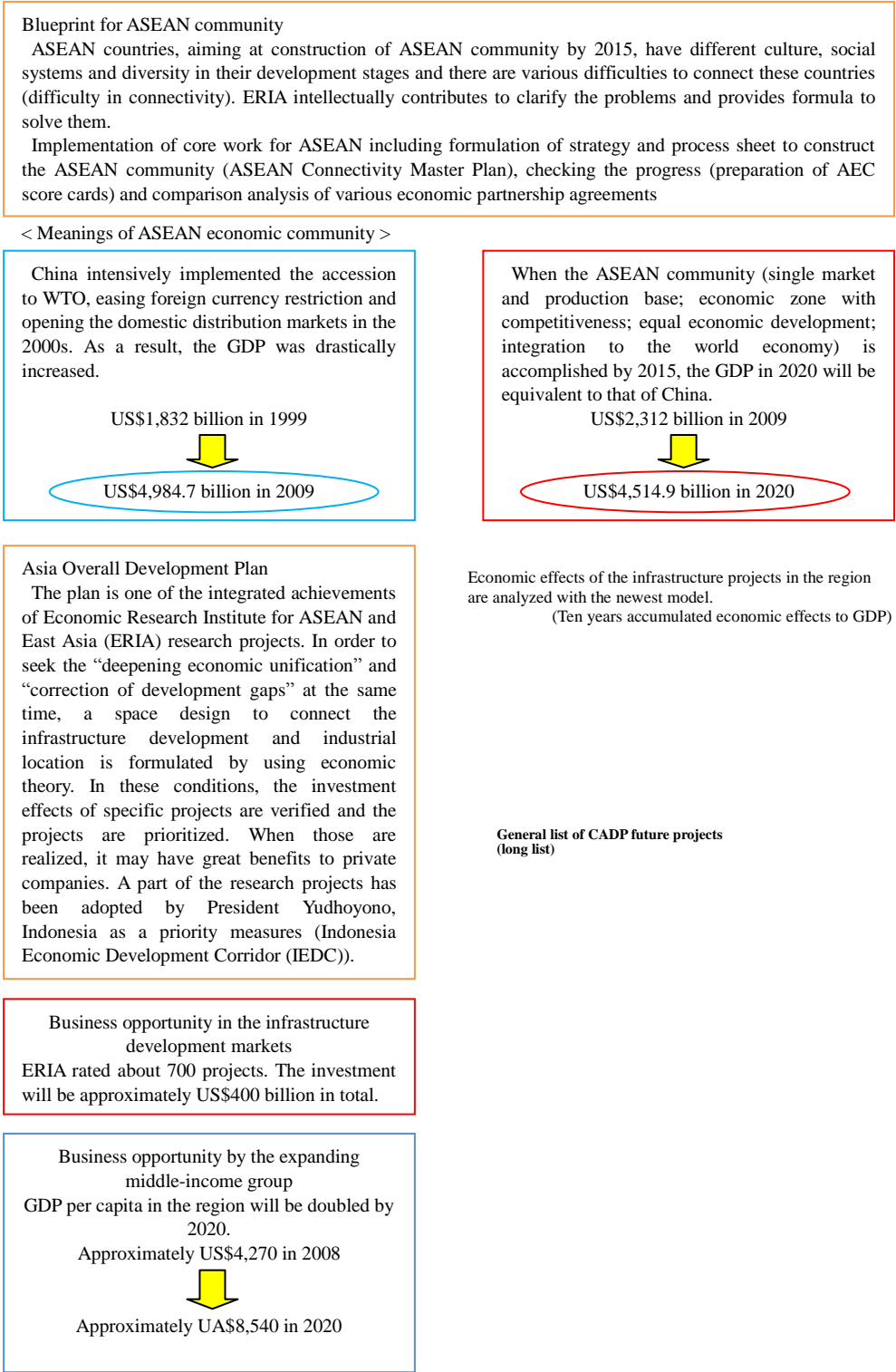
Connectivity Master Plan”, and the “ASEAN Strategic Traffic Plan” and “ASEAN economic community score cards”.

Other ERIA undertakings include capacity building projects to enhance the policy research capacity of developing countries and symposiums and seminar projects to facilitate exchanges of opinion and information among a wide range of industry, academic and government personnel in the region. As one of important symposium projects, ERIA, with the cooperation of Harvard University and the Vietnam Central Institute of Economy and Management, conducted a symposium with the theme of “The Establishment of a Developing ASEAN Society and a Sustainable Social Security System”, which was held in Hanoi on October 26, 2010. About 250 participants, mainly policymakers from East Asian summit member countries, academic experts and business representatives attended the symposium. The symposium confirmed that ASEAN and the Asia region as a whole play an important role to accelerate both global and regional economic growth. For the capacity building project, ERIA continued to conduct the “ERIA/ JENESYS next generation leaders program” as one of “21st Century East Asia Youth Intercommunication Plan (JENESYS programme). The program provides scholarships to students from ASEAN countries who study social and human sciences at designated Japanese universities and graduate schools and it also provides opportunity of internship at ERIA secretariat to those students during their summer holidays.

Moreover, ERIA has been recommending the results of policy research projects to the member countries’ decision-makers including leaders and ministers at the East Asia summit meetings and other opportunities to facilitate the unified policy planning in the East Asian region. For example, ERIA’s contribution to promote connectivity among ASEAN and East Asian countries was highly appreciated by leaders of participated countries at the 5th East Asia Summit Meeting on October 30, 2020. The “Asia Overall Development Plan”, which had been prepared by ERIA under cooperation with the Asian Development Bank and ASEAN Secretariat, was also given high praise. Additionally, the Chairman’s Statement at the 17th ASEAN Summit meeting on October 28 2010 highly praised the ERIA’s contribution to completion of the “Asian Connectivity Master Plan”. ERIA will continue to offer practical recommendations to leaders and ministers of East Asian countries at the East Asia summit and ASEAN summit meetings.

ERIA, as an international research center to recommend specific policies to the East Asian countries’ policy forum such as East Asia Summit, is expected to conduct the implementation of the “Asia Overall Development Plan” and the “ASEAN Connectivity Master Plan” and to offer practical recommendations to policies also in the future under the close relationship with the ASEAN Secretariat, East Asian countries’ governments and cooperation with research bodies both in and outside the region (Column Figure 7-1).

Column Figure 7-1 Performance and results of Economic Research Institute for East Asia and ASEAN (ERIA)



(b) Efforts with regard to major countries and regions outside the Asia Pacific

Foremost among Japan's efforts toward economic partnerships with major countries and regions outside the Asia-Pacific is those related to the EU. The EU is Japan's largest trading partner outside the Asia-Pacific region. The total trade value between Japan and the EU is about 13 trillion yen (2010). The EU is Japan's third largest trading partner in the world, while Japan is the EU's sixth largest trading partner. The total outstanding amount of Japanese investment in the EU is about 16 trillion yen (2009), which makes Japan the third largest investment source for the EU. The outstanding amount of the EU investment in Japan totals 7 trillion yen (2009), and it's the second largest for Japan. Within the EU about 3,300 Japanese companies have been operating, creating more than 400,000 jobs. Further strengthening of our economic relations through the Japan-EU Economic Integration Agreement (EIA) will contribute to both sides' economic growth, and also enhance the possibility of strengthening more comprehensive relations including the political and security fields by deepening our interdependence and mutual trust. There's a growing voice among Japanese businesses seeking the realization of the Japan-EU EIA, as is shown by the Japan Business Federation's move to request an early start of the EIA negotiations, against the backdrop of the concern that they would be put in a disadvantageous position, with the EU-South Korea FTA coming into force in July 2011.

At the regular Japan-EU Summit Meeting held in April 2010, the leaders decided to establish a "Joint High-Level Group" to conduct a "joint examination" of the ways to comprehensively strengthen and integrate the Japan-EU economic relationship. The "Joint High-Level Group" has met five times in total at the vice-ministerial level, discussing issues of interest to both sides including tariffs, non-tariff measures, intellectual property rights and government procurement. The Basic Policy on Comprehensive Economic Partnerships, approved by the Cabinet in November 2010, stipulates that the Japanese government will expedite arrangements to enter into negotiations with the EU at an early date, and that for this purpose, it will accelerate efforts to reform its domestic non-tariff measures. And, in December 2010, the two sides reached an agreement on concrete measures with regard to the technical guideline on the Advanced Safety Vehicle, government procurement websites, wood product standards and medical equipment, which were cited as some specific non-tariff measures. Although there exist some negative opinions toward the Japan-EU EIA on the EU side, especially in its industrial sector, the European Council referred to the possibility of the EIA negotiations in its meeting in March 2011, adopting the conclusions which state that "the forthcoming summit must be used to strengthen this relationship and bring forward our common agenda, including through the potential launch of negotiations for a free trade agreement on the basis that Japan is willing to tackle inter alia the issue of non-tariff barriers and restrictions on public procurement."

Following these moves, the leaders of Japan and the EU agreed at their summit meeting in May 2011 that they would start the process towards EIA negotiations. It was agreed that the two sides would start discussions with a view to defining the scope and level of ambition of negotiations as soon as possible, and that in parallel with this, the European Commission will seek the necessary authorization for the negotiation of the agreements on the basis of a successful scoping.

With regard to the GCC countries, the negotiations were launched in September 2006. This region accounts for more than 70% (2010) of Japanese crude oil imports, while Japanese exports to them total as much as 1.7 trillion yen (2010). Furthermore, there exists a huge demand for large-scale infrastructure development resulting from the population growth, so the governments and private

sectors of individual countries have been aggressively engaged in joint sales offensive there. It is important for Japan to build/maintain friendly relationships with GCC countries with a view to expanding trade/investment and ensuring energy security.

(c) Efforts with regard to other countries and regions

The “Basic Policy” stipulates that “taking into account of the progress in the negotiations on the Doha Development Agenda, efforts for regional integration in the Asia Pacific region, and efforts for the strengthening of economic partnerships with major countries, the Government of Japan will work actively to strengthen economic partnerships, including conclusion of EPAs, with other Asian countries, newly emerging powers, and resource-rich countries, based on a comprehensive assessment from economic as well as diplomatic and strategic viewpoint.”

Thus far, we have discussed the EPAs, which are currently under negotiation, discussion or study, based on the classification of the “Basic Policy”.

In order for us to meet the needs of globally-engaged businesses, it is also important to facilitate the smooth utilization of existing EPAs and improve (renegotiate) them apart from making efforts for new ones.

As of May 2011 the number of EPAs which was signed by Japan and is already in force is 11, (Singapore, Mexico, Malaysia, Chile, Thailand, Indonesia, Philippines, Brunei, ASEAN, Switzerland and Vietnam). And the growing utilization of these EPAs by the corporate sector shows that they have reached a stage of utilization/operation. In order for us to help Japanese companies’ international business activities in the EPAs’ utilization/operation phase, we need to make all the more efforts to acknowledge the importance of EPAs’ “life cycles” and improve their quality; specifically (i) steadily implement the EPAs, (ii) improve the business environment so that the government and private sector can actively utilize EPAs and enjoy tariff merits, and (iii) grasp the actual condition of EPAs in order to understand problems and new needs, and improve them.

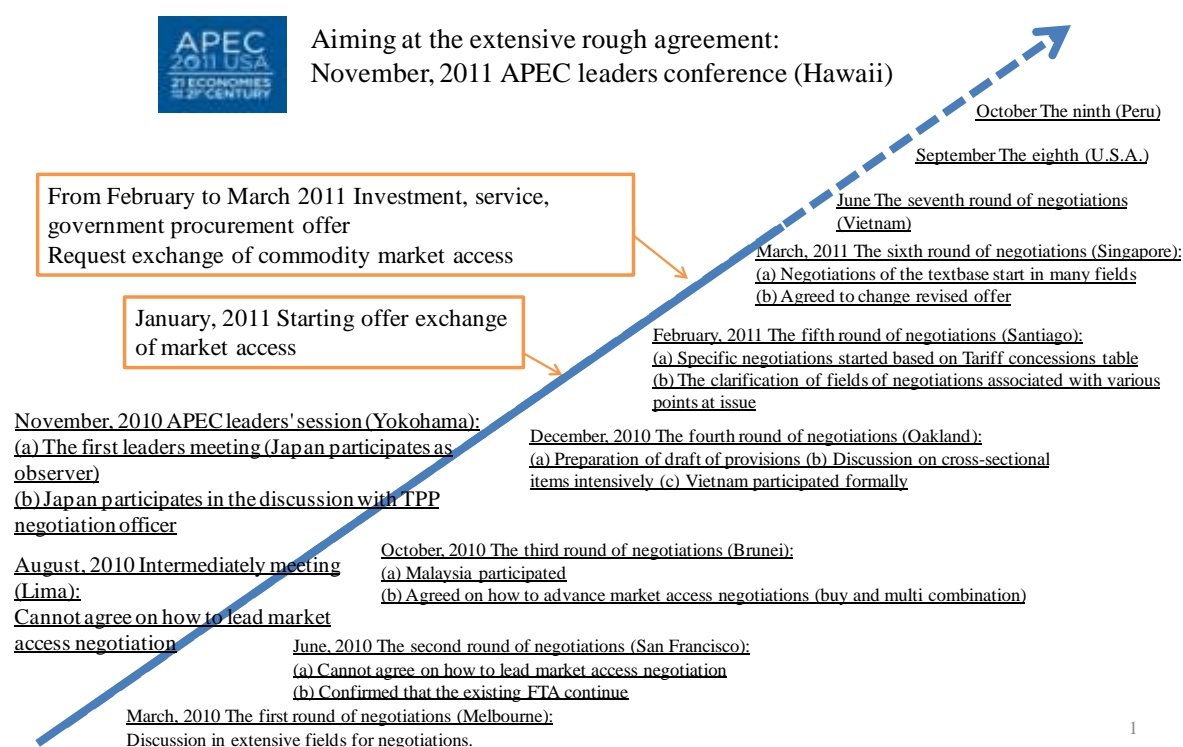
(B) Efforts toward signing the TPP

The TPP negotiations, which currently involve nine countries (Australia, Brunei, Chile, Malaysia, NZ, Peru, Singapore, the U.S., and Vietnam), have been underway, aiming to reach broad outlines of agreement by the November 2011 APEC summit in Honolulu.

The original agreement between the P4 countries of Brunei, Chile, New Zealand and Singapore entered into force in 2006, and then in 2008 the U.S., Australia, and Peru announced that they would begin negotiations with the P4 countries, and joined them. Further, in March 2010, Vietnam joined them, and formal rounds of TPP negotiations started. (In October 2010, Malaysia joined the talks.) So far (as of April 2011), six formal rounds of TPP negotiations have been held, first in March 2010, followed by those in June 2010, October 2010, December 2010, February 2011, and March 2011, making steady progress. The TPP has been open to accession by countries other than original members, and it’s envisaged to be expanded across the whole of the Asia-Pacific region in the future. Among potential pathways leading to the establishment of the Free Trade Area of the Asia-Pacific (FTAAP), the TPP is the only initiative for which the negotiations have been actually launched. At a breakfast meeting for the TPP member nations held on May 19, 2011 on the sidelines of the APEC Trade Ministers’ Meeting, the ministers agreed that they would try to reach the broad outlines of an

agreement on the TPP by the APEC Leaders' Meeting due to be held in November 2011, and that they continue to work bilaterally with interested countries and to consider the membership of any APEC members if and when they are ready to meet the high standards of the TPP¹⁴⁸, promoting substantive negotiations on a request/offer basis with regard to the access to each others' markets for various goods, investment, services, and government procurement, among others (see Figure 5-2-1-11).

Figure 5-2-1-11 Process of TPP Agreement negotiations: progress steadily



Source: Ministry of Economy, Trade and Industry.

Among the areas discussed in the TPP negotiations are: Market access (industrial products, textiles/clothing and agriculture), rules of origin, trade facilitation, SPS (sanitary/phytosanitary measures), TBT (technical barriers to trade), trade remedies (safeguards and others), government procurement, intellectual property, competition policy, services (cross-border flows of services, financial services, telecommunications and the movement of business people), e-commerce, investment, environment, labor, institutional issues, dispute settlement, cooperation, and “cross-cutting issues” that cut across the boundaries of various fields¹⁴⁹. They are trying to craft a comprehensive, high-quality “21st-century” agreement, characterized by maximum tariff elimination and a broader regional membership covering both developed and developing countries, with the aim of making it a

¹⁴⁸ Based on such information as Singaporean government's announcement after the sixth round of TPP negotiations on March 27-April 11, 2011.

¹⁴⁹ Some call them 24 working groups/fields by adding the chief negotiators' meeting to them. But it is not yet determined how to calculate them, and differs depending on the negotiation meetings. There is no guarantee that the agreement's final structure will be as framed here.

building block for making common trade and investment rules for the Asia Pacific as a whole. Meanwhile, the “cross-cutting issues”, which have not been covered in more traditional FTAs/EPAs, deal with regulatory coherence, competitiveness (including the question of supply chain connectivity) and support for small and medium-sized enterprises, among others. Its main feature is to enable discussants to cut across the boundaries of various individual fields such as rules of origin, investment and services, with the aim of establishing a more liberalized environment for trade and investment by eliminating regulatory differences and solving various supply chain-related problems faced by companies which invest and supply goods/services within the Asia-Pacific region.¹⁵⁰

The U.S. and other countries joining the TPP negotiations aim not only to achieve high levels of tariff elimination but also to make new rules to help solve various problems faced by the companies doing business within the Asia Pacific, the growth center of the global economy. For example, while many of the countries participating in the TPP talks are not a party to the WTO Government Procurement Agreement, in order to ensure the fair treatment of signatory countries' companies and their products in the markets of TPP participants the TPP negotiators have been discussing adoption of government procurement rules at the WTO level. With regard to the protection of intellectual property, discussions have been underway to strengthen a framework to prevent the proliferation of counterfeit goods and pirated copyright protected works. And, with a view to facilitating the businesses of globally operating companies, discussions have been underway to establish regional rules covering entire supply chains, including those to simplify customs procedures and improve logistic services. They aim to promote a rulemaking in a manner considerate of small and medium-sized enterprises for whom the burden of trade-related information gathering and customs procedures is heavier than for big companies. In the fields of investment and services, discussions have been underway to enhance the transparency of restrictions on foreign investment and to ease/eliminate the regulations concerning investment and services, with the aim of facilitating companies' overseas operations. With regard to the fields of labor and environment, they are discussing prohibiting member countries to ease labor and environmental regulations for the purpose of trade/investment promotion, as well as the issue of compliance with multilateral rules such as those of the ILO.

The TPP is still under negotiation, so we cannot predict for sure what kind of rules would be finalized. But we can guess that they would make common rules covering a broad region as a whole, which would be unattainable if they are merely piling up bilateral EPAs.

Concerning the TPP, the “Basic Policy” says that “it is necessary to act through gathering further information, and Japan, while moving expeditiously to improve domestic environment, will commence consultations with the TPP member countries.” In December 2010 we started gathering information from each of the nine TPP member countries, and by February 2011 we have heard from all of them. We will continue our efforts for information gathering/analysis with regard to the TPP.

In conclusion

The Guideline on Policy Promotion, adopted after the Great East Japan Earthquake, states that “the timing of a decision on whether to join negotiations for the Trans-Pacific Partnership (TPP) Agreement will be considered from an overall perspective.” It was decided that the Minister-level Meeting on

¹⁵⁰ For details, see the Ministry of Economy, Trade and Industry, Japan, FUKOUSEI BOUEKI HOUKOKUSHO 2011 edition, pp.495-49

FTAAP/EPA would consider how to proceed with the question of comprehensive economic partnerships, including the timing of a decision on the TPP. Amid growing concerns about the hollowing-out of industry following the Great East Japan Earthquake, we need to maintain the basic thinking of the “Basic Policy”, and pursue both reconstruction of East Japan and revitalization of the Japanese economy as a whole in an integrated manner.

2. Improvement of the business environment by investment agreements and the development of international standards

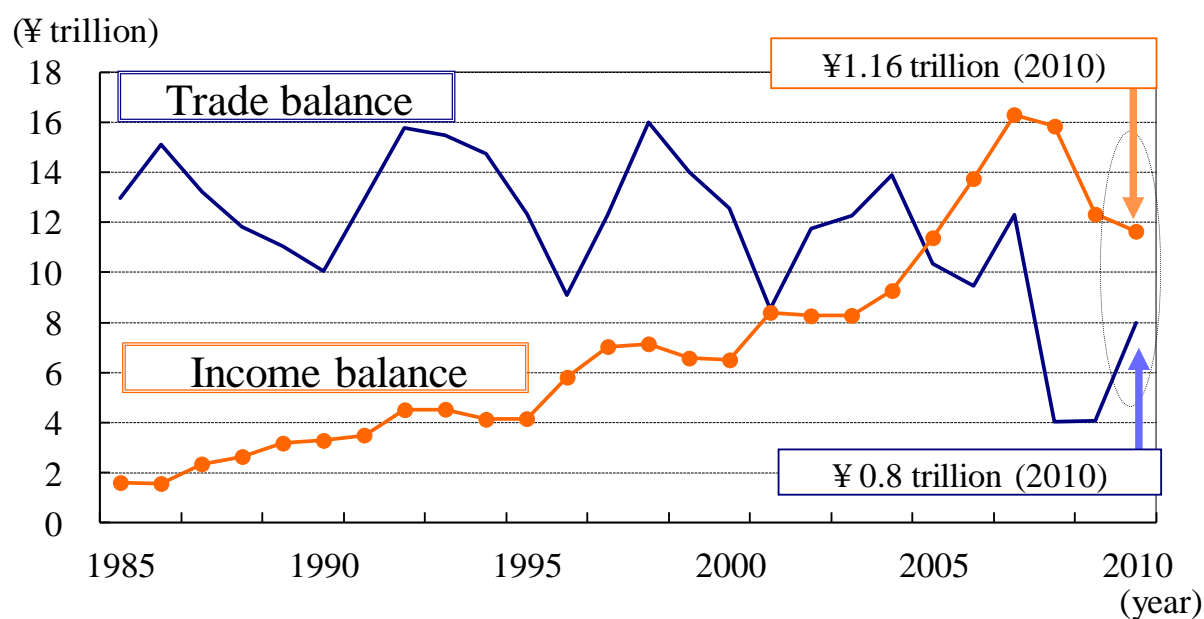
For Japanese companies to operate globally in Asia and other regions, cross-border investment, trade and improved business environment in other countries are important. For the improvement of the business environment it's necessary to tackle various issues, such as the improvement of investment rules, development of industrial infrastructure, simplification/facilitation of administrative procedures and protection of intellectual property rights. Japan's economic EPAs set a framework in which the government and the private sector discuss the issues of business environment in a comprehensive manner. Apart from the EPAs, other types of bilateral agreements and international standardization are also useful in coping with these issues. Among such bilateral arrangements are investment treaties, tax treaties and social security agreements. Here, we take up (1) bilateral investment agreements, (2) tax treaties, and (3) social security agreements, and present an overview of their roles and current situations. We also discuss the importance of improving the business environment for promoting overseas business operations.

(1) Bilateral Investment Agreements

(A) Trends of Japan's direct investment abroad

The world's direct investment abroad expanded rapidly since the 1980s, playing an important role as a driver of the world's economic growth, together with trade. According to the World Investment Report 2010 issued by the United Nations Conference on Trade and Development (UNCTAD), in 1990 foreign direct investment as a percentage of GDP was 8.5% in the value of direct investment abroad and 9.1% in the value of inward direct investment, but in 2009, they grew to 33.3% and 30.7%, respectively. Japan's international balance of payments indicates that Japan has constantly recorded a surplus in balance of trade since the latter half of the 1980s and the volume of overseas investment gradually expanded. In recent years, income receivable generated by such overseas investment has increased, with the surplus in the balance of income reaching about 12.3 trillion yen in 2009. It is much larger than the surplus in the balance of trade which was about 4.0 trillion yen in the same year. The surplus in the balance of income has exceeded that in the balance of trade for the fifth consecutive year (see Figure 5-2-2-1). In 2009, the return on direct investment amounted to 4.2806 trillion yen (preliminary estimate), showing steady performance.

Figure 5-2-2-1 Change of Japan's trade balance and income balance



Source: Compiled from “Balance of Payments Statistics”, MOF / BOJ

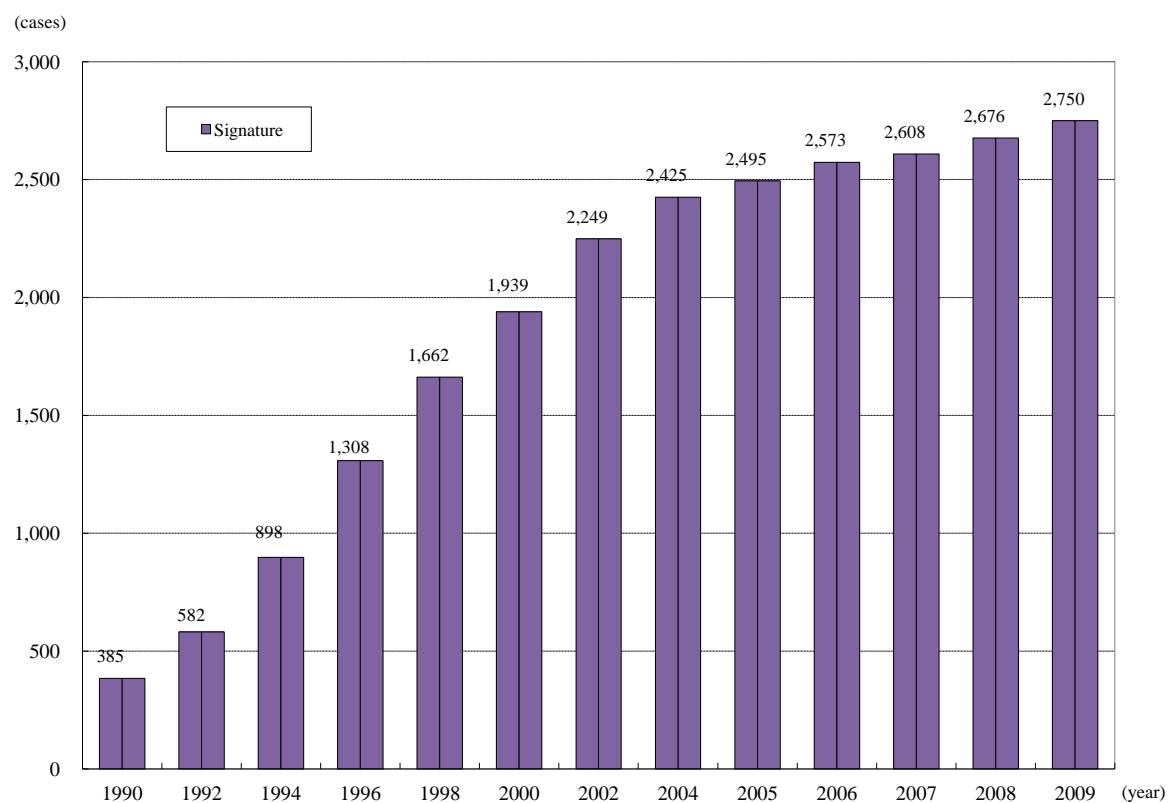
(B) Signing of bilateral investment treaties around the world

In light of the expansion of direct investment abroad, countries have signed bilateral investment treaties in order to protect investors and their invested assets from various risks, such as discriminatory treatment or expropriation (including nationalization) in invested countries.

The number of bilateral investment treaties in the world has increased considerably in recent years, reaching 2,750 as of 2009 (see Figure 5-2-2-2). While countries like Germany China, the UK and France have concluded around 100 bilateral investment treaties, Japan has concluded merely 26 including economic partnership agreements¹⁵¹ (see Table 5-2-2-3).

¹⁵¹ As of May 2011.

Figure 5-2-2-2 Change of the number of bilateral investment agreements in the world



Source: Compiled from "IIA MONITOR No.3 (2009)", UNCTAD

Table 5-2-2-3 Conditions of conclusion of Japan's bilateral investment-related agreements.

Counterparty country (including region) of concluded agreement	Signed	Enacted
Egypt	January 28, 1977	January 14, 1978
Sri Lanka	March 1, 1982	August 7, 1982
China	August 2, 1988	May 14, 1989
Turkey	February 12, 1992	March 12, 1993
Hong Kong	May 15, 1997	June 18, 1997
Pakistan	March 10, 1998	May 29, 2002
Bangladesh	November 10, 1998	August 25, 1999
Russia	November 13, 1998	May 27, 2000
Mongolia	February 15, 2001	March 24, 2002
Singapore (Economic Partnership Agreement)	January 13, 2002	November 30, 2002
South Korea	March 22, 2002	January 1, 2003
Vietnam	November 14, 2003	December 19, 2004
Mexico (Economic Partnership Agreement)	September 14, 2004	September 17, 2005
Malaysia (Economic Partnership Agreement)	December 13, 2005	July 13, 2006
Philippines (Economic Partnership Agreement)	September 9, 2006	December 11, 2008
Chile (Economic Partnership Agreement)	March 27, 2007	September 3, 2007
Thailand (Economic Partnership Agreement)	April 3, 2007	November 1, 2007
Cambodia	June 14, 2007	July 31, 2008
Brunei (Economic Partnership Agreement)	June 18, 2007	July 31, 2008
Indonesia (Economic Partnership Agreement)	August 20, 2007	July 1, 2008
Laos	January 16, 2008	August 3, 2008
Uzbekistan	August 15, 2008	September 24, 2009
Peru	November 21, 2008	December 10, 2009
Vietnam (Economic Partnership Agreement)*1	December 25, 2008	October 1, 2009
Switzerland (Economic Partnership Agreement)	February 19, 2009	September 1, 2009
India (Economic Partnership Agreement)	February 16, 2011	Undecided
Papua New Guinea	April 26, 2011	Undecided
Peru (Economic Partnership Agreement)*2	May 31, 2011	Undecided

Notes

1: Contents of Japan-Vietnam Investment Agreement taken effect on Dec. 19, 2004 is included.

2: Contents of Japan-Peru Investment Agreement taken effect on Dec. 10, 2009 is included.

3: Compiled from the information as of Apr. 2011.

Source: Compiled by METI

Many of the bilateral investment treaties provide for dispute settlement procedures in cases where investors (companies) suffer disadvantages. When there is no bilateral investment treaty equipped with such dispute settlement procedures, it is not easy for an investor to have the legal grounds to appeal to an investment arbitration body about remedying them. According to the UNCTAD, the number of cases of arbitration of investor-state disputes arising from investment treaties (the number of filed arbitrations to the arbitration body) remained at 14 in cumulative total until 1998¹⁵², since the first case¹⁵³ was filed in 1987, but such cases have increased dramatically since the latter half of the

¹⁵² The case of Asian Agricultural Products Limited v. Democratic Socialist Republic of Sri Lanka (ICSID Case No.ARB/87/3)

¹⁵³ UNCTAD (2005) "INVESTOR-STATE DISPUTES ARISING FROM INVESTMENT

1990s¹⁵⁴, adding up to a cumulative total of 390 as of March 2011. On the other hand, the number of Japanese-owned companies using the investment arbitration system is only one, which had been filed by an overseas subsidiary¹⁵⁵.

(C) Bilateral investment treaties as a tool to promote protection/facilitation of investment

Bilateral investment treaties have long been concluded with the aim of protecting investors from such risks as expropriation of invested assets and arbitrary interpretation of laws by the host countries. These are called “investment protection treaties”, and their main features are national treatment/most-favored nation treatment, requirements for expropriation/formula of compensation, free transfer of money, dispute settlement procedures between contracting countries, and dispute settlement between investors and host countries. In addition to such framework to protect invested assets, the 1990s saw an emergence of a new type of bilateral investment treaty (investment protection/liberalization treaty) that provides for national treatment/MFN treatment at the time of the investment approval, ban on performance requirements¹⁵⁶, prohibition of tightening restrictions on foreign investment, the obligation of progressive liberalization, and the guarantee of transparency (disclosure of laws and regulations, obligation to reply to questions from a partner country, etc.) (see Table 5-2-2-4)¹⁵⁷.

TREATIES:A REVIEW”

¹⁵⁴ It is believed that it was the 1996 “Ethyl incident” which aroused broad interest in investment arbitration. (It was the case in which the U.S. Ethyl Corporation filed a suit against a Canadian environmental and public health measure, arguing that it’s considered expropriation of its assets under the rules of NAFTA, and Canada paid compensation to settle the case.)

¹⁵⁵ This was a case over an action taken by the Czech government against a Czech bank acquired by a London subsidiary of a Japanese securities company through a “paper company” in the Netherlands in 1998. The case was filed with the United Nations Commission on International Trade Law (UNCITRAL) under the bilateral investment agreement between the Czech Republic and the Netherlands.

¹⁵⁶ Specific requirements imposed as a condition for allowing investment, such as satisfying certain local content ratios and exporting certain ratios of goods manufactured.

¹⁵⁷ Among the major ones are the Investment chapter of the NAFTA. The Investment chapters of Japan’s bilateral EPAs as well as Japan’s bilateral investment agreements with S. Korea, Vietnam, Cambodia, Laos, Uzbekistan and Peru are also of this type.

Table 5-2-2-4 Merit of conclusion of investment agreement

1. Protection of the investment asset & fair services for investors
(1) Business licenses once issued aren't canceled later.
(2) Business assets are neither expropriated nor nationalized.
(3) Business termination due to strengthened regulation ("indirect expropriation") is prevented
(4) Investment contracts that concession contract concluded with the counterpart government are observed (umbrella clause).
(5) Freedom of remittance to Japan is secured.
2. Between firms (foreign firms) excluding local capitals, discriminatory treatment is banned. (Most favored nation treatment (MFN))
3. Between local capital firms, discriminatory treatment is banned. (National Treatment (NT))
4. Duty to offer investors and investment assets fair and equitable treatment. (FET: Fair and Equitable Treatment)
5. Depending on agreement, following investment approval conditions are prohibited. (Prohibition of performance requirement (PR))
(1) Requirement to export goods and services at a certain ratio and level.
(2) Requirement to achieve local procurement at a certain ratio and level.
(3) Requirement to purchase, use of prioritized local goods and services.
(4) Requirement to connect the amount and value of imports with the amount and value of exports, or acquiring of foreign currency.
(5) Requirement to connect the amount and value of domestic sales of produced goods and services with the amount and value of exports, or acquiring of foreign currency.
(6) Requirement to restrict exports or sales for exports.
(7) Requirement of a certain nationality for board members, managers and so on.
(8) Requirement of technology transfer to local capital partners.
(9) Requirement to place headquarters of a certain region.
(10) Requirement to employ a certain ratio or certain number of local persons.
(11) Requirement to inject R&D budget at certain level.
(12) Requirement to supply products exclusively at certain region. (Not to establish other supply bases in other countries)

Notes: When the counterpart country violates these obligations, investors can appeal for international arbitration against the state.

Source: Compiled by METI

(D) Approaches to bilateral investment treaties

If any country in which a Japanese company is operating or plans to operate is relatively closed to foreign capital, or has an insufficient legal framework (laws are often changed or transparency is poor, etc.), it is necessary to conclude an investment treaty with such a country. At the same time, the human resources the government can use for negotiating bilateral investment treaties are limited. Therefore, when concluding a bilateral investment treaty, it is necessary to prioritize partner countries/regions with the main aim of meeting the real needs, and proceed with negotiations with speed and flexibility.

Possible candidates as contracting partners of bilateral investment treaties are the countries that satisfy the following conditions, apart from their investment environment being considered insecure: first, countries possessing or likely to receive a certain level of Japanese investment stock; second, resource-rich countries such as those in the Middle East and former Soviet Union; and finally, those who could serve as Japanese companies' regional headquarters for their operations in South America, Africa, etc. Another important factor to consider is whether or not the country has a positive attitude

toward concluding such treaty.

And from the perspective of protecting/promoting investment, it is also important to utilize policy support tools, such as JETRO, NEXI, JICA, and JBIC, in addition to promoting the negotiations for investment treaties¹⁵⁸. The Council for the External Investment Strategy, established in November 2008 with the involvement of these organizations and the private sector, has held three plenary meetings and seven liaison meetings so far, discussing the candidates for negotiating new investment treaties as well as the effective utilization of related tools.

(2) Tax treaties

(A) Role tax treaties and an overview of the current situation

Tax treaties are designed to clarify relations of two countries in regards to taxation on investment and economic activities in order to deal with the issue of international dual taxation. Furthermore, the conclusion of a treaty establishes a cooperative legal framework between the tax authorities of two contracting states for mutual consultations and exchanges of information on taxpayers, thus helping solve conflicts on taxation and prevent tax evasion. Treaties such as these are expected to ensure the legal stability of taxation on corporations and to further promote investment and economic exchanges.

Japan has concluded 48 tax treaties thus far, which are applied to 59 countries/regions (see Table 5-2-2-5).

¹⁵⁸ “On the Improvement of Japan's Global Investment Environment - Toward the Creation of a Legal Framework for Japanese Foreign Investment” by Nippon Keidanren dated April 15, 2008 and the “Petition for the Acceleration of the Conclusion of Investment Agreements” by the Japan Foreign Trade Council, Inc. dated March 19, 2008 call for an early improvement of the situation with regard to investment treaties. Upon such strong call from the business community, the Japanese government decided on the “strategic utilization of bilateral investment treaties” in 2008, and the “New Growth Strategy: Blueprint for Revitalizing Japan”, announced in 2010, also discusses the need to promote signing of investment treaties. The Nippon Keidanren’s “Proposals for Japan's Trade Strategy”, dated April 19, 2011, also requests for the improvement of the situation with regard to investment treaties.

Table 5-2-2-5 List of counterpart countries and regions of conclusion of tax convention for Japan

List of countries/regions with which Japan has concluded tax treaties (48 treaties applied to 59 countries/As of April 2011)			
(East, Southeast Asia)	(Middle East)	(Eastern Europe, Central Asia)	(Europe)
Indonesia	Israel	Azerbaijan	Ireland
South Korea	Egypt	Moldova	U.K.
Malaysia	Turkey	Ukraine	Italy
Singapore		Kyrgyzstan	Austria
Thailand		Georgia	Finland
China	(Africa)	Tajikistan	The Netherlands
The Philippines	Zambia	Turkmenistan	Switzerland
Vietnam	South Africa	Belarus	Sweden
Brunei	(North America)	Uzbekistan	Luxembourg
	U.S.A.	Kazakhstan	Spain
<South Asia>	Canada	Russia	Denmark
India		Armenia	Germany
Sri Lanka	(Central and South America/Caribbean region)	Slovakia	Norway
Pakistan		Czech	France
Bangladesh	Brazil	Hungary	Belgium
	Mexico	Bulgaria	(Oceania)
	Bermuda	Poland	Australia
		Romania	New Zealand
			Fiji

Source: Compiled from HP of MOF

(B) Recent conclusion/revision of tax treaties and tasks ahead

In recent years, Japan has signed tax treaties with the resource-rich countries of the Middle East and other regions one after another, while revising those with developed countries. And, the new Japan-Netherlands tax treaty, signed in August 2010, includes an arbitration clause, the first of its kind for Japan. Also in September 2010, the tax authorities of the two countries agreed on an implementing arrangement regarding the arbitration procedure. Furthermore, the Japan-Hong Kong tax treaty, signed in November of the same year, also includes an arbitration provision. The arbitration system is designed to facilitate and improve the effectiveness of tax authorities' mutual consultations. Introduction of arbitration systems is expected to help alleviate the issue of prolonged consultations and ensure that double taxation does not occur. It is an effective tool to mitigate the risks facing taxpayers, so it is necessary to promote the introduction of arbitration systems for our tax treaties from now on.

There is a growing voice from the business community with regard to the tax matters related to emerging countries such as those in Latin America and Asia. Among the major tasks ahead are reduction in the source-country taxation of investment income (dividends, interest, royalties), improvement with regard to provisions related to the transfer pricing taxation, and introduction of arbitration systems. In general, emerging nations tend to be hesitant about measures such as reducing the source-country taxation of investment income, because of their desire to secure as much tax revenue as possible. It's important for us to talk to them effectively so that they would agree to start

negotiations for revising the bilateral tax treaties (see Table 5-2-2-6).

Table 5-2-2-6 Process and present conditions after U.S.-Japan tax convention

(As of Apr. 2011)		
◇ Signed		
Nov. 2003	U.S.-Japan Tax Convention	(Taken effect in 2004)
Feb. 2006	Japan-UK Tax Convention	(Taken effect in 2006)
Feb. 2006	Japan-India Tax Convention	(Taken effect in 2006)
Dec. 2006	Japan-Philippines Tax Convention	(Taken effect in 2008)
Jan. 2007	Japan-France Tax Convention	(Taken effect in 2007)
Jan. 2008	Japan-Pakistan Tax Convention	(Taken effect in 2008)
Jan. 2008	Japan-Australia Tax Convention	(Taken effect in 2008)
Dec. 2008	Japan-Kazakhstan Tax Convention	(Taken effect in 2009)
Jan. 2009	Japan-Brunei Tax Agreement	(Taken effect in 2009)
Jan. 2010	Japan-Luxembourg Tax Convention	(Yet taken effect)
Jan. 2010	Japan-Belgium Tax Convention	(Yet taken effect)
Feb. 2010	Japan-Bermuda Tax Agreement	(Taken effect in 2010)
Feb. 2010	Japan-Singapore Tax Agreement	(Taken effect in 2010)
Feb. 2010	Japan-Malaysia Tax Convention	(Taken effect in 2010)
Feb. 2010	Japan-Kuwait Tax Convention	(Yet taken effect)
Nov. 2010	Japan-Saudi Arabia Tax Convention	(Yet taken effect)
Nov. 2010	Japan-Hong Kong Tax Agreement	(Yet taken effect)
Aug. 2010	Japan-Netherlands Tax Convention	(Yet taken effect)
May. 2010	Japan-Switzerland Tax Convention	(Yet taken effect)
Jan. 2011	Japan-Bahamas Tax Agreement	(Yet taken effect)
Feb. 2011	Japan-Cayman Tax Agreement	(Yet taken effect)
◇ Basic agreement		
Mar. 2011	Japan-Mann Tax Agreement	[New]
Jan. 2011	Japan-Guernsey Tax Agreement	[New]
Mar. 2011	Japan-Jersey Tax Agreement	
◇ Country now under formal negotiation		
	The United Arab Emirates	[New]

Source: Compiled from HP of MOF

(3) Social Security Agreement

(A) Its roles and the status of agreements

Amid the expansion of Japanese companies' overseas operations and increasingly active international exchanges of people, there have arisen some cases in which Japanese nationals overseas and foreign expatriates in Japan may face the question of (1) dual coverage by and payment for their social security such as public pension systems, and (2) not being able to receive social security benefits

because the period of contribution is not long enough. Social security agreements are designed to help avoid such problems. And also, by relieving companies of the burden of duplicate pension premium payments, these agreements are expected to enhance the competitiveness of Japanese corporations, while contributing to the promotion of inward FDI by foreign companies as well.

With a view to solving the questions of dual payment and lapsed contributions, the social security agreements, signed by Japan so far, provide for the following, among other things.

(a) Application adjustment

Those temporarily dispatched employees for a period of five years or less shall in principle enroll only in the social security system of the country from which the employee is dispatched. If he /she is dispatched for more than 5 years, then he/she is covered by the other country's social security system exclusively.

(b) Totalization of coverage periods

When a person is enrolled in social security systems of two countries which have social security agreement with each other, his/her enrollment periods of both countries can be totalized. And, if the totalized period exceeds a certain enrollment period necessary for the qualification to receive social security benefits, then the person can receive the pension in accordance with the enrollment record.

And, because the social security system is different from country to country, the specifics of the social security agreements are also different from each other. When a company dispatches its employee to some foreign country, they need to examine the bilateral agreement as well as the country's domestic rules closely.

Japan's first social security agreement, with Germany, went into effect in 2000. As of June 2011, agreements with 12 countries are in effect, and in addition, those with three countries have been signed. Currently, we have been engaged in intergovernmental negotiations as well as preliminary talks with several countries (see Table 3-2-3-23). Meanwhile, the domestic legal infrastructure was improved in 2007, facilitating the implementation of the social security agreements within Japan.¹⁵⁹

When selecting/prioritizing potential partners for negotiating social security agreement, the Japanese government has considered following points in a comprehensive manner: 1. the general level of social insurance premiums for the social security system of the country; 2. the burdens shouldered by Japanese residents and companies in the country with regard to the payment of social insurance premiums; 3. requests from the Japanese business community; 4 bilateral relations; and 5. differences in the social security systems between Japan and the country. Thus, many of the partners in our social security agreements have been developed Western countries with mature social security systems where the amounts of duplicate social insurance contributions were substantial. On the other hand, against the background of the expanding economic relations between Japan and emerging nations, we are also promoting social security agreements with them. For example, the agreement with Brazil was signed in July 2010. And we have been discussing eventual conclusion of social security agreements with India and China as well (see Table 5-2-2-7).

¹⁵⁹ Legislation of the Act on Special Provisions for the Employees' Pension Insurance Act, etc. Incidental to Enforcement of International Social Security Agreements. This establishment of a blanket provision, in place of special implementation provisions enacted with each country-specific agreement, has made it easier to conduct negotiations with multiple countries at the same time. See "SEISAKU REPORT: SHAKAI HOSHOU KYOUTEI NO TEIKETSU O SUSUMETE IMASU" (Ministry of Health, Labour and Welfare) at <http://www.mhlw.go.jp/seisaku/10.html>.

Table 5-2-2-7 Japanese conditions of social security agreement

Agreement that already took effect				
Counterparty	Date effective	Social security system with the risk of double payment		Calculation of total period of insurance
		Japan	Counterparty county	
Germany	2000/2/1	• Public pension system	• Public pension system	Yes
United Kingdom	2001/2/1		• Public employment insurance system	No
South Korea	2005/4/1	• Public pension system	• Public pension system	No
United States	2005/10/1	• Public pension system • Public medical insurance system	• Social Security system (Public Pension system) • Public health insurance system (Medicare)	Yes
Belgium	2007/1/1		• Public pension system • Public health care system • Public labor insurance system • Public employment insurance	Yes
France	2007/6/1		• Public pension system • Public medical insurance system • Public labor insurance system	Yes
Canada	2008/3/1	• Public pension system	• Public pension system (Except Quebec pension system)	Yes
Australia	2009/1/1		• Retirement pension security system	Yes
Netherlands	2009/3/1	• Public pension system • Public medical insurance	• Public pension system • Public medical insurance system	Yes
Czech Republic	2009/6/1		• Employment insurance system	Yes
Spain	2010/12/1	• Public pension system	• Public pension system	Yes
Ireland	2010/12/1	• Public pension system	• Public pension system	Yes
Agreement that already took effect				
Counterparty (Date signed) Italy (Feb. 2009), Brazil (July,2010), Switzerland (Oct. 2010)				
Under bilateral negotiation				
Counterparty (Date initiated) Hungary (Nov, 2009), Luxemburg (May, 2010)				
Preliminary negotiation between relevant authority etc.				
Counterparty (Date initiated) Sweden (March, 2008), Philippines (Aug, 2009), Slovakia (Sept, 2010), Austria (Oct. 2010), India (Jan. 2011), China (May, 2011)*				

Notes: Inter-governmental opinion exchange meeting was held

Source: Ministry of Health, Labour and Welfare Website as in June 1, 2011

3. World Trade Organization (WTO) as a multidirectional free trade system. -- 3 roles and problems from now on --

Since the global economic crisis ignited by the Lehman shock occurred in Sept. 2008, political pressure for introduction of protectionist measures that seemed to be aimed at supporting domestic industry and securing employment rose in each country¹⁶⁰. When there was the country that adopted protectionism due to such domestic pressure, it was concerned that that could invite a chain reaction of retaliations by other countries, protectionism spread over the whole world, and adversely affect global trade and economy. Being affected by the economic recession, global trade declined by 12.2% in 2009.

However, according to the report of World Trade Organization (WTO) on Apr. 7, 2011, the global trade increased by 14.5% in 2010, and be forecasted to increase by 6.5% in 2011. In addition, the Trade Policy Review in each state by WTO in several times pointed out that each country resisted protectionism pressure (refer to “(1) surveillance of trade policy in each state”).

This shows that the WTO as a multidirectional free trade system restrains protectionism, and works to maintain free trade system effectively. Member countries must maintain and strengthen that in the future.

It can be thought that there are roughly three roles the WTO takes to contribute to international trade – (i) Monitoring the trade policy in each country, (ii) The Doha Round negotiations for further trade liberalization, (iii) Execution of the current rules. We are going to survey the three roles as follows.

(1) Monitoring the trade policy in each country

To begin with, the multidirectional free trade system was elaborated as a plan as a breakwater for protectionism due to the reflection that protectionism spread in the 1930s, and each country adopted a block economy which contributed to the cause World War II¹⁶¹. Therefore one of the important roles that the WTO takes now is monitoring the trade policy in each country.

In response to the request by leaders in the G20 London summit on Apr. 2, 2009, the WTO continues the monitoring of trade policy in each country and the quarterly report that started at the end of 2008¹⁶². Following the report dated Jan. 26, 2009 (the working document shared only by member countries) and the report dated Apr. 20 (the document shared by member countries on Mar. 26 that was publicly released after the London Summit with approval from WTO member countries), the third report was released on Jul. 15. In addition, the three institutions of the WTO, OECD and UNCTAD jointly reported the trade and investment measures in each G20 member country on Sept. 14th.

In the G20 Pittsburgh Summit held Sept. 24-25 the G20 leaders reconfirmed the promise of not to fall into protectionism committed in Washington and London, and welcomed the above mentioned report by the the institutions released on Sept. 14, and called for its continuous report quarterly.

After that, WTO Director-General issued the yearly report that summarized the trends regarding the international trade environment for one year from Oct. 2008 to Oct. 2009 on Nov. 18 afterwards. The yearly report summarized about trade restrictions and trade promotion measures (such as tariff reduction and abolition of trade bailout measures), and economic stimulating and bailout measures for financial institutions that each WTO member country and observer country introduced.

¹⁶⁰ Refer to Section 3, Chapter 2 in 2009 White Paper on International Economy and Trade.

¹⁶¹ Refer to Section 3, Chapter 2 in 2009 White Paper on International Economy and Trade.

¹⁶² WTO established "Task force" to consider influence of financial crisis in the Director-General Secretariat on Oct. 14th, 2008 in order to monitor and report the trade policy in each country as a part of the countermeasures to the economic crisis.

In the 7th WTO regular ministerial meeting held right after the release of the yearly report, the monitoring activity in trade measures in each country by WTO got an generally high evaluation from the attending ministers, and its importance was confirmed in the chairman's summary statement, saying "active arguments were carried out about a functional enhancement of WTO, and there are many indications that monitoring and analysis are important for protectionism prevention".

In 2010, the three institutions of the WTO, OECD and UNCTAD jointly reported about trade and investment measures in each G20 country three times of Nov. 4, Jun. 14 and Mar. 8. In addition, the WTO Director-General issued the yearly report¹⁶³ which summarized trends regarding the international trade environment during a period from Nov. 2009 to mid. of Oct. 2010, then in response to that, he confirmed the importance of monitoring activities with attendance of TPRB member countries on Nov. 18.

In addition, in the G20 Seoul summit held from Nov. 11th to 12th in the year, G20 leaders required continuous monitoring of the conditions and semiannual public reports for the WTO, OECD and UNCTAD¹⁶⁴. In addition, in the APEC ministerial meeting held from Nov. 10, 2010 to 11st, in the "Statement on the WTO Doha Development Agenda Negotiations and Resisting Protectionism"¹⁶⁵, it was shown to support the monitoring activities of the international organizations concerned continuously, including the WTO, and to cooperate with these entities.

(2) The Doha Round negotiations (promotion of multidirectional negotiations)

(A) Hitherto development of GATT/WTO

Contracting countries of the GATT established in 1948 executed multidirectional negotiations eight times in the past, and have intended to restrict protectionism and develop free and fair trade rules. Following the several rounds of negotiations¹⁶⁶, duty reduction was gradually realized, and the trade-related rules except duty were also prepared, and the GATT was progressively reorganized to form the WTO (World Trade Organization) after the realization of the Uruguay Round agreement in 1993.

The WTO newly covers to expand the range of rules, service trade and side aspects of trading of intellectual property rights, adding to reduction of duty and non-tariff barriers concerning trade of goods through round negotiations, and reinforcement and improvement of commerce rules to raise possibility of anticipation that the GATT took charges conventionally. In addition, confrontation settlement function is also strengthened radically in that the objective-range is expanded and practicality also improved over the GATT.

In addition, after establishment of the WTO, member countries and regions have expanded too. There were 76 member countries and regions in 1995 when the WTO was established compared with 153 countries and regions as of Apr. 2011 (China in 2001, Taiwan in 2002, Cambodia in 2004, Saudi Arabia in 2005, Vietnam in 2007 and Ukraine and Cape Verde in 2008 entered WTO respectively). Furthermore, around 30 countries including Russia have applied to become member countries. The

¹⁶³ Refer to 5. [1] in Section 3, Chapter 1 in 2009 White Paper on International Economy and Trade.

¹⁶⁴ Refer to G20 Seoul Summit document.

¹⁶⁵ Refer to the "Statement on the WTO Doha Development Agenda Negotiations and Resisting Protectionism".

¹⁶⁶ After the 5th negotiations started in 1960 (Dillon Round), the multidirectional negotiations are called "** round".

number of member countries is expected to increase more and more, and it can be thought that it can support the base of the world free trade system continuously in the future.

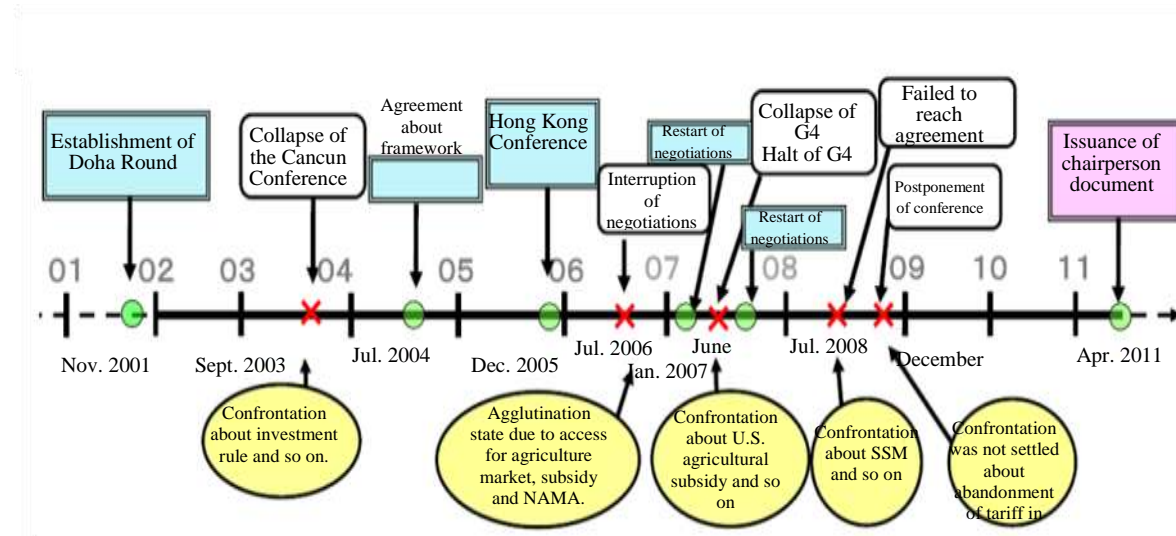
(B) Features and process of Doha Round negotiations¹⁶⁷

The Doha development agenda (“Doha Round” from now on) declared its establishment in the 4th WTO regular ministerial meeting held in Doha, Qatar in 2001. Its features are that it covers, not only the liberalization of trade of goods, a wide range of sectors that correspond to requirements in the new period in that globalization and introduction of IT are progressed, including trade rules such as service trade and anti-dumping and so on, and environment and developing countries issues. For Japan, the promotion of this round has meant – (i) ensuring duty rates in other developed countries and major developing countries are lowered, (ii) making is easier for Japanese service industry to enter overseas markets, (iii) raising the possibility of anticipation via strengthening of commerce rules, and prevent commerce-related confrontations preemptively, (iv) igniting promotion of domestic structural reforms in member countries and regions -- and so on.

The Doha Round negotiations is a complex and tough matter that aims to reach agreement among 153 countries and regions which have differences in economic development stages, benefits and interests. When it comes to the previous Uruguay Round, the agreement was reached, taking eight years, fluctuating repeatedly, by tenacious negotiations by the entities concerned. When it comes to the Doha Round, the negotiations have been delayed due to confrontation between developed countries and newly emerging countries after breakdown of the ministerial meeting in Jul. 2008, and 2011 is said to be a critical year for the negotiations because politically important judgments are thought to become tough as the U.S. presidential election is to be held in 2012. Following the concentrated argument in Geneva, the chairperson document, which reflects the progress of negotiation in all the negotiation fields, was issued on Apr. 21, 2011. Although it was the first time, and a necessary step for the sake of an agreement of the negotiations that well-organized documents in all fields were prepared, the contents reflect the severe conditions of the Doha Round negotiations. In the tenth year of the establishment of the Round, the Doha Round is in a crucial situation (Figure 5-2-3-1, Figure 5-2-3-2). As maintenance and strengthening of a multidirectional free trade system by the WTO is important continuously for Japan, we are going to act positively aiming to an agreement of the Doha Round. At present, negotiations are carried out in various fields such as NAMA and rule in the Doha Round (Table 5-2-3-3).

¹⁶⁷ When it comes to detailed process of the negotiation, please refer to the 1st section of material edition “[Moves of Doha Development Agenda](#)” in the “[2011 Report about Unfair Trade: WTO Agreement and Economic Cooperation Agreement, Trade policies of major countries from a viewpoint of Investment Agreement](#)”.

Figure 5-2-3-1 Process of Doha Round negotiations



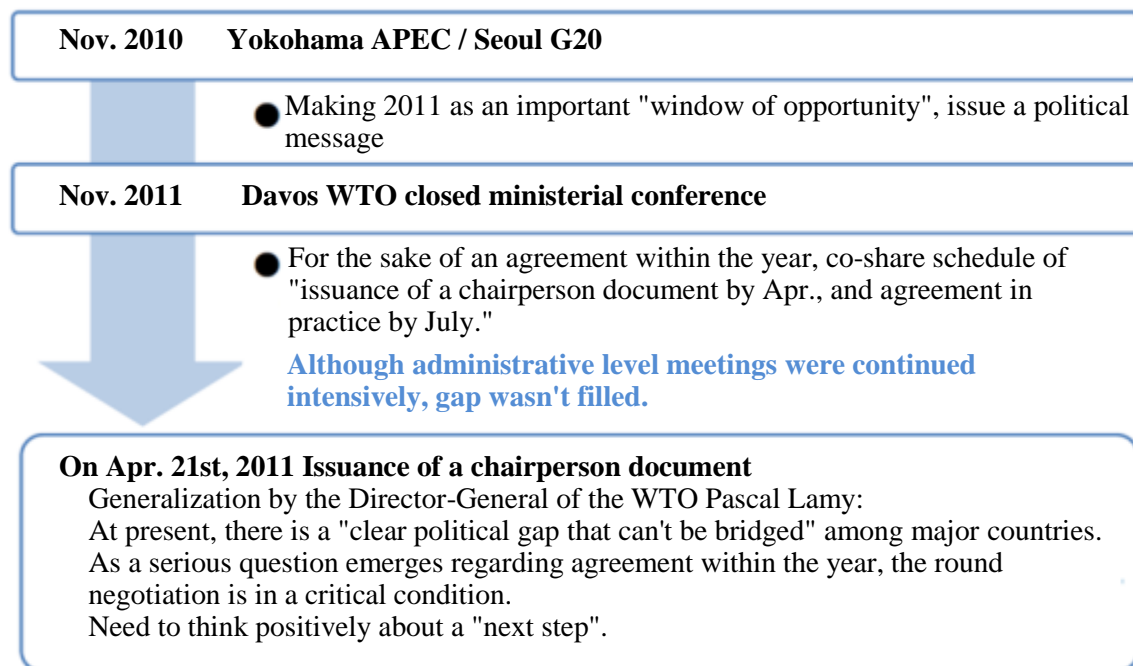
Notes

1: G4 is the U.S., EU, India and Brazil. G6 is G4 + Japan and Australia

2: SSM means Special Safeguard Mechanisms for agricultural sector in developing countries

Source: Compiled by METI

Figure 5-2-3-2 Recent progress of Doha round negotiations



Source: Compiled by METI

Table 5-2-3-3 Major argument points in negotiations

Agriculture	Reduction of U.S. domestic subsidy, market access in major countries (tariff reduction), consideration for developing countries.
NAMA Non-Agricultural Market Access	Tariff reduction (Switzerland - formula, tariff abandonment in each field), abandonment of non-tariff trade barrier.
Service	Foreign capital restriction in each country, movement of people, making domestic regulation transparent.
Rule	Tightening of anti-dumping rule, tightening of subsidy rule.
Trade facilitation	Simplification of trade procedures, as well as assisting developing countries with their implementation.

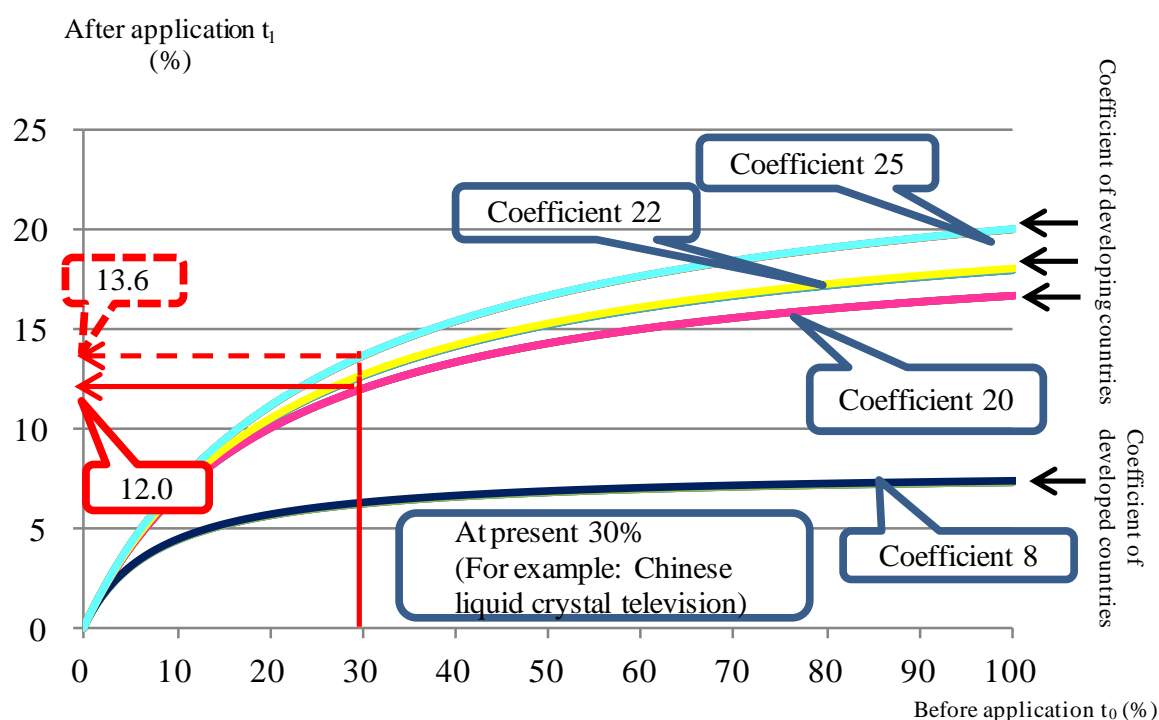
Notes: In addition to the above mentioned, negotiations are carried out regarding TRIPS (intellectual property right-related), development, trade and environment sectors.

Source: Compiled by METI

(a) Non-Agricultural Market Access (NAMA), exchange of green materials

NAMA negotiations are negotiations regarding abolition and reduction of duty and non-tariff-barrier concerning items other than agricultural products (mining and manufacturing industries products, and forestry and fishery industries goods). One of the major points at issue is the flat tariff reduction method for all items covered by NAMA negotiations (Switzerland formula), and exceptional measures for developing countries when applying this formula (relaxation of the tariff elimination or exemption). When it comes to the coefficient that decides the reduction width of the Switzerland formula and applying the ratio of exception measures, taking the argument in the ministerial meeting in Jul. 2008 into consideration, although it doesn't reach at the final agreement, a concrete numerical value is shown in the 4th revised edition of chairperson text in Dec. 2008 (Figure 5-2-3-4).

Figure 5-2-3-4 Change of duty reduction according to Switzerland formula coefficient



Source: Compiled by METI

In the NAMA negotiations, supplementing duty reduction by a formula to improve market access, duty abolition according to each field becomes one of the major points at issue. Although NAMA commitments are, in principle, voluntary commitments by countries, proponent countries are discussing how to involve more major trading partners. Japan also proposed duty abolition according to electrical and electronic goods field, and auto and auto parts, and actively promoted these goals among member countries. In the non-official WTO ministerial meeting in May 2010 and the senior administrative level meeting held at the opportunity of the APEC ministerial meeting in June the same year, by dividing objective items into the product field, and setting flexible conditions considering each country's export-interests and items of which abolition of duty is difficult, Japan proposed a basket approach seeking contents of suggestion that were ambitious and acceptable, and led the discussion.

When it comes to abolition of non-tariff barriers, interested countries proposed according to each theme and sector such as technical standards, indication obligation, import-regulations and so on, and detailed arguments have been promoted about each proposal since 2009. Japan proposed about strengthening export-regulation reports, asking for each country's participation, and it became to be the joint-proposal by seven countries.

When it comes to green materials, the arguments are carried out at the Special Session of the Committee on Trade and Environment, WTO, and suggestions are turned in by each country about promotion of use of renewable energy and so on. Based on a viewpoint of settling the climate change issue, Japan proposed about duty reduction over green materials, mainly hybrid vehicles and energy saving home appliances in Feb. 2010. In the negotiations meeting, the arguments continue about the definition and range of green materials that should be covered for duty abolition and reduction, and the way to reduce duty and so on.

(b) Rules (Preventing the Abuse of Anti-Dumping Measures)

One of the topics of the Doha round of trade negotiations were the rules concerning anti-dumping (AD) measures. The number of AD measures implemented has consistently remained at a high level (see graph 5-2-3-5), with an increasing number of measures implemented by developing countries (table 5-2-3-6). At present, there is a large discrepancy among member countries regarding the interpretation of AD rules and their application, which is one of the reasons why they are inappropriately and excessively implemented. The overuse of AD measures harms the goal of tariff reduction and improved market access. Strengthening and clarifying the anti-dumping rules is therefore essential for the maintenance of the free trade system as well as the promotion of global economic growth.

Figure 5-2-3-5 Number of WTO Anti-Dumping Cases, 1995-2009

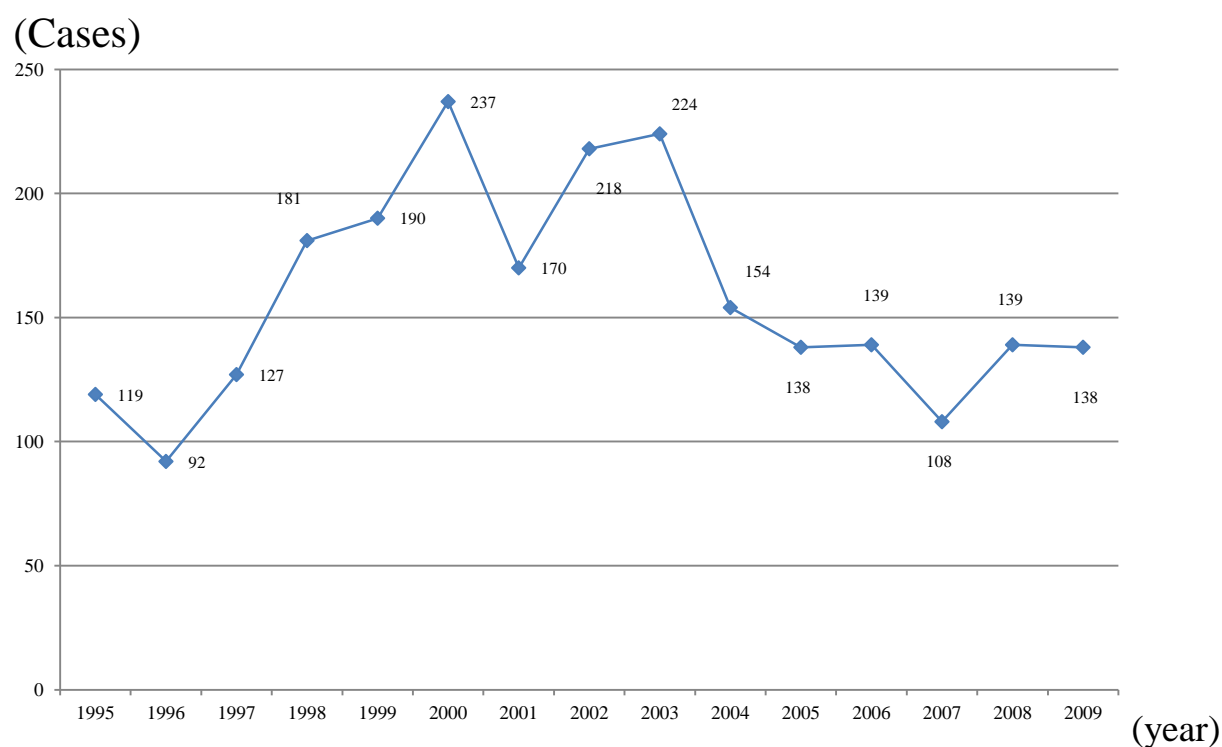


Table 5-2-3-6 Number of AD measures by country (1995 - 2008)

Reporting member			Exporting member		
1	India	419	1	China	538
2	The U.S.	284	2	South Korea	164
3	EU	267	3	Taiwan	128
4	Argentina	183	4	The U.S.	122
5	Turkey	133	5	Japan	112
6	China	130	6	Russia	95
7	South Africa	127	7	Thailand	93
8	Brazil	102	8	India	89
9	Canada	92	9	Indonesia	89
10	Mexico	82	10	Brazil	78

Source: Compiled from web site of WTO

In the negotiations, Japan proactively took on a leadership role and, together with other countries also intent on strengthening and clarifying the AD rules, submitted many important proposals.

On the other hand, although the United States are in favor of strengthening the transparency of implementing procedures and ensuring the appropriate use of AD measures, against the backdrop of an increasing number of AD measures being implemented by developing countries against the United

States, there is a strong sense in Congress and industry that the implementation of AD measures is required. Therefore, with a view to retaining its discretion as much as possible, the Department of Commerce has been slow to encourage the strengthening of AD rules.

At the end of November 2007, the Chairman of the Negotiating Group on Rules issued a draft text (“the 2007 draft rules”). However, although the draft contained some commendable provisions on sunset clauses, the draft as a whole did not reflect members’ interests in a balanced manner, as it permitted the controversial practice of “zeroing” opposed by the great majority of members. Therefore, Japan submitted a draft proposal amending the main points in dispute and, together with many other members, demanded that a revised, more balanced draft text be issued. As a result, in May 2008, the Chairman of the Negotiating Group on Rules issued a working paper, and in December 2008, a new draft text (“the 2008 draft rules”). That text was a reform proposal based only on points of agreement among all participating members. It did not include provisions on controversial topics such as zeroing, sunset clauses, as well as 12 other issues to which all countries were opposed. Instead, it merely listed each topic along with a record of each country’s point of view.

In April 2011, based on the arguments gathered during the discussion over the 2008 draft rules, the Chairman of the Negotiating Group on Rules once again released a draft text (“the 2011 draft rules”). The provisions contained in the 2008 draft rules were amended in part to reflect the progress in the negotiations on items such as provisions establishing appropriate AD procedures as well as enhancing the transparency of AD investigations, among others, where agreement among all members had been reached. On the other hand, as there was no major change in members’ position regarding 12 contentious issues, including “zeroing” and “sunset clauses”, the 2011 draft rules did not include provisions on these 12 issues, and instead simply listed each member’s position on the matter. It is important for Japan to continue to proactively take part in the Negotiating Group discussions, with the goal of strengthening the AD rules.

(3) The current WTO enforcement regime

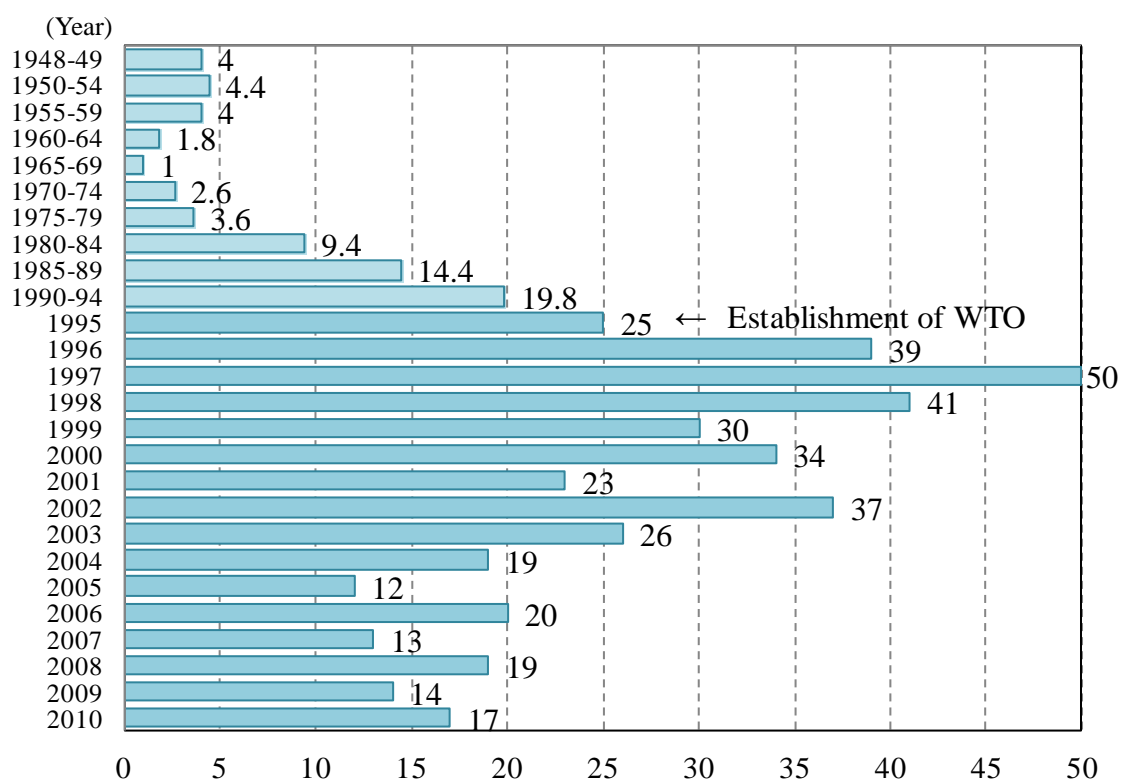
At the same time as providing free and fair trade rules, the WTO Agreement also provides a forum to settle disputes in case disagreements or trade frictions arise among members. The WTO’s Dispute Settlement Body interprets and applies the WTO’s rules with the aim of reducing trade frictions. The WTO Dispute Settlement Body provides not only recommendations to amend problematic measures, but also has the power to permit members to implement countermeasures in case the Panel’s decision is not implemented. Therefore, compared with other international dispute settlement systems, the WTO system is exceptionally effective.

Where a foreign country infringes the WTO Agreement, demanding that it revise its laws is, of course, important to rectify measures which cause disadvantage to Japan, but also to preserve the efficacy of the WTO Agreement. Furthermore, to avoid unnecessary diplomatic rows resulting from trade friction, claims based on the duties and obligations contained in

the WTO Agreement must be dealt with and settled. On the basis of this objective, Japan firmly demands the revision of political measures which violate the WTO Agreement, not only through bilateral negotiations, but also through recourse to the WTO Dispute Settlement System.

The creation of the WTO has resulted in a drastic strengthening of the Dispute Settlement System compared to the GATT era. The number of requests for consultation under the Dispute Settlement System has increased dramatically, which shows that the WTO members actively strive to resolve their disputes by reference to the WTO trade rules. (see graph 5-2-3-7). Since the founding of the WTO in 1995, the number of cases under the WTO Dispute Settlement System has reached 424 (as of April 2011). Japan has made requests for consultation in 14 cases, and participates as a third party in a large number of disputes. From the viewpoint of advancing trade policy, disputes currently considered as a high priority (METI priorities) are the below 14 cases¹⁶⁸ (see chart 5-2-3-8).

Figure 5-2-3-7 Number of Requests for Consultation under the GATT/WTO Dispute Settlement System



Note: In GATT period (1948-1994) the numbers are annual average. After establishment of WTO, numbers are for each year.

Source: Compiled from the 2011 Unfair Trade Report and materials of METI.

¹⁶⁸ Ministry of Economy, Trade and Industry, 2011 Report on Compliance by Major Trading Partners with Trade Agreements – WTO, FTA/EPAs, BITs-

Table 5-2-3-8 Prioritized action items of METI from now on

(a) Issues to be solved through bilateral or multilateral discussion or to be referred to for WTO dispute settlement procedure
<ul style="list-style-type: none"> ○ China <ul style="list-style-type: none"> ● To respond to export restrictions on mineral resources ● To rectify discriminations in the “voluntarily created innovation product certification system”, or to improve government procurement regulations and implementation. ● To rectify improper operation at the time of an anti-dumping investigation ● To respond to issues of commercial frauds such as counterfeiting and piracy ○ Various Asian countries (ASEAN, South Korea, Taiwan, Hong Kong, India) <ul style="list-style-type: none"> ● To respond to issues of commercial fraud such as counterfeiting and piracy ○ U.S. <ul style="list-style-type: none"> ● Early elimination of improvement of operation of sunset review procedures and unfairly long-term AD measures to Japan ○ Russia <ul style="list-style-type: none"> ● Elimination of measures to raise the automobile tariff ○ Argentina <ul style="list-style-type: none"> ● Improvement the Non-Automatic Import Licensing System
(b) Issues which have been referred to for WTO dispute settlement procedure
<ul style="list-style-type: none"> ○ Canada <ul style="list-style-type: none"> ● Elimination of obligation of local content associated with the electric power fixed price purchase system associated with renewable energy in Ontario
(c) Issues which shall be continued to be solved although they are not referred to in the WTO dispute settlement procedures
<ul style="list-style-type: none"> ○ U.S. <ul style="list-style-type: none"> ● Early implementation of WHO recommendations associated with zeroing ● Discontinuation of distribution of anti-dumping taxes and countervailing duty revenue on goods that have completed custom clearance to U.S. companies, based on the Byrd amendment ● Early implementation of WTO recommendations associated with anti-dumping measures on Japanese made hot-rolled steel ○ EU <ul style="list-style-type: none"> ● Elimination of tariffs on commodities applicable to WTO Information Technology Agreement which should be tax-free ○ China <ul style="list-style-type: none"> ● Early implementation of WTO recommendations on the trade right and circulation service of publication and the sound picture entertainment products

Note: Although this issue is a Sino-U.S confrontation one, Japan also participated in it as a third country, and we continue to pay a close eye with interest to China carrying out the WTO advice.

Source: Compiled from “Action Policy of METI in response to Unfair Trade Report”, METI

Column 8 Cases that Japan intends to settle via referring them to the dispute settlement system

When it comes to policies and measures of foreign governments that violate WTO agreement, Japan makes effort to improve them at every opportunity through bilateral negotiation and the WTO dispute settlement system. As follows are recent cases that Japan expects to refer to the WTO dispute settlement system:

(1) Abolition of the local content duty concerning renewable energy-related electricity Feed-in Tariff Program system in Ontario state. (Canada)

In May, 2009, Ontario (Canada) founded a fixed-price purchase system of electricity (Feed-in Tariff Program) generated by solar and wind power. At that time, as an entry condition for generation firms, the state government made it an obligation (local content requirement) to use more than a certain ratio of added-value facilities of solar power generation and wind power generation (assembling or procurement of raw materials) that were added in-state. When generation firms that are going to enter the Feed-in Tariff Program system and purchase solar power panels and so on, due to local content requirement, the incentive to purchase made in Ontario products rather than imported ones is generated. As a result, products such as solar power panels that Japanese firms export to Ontario are treated less favorably than the products made in the state.

In response to the request from the industry, Japan continued high level pressure in order to abolish the measure. Then Minister of Economy, Trade and Industry Naoshima, and then Foreign Minister Okada asked for corrective measures to the Canada International Trade Minister in an APEC meeting by ministers in charge of trade in Jun. 2010. However, moves of improvement measures were not seen in the Canadian side, and Japan called for bilateral negotiation based on the WTO confrontation settlement procedure in Sept. 2010. Although Japan continued pressure in talks several times, as some moves were seen that were against improvement such as Ontario raised the local content ratio from 50% to 60% in Jan. 2011 and so on, Japan called for a setting of the WTO confrontation processing subcommittee (panel) in Jun. 2011.

Such favorable treatment of domestic products could spread easily in third countries, and Japanese green industries such as solar power panel and so on that have competitiveness could be affected strongly. Japan continuously demands the abolition of the measures based on the WTO confrontation settlement procedure.

(2) Abolition of imposing tariffs on products that are subject to the WTO Information Technology Agreement (ITA) that should be duty free (EU)

Based on the WTO Information Technology Agreement (ITA), the EU imposes high duties on products that are out of the agreement while making electric products covered by the agreement duty-free. In recent years, the EU has been intentionally changing the duty classification of products that should be covered by the agreement originally, and imposes high duties that are same for products out of the agreement. (This includes a tax rate of 6% for complex machines, 14% for PC LCD monitors, 13.9% for set top boxes (cable TV broadcast receivers). For example, exports by Japanese firms to the EU are around ¥300 billion annually for complex machines alone, and overpayment of ¥14 billion occurs annually.

With the U.S. and Taiwan, Japan called for a talk based on the WTO confrontation settlement

procedure in May 2008. The talk ended in failure and called for the setting of a panel in Aug. 2008. In Aug. 2010, the panel issued the report that accepted Japan's argument completely, and as the EU didn't appeal to a higher stage, the judgment of the panel was settled in the WTO confrontation settlement institutional meeting held in Sept. of the year (the end of Jun. 2011 is the due date for the EU).

(3) Unfair dumping determination by the zeroing method. (U.S.)

When it comes to AD procedures, the U.S. determines dumping by an unfair method called zeroing (Refer to 2. (2) (b) rule “prevention of anti-dumping”). Unfair AD tax based on this zeroing has been imposed on Japan's ball bearing industry since 1989.

In Nov. 2004, Japan required a talk based on the WTO confrontation settlement procedure, and argued that the U.S. zeroing system and its application violated the WTO agreement. The upper committee report issued in Jan. 2007 authorized WTO agreement violation of zeroing, and urged the U.S. to abolish that. In Feb. 2007, the U.S. partially abolished zeroing measures (applying zeroing in the first investigation using weighted average).

However, as the U.S. maintained a zeroing system other than that procedure and the comparison technique, and did not take enough execution measures afterwards, Japan applied for approval of counter measures in Jan. 2008, and in addition called for the setting of the execution confirmation panel for the confirmation that the U.S. did not carry out enough execution measures in April of that year. As the upper committee decided that the U.S. did not carry out the advice after the execution of the WTO advice deadline in Aug. 2009, Japan restarted an arbitration procedure to decide the scale of counter measures in Apr. 2010 (Japan argues that \$265 million is equivalent). In Dec. of that year, the U.S. released a domestic regulation reform bill to abolish zeroing, and started acceptance of public comments (Japan and the U.S. agreed to suspend an arbitration procedure temporarily in the same month). At present, the enforcement of the reform bill is not done. Japan requires the U.S. to carry out the WTO advice promptly and completely.

Column 9 Cases of action to develop rules other than the WTO

Process and significance of the “ACTA: Anti-Counterfeiting Trade Agreement” (tentative name).

[Process]

The Anti-Counterfeiting Trade Agreement (tentative name) (ACTA) is a new international legal framework to strengthen the execution of intellectual property rights proposed by Japan in the 2005 G8 Summit, and after the negotiating meetings of 11 times in total in that Japan, the U.S., European Union (EU), Switzerland, Canada, South Korea, Mexico, Singapore, Australia, NZ and Morocco participated. The general agreement was reached in Oct. 2010 and ACTA was opened for signing on May 1st, 2011, and aimed to taken effect quickly with countries concerned.

[Background of ACTA: The global proliferation of imitation products and pirated editions, and new international approach]

The global proliferation of imitation products and pirated editions, due to circulation of low-durability auto parts and imitation lithium batteries that have ignition risks and so on, become a direct threat for health and safety of consumers. In addition, it is pointed out that there is a possibility that production

and circulation of imitation products and pirated editions are an easy source of funds for criminal syndicates. It can be said that each country's current and bilateral action are necessarily enough for these problems so that action in more countries is required. Although there is the WTO/TRIPS agreement as current multi international rules concerning intellectual property rights protection, as violation of intellectual property rights increases mainly by pirated editions and imitation products due to recent advancement of methods for infringement of intellectual property rights and development of digital technology, recognition for the necessity to establish a more effective legal framework for the execution of intellectual property rights arose. Then in the 2005 G8 Gleneagles Summit, Japan proposed the necessity of legal framework development to prevent imitation products and pirated editions, then the ACTA negotiations were started as initiative of the U.S.-Japan collaboration afterwards.

[Contents of ACTA]

ACTA establishes a framework for the enforcement of the TRIPS Agreement. It provides for extended civil and criminal enforcement, increased border measures, as well as the enforcement of intellectual property rights in the digital environment. For example, in the area of border control measures by customs' authorities, the TRIPS Agreement was confined to discretionary provisions, whereas under ACTA, each party will be under a duty to set up procedures relating to counterfeit trademark goods and pirated copyright goods allowing customs authorities to act upon their own initiative to suspend the release of suspect goods. Moreover, ACTA does not limit itself to the establishment of an effective legal framework, but also contains provisions relating to capacity building and international cooperation among contracting parties.

[Significance and prospects of ACTA]

The significance of ACTA is, first of all, that the legal framework regarding intellectual property rights protection of the contracted country itself is strengthened. Second, quality improvement can be expected too via cooperation among contracted countries. Third, it can also be expected to take a role in strengthening intellectual property enforcement beyond the range of contracted countries such as that the contents of ACTA will become a standard model of international regulation about enforcement, and be installed into various international agreements.

From the view point of ACTA contracted countries, along with pressuring non-contracted countries to join; it is thought that efforts should be made for ACTA regulations to be installed into bilateral and multi-national EPAs. It is thought that ideas will be transferred through sharing ACTA experiences with non-contracted countries through enforcement-affiliated execution cooperation between a contracted country and a non-contracted one. From now on, in addition to WTO/TRIPS, WIPO, EPA, ACTA is expected to be utilized as a forum to discuss and develop the framework of the international intellectual property field.

4. Effects of the Great East Japan Earthquake disaster on the world supply chain and the importance of the cooperation agreement for restoration

Since just after the earthquake disaster, pushing forward on restoration efforts with Japan as a whole, we have worked on restoration of infrastructure that was damaged or stopped due to the earthquake disaster, and making a system appropriate to the decreased availability of electricity. We were able to feel the restoration effort by Japanese firms from the results of the “Urgent Survey of Industrial actual conditions after the Great East Japan Earthquake Disaster” at the beginning of April.

Particularly, although a portion of the supply chain (the supply chain of parts reaching the end product) was cut by the Great East Japan Earthquake disaster, through the strenuous efforts made by each firm, the supply chain recovered quickly in April. In order to accelerate such a trend, and to connect the supply chain that links not only domestically but also overseas, it was expected that Tokyo would support firms well for the sake of revival of the Japanese economy.

However, it is a fact that many statements were issued around the world concerning the supply-chain shock emitted from Japan from just after the earthquake disaster to the end of April, and although restoration efforts are progressing, it became clear again that ripple effects occurred in many locations around the world such as the U.S., China and so on due to a decline of exports from Japan, in particular decline or termination of exports of parts and materials intended manufacturing businesses in various foreign countries and capital goods used by foreign firms.

As it is, Japan must maintain the technical excellence of Japanese firms in the parts, materials and production goods fields that can be considered as core, and the position of the entity in charge of their supply as Japanese strength. That is why Japan must support the revival and further development of such “global suppliers”.

It has become clear that quick copying or substitution of key parts that such firms produce is very difficult. In addition, the bases supporting the existence of such firms are the accumulation of a closely-connected network of related industries, and such clusters have been formed historically so that it is obvious that it is difficult to imitate or replace them overnight. Namely, under the present global economy, the sense of speed of economic activities is becoming so fast that it is not realistic to remake such concentrations of know-how quickly. On the contrary, it is unlikely that we are able to restore them once they are lost.

Furthermore, although it can't be denied that Japanese trade relationships have slightly declined in their presence quantitatively their input-output structure has become deeply integrated into the global economy. We can say that this shows that Japanese industrial accumulation is becoming a “hub” of the global supply chain network, and there are Asian-scale and world-scale networks that are connected downstream, and these connections are global. Therefore it becomes increasingly important to promote "exports" that support global production more positively to maintain domestic production and employment, and under such conditions, the importance of preparation for an export environment that covers a wide range beyond duty reduction by economic cooperation including EPAs is rising.

Therefore, in order to maintain and develop Japan's agglomeration of technologies and know-how, and its highly advanced and efficient production capacity and know-how, it is beneficial for the world economy that products can be deployed and exported under equal conditions, and at the same time, when various costs fall due to economic cooperation, demands for damaged Japanese industrial accumulation will be secured, and push back production activity that is beginning to recover by

corporate effort from the demand side.

The Japanese industrial structure has undergone significant changes. During the previous “full set structure” period, the inducement effects from final demand in export destinations unilaterally flowed into the Japanese domestic market. Under the current structure, the inducement effect from the Japanese domestic market flows outward to other countries. In this way, a situation will inevitably be reached where the inducement effect is linked only to final demand in other countries.

Although Asia currently enjoys striking economic growth and increases in affluence, the outlook is less positive, as the decline in working age populations and insufficient infrastructure will inevitably create constraints on economic growth. To these challenges, Japanese industry, with its superior technology, can offer a solution. One such solution, to counter the effects of the decline in working age populations across Asia, would be to export capital goods which improve productivity, such as robots, and implement a policy of “localization” by introducing Japan’s highly effective management system and transferring management authority to local staff. In addition, as seen after the recent earthquake, Japanese infrastructure providers have considerable technological skill in rapidly restoring damaged infrastructure, and Japan can offer such expertise to other countries which currently have insufficient infrastructure.

Japanese exports of products and technology, along with Japanese FDI, can contribute to solving economic problems in East Asia and the Asia-Pacific region by sowing the seeds of economic growth, and sharing in the benefits. To uphold this kind of relationship a set of fair and transparent rules is needed, and herein lies the significance of continuing the negotiations for economic cooperation in East Asia and the Asia-Pacific region. It is hoped that a mutually beneficial relationship will develop between Japan and its trading partners, in which each of the parties’ domestic final demand will reciprocally act as an inducement to its trading partners’ production.

Moreover, Japanese firms should not limit their exports of products which are essential elements in the global supply chain to destinations within the Asia and Pacific region. Rather, Japan should strengthen its relationship with Central and Eastern Europe and Central and South America in response to economic growth in these regions, in order to encourage mutually profitable “inducement effects”.

When it comes to each recent multi and bilateral economic cooperation negotiation, aiming to lead to desirable production induction, arguments are promoted intending for broad meaning of cost reduction that affect corporate economic activities and transaction network between firms. The arguments about supply chain connectivity promoted by APEC are the typical example of that, and decisions in wide range of fields are agreed in bilateral cooperative agreements. When it comes to economic cooperation agreements such as Japan-EU EIA, CEPEA and so on, while Japan achieves global supply responsibility, it will also be desirable to be promoted in a viewpoint of preparation of preconditions to maintain and develop domestic industrial accumulation.

As seen in the Sumatra earthquake, the flooding that devastated New Orleans and the major earthquake in Sichuan, it is an undeniable fact that there are natural disaster risks not only in Japan but also for the world economy itself no matter how large or small, and there is no way but for firms and

each economic entity to share the burden of such risks under global scale network structure and mutual cooperation.

For the sake of that, it could be the required acts for Tokyo to promote economic cooperation globally in the form of preparation of rules via multi and bilateral negotiations and other various channels, and remove factors that spoil firms' rational judgments concerning securing security (decentralization), effectively balanced corporate locations and commerce actions.

Section 3 Efforts to recover and enhance Japan's locational competitiveness

The impact of the Great East Japan Earthquake went so far as to cause some foreigners and foreign-affiliated companies/government agencies to escape from Tokyo for a period. Although the move of large-scale evacuation has come to a halt, there is concern that Japan has become less attractive as a business location for foreign companies in the medium term due to such factors as the continued problem of electricity shortages and concerns over radiation levels. There also emerged the possibility that Japanese companies would become more active in their attempts to diversify their investments into Asia and other parts of world from the perspective of coping with the risks of natural disasters. In order for us to recover and increase the business/investment flow into Japan, we need to make further improvements in our business environment. This section discusses our efforts to enhance Japan's locational competitiveness, referring to the earthquake disaster's impacts and measures to improve them.

1. Effects of the Great East Japan Earthquake

The concerns about radioactive contamination and electricity shortages resulting from the earthquake disaster and nuclear power plant incident (accident?) caused many foreign companies and government agencies to temporarily evacuate from Tokyo and some other places. Although this has come to a halt, there is a concern that Japan's locational competitiveness will decline in the medium to long run because of the fall in domestic demand as well as the continued concern about the electricity supply.

(1) Foreign-affiliated companies' moves

Following the earthquake disaster and the nuclear power plant accident, some foreign companies took measures such as the temporary closing of their business bases in the coastal regions of East Japan and the transfer of employees overseas or to the Kansai region. But since the end of March 2011, they have begun to gradually resume their operations, while an increasing number of foreign-affiliated businesses have returned their headquarters functions to Tokyo. Here are some examples of foreign-affiliated companies' moves shortly after the earthquake disaster: Foreign Company "A" had most of its foreign staff return to their home country with their families (March 23); Foreign Financial Institution "B" transferred its employees (about 10 persons) to Hong Kong and Singapore (March 23); Foreign Retailer "C" temporarily closed its three stores in Kanto (March 28); and, Foreign Retailer "D" temporarily closed its ten stores in Kanto (March 28). Furthermore, at Restaurant Chain "E," the number of foreign part-time workers decreased from about 800 to 600. About 270 financial workers withdrew to Hong Kong, while at English Conversation Company "F," about 40% of 800 foreign teachers returned to their home countries or moved to Kansai.

On the other hand, some foreign financial institutions jointly declared that they would continue their business operations¹⁶⁹. Foreign Financial Institution "G" coped with the situation calmly through such measures as inviting nuclear specialists and having them brief its employees about the situation. While there are many moves to resume normal operations as the actual situation becomes clearer to the people, there is also concern that the effects of the suspension/revision of investment plans, changes in procurement sources, etc. will manifest themselves gradually.

¹⁶⁹ Press release by the International Bankers' Association dated March 15.

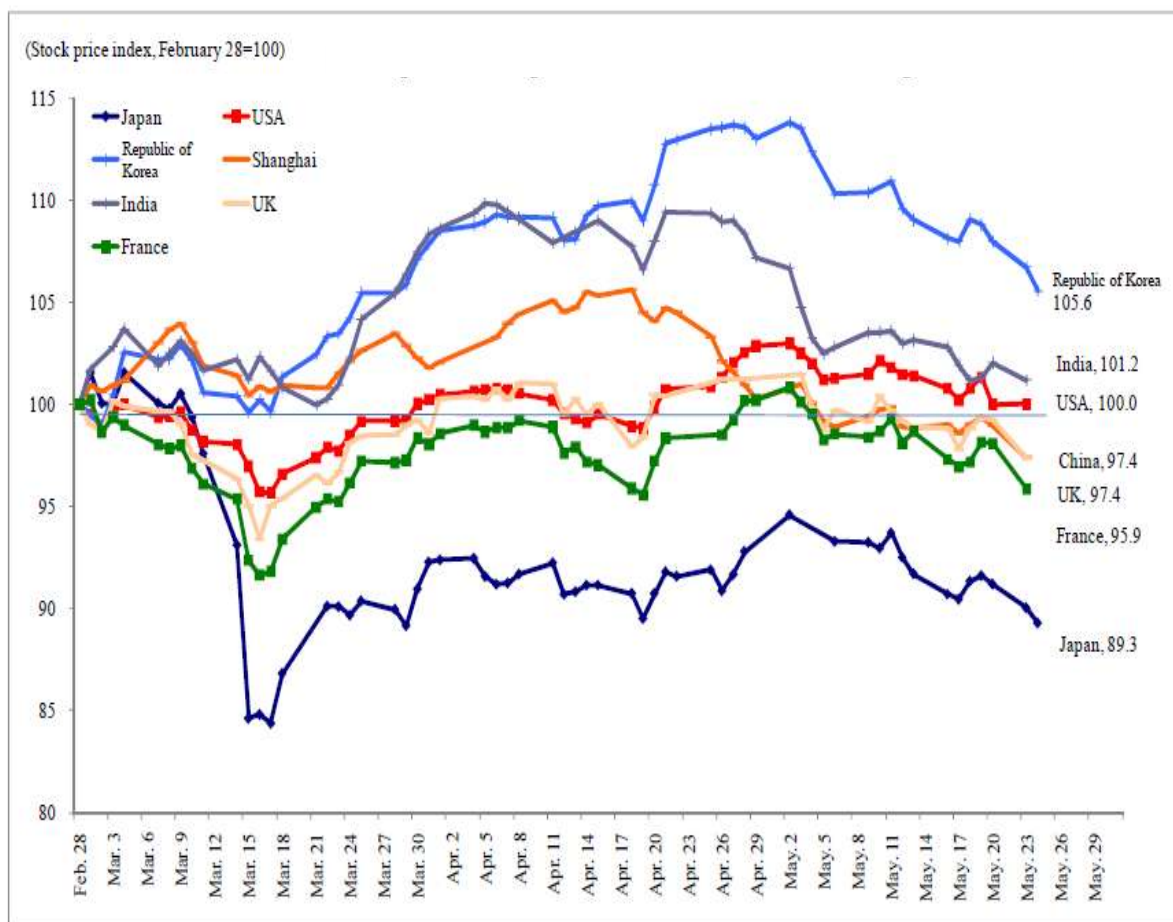
(2) Moves of foreign government agencies in Tokyo

After the earthquake and nuclear power plant incident, 32 countries (1 Asian, 5 European, 4 Latin American, 3 Middle Eastern, and 19 African countries) closed their embassies in Tokyo temporarily, and moved the functions to Western Japan or overseas. Such moves peaked at the end of March, after which the embassies were gradually returned to Tokyo. By the end of May, all foreign diplomatic officers had resumed their operations in Tokyo.

(3) Stagnant stock prices

The downward trends, experienced in many stock markets around the world after the March 11th earthquake disaster, were reversed after a while. But, among the laggards of the world, the Japanese stock market has been particularly stagnant in spite of the continued buying by foreigners (see Figure 5-3-1-1). Japan-related CDS costs have stabilized after rising sharply in the immediate aftermath of the earthquake, but they still remain relatively high. The stagnant share prices can be attributed to the fall in domestic demand stemming from the earthquake disaster as well as to the effects of electricity shortage on industrial production. It is feared that such an economic stagnation may accelerate the downward trend in Japan's locational competitiveness in the medium to long run.

Figure 5-3-1-1 Changes in stock prices before and after the earthquake disaster



Source: Compiled using data from Reuter 3000 Xtra

2. The state of inward direct investment before the earthquake disaster

(1) Significance of inward direct investment

Foreign companies, operating in Japan, are expected to bring new technologies, managerial know-how, and investment. Such technologies could be transferred to Japanese companies through M&A and business partnerships, among others. The productivity of many of the foreign companies tends to be higher than that of their Japanese counterparts, and there is a tendency that firms, newly acquired by foreign companies, often see their productivity improving. During 1994-1998 the total production of foreign-affiliated companies in Japan expanded to 9 trillion yen, and most of this expansion resulted from M&A activities of foreign companies¹⁷⁰. In recent years (2000-2005), the improvement of foreign-affiliated companies' productivity is mainly attributable to green field investment¹⁷¹. Transfer of new technologies and managerial know-how can help improve Japanese companies' productivity¹⁷².

Moreover, newcomers to the Japanese market, including foreign companies, tend to be more active in capital investment than older, more established companies, thus contributing to the creation of jobs both directly and indirectly. Their active employment behaviors are distinct from those of more established companies¹⁷³.

(2) The number of foreign-affiliated companies and the state of inward direct investment before the earthquake disaster

In the Japanese market the number of new entrants owned by foreigners has declined in recent years, while the number of withdrawals has been increasing (see Figure 5-3-2-1). In 2004 the number of new entries (139 companies) exceeded that of withdrawals (106 companies), but in 2009 the number of withdrawals (164 companies) far surpassed that of entries (82 companies).

In addition, the ratio of inward direct investment to GDP is extremely low (3.9%), compared with those for other countries (such as 15.8% for the U.S. and 46.5% for the UK) (see Figure 5-3-2-2).

Furthermore, Japan's business attractiveness, as viewed by foreign companies, has been declining sharply in recent years. According to a 2009 survey, Japan lost its top position in Asia even in categories such as "regional headquarters in Asia" and "percentage of R&D centers" (see Table 5-3-2-3, Table 5-3-2-4).

Questioned about Japan's locational problems, foreign companies most frequently cited "high business costs" (71.2%), followed by "closed/special nature of the market" (61.9%) and "highly demanding customers with regard to the quality of goods and services" (60.7%) (see Figure 5-3-2-5).

The earthquake disaster may undeniably worsen foreign companies' views of the Japanese investment environment.

¹⁷⁰ Fukao, K (2004), "CHOKUSETSU TOUSHI TO NIHON KEIZAI", reported at the Japan Center for Economic Research

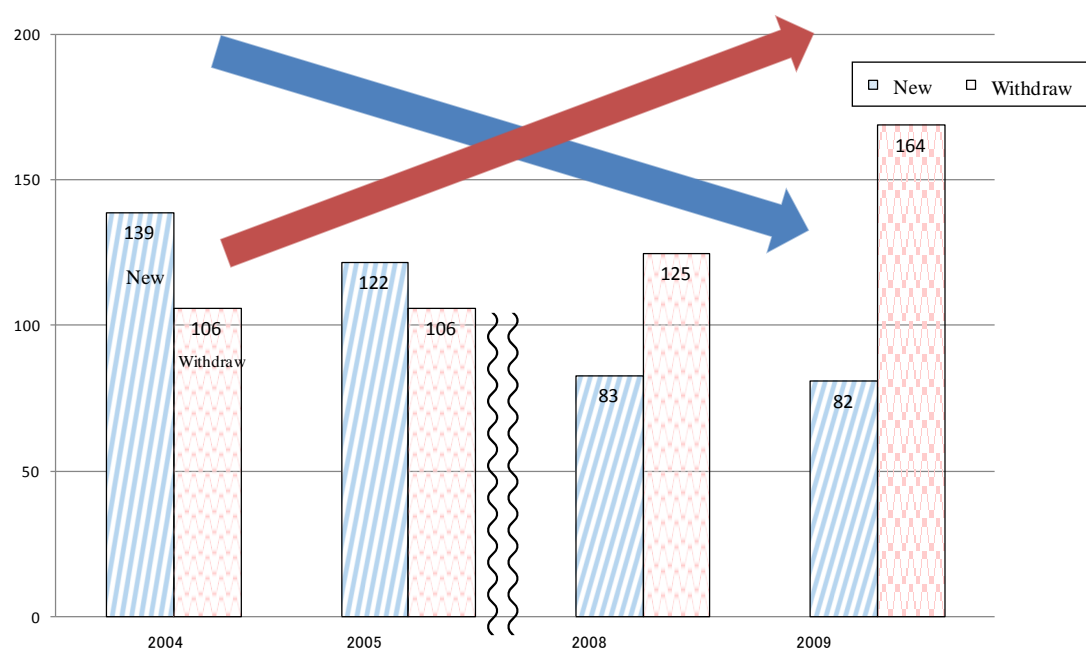
¹⁷¹ Fukao, K and H. U. Kwon (2010), "NIHON KEIZAI SAISEI NO GENDOURYOKU O MOTOMETE"

¹⁷² Fukao, K, K. Itou and H. U. Kwon (2005), "TAINICHI CHOKUSETSU TOUSHI WA NIHON NO SEISANSEI KOUJYOU O MOTARASUNOKA? "KIGYOU KATSUDOU KIHON CHOUHA" SHUHYOU DATA NI MOTOZUKU JISSHOU BUNSEKI"

¹⁷³ Fukao, K and H. U. Kwon (2010) "NIHON KEIZAI SAISEI NO GENDOURYOKU O MOTOMETE"

Figure 5-3-2-1 Change in the number of new entries and withdrawals by foreign firms in Japan

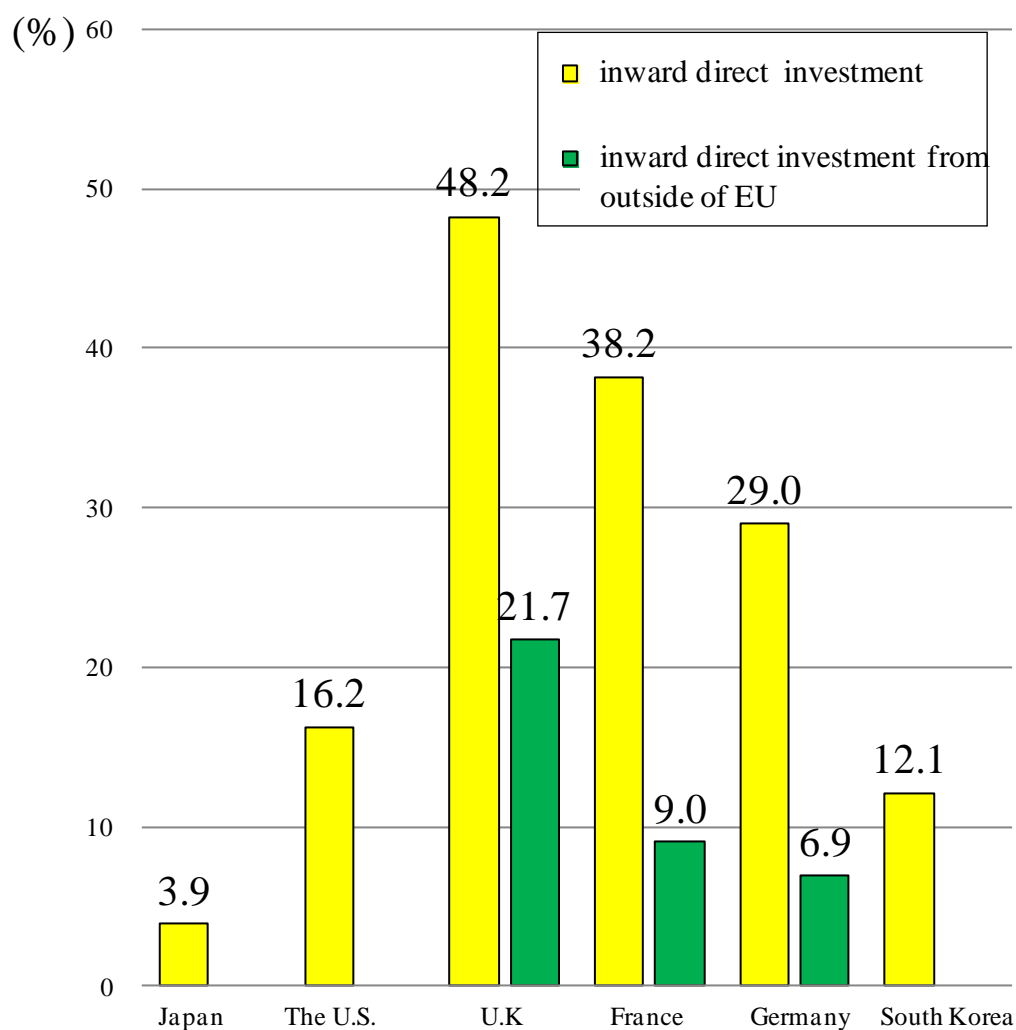
(Unit: corporation)



Note: "Withdraw" includes "dissolution" and "reduction of ratio of foreign capital (for example, lower than one third)".

Source: Compiled from "Survey of Trends in Business Activities of Foreign Affiliates" of METI.

Figure 5-3-2-2 Domestic direct investment in proportion to GDP by country (end of 2009)



Note: Outside of UE of Germany is at the end of 2008.

Source: Compiled from IMF "International Financial Statistics", "Survey of Current Business", "La Balance des Paiements et la Position Extérieure" and so on.

Table 5-3-2-3 The most attractive countries and regions in Asian region according to each function (2007)

	Japan	China	India	Singapore	South Korea	Hong Kong
Central headquarters for Asia region	①23%	18%	8%	16%	4%	②20%
Manufacturing base	3%	①62%	②12%	2%	5%	5%
R&D base	①30%	②25%	16%	9%	4%	6%
Back office	②15%	①24%	②15%	12%	5%	②15%
Distribution base	11%	①41%	8%	9%	7%	②13%
Financial base	—	—	—	—	—	—
Sales base	—	—	—	—	—	—

Notes: Percentage of companies selecting a country for each function. Percentage points out of 209 responding firms (including 51 firms that have already entered Japan) excluding non-responsive firms (78 in Europe, 74 in North America and 57 in Asia).

Source: Compiled from the “Survey on Attitudes of Foreign-Affiliated Companies toward Direct Investment in Japan 2007,” conducted by METI.

Table 5-3-2-4 The most attractive countries in Asia according to each function (2009)

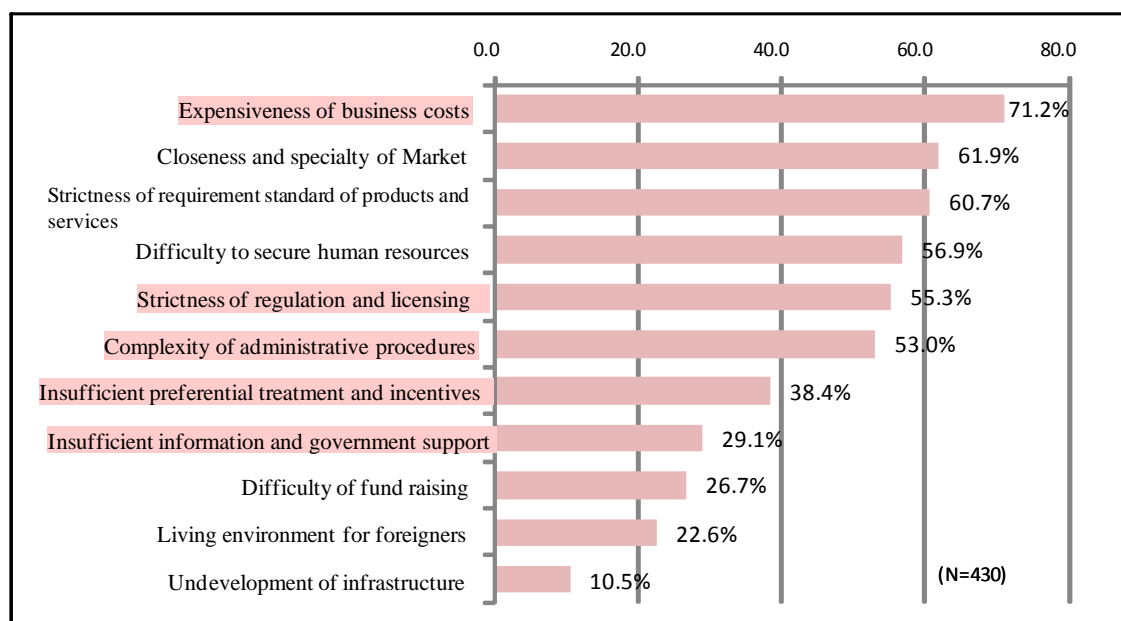
	Japan	China	India	Singapore	South Korea	Hong Kong
Central headquarters for Asia region	10%	①42%	10%	②16%	2%	13%
Manufacturing base	1%	①64%	②14%	2%	2%	2%
R&D base	②21%	①33%	20%	8%	4%	2%
Back office	8%	①39%	②19%	15%	2%	9%
Distribution base	3%	①63%	8%	②11%	2%	6%
Financial base	10%	①30%	9%	21%	4%	②23%
Sales base	7%	①50%	7%	11%	4%	②13%

Notes: Percentage of companies selecting a country for each function.

Percentage points out of 180 responding firms (60 in Europe, 60 in North America and 60 in Asia, including 30 firms that have already entered Japan).

Source: Compiled from the “Survey on Attitudes of Foreign-Affiliated Companies toward Direct Investment in Japan 2009”, METI

Figure 5-3-2-5 Perceived problems concerning location in Japan from the viewpoint of foreign firms



Notes: 430 firms responded (multiple answers possible).

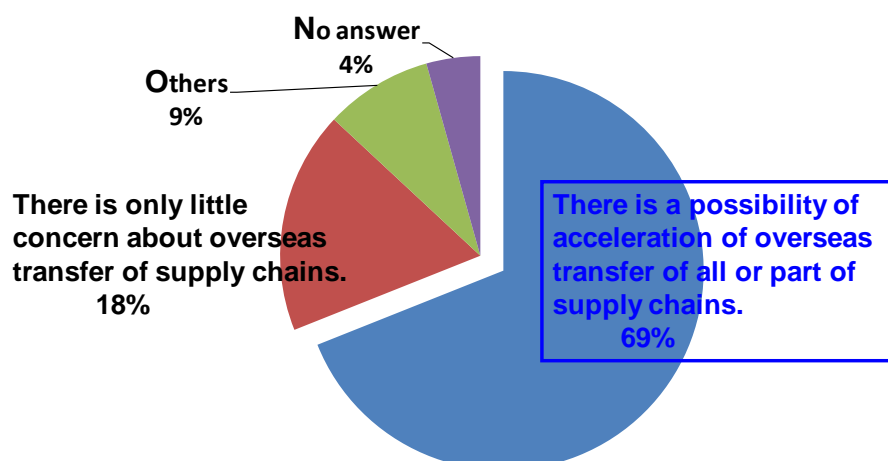
3-level evaluation of “(a) significant obstacle”, “(b) moderate obstacle” and “(c) not an obstacle” was carried out, and the ratio of firms that responded with (a) and (b).

Source: Compiled from the “2009 Survey of Sentiments of Foreign Companies” conducted by METI.

(3) Effects of the earthquake disaster on Japanese companies’ investment attitudes

According to a METI survey which asked Japanese companies “if there a possibility that overseas transfer of supply chains will be accelerated by the recent earthquake disaster”, 69% of respondents said that “there is a possibility that the overseas transfer of all or part of the supply chains may accelerate”, while only 18% replied that “there is only little chance of overseas transfer of supply chains” (see Figure 5-3-2-6). If Japan’s locational competitiveness deteriorated as a result of the earthquake disaster, this kind of trend might be strengthened, adversely affecting the investment in Japan not only in the short run but also in the medium term.

Figure 5-3-2-6 Possibility of acceleration of overseas transfer of domestic firms due to the earthquake disaster



3. Efforts to improve Japan's locational competitiveness

(1) "New Growth Strategy"

The "New Growth Strategy: Blueprint for Revitalizing Japan", approved by the Cabinet on June 18, 2010, refers to "Reducing the Effective Corporate Tax Rate and Promotion of Japan as an Asian Industrial Center" as one of the "21 National Strategic Projects for Revitalization of Japan for the 21st Century". It states: "With the aim of reviving Japan as an Asian industrial center, we will consider an incentive system containing taxation measures to invite foreign firms to set up their Asian head offices and R&D bases in Japan, which are linked to the degree of contribution to employment of highly-skilled personnel. We will aim to put this system into operation from fiscal 2011." Through such measures, the Japanese government aims to increase the competitiveness of companies operating in Japan and bring about rise in employment. In addition, by inviting foreign firms that bring high value-added products and services into Japan, the government aims to double employment by foreign firms and also double direct inward investment, according to the document.

(2) "Inward Investment Promotion Program"

The sharp appreciation of the Yen in 2010 raised concern about the deterioration of Japan's locational competitiveness. In response, we launched an "Inward Investment Promotion Round-Table Council" as a joint effort by the government and the private sector with the aim of attracting investment from both inside and outside Japan. This council, based on the discussions involving relevant governmental agencies, the industrial and labor sectors, and local governments, issued the "Inward Investment Promotion Program" in November 2010.

(3) Efforts to promote Japan as an Asian business center (The Ministry of Economy, Trade and Industry)

The government submitted the "Bill on Special Measures for the Promotion of Research and Development by Certified Multinational Enterprises" to the 177th session of the Diet in February 2011. The bill provides for incentives for multinational enterprises such as reduced corporate taxes and

lower patent fees for new R&D projects, as well as for companies with headquarters in Japan.¹⁷⁴ (see Figure 5-3-3-1).

Amid concern that the earthquake disaster might result in a decrease in domestic investment, in April 2011 METI announced that it selected five projects to fall under the “Subsidy Program for Projects Promoting Asian Site Location in Japan”, which supports the establishment of new high-value-added R&D sites in Japan in a wide variety of fields such as next-generation solar cells, IT and pharmaceuticals.

Continued efforts are important to promote Japan as an Asian business center and enhance Japan’s attractiveness to foreign companies, with a view to bringing foreign companies’ Asian headquarters and R&D centers to Japan.

Figure 5-3-3-1 Summary of the "Bill on Special Measures for the Promotion of Research and Development by Certified Multinational Enterprises"

○ To support R&D that the global corporations licensed under the “Bill on Special Measures” newly perform in Japan, we will take the following measures.

- (1) Corporate tax reduction (corporate tax will be lowered to 29% for 5 years)
- (2) Income tax reduction (lowered to the same level as Japanese companies)
- (3) Shortening of the investment procedures under the Foreign Exchange and Foreign Trade Act
- (4) Lowering of patent registration fees and patent enquiry charges
- (5) Exception from the “Small- and Medium-sized Business Investment & Consultation Companies Act” (this includes small- and medium-sized medium and small-size corporations with capital of ¥300 million or more)

(4) Strategy to Prevent the Hollowing-Out of Industry and for Developing Overseas Markets (“Guideline on Policy Promotion” decided by the Cabinet)

The Guideline on Policy Promotion, decided by the Cabinet on May 17, 2011, refers to the “Strategy to Prevent the Hollowing-Out of Industry and for Developing Overseas Markets”, and announced that it would restart measures for domestic investment promotion which had been stalled due to the earthquake disaster.

Thus, it was decided that the government would proceed with the reexamination of initiatives such as the “Inward Investment Promotion Program” and “Promotion of Japan as an Asian Industrial Center”. In addition to immediate responses (restoring and reconstructing supply chains, improving Japan’s image, etc.), the government would also explore a number of other measures, including promoting the competitiveness of business locations, creating economic and industrial structures which are fortified against enormous risks, and promoting strategic innovations that will pave the way to a better future. Japan is capable of contributing to the growth of emerging economies in Asia and other regions through trade and investment. Through such contributions Japan can share the fruits of economic growth with emerging countries. However, in spite of all the measures taken to cope with the shocks

¹⁷⁴ “Headquarters operations” (toukatsu jigyou) refers to operations such as deciding on subsidiaries’ business policies.

resulting from the earthquake disaster, concern remains regarding Japan's locational competitiveness.

In view of this growing concern, it is even more urgent to take fundamental strategic measures. In order to attract globally operating companies' regional headquarters and R&D centers to Japan, the government aims to provide stronger incentives. It is very important to implement the "Strategy to Prevent the Hollowing-Out of Industry and for Developing Overseas Markets" based on this perspective.

Supplementary Note 1 Estimation of the fluctuating factors of the prices of crude oil, copper, wheat and corn

We execute estimations of the fluctuating factors of the prices of 4 commodities of crude oil, copper, wheat and corn using following VAR model composed by 2 variables of stock and price.

(1) Formula of the estimation

$$y_t = R_1 y_{t-1} + u_t \quad (\text{VAR model})$$

$$y_t : \begin{cases} \text{Comparison of the world stock year-on-year} \\ \text{log (price)} \end{cases}$$

Note: When it comes to wheat and corn, we compare the global total of estimated value of the final stock amount at the end of the month of market year in each country (monthly updated) with the final stock amount at the end of month in the previous year.

R_1 : 2×2 matrix concerning parameters of VAR model

U_t : Error term

We make the length of lag to be 1 term based on the standard of data amount.

(2) Decomposition of price fluctuation

Using the estimated VAR model parameters, the fluctuations of prices of 4 commodities are decomposed into 3 factors – (a) Trend factor (price fluctuation when stock shock and price shock are zero), (b) Supply-demand factor other than trend (change in stock caused by change in supply-demand conditions due to other than trend that contributed to price fluctuation), (c) random price fluctuation that can't be explained by trend factor and supply-demand factor out of trend (we define (b) and (c) as "part that can't be explained by only supply-demand balance"). Denoting the time when the price hike started as t-k enables the decompositions of the following changes.

$$\begin{aligned} y_t &= R_1 y_{t-1} + u_t \\ &= R_1 (R_1 y_{t-2} + u_{t-1}) + u_t \\ &= R_1 (R_1 (R_1 y_{t-3} + u_{t-2}) + u_{t-1}) + u_t \\ &= \dots \\ &= R_1^k y_{t-k} + R_1^k u_{t-k} + \dots + R_1 u_{t-1} + u_t \end{aligned}$$

$$R_1^k y_{t-k} : \quad (\text{a) Trend factor}$$

$$R_1^k u_{t-k} + \dots + R_1 u_{t-1} + u_t : \quad (\text{b) Supply-demand factor other than trend and (c) random price fluctuation that can't be explained by trend factor and supply-demand factor out of trend}$$

(3) Estimation term

From Jan. 2002 to Dec. 2010 (copper, wheat and corn)

From Jan. 2001 to Dec. 2010 (crude oil)

(4) Estimation result

(A) Estimation result of VAR model

Supplementary Note Table 1-1 shows the result of measuring of VAR model that stock data and price data of each commodity are applied. Over all t-values, the variables of price with lag 1 are low, but satisfy the claimed sign condition (minus). Determination-coefficient is good.

Supplementary Note Table 1-1 Estimation result of VAR model

Commodities	Explained variable	Explanatory variable		Determination coefficient (R-squared)
		Stock (-1)	Price (-1)	
Crude oil	Stock	0.881 (12.094)	-0.0003 (-0.345)	0.55
	Price	0.199 (1.286)	1.001 (467.38)	0.97
Copper	Stock	0.929 (26.93)	0.0009 (0.258)	0.87
	Price	0.009 (0.938)	1.002 (1002.55)	0.98
Wheat	Stock	0.917 (25.67)	0.0023 (0.506)	0.86
	Price	-0.0067 (-1.621)	1.007 (194.06)	0.95
Corn	Stock	0.938 (28.41)	0.0003 (0.046)	0.88
	Price	0.0033 (0.126)	1.008 (158.32)	0.95

(Note) Figures in parenthesis is t-value.

(B) Decomposition results for price fluctuation

Supposing the timing of start of price hikes as Jan. 2004 for crude oil and copper, and Aug. 2006 for wheat and corn, we decompose of price fluctuation after that time.

As the result, price level at the time of Dec. 2010 due to changes in stock amounts are around as follows – crude oil: \$45.3/BBL (actual price is \$89.2/BBL), copper: \$5,947/Mt (actual price is \$9,153/Mt), wheat: \$4.2/bu (actual price is \$7.6/bu), corn: \$3.7/bu (actual price is \$5.9/bu).

(5) Data set

Crude oil price: Data of NYMEX

Price and stock amount of copper: Data of LMX

Prices of wheat and corn: Data of CBOT

Stock amount of crude oil: Total of monthly data of the U.S.A (API/Monthly Statistical Report), Britain (DTI/Energy Trend), Germany (BAFA/Amtliche Mineraloldaten), France (IEA/Monthly Oil & Gas Survey).

Stock amount of wheat: "World Agricultural Supply and Demand Estimates" of USDA

Stock amount of corn: "Grain : World Markets and Trade" of USDA

Supplementary Note 2 About RIETI-TID 2010

This White Paper uses RIETI-TID2010, developed by the Research Institute of Economy, Trade and Industry (RIETI), in order to classify the trade data complying with the United Nations' SITC (Rev.3) into primary goods, intermediate goods, and final goods for each major industry and explain international/inter-regional trade on the basis of a time series. In this way, this paper analyzes the trade structure of the world and East Asia. Here we explain about RIETI-TID 2010, focusing on the basic idea behind the classification and method of developing it.

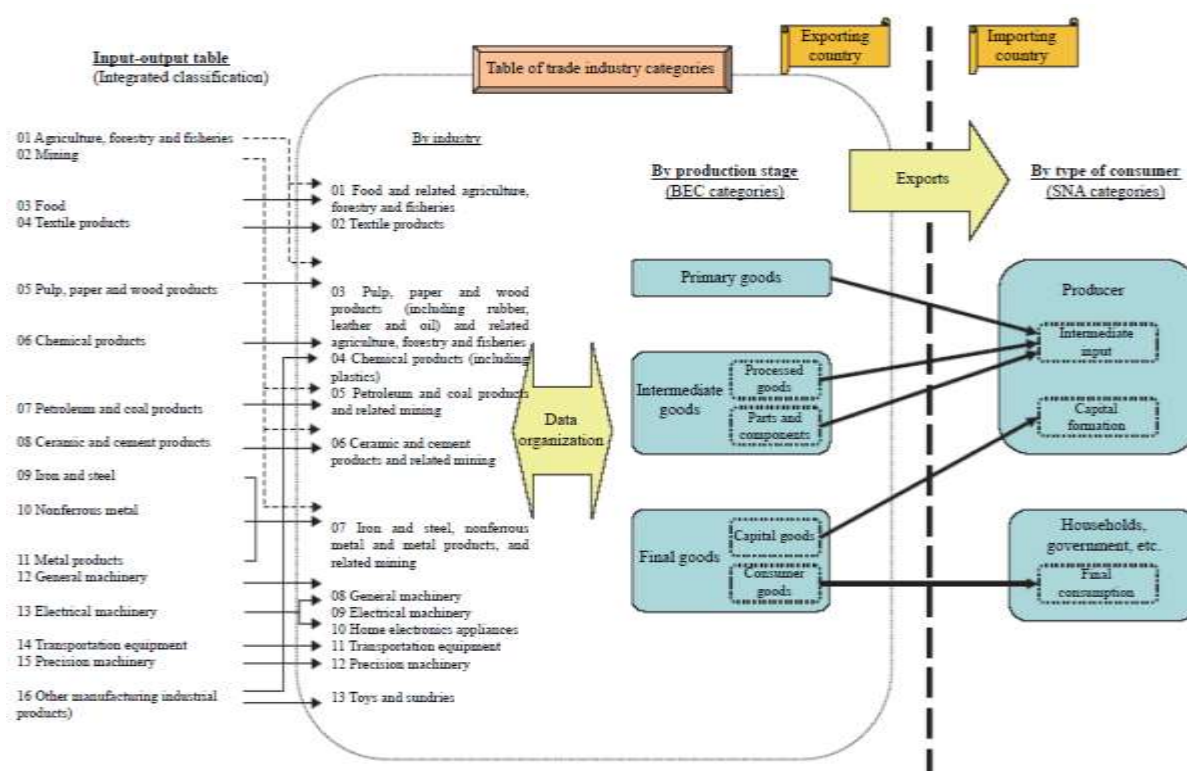
1. Basic concept

In order to better understand East Asia's manufacturing industry from the viewpoint of trends in trade, RIETI, while focusing on industries in which trade transactions are vigorous within the region, has devised the Trade Industry Classification Table classifying all traded goods according to the integrated classification of Japan's input-output table and organizing them by production process for each industry (see Supplementary Figure 2-2). Based on this, analyses will be conducted on the advancement of the division of production processes by industry regarding the triangular trade structure, and dynamic changes, such as those of competitive and complementary relationships, will be demonstrated.

Supplementary Note Table 2-1 Overview of international trade database, "RIETI-TID 2010"

Countries /regions	<p>[Asia]: Japan, China, Hong Kong, Taiwan, South Korea, Singapore, Thailand, Malaysia, Indonesia, the Philippines, Vietnam, Brunei, Cambodia and India</p> <p>[North America]: U.S., Canada and Mexico</p> <p>[Europe]: UK, Germany, France, Italy, Spain, the Netherlands, Austria, Belgium, Greece, Luxemburg, Finland, Sweden, Ireland, Portugal, Denmark, Poland, Czech Republic, Slovakia, Hungary, Lithuania, Latvia, Slovenia, Estonia, Cyprus, Malta, Romania, Bulgaria, Russia, Turkey and Norway</p> <p>[South America]: Argentina, Brazil, Paraguay, Uruguay, Chile, Venezuela, Colombia, Ecuador, Peru, and Bolivia</p> <p>[Oceania]: Australia and New Zealand</p>
Period	1980 to 2009 (Data of some countries for certain years are missing.)
Data description	The export value and import value of the countries and regions are organized by partner country (including group and global total), by industry (13 sectors), by production process (five stages), and by year.
Notes	<ul style="list-style-type: none"> ●As a general rule, import data were created on a CIF basis (including freight and insurance charges). ●Each country's CIF imports from Taiwan are calculated by multiplying the value of Taiwan's exports to each country by 110%. ●The total of all countries and regions except the subject country or region is "RoW (Rest of the World)." ●Total world value is calculated from the total of the subject country (including Taiwan) plus RoW. ●Due to data limitations, Belgium and Luxembourg are treated as one country for data purposes. Same for the Czech Republic and Slovakia. ●Currency unit of trade value is US\$ of nominal foreign exchange rates. (We can confirm each country's yearly foreign exchange rates at the web site of UN Comtrade) <p>http://comtrade.un.org/db/mr/daExpNotebyRepYear.aspx</p>

Supplementary Note Figure 2-2 Structure of table of trade industry categories



2. Industry classification

Industries were categorized into 13 sectors based on the classification of manufacturing businesses including agriculture, forestry and fisheries, and mining in the integrated classification (32 sectors) of Japan's input-output table (see Supplementary Figure 2-3). The classification is elaborated in the following aspects so as to efficiently reflect the progress toward division of production processes in East Asia.

(1) Agriculture, forestry, fisheries, and mining, which correspond to raw materials and materials production in the production process, were not categorized as independent classifications as they are in the input-output table. Instead, these industries were individually categorized as related upstream industries. More specifically, “food” and “pulp and paper” were classified as “agriculture, forestry and fisheries-related products,” while “chemical products,” “oil and coal products,” “ceramics, stone, and soil products” and “iron and steel, nonferrous metal and metal products” were classified as “mining-related products.”

(2) Because nonferrous metal and metal products have many aspects in common in the production process, they were put in one classification. Moreover, since iron and steel are only classified as processed goods in the BEC classification of the production process, they were included as belonging to the same industry.

(3) Considering the situation of the division of processes in East Asia, electric machinery was divided into separate categories; electric machinery and household electric appliances.

(4) Other manufactures were categorized as miscellaneous goods and toys. Plastics are classified as other manufacturing in the input-output table, but here they were included in chemical products

instead of miscellaneous goods and toys in view of its production process.

Supplementary Note Table 2-3 Table of trade industry categories

By production stage		Primary goods	Intermediate goods		Final goods	
			Processed goods	Parts & Components	Capital goods	Consumption goods
By industry		1	2	3	4	5
1	Food and related agriculture, forestry and fisheries	○	○		○	○
2	Textile products	○	○	○		○
3	Pulp, paper, wood products (including rubber, leather and oil) and related agriculture, forestry and fisheries	○	○	○		○
4	Chemical products (including plastics)	○	○			○
5	Petroleum and coal products, and related mining	○	○			
6	Ceramic and cement products and related mining	○	○			○
7	Steel, nonferrous metal and metal products, and related mining	○	○	○	○	○
8	General machinery		○	○	○	○
9	Electrical machinery		○	○	○	
10	Home appliances		○	○	○	○
11	Transportation equipment	○		○	○	○
12	Precision machinery		○	○	○	○
13	Toys and sundries		○	○	○	○

3. Classification by production stage

The industries organized into 13 sectors were further classified into three categories (five sub-categories): Primary goods, intermediate goods (processed goods and parts/components), and final goods (capital goods and consumer goods) (see Supplementary Table 2-4)¹⁷⁵. This represents the trade data of each industry integrated into three categories from the nature of the production process of traded goods, based on the classification of the Broad Economic Categories (BEC) of the United Nations, which were further classified by the System of National Account (SNA)¹⁷⁶.

¹⁷⁵ With regard to the classification by production stage, refer to F. Lemoine. et. al., (2004), “*China’s Integration in Asian Production Networks and Its Implications*”.

¹⁷⁶ The BEC classification corresponds to the classification based on the use of basic goods in the 1968 SNA (Intermediate Consumption, Final Consumption and Gross Capital Formation).

Supplementary Note Table 2-4 Classification of traded goods by production process

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

Notes:

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

4. Data used

RIETI-TID 2010 has used the SITC data of UN COMTRADE¹⁷⁷. Although the classification may yet become rougher, it reflects the materials used in production, the processing stages, use of the products, technological progress, and other factors as its characteristics¹⁷⁸, which is appropriate for reflecting the division of production processes.

5. Definition of regions/country groups

¹⁷⁷ While the HS is a six-digit classification system, the SITC uses five digits at most.

¹⁷⁸ The UN website explains the features of the SITC: “The commodity groupings of SITC reflect (a) the materials used in production, (b) the processing stage, (c) market practices and uses of the products, (d) the importance of the commodities in terms of world trade, and (e) technological changes.” Meanwhile, the characteristics of the HS classification are as follows: “The HS contributes to the harmonization of customs and trade procedures, and the non-documentary trade data interchange in connection with such procedures, thus reducing the costs related to international trade.” (World Customs Organization) “In the Harmonized System goods are classified by what they are, and not according to their stage of fabrication, their use, or origin. The Harmonized System nomenclature is logically structured by economic activity or component material.” (University of British Columbia)

For retrieval from this database, regions/country groups are defined as follows.

Supplementary Note Table 2-5 Definition of region of international trade database

Regions	Countries
EAST ASIA	Japan, China, Hong Kong, Korea, Taiwan, Singapore, Indonesia, Malaysia, Philippines, Thailand, Brunei, Cambodia, Vietnam
NAFTA	U.S., Canada, Mexico
MERCOSUR	Argentina, Brazil, Paraguay, Uruguay, Venezuela
EU15	UK, France, German, Italy, Austria, Belgium Luxembourg, Denmark, Finland, Greece, Ireland, Holland, Portugal, Spain, Sweden
EU27	UK, France, German, Italy, Austria, Belgium Luxembourg, Denmark, Finland, Greece, Ireland, the Netherlands, Portugal, Spain, Sweden, Bulgaria, Cyprus, Czech Slovakia, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovenia
ASEAN4	Indonesia, Malaysia, Philippines, Thailand
ASEAN	Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei, Cambodia, Vietnam
ASEAN + 6	Australia, China, India, Indonesia, Japan, Malaysia, Philippines, Korea, Singapore, Thailand, Brunei, Cambodia, New Zealand, Vietnam

* "Not ASEAN" and "Not EU" refer to the countries other than those defined above.

* If Exporter: EAST ASIA and Importer: Japan is selected, the trade value obtained from the database represents that between the countries of East Asia excluding Japan (Exporter) and Japan (Importer).

* Vietnam's import statistics for 2009 have not been published, so they are not reflected in the data obtained from the database.

Supplementary Notes 3 Input-Output Analysis Used in Section 3, Chapter 2

In Section 3, Chapter 2 in this White Paper, we use Input-Output analysis frequently.¹⁷⁹ However, we don't use a general Input-Output analysis but execute selection of data and improvement of calculation method based on purpose of analysis.¹⁸⁰ Major features of the improvement are that we use not only general competitive import type Input-Output Table but also non-competitive import type Input-Output Table. In Supplementary Notes 3, we explain about this analytical method.

Here, please realize that we use intuitive expression for people not unfamiliar with analysis technique rather than scientific accuracy, and explain about the definition repeatedly and so on.

Supplementary Notes 3-1 Differences of Input-Output Tables between the Competitive Import Type and Non-Competitive Import Type

Input-Output Tables between the Competitive Import and Non-Competitive Import Types

Definitions of the Signs in Supplementary Notes 3-1

i : line (vertical), # of intermediate goods, the left side of subscript letter

j : column (horizontal), # of production sector, the right side of subscript letter

Here, goods produced by production sector- i are defined as goods- i .

When written as \circ_{ij} in the sector, it means that goods attached to # i is supplied to production sector attached to # j .

z_{ij} : intermediate input (domestic goods + import goods)

zd_{ij} : intermediate input of domestic goods

zm_{ij} : intermediate input of import goods

f_i : domestic final demand (domestic demand)

fd_i : final demand of domestic goods

fm_i : final demand of import goods

e_i : export (foreign demand)

im_i : import

v_j : value-added

x_i, x_j : domestic production

m_i : import coefficient

In Section 3, Chapter 2, we use not only general competitive import type Input-Output Table (“Competitive Type” from now on) but also non-competitive import type Input-Output Table (“Non-Competitive Type” from now on) simultaneously and frequently.

When it comes to “Competitive Type”, in making statistical data of consumption of one type of goods (demand), we don't discriminate between domestic goods and imported goods but treat them as things to be “competing mutually” (Competitive Type), and express in one data (Supplementary Notes

¹⁷⁹ The references in this White Paper belong to Section 3, Chapter 2.

¹⁸⁰ When it comes to base Input-Output-analysis, please refer to Miyazaki (2002), Shishido (2010) and Fujikawa (2005). In addition, when it comes to analysis used this time, please refer to Uda (2010), Uda (2011a) and Uda (2011b).

Table 3-1).

On the other hand, in “Non-Competitive Type”, we treat them as different goods to be “not competing mutually” (Non-Competitive), and express them as 2 divided data (Supplementary Notes Table 3-2).

Namely, the difference between “Competitive Type” and “Non-Competition Type” is whether domestic demand is shown separately between domestic demand and imports or not.

In the following section, we are going to explain taking the example of Input-Output Table that has 2 production sectors. Anyway, the definitions of signs are written in the last of the items that appear for the first time on each occasion. In addition, we express consolidated domestic consumption of final goods as “Domestic Demand”, and exports as “Foreign Demand”.

Supplementary Notes Table 3-1 Structure of Input-Output Table of Competitive Import Type (“Competitive Type”)

		Intermediate Demand		Final Demand		Import	Domestic Production
		Production 1	Production 2	Domestic Demand	Foreign Demand		
Intermediate Input (Supply)	Goods 1	z_{11}	z_{12}	f_1	e_1	$-im_1$	x_1
	Goods 2	z_{21}	z_{22}	f_2	e_2	$-im_2$	x_2
Value Added		v_1	v_2				
Domestic Production		x_1	x_2				

Supplementary Notes Table 3-2 Structure of Input-Output Table of Non-Competitive Import Type (“Non-Competitive Type”)

			Production Sector		Final Demand		Import	Domestic Production
			Production 1	Production 2	Domestic Demand	Foreign Demand		
Intermediate Input (Supply)	Domestic	Goods 1	zd_{11}	zd_{12}	fd_1	e_1	0	x_1
		Goods 2	zd_{21}	zd_{22}	fd_2	e_2	0	x_2
	Import	Goods 1	zm_{11}	zm_{12}	fm_1	0	$-im_1$	0
		Goods 2	zm_{21}	zm_{22}	fm_2	0	$-im_2$	0
Value Added			v_1	v_2				
Domestic Production			x_1	x_2				

There are following relationships between intermediate goods in Supplementary Notes Table 3-1 and intermediate goods separated between domestic and imported goods in Supplementary Notes Table 3-2.

$$\text{Factorization of Intermediate Goods } z_{ij} = zd_{ij} + zm_{ij} \quad (\text{a3-1})$$

$$\text{Factorization of Final Goods } f_i = fd_i + fm_i \quad (\text{a3-2})$$

Calculation of “Ratio of Domestic Production” (Domestic Sufficiency Ratio” and “Local Content Ratio”)

Among “Domestic Ratio” that shows the ratio between domestic production and imports concerning

industry, we use “Self-Sufficiency Ratio” and “Local Content Ratio” in Section 3, Chapter 2.¹⁸¹

“Self-Sufficiency Ratio” is, when taking vehicles as an example, the ratio of domestic vehicles against vehicles distributing in the country, namely the ratio of domestic production in component of supply.

“Self-Sufficiency Ratio” $\frac{x_i}{x_i + im_i}$ (Calculate Supplementary Notes Table 3-2 in lateral direction) (a3-3)

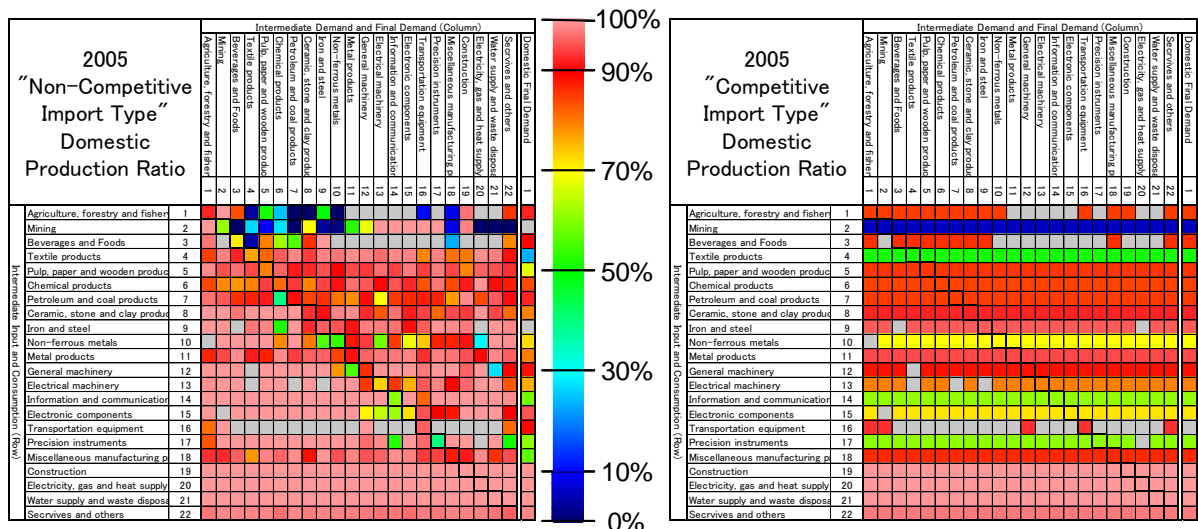
“Local Content Ratio” is, also taking vehicles as an example, ratio of domestic intermediate goods indispensable for vehicle production.

“Local Content Ratio” $\frac{zd_{1j} + zd_{2j}}{zd_{1j} + zd_{2j} + zm_{1j} + zm_{2j}}$ (Calculate Supplementary Notes Table 3-2 in vertical direction) (a3-4)

Difference between the Released “Non-Competitive Type” and “Non-Competitive Type Calculated under Suppositions”

It is very difficult to separate intermediate goods and final goods into domestic products and imports to modify data of “Competitive Type” into “Non-Competitive Type”. Therefore, we work under the supposition that in many cases, the ratio of domestic products and imports during the input of each type of goods (colored locations in Supplementary Notes Table 3-1) to be constant as follows:

Supplementary Notes 3-3 Figure Making seeable of “Domestic Production Ratio” at consumption of each goods (Left: “Non-Competitive Type” and Right: “Competitive Type” that are separated under suppositions)



Notes: Locations where there is no deal of goods of both domestic production and imports are colored by grey.

Ratio of Domestic Product

$$1 - m_i = 1 - \frac{im_i}{zd_{i1} + zd_{i2} + fd_i} \quad (a3-5)$$

Ratio of Imports

$$m_i = \frac{im_i}{zd_{i1} + zd_{i2} + fd_i} \quad (a3-6)$$

Extraction of Domestic Product

$$\begin{pmatrix} zd_{11} & zd_{12} & fd_1 \\ zd_{21} & zd_{22} & fd_2 \end{pmatrix} = \begin{pmatrix} 1 - m_1 & 0 \\ 0 & 1 - m_2 \end{pmatrix} \begin{pmatrix} z_{11} & z_{12} & f_1 \\ z_{21} & z_{22} & f_2 \end{pmatrix}$$

¹⁸¹ We follow the definition of Fujikawa (1998). In Fujikawa (1998), 4 kinds "Domestic Production Ratios" are used.

(a3-7)

Extraction of Imports

$$\begin{pmatrix} zm_{11} & zm_{12} & fm_1 \\ zm_{21} & zm_{22} & fm_2 \end{pmatrix} = \begin{pmatrix} m_1 & 0 \\ 0 & m_2 \end{pmatrix} \begin{pmatrix} z_{11} & z_{12} & f_1 \\ z_{21} & z_{22} & f_2 \end{pmatrix} \quad (a3-8)$$

Under this supposition, when extracting “Domestic Ratio” from a table that processes “Competitive Type” and actually released “Non-Competitive Type” according to each type of goods and sector that consumes, we get Supplementary Notes Figure 3-3.

Like the right side in Supplementary Notes Figure 3-3, when calculating “Domestic Ratio” under the supposition that imports ratio is constant, as ratio between domestic and imports of all intermediate goods and “Domestic Demand” (domestic consumption of final goods) are equal, all the value in column (horizontal) direction are same.

Supplementary Notes 2: Basic Calculation**Calculation of Intermediate Goods Input Coefficient****Definitions of Signs Added in Supplementary Notes 3-2**

a_{ij} : intermediate input coefficient

ad_{ij} : intermediate input coefficient (only domestic)

b_{ij} : “Ripple Effect”

bd_{ij} : “Ripple Effect” (only domestic)

sf_i : inducement of “Ripple Effect” due to “Domestic Demand”

se_i : inducement of “Ripple Effect” due to “Foreign Demand”

sm_i : suppression of “Ripple Effect” due to “Import”

First of all, to see “Direct Effect” other industries receive from production of goods, we calculate volume of intermediate goods necessary to produce one unit of goods by each industry.

● “Competitive Type” $\begin{pmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{pmatrix} = \begin{pmatrix} \frac{z_{11}}{x_1} & \frac{z_{12}}{x_2} \\ \frac{z_{21}}{x_1} & \frac{z_{22}}{x_2} \end{pmatrix}$ (Calculation using Supplementary Notes Table 3-1) (a3-9)

● “Non-Competitive Type” $\begin{pmatrix} ad_{11} & ad_{12} \\ ad_{21} & ad_{22} \end{pmatrix} = \begin{pmatrix} \frac{zd_{11}}{x_1} & \frac{zd_{12}}{x_2} \\ \frac{zd_{21}}{x_1} & \frac{zd_{22}}{x_2} \end{pmatrix}$ (Calculation using Supplementary Notes Table 3-2) (a3-10)

Calculation of Leontief Inverse Matrix

Next, in order to calculate “Ripple Effect” including the direct deals of final goods and other indirect effect, it needs to calculate the so-called “Leontief Inverse Matrix”. “Leontief Inverse Matrix” is “the total of direct and indirect “Ripple Effect” caused by consumption of one unit of each type of goods, which is described in the form of matrix”.

● “Competitive Type” $\begin{pmatrix} b_{11} & b_{12} \\ b_{21} & b_{22} \end{pmatrix} = \left[\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix} - \begin{pmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{pmatrix} \right]^{-1}$ (a3-11)

● “Non-Competitive Type” $\begin{pmatrix} bd_{11} & bd_{12} \\ bd_{21} & bd_{22} \end{pmatrix} = \left[\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix} - \begin{pmatrix} ad_{11} & ad_{12} \\ ad_{21} & ad_{22} \end{pmatrix} \right]^{-1}$ (a3-12)

Skyline Analysis

Skyline analysis is a method used to measure direct and indirect “Ripple Effect” that “Domestic

Demand” (domestic consumption of final goods), “Foreign Demand” (exports) and imports bring to each industry, and to draw a graph. In order to draw a skyline chart, first of all, one needs to make calculations of following production amount decision model. However, in this calculation, “Ripple Effect” by imports is not “Flowing Out” but “Suppressed” because “Non-Competitive Type” is used and imports are considered to be the negative demand for final goods.

• **Production amount decision model**
$$\begin{pmatrix} x_1 \\ x_2 \end{pmatrix} = \begin{pmatrix} b_{11} & b_{12} \\ b_{21} & b_{22} \end{pmatrix} \left[\begin{pmatrix} f_1 \\ f_2 \end{pmatrix} + \begin{pmatrix} e_1 \\ e_2 \end{pmatrix} + \begin{pmatrix} -im_1 \\ -im_2 \end{pmatrix} \right] \quad (a3-13)$$

• **Inducement by “Domestic Demand”**
$$\begin{pmatrix} sf_1 \\ sf_2 \end{pmatrix} = \begin{pmatrix} b_{11} & b_{12} \\ b_{21} & b_{22} \end{pmatrix} \begin{pmatrix} f_1 \\ f_2 \end{pmatrix} \quad (a3-14)$$

• **Inducement by “Foreign Demand”**
$$\begin{pmatrix} se_1 \\ se_2 \end{pmatrix} = \begin{pmatrix} b_{11} & b_{12} \\ b_{21} & b_{22} \end{pmatrix} \begin{pmatrix} e_1 \\ e_2 \end{pmatrix} \quad (a3-15)$$

• **Inducement Suppression by Imports**
$$\begin{pmatrix} sm_1 \\ sm_2 \end{pmatrix} = \begin{pmatrix} b_{11} & b_{12} \\ b_{21} & b_{22} \end{pmatrix} \begin{pmatrix} im_1 \\ im_2 \end{pmatrix} \quad (a3-16)$$

• **Supply-Demand Balance**
$$\begin{pmatrix} sf_1 \\ sf_2 \end{pmatrix} + \begin{pmatrix} se_1 \\ se_2 \end{pmatrix} = \begin{pmatrix} x_1 \\ x_2 \end{pmatrix} + \begin{pmatrix} sm_1 \\ sm_2 \end{pmatrix} \quad (a3-17)$$

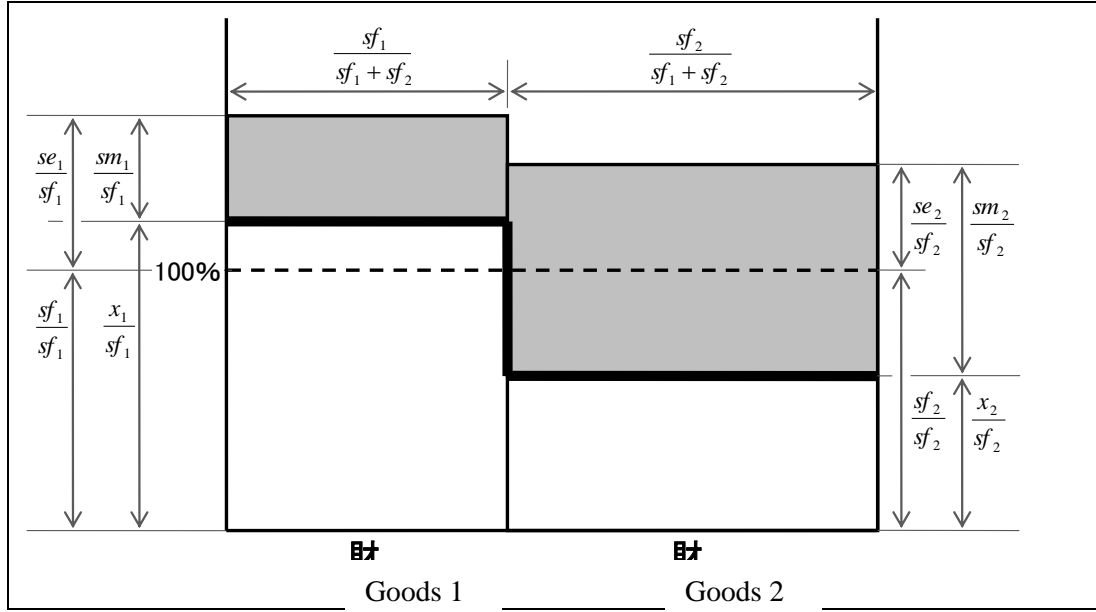
Next, we convert these values to the ratio against inducement amount by domestic demand of each sector.

Supplementary Notes Table 3-4

Data That Supplementary Notes Table 3-1 Is Processed for the Purpose of Drawing Picture

	Horizontal line		Vertical line			
	Production Ratio (reference)	Domestic Demand Ratio	Demand		Supply	
			Domestic demand	Export	Self-Sufficiency Ratio	Import
Goods 1	$\frac{x_1}{x_1 + x_2}$	$\frac{sf_1}{sf_1 + sf_2}$	$\frac{sf_1}{sf_1}$	$\frac{se_1}{sf_1}$	$\frac{x_1}{sf_1}$	$\frac{sm_1}{sf_1}$
Goods 2	$\frac{x_2}{x_1 + x_2}$	$\frac{sf_2}{sf_1 + sf_2}$	$\frac{sf_2}{sf_2}$	$\frac{se_2}{sf_2}$	$\frac{x_2}{sf_2}$	$\frac{sm_2}{sf_2}$

Supplementary Notes Table 3-5 Method to Draw Skyline Chart



As noted in “Production Ratio” (reference) in Supplementary Notes Table 3-7, although general skyline chart puts composition ratio of production amount x according to each section in horizontal axis, we put composition ratio of domestic demand in this White Paper. Due to this, we can prevent the chart from being difficult to see the weak point of the domestic industry as the width of the sector whose Self-Sufficiency Rate is almost zero, like “Mining”, which becomes narrow in a general skyline chart. In addition, we use “Ray : Skyline Chart Drawing Tool” for drawing the skyline chart.¹⁸²

Supplementary Notes 3-3 Calculation of “Domestic Remainder Ratio”, and Calculation of “Indirect Ripple Effect”

Calculation of “Indirect Ripple Effect”

Definitions of Signs Added in Supplementary Notes 3-3

g_{ij} : Indirect Ripple Effect (domestic + import)

gd_{ij} : Indirect Ripple Effect (only domestic)

By removing “Direct Ripple Effect” from the deals of final goods, which is the origin of inducement of “Ripple Effect” from “Leontief Inverse Matrix” (total of the direct and indirect “Ripple Effect” in each sector caused by consumption of one unit of each type of final goods), we can extract “Indirect Ripple Effect”. For that purpose, it is necessary to subtract the unit matrix from “Leontief Inverse Matrix”.

• “Competitive Type”
$$\begin{pmatrix} g_{11} & g_{12} \\ g_{21} & g_{22} \end{pmatrix} = \left[\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix} - \begin{pmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{pmatrix} \right]^{-1} - \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix} \quad (\text{a3-18})$$

• “Non-Competitive Type”
$$\begin{pmatrix} gd_{11} & gd_{12} \\ gd_{21} & gd_{22} \end{pmatrix} = \left[\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix} - \begin{pmatrix} ad_{11} & ad_{12} \\ ad_{21} & ad_{22} \end{pmatrix} \right]^{-1} - \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix} \quad (\text{a3-19})$$

“Domestic Remainder Ratio” of “Production Process” and “Whole Process”

“Domestic Remainder Ratio” is the matrix that shows the ratio of domestic remainder among “Ripple Effect” in one production sector caused by consumption of one final goods. Here, we define 2

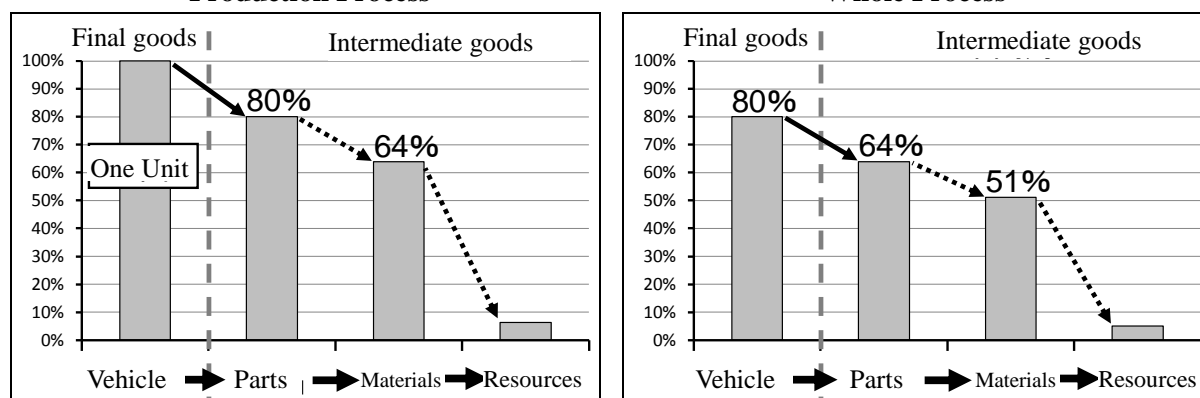
¹⁸² When it comes to “Ray : Skyline Chart Drawing Tool”, please refer to Uda (2011b).

kinds of “Domestic Remainder Ratio” of “Production Process” and “Whole Process”.

“Production Process” expresses “Domestic Remainder Ratio” of “Ripple Effect” calculated based on the supposition that domestic final goods are consumed.

“Whole Process” expresses “Domestic Remainder Ratio” of “Ripple Effect” calculated, including selection between domestic goods or imports in consumption of final goods.

Supplementary Notes Table 3-6 Example of Change of “Domestic Remainder Ratio” by Imports
“Production Process” **“Whole Process”**



Supplementary Notes Table 3-7

Deployment of “Domestic Remainder Ratio” of “Production Process”

		Consumption of final goods; Goods 1	Consumption of final goods; Goods 2
Directly	Consumption of final goods	$1 = \frac{fd_1}{fd_1}$	$1 = \frac{fd_2}{fd_2}$
Indirectly	Production; 1st sector	$\frac{gd_{11}}{g_{11}} \frac{fd_1}{fd_1}$	$\frac{gd_{12}}{g_{12}} \frac{fd_2}{fd_2}$
	Production; 2nd sector	$\frac{gd_{12}}{g_{12}} \frac{fd_1}{fd_1}$	$\frac{gd_{22}}{g_{22}} \frac{fd_2}{fd_2}$

Supplementary Notes Table 3-8 Deployment of “Domestic Remainder Ratio” of “Whole Process”

		Consumption of final goods; Goods 1	Consumption of final goods; Goods 2
Directly	Consumption of final goods	$\frac{fd_1}{f_1}$	$\frac{fd_2}{f_2}$
Indirectly	Production; 1st sector	$\frac{gd_{11}}{g_{11}} \frac{fd_1}{f_1}$	$\frac{gd_{12}}{g_{12}} \frac{fd_2}{f_2}$
	Production; 2nd sector	$\frac{gd_{21}}{g_{21}} \frac{fd_1}{f_1}$	$\frac{gd_{22}}{g_{22}} \frac{fd_2}{f_2}$

We are going to explain the difference of these 2 kinds of “Domestic Remainder Ratio” of “Production Process” and “Whole Process” by using an example. In this example, we define that “Ripple Effect” flows from production of vehicles as final goods to parts, materials and resources in turn. In addition, we define that purchase ratio of domestic goods excluding resources represent a flat rate of 80%. Supplementary Notes Figure 3-6 shows the ratio of “Domestic Remainder Ratio” in “Production Process” and “Whole Process” under this condition.

Ratio in Supplementary Notes Figure 3-6 are “Domestic Remainder Ratio” of “Ripple Effect” that the vehicle (final goods) brings to each production sector. Like these values, the more the sailing up of the production process, by multiplication, the lesser “Ripple Effect” which remains domestically.

Calculation Method of “Domestic Remainder Ratio”

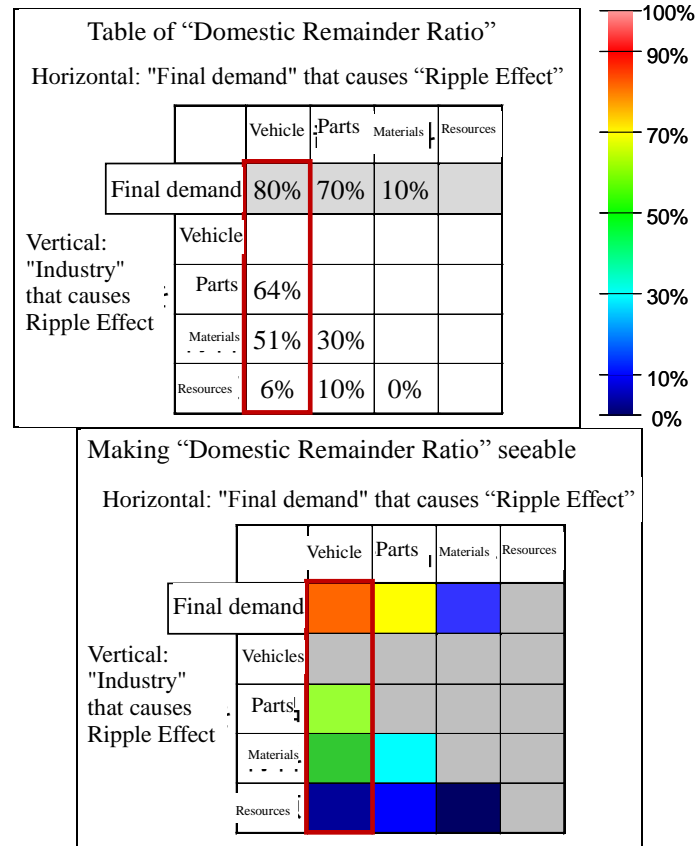
Calculation method is different for “Production Process” and “Whole Process”.

This is because calculation is done under the supposition that consumption of domestic goods by final demand sector (“Domestic Demand” or “Foreign Demand”) is done in case of “Production Process”, while “Competition” between domestic goods and imports in consumption by final demand sector is factored into calculation in case of “Whole Process”.

Expression Method of a Matrix such as “Domestic Remainder Ratio”

Next, as “Domestic Remainder Ratio” deployed in Supplementary Notes Table 3-7 and Supplementary Notes Table 3-8 are complicated, we make them visible with color using expressions of thermography. In addition, this expression of using color is used in the matrix of intermediate goods input and the matrix of “Indirect Ripple Effect” (Figure 2-2-2-3, Figure 2-2-2-4, Figures 2-2-2-7 to 2-2-2-10).

Supplementary Notes, Figure 3-9 Example of the Numbers of “Domestic Remainder Ratio” and Making Them Seeable



Supplementary Notes 3-4 Calculation of “Balance of Ripple Effect”
“Balance of Ripple Effect” (Non-Competitive Type)

Definitions of Signs Added in Supplementary Notes 3-4

be_{ij} : “Inducement of Ripple Effect” by “Foreign Demand” (Export)

bm_{ij} : “Flowing Out of Ripple Effect” by Imports

bn_{ij} : “Balance of Ripple Effect” (“Inducement by Exports” minus “Flowing Out by Imports”)

bfd_{ij} : “Ripple Effect” by “Domestic Demand” (Domestic Final Demand)

In Section 3, Chapter 2, we use not only general balances, such as, current account balance, trade balance and income balance, but also “Balance of Ripple Effect” is added in the analysis. When it comes to “Balance of Ripple Effect”, we define that “Ripple Effect” induced by “Foreign Demand” (Export) as “Credit”, “Ripple Effect” flowing out by import as “Debit” and the gap between them as “Balance”, and calculated accordingly, and we define the plus as surplus and minus as deficit like other balances.

Like other calculation methods, we use both “Competitive Type” and “Non-Competitive Type”. In these calculations, like “Domestic Remainder Ratio”, we compare “Ripple Effect” with one that would have been caused if imports had not been done to obtain the real “Ripple Effect”.

• “Credit” (by exports)
$$\begin{pmatrix} be_{12} \\ be_{22} \end{pmatrix} = \begin{pmatrix} e_1 \\ e_2 \end{pmatrix} + \begin{pmatrix} gd_{11} & gd_{12} \\ gd_{21} & gd_{22} \end{pmatrix} \begin{pmatrix} e_1 \\ e_2 \end{pmatrix} \quad (a3-20)$$

Right side clause 1 becomes “Direct Ripple Effect”, and term 2 becomes “Indirect Ripple Effect”

$$\bullet \text{ “Debit” (by imports) } \begin{pmatrix} bm_{12} \\ bm_{22} \end{pmatrix} = \left[\begin{pmatrix} fd_1 + e_1 \\ fd_2 + e_2 \end{pmatrix} - \begin{pmatrix} f_1 + e_1 \\ f_2 + e_2 \end{pmatrix} \right] + \left[\begin{pmatrix} gd_{11} & gd_{12} \\ gd_{21} & gd_{22} \end{pmatrix} \begin{pmatrix} fd_1 + e_1 \\ fd_2 + e_2 \end{pmatrix} - \begin{pmatrix} g_{11} & g_{12} \\ g_{21} & g_{22} \end{pmatrix} \begin{pmatrix} f_1 + e_1 \\ f_2 + e_2 \end{pmatrix} \right] \quad (a3-21)$$

Right side term 1 becomes “Direct Ripple Effect” flowing out by imports of final goods, and clause 2 becomes “Indirect Ripple Effect” flowing out in production process due to imports.

$$\bullet \text{ “Balance of Ripple Effect” } \begin{pmatrix} bn_1 \\ bn_2 \end{pmatrix} = \begin{pmatrix} be_1 \\ be_2 \end{pmatrix} - \begin{pmatrix} bm_1 \\ bm_2 \end{pmatrix} \quad (a3-22)$$

“Balance of Ripple Effect” can be decided by calculation to seek the gap between “Credit” (inducement by exports) and “Debit” (flowing out by imports).

$$\bullet \text{ Inducement Amount by “Domestic Demand” } \begin{pmatrix} bfd_1 \\ bfd_2 \end{pmatrix} = \begin{pmatrix} fd_1 \\ fd_2 \end{pmatrix} + \begin{pmatrix} gd_{11} & gd_{12} \\ gd_{21} & gd_{22} \end{pmatrix} \begin{pmatrix} fd_1 \\ fd_2 \end{pmatrix} \quad (a3-23)$$

When it comes to the values, for the sake of comparison, all ratios are calculated by making “Ripple Effect” caused by “Domestic Demand” to be the denominator.

Formula to Calculate Production

“Domestic Production” is the total of “Ripple Effect” caused by each final demand. When it comes to “Non-Competitive Type”, the imports are treated as endogenous variable so that the production can be calculated by adding up “Ripple Effect” of “Domestic Demand” and “Ripple Effect” of “Foreign Demand”. A turnout is found if I add up “Ripple Effect” of “Domestic Demand” and “Ripple Effect” of “Foreign Demand” to handle imports as endogenous variables in the case of “Non-Competitive Type”.

On the other hand, when it comes to “Competitive Type”, the imports are treated as exogenous variables when using Formula to calculate production amount transposing formula a3-17.

$$\bullet \text{ “Competitive Type” } \begin{pmatrix} x_1 \\ x_2 \end{pmatrix} = \begin{pmatrix} bfd_1 \\ bfd_2 \end{pmatrix} + \begin{pmatrix} be_1 \\ be_2 \end{pmatrix} \quad (a3-24)$$

$$\bullet \text{ “Non-Competitive Type” } \begin{pmatrix} x_1 \\ x_2 \end{pmatrix} = \begin{pmatrix} sf_1 \\ sf_2 \end{pmatrix} + \begin{pmatrix} se_1 \\ se_2 \end{pmatrix} - \begin{pmatrix} sm_1 \\ sm_2 \end{pmatrix} \quad (a3-25)$$

Calculation of Employment Effect

We use “Employment List” that is an attachment of “Input-Output Table” to calculate employment. “Employment List” shows the number of the employees in each production sector, and “Employment Coefficient” is calculated by dividing the number of employees in each sector by Domestic Production. This “Employment Coefficient” shows the number of newly employed people by production of ¥1,000 thousands at each sector. By multiplying this by the amount of “Ripple Effect” occurring in each sector, the number of employment caused by ripple to production can be calculated. In addition, like production amount, inducement effect of employment can be divided and shown according to

“Domestic Demand” and “Foreign Demand” according to sources of inducement in this calculation.

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Additional notes 1 is for Section 2 of Chapter 1, additional notes 2 is common for all over the Chapter 2 and additional notes 3 is for Section 3 of Chapter 2.

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