

Chapter 1 The world economy facing difficulties, and its prospect for new development driven by the “five billion” market

The world economy is approaching a major turning point.

Up until now, amid the “globalization of economies” in which the “domain” of various economic activities has expanded on a global scale, rapid economic growth has been continuing driven by an “globally improved efficiency in resource allocation and increased productivity.”¹ As a result of the increasing cross-border movement of goods and factors of production which includes workers, materials, capital, know-how and skills, economic development of the emerging market with four billion people has been initialized and its economic scale has more than doubled in the past five years.

On the other hand, the enhanced cross-border movement of these products and factors, in particular of money and materials, also gives rise to significant difficulties to whole economy in the world.

The first risk is the financial and capital market turmoil that spreads across the world, caused by the subprime mortgage problem in the United States the driving force behind global economic growth with its steady consumption. There are a fear that the financial and capital markets turmoil will spread to the real economies across the world through deteriorating credit-creating function and interconnection between countries mediated by cross-border trade and investment. The second risk is the globally soaring prices of natural resources and food which have been initiated by economic growth of populous emerging countries such as China and India and accelerated by inflow of huge money into the international commodity market. Not only do these risks clearly indicate the “integration” of the world economy realized by strong comovements between countries in both financial and real terms², but they also symbolize the “multipolarization” of the world economy in the underlying causes and proliferation process.

What expected to be a new driving force for “sustainable development” of the world economy standing on such turning point is a new world market of “five billion” people constituted by emerging countries that are coming up with their growing presence, their deepening interconnection with advanced economies of ten billion people as well as interconnection between emerging countries themselves. In particular, as a result that consumption and investment in emerging countries have sequentially expanded through the interconnection between them and achieved a virtuous cycle, the new market has actually begun to act as a driving force for new development. The “five billion” market is continuing to expand to a global scale amid globalization of economies, and nothing but its self-sustaining development should be the driving force for new development of the world economy. It also should be noted that emerging markets in their development process are facing challenge of constraint on environmental and natural resources as is indicated by the soaring prices of natural

¹ For a basic summary on the concept of the globalization of economies, see Q7 of the METI External Economic Policy Site (http://www.meti.go.jp/policy/trade_policy/tradeq_a/index.html) and the *White Paper on International Economy and Trade 2006*.

² The real economy and financial/capital markets also strongly affect each other (see Section 1 of this chapter).

resources and food prices, urbanization, aging societies, health and safety³ including natural disasters, and are expected to addressing these challenges in consistent with economic growth.

Based on the basic recognition above, this chapter reviews the current status and issues of the global economy. Section 1 presents an overview of how the integration and multipolarization of the world economy are progressing simultaneously, and in particular, demonstrates that these two risks of the financial system stability and inflationary pressures are closely connected with the integration and multipolarization of the world economy. The section also summarizes the linkage between the world economy and the Asian and Japanese economies.

Section 2 presents an overview of the United States economy entering an adjustment phase, and the European economy facing difficulties in handling these two risks.

Section 3 looks at the economies of emerging countries. It summarizes their potential as a new final goods market and their challenges for sustainable development. It also presents an overview of the Chinese economy, the Indian economy, natural-resource rich countries, as well as the economies of other Asian countries and the region.

Section 1 Current status of the global economy

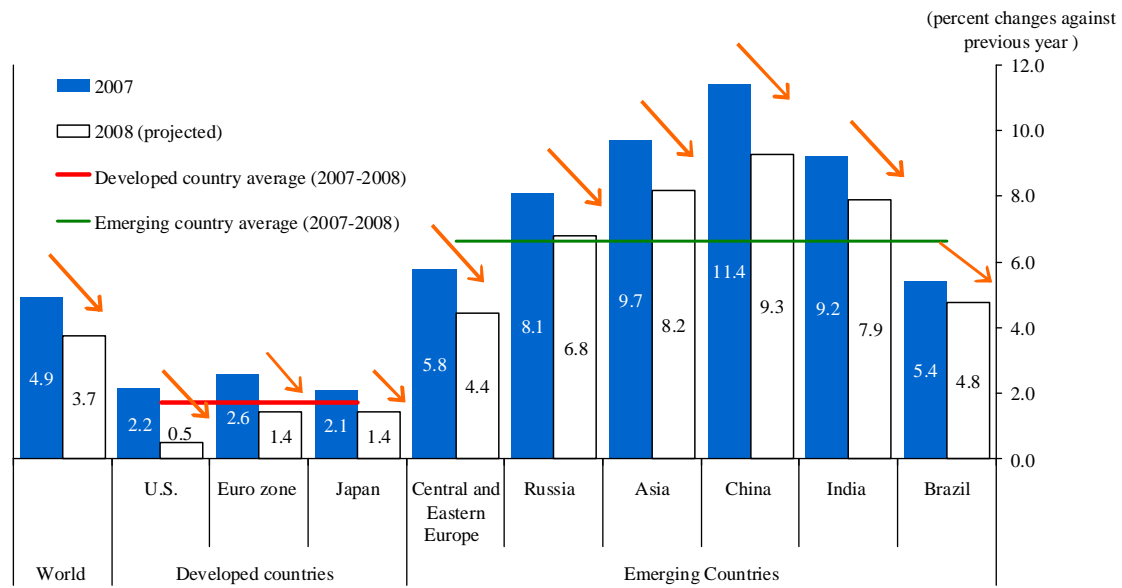
1. Integration and multipolarization of the world economy

According to the IMF World Economic Outlook⁴, the growth rates in 2008 for both developed countries and regions (hereinafter referred to as “developed countries”) and for emerging countries and regions (hereinafter referred to as “emerging countries”) are projected to be lower than 2007. On the other hand, in terms of level, emerging countries are far above developed countries (see Figure 1-1-1). The concurrent decline in growth rates suggests comovement between countries in the world, and the relatively high growth rates of emerging countries suggest transition of the world economy from economic growth driven exclusively by developed countries to multipolar economic growth driven by countries includes emerging countries. The following verifies these movements of the integration and multipolarization in the world economy by utilizing statistical data including international trade and investment of individual countries.

³ Since the beginning of 2008, two heartrending disasters have occurred: a cyclone in Myanmar and a major earthquake in Sichuan Province, China.

⁴ IMF, “World Economic Outlook Database (April 2008)”.

Figure 1-1-1 Simultaneous movements of integration and multipolarization in the world economy



Source: IMF (2008a).

(1) The integrating world economy

(The growing world economy)

The growth rate of world economy achieved annual average rate of 7.9%, which is far beyond the 1990s' annual average rate of 3.4%⁵.

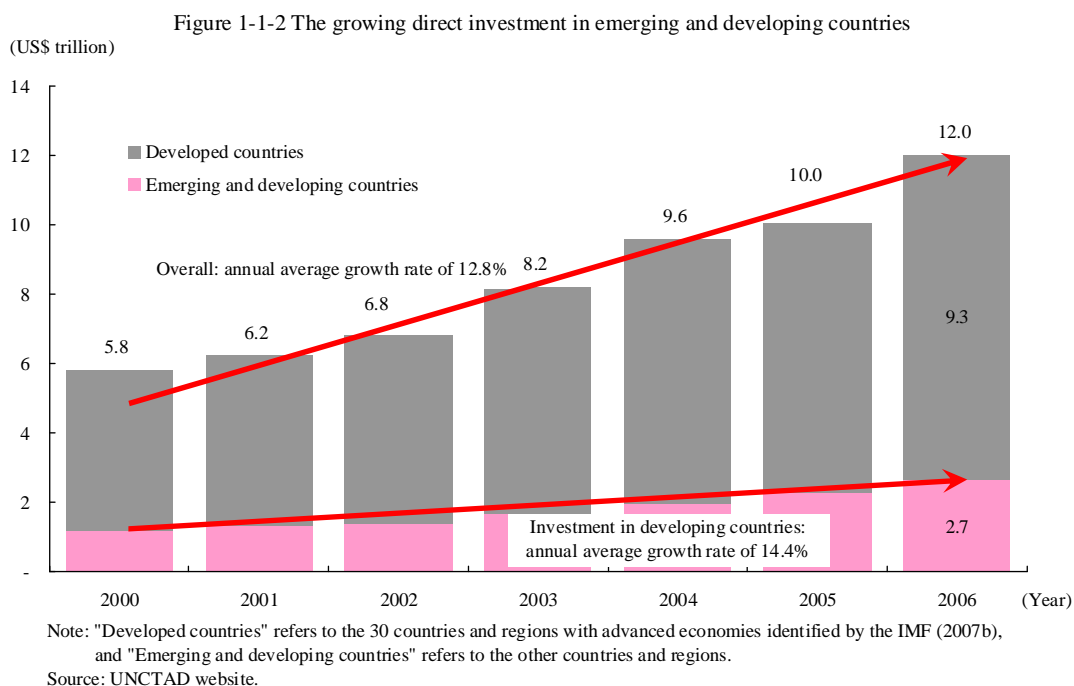
The major driving force behind this rapid growth has been the integration of the world economy via the expansion of international trade and investment. Since the start of the century, backed by a reduction in distribution costs, information and communications costs and tariff rates, growth rate of international trade in goods and services rose to annual average of 11.5%⁶ and growth rate of direct investments outstanding rose to annual average of 12.8%⁷ (see Figure 1-1-2)⁸.

⁵ 2000-2007 nominal GDP. Based on US dollars.

⁶ 2000-2007. Based on US dollars.

⁷ 2000-2006. Based on US dollars.

⁸ See Chapter 2 - 2 regarding the globalization of goods and services.



(The increasing presence of emerging countries among the world economy)

The accelerated integration of the economies of emerging and developing countries into the world economy is playing a particularly central role in the integration of the world economy. Since the turn of the century, trade in goods and services by emerging countries rose at 16.4%⁹ (3.8% in the late 1990s) and reached 32.0% in its share of world trade in 2007. What accelerated the integration of emerging countries into world trade was the direct investment inflow into emerging countries increasing immediately after the Asian currency crisis in 1997, which has expanded the production capacity of emerging countries significantly¹⁰. The trade dependence ratio of developing countries already surpassed 50% in 2001, has exceeded 70% in 2005, then reached 71.1% in 2007 (see Figure 1-1-3).

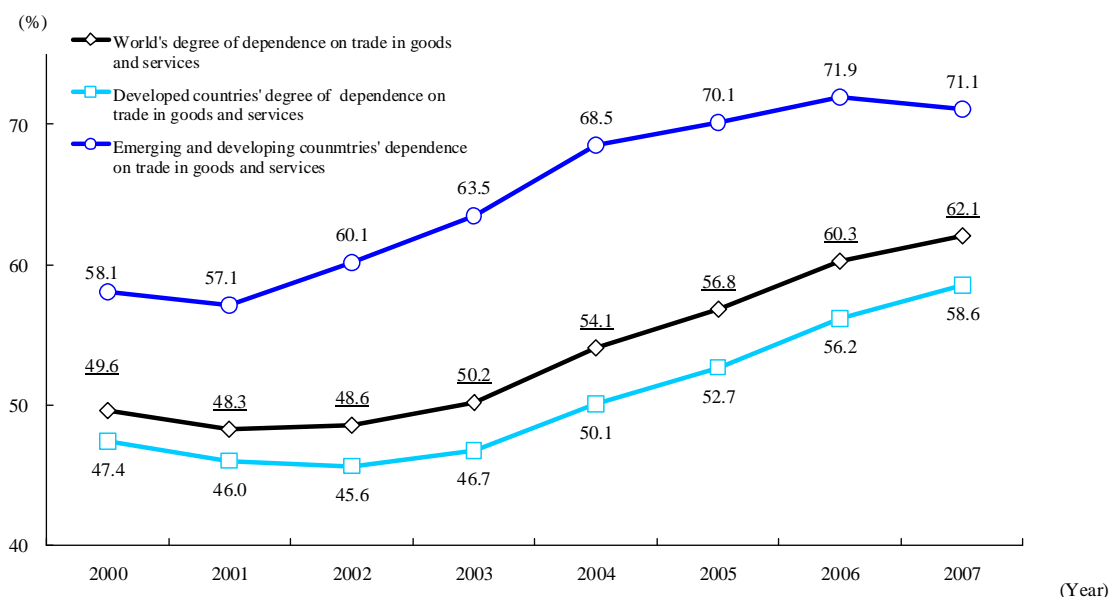
Looking at the situation surrounding capital transactions, financial inflows in the form of equity investment from developed countries into emerging countries have expanded as rapidly as direct investments against a backdrop of informatization and deregulation, and in response to the growth of real economies in emerging countries (see Figure 1-1-4). As a result, financial integration of the world economy has also deepened in recent years there has been increased comovement between the United

⁹ 2000-2007. Based on US dollars.

¹⁰ In fact, in emerging countries in the Asian region, the industrial production index has risen in pace with the increase in the balance of direct inward investment. The industrial production index of the nine countries and regions of India, Republic of Korea, Taiwan, Hong Kong, Singapore, Malaysia, Thailand, Indonesia, and the Philippines (China is excluded as it has not released its industrial production index) with base year 2000 = 100, had increased to 143.7 in 2007. Meanwhile, the balance of foreign direct investment (all industries) had increased 1.7 times, from US\$762 billion in 2000 to US\$1,309 billion in 2006 (UNCTAD (2007)).

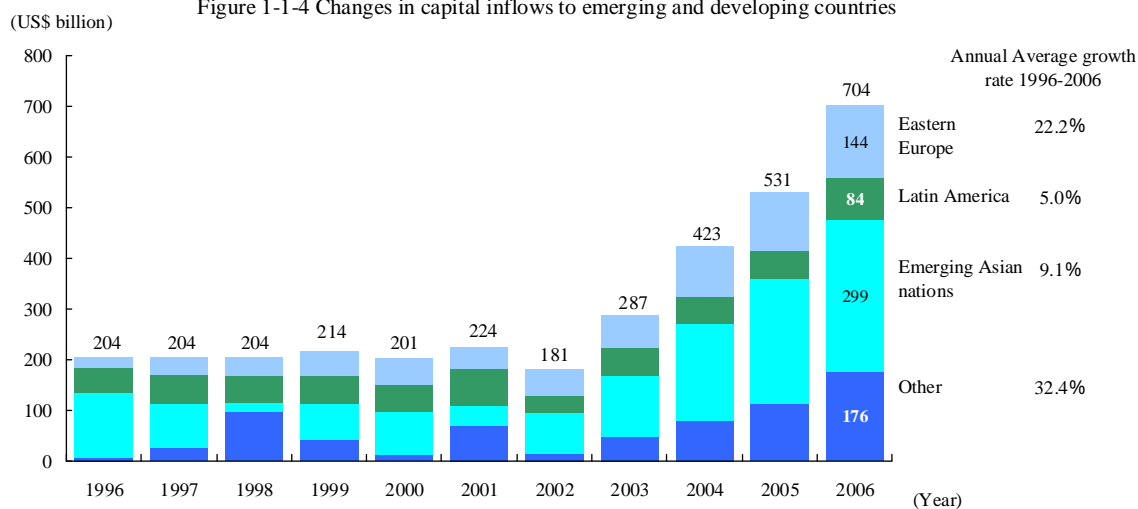
States stock market and the stock markets of emerging countries in such regions as Asia, Central and Eastern Europe, and Latin America (see Figure 1-1-5).

Figure 1-1-3 World's Degree of dependence on trade in goods and services



Note: Degree of Dependence on trade in goods and services = (export in goods and services + import in goods and services) / nominal GDP
Source: IMF (2008a).

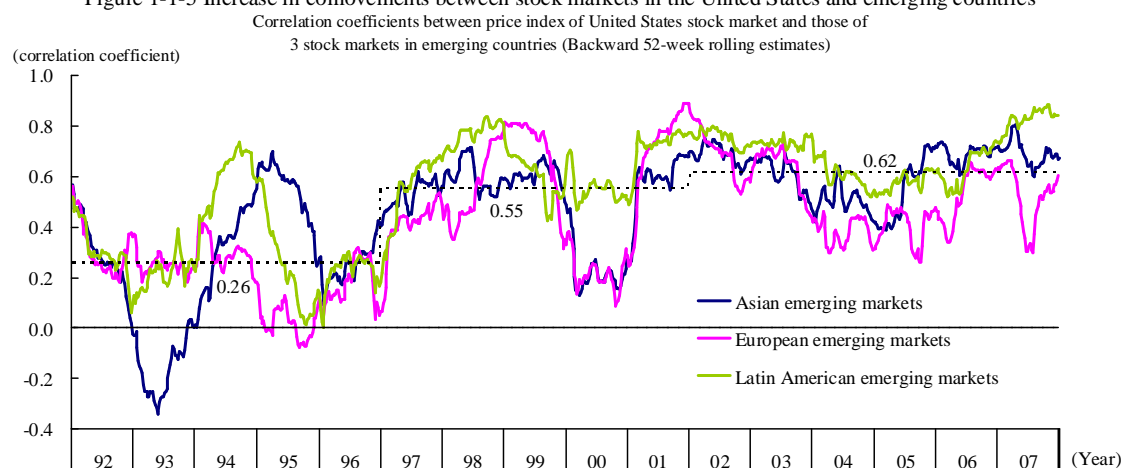
Figure 1-1-4 Changes in capital inflows to emerging and developing countries



Notes: 1. Eastern Europe includes the following countries: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Romania, Slovenia, and Ukraine.
2. Latin America includes the following countries: Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay, and Venezuela.
3. Emerging Asian nations includes the following countries: China, India, Indonesia, South Korea, Malaysia, the Philippines, Taiwan, and Thailand.

Source: McKinsey & Company (2008).

Figure 1-1-5 Increase in comovements between stock markets in the United States and emerging countries



Notes: All price indexes are de-trended using HP filter before calculating the correlation coefficients between them. The dotted lines are arithmetic averages of the correlation coefficients for corresponding periods. S&P500 for the United States stock price index. MSCI index by Morgan Stanley Capital International Inc. for emerging markets stock price indexes.

The country/region composition of each of the emerging markets is as follows: European emerging markets: Czech Republic, Hungary, Poland, Russia, and Turkey.

Asian emerging markets: China, India, Indonesia, Republic of Korea, Malaysia, Pakistan, Philippines, and Taiwan.

Latin American emerging markets: Argentina, Brazil, Chile, Colombia, Mexico, and Peru.

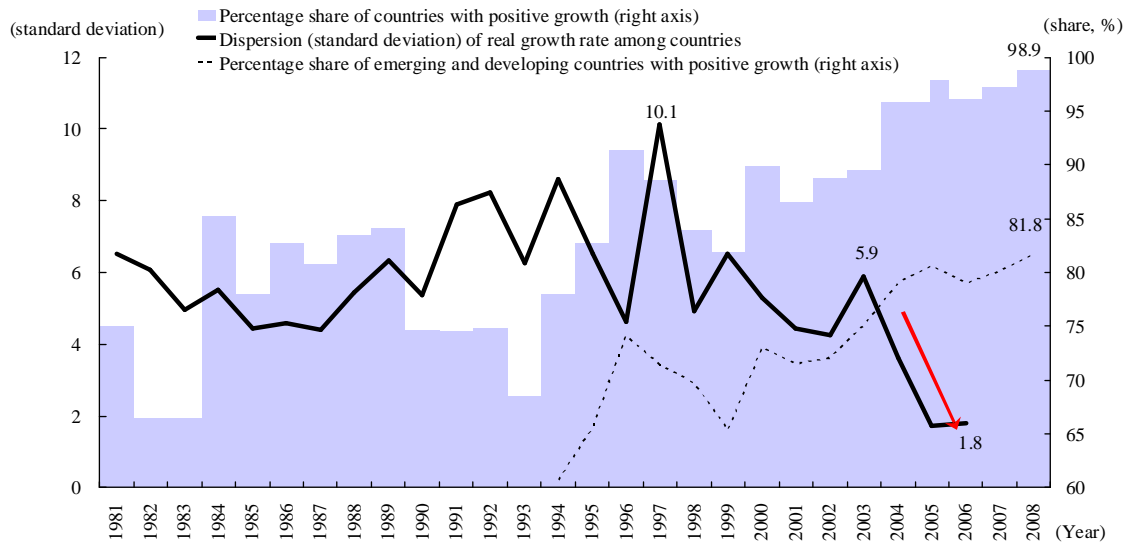
Sources: S&P, MSCI indexes.

(2) The multipolarizing world economy

(Increasing number of countries with positive growth)

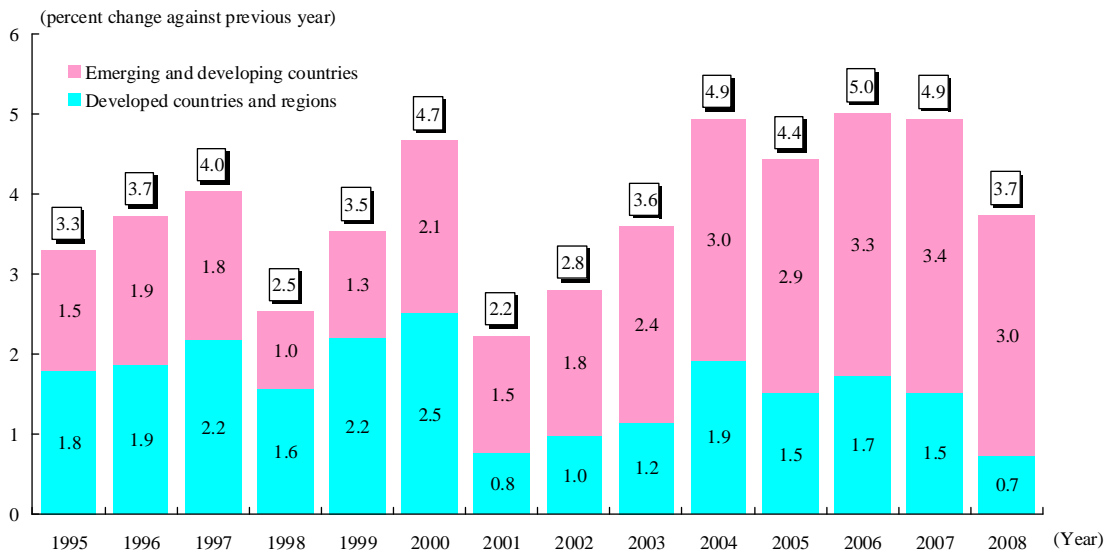
Together with the abovementioned integration of the world economy via international trade and investment, since 2004, the ratio of countries with positive growth of which emerging and developing countries consist its major part has been rapidly increasing. Furthermore, the variance of growth rates between countries has decreased which reflects increased comovement (see Figure 1-1-6). As a result, the contribution of developed countries to global economic growth and global imports has been on a downward trend in recent years (see Figures 1-1-7 and 1-1-8), and we can see that the world economy's growth engine has shifted from the previous structure led by the developed countries to become more multipolarized with the participation of emerging and developing countries.

Figure 1-1-6 Increasing comovements between individual economies, and an increase in the share of countries with positive growth



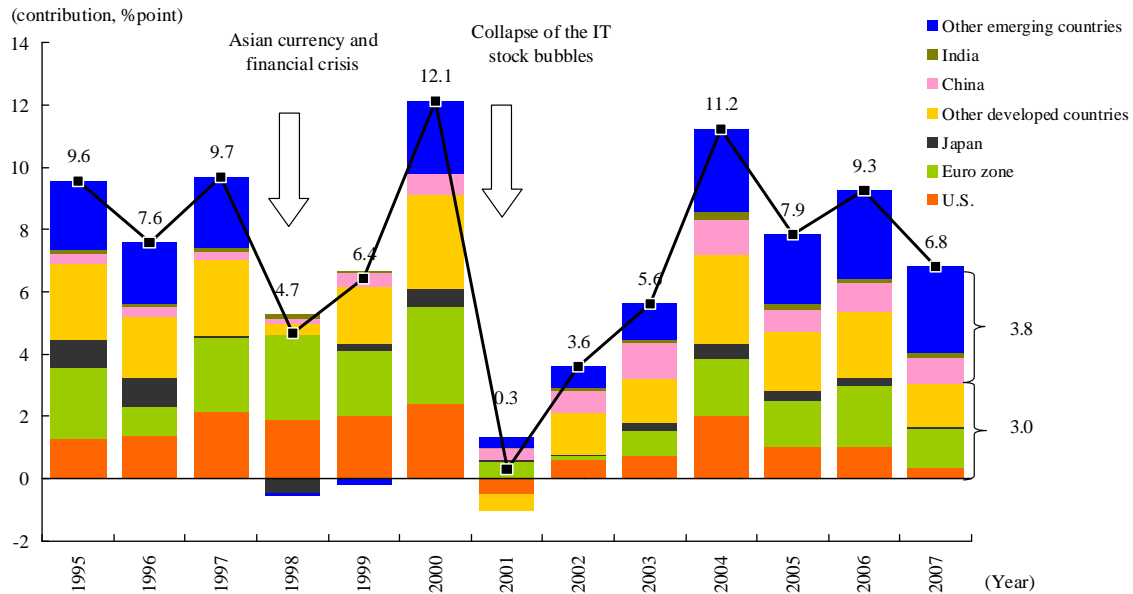
Note: Figures from 2007 are IMF projections.
Source: IMF (2008a).

Figure 1-1-7 Decomposition of the world economy's real GDP growth rate



Note: "Developed countries" refers to the 31 advanced economies identified in the World Economic Outlook Database April 2008 (IMF), and "emerging and developing countries" refers to the rest of the Developed countries.
Figures for all countries and regions from 2007 are IMF projections. Figures for some countries and regions until 2006 may include IMF projections.
Source: IMF (2008a).

Figure 1-1-8 Contribution to changes in world import by countries and regions (on a quantities basis)



(Integration of the world economy and increased comovement)

In general, it is considered that an increase in interdependency among economies will simultaneously increase the business cycle comovement between countries, and therefore contribute for an increasing volatility of business cycle fluctuations across countries in the world¹¹.

In this case, the recession in a major power that is a driving force in the world economy may, through globally integrated channels of international trade and finance, immediately spread and induce a decrease in production among other countries¹².

(Increased multipolarization, increased interdependency among emerging and developing countries)

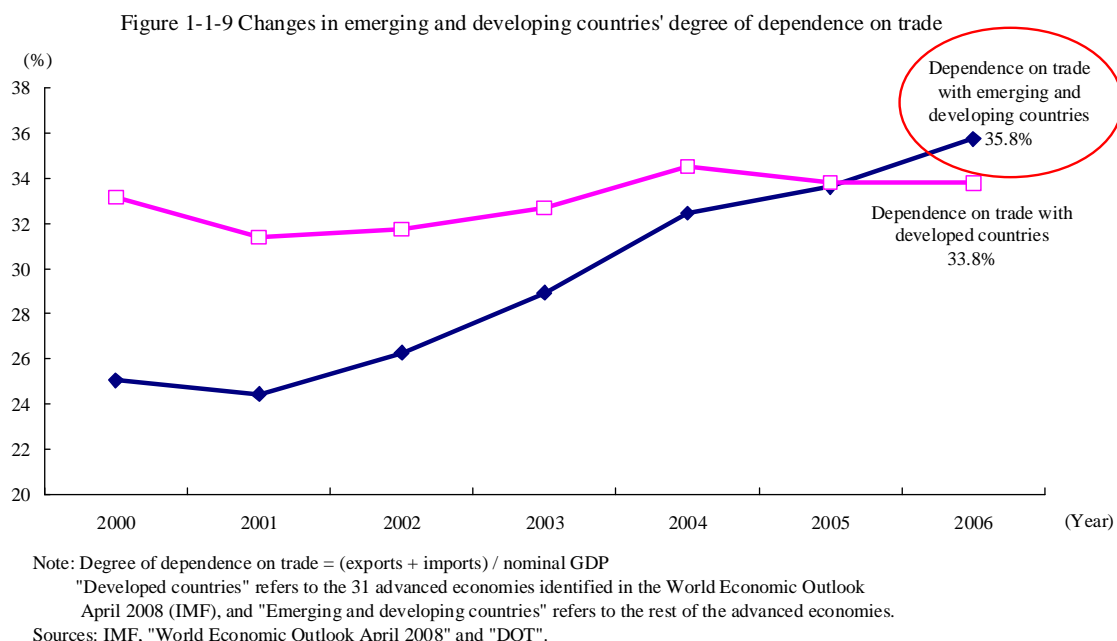
On the other hand, diversification of export contributes to dispersion of risk to fall into recession for a particular country and increase in the probability to stabilize its export and domestic production. In other words, this means that the growth engine of the world economy is multipolarized and therefore a country will be capable of offsetting any decrease in domestic production incurred from recession in a particular trading partner country by increase its export to other partner countries.

In fact, interconnection between emerging and developing countries through international trade and investment are deepening. Looking at foreign trade dependency ratios of emerging and developing

¹¹ It is also argued that, in addition to the advancement of trade openness, the liberalization and globalization of financial and capital markets are also considered as a factor in increasing comovement between countries. For more information, see Chapter 1-2.

¹² For example, it is argued that, as a result of the advances in construction of global production systems, the easier dissemination of a shock originated overseas into domestic production through the globally stretched supply chains constitutes one of the causes why the collapse of the IT stock bubble originated in the United States in about the year 2000 had a major global impact (Nagata and Kawamoto (2007)).

countries, dependency on trade with emerging and developing countries exceed that with developed countries, thus emerging and developing countries are strengthening their interconnections with one another through the international trade of goods and services against a backdrop of their rapid growth with increased production capacity and the associated expansion of domestic demand (see Figure 1-1-9)¹³.



(Potential for stabilization of the world economy)

Backed by this multipolarization of the growth engine, the global economic growth rate has also tended to be stable in recent years. Looking at the movements in OECD leading economic indicators¹⁴, which shows future business cycle conditions in developed countries, the range of fluctuation has significantly decreased in recent years (see top graph in Figure 1-1-10). Shifts toward this kind of stabilization of economic fluctuations are also apparent in the movements of Japan's industrial production index (see middle graph in Figure 1-1-10).

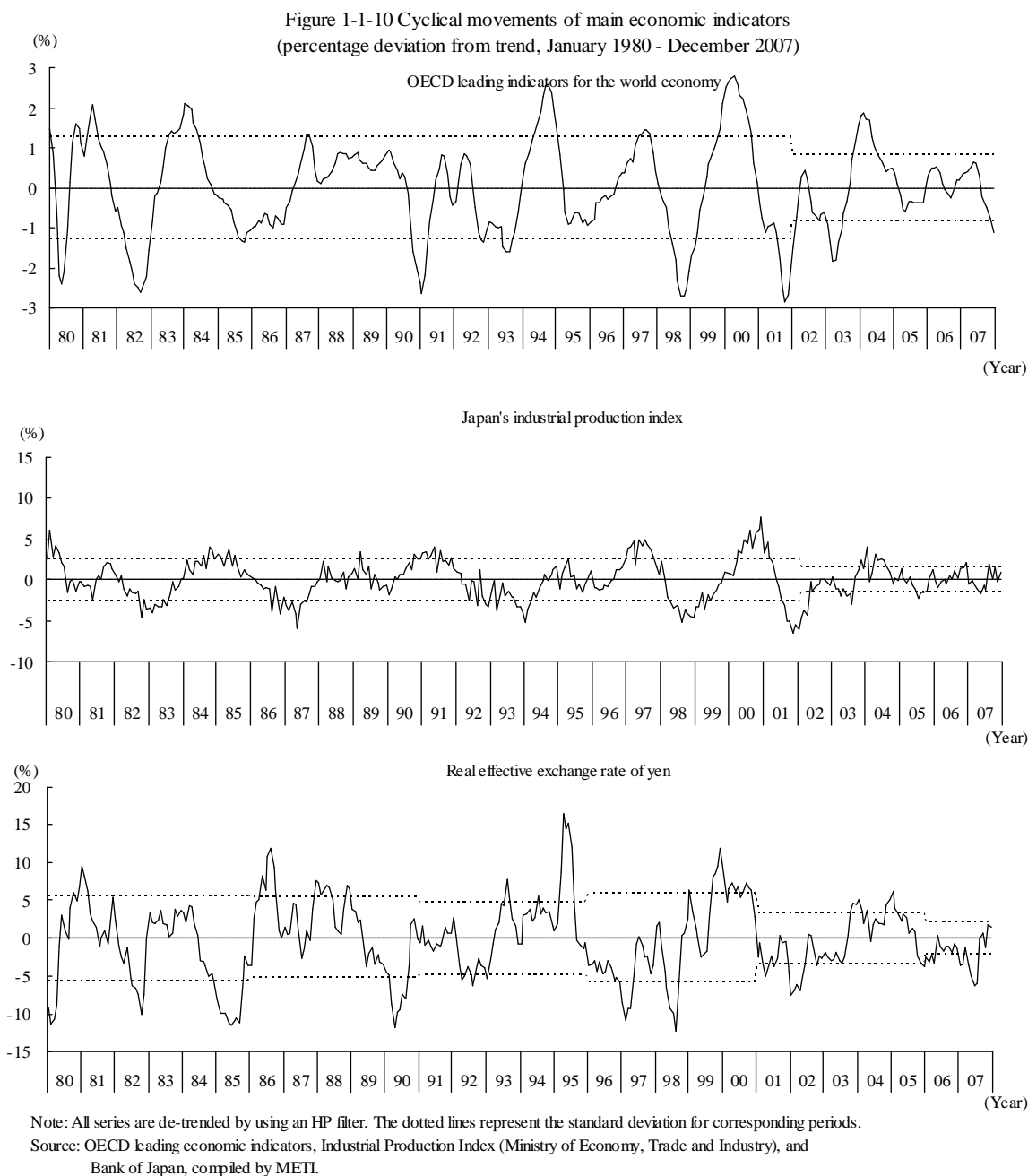
As for the background of the stabilization of the world economy, it is considered that, in addition to the multipolarization of the growth engine, operational improvements in monetary policy and, in particular, the stabilization of terms of trade as well as trade liberalization in emerging countries played a significant roll¹⁵. Furthermore, it is also considered that absence of major universal shock that may cause a simultaneous fluctuation between countries has also contributed¹⁶.

¹³ Looking at the degree of dependence on trade of emerging and developing countries, since the turn of the century, their dependence on trade with developed countries has remained flat, whereas their dependence on trade with other emerging and developing countries has increased rapidly.

¹⁴ The OECD leading economic indicators provide early signals of turning points (peaks and troughs between expansions and slowdowns of economic activity). They are calculated by combining main short-term economic indicators of 23 OECD member countries which regarded as proxy measures for their GDP cycles.

¹⁵ For example, as for the reasons why production fluctuations in various countries and regions since 2000 are smaller than those during the 1970s, the IMF (2007b) exhibits significant contributions by operational improvements in monetary and fiscal policy for developed countries, whereas, for emerging countries,

Moreover, it is another important factor that the relatively stable movements between currencies including the Japanese yen and the US dollar have contributed to minimize the effect on international price competitiveness of exporting industries across countries in the world (see bottom graph in Figure 1-1-10)¹⁷.



trade liberalization and stabilization of terms of trade in addition to operational improvements in monetary policy played a significant roll. .

¹⁶ In this sense, it cannot be denied that there is the potential for the turmoil in the international financial and capital markets caused by the current US subprime mortgage problem to spill over into the real economies of individual countries as a major universal shock, like causing synchronized fluctuations in each country's economy, just as with the collapse of the IT bubble in the year 2000.

See section 2 of this chapter regarding the subprime mortgage problem.

¹⁷ However, in this respect, there are concerns that, since 2008, foreign exchange is becoming unstable again.

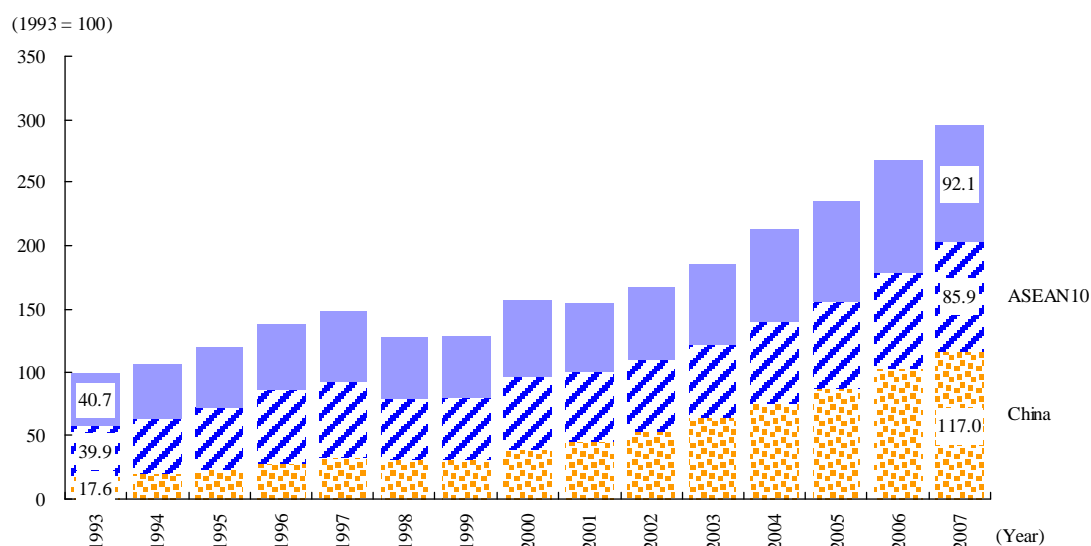
(3) Asia's position in the world economy

As the integration and multipolarization of the world economy has advanced, Asia (ASEAN+6) as a world growth center serving as a driving force for the world economic expansion has achieved an average annual growth rate of 6.2% throughout this century.

Asia's intra-regional trade ratio increased from 34.4% in 2001 to 38.1% in 2006 suggests that substantial economic integration into a regional economic zone is in progress. Japan increasing its exports and imports with Asia has deepened interdependence with Asia (see Figure 1-1-11).

According to an analysis of Asia's interdependency using the extended *Asian International Input-Output Table* (JETRO), since 2000, the rising final demand in Asia has increased its inducement effect on many Asian countries' domestic production including China against the background of increasing trade in intermediate goods through production networks (see Figure 1-1-12)¹⁸.

Figure 1-1-11 Changes in trade value (exports + imports) between Japan and other Asian countries and regions

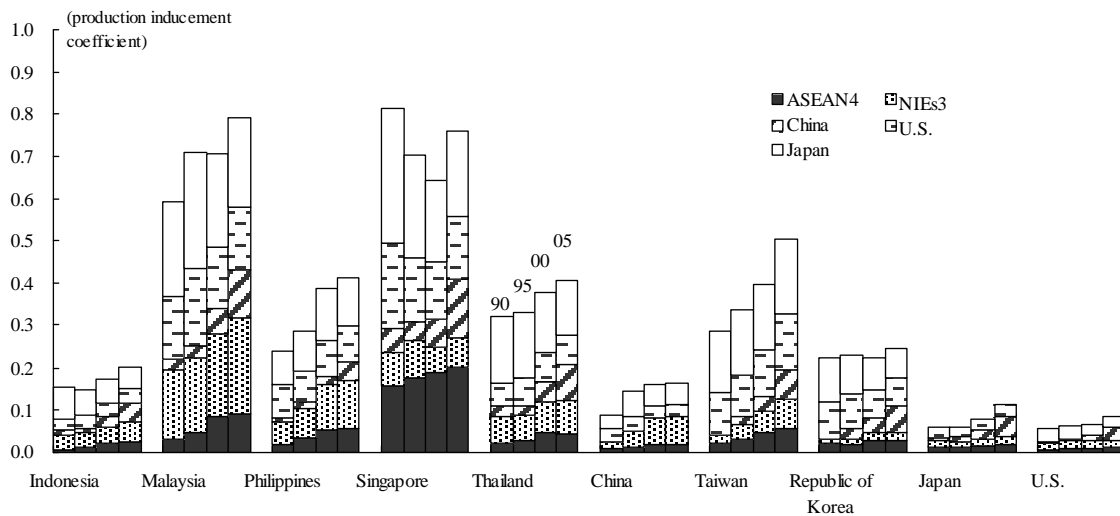


Note: "NIEs3" refers to Republic of Korea, Taiwan, and Hong Kong. "ASEAN10" refers to Vietnam, Thailand, Singapore, Malaysia, Brunei, Philippines, Indonesia, Cambodia, Laos, and Myanmar.

Source: Ministry of Finance, "Trade Statistics of Japan"

¹⁸ In 2005, the Nomura Securities Financial & Economic Research Center conducted analysis on the dependence of Japan's domestic production on demand by other countries and regions by similarly extending the *Asian International Input-Output Table* (JETRO). The results of the analysis show that, as of 2005, Japan's dependence on eight Asian countries (China, Republic of Korea, Taiwan, Indonesia, the Philippines, Thailand, Malaysia, and Singapore) (7.5%) had exceeded its dependence on the United States (7.2%) (Nomura Securities Financial Research Center, *NIHON KEIZAI KATSURYOKU IJI NO JOUKEN*).

Figure 1-1-12 Changes in the production inducement coefficients of Asian countries



Note: Production inducement effects of increase in final demand in each country(region) on other countries(regions) are measured by using the JETRO Asian International Input-Output Table for each year (extended table for 2005).

See Supplementary Note 1-1 for the estimation method of the production inducement effect.

Source: Mori, T. and H. Sasaki (2007).

(Asia as an economic zone)

From viewpoint of an economic zone, Asia constitutes an enormous economic zone among the world economy following the United States and Europe which accounts for five-tenths of the world's population, two-tenths of nominal GDP¹⁹ and two-tenths of the world's imports in goods and services (see Figure 1-1-13).

Table 1-1-13 Main economic indicators of Asia, U.S. and EU27

	U.S.	Asia ^(Note 1)	EU27
Population (2007)	4.5%	48.5%	7.4%
Nominal GDP as a share of world GDP(market exchange rates) (2007)	25.5%	22.8%	31.0%
Nominal GDP as a share of world GDP(purchasing power parity) (2007)	21.3%	30.1%	22.7%
Imports in goods as a share of world imports (2006) ^(Note 2)	15.5%	11.5%	13.9%
Nominal personal consumption as a share of world personal consumption(2006) ^(Note 3)	30.4%	19.2%	31.5%
Nominal GDP per capita (market exchange rates) (2007)	US\$45,845	US\$3,825	US\$34,108
Nominal GDP per capita (market exchange rates) (top country / bottom country) (2007) ^(Note 4)	----	US\$43,312/ US\$235	US\$104,673/ US\$5,186
Nominal growth rate (2007)	4.9%	11.7%	5.5%
Growth rate of personal consumption (2006)	6.1%	4.8%	5.6%
Growth rate of fixed asset investment (2006)	6.3%	11.4%	9.1%
Degree of dependence on export (export value / nominal GDP) (2006) ^(note5)	7.9%	16.4%	10.1%
Degree of dependence on intra-regional export (intra-regional export in goods / nominal GDP, 2006)	----	10.2%	21.1%

Notes 1: The 13 countries and regions of: Thailand, Philippines, Indonesia, Malaysia, Singapore, Vietnam, Japan, China, Republic of Korea, Taiwan, India, Australia, and New Zealand.

2: For Asia and EU27, refers to imports from outside the region. Asia excludes Taiwan.

3: Asia excludes Taiwan.

4: The top country in Asia is Australia, and the bottom country is Myanmar. The top country in the EU27 is Luxembourg, and the bottom country is Bulgaria.

5: For Asia and EU27, refers to the degree of dependence on exports to outside the region. Asia excludes Taiwan.

Sources: IMF (2008a); IMF, DOT; Bloomberg.

¹⁹ On a purchasing power parity basis, Asia exceeds three-tenths, greater than both the United States and the EU.

However, in terms of extra-regional import that indicates a region's potential as a growth engine for the world economy, Asia accounts for only 7.3% of world imports (see Table 1-1-14). This is one-third that of the United States (19.6%) and half that of the EU27 (15.4%), and the ratio increases to merely around one-tenth by including intermediary goods.

In the following, we verify the structure of demand in Asia.

Table 1-1-14 Share of trade in final goods and intermediate goods among major countries and regions (2006)

(%)

2006年			Inports					
			Asia	Outside of Asia	EU27	Outside of EU27	U.S.	Total
Exports	Final goods	Asia	13.0	23.7	8.5	28.1	10.3	36.6
		Outside of Asia	7.3	56.1	33.5	29.8	9.3	63.4
		EU27	3.6	36.1	26.7	13.0	3.3	39.7
		Outside of EU27	16.7	43.6	15.4	45.0	16.3	60.3
		U.S.	2.5	6.4	2.5	6.5	0.0	8.9
		Total	20.3	79.7	42.0	58.0	19.6	100.0
	Intermediate goods	Asia	21.5	12.1	4.4	29.2	4.4	33.6
		Outside of Asia	10.5	55.9	33.1	33.2	8.9	66.4
		EU27	3.2	33.2	25.2	11.1	3.0	36.4
		Outside of EU27	28.8	34.8	12.3	51.3	10.4	63.6
		U.S.	3.1	7.0	2.3	7.8	0.0	10.2
		Total	32.0	68.0	37.5	62.5	13.3	100.0
	Final goods + intermediate goods	Asia	17.7	17.3	6.3	28.7	7.0	35.0
		Outside of Asia	9.1	56.0	33.3	31.7	9.1	65.0
		EU27	3.4	34.5	25.9	12.0	3.1	37.9
		Outside of EU27	23.4	38.8	13.7	48.5	13.0	62.1
		U.S.	2.9	6.8	2.4	7.2	0.0	9.6
		Total	26.7	73.3	39.6	60.4	16.2	100.0

Note: In this table, "Asia" refers to the 16 countries and regions of: Japan, China, Hong Kong, Taiwan, Republic of Korea, Singapore, Thailand, Malaysia, Indonesia, Philippines, Vietnam, Brunei, Cambodia, India, Australia, and New Zealand.

Source: Research Institute of Economy, Trade and Industry (RIETI), RIETI-TID 2007 .

(a) Asia's low ratio of intra-regional exports

Looking first at the extent to which Asia's exports are destined to the region, 50.6% or a half of their export in intermediate goods and final goods are destined to the region. However, as for final goods, the ratio decreases to 35.4% (see Figure 1-1-15).

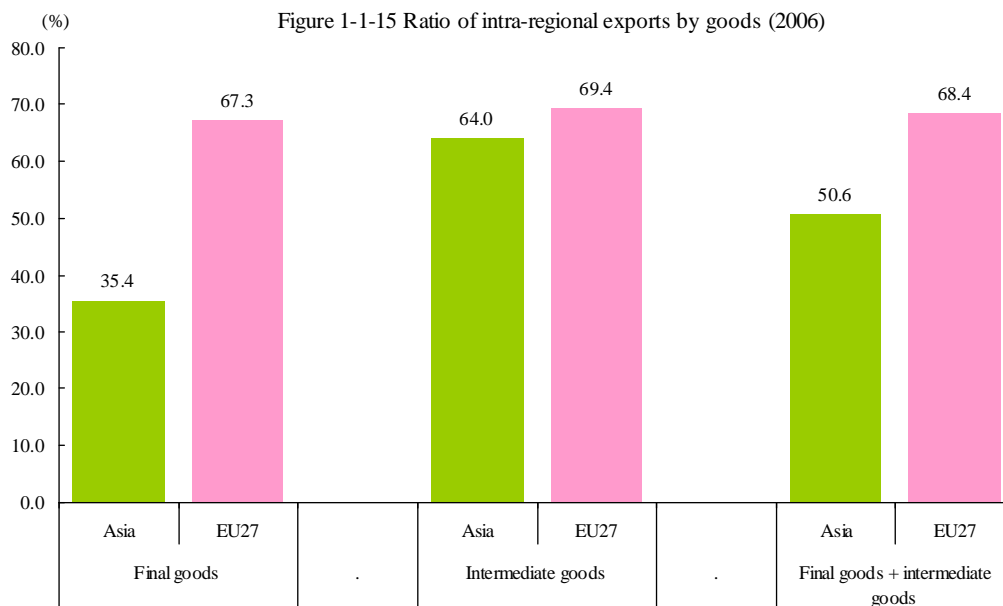
Looking next at the breakdown of exports to outside the region, exports in final goods to Europe and the United States account for half of all exports in final goods: exports in final goods to the United States account for 28.1% and exports in final goods to the EU27 account for 23.3% of all exports in final goods respectively (see Figure 1-1-16). Considering the facts that many of intermediate goods²⁰ exported from Asia to third countries are processed into final goods and then re-exported to Europe

²⁰ Naturally, in addition to just intermediate goods, if capital goods in the final goods category are used by a third country's export industries to Europe or the United States, then these can also be viewed as being indirect exports.

and the United States (indirect exports), Asia's ratio of exports to outside the region may well be higher²¹.

Turning instead to the EU economic zone (EU27), 68.4% of their export in final goods and intermediate goods are exported to the region, which is higher than Asia.

In terms of final goods, the figure for the EU27 amount to 67.3% and thus difference against Asia increases furthermore (see Figure 1-1-15)²². Then, looking at the export of final goods from the EU27 to outside the region (see Figure 1-1-16), figures of 8.3% for the United States and 9.0% for Asia show it is well balanced with no particular country or region having a prominent share.

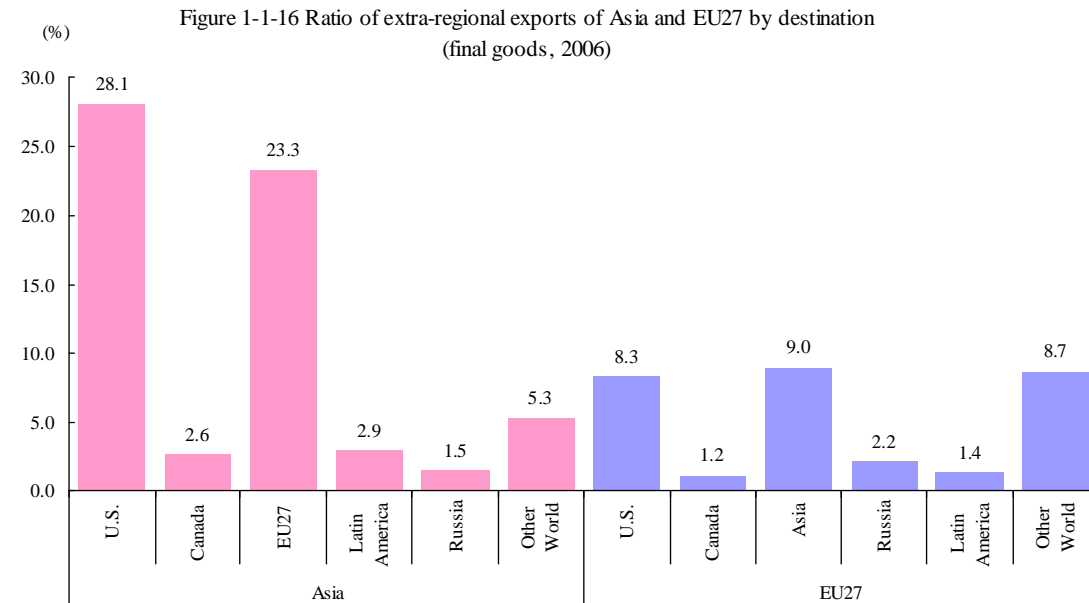


Note: Ratio of intra-regional exports from Region A = sum of intra-regional exports of countries comprising Region A / sum of total exports of countries comprising Region A. For the scope of Asia, see the notes on Table 1-1-14.

Source: Research Institute of Economy, Trade and Industry (RIETI), "RIETI-TID 2007" .

²¹ For example, the ADB (2007) has estimated the Asian region's ratio of extra-regional exports, which includes indirect exports, by using each country's inter-industry relations tables. According to this, despite there being some differences in the scope of the region (for example, Japan not being included within the region), 61.3% of final goods and intermediate goods exported from Asia (China, Hong Kong, Indonesia, Republic of Korea, Malaysia, the Philippines, Singapore, Taiwan, and Thailand) are destined for the G3 countries (United States, Japan, and EU25). In this sense, total extra-regional exports, including to the G3 countries, is 78.8%.

²² Underlying the EU's high ratio of intra-regional exports is the fact that, as the EU increases its member states following the completion of market integration in 1993, it has expanded with a focus on direct investment. For example, corporations in places like Germany and the Netherlands, with their strong industrial competitiveness and high labor costs relative to the region, have relocated their production bases to Ireland, Spain, and Central and Eastern European countries where labor costs are low. As a result, countries such as Ireland, Spain, and Central and Eastern European countries have realized export-driven economic growth.



Note: Ratio of extra-regional exports of Region A = sum of extra-regional exports of countries comprising Region A / sum of total exports of countries comprising Region A. For the scope of Asia, see the notes on Table 1-1-14.

Source: Research Institute of Economy, Trade and Industry (RIETI), "RIETI-TID 2007".

(b) Asia's increasing dependence on the United States and EU economies

In recent years, Asia's dependence on exports to the United States and EU (exports value as a percentage of nominal GDP) has been rising.

The IMF (2008b) has estimated the degree of 14 Asian countries' dependence on exports to the United States, including indirect exports²³. According to the estimate, Asian countries' degrees of dependence on exports to the United States and EU15 are increasing in that the export to the United States was 13.3% in 2006 (10.0% in 1994) in terms of "total degree of dependence" including indirect exports, whereas the degree of dependence on direct exports to the United States was 9.0% in 2006 (7.7% in 1994), the export to the EU15 was 13.6% in 2006 (8.3% in 1994) in terms of "total degree of dependence", whereas the degree of dependence on direct export to the EU15 was 8.2% in 2006 (5.8% in 1994), and "total degree of dependence" on export to both regions was 26.9% in 2006 (18.3% in 1994). These levels are even higher for emerging Asian countries (see Figure 1-1-17). In fact, according to the survey²⁴ of approximately 1,500 executives of world major corporations conducted by a private organization in March, 59% of the executives in the Asia-Pacific region²⁵ responded that the United States economy and their own economies are deeply interconnected, and

²³ The dependence ratios of 14 Asian countries (China, India, Hong Kong, Republic of Korea, Singapore, Taiwan, Indonesia, Malaysia, Philippines, Thailand, Vietnam, Japan, Australia, and New Zealand) on re-exports via third countries to the United States was estimated by calculating weighted sum of their exports to third countries by utilizing third countries' exports to the United States as proxies for their weights.

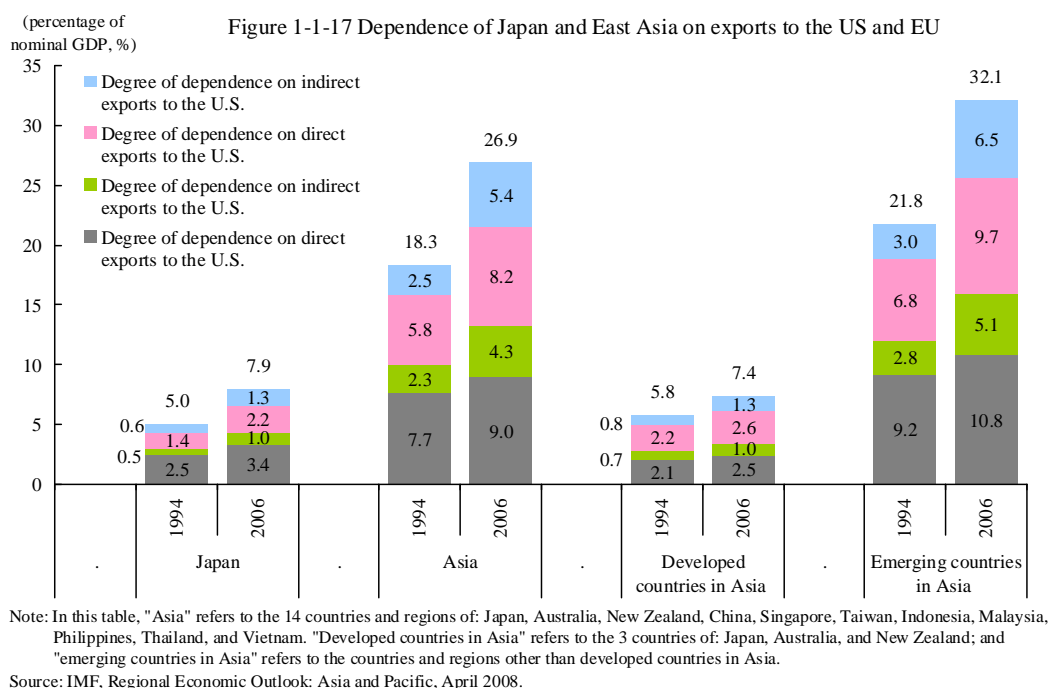
²⁴ McKinsey & Company (2008b), "Economic and hiring outlook, First Quarter 2008".

²⁵ The "Asia-Pacific region" in this survey refers to the eight countries and regions of: Australia, Hong Kong, Japan, New Zealand, Philippines, Singapore, Republic of Korea, and Taiwan.

89% responded that an economic slowdown in the United States would have a negative impact on their own economies²⁶.

Against the background of rising probability of the United States recession caused by the emergence of the subprime mortgage problem, the United States import from Asia has decreased as early as 2007 against previous year (see Figure 1-1-18). Moreover, there are concerns that the turmoil in the United States economy will have impact on the real economy of the EU, and Asian countries may suffer some impact in the case that both the United States and EU economies fall into recession.

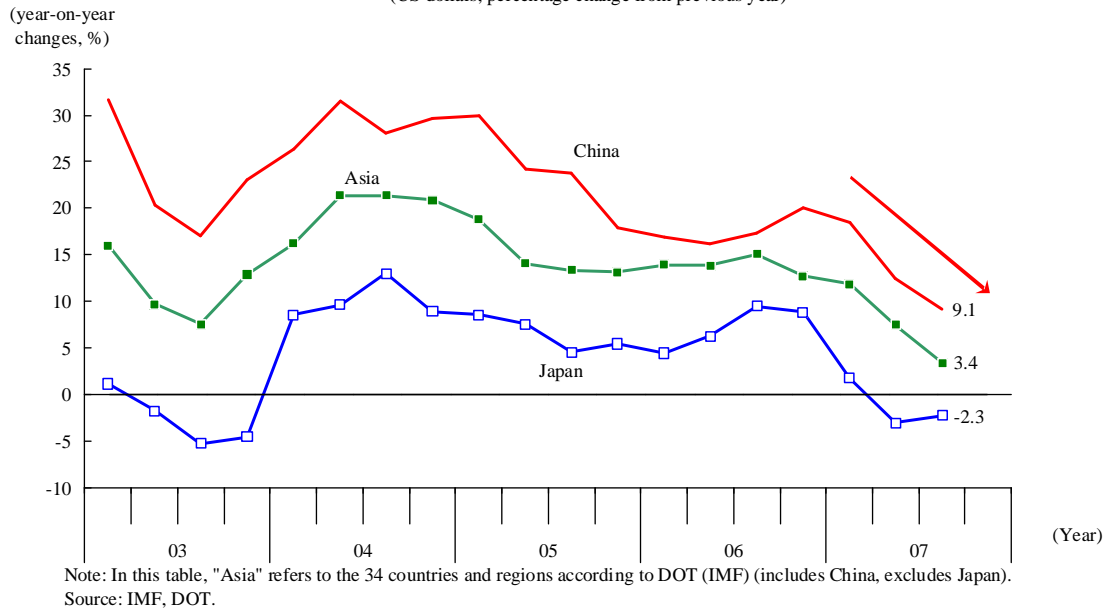
As mentioned above, the Asian economic zone is characterized by a low ratio of intra-regional exports in final goods and a high ratio of exports to Europe and the United States in final goods. These characteristics reflect Asia's relatively low growth rate of final demand in spite of its high growth rate of overall economy, and Asia's strong dependence on final demand in Europe and the United States. They also suggest that, while Asia is more open to external regions, the current rapid growth is not necessarily autonomous²⁷.



²⁶ However, in this survey, although 52% of executives in China responded that there is an intimate link with the United States, only 54% responded that there would be a negative impact. The survey concludes that this result reflects the facts that China's exports to developing countries has increased in recent years, and that China's dependence on (direct) exports to the United States is only 7%.

²⁷ In the future, it is expected that Asia will set a course for autonomous development through greater stimulation of intra-regional final demand and greater diversification of its export destinations, whereby it will become a part of the growth engine of the world economy. See Chapter 2 for more on this discussion.

Figure 1-1-18 United States goods imports from China and other Asian countries
(US dollars, percentage change from previous year)



(4) Japanese trade activities and world economy

The following overview how was Japanese recent external economic activity changed in the integrating and multipolarizing world economy.

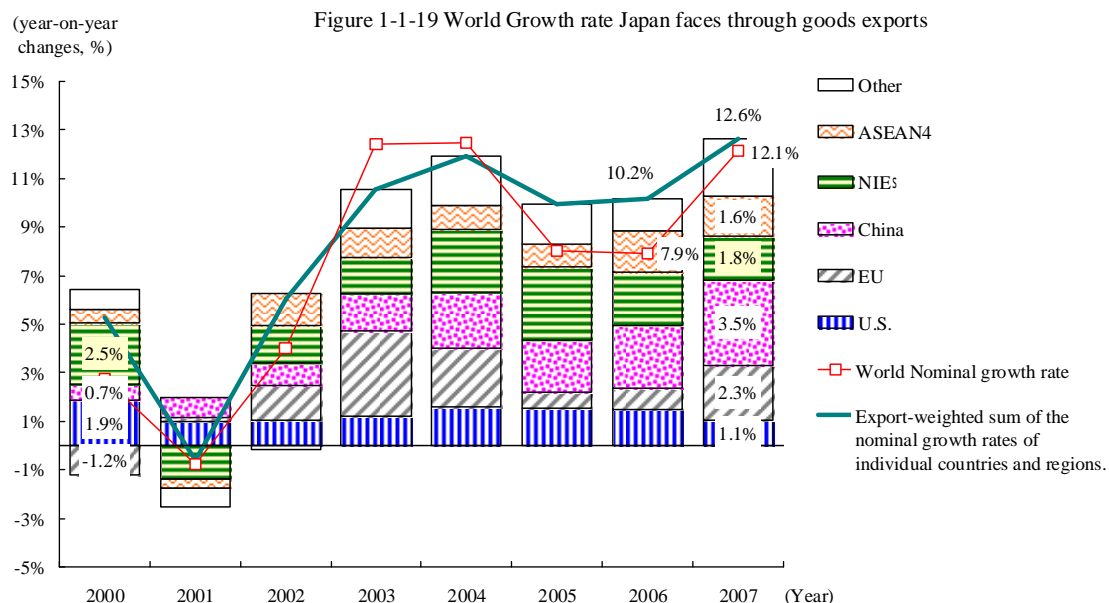
(Japanese export activities)

As has already been discussed, the contribution of developed countries to global economic growth and imports has been on a downward trend in recent years, whereas in contrast, the contribution of emerging countries has been on an upward trend.

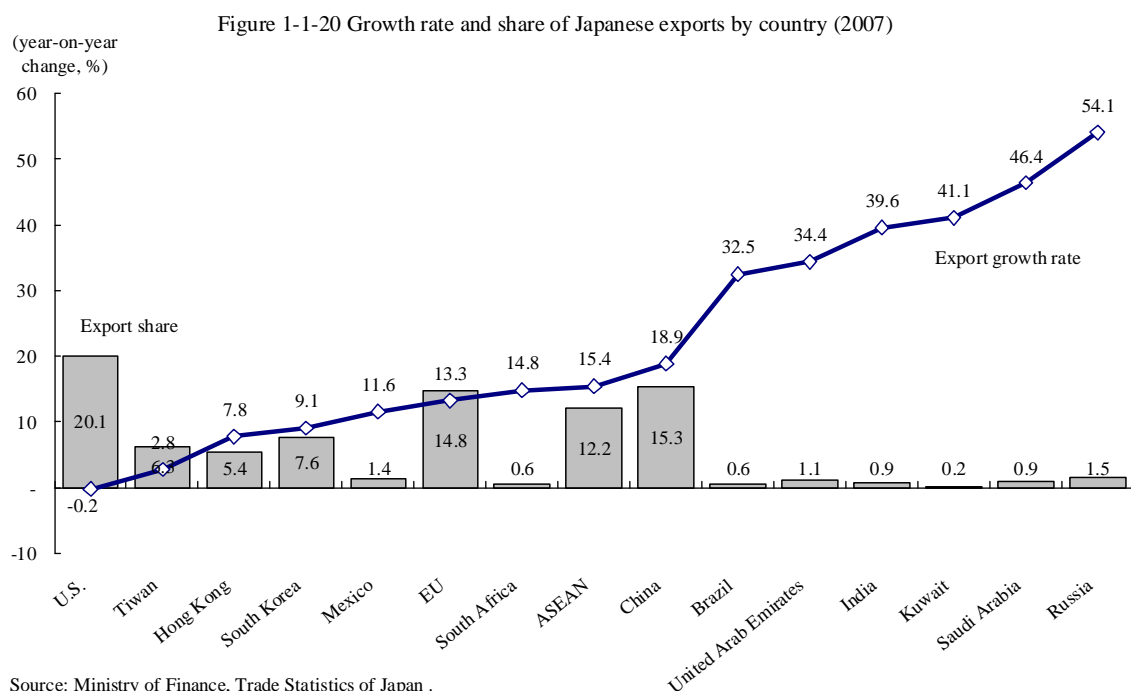
In order to clarify the effects that this change in growth structure of the world economy is having on Japan's exports, if we look at the nominal growth rates of various countries and regions in the world, weighted according to the value of goods exported to each destination, we can see that, as the presence of the United States has waned, the influence of "China" and of the "other regions," including Latin America, the Middle East, Russia, and India, is becoming greater. In particular, in 2007, while the United States economy further reduced its presence as a result of its economic slowdown, the presence of the EU, ASEAN, China and other regions has increased (see Figure 1-1-19).

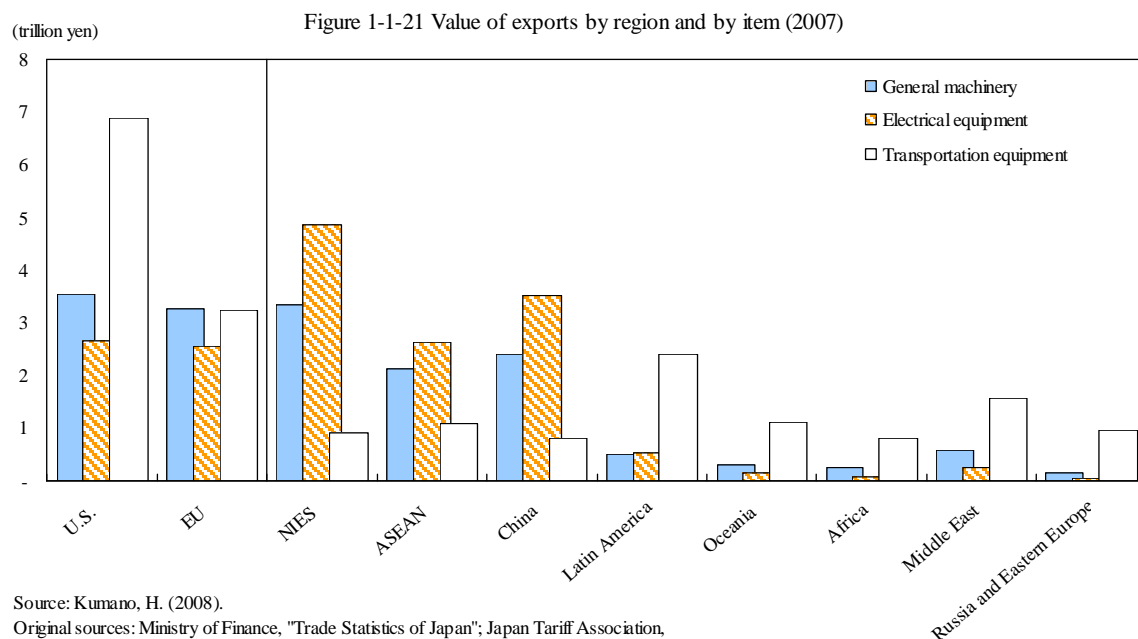
In fact, looking at Japan's recent trade trends shows that, while exports to the United States in 2007 fell for the first time in four years by 0.2%, reflecting the bearish United States economy, exports to the EU and to China and other regions grew strongly (see Figure 1-1-20). In particular, exports to China, ASEAN, and the EU have grown strongly since 2006, by 18.9%, 15.4%, and 13.3% respectively. Furthermore, it is notable that, despite their respective shares being relatively small, there has been extremely high growth in exports to such resource-rich countries as Saudi Arabia, Russia, and Brazil, reflecting the increase in demand in resource-rich countries for consumption goods and capital goods attributable to the recent upsurge in resource prices. Looking at the breakdown of items,

we can see that the growth in Japan's exports to resource-rich countries has overwhelmingly been lead by automobiles and other transportation equipment (see Figure 1-1-21).



Note: "NIEs" refers to: South Korea, Hong Kong, Taiwan, and Singapore. "ASEAN4" refers to: Thailand, Malaysia, Indonesia, and the Philippines. Aggregate of the nominal growth rates of individual countries and regions weighted by custom-clearance basis export value.
Source: Ministry of Finance, Trade Statistics of Japan; IMF, "World Economic Outlook Database (April 2008)".





(Japan's exports to the United States and the EU)

According to the IMF (2008b), whereas Japan's direct dependence on exports to the United States was 3.4% in 2006 (2.5% in 1994), the total degree of dependence, which includes indirect exports, was similarly 4.4% (3.0%). In the same way, whereas the degree of Japan's direct dependence on the EU15 was 2.2% in 2006 (1.4% in 1994), the total degree of dependence was similarly 3.5% (2.0%). The total degree of dependence on both countries and regions amounted to 7.9% in 2006 (5.0% in 1994). While this level has been increasing in recent years, in any case, it is less than 10%, which is lower than for other Asian countries (see Figure 1-1-17).

Looking at these figures, given that, unlike China and other emerging and developing countries which are achieving a high economic growth rate of about 10%, Japan is continuing to grow at a low rate (nominal growth rate = 1.3% (2007), real growth rate = 2.1% (2007)), attention should be given regarding the effects in the event the United States or EU economies decline.

(Overseas business activities by Japanese companies)

The trend for Japanese companies to extend their operations overseas suggests that, in recent years, the relative importance of overseas operations in sales and profit (recurring profit) has been increasing, especially for companies in the manufacturing industry.

In addition to a steady increase in the sales of overseas affiliates of Japanese manufacturers, reflecting the favorable increase in the number of overseas affiliates established by Japanese manufacturers, especially in China and other Asian countries (see Figure 1-1-22), since 2001, the overseas production ratio (manufacturing) of all Japanese companies²⁸ has also been on an upward

²⁸ Overseas production ratio of all domestic companies = sales of overseas affiliates (manufacturing) / (sales of overseas affiliates (manufacturing) + sales of all domestic corporations (manufacturing)) × 100.

trend (see Figure 1-1-23). However, looking at the overseas recurring profit ratio²⁹, while non-manufacturing industries have been on an upward trend since 2002, the manufacturing industry has been on a downward trend since 2003.

Figure 1-1-22 Changes in the number of overseas affiliates of Japanese manufacturers

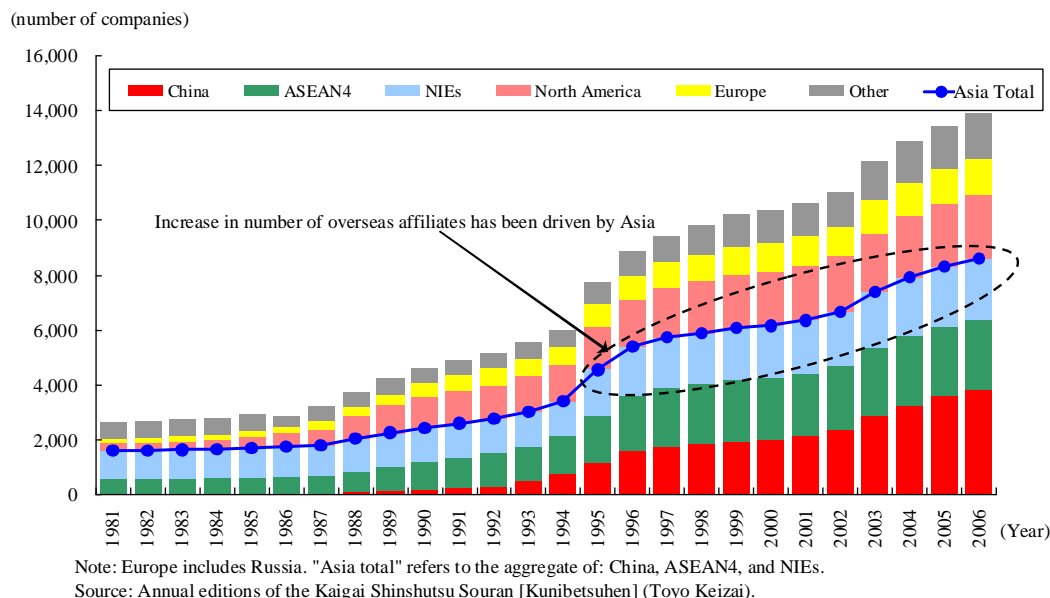
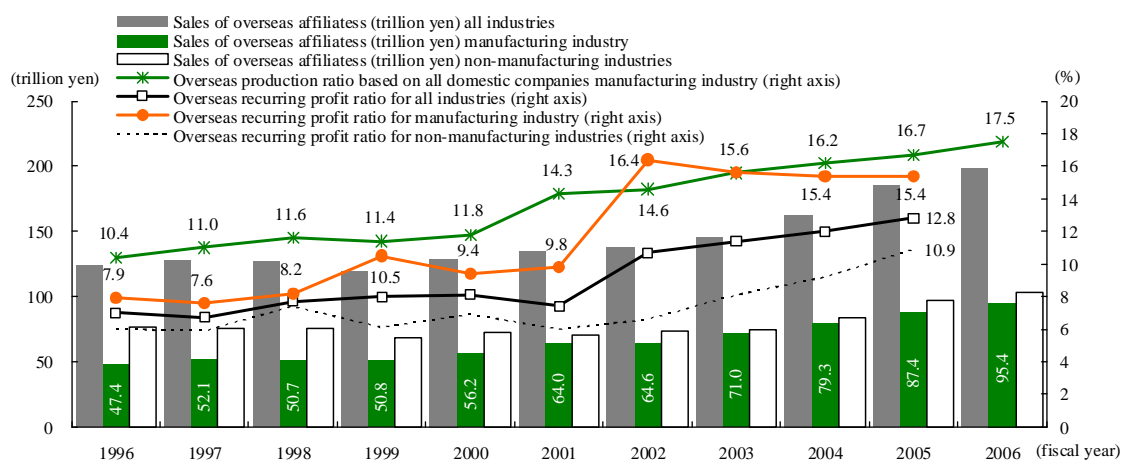


Figure 1-1-23 Changes in the sales, recurring profits, and overseas production ratios (manufacturers) of overseas affiliates of Japanese companies



Where, the sales of all domestic corporations are based on the Financial Statements Statistics of Corporations by Industry (Ministry of Finance).

²⁹ Overseas recurring profit ratio = recurring profit of overseas affiliates / (recurring profit of overseas affiliates + recurring profit of all domestic corporations) × 100. However, the recurring profits of all domestic corporations are based on the Financial Statements Statistics of Corporations by Industry (Ministry of Finance).

2. The world economy and the development of international financial and capital markets

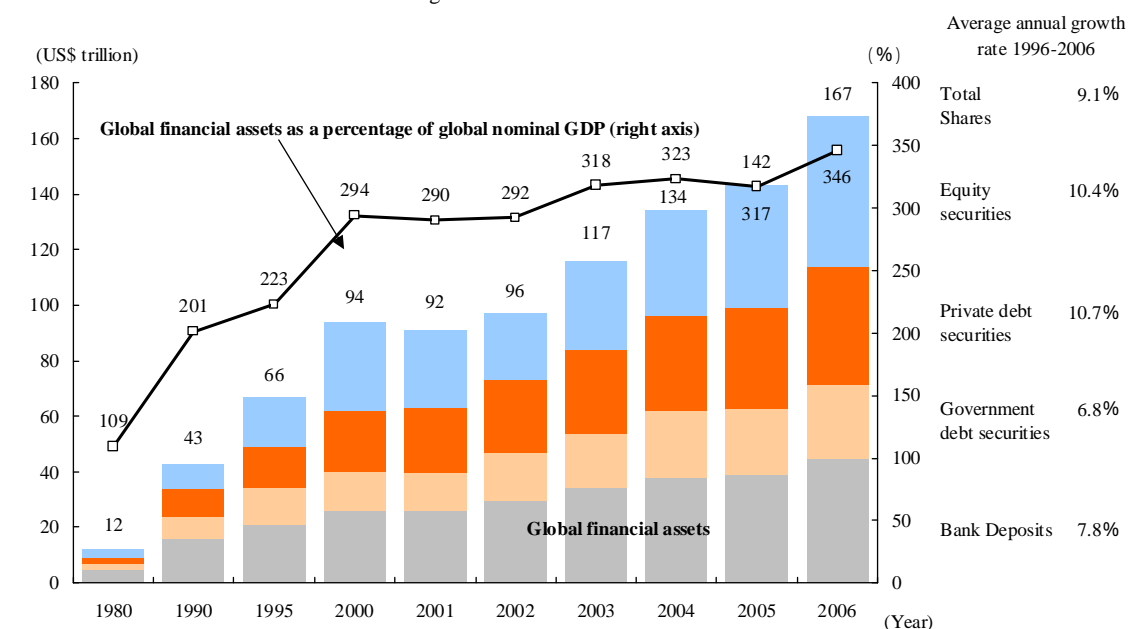
(1) Development of cross-border financial and capital markets

(Rapid growth of international financial and capital markets)

In recent years, financial and capital markets around the world have grown rapidly to a size in excess of their respective real economies.

According to a survey conducted by a private organization³⁰, the total value of the world's financial assets (including equities, private and government debt securities and bank deposits) has increased rapidly in recent years, and in 2006, had reached a total of US\$167 trillion (see Figure 1-1-24). The average annual growth rate³¹ for the 11 years between 1996 and 2006 was 9.1%, which is significantly greater than the 5.7% nominal GDP growth rate (annual average) of the world's real economy for the same period. The ratio of these markets to the real economy increased from about 2.0 times in 1990 to about 3.5 times in 2006³².

Figure 1-1-24 Global financial assets



Against a background of worldwide excess liquidity following the collapse of the IT and stock price bubbles, the cross-border movement of funds has also been becoming more and more active, especially since the turn of the century. There has been an increasing amount of capital moving across

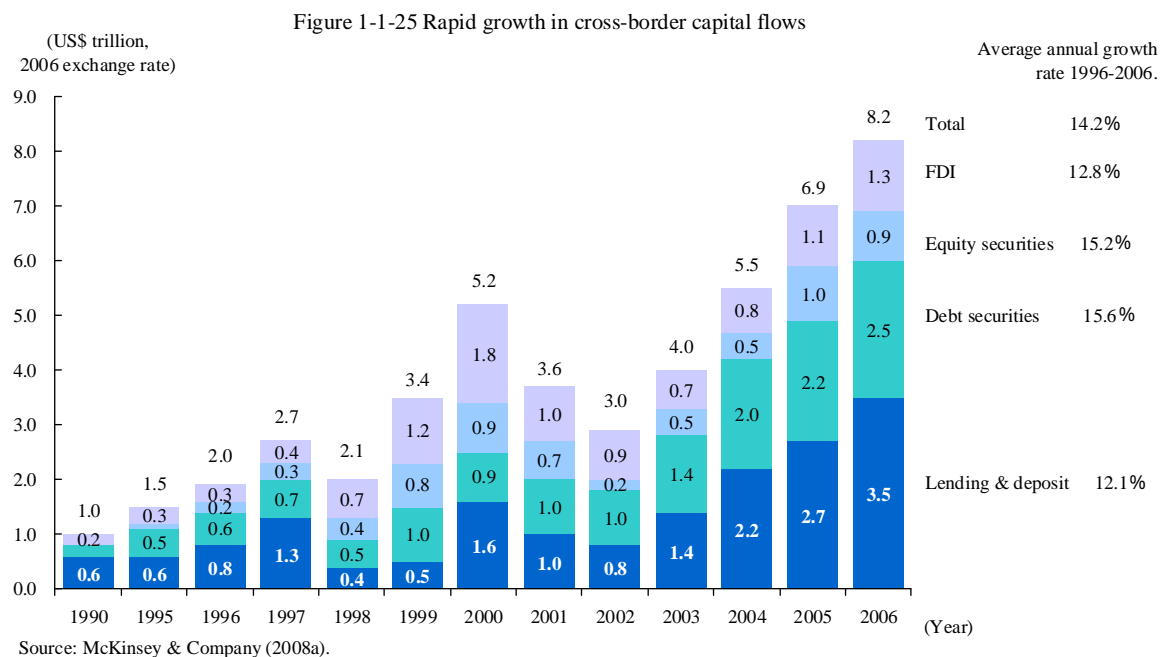
³⁰ McKinsey & Company (2008a), "Mapping Global Capital Markets: Fourth Annual Report - January 2008"

³¹ The growth rate slowed briefly with the collapse of the IT and stock price bubbles in 2000, but has shifted upward again since 2003.

³² According to the estimates of the organization, the increase in the ratio of financial and capital markets to GDP is not confined to developed countries. It has also been observed in emerging countries. In China in particular, the ratio of financial assets to GDP had surpassed 3.0 times as of 2006, which is a level approaching that of Germany.

borders in a variety of forms, including direct investments, securities investments in equities and private debt securities, lending and deposits (see Figure 1-1-25)³³.

Broadly speaking, it seems that there are two important factors in this development of international financial and capital markets: (a) the development of financial and capital markets, based on an expansion of the scale of financial assets and the advancement of financial technologies, centered around developed countries; and (b) “financial globalization,” attributable in part to the development of information and communications technology and the advancement of deregulation. The following looks at these two factors.



(Background to the development of financial and capital markets)

The following looks at the background to the development of financial and capital markets, especially in the United States and the United Kingdom where the development originated.

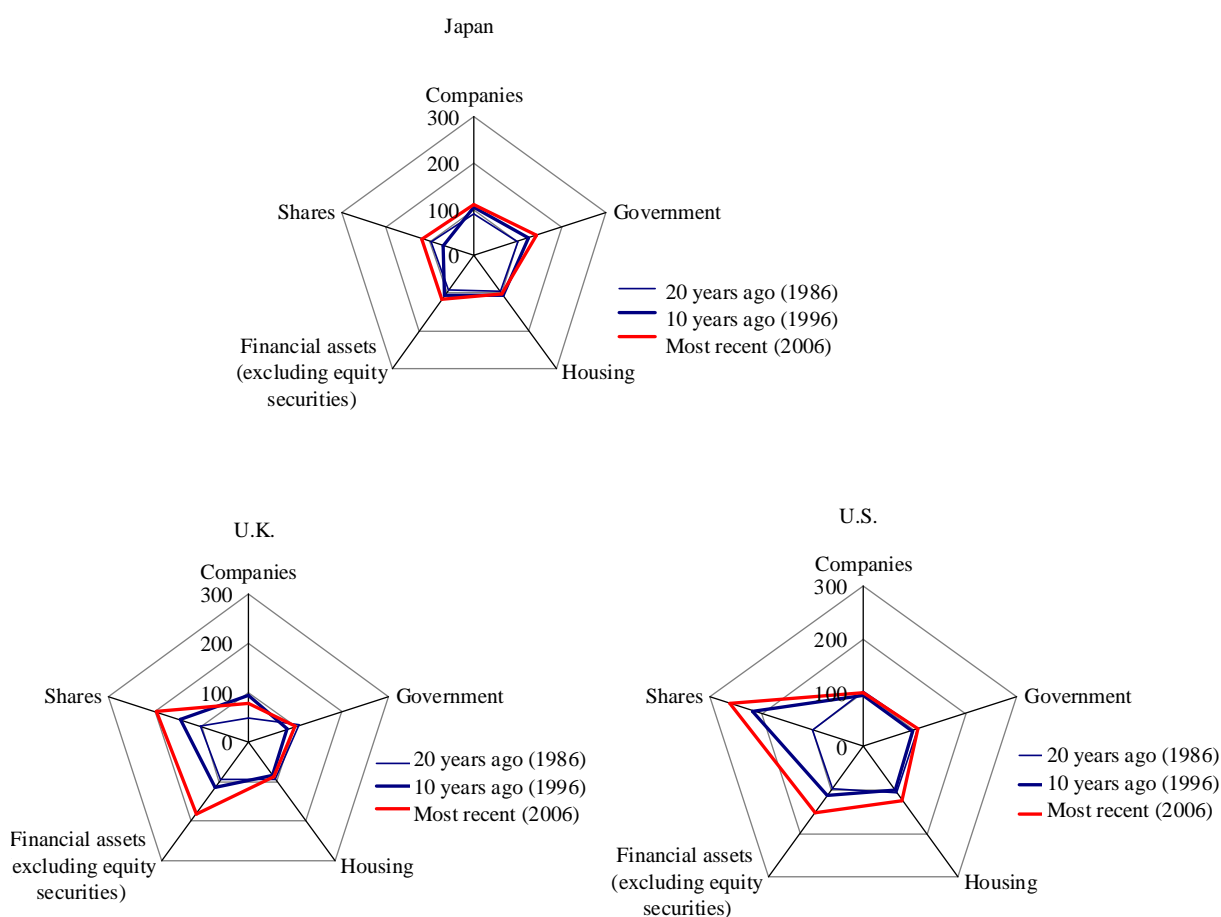
Growing financial assets value

Within the economic growth process, fixed capital is accumulated through household savings and by companies and governments using those savings to make investments. In general, the magnitude of

³³ Regarding this point, for example, BIS (2006) states that, while the size of cross-border capital transactions (percentage of GDP) was in fact greater prior to World War I, there are a number of unprecedented elements: the high number of short-term transactions in today’s financial markets; the high returns of financial and capital markets; the variety of intermediaries; the number and complexity of financial products; and the speed at which market participants respond to new information. It further states that, in many Latin American, Central and Eastern European and African countries, a large proportion of domestic financial systems are comprised of foreign financial institutions, they also conduct deposit and lending services in local currencies, and they are becoming more and more integrated with regional economies. For more information on the increased activity of cross-border fund movements, see Chapter2-1.

the financial assets³⁴ portion of fixed capital relative to the real economy tends to increase the more that per capita GDP grows. Taking a look at the changes over the past 20 years of the magnitude of various types of assets in Japan, the United States, and in the United Kingdom, we can see that, while real assets³⁵ have performed steadily at a fixed value, financial assets in particular have increased significantly, especially in the United States and the United Kingdom. The money and assets which have thus grown serve as resources for the development of financial and capital markets, being reproduced on a progressive scale (see Figure 1-1-26).

Figure 1-1-26 Changes in assets as a percentage of GDP



Note: Each stock uses a base year of 1990 = 100.

Sources: Economic and Social Research Institute and Cabinet Office, "Annual Report on National Accounts";

Bureau of Economic Analysis, United States Department of Commerce "Fixed Assets and Consumer Durable Goods";

FRB, "Flow of Funds"; Bureau of Economic Analysis, United States Department of Commerce, "Gross Domestic Product"; Capital United Kingdom Office for National Statistics, "Capital Consumption and Non-Financial Balance Sheets 2006";

United Kingdom Office for National Statistics, "Financial Statistics"; United Kingdom Office for National Statistics, "National Accounts".

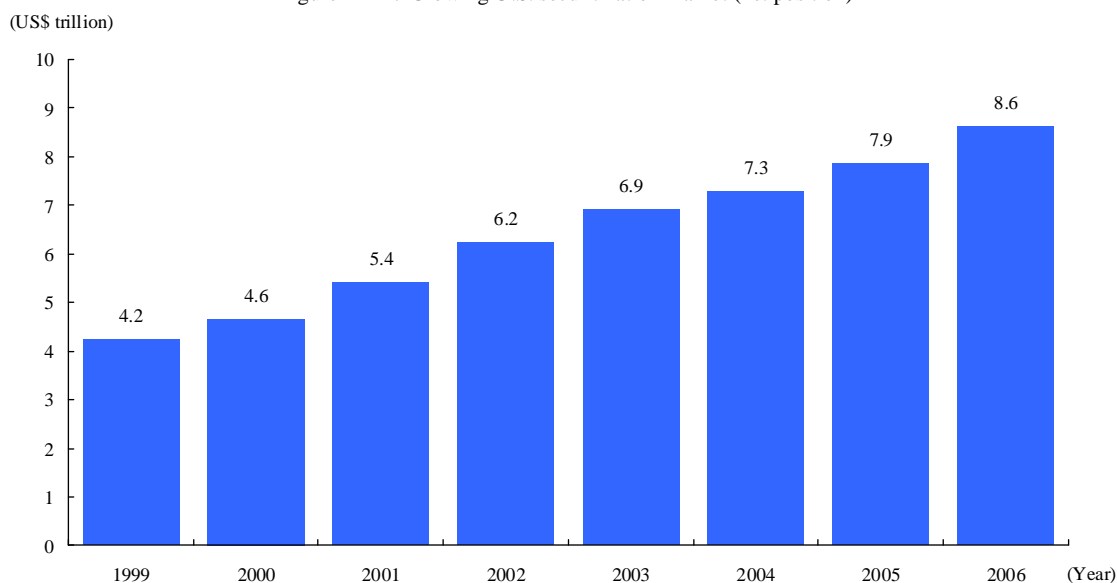
³⁴ Comprised of shares and bonds, etc. that are primarily traded in markets, as well as deposits and savings.

³⁵ Normally traded directly, such as manufacturing equipment and other corporate stock, social capital and other government stock, and housing stock.

Advancement of financial technologies

The advancement of financial technologies has turned goods and assets, which were not the subject of conventional financial transactions, into the subject of financial transactions. “Securitization”³⁶ technologies, which were developed primarily in the United States, have transformed a number of assets into financial products, including: (a) movable property (receivable, inventories, etc.) held by corporations, (b) monetary claims (housing loan, etc.), and (c) real estate. The world’s securitization markets have expanded dramatically these past few years, especially in the United States where securitization has been most popular. (see Figure 1-1-27)³⁷.

Figure 1-1-27 Growing U.S. securitization market (net position)



Source: Securities Industry and Financial Markets Association (SIFMA: US stockbrokers and financial markets organization) website.

Advanced risk assessment technologies based on financial engineering have also produced various types of derivatives, such as futures, options, and forwards. Compared with other financial products (shares, bonds), the world derivatives market value has grown at a rapid rate. Between 2000 and 2006, the market expanded approximately three fold (see Figure 1-1-28). The scale of assets forming the principal of derivatives (outstanding notional amounts) has also increased rapidly, and as of January 2007, it had reached US\$516 trillion.

These securitization technologies and derivatives³⁸ are changing the techniques used for risk management. Especially in the United States and the United Kingdom, finance is becoming “transaction” oriented like the originate-to-distribute business model described below; and the focus is

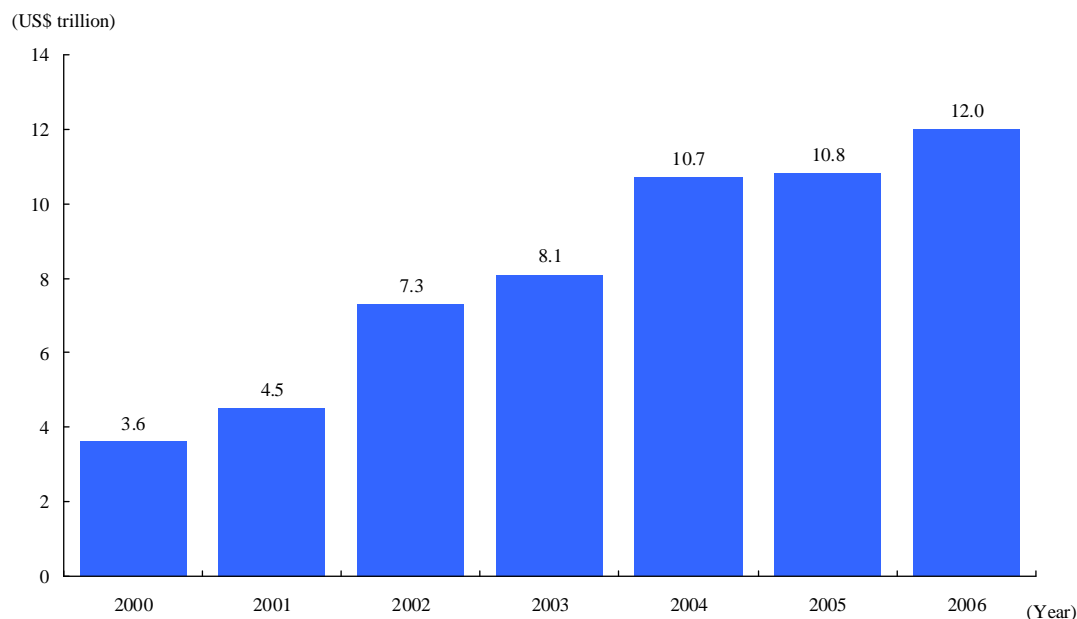
³⁶ In a narrow sense of the word, “securitization” refers a transaction where an asset such as real estate or a receivable is separated from the primary originator, consigned to another entity (special purpose company or trust bank), whereupon the risks and returns attributable to the asset are sold to investors in the form of securities.

³⁷ Even in Japan, the securitization market has steadily expanded, although it is still not as big as those in Europe and the United States.

³⁸ In the U.S., securitization and derivatives are regarded as key technologies in the finance business. For example, various types of collateral are converted into securities, and new option deals are being devised one after the other and are being patented.

shifting to “market-oriented” financing where capital markets are taking an ever-increasing role in financial intermediation which had previously been served by the banking system.

Figure 1-1-28 Growing global derivatives market value (outstanding notional amounts)



(Background to financial globalization³⁹)

As already stated, while the development of financial and capital markets has progressed in individual countries, since the 1990s, the “national borders” which had separated the respective financial/capital markets and financial industries have been removed, and it is now possible for companies and investors to conduct transactions, fund procurement and investing by selecting markets with more favorable conditions, irrespective of whether those markets are in one’s own country. The reasons underpinning this can be divided broadly into the following four factors.

Development of information and communications technology

The rapid advances in information and communications technology mean that it is easier for participants in the finance market to collect and process information and to manage financial risks. It is also possible for them to simply and accurately accumulate and manage histories of large volumes of financial transactions that are spread between international financial centers.

Increased demand for international financial services following the globalization of real economic activity

Along with the advance of the international trade of goods and services (international diversification of production and consumption), multinational corporations have come to the fore which conduct production, distribution and sales by utilizing networks spread throughout the world.

³⁹ IMF (2002a), Nakao, T. (2008), and Berger A.N., R.D. Young, H. Genay and G.F. Udell (2001).

This integration of the real economy has generated demand for cross-border finance, and has led to an opportunity for greater financial globalization.

Advancement of finance-related deregulation in individual countries⁴⁰

The abovementioned increases in the demand for cross-border financial services in the wake of the integration of the real economy stimulated the deregulation of the financial and capital markets in individual countries. Looking at the changes in the deregulation index for financial and capital markets, as estimated by the IMF, deregulation has progressed rapidly since the second half of the 1980s, especially in developed countries⁴¹. This advancement of deregulation has led to a wider scope of countries and regions where cross-border financial transactions are institutionally possible.

Growth of financial intermediation in the wake of improved financial technologies and financial liberalization

Monetary authorities in many countries have permitted a wide range of organizations to enter into financial intermediation services, and this has resulted in the appearance of a variety of financial intermediaries. A diverse range of entities, such as investment banks, securities companies, insurance companies, and hedge funds, can now provide financial intermediation services, which were previously handled by banks.

This development of financial and capital markets and the massive inflow of funds into countries and regions bring a number of benefits. For example, they make it easier for borrowers to access overseas funds, and they facilitate more efficient risk diversification and price setting. At the same time, they may also have a significant impact for the stability of the world economy.

(2) Development of financial and capital markets and establishment of the originate-to-distribute business model

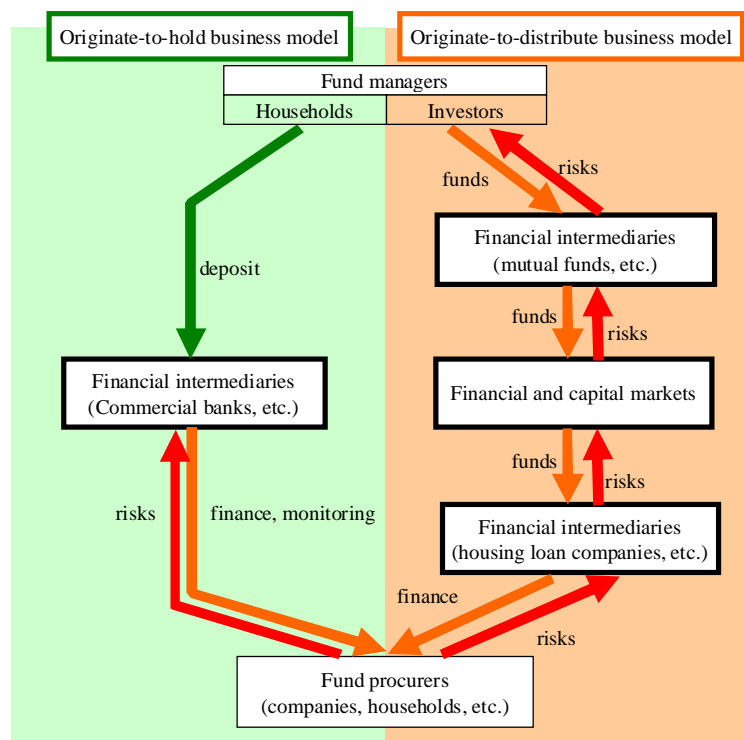
(Structure of the world's financial systems)

⁴⁰ Deregulation was promoted quickly in the United States and in the United Kingdom. In the United States, progress was made in deregulating the finance industry: brokerage commissions charged for shares by securities companies were liberalized (1975); bank interest rates were liberalized (gradual liberalization of bank interest rates, from the liberalization of interest rates for negotiable time deposits (1970), to the formation of the Depository Institutions Deregulation Act (1980); concluded in 1982); interstate banking restrictions were lifted (acquisition of banking branches between each of the states was permitted from the 1970s, and interstate banking restrictions were lifted with the Riegle-Neal Act (1994)); and restrictions separating banks and securities companies were abolished (Gramm-Leach-Bliley Act (1999)) (described later in Chapter 4). In the United Kingdom, major reforms of the securities exchange were carried out in 1986 (the Big Bang): membership of the stock exchange was opened up; fees and commissions were liberalized; and restrictions on dual jobbers (who trade only with brokers, without dealing directly with customers) and brokers (who relay orders from customers to jobbers) were lifted. In addition, in Europe, during the course of the EU market integration, a series of directives were issued, designed to liberalize intra-regional capital movements and to liberalize financial services (Council Directive 88 / 361 / EEC (1988), and the First (1977) and Second (1989; implemented in 1993) Banking Coordination Directives.

⁴¹ Looking at the IMF (2002b), the index of capital account restrictions for developed countries (absolutely no restrictions = 0, complete prohibition = 1) dropped considerably from around 0.8 in 1970 to around 0.1 in 1995.

Financial and economic growth in countries around the world is attributable to the development of the originate-to-distribute type of finance business model (hereinafter referred to as “originate-to-distribute business model”), which is particularly supported by the expansion of capital markets. Under this business model, which has become popular in countries such as the United States and the United Kingdom, not a lot of emphasis is placed on long-term relationships between lender financial institutions and borrowers. The aim of the model is to link entities that require funds (individuals or companies) with entities that require fund management (investment funds, investors, etc.) and to achieve an efficient distribution of risks and returns between these entities by financial institutions dispersing the credit risk of primary debt to investors via financial and capital markets. The model is different to the traditional originate-to-hold type of finance business model (hereinafter referred to as “originate-to-hold business model”), where, based on the long-term relationships between financial institutions and borrowers, financial institutions would monitor the status of the obligors and manage the debt by the lenders serving as an intermediary between the ultimate fund manager and fund procurer. As financial globalization has advanced, through the dissemination of the originate-to-distribute business model, risk is no longer limited to merely those financial institutions located in the same country as a borrower: risk is now spread around the world, and is dispersed widely and thinly. Risk diversification through markets also simultaneously contributes to the smooth provision of liquidity through markets (see Figure 1-1-29)⁴².

Figure 1-1-29 Conceptual diagram of the finance business models



Note: Although this simplified diagram shows that risks do not extend to households under the originate-to-hold business model, in reality, deposit insurance systems and the like mean that households are not completely free from risk.

Source: Bank of Japan (2008a).

⁴² In fact, investors who have retrieved their money from bank deposits, end up both bearing risk and providing market with smooth liquidity as a result of investing their money through nonbank investment institutions or mutual funds, etc.

In the originate-to-distribute business model, loans tend to be assessed using the potential for the loan or other such financial obligation to be sold on the capital market. During the loan assessment, basically, importance is placed on disclosed information, such as corporate financial statements and stock prices, economic growth rates or other macroeconomic indicators. Furthermore, given that financial institutions can keep their exposure relatively low by selling their loans for a short time on the market, not only is it feasible that there will be an expansion of borrowers for financial institutions, but there will also be an increase in lenders for individuals and companies. Moreover, by gauging complex risks by way of capitalizing on the latest results of financial engineering, this enables financial institutions to achieve price setting on the basis of risk, and contributes to attracting funds from investors all over the world. As a result, multitudes of complex and sophisticated financial products such as securitized products of housing and other loans are being devised and put onto the market one after the other.

(3) Development of the originate-to-distribute business model and its impact on the world economy

(Features of the originate-to-distribute business model)

With reference to IMF (2006), the following is a summary of the features of the originate-to-distribute business model in comparison with the originate-to-hold business model.

(a) Relationship with corporate sector borrowers

A feature of the originate-to-distribute business model is that it makes the redistribution of resources between industries and regions more efficient. Under the originate-to-hold business model, conventional trade practices work to the advantage of existing industries and businesses, and are arguably unfavorable to new entrants who have no past business performance. For this reason, the model is more prone to drops in efficiency compared to the originate-to-distribute model, in terms of responding to new growth opportunities brought about through technological innovation and economic globalization. On the other hand, under the originate-to-distribute business model, since little emphasis is placed on long-term relationships with borrowers, and since transactions are basically conducted with a reliance only on disclosed information, for example, resources end up being more efficiently redistributed from weakened industries and regions to those of growth. Furthermore, it seems that as long as the necessary disclosed information is accessible, people are basically less conscious of national borders when making transactions⁴³.

(b) Relationship with household sector borrowers

The dissemination of the originate-to-distribute business model enables individuals to easily increase their borrowings using their housing assets as collateral. For household finances, this has the

⁴³ The IMF (2006) states that, in recent years, in countries such as the United Kingdom, the United States, and Australia, where the rate of increase of labor productivity has been high, this originate-to-distribute type of finance business model has contributed considerably to the swift conversion of the industrial structure through the efficient redistribution of resources.

effect of reducing liquidity constraints⁴⁴. As a result, there is a reduction in the need for savings based on the precautionary motive of providing for extra expenses or for falls in income. This enables that money to be diverted to spending, and in turn, the propensity to consume rises. In fact, in the United States, low-interest borrowing instruments that use the home as equity are flourishing⁴⁵.

(c) Complex and extensive business relationships

The complexity of business relationships in the originate-to-distribute business model affects financial supervisory administrations operating smoothly and accurate information being ascertained by the market. Supposing financial systems grow uneasy for some reason, under the traditional finance business model where there were only creditors and obligors, it is clear where lender and other responsibilities lie. However, in the originate-to-distribute business model, because a large indefinite number of financial institutions and investors throughout the world are involved in transactions, extremely complex and global business relationships form, and lender responsibilities can easily become obscured. For this reason, it becomes extremely difficult to establish lender responsibility in the event systemic risks develop. At the same time, complex and extensive business relationships hamper the market from accurately seeing the overall picture or from ascertaining the whereabouts of losses. The relationships also unduly amplify the suspicions or psychological anxiety of investors and creditors.

(Concerns about the uneasiness of financial systems affecting the real economy: The impact of amplifying business cycle fluctuations (financial accelerator))

Under an originate-to-distribute business model with the features outlined above, as long as the respective markets are functioning, the transfer of risks through securitization and derivatives will be extremely effective.

However, according to the IMF (2006), the originate-to-distribute business model is susceptible to fluctuations in asset prices. The thinking behind this is that, while in this business model, good returns can be gained by quickly spreading enormous sums of managed funds to promising investments

⁴⁴ For example, supposing a household is considering enjoying the benefits of rising house prices caused by declining interest rates, since it is difficult to realize capital gains by selling part of their house (unlike shares, etc.), they need an opportunity to borrow in order to redirect the increased value of their housing assets to expenditure. Instead, supposing declining interest rates mean that it is more attractive to spend than to save, if a household is considering increasing its spending beyond its actual income and assets, similarly, opportunities to borrow must be provided.

⁴⁵ First, it is important that households are allowed to access various borrowing measures with lower interest rates. US home mortgages consist of two major types, (a) Cash-out refinance which allows households to receive equivalent cash to excess value upon their equity already built up in their home, by refinancing their existing loan with a loan that is larger than their current mortgage, (b) Obtain loan by using net worth of their home (the value of their home's market value which exceeds the unpaid balance of the mortgage) as a collateral.

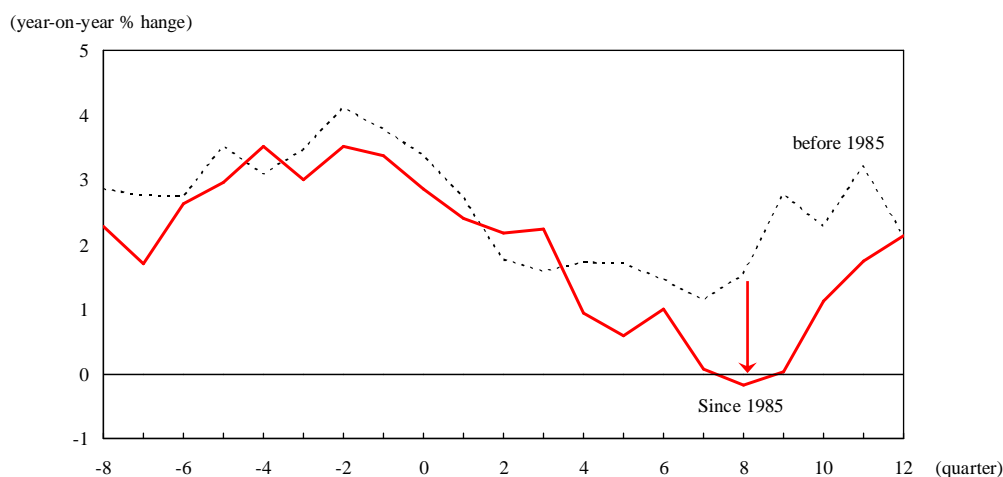
In the U.S., numbers of households who refinance their mortgage has increased considerably since 2001, where those of cash-out refinance has increased more rapidly as well as those refinance interest saving in the background of constant appreciation of home's market value. The outstanding value of home equity loan has showed robust increase in almost matched pace with the increase of net worth of home since 1995 (from "Minegishi, Ishizaki" (2002)). For more detail about relationship between US housing price and personal consumptions, refer section2 of this chapter.

around the world based on disclosed information, at the same time, if information or speculation that conveys concerns about a particular investment is circulated, investors can immediately retrieve their funds and either redirect them to other investments or convert them into cash and lock in profits. This kind of behavior happens on a daily basis, and so asset prices can change suddenly.

In fact, compared to the traditional finance business model, the originate-to-distribute business model is generally more sensitive to fluctuations in the prices of real estate since credit is granted with a heavy dependence on real estate prices⁴⁶. In other words, in a situation where real estate prices are rising, in response to higher expectations of profit, even more funds flow into the real estate market, thereby causing the rise in prices to accelerate. As a result, a virtuous cycle is formed: the capacity of households to borrow increases through rises in their asset-backed values, and spending increases even more (positive financial accelerator).

Conversely, in a situation where real estate prices are falling, collateral value decreases, causing the debt capacity of households to decrease. As more and more cash-strapped households sell their hypothecated assets, prices fall further. Since the loans from financial institutions contract in proportion with the fall in the value of hypothecated assets, loans become even more difficult. A vicious circle is formed: falling real estate prices lead to a recession or the like, and the effects of this are amplified by the existence of financial systems that are dependent on these prices (negative financial accelerator). It is considered that the greater the extent that household debt capacity is dependent on real estate prices, the more these effects are noticeable in that country (see Figure 1-1-30).

Figure 1-1-30 Effects of housing busts on each country's personal consumption (1970-2005)



Notes: 1. "Housing bust" is defined as a period of declining housing prices observed in the countries of Australia, Canada, Denmark, Italy, Norway, Sweden, the United Kingdom and the United States between 1970 and 2005, where the rate of declining prices falls into the upper 50% (equivalent to a decline of 6% or higher). The graph shows the year-on-year changes in personal consumption around the time of the bust.

2. Due to data constraints, the chart only covers those countries where market-oriented financial systems (originate-to-distribute business models) are dominant, and compares the period since 1985, when mortgage backed assets markets began to spread in these countries, with the period prior to this.

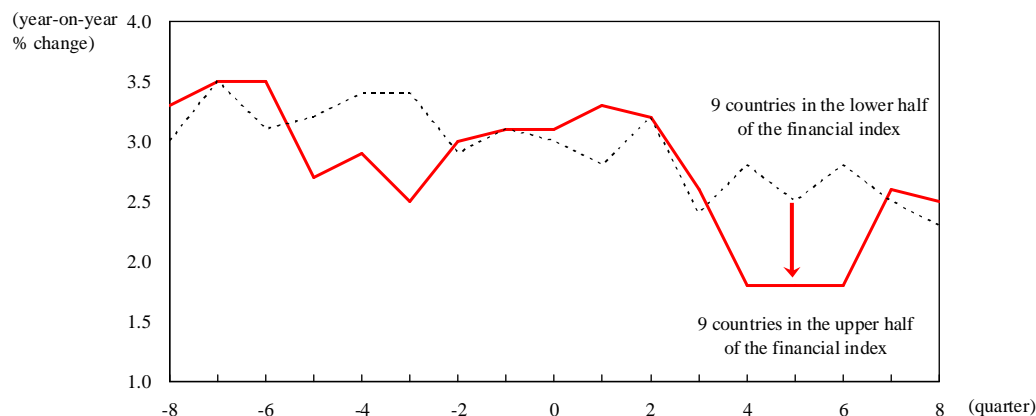
3. Zero indicates the point at which a bust begins.

Source: IMF (2006).

⁴⁶ In fact, in Japan as well, where the traditional finance business model is considered to be mainstream, during the time of 1980s real estate bubble, credit which depended heavily on real estate prices was being actively granted, irrespective of any long-term relationship with customers. This fact demonstrates that a strong dependence on real estate prices is not a definitive condition for distinguishing between the originate-to-distribute business model and the originate-to-hold business model.

It is also pointed out that, in countries where the originate-to-distribute business model is also dominant for financial assets, personal consumption is strongly affected by any fluctuations in asset values that are attributable to stock price fluctuations (see Figure 1-1-31).

Figure 1-1-31 Effects of collapse of stock bubble on each country's personal consumption (1985-2005)



- Notes: 1. "Collapse of Stock bubble" is defined as a period of declining stock prices occurring between 1985 and 2005, where the rate of decline falls into the upper 50% (equivalent to a rate of decline of 26% or higher). The chart shows the year-on-year changes in personal consumption around the time of the collapse.
2. The "9 countries in the upper half of the financial index" are those where market-oriented financial systems (originate-to-distribute business models) are mainstream: Australia, Canada, Denmark, Italy, the Netherlands, Norway, Sweden, the United Kingdom and the United States.
3. The "9 countries in the lower half of the financial index" are those where traditional financial systems (originate-to-hold business models) are mainstream: Austria, Belgium, Finland, Germany, Greece, Japan, Portugal, and Spain.
4. Zero indicates the point at which a collapse begins.
- Source: IMF (2006).

Furthermore, in countries where the originate-to-distribute business model is dominant, the effects of the business cycle are also amplified in the corporate sector. It is suggested that the decrease in capital investment during a recession is greater in countries where the originate-to-distribute business model is dominant (see Figure 1-1-32).

Figure 1-1-32 Effects of the business cycle on each country's capital investment (1985-2005)



- Notes: 1. The chart shows the year-on-year changes in each country's (real) capital investment during periods of recession observed in each country between 1985 and 2005.
2. The "9 countries in the upper half of the financial index" are those where market-oriented financial systems (originate-to-distribute business models) are mainstream: Australia, Canada, Denmark, Italy, the Netherlands, Norway, Sweden, the United Kingdom and the United States.
3. The "9 countries in the lower half of the financial index" are those where traditional financial systems (originate-to-hold business models) are mainstream: Austria, Belgium, Finland, France, Germany, Greece, Japan, Portugal, and Spain.
4. Zero indicates the peak of a business cycle.
- Source: IMF (2006).

At present, cross-border financial transactions are being conducted on a scale much larger than the real economy. There are concerns that the flow-of-funds nature and the financial accelerator function possessed by this originate-to-distribute business model may, should uneasiness of the financial systems occur, give rise to a vicious circle, with the worsening of the financial sector and the worsening of the real economy being linked on a global scale. In other words, there are concerns that worsening cash positions in the corporate and household sectors, where financial procurement is being impeded by the credit crunch, could slow global economic growth down, and this in turn could cause an even bigger credit crunch.

3. Global price surge in natural resource and food prices and its pressure on inflation

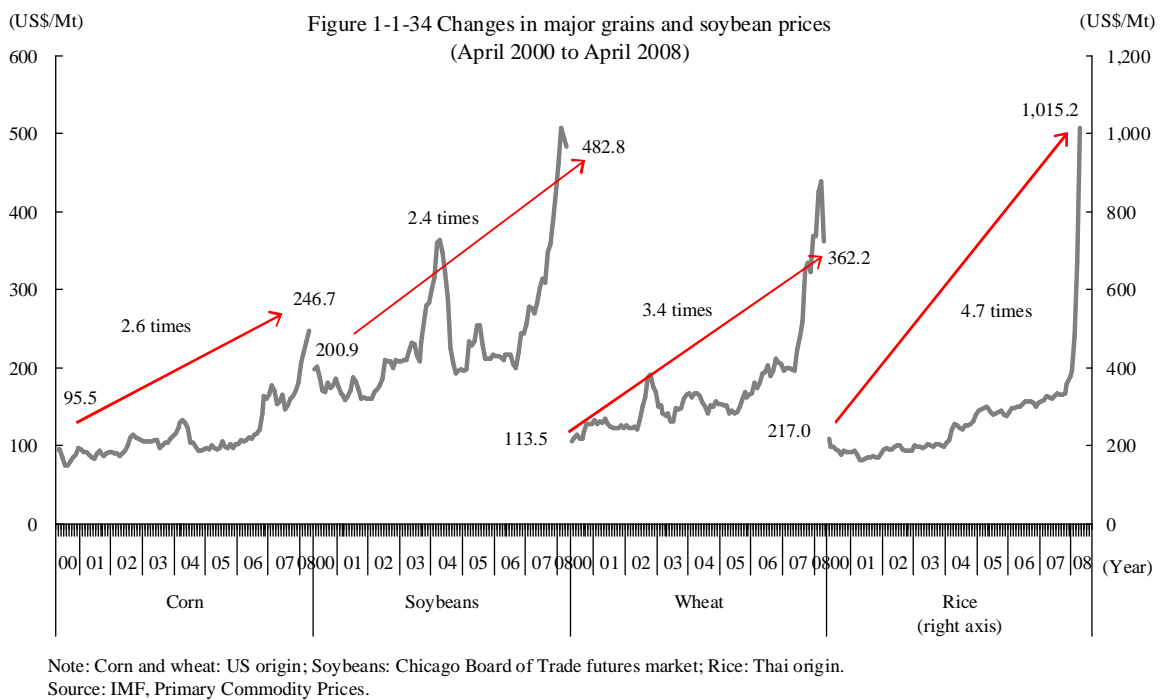
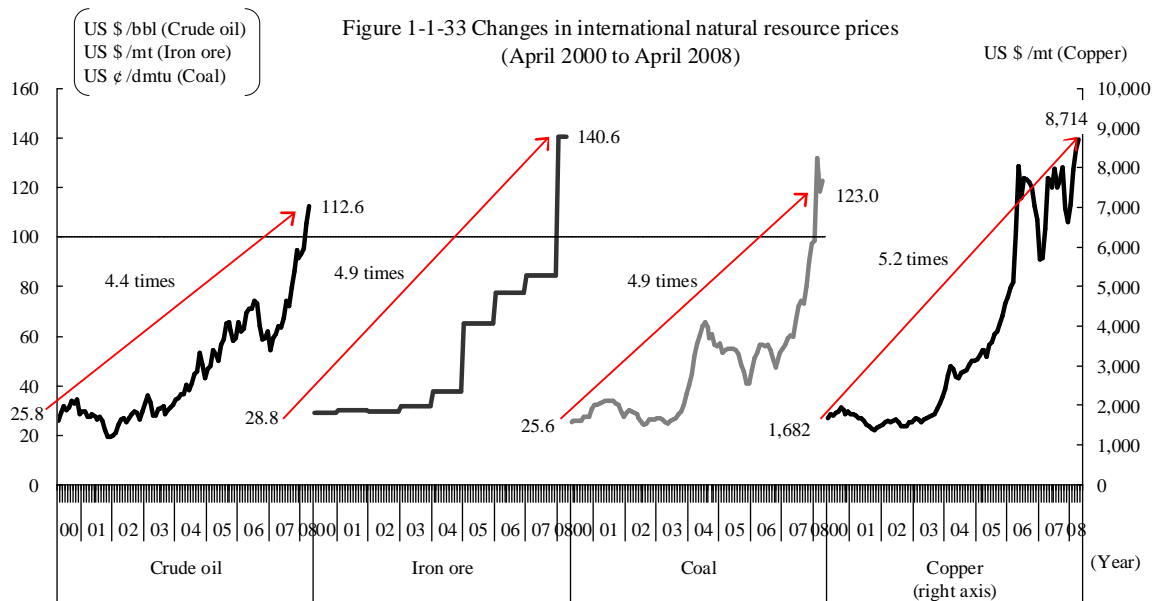
(1) Global price surge in natural resource and food

International trade prices for commodities such as crude oil, coal, iron ore, and copper have been increasing worldwide since around the year 2000. From April 2000 to April 2008, the price of crude oil increased by 4.4 times⁴⁷, those of iron ore⁴⁸ and coal⁴⁹ increased by 4.9 times, and that of copper increased by 5.2 times (see Figure 1-1-33). Food prices have also undergone sharp increases during this period. The price of corn increased by 2.6 times; soybeans, by 2.4 times; wheat, by 3.4 times; and rice, by 4.7 times (see Figure 1-1-34).

⁴⁷ West Texas Intermediate (WTI) is the world's leading benchmark for crude oil prices. After WTI exceeded US\$100/bbl at the beginning of 2008, on May 21, it recorded an all-time high price of US\$133/bbl (as of May 30, 2008).

⁴⁸ The price of iron ore is determined on the basis of yearly agreements concluded between suppliers (major resources companies) and buyers (major steel companies in Japan and the EU, etc.). Since 2003, the price has increased every year. In particular, significant price revisions were undertaken in 2005 and 2008, with an average price increase of 1.7 times year-on-year.

⁴⁹ Among coal prices, the spot price of coal used in electricity generation began to increase rapidly at the end of 2003 and had since remained steady at high levels. Moreover, in 2007, the price began to rise again at a significant pace. The price of coal used in steel mills has also risen sharply.

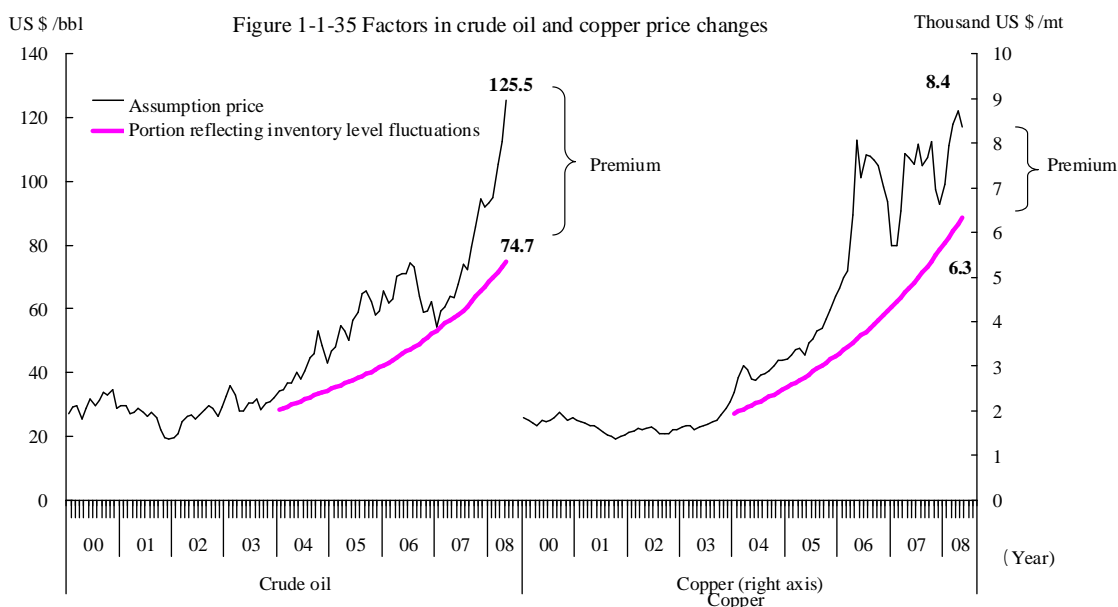


(2) Causes of price surge in natural resource and food

There are a variety of factors causing the global rise in natural resource and food prices, including (1) a sharp increase in demand in the emerging countries in Asia and other regions and (2) an immense amount of the speculative and investment money flow into commodities markets from international financial and capital markets. In particular, the inflow of speculative and investment money is one of the main reasons underlying the skyrocketing prices of recent years.

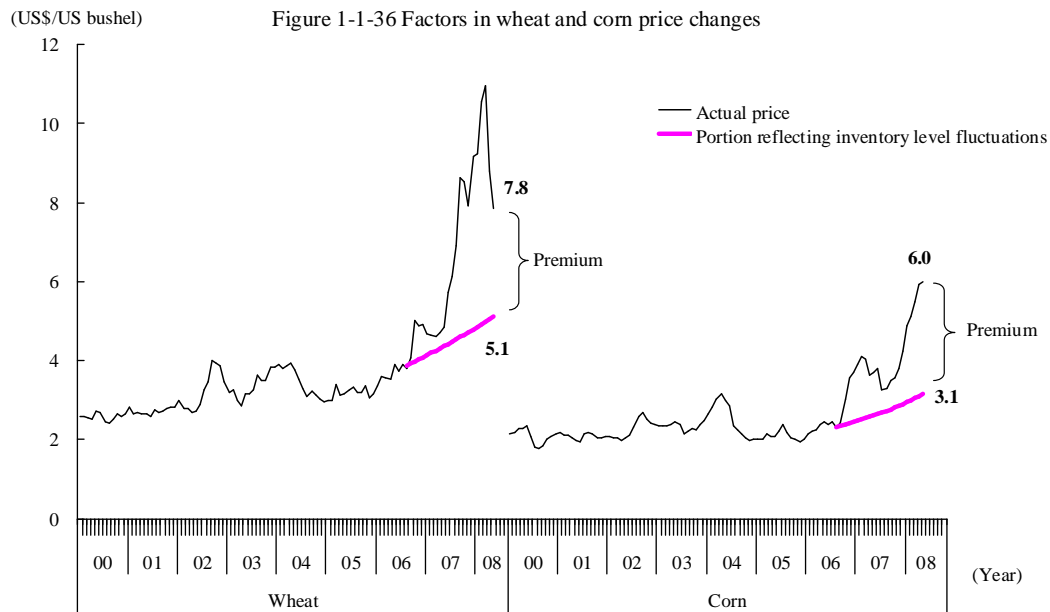
In Figure 1-3-35, the changes in the prices of crude oil and copper—both of which are internationally traded commodities—are decomposed into two components: the component that can be accounted for by the demand-supply balance (price levels that are attributable to inventory changes) and those that cannot (premium). It is found that while the recent price levels that are attributed to inventory changes are increasing, their actual prices are increasing more rapidly than them. This indicates that the recent skyrocketing prices are the result of factors that cannot be accounted for solely by the demand-supply balance.

Among agricultural products, the prices of wheat and corn have risen considerably as shown in Figure 1-3-36. While a part of the price increases can be explained by the changes in the expectations of term-end inventory levels around the world, the actual price increases are far greater than those expected, reflecting the combined effects of various demand-supply factors such as crop forecasts under climate change and export restrictions imposed by exporting countries, as well as technical factors involving speculative funds and other investors (premium portion shown in the figure).



Note: For details of the estimate, see Supplementary Notes 1-2.

Sources: API, "Monthly Statistical Report"; DTI, "Energy Trend"; Bloomberg and BAFA, "Amtliche Mineralololdaten"; IEA, "Monthly Oil & Gas Survey"; New York Mercantile Exchange, "London Metal Exchange".

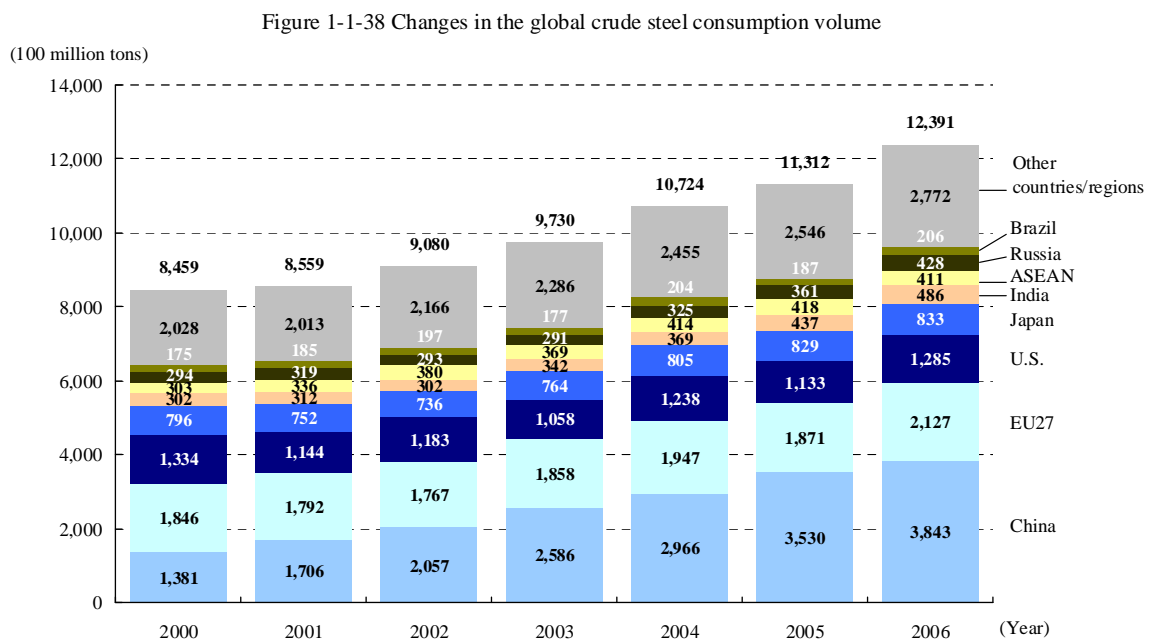
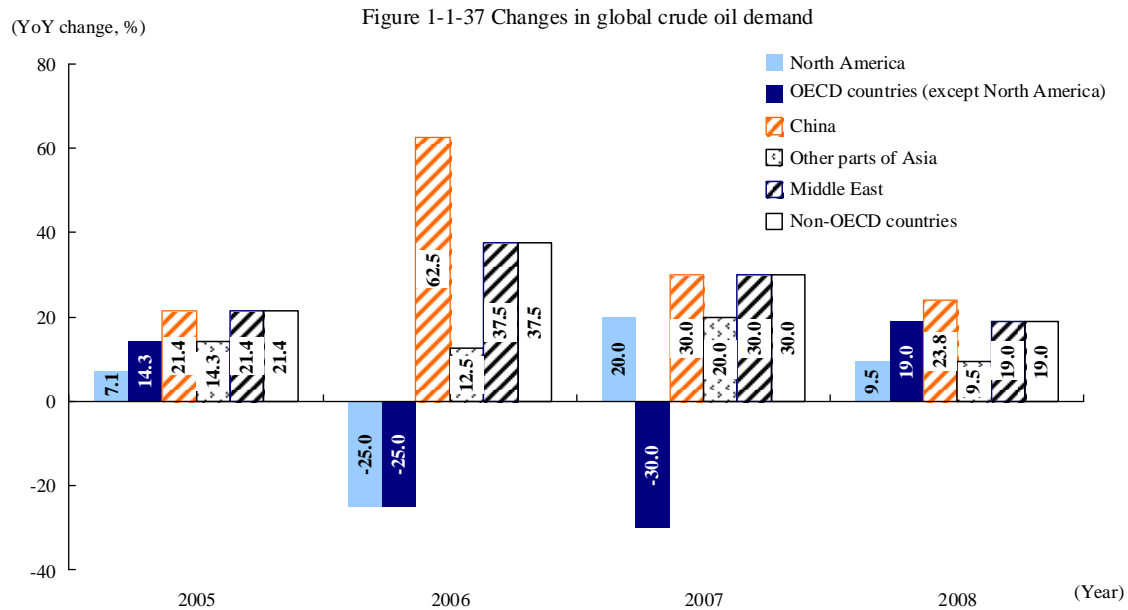


Note: For details on the estimate, see Supplementary Note 1-2.

Source: US Department of Agriculture and Chicago Board of Trade "World Agricultural Supply and Demand Estimates"; US Department of Agriculture "Grain: World Markets and Trade".

(Expansion of natural resource demand, primarily in emerging countries, in the face of limited supply)

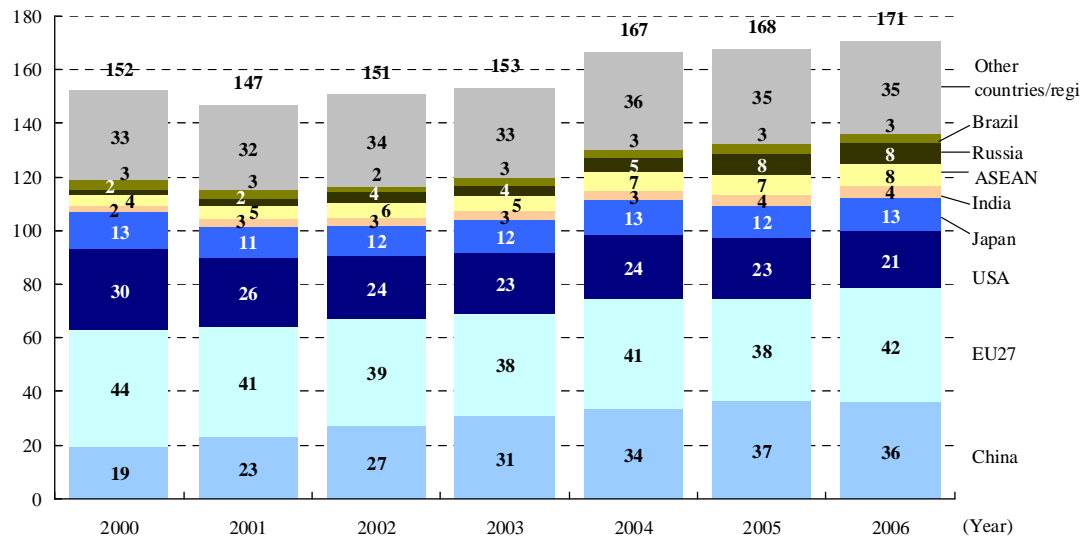
A breakdown of the worldwide crude oil demand by country and region indicates that the demand in developed countries such as the United States has decreased or undergone only a slight increase in the last several years, while most of the demand increase has occurred in China and other emerging countries (see Figure 1-1-37). In terms of consumption volume by country and region, the consumption of copper and crude steel, for example, has been steady or has decreased in the United States and other developed countries. However, the demand expansion in emerging countries such as China has pushed up the global consumption of such commodities (see Figures 1-1-38 and 1-1-39). Likewise, the increase in iron and copper ore imports is mostly attributable to the increased imports by China, India, and other emerging countries (see Figures 1-1-40 and 1-1-41).



Note: The ASEAN figures are the average of seven countries, excluding Brunei, Cambodia, and Laos, due to statistical limitations.
Source: International Iron and Steel Institute, *Steel Statistics Yearbook 2007*.

Figure 1-1-39 Changes in global copper consumption

(100 million tons)

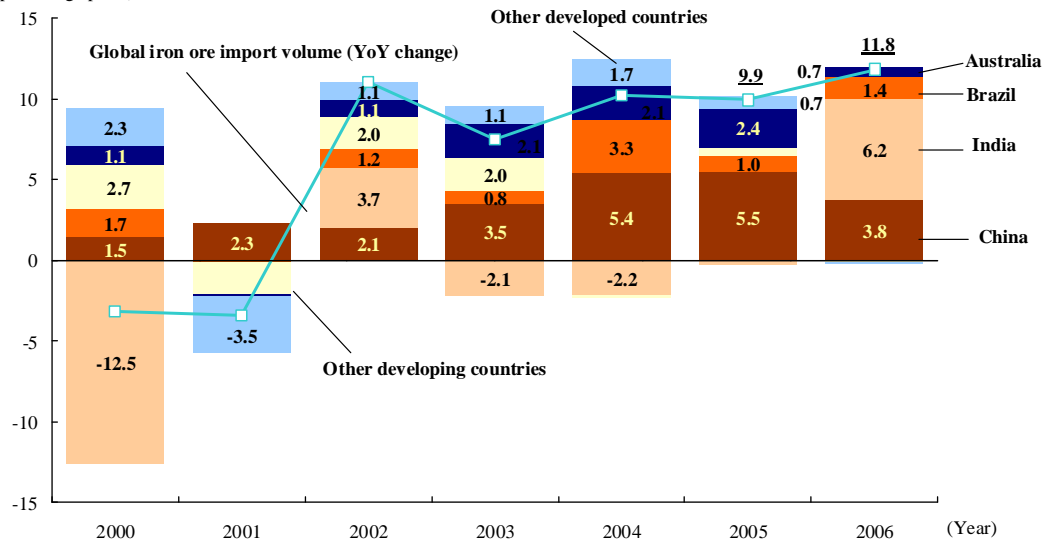


Note: The ASEAN figures are calculated as the average of seven of the ten ASEAN member countries, with Brunei, Cambodia, and Laos excluded due to statistical limitations.

Source: International Iron and Steel Institute, *Steel Statistics Yearbook 2007*, compiled by METI.

Figure 1-1-40 Changes in global iron ore import volume

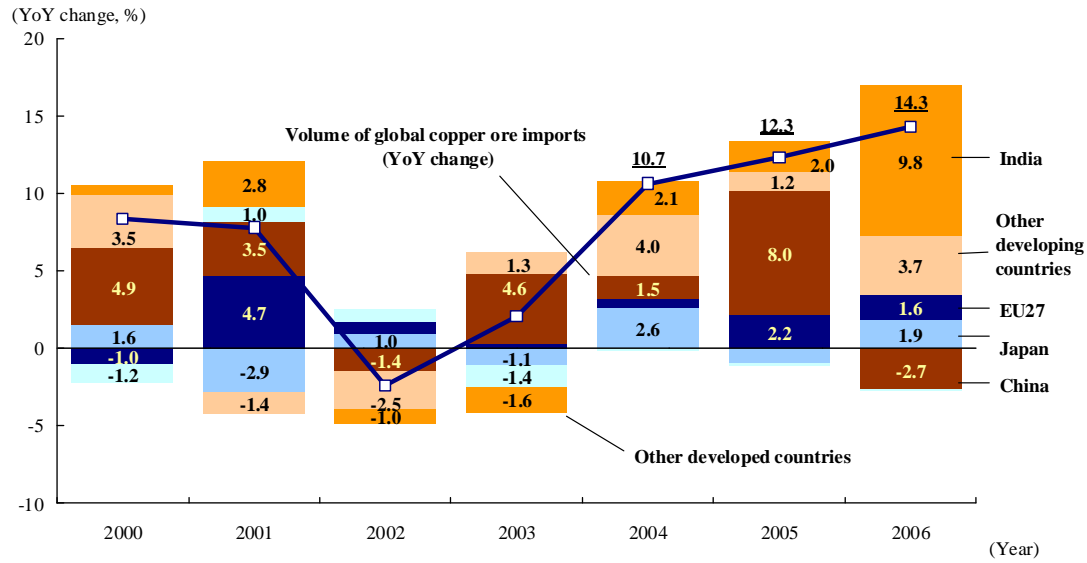
(YoY Change, %, percentage point)



Note: The degree of contribution to year-on-year (YoY) changes in global iron ore import volume are by country and region.

Source: United Nations Statistics Division, "COMTRADE".

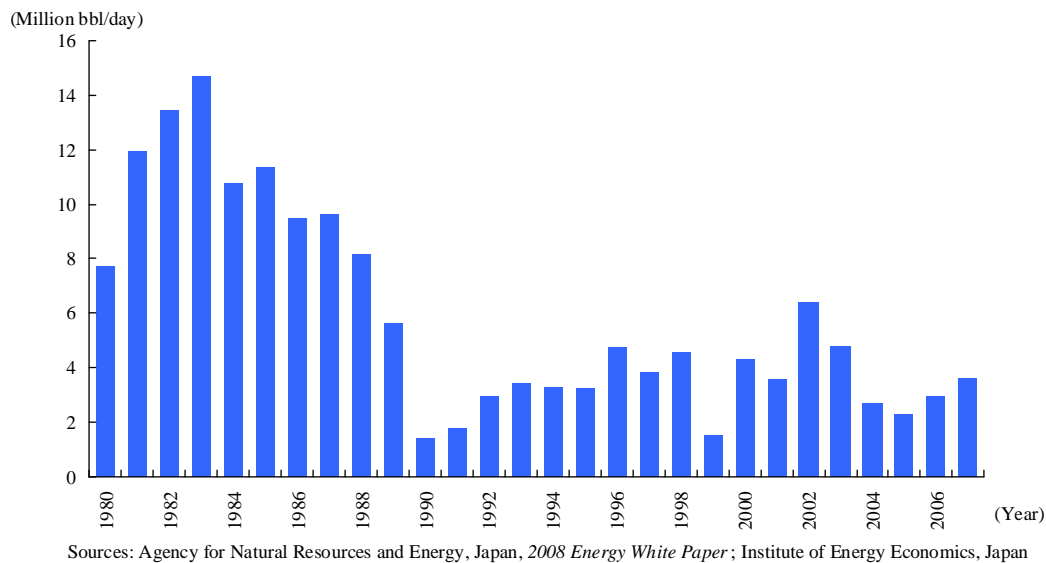
Figure 1-1-41 Changes in the volume of global copper ore imports



This sharp demand increase in China and other emerging countries is considered to be one of the major factors driving the prices of crude oil, iron ore, and copper ore upward.

In contrast to the increasing demand in emerging countries as well as in other countries, supply-side growth has been limited. For example, surplus crude oil production capacity has remained at a low level in recent years (see Figure 1-1-42). The reasons behind this include the rise of resource nationalism, the shortage and aging of oil industry engineers and other technical staff, and the decreased investment in natural resource development while the prices of natural resources were weak⁵⁰.

Figure 1-1-42 Changes in OPEC's excess crude oil production capacity



⁵⁰ For details on issues related to the crude oil supply system, please refer to Chapter 1-1 of the 2008 Energy White Paper, Agency for Natural Resources and Energy, Japan.

Moreover, reflecting the growing worldwide concern for the environment, the demand for light oil products such as gasoline and naphtha fractions is increasing (i.e., a shift toward clean oil), primarily in the oil consuming countries. On the production side, however, the processing of medium and heavy oils in the Middle East is growing. The resulting demand-supply imbalance in quality between heavy and light oils constitutes one of the issues to be addressed⁵¹.

(Expansion of food products demand primarily from developing countries in the face of stagnant supply)

As with the demand of natural resources, the demand for food products is growing. In the situation where the increase in farmland area is limited and the per-unit area productivity is showing little improvement around the world⁵², a strong demand, mainly from developing countries, is causing a demand-supply imbalance, which in turn is resulting in a rise in food prices. One possible reason behind the demand increase is the substantial rise in the consumption of pork and other meat as well as a rise in the demand for feed grains in fast-growing developing countries such as China, due to the per capita income growth and the resulting diet diversification⁵³. The second reason is the increased production of biofuel such as bioethanol, produced in the US and other countries using corn as a raw material (see Figure 1-1-43).

As a result of inflexible demand-supply conditions for grains, the inventory levels of major grains have continued to decrease around the world due to the global increase in grain consumption, decrease in wheat production⁵⁴ owing to poor weather, and other factors. The fiscal 2007 year-end inventory ratio fell to the same level as that of the early 1970s when the world faced a global food crisis⁵⁵ (see Figure 1-1-44). The stronger market sentiment based on these inflexible demand-supply conditions is causing grain prices to increase around the world. The global rise in food prices, which could potentially undo the benefits of the economic growth achieved in the past 20 years in Asia⁵⁶, is posing a major economic concern for those in need.

⁵¹ Reference material: Section one, Chapter one, of the *2008 Energy White Paper*, Agency for Natural Resources and Energy, Japan.

⁵² In addition to little improvements in the farm area increase and per-unit area productivity, the surge of fertilizers, agricultural materials, and fuel due to the escalating crude oil prices, is also slowing down the production increase.

⁵³ One example is the increasing food demand from China and other developing countries due to their rapid economic growth. In China's urban areas, the per capita income doubled between 2000 and 2006, resulting in a rapid growth in the consumption of animal-protein foods and soybean oil. In particular, with soybeans that can be used as livestock feed, China is the largest soybean importing country accounting for 45.6% of the global imports (2006).

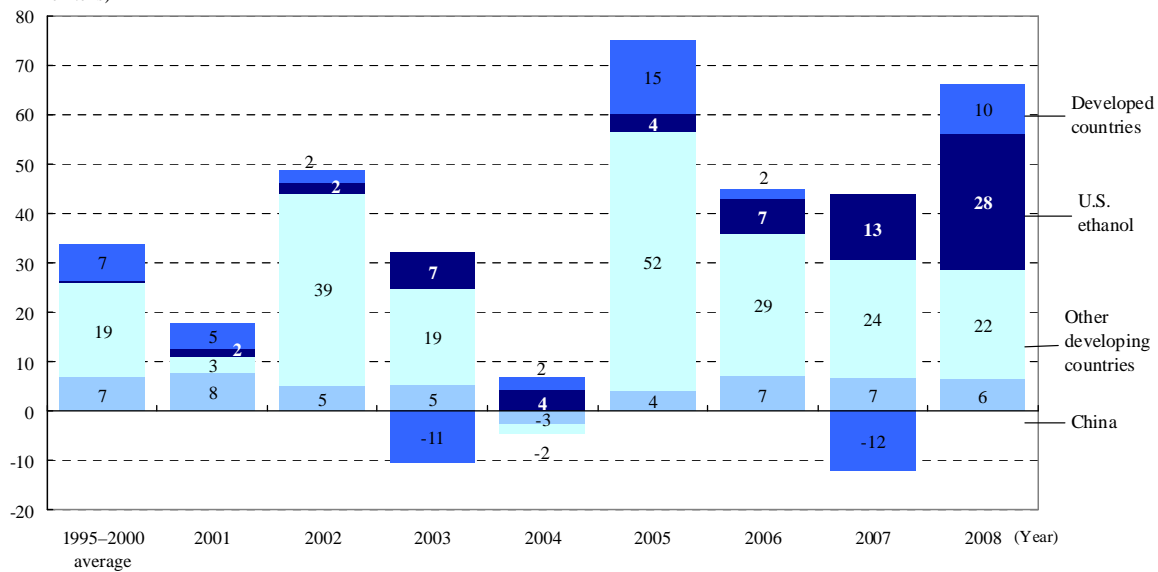
⁵⁴ In the EU, one of the major wheat producing areas, where production control policies were adopted in the initial production plans for two consecutive years, they experienced a significant production decline due to heat waves. Because of crop failures caused by drought and other natural disasters across the former Soviet Union and East European countries, Australia, and Canada, the global wheat production remained constantly far below the demand levels.

⁵⁵ For example, the wheat inventory ratio in fiscal 2007 fell to 18%, which was below 21.3% recorded during the food crisis of the early 1970s and almost equivalent to the safety standard of 18% set forth by FAO.

⁵⁶ Statement by Paul Risley, Regional spokesperson, World Food Programme (WFP)

(YoY Change,
million tons)

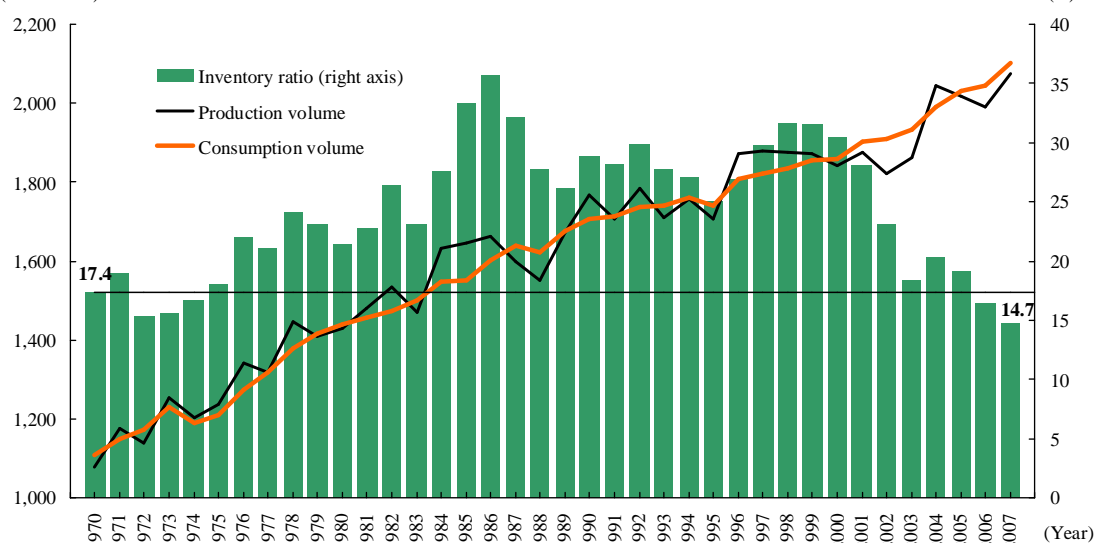
Figure 1-1-43 Changes in demand increase for major grains and soybeans



Note: Major grains in the graph are corn, wheat, and rice.
Source: IMF (2008a)

(Million ton)

Figure 1-1-44 Changes in the year-end inventory ratio of major grains



Sources: USDA, "Grain: World Markets and Trade (August 2006)" and "PS & D", compiled by METI.

(Inflow of money into commodities markets)

Inflow of investment money

The inflow of investment money is another price boosting factor in addition to the demand-supply imbalance.

In the commodity futures market, the presence of three types of money has grown in recent years: pension funds, believed to total 17 trillion dollars around the world; oil money from oil-producing countries, said to amount to 1.5 trillion dollars; and investment money supplied from the foreign exchange reserves of emerging countries. Some experts state that these massive money are flowing into commodities futures markets through the purchase of commodity index funds, which are managed by

investment banks⁵⁷. Commodity index funds encompass an extremely wide variety of commodities including crude oil, natural gas, grain, livestock products, and precious metals (see Figure 1-1-45)⁵⁸.

As a result of this huge inflow of investment money, in the New York Mercantile Exchange, for example, the contracts of the WTI futures market has been growing rapidly in recent years (see Figure 1-1-46).

Figure 1-1-45 Composition of the commodities included in the world's major commodity index funds

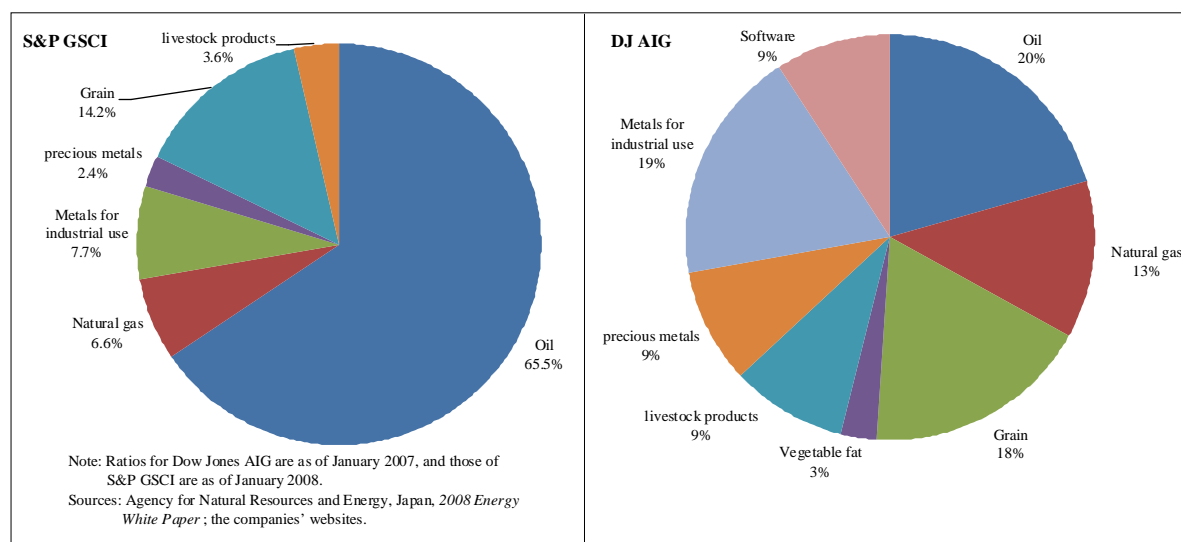
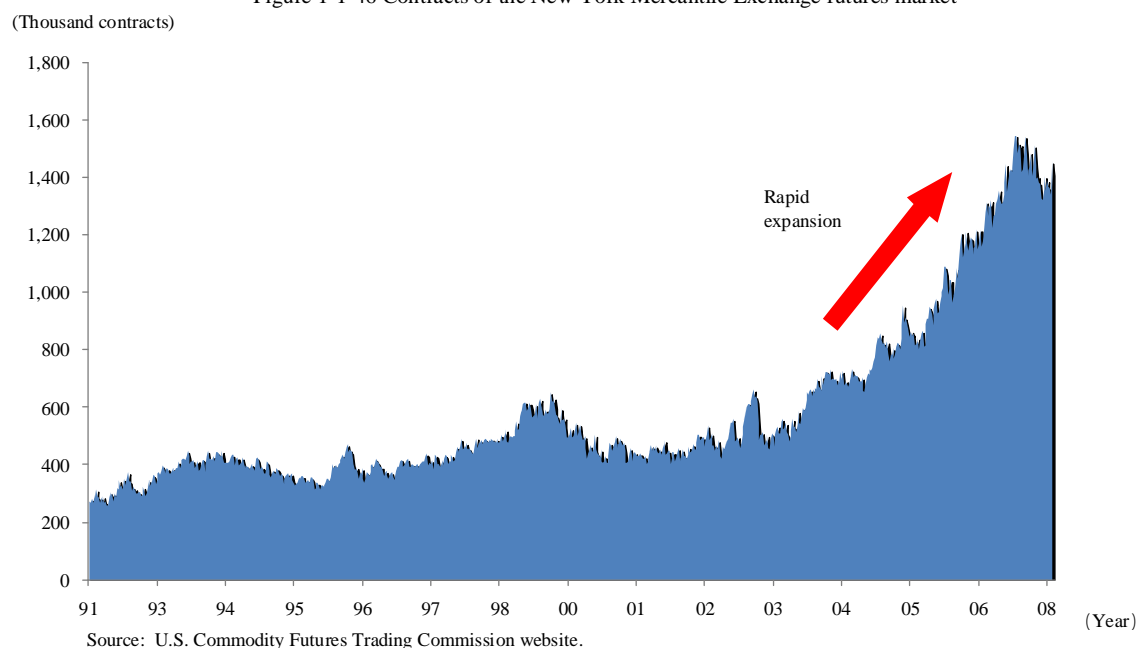


Figure 1-1-46 Contracts of the New York Mercantile Exchange futures market



⁵⁷ For details, please refer to Chapter 1-1, of the 2008 *Energy White Paper*, Agency for Natural Resources and Energy, Japan.

⁵⁸ According to Goldman Sachs, while the balance of commodity index funds never reached 10 billion dollars in the 1990s, such funds began to grow rapidly in 2004. Currently, in 2008, the balance is over 200 billion dollars.

There are two major factors underlying the enormous amount of inflow of money into global commodities markets. First, pension funds are suffering from low returns owing to the globally prevalent low interest rate environment that has existed since 2000, which is causing both pension fund administrators and investment bankers managing pension fund assets to increase their investments in higher risk stocks and bonds. In order to offset the risks, such administrators and investment banks are also buying commodity index funds, since they are uncorrelated with stocks and bonds. Second, since the outbreak of the U.S. subprime loan crisis, there has been a significant shift of global capital toward safer assets, and the unbalanced demand-supply situation is expected to remain. This has caused investors to focus more on the potential of natural resources and food products, which have lower price elasticity of demand.

Inflow of speculative money

In the crude oil futures market at the New York Mercantile Exchange, the volume of transactions involving paper trading (futures trading that does not involve real transactions, etc.) is 1,000 times more than that involving spot trading. Moreover, when crude oil prices rise, the investment banks and other third parties who carry out paper trading increase their net buying. Although it has not been confirmed, there seems to be a definitive relationship between crude oil prices and third party transaction volume. In light of this, several experts point out that speculative money increase the range of short-term price fluctuations (volatility). However, in some cases, investment banks are not classified under the third party category, which hinders a thorough analysis of the impact. Further efforts to increase the transparency of markets are expected.

(3) Impact of natural resource and food price increases on each country and region

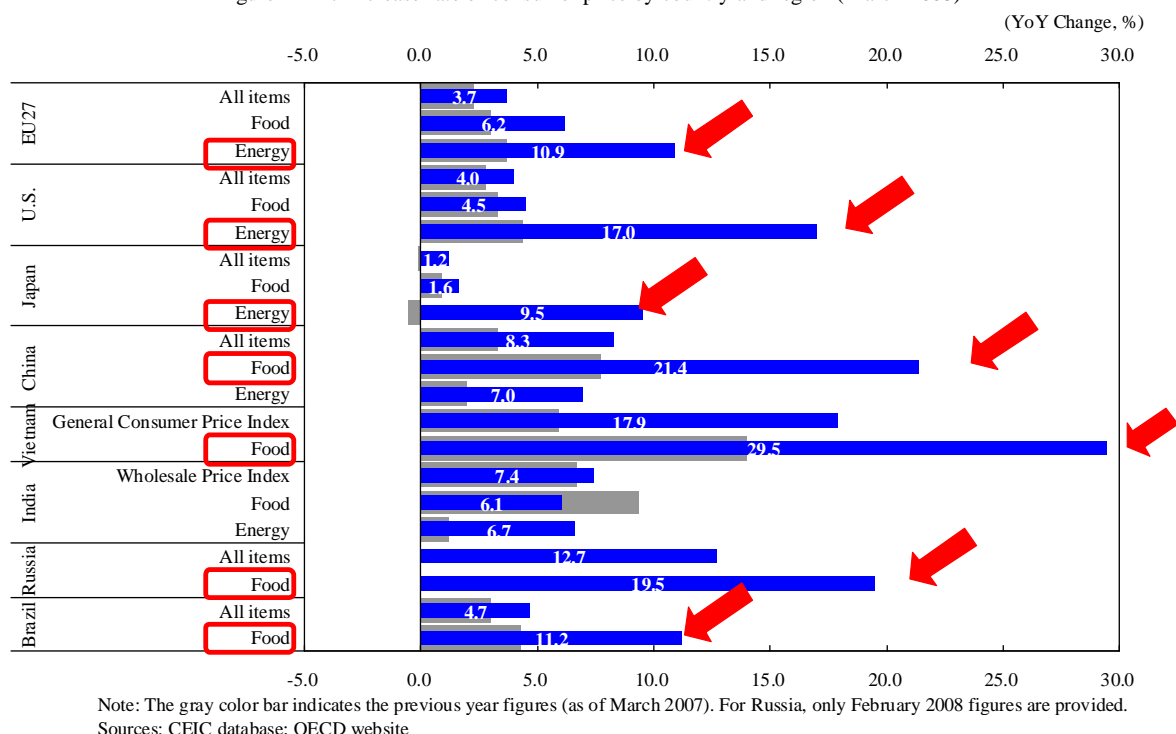
(Impact on prices in each country and region)

In response to the global natural resource and food price increases, consumer prices are rising in each country and region.

Looking at the recent consumer price increases, we see that the natural resource and food prices started to surge in 2008. Energy prices rose sharply in the US, EU, and other developed countries, while food prices increased considerably in the developing countries (see Figure 1-1-47). By looking at the share of food expenditure in the total household expenditure of each country and region, we see that the shares of the developing countries are greater than those of the developed countries (see Figure 1-1-48). In fact, in the developing countries with higher shares for food expenditure, the rise of food prices has had serious adverse impacts on the peoples' lives. Strikes and riots sparked by food-related problems have erupted in many places (see Figure 1-1-49). In contrast, among the developed countries, particularly the US—where the share of energy is equivalent to that of food in the total household expenditure—the energy prices, which are soaring faster than the food prices, are causing

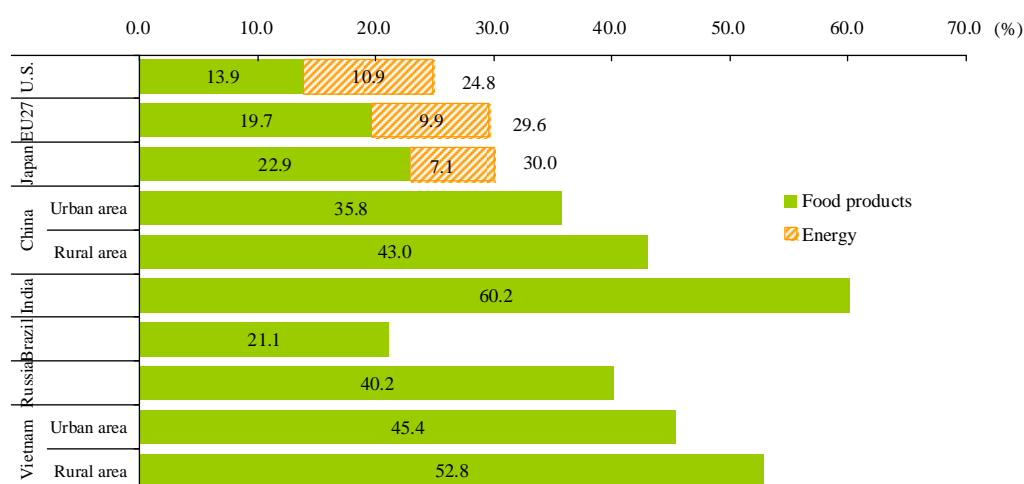
severe damage to the household economies. The impact is most serious among the developed countries and is of great concern⁵⁹.

Figure 1-1-47 Increase rate of consumer price by country and region (March 2008)



⁵⁹ In the U.S. in May 2008, medium- and small-sized truck operators organized nationwide protest demonstrations that lasted for a week, demanding lower fuel prices. Although there were no reports of major disruptions, the participants engaged in various protest activities such as occupying parking spaces and disrupting traffic by driving slowly through streets. In the U.S., the price of diesel fuel rose 45% in one year. According to the results of a poll conducted by the US broadcaster CNN, released on May 2, 2008, 47% of the respondents answered “inflation” to the question “What is the biggest economic problem?” In contrast, “falling house prices” constituted only 19% and “unemployment” only 13%. Moreover, 68% of the respondents answered “gasoline” while only 23% answered “food” to the question “What is the biggest problem you are faced with during inflation?” During the first quarter of fiscal 2008, the average regular gasoline price in the US was \$3.1/bbl, up 5.3% year-on-year. This was three times higher than the prices prevalent in the 1990s, when the gasoline prices remained at a low level (average price was \$1.1/bbl.)

Figure 1-1-48 Share of food and energy expenditure in total household expenditure by country and region



Note: Only food products are shown for China, India, Brazil, Russia, and Vietnam. The EU27 bar includes data on alcohol and tobacco.

Sources: CEIC database; Bureau of Labor Statistics, US Department of Labor, EUROSTAT; Ministry of Internal Affairs and communications, Japan, *Annual Report on the Family Income and Expenditure Survey* (Income and Expenditure) 2007; Global Research, HSBC, "Food Fight, The Global Food Crisis" (April 15, 2008).

Figure 1-1-49 Strikes and riots sparked by rising food prices from January to April, 2008

Indonesia	January: Manufacturers and retailers of tahu (tofu) and tempeh (fermented soybeans) suffering from soaring soybean prices went on strike.
Philippines	April: 1,000 citizens protested against rising rice prices in demonstrations in Manila, demanding that the government lower rice prices.
Vietnam	Many strikes took place at the industrial complexes in the suburbs of Hanoi and Ho Chi Minh.
Egypt	April: Riots regarding the prices of bread took place in Mahalla, located 100 kms north of Cairo, capital city of Egypt.
Haiti	April: Due to resentment against higher rice and bean prices, citizens resorted to riots. The riots lasted for a week, and seven people were killed.
Yemen	April: In southern Daria, protesting students began rioting. They closed roads and set fire to military vehicles. Approximately 100 people were arrested.

Source: Research by METI

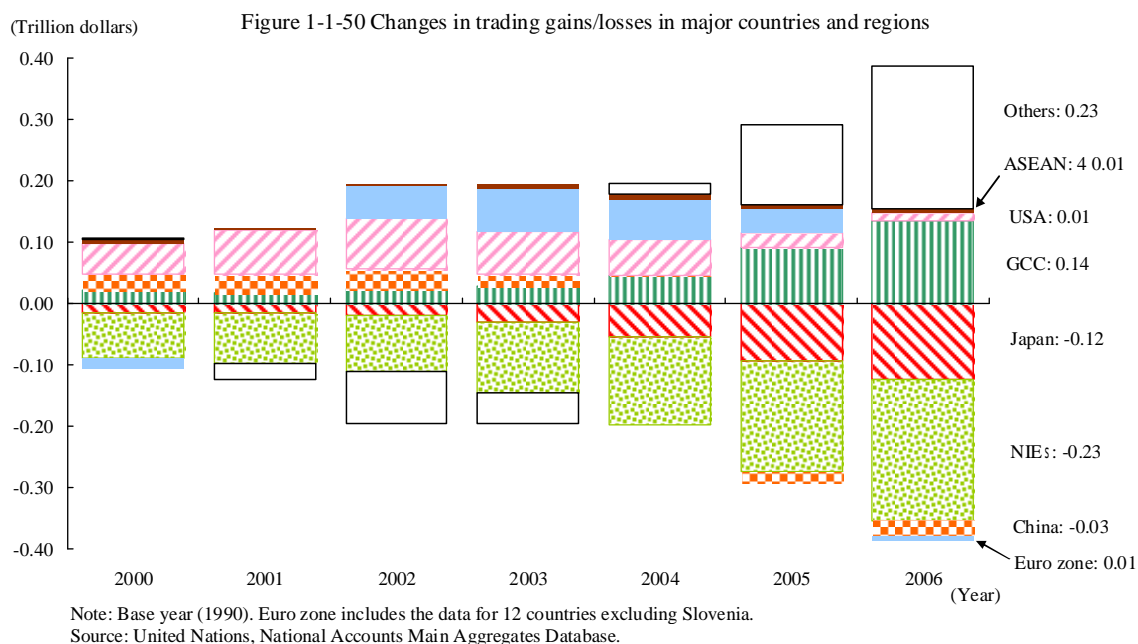
(Impact on trading gains in each country and region)

Varying impacts according to country and region

The rise in natural resource and food prices not only pushes up the overall prices in each country and region but also causes a serious impact on economy in each country through the trade and investment. Generally, in countries importing natural resources and food, when the terms of trade (ratio between import and export prices) deteriorate, it results in reduced trading gains or trading losses, that is, loss of income⁶⁰.

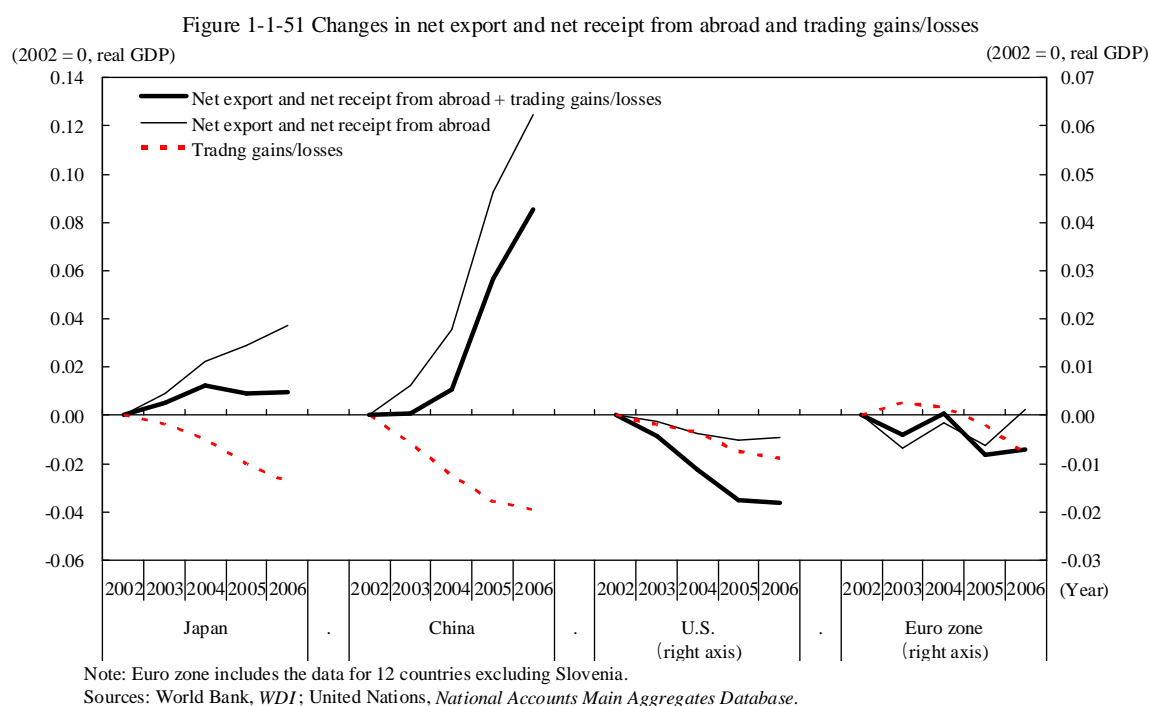
Looking at the next phase of resources and food price increases, we see that conditions in terms of trading gain/loss vary according to the country and region. Most of the processing trade industrial structures, where raw materials are imported and processed and semiprocessed products are exported, are located in countries and regions such as Japan, newly industrialized countries (NIEs), and China. These countries and regions are experiencing reduced trading gains or increased trading losses, while other countries, including those in the Gulf (GCC) and many resources and food exporting countries, are experiencing expanded trading gains (see Figure 1-1-50).

⁶⁰ Trading gain is the amount of real income transferred caused by the gap between import and export prices (deflator). When the trading gain (or trading loss when negative) is added to the real GDP, the resulting measure is referred to as the real Gross Domestic Income (GDI).



Recycling of income through the expansion of exports, etc.

Due to the rise in natural resource and food prices, the trading gains fell across the major countries of Japan, China, the US, and Europe. On the other hand, greater trading gains achieved in resource and food exporting countries increased domestic final demands, and in turn, supported the economies of exporting countries (Japan, China, and the EU) that export goods to the resource and food exporting countries. As a result, in Japan and China, the total net exports and receipts from abroad exceeded the increased trading losses, thus increasing the national income (real GDP) (see Figure 1-1-51).



(Impact of food price increases on least developed countries)

These food price increases have a particularly serious impact on least developed countries⁶¹.

The total value of food imports from least developed countries in 2008 is expected to be \$169 billion, 1.4 times more than that of 2007⁶². Moreover, the rising food prices are having a serious adverse impact in the developing countries within Asia, Africa, and other regions, where the share of food expenditure in total expenditure is high⁶³. Some expressed alarm over Bangladesh and Zambia having 40% of their population suffering from malnutrition and that rapid food price increases would further worsen the situation⁶⁴.

(Future outlook)

Global natural resource and food demands are expected to continue to increase for some time.

Natural resources (oil, coal)

The International Energy Agency (IEA) forecasts that the global demand for oil and coal will continue to increase from 2005 to 2015, at an annual average rate of 1.7% and 3.3%, respectively⁶⁵. By region, the OECD countries' demand for oil and coal are expected to increase by 0.6% and 0.8% annually on an average during this period. The demand increases of developing countries are expected to be far beyond those of the OECD countries, with increase in rates of 3.3 % and 4.9% for oil and coal, respectively. Among the developing countries, China and India in particular have the greatest impact on oil and coal demand increases. It is forecasted that of the total global demand increase between 2005 and 2015 in oil and coal, that of China and India is expected to account for approximately one-third for oil and approximately four-fifth for coal, respectively (see Figure 1-1-52).

Although it is difficult to predict the crude oil prices, they are expected to stabilize in the future. Due to the pessimistic prediction on the inflexible demand-supply conditions in the future, funds were poured into the market, thus raising the prices. However, as crude oil development and production proceed and the development of energy-saving and alternative energy technologies advance, a price adjustment mechanism will most likely respond and help bring down the prices. However, the current situation does not allow premature conclusions, and we must continue to monitor the market.

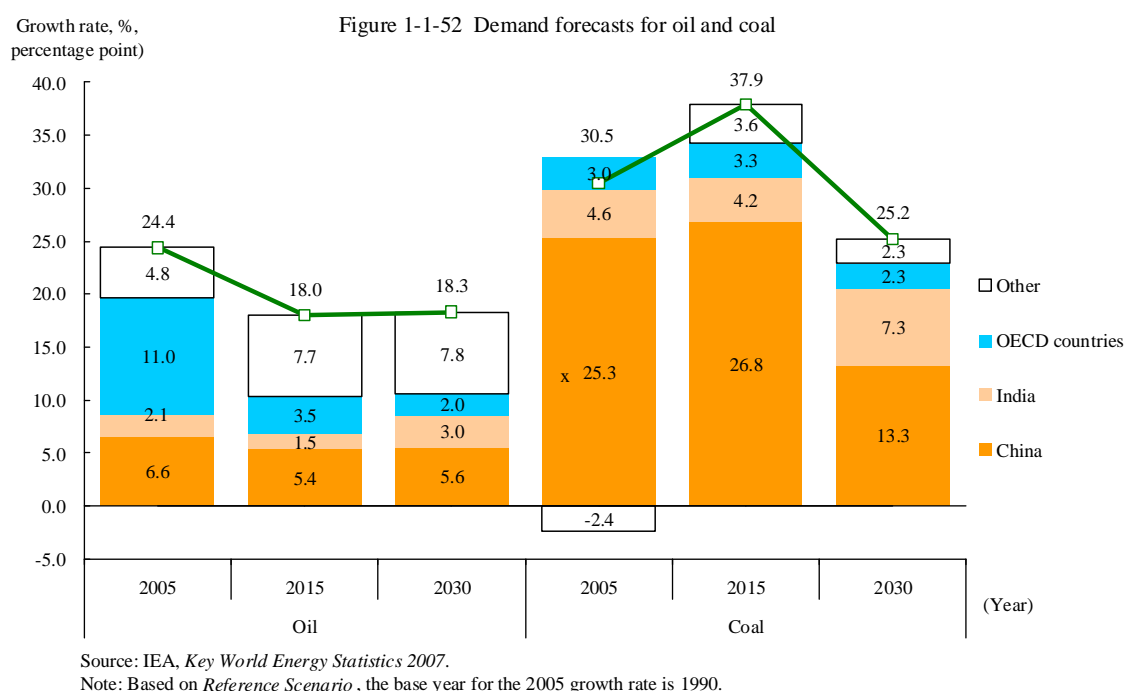
⁶¹ It is said that due to a rise in the food prices in the past two years, 100 million people were newly forced into impoverished conditions. (Statement by Robert Zoellick, President, World Bank, at a press conference on April 29, 2008)

⁶² FAO, *Food Outlook May 2008*.

⁶³ Of the 36 countries facing food crisis, 21 are located in sub-Saharan Africa. In these countries, 45% of wheat and 84% of rice are imported (FAO website).

⁶⁴ Statement by Lennart Båge, President, IFAD

⁶⁵ IEA (2007). All figures quoted here are from Reference Scenario, (IEA; assumes that the current energy measures undertaken by each country remain unchanged.)



Food

According to OECD/FAO Outlook, 2008⁶⁶, in the next ten years, global food import is expected to increase in all items. In forecasting the 2017 import volume, it was assumed that the average annual increase rates of major grains such as wheat and corn are approximately 15% more and that of rice is over 25% more than those of the 2005–2007 period. Most of the wheat import increases are expected to stem from Asian developing countries, while that of rice and coarse grains, from African developing countries, particularly least developed ones.

⁶⁶ OECD/FAO (2008), *Agricultural Outlook, 2008–2017*.