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Recent Developments of Japan's External Trade and Corporate Behavior

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Recent Developments of Japan's External Trade and Corporate Behavior*

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Summary

1. Increases in exports (and net exports) have been a significant factor in the current economic expansion. This comes against the backdrop of two important developments in the external environment: (1) the global economy has continued to expand steadily with the engines of growth more broadly distributed worldwide, and (2) the increase in global trade has outpaced global economic growth. Another element in the external environment is that, in the foreign exchange market, the yen has tended to depreciate on a real effective basis.

2. Against the background of this external environment, Japan's exports and imports have exhibited some notable characteristics. Exports have diversified, both in terms of destinations and goods. Greater values have also been added to the contents of these goods. When import developments are also incorporated, we note that the trade of capital goods and IT-related goods has been expanding for both imports and exports, as trade with other East Asian economies has further deepened. In contrast, imports of raw materials have been sluggish, affected by the rise in international commodity prices and by the depreciation of the yen. Looking more broadly at external balances beyond exports and imports of goods, the deficit in balance on services has continued to narrow gradually and the surplus on balance on income has continued to expand; these developments have significantly contributed to the expansion in the current account surplus.

3. The above characteristics did not simply arise as a consequence of good luck, a favorable turn on the external environment; they may well have resulted from the efforts of Japanese firms to adapt to the growing trend of globalization. In recent years, Japanese firms have been keen on overseas markets with higher growth potential. They have endeavored to capture global demand by establishing appropriate supply chain networks, and have simultaneously stepped up overseas production. Moreover, with regard to domestic production, Japanese firms have made efforts to continue to add value to their products. Domestically, they have relied on advanced technological capabilities to produce higher-value added products, and this has resulted in an increase in exports. At the same time, Japanese firms have also made effective use of resources overseas, in particular, through the international division of labor with other East Asian economies. Profitability of overseas operations of Japanese firms has improved steadily. Profits earned overseas have been repatriated back to Japan, as seen in improvements in the balance on services and on income.

4. Japanese firms have thus dealt with globalization fairly well, and this has enabled the domestic economy to continue expanding over a long period of time. Globalization, however, also comes with a variety of competitive pressures, including those from the capital

markets. Consequently, today's domestic economy tends to show features not readily observed in the past expansion, such as lackluster wage growth.

5. Attention should be paid to the possibility that the Japanese economy is now more susceptible to developments overseas, since it has become more closely linked to the global economy. With the population declining and increasingly aging, however, the Japanese economy needs to continue its efforts in capturing global demand in order to keep on generating income and to maintain its growth potential.

1. Introduction

Japan's economy has been expanding moderately. The current economic expansion—which started from early 2002—has continued for a period of roughly five and a half years. This is regarded as the longest post-war expansion, surpassing the "*Izanagi* boom" that lasted just under five years. One characteristic feature of today's economy is that the rise in exports has played an active part in this expansion. Looking at movements in exports and imports on a real basis,[1] real exports have trended consistently upward at a pace higher than that of real imports. As a result, the real trade balance (net exports) has also continued to expand at a vigorous pace (Chart 1). The surplus of the current account balance in nominal terms has also been on an increasing trend. These movements in external balances have boosted production activity and induced the rise in corporate profits. This in turn has facilitated the positive spending behavior of firms, leading to sustainable economic growth overall.

Exports have had a profound impact on this current economic expansion, which is conspicuous in comparison with past expansions (Chart 2[1]). Real exports during the current expansion have been rising at a pace of around 10 percent per annum on average, a relatively fast pace compared to past economic expansions. Meanwhile, real imports have been on an uptrend when this current expansion is taken as a whole, although their pace of increase is not as noticeable as that in the past. Also, compared to past long-term expansions such as the "*Izanagi* boom" and the "Bubble boom," exports and net exports observed in this current phase are evidently strong (Chart 2[2]).

This paper analyzes movements in exports and imports during this current economic expansion, with reference to underlying corporate behaviors and impacts on the domestic economy in mind. First, the external environment that forms the basis for movements in exports and imports will be discussed (Section 2). Next, several characteristic developments in exports and imports in recent years under this external environment will be pointed out (Section 3). Following this, we discuss, in view of the growing trend of globalization, aspects of Japanese corporate behavior that have brought about the above-described features in exports and imports (Section 4). Discussions will then be made on how this corporate behavior might influence the

[1] Exports and imports released in the Ministry of Finance's *The Summary Report on Trade of Japan* are nominal figures; they are affected by price fluctuations, including crude oil prices. At the Bank of Japan, real exports (imports)—excluding the effects from price fluctuations—are calculated by dividing the value of exports (imports) with the export (import) price index (real trade balance is obtained by subtracting real imports from real exports). See "Explanation of Real Exports and Imports (http://www.boj.or.jp/en/type/exp/stat/exrei.htm)" on the Bank of Japan website for details on the calculation method. The Ministry of Finance also releases its "quantity" index, in which price fluctuations are adjusted. The difference between this index and the "real" index calculated by the Bank is explained in BOX 1 "'Real' Index and 'Quantity' Index." In this paper, the analyses on exports and imports are generally based on real exports and imports.

domestic economy (Section 5). Finally, we conclude with some future implications (Section 6).

2. External Environment Surrounding Japanese Exports and Imports in Recent Years

We begin our discussion on the developments in exports and imports by first looking at the external environment in recent years. Here, we deal with the following three issues: (1) steady expansion of the global economy in which growth is shared increasingly across regions; (2) expansion of global trade centered in East Asia; and (3) the depreciation trend of the yen.

Global Economy: Steady Expansion Increasingly Shared Across Regions

First, one essential external environment observed in recent years is the steady and high growth of the global economy, and much of the growth momentum is now being shared across a wide range of economies.

IMF data confirms that the global economy has maintained high growth—around 5 percent overall—since 2004. The *World Economic Outlook* (released in April 2007, partially updated in July) expects high growth to continue on toward 2008 (Chart 3[1]).[2] Furthermore, a striking feature seen in movements by country and by region (Chart 3[2]) is that the rising importance of emerging markets such as those of Brazil, Russia, India, and China (BRICs) has become noticeable, and growth is now observed in many parts of the world. For instance, the ratio of the contribution of the U.S. economy to the overall global economic growth rate used to be around 20 percent on balance from the 1980s to around 2000. From 2002 onward, however, it has fallen to approximately 10 percent, indicating that the global economy has become less directly dependent on U.S. growth (Chart 3[3]). The distribution of the growth rate by country also shows that almost all countries worldwide have now enjoyed positive growth, which constitutes a dramatic change in recent years (Chart 3[4]).

To see the impact on Japanese exports in a clearer fashion, overseas economic growth rates are now weighted according to export value by destination. We can also see that, in recent years, the expansion of overseas economies has become more widespread (Chart 4).[3] With the ongoing high growth overall, the contribution by country and by region shows that the impact

[2] The global growth rate released by the IMF is calculated by totaling the growth rates of individual economies using GDP weights based on purchasing power parity.

[3] The growth rates of each country and region are totaled using Japan's weighted export values. For details, see Chart 4.

from the United States has lessened compared to the past. Instead, other regions such as East Asia (including China), Latin America, the Middle East, India, and Russia have emerged as major contributors.[4]

Expansion of Global Trade Centered in East Asia

Second, the pace of increase in global trade has rapidly outpaced global economic growth, and trade within the East Asian region has expanded conspicuously.

IMF data show that during the period of about 30 years from 1980, real GDP worldwide has expanded almost threefold, whereas the volume of world trade has rapidly outpaced global GDP by expanding fivefold (Chart 5[1]). Along with this increase in global trade, the total trade volume in Japan has also expanded sharply relative to GDP since the second half of the 1990s; this trend appears to have accelerated in recent years (Chart 5[2]).

Amid the global expansion in trade, the weight of East Asia (including Japan) to world trade has risen, primarily in exports (Chart 6[1]). The increase of trade within East Asia was augmented by trade within the region (Chart 6[2]). This indicates that linkages have been strengthened within the East Asia region, which in turn has enabled the region to position itself as a production base for supplying goods worldwide.

Foreign Exchange Rate: The Depreciating Yen

The external environment described above has had a significant impact on Japan's economy. Here, we look at another characteristic movement: the foreign exchange market, in which the yen has tended to depreciate.

With regard to movements in the real effective exchange rate—which shows Japan's competitiveness from the viewpoint of prices (Chart 7)[5]—the yen has depreciated, a reflection of the differences in the rate of inflation at home and abroad in addition to the movements in the

[4] This paper defines "East Asia" as economies with which Japan enjoys a deep trade relationship and whose economic scale is relatively large; these are Mainland China, NIEs (South Korea, Taiwan, Hong Kong, and Singapore), and ASEAN 4 (Thailand, Malaysia, Indonesia, and the Philippines). "Other regions" are those other than the "United States," "EU," and "East Asia": emerging economies such as Brazil, Russia, and India; oil-producing countries such as those in the Middle East; and also countries that have a close trade relationship with Japan, such as Canada, Australia, and Mexico.

[5] In general, the foreign exchange rate in relation to competitiveness needs to be discussed both on "real" and "effective" bases. The "real" exchange rate is the exchange rate that takes into account the differences in the rate of inflation at home and abroad, whereas the "effective" exchange rate is comprised of changes in the exchange rate against several currencies. For details, see BOX 2, "Real Effective Exchange Rate."

nominal exchange rate. Looking at the real effective exchange rate in more detail, the yen had started to depreciate after having peaked at around 2000; it had temporarily remained more or less level from 2002 to around 2004. The yen, however, started to fall again, at a somewhat faster pace, from around 2005 and has recently reached considerably low levels. These movements in the foreign exchange rate have also affected, in no small way, developments in exports and imports.

3. Characteristic Features of Recent Exports and Imports in Japan

In this section we explain the characteristic movements of Japanese exports and imports amid the aforementioned external environment. The following issues will be discussed in detail: (1) the diversification of exports both in terms of destinations and goods; (2) exports characterized by greater value-added content; (3) deepening of trade with East Asia, mainly in IT-related goods; and (4) sluggishness in imports such as raw materials. Furthermore, we argue, in view of broader measures of external transactions beyond mere exports and imports of goods, that (5) the movements in the balance on services and on income have gained importance in recent years.

Diversification of Exports Both in Terms of Destinations and Goods

The first feature of exports is the diversification of exports, both in terms of destinations and goods.

The share of export destination (Chart 8[1]) brings to light that export destinations have become wide-spread: the weight of exports to the United States—which had been over 30 percent until 2001—has edged lower. Instead, exports to China and other regions have increased their share. The growth rate of exports during this current economic expansion (Chart 8[2]) also indicates that the contribution of exports to the United States has been limited and that the ratio of those to China, the EU, and other regions has risen considerably. This makes a sharp contrast from the previous economic expansion (1999-2000) when the rise in exports was concentrated to some regions, such as the United States and the NIEs, whose economy is susceptible to U.S. developments.

By goods (Chart 9), during the previous economic expansion, IT-related goods contributed substantially to the rise in exports by slightly more than 30 percent, resulting in a significant drop in exports during the eventual burst of the IT bubble. In this current phase, however, the contribution of IT-related goods has dropped to around 20 percent. On the other hand, those from automobile-related goods and capital goods have increased markedly in this current

expansion,[6] representing a balanced share of goods compared to the previous expansion.

These characteristics of exports seen by destination and by goods are both closely related and inextricably linked. The IT boom—primarily in the United States—gave boost to exports of IT-related goods in the previous expansion, and this pushed up exports to the United States as well as to the NIEs which is where goods were assembled to become finished products. This time, on the contrary, exports of capital goods—which have been growing conspicuously—have been destined to many economies all over the world (Chart 10[1]). As for exports of automobile-related goods, those to other regions—in addition to the United States—have contributed to overall increases (Chart 10[2]).[7]

Greater Value Added Export Goods

The second feature of exports is that exported goods are now increasingly characterized by greater value-added content.

One way to judge the degree of value-added of goods is to compare the movements of the "real" index with those of the "quantity" index. In line with how real GDP is compiled, the "real" index—obtained from dividing nominal figures by the "price" index—shows the fluctuations in the total value-added of export goods. Meanwhile, the "quantity" index—obtained from dividing nominal figures by the "price (unit price)" index—only partially reflects the fluctuations of the added value.[8]

When comparing the movements of the two indexes (Chart 11), the widening discrepancy in recent years—with growth of the real index overtaking that of the quantity index—shows that

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[6] In the exports-by-goods data in the *Monthly Report of Recent Economic and Financial Developments*, "capital goods and parts" is put into one single category, which mainly reflects the convenience of compiling the statistics. In this paper, however, analyses are made accordingly by separating it into two categories: "capital goods and parts (of which includes capital goods and excludes parts)," and "capital goods and parts (of which includes parts)." As for parts, many semi-finished products are included that are eventually used for final IT-related goods, and they can be regarded, by the nature of things, as being close to "IT-related goods." Unlike that for exports, data for imports are difficult to separate because of limitations on their data availability; they are analyzed here as "capital goods and parts" in one category. Meanwhile, exports of automobile-related parts are classed not as "capital goods and parts (of which include parts)" but as "automobile-related goods."

[7] In recent years, exports to other regions—whose growth is mostly attributable to the rise in those of capital goods and parts and of automobile-related goods—have continued to expand (Chart 10[3]).

[8] The "real" index is compiled by the Bank of Japan, whereas the "quantity" index is released by the Ministry of Finance. Both indexes are calculated from dividing the nominal value by a certain price, although differences exist in the characteristics of "prices" used. For details, see BOX 1, "'Real' Index and 'Quantity' Index."

greater value has been added to exported goods.[9] The discrepancy between the real and quantity indexes has been observed in a wide range of goods (Chart 12). By goods and items, greater value has been added remarkably to IT-related goods (electronic parts such as semiconductors and visual apparatus including digital home appliances), since their added value tends to increase in line with the rapid pace of technological innovation. Nevertheless, higher value is added equally markedly to general machinery and automobile parts as well.[10]

Trade Deepening with Other East Asian Economies, Especially in IT-related Goods

The third characteristic feature is that Japan's trade relationship with East Asia has deepened significantly—especially in IT-related goods and capital goods—both in exports and imports.

We have already mentioned that exports by destination show that exports have been expanding to East Asia. What is prominent about trade with East Asia in recent years, however, is that not only exports but also imports have expanded profoundly, resulting in an overall deepening of trade with other East Asian economies.

In detail (Chart 13), growth in imports as a whole has been relatively weaker than exports during this current economic expansion; it has also been slightly lower than the previous expansion of 1999-2000. By region, however, imports from East Asia have continued to exhibit relatively high growth. As a result, a large portion of the total expansion in Japan's real trade (total of exports plus imports) can be accounted for by augmented trade with East Asia.

Looking at trade with East Asia by goods, IT-related goods as well as capital goods and parts have contributed significantly to growth in trade with other East Asian economies (Chart 13[3]). In this current economic expansion, trade of IT-related goods as well as capital goods and parts with East Asia has grown remarkably for both exports and imports. In capital goods and parts, growth in imports has even outpaced that of exports (Chart 14).

Accordingly, trade with East Asia has developed in both exports and imports, possibly as a result

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[9] According to the breakdown by factor of movements in the unit value index—on which the calculation for the quantity index is based—it is confirmed that the rise in export prices (unit price) has been attributed significantly to adding greater value to products (Chart 11[3]). Such tendency for higher value-added content has also been observed in the past, although that observed in this current expansion is particularly visible (Chart 11[1]).

[10] It is difficult to see the impact of greater added value to automobile-related goods in Chart 12 (1). This is probably because exports of finished cars are mainly in small passenger cars, since production of high value-added standard-sized passenger cars have been shifted overseas. When looking only at automobile parts among automobile-related goods, however, greater added value is evident as mentioned above (Chart 12[4]). Furthermore, as will be discussed later on, exports of high-priced small passenger cars—which are highly efficient in terms of energy—have been steady lately.

of the division of labor that takes advantage of country-specific characteristics. Taking IT-related goods for example (Chart 15), exports of parts—which often rely on high technology to manufacture—have increased, while imports of finished products after having been assembled in East Asia have risen noticeably. Consequently, the import penetration ratio of manufactured goods has continued to trend upward in Japan (Chart 16).

Sluggish Imports of Raw Materials

While trade with East Asia has been expanding both ways, particularly in IT-related goods, overall growth in imports has been moderate on the whole; they have remained almost level from 2006.[11] This can be thought of as another feature in this current economic expansion. In conjunction with high growth in exports, this factor has contributed to the expansion of net exports on a real basis.

The slow pace of import growth was largely affected by the weakness in imports of raw materials, which accounts for 30-40 percent of overall imports. In the past, a close linkage between imports of raw materials and domestic industrial production used to be observable. In recent years, however, a discrepancy has become evident in which imports of raw materials did not rise, despite uptrends in production (Chart 17[1]). This was possibly caused by Japanese firms becoming keener on improving profitability. Amid surging international commodity prices (Chart 18), they have made efforts to reduce imports of raw materials such as crude oil needed for unit of production (Charts 17[2] and [3]).

In addition to raw materials, increases in imports of foodstuffs and consumer goods have slackened since 2006. This decline has possibly been affected by the rise in prices of import products relative to domestic products due to an increase in food-related commodity prices and to the depreciation of the yen (Chart 19).

Narrowing of Service Deficit and Expansion of Income Surplus

We have so far outlined distinctive characteristics for trade on goods. At the same time, however, both the balances on service and on income have also exhibited remarkable developments during this current economic expansion.

[11] Since the summer of 2006, the sluggishness of imports also came from the following factor: some inventory adjustment pressures arose in the domestic IT-related sector and, with the mechanism of the international division of labor discussed later in place, this has worked to restrain imports of IT-related goods from Asia.

Looking at movements in the nominal current account balance (Chart 20),[12] the current account surplus has been expanding dramatically throughout this current economic expansion. It has recently been at historical peaks to nominal GDP on a quarterly basis. In detail, however, the surplus of balance on goods—which used to account for a large portion of the current account surplus—has remained more or less level, since the expansion in net exports of goods on a real basis has been offset by the rise in import prices including crude oil. Meanwhile, the service deficit has continued to narrow moderately, and the income surplus has expanded to slightly exceed the surplus of goods balance. These factors have made large contributions to the expansion in the current account surplus.[13]

A notable feature of the service balance (Chart 21) is that the surplus has been expanding for "industrial processes, franchises, etc." (such as "royalties and license fees" from overseas firms and subsidiaries) and "merchanting trade" (profits made from exports by subsidiaries overseas[14]). As for the income surplus (Chart 22), the expansion of the surplus basically results from the increase in net foreign assets. In detail, while the surplus of the income on debt has expanded, direct investment income has also increased noticeably. This shows that the rise in profits brought about by overseas business activity of Japanese firms has led to the improvement of both the service and income balances.

In this way, the nature of the current account surplus now differs significantly from what it used to be in the second half of the 1980s, when the large surplus of an equal magnitude primarily reflected the trade surplus. The current account surplus of Japan has changed its contents and currently consists of two surpluses—trade surplus and income surplus—a characteristic rarely seen in other countries (Chart 23[1]).

4. Establishing the Supply Chain Network Aimed at Capturing Global Demand

The characteristic features of recent exports and imports mentioned in the previous section have resulted, to some degree, from the upturn in the external environment, including the globalization of the economy and the depreciation of the yen. At the same time, however, it should also be noted that the features reflect the active efforts of Japanese firms to benefit from globalization. In recent years, Japanese firms have become more aware of rapidly growing

[12] The current account balance is comprised of balances on goods, services, income, and current transfers.

[13] From the end of 2003 up to the present, the increase of income surplus has amounted to 2.5 trillion yen. This has surpassed the outflow of income of 1.7 trillion yen caused by the rise in the nominal import value of crude oil (Chart 22[3]).

[14] For details on "merchanting trade," see note 18.

overseas markets. As a result, they have established a global supply chain network through the expansion of overseas production, and they are making efforts to bring higher values to domestic production. Such corporate behavior has had an impact on Japanese exports and imports as well as on developments in the current account balance. From this viewpoint, we discuss (1) how Japanese firms have endeavored to cater toward global demand. We then continue to discuss (2) the construction of the global supply chain network of Japanese firms, and (3) the profitability of overseas operating bases and the repatriation of profits back to Japan.

Japanese Firms Catering to Global Demand

The following three indications show that Japanese firms are successfully catering to global demand.

First, the increase in Japanese exports has far outpaced the growth of overseas economies. During this current economic expansion, Japan has faced an overseas economic growth rate of around 4.5 percent on average, while the average rate of increase for real exports was twice as fast at about 10 percent (Charts 2 and 4). In this regard, we conducted quantitative analysis as to the impact of the depreciation of the yen and of the expansion of overseas economies on domestic exports (Chart 24).[15] With this, we confirmed that (1) the depreciation of the yen in real effective terms exerts upward pressure on exports, although with slightly less impetus from a longer-term perspective.[16] At the same time, (2) the expansion of overseas economies has tended to push exports upward, with this effect having increased somewhat noticeably in recent years. Results of this analysis indicate that in addition to favorable overseas economies and the depreciation of the yen, efforts to cater for globalization has allowed exports from Japan to increase faster than the expansion of overseas economies.

[15] Here, we (1) construct a three-variable VAR model, consisting of real exports, real effective exchange rates, and overseas economies. We then divide the sample periods into two sub-periods—one up until 1990 and the other from the 1990s onward—and compare the impulse responses. At the same time, we (2) confirm the changes in the value of elasticity (the degree of change in the explained variable in response to the change in the explanatory variable) by the rolling estimation approach using the error-correction model in which changes in real exports are a function of the real effective exchange rate and overseas economies.

[16] The effects of the exchange rate have lessened since the 1990s (Chart 24); this is likely to have been caused by the drop in the weights of goods that are sensitive to exchange rates (Chart 25). When looking at past relationships of exports/imports and the exchange rate by goods, exports of automobiles and consumer goods in particular show that they are apt to be influenced by the exchange rate, partly because they tend to compete with the same type of goods from other countries. On the other hand, those of capital goods and parts and of IT-related goods are relatively less sensitive to the exchange rate, possibly due to the fact that these goods are traded under the framework of the international division of labor. In recent years, along with the development of international division of labor, the share of goods sensitive to foreign exchange rates has become smaller, possibly bringing about the decrease in sensitivity to exchange rates of overall exports.

Second, Japanese firms have increased their exports as well as the ratio of overseas production, mainly in the processing industry (Chart 26). When the yen was appreciating from the second half of the 1980s to the first half of the 1990s, production bases were shifted overseas with a sharp rise in the ratio of overseas production rendering sluggish exports. This past episode implied that firms would shift their supply bases back to Japan and prioritize exports in the face of the depreciating yen. Nevertheless, in recent years, even with the yen depreciating, firms have been expanding both their domestic and overseas production; the two have been working interactively to cater for buoyant foreign demand.

Third, Japanese firms have maintained, amid the growing trend of globalization, a high market share and competitiveness in various products (Chart 27). In particular, shares of products embodying high added value or requiring high technology to produce are comparatively higher. For instance, digital home appliances whose demand has surged recently have retained a high share on the whole. When looking at liquid crystal display TVs in detail—a typical product of digital home appliances—the strength of Japanese firms lies more in higher-value-added parts and components, rather than in finished products, which rely heavily on the assembling process. Furthermore, as for capital goods that entail high competitiveness, a variety of products have increased their exports to a wide range of regions, assisted by the business fixed investment boom worldwide, notably in emerging economies; their increase has outpaced the expansion of global business fixed investment (Chart 28).[17] As for automobiles, Japanese cars (especially small passenger cars exported from Japan)—which are renowned for their lower fuel costs due to energy efficiency—have been met with an increase in demand following the upsurge in gasoline prices (Chart 29).

Establishing the Global Supply Chain Network

Japanese firms have attracted global demand since they have made use of their high technology as well as set up and optimized their production bases globally. Various surveys on the geographical choice of production bases (Chart 30) show that firms choose domestic production bases "for their high technology," whereas reasons such as "catering to the local economy and neighborhood countries" and "inexpensive labor" are given for overseas production bases. This indicates that Japanese firms have differentiated these production bases according to their needs from a global viewpoint, such as by using overseas production to incorporate the growing market as well as keeping costs down, while maintaining the competitiveness of domestic production by enhancing skilled intensity. As seen in Section 3, greater value has been added to export goods in recent years, which reflects this type of corporate behavior.

[17] Among capital goods, the competitiveness depends on the value added and high technology applied to these goods. For example, the global share of construction machinery overall is about 15 percent, whereas hydraulic shovels and mining trucks—which are thought to have higher value added—enjoy a relatively high share (Chart 27).

In more detail, the exact purpose for using overseas production to cater to global demand differs slightly according to industry and region. Sales of overseas subsidiaries by industry (Chart 31) show that overseas production of transport equipment has been aimed at catering to local demand, regardless of region. Meanwhile, as for electrical machinery and industrial machinery, firms have established operating bases overseas remarkably—especially in Asian economies where low-cost labor is available—for the purpose of exporting products to third countries or re-importing to Japan. In this case, overseas bases are used not only as a base catering to local demand, but also for supplying products to countries throughout the world.

Here, we take the example of IT-related goods since this sector has been characterized as an internationally intensified division of labor. We look in detail at the global supply chain network and developments in trade, including their impact on Japanese exports and imports.

Regarding world exports and imports of IT-related goods (Chart 32), most of the increase in exports of integrated circuits and electronic components comes from transactions that take place within the Asian region, including Japan. As for exports of finished products, by classification based on the place of production (export origin basis), Asia is by far the largest contributor, as is the case with parts. On a demand (export destination basis) base, however, a wide range of regions have made contributions to the increase in exports. A high correlation is confirmed between global semiconductor shipments and IT-related exports of Japan, NIEs and ASEAN economies (Charts 33[1] and [2]); East Asia has established itself as the "world's factory" in response to global IT-related demand. Meanwhile, in demand of final products such as PCs and cellular phones (Chart 33[3]), the share of developed countries has decreased, whereas that of emerging economies has expanded; it appears that global demand has now relied upon many regions. In sum, we can reconfirm that demand for IT-related final products has risen worldwide across regions, and East Asian economies including Japan's, have positioned themselves as crucial production and supply bases; IT-related trade of Japan has also been conducted within this large framework.

Furthermore, to examine Japan's role within the East Asian region for IT-related goods, we compare exports from Japan to NIEs or ASEAN economies with imports from China to Japan (Chart 34). According to the lead and lag correlation between the two, no clear relationship was observed in the past, but from the end of the 1990s onward, it has been revealed that exports from Japan to NIEs or ASEAN economies lead imports from China for a few quarters. As mentioned in Section 3, goods exported from Japan are often comprised of parts produced with relatively high technology, whereas those imported from East Asia consist mostly of finished products (Chart 15). With these facts combined, the linkage is considered to have strengthened in which "parts exported from Japan to NIEs and ASEAN are assembled within the region, resulting in imports of finished goods from China supplied to the rest of the world including

Japan." As a consequence, Japan's trade with East Asia has increased in both exports and imports.

Profitability of Overseas Operations and Its Repatriation

We have so far stated that Japanese firms have catered to global demand, taking advantage of their production bases abroad. Here, we examine the profitability of these overseas operating bases.

When looking at the profitability of Japanese firms, including domestic profits (Chart 35), by region, the rate of profitability has risen in all regions in recent years, since firms have proceeded with the globalization of production bases, taking into consideration differences in labor costs. The rate of profitability of Japan's outward direct investment has also improved steadily (Chart 36). This indicates that Japanese firms have been constructing supply-chain networks in various regions by using resources both at home and abroad, depending on the added value of products and the degree of technology required.

The rise in profitability of these production bases abroad, as shown in Section 3, has been repatriated steadily to Japan through channels such as services and income balances.

For example, net revenues of Japanese subsidiaries abroad (such as production bases in East Asia) earned through exports of products to a third country (such as the United States) via book account of the head office are credited in the *Balance of Payments Statistics* as "Merchanting Trade (Services)," thereby being repatriated back to Japan (Chart 37).[18] Exports of Japanese overseas subsidiaries to third countries appear to have trended upward as a whole[19] with, by industry, electrical machinery and transport equipment comprising high weights. Moreover, profits are brought back to Japan from subsidiaries abroad via "Royalties and License fees" ("Industrial Processes, Franchises, etc." of services balance) or "Income on equity (securities)" ("Direct Investment Income" of income balance). In fact, for large manufacturing firms, the ratio of current profits to sales has been constantly higher than the ratio of operating profits to

[18] "Merchanting trade" in the *Balance of Payments Statistics* is defined as a trade in which Japanese residents purchase goods from nonresidents and then resell them to another nonresident. In this, the so-called tripartite trade is included, in which three countries—Japan, a producer country, and a consuming country—are involved. Increasing cases are observed in recent years where goods are produced in a producer country in Asia, which is eventually exported to a consuming country in the United States and Europe with the Japanese head office acting as the intermediary. Profits of Japanese subsidiaries abroad earned through direct exports to third countries without involving the head office are not listed as "merchanting trade," but as "outward direct investment" in income balance.

[19] The data in Chart 37(2) include both exports via the head office and those other than this. As mentioned earlier, profits earned via the head office are listed as "merchanting trade" in services balance, whereas those other than this are listed as "outward direct investment" in income balance.

sales has in recent years. This difference is partly attributable to the decrease in interest payments due to lower interest rates and debt reduction. But it also reflects, to a considerable degree, increases in interests received such as income on equity from overseas subsidiaries and royalties and license fees received from abroad (Chart 38).

Consequently, the net repatriation of profits from overseas operations recorded in services and income balances has recently risen to about 1 percent of nominal GDP from the vicinity of zero percent until around 2000 (Chart 39). This suggests that Japanese firms have been creating added value from overseas operations, a development that has started to exercise positive effects on the domestic economy via a different route other than that activities directly linked to production (i.e. trade on goods).

5. Characteristic Features of the Domestic Economy Under Globalization

As the previous discussions have demonstrated, Japanese firms have been using their business resources both at home and abroad: they have established a supply chain network to cope with the advance of globalization. These developments—through an increase in exports and improvements in services and income balances—have served as the driving force to sustain growth in the domestic economy. The growth expectation of firms has edged up as a whole, in line with the ongoing economic expansion. Manufacturing firms—which are closely linked to overseas economies—have exhibited relatively high growth expectations. This underlines the importance of catering to demand from overseas for the growth of Japanese firms (Chart 40). Hereafter, we discuss how the changes in corporate behavior faced with the growing trend of globalization have been impacting the overall domestic economy.

Business Fixed Investment Stance Aimed at Global Demand

Domestic business fixed investment has continued to increase firmly, since firms have been more conscious of global demand and have tried to establish domestic supply capacities in addition to setting up overseas bases. The higher rate of increase in business fixed investment in industries with higher export ratios and the estimation results obtained from the business fixed investment function by industry indicate that overseas demand has been a decisive factor for fixed investment of the manufacturing sector (Charts 41[1] and [2]).[20] Moreover, firms have tried to enhance their technical capabilities in domestic production so as to differentiate it from overseas production. Some qualitative changes have also been seen in business fixed

[20] For a detailed analysis on developments in business fixed investment of the Japanese manufacturing sector, see "Increase in Business Fixed Investment of the Manufacturing Sector in Recent Years" (available in Japanese only), *Bank of Japan Review* 2006-J-17 (November 2006).

investment, as firms put more emphasis on research and development resulting in an increased number of factories equipped with research laboratories (Chart 42).[21] Even with downward pressure lingering from the fiscal front, the Japanese economy has continued to grow at a pace somewhat higher than the potential growth rate for a long time. This is mostly attributable to the fact that Japanese firms have been successful in capturing global demand, as evidenced in the increase in exports, and in business fixed investment induced by these exports (Chart 41[3]).

The growing trend of globalization has brought about greater profit-earning opportunities for firms through exports and overseas production. At the same time, increased globalization has also widely influenced Japanese corporate behavior by placing additional pressure through global competition and the capital markets. Through "concentration in core competence," firms have been vividly aware of the need to strengthen their mid-to-long-term competitiveness and improve their profitability. They have tried to place expenditures under control, taking a very cautious stance on any expenditure project lest capital stock, debt, or employment become excessive. Even though business fixed investment is increasing, it still remains within the range of cash flow. This is a sharp contrast to the debt-bloated bubble period caused by extremely aggressive fixed investment which exceeded firms' cash flow by a considerable margin (Chart 43).[22] The pace of increase in the overall economy has not accelerated as much during this current economic expansion, due to such disciplined corporate behavior, although this in turn, has enabled economic expansion to last for a long period of time.

Spillover to the Household Sector: Slowly and Through Different Channels

Corporate cautiousness is more pronounced in their wage-setting behavior than in business fixed investment. In this current economic expansion, firms, especially large manufacturing ones, have been notably cautious about raising wages in comparison to their profit increases. Labor share has also dropped to considerably low levels (Chart 44).[23] Behind this sluggishness in wages lies firms' rising awareness of global competition that comes in conjunction with tighter

[21] For a detailed analysis on the research and development investment of Japanese firms, see "Recent Developments in Firms' Research and Development Investment" (available in Japanese only), *Bank of Japan Review* 2007-J-5 (April 2007)

[22] Firms reined in business fixed investment relative to cash flow, partly since they have prioritized to reduce the excess debt that had been built up during the bubble period (Chart 43[2]). Recently, however, firms appear to be taking a more active spending stance, since debt reduction has progressed (Chart 43[3]).

[23] Even globally, the labor share ratio of manufacturing firms has been decreasing in advanced economies (Chart 45), and globalization appears to have pushed wages downward in most of these countries. This phenomenon was possibly affected by firms' increased awareness about competition amid globalization and also by the shift to overseas production of labor-intensive goods where low-cost labor is available.

discipline from the capital markets. In recent years, the weight of direct finance has risen along with an increase in the foreign stockholding ratio (Charts 46[1] and [2]). In these circumstances, firms have started to put more emphasis on return to stockholders while maximizing their corporate value. As a result, they have retained their stance on constraining labor costs on the whole. Looking at developments by industry, industries with a higher export ratio tend to have a higher shareholding ratio by foreigners. This explains that exporting firms are exposed to globalization from both the goods and capital markets. All told, industries with a higher shareholding ratio by foreigners—that is, a higher export ratio—tend to restrain wages relative to labor productivity (Chart 46[3]).[24]

Since firms' stance on wage-setting has been cautious in view of global competition, the strength in the corporate sector has spilled to the household sector only gradually thus far. This corporate behavior may have restrained inflationary pressures as well. As to the spillover effects from firms to households, however, there are two important things to remember: not only the effects through wages have been gradual to date, but also the channel itself has become diversified. Firms have been pursuing their stances on return to stockholders through dividend payments to shareholders and company stock buybacks, in response to tighter discipline from the capital markets. The favorable outcome in overseas business activity is unlikely to have direct positive effects on domestic production activity and the employment situation. Nevertheless, it can lead to an increase in stock prices, through enhancement of overall corporate profits and their future value. In an environment where more households hold assets in the forms of equity, increasing corporate values by coping with globalization appear to have become an important factor for the effects of the corporate sector to spill over to the household sector.[25]

6. Closing Remarks

Japanese firms have been actively coping with globalization during this current economic expansion. Admittedly, we should bear in mind that closer linkage through exports may imply that the Japanese economy is more susceptible to overseas economies. As mentioned in this

[24] The real wage gap in Chart 46 (3) is the discrepancy of real wages from labor productivity. The more negative, the more constrained real wages are relative to productivity.

[25] The weight of stocks among financial assets of households in the *Flow of Funds Statistics* was 4.8 percent during the early periods of this current economic expansion (at the end of March 2002), but edged higher to 7.2 percent at the end of March 2007. During the same period, the weight of investment trusts rose more than twofold, from 2.2 percent to 4.5 percent. Chart 47 shows the growing importance of property income, including dividends, in the development of household's disposable income.

paper, however, Japanese firms have taken full advantage of the positive turns in the external environment such as the expansion of the global economy and trade as well as the depreciation of the yen: they have coped with globalization by establishing the supply chain network both at home and abroad. In this sense, a closer linkage with overseas economies should not necessarily be regarded as a destabilizing factor for the economy. In Japan—where factors such as the declining and aging population are likely to continue restraining growth expectations—one important channel for growth is to incorporate high-growing overseas demand. Deeper relationships with overseas economies are important in the sense that they will bring about opportunities for new growth strategies. Meanwhile, the public sector's role to make various improvements in the economic environment has become increasingly essential so that Japanese firms and the economy reap the maximum benefits of globalization.[26]

The competition with European and U.S. firms along with the rise of emerging economies makes it difficult for Japanese firms to continue incorporating high overseas growth. In an environment where global competition is expected to become increasingly fiercer in the future, the tactics advocated thus far by Japanese firms—broadening sales destinations, and diversifying, adding greater value, and employing higher technology to goods—seem to be headed in the right direction; they are simultaneously increasing the sales of Japanese firms and stabilizing the domestic economy. To continue in this vein is imperative for firms to further enhance their technical capabilities and productivity through research and development. At the same time, they should develop and make better use of their human resources in response to globalization. These efforts will not bear fruit immediately. From a somewhat longer-term perspective, however, they are expected to have positive impacts also on households in the form of wage increases, in conjunction with the further accumulation of human capital.

The increase of overseas bases can also be expected to have positive effects on the economy, including the household sector. With firms optimizing their production bases globally, they will expand their global share as well as improve their profitability. This in turn will bring profits back to Japan and should work positively on stock prices. Japan's production abroad has expanded steadily, and profit rates have also improved steadily. The developments in the income balance, however, show that assets abroad consist heavily of portfolio investment compared with other advanced economies and that the ratio of direct investment is still relatively low (Chart 23[2]). This implies that there is further leeway for overseas production bases to expand even in the future.

[26] In addition to exports and setting up overseas operations, it is essential for Japanese firms to further use their domestic resources such as employment to benefit from globalization. For instance, more stimuli should be added to inward direct investment, since it is still at low levels compared with other foreign economies.

BOX 1
"Real" Index and "Quantity" Index

Exports and imports in nominal terms are affected by price fluctuations such as foreign exchange rates and commodity prices. For the purpose of assessing developments in exports and imports and disregarding the effects from changes in prices, both the "real" index published by the Bank of Japan and the "quantity" index from the Ministry of Finance are available. Both indices are calculated by dividing the nominal values by certain "prices," thereby eliminating the effects from the changes in prices.

The difference between the "real" index and the "quantity" index comes from a variety of sources, including their coverage. But the most fundamental difference originates in the nature of the "prices" used. In the "real" index, quality-adjusted prices (export or import prices published by the Bank of Japan) are used for division, while the "quantity" index relies on price measures that are not quality adjusted (unit-value index).

Let us see what causes an average unit price to change. An average price change (change in unit price) can be divided into the following two factors:

Total changes in average unit price = changes in quality + pure price change (excluding changes in quality).

Taking cellular phones as an example, we assume that, one year ago, a cellular phone without a camera feature was sold for 20,000 yen per unit, whereas this year a camera-equipped cellular phone is being sold at 30,000 yen per unit. In this case, the total change in the average unit price is 10,000 yen (30,000 yen minus 20,000 yen). Obviously, this change of 10,000 yen includes the quality improvement of the product, i.e. photo-taking capability. Thus it may not be appropriate to ascribe all of the changes—which include changes in quality—to changes in inflation. As this example shows, when the quality of a product improves, it is appropriate to divide this 10,000-yen price increase into changes in prices due to quality changes and changes in pure price change (which does not include quality improvement). Such a process is known as quality adjustment. For instance, if we can break down the 10,000 yen to 8,000 yen as a price increase assisted by the quality improvement of the camera, then the remaining 2,000 yen alone can be taken as a pure price increase.

In some cases, total changes in the average unit price may not occur. If, however, there are changes in quality, we assume there to be a pure price change (excluding changes in quality) that would exactly offset this quality change. In the case of PCs, for instance, when quality improves by 10 percent—even though the unit price remains unchanged at 100,000 yen—the

increase of 10 percent is regarded as a quality change, while the pure price change (excluding changes in quality) is assumed to decline by slightly less than 10 percent; price indexes that include this factor also drop accordingly.

Price indexes used for calculating the real index include only the "pure price change (excluding changes in quality)" and exclude "any changes in quality." On the other hand, the price indexes used for the quantity index include both the changes in quality and pure price changes (excluding changes in quality). Therefore, when the changes in quality become positive, the real index does not consider this as a price increase, which leads to an increase of the index. On the other hand, for the quantity index, an increase of the index is unlikely, since increases in quality, too, are taken as price increases.

Looking once again at the example of PCs, assume for now that 200,000 PCs are exported in both the current and next periods. The unit price of PCs remains unchanged at 100,000 yen for both periods, although the quality is assumed to increase by 10 percent. In this case, the quantity index—obtained by dividing the export value by the average unit price—remains unchanged (in fact, the number of PCs exported is unchanged) since both the export value and average unit price continue to be the same. The real index, however, increases by 10 percent, since the quality improvement of PCs allows changes in quality to rise 10 percent, while the pure price change (excluding changes in quality) drops by slightly less than 10 percent.

Example: When only the quality of PCs rises

	current period	next period
export value	20 billion yen	20 billion yen
number of PCs	200,000 units	200,000 units
price per unit	100,000 yen	100,000 yen
quality		10-percent increase
price index	100	90.9
quantity index (current period: 100)	100	100
real index (current period: 100)	100	110

The above example shows that when products embody greater added value or higher quality, the "real index" tends to be somewhat stronger than the "quantity index," since the increases in quality are excluded from the quantity index as price increases.

On compiling the import and export price indexes—the basis for calculating the "real index"—a number of practical difficulties exists. With dramatic ongoing changes in the types of goods traded, it is difficult to keep on incorporating new goods. Added to this, quality adjustment must rely on various assumptions, which create difficulties when compiling the indexes. When evaluating developments in exports and imports, therefore, it is important to use both the "real index" and the "quantity index," taking into account their specific characteristics.

Note: For details on the calculation method of real exports and imports released by the Bank of Japan, see “Explanation of Real Exports and Imports” on the Bank of Japan website (http://www.boj.or.jp/en/type/exp/stat/exrei.htm). Details on the quantity index compiled by the Ministry of Finance are available on the Trade Statistics of Japan website (FAQ; http://www.customs.go.jp/toukei/sankou/howto/faq.htm; available in Japanese only).

BOX 2
Real Effective Exchange Rate

As for exchange rates, the "nominal" rate against "a certain currency" is usually quoted, i.e. 120 yen to the U.S. dollar and 160 yen to the euro. When evaluating Japan's competitiveness, however, the "real" and "effective" exchange rates become an essential concept.

Exchange rates are generally noted as "home currency per unit of foreign currency" (in the case of the yen's exchange rate against the U.S. dollar, it is shown as 1 U.S. dollar = 100 yen). The "real" or the "effective" rate, however, is noted as "foreign currency per unit of home currency (ditto 1 yen = 0.01 U.S. dollars etc.). In the "real" or "effective" rate, the decline in figures shows the yen's depreciation. These rates are expressed in indices using 100 as the base year.

(1) "Real" exchange rate

The "real" exchange rate incorporates differences in the rate of inflation at home and abroad. For example, let us assume that "the nominal yen's exchange rate against the U.S. dollar will be unchanged for both the current and next periods; the inflation rate over the period is 0 percent in Japan whereas in the United States it is 10 percent." Here, since prices remain unchanged in Japan, 100 yen maintains the same value (purchasing power) in both the current and next periods. On the other hand, with the inflation rate at 10 percent for the United States, the value of 1 dollar (purchasing power) declines. Since the same amount of yen is needed here for the U.S. dollar, whose value has declined, the yen's value should also be seen to have depreciated (depreciation of the yen). Generally speaking, the exchange rate in real terms tends to depreciate when the inflation rate is higher abroad than in Japan.

Example: Nominal exchange rate remains unchanged;
inflation rate is higher in the United States than in Japan

	1 dollar	Prices (Japan)	Prices (U.S.)		Real exchange rate (current period: 100)
Current period	100 yen	100	100	⇒	100.0
	↓ unchanged	↓ unchanged	↓ increase		↓ real depreciation of yen
Next period	100 yen	100	110	⇒	90.9

Next we look at the relationship between the yen's exchange rate and its competitiveness using the above example. When exporting goods worth 100 yen to the United States, prices of these goods will be 1 dollar in both the current and next periods in the United States, since the nominal yen's exchange rate against the U.S. dollar remains unchanged at 1 U.S. dollar = 100 yen. If goods competing with those exported from Japan are sold for 1 dollar in the United States during the current term, prices of those goods would rise to 1.1 dollars in the following period when inflation in the United States is taken into account; this will obviously work in favor of the competitiveness of goods exported from Japan. As this example shows, international competitiveness should be considered not only in terms of the nominal exchange rate, but also in the "real" exchange rate, which incorporates the differences in inflation rates.

(2) "Effective" exchange rate

Although the U.S. dollar was used in (1), there are actually other currencies for the yen's exchange rate. For instance, how should we evaluate the case in which the yen is appreciating against the U.S. dollar but depreciating against the euro? Judged from the two combined, is the yen depreciating or appreciating, or has it remained unchanged? The "effective" exchange rate is an indicator responding to these questions, since it comprehensively grasps movements of the exchange rate against various currencies into a single indicator. The exchange rate against each currency is basically average-weighted according to the currency's relative importance. The relative importance is usually determined by its weight in trade (exports). The effective exchange rate consists of nominal and real effective exchange rates, depending on the exchange rate that forms the basis of its calculation.

Example: Nominal effective exchange rate of the U.S. dollar and euro

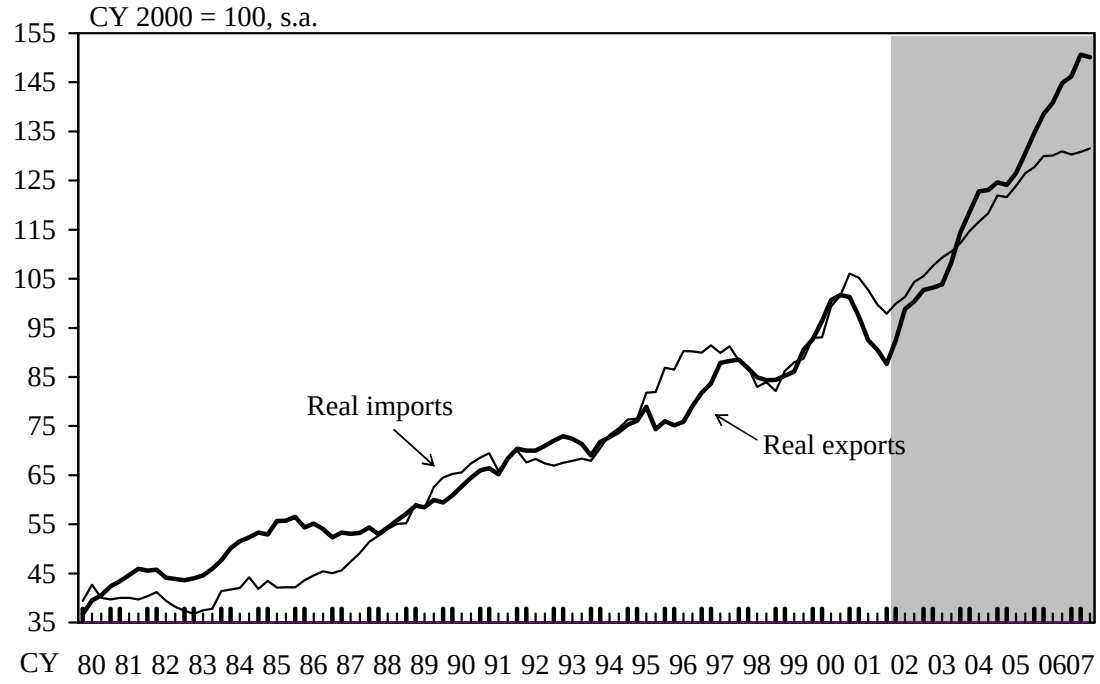
	1 U.S. dollar	1 euro		Weighted average		Foreign currency per 1 yen		Effective exchange rate (current period: 100)
Weight	70%	30%						
Current period	100 yen	150 yen	⇒	115 yen	⇒	1 yen = 0.0087	⇒	100.0
	↓ depreciation	↓ appreciation						↓ appreciation
Next period	90 yen	160 yen	⇒	111 yen	⇒	1 yen = 0.0090	⇒	103.6

The Bank of Japan releases the "Effective Exchange Rate (Nominal, Real)" covering 15 major currencies of 27 countries and regions. For details on the compilation method, see "Explanation of the Effective Exchange Rate (Nominal, Real)" on our website (http://www.boj.or.jp/en/type/exp/stat/exrate.htm).

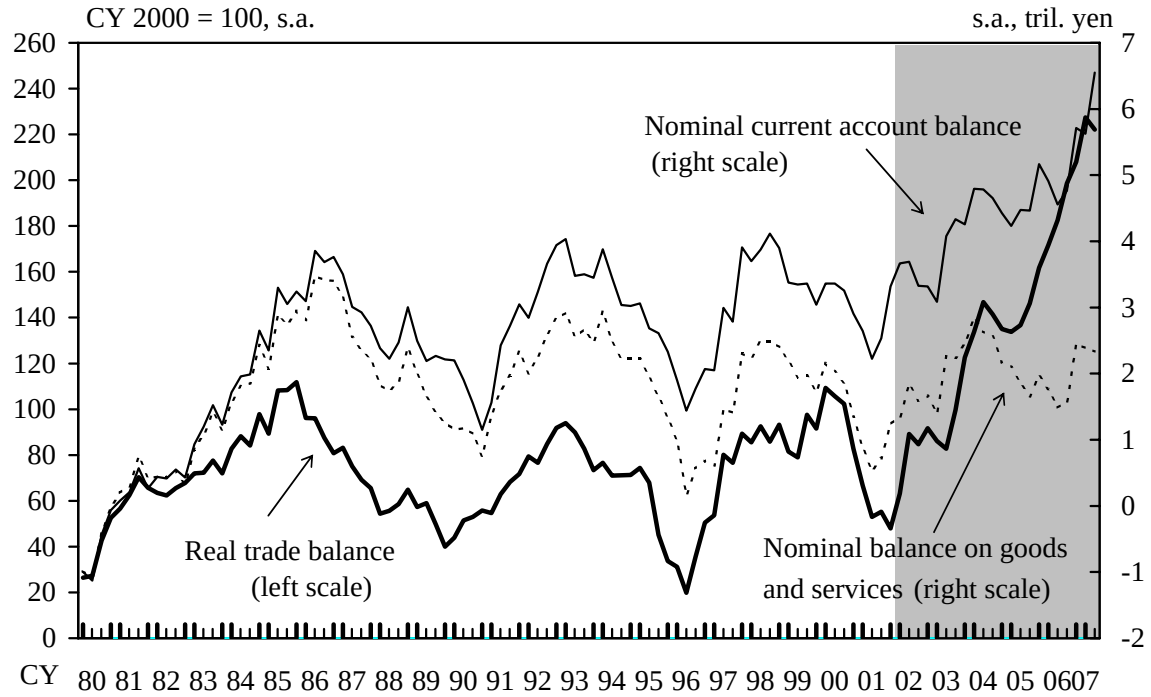
Recent Developments of Japan's External Trade and Corporate Behavior
Charts

Developments in Exports and Imports From a Long-term Perspective

(1) Real exports and real imports



(2) Real trade balance and nominal current account surplus



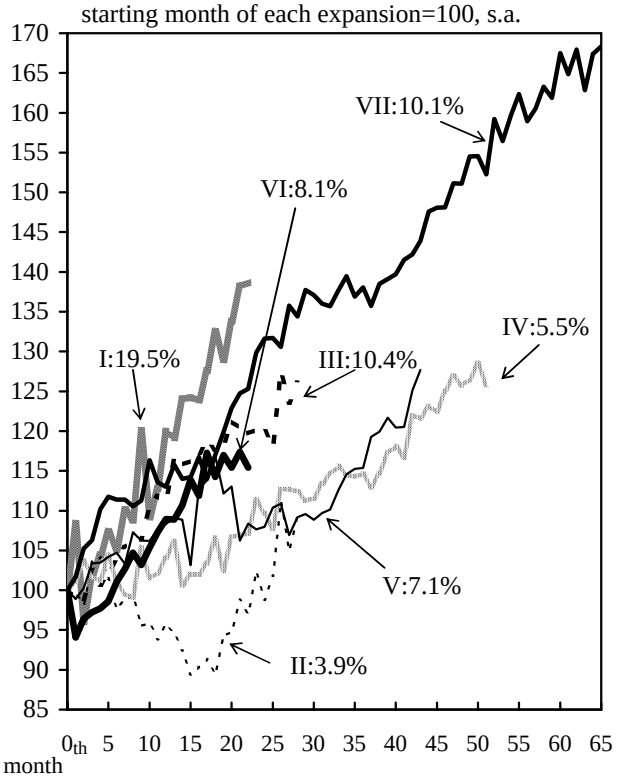
Notes: 1. Real trade balance is defined as real exports minus real imports, indexed with the 2000 base year. Real exports/imports are "The Value of Exports and Imports in Trade Statistics" deflated by the "Export and Import Price Index."
2. Nominal current account balance and nominal balance on goods and services up to 1995 are based on the old series (data from 1980 through 1984 are based on the IMF's *Balance of Payments Manual* 4th edition.)
3. Figures are seasonally adjusted by X-12-ARIMA.
4. Shaded areas indicate the current period of expansion.

Sources: Ministry of Finance, "The Summary Report on Trade of Japan";
Bank of Japan, "Corporate Goods Price Index," "Balance of Payments."

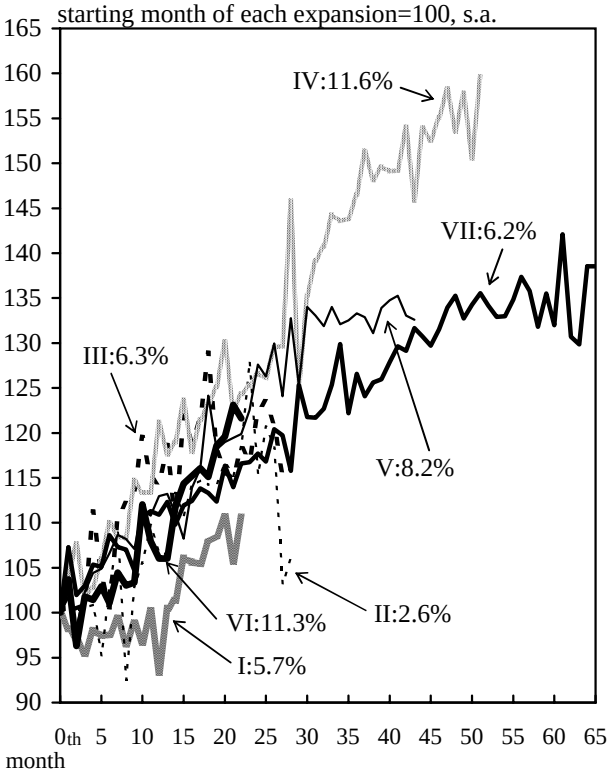
Developments in Exports and Imports During Economic Expansion

(1) Developments in real exports and imports during economic expansion

I. Real exports



II. Real imports



Note: I: Mar.1975-Jan.1977, II: Oct.1977-Feb.1980, III: Feb.1983-Jun.1985, IV: Nov.1986-Feb.1991
V: Oct.1993-May1997, VI: Jan.1999-Nov.2000, VII: Jan.2002-Jun.2007

(2) Effects of exports and imports on economic growth

contributions at annualized rates, %, contribution ratios in parentheses

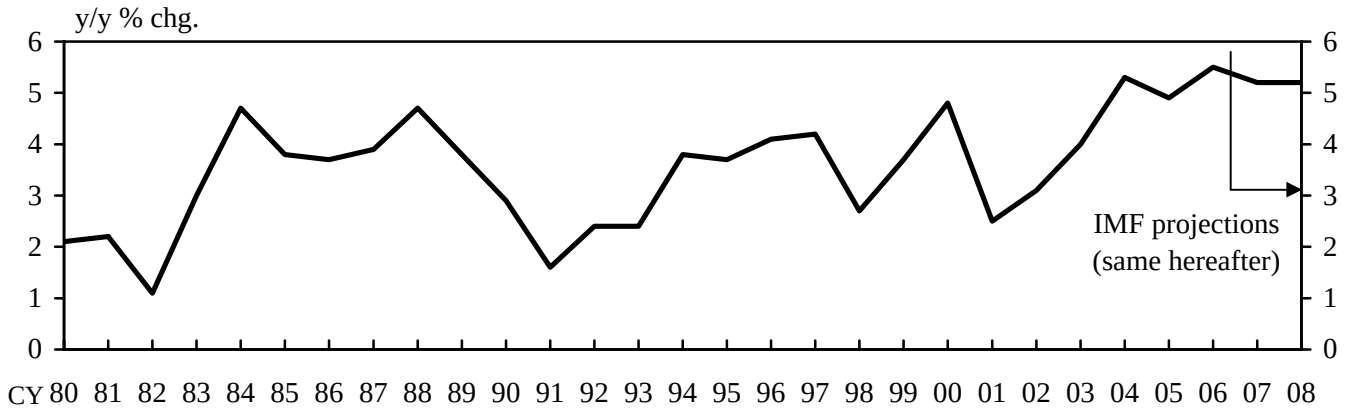
	"*Izanagi*" boom (65/Q4-70/Q3)		"Bubble" boom (86/Q4-91/Q1)		**Current expansion (02/Q1-<07/Q2>)**	
Real GDP	11.5		5.4		**2.2**	
Exports	0.9	(8%)	0.5	(9%)	**1.3**	**(59%)**
Net exports (exports less imports)	-0.3	(-2%)	-0.2	(-4%)	**0.7**	**(31%)**
Business fixed investment	2.9	(25%)	2.1	(38%)	**0.8**	**(37%)**
Private consumption	5.9	(51%)	2.4	(45%)	**0.7**	**(35%)**
Public investment	1.0	(9%)	0.2	(4%)	**-0.4**	**(-20%)**

Notes: 1. Figures shown within the charts of (1) indicate the average growth at annual rates for each period of expansion.
2. Data shown in (2) are based on the following GDP statistics: 68SNA (1990 base) for "*Izanagi*" boom, 93SNA (1995 base) for "Bubble" boom and 93SNA (Chained-method, 2000 base) for the current expansion.

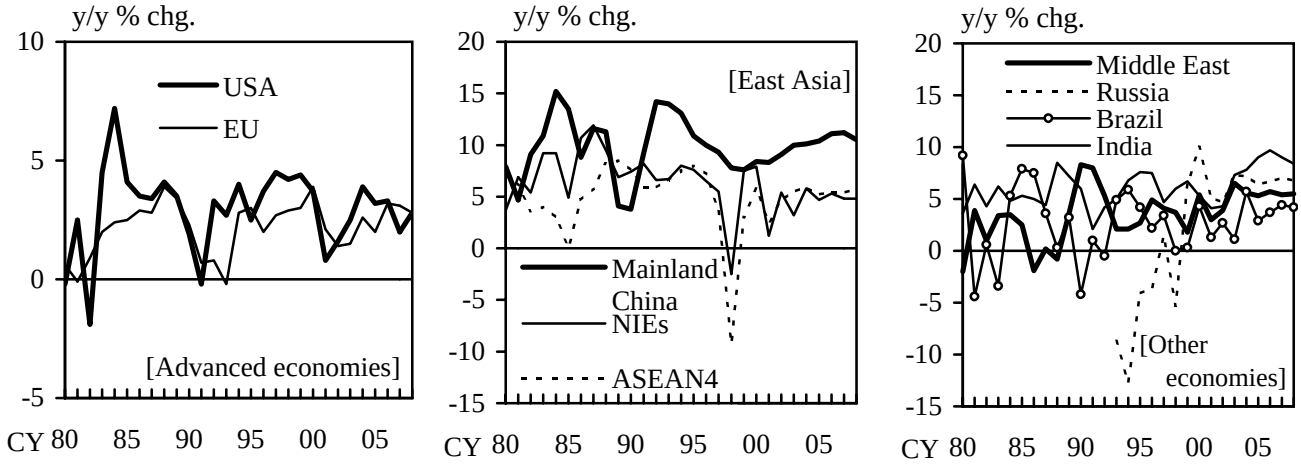
Sources: Ministry of Finance, "The Summary Report on Trade of Japan"; Cabinet Office, "National Accounts"; Bank of Japan, "Corporate Goods Price Index."

Expansion of the Global Economy

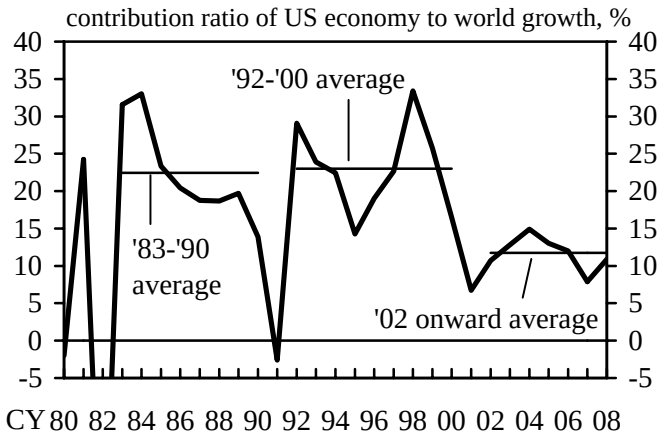
(1) GDP growth rate of world economy



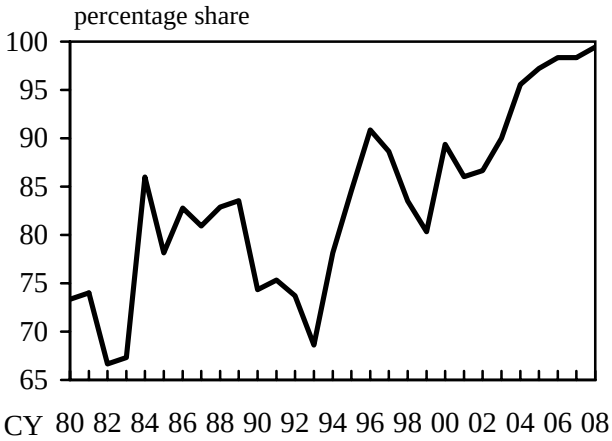
(2) GDP growth rates of major economies / regions



(3) Contribution of US economy to world growth



(4) Percentage of economies with positive growth

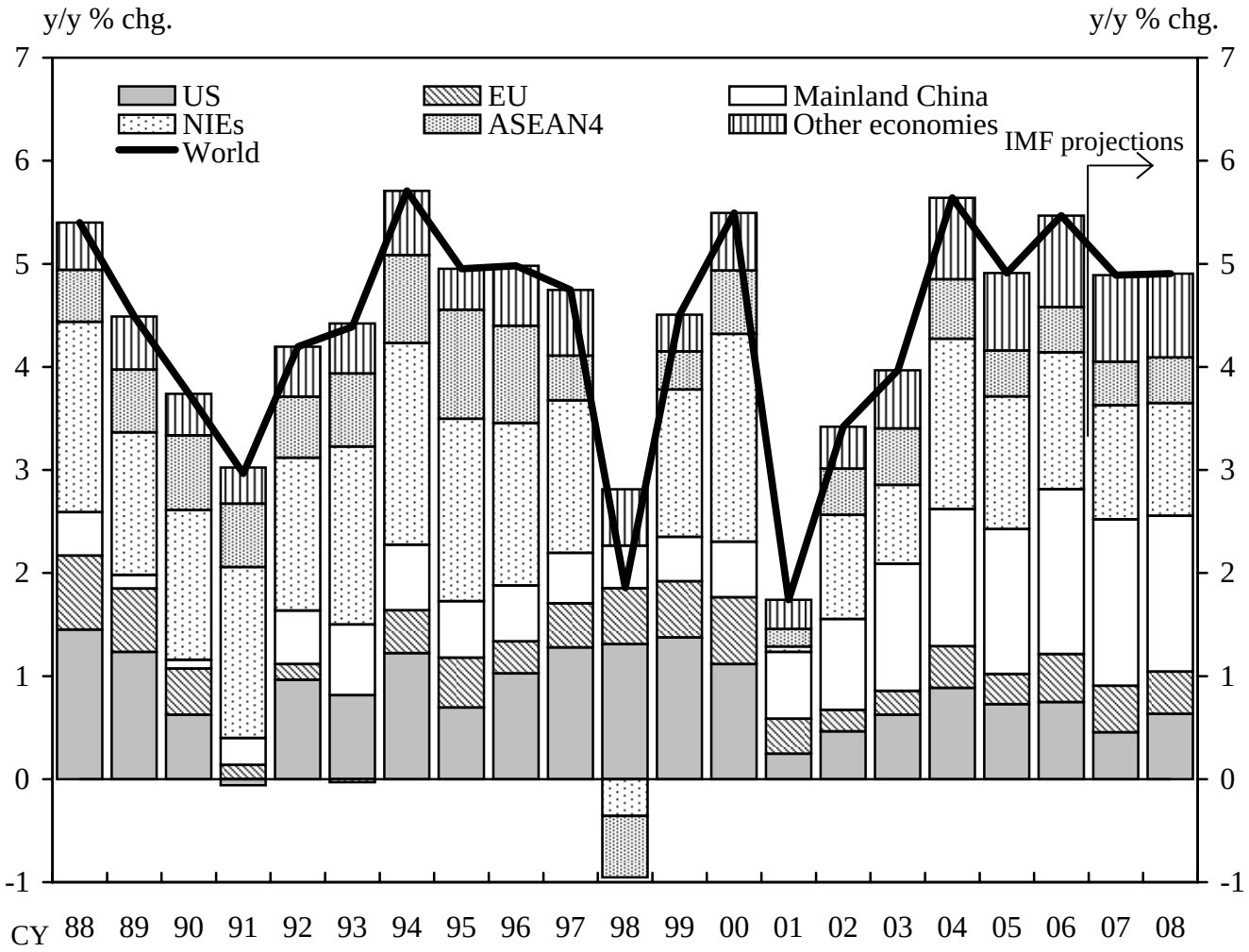


Notes: 1. All data are based on the IMF's *World Economic Outlook*.
2. The world and regional (NIEs, ASEAN4, etc.) aggregates published by the IMF are the weighted sums of growth rates of individual economies based on the purchasing power parity GDP weight.
3. Data from 2005 to 2008 in (1) to (3) are taken from "World Economic Outlook Update, July 2007."
4. ASEAN4 refers to Thailand, Malaysia, Indonesia and the Philippines.

Sources: IMF, "World Economic Outlook Database for April 2007,"
"World Economic Outlook Update, July 2007."

Chart 4

Growth Rates in Overseas Economies Faced by the Japanese Economy



Notes: 1. Growth rates of the following economies are summed up, using the value of exports from Japan to each economy as weights: US, Canada, EU, Mainland China, Hong Kong, Taiwan, South Korea, Singapore, Thailand, Malaysia, Indonesia, the Philippines, Vietnam, India, Bangladesh, Pakistan, Australia, New Zealand, Latin America, Middle East, Africa, and Central and Eastern Europe. In 2006, exports to these economies amounted to over 99% of total exports from Japan.

2. NIEs is comprised of South Korea, Hong Kong, Taiwan and Singapore. ASEAN4 refers to Thailand, Malaysia, Indonesia and the Philippines.

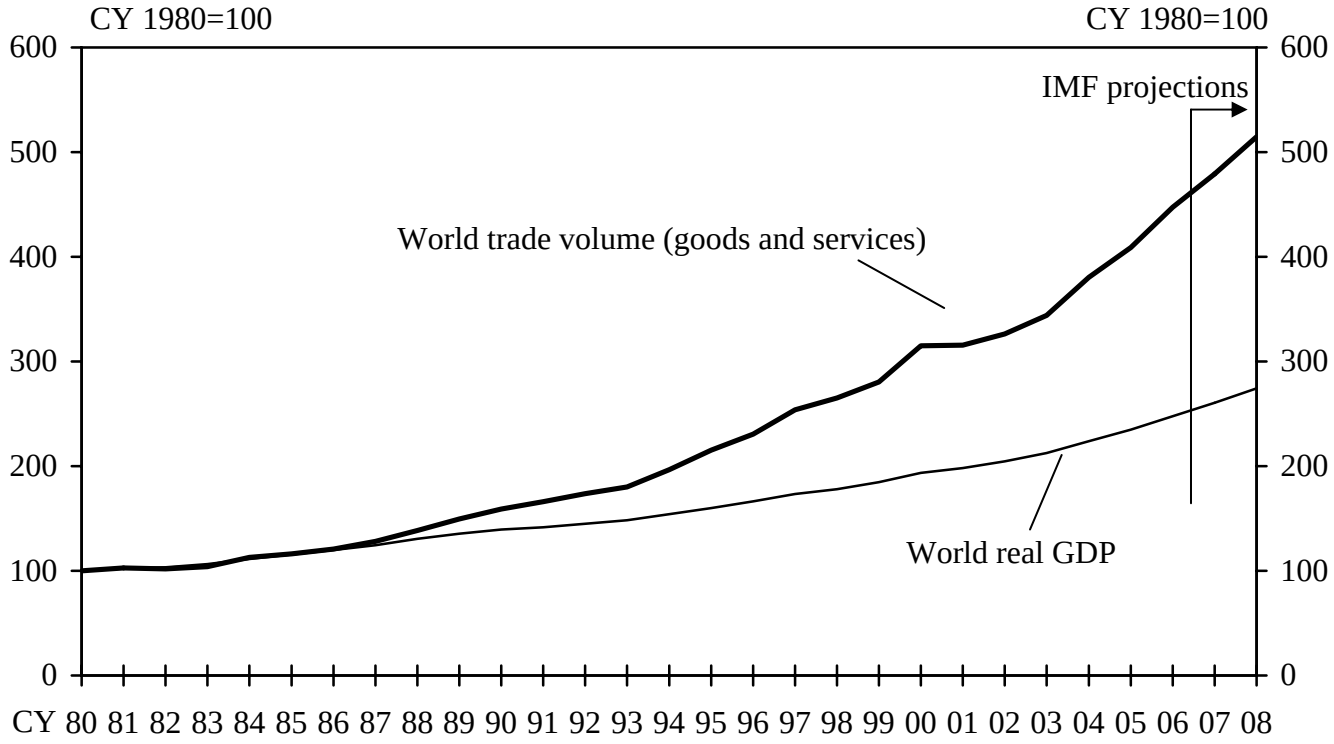
3. For 2007 and 2008, data are based on IMF projections calculated using the value of exports from Japan in 2006 as weights.

4. Growth rates of the US, Canada, EU, Mainland China, India, Middle East, Africa, and Central and Eastern Europe for 2005 to 2008 are based on "World Economic Outlook Update, July 2007."

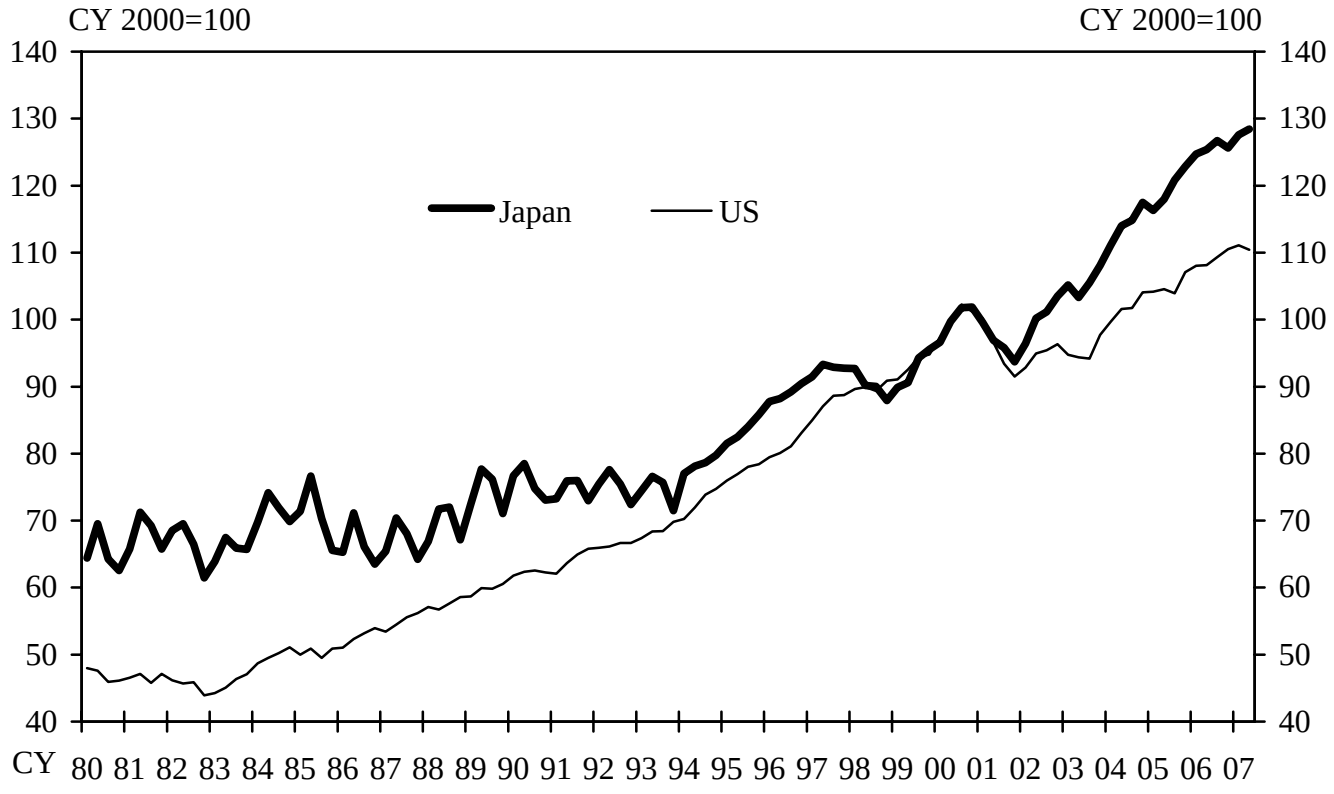
Sources: IMF, "World Economic Outlook Database for April 2007," "World Economic Outlook Update, July 2007"; Ministry of Finance, "The Summary Report on Trade of Japan."

Expansion of Global Trade

(1) World trade volume (goods and services)



(2) Real exports plus imports as percentage of GDP

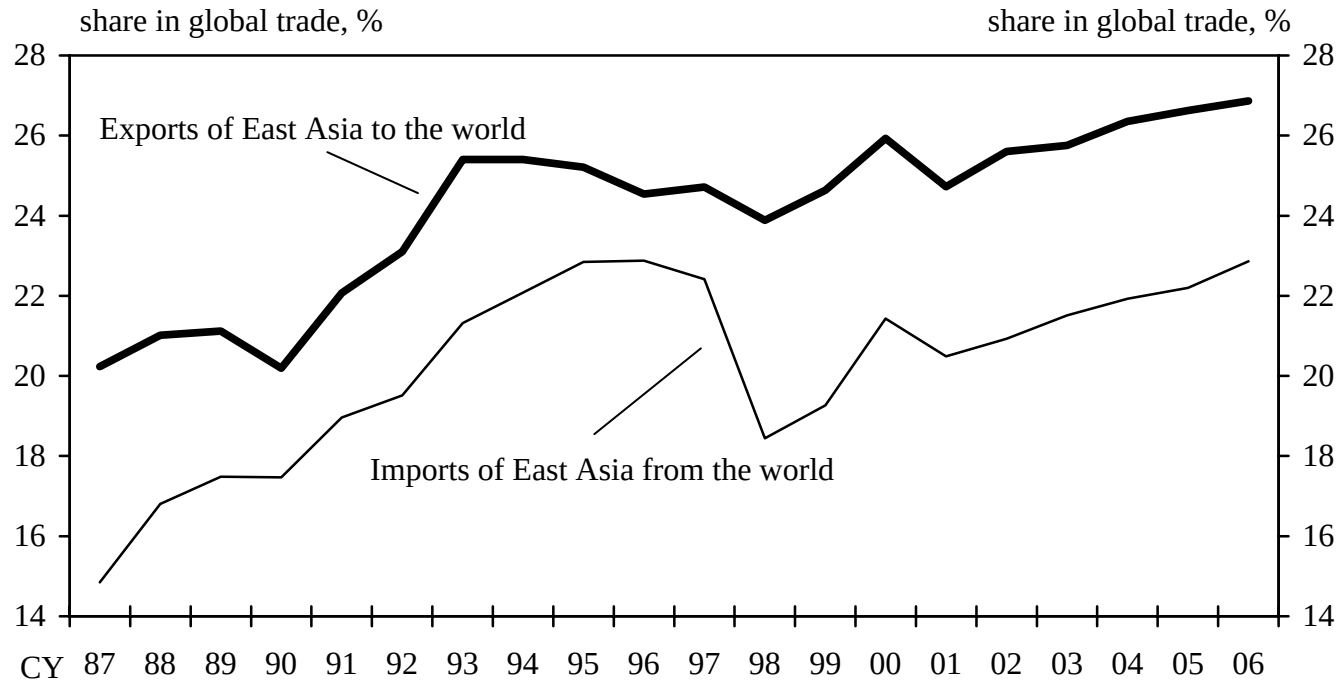


Note: Data in (1) for 2005 to 2008 are based on "World Economic Outlook Update, July 2007."

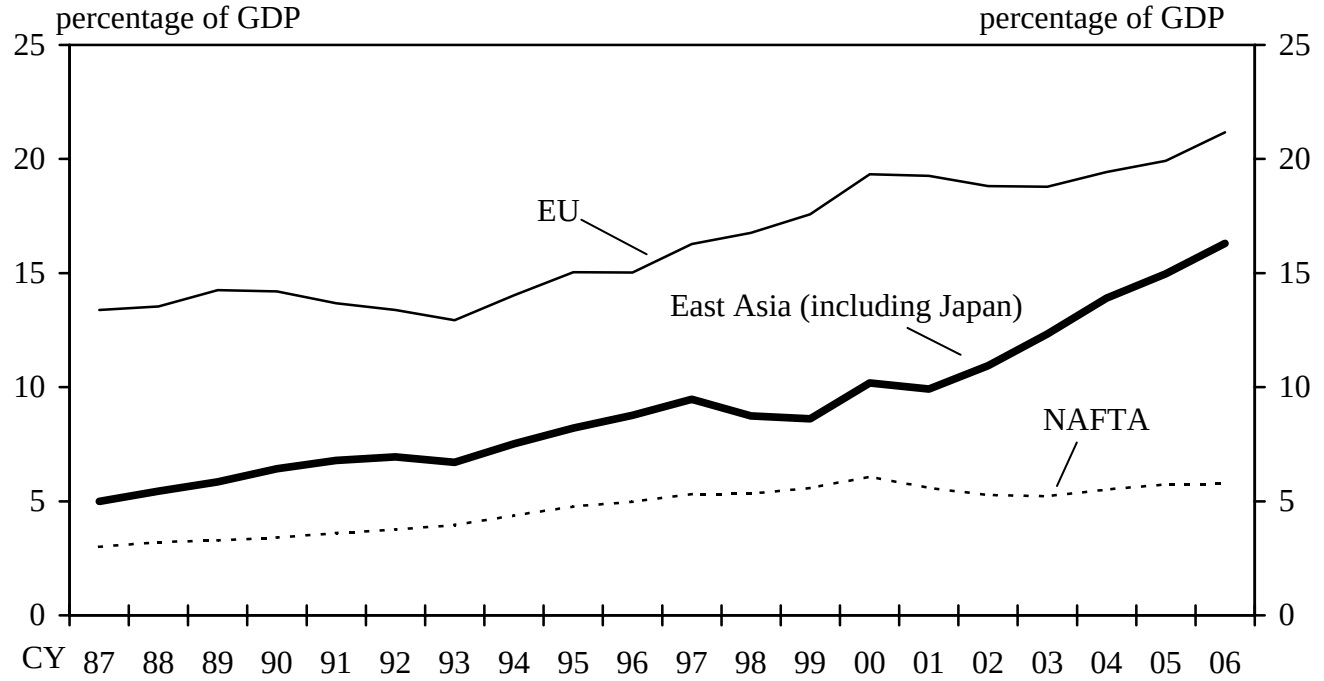
Sources: IMF, "World Economic Outlook Database for April 2007," "World Economic Outlook Update, July 2007"; Cabinet Office, "National Accounts," etc.

Growing Importance of East Asia in Global Trade

(1) Importance of East Asia (including Japan) in global trade



(2) Intraregional trade

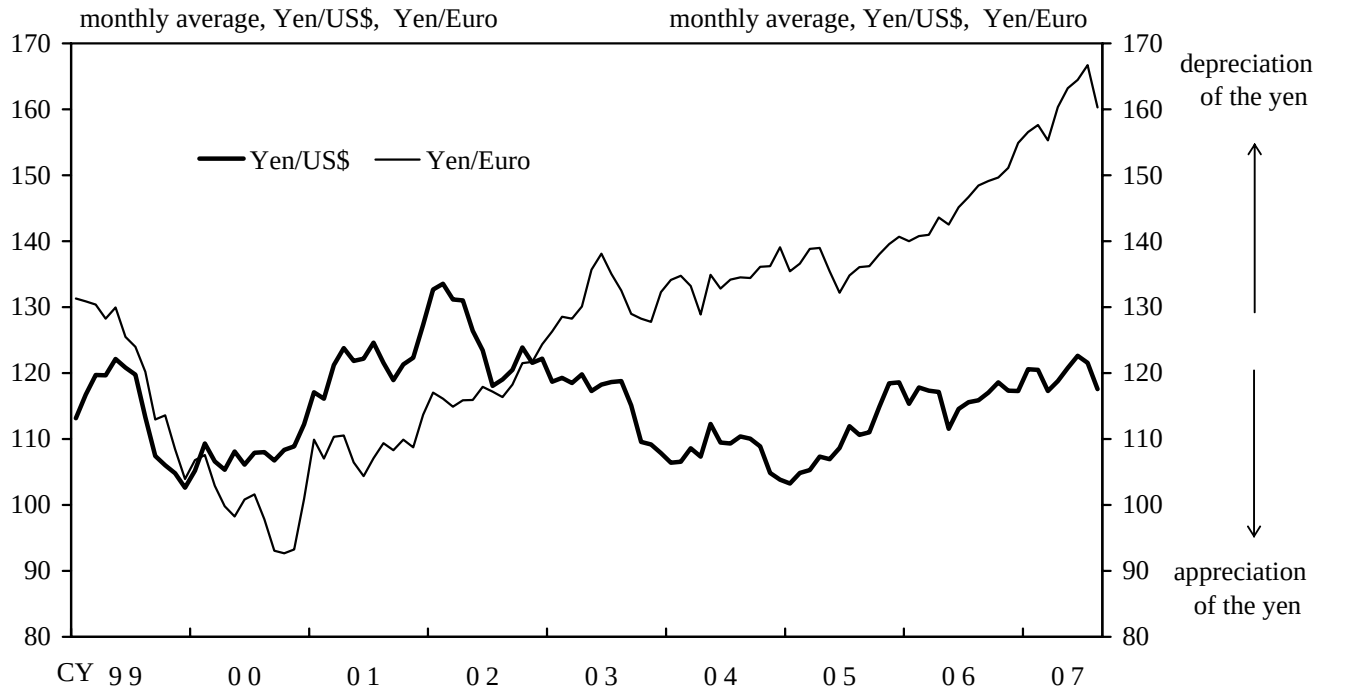


Note: East Asia includes Japan, Mainland China, Hong Kong, Taiwan, South Korea, Singapore, Thailand, Indonesia, Malaysia and the Philippines.
Trade statistics compiled by the IMF. Due to a limitation of the statistics, the data for Taiwan are based on national data.
Nominal GDP used in (2) is based on the IMF's *World Economic Outlook*.

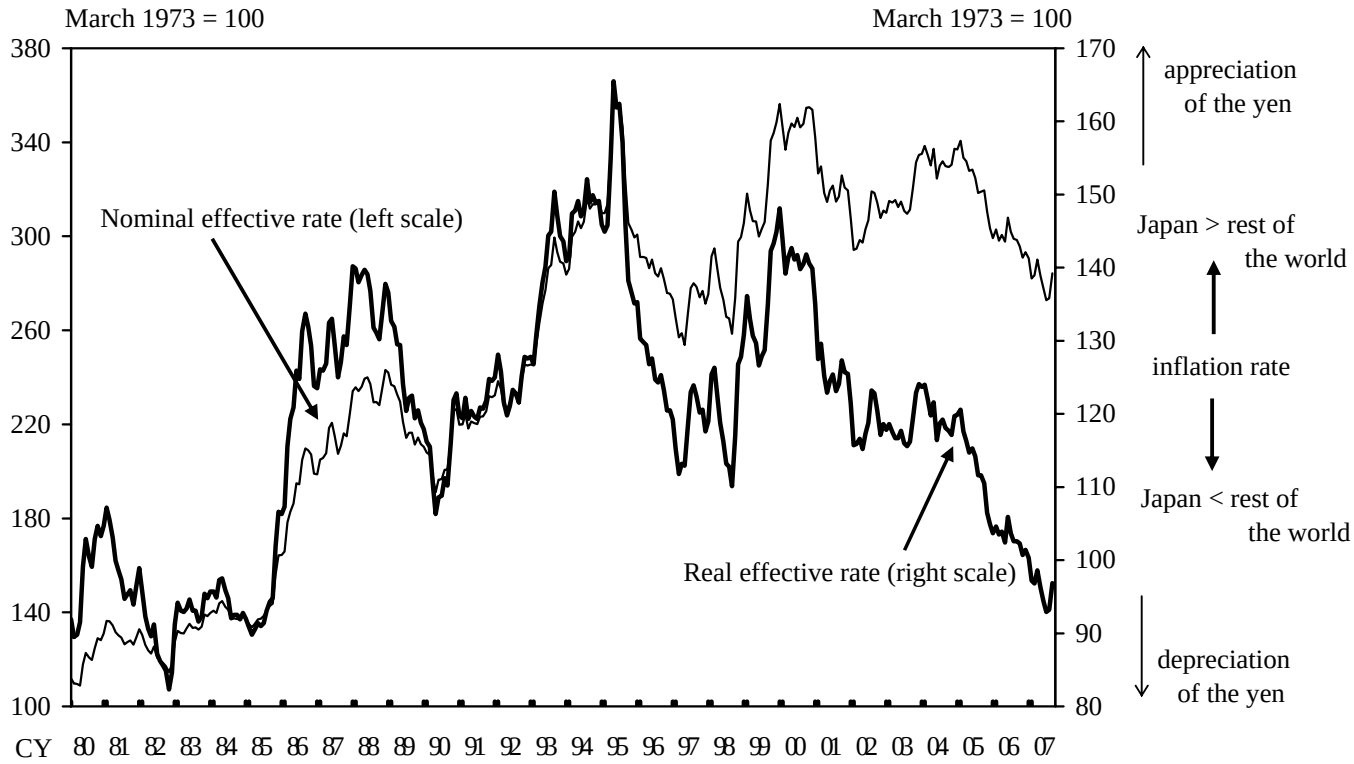
Sources: IMF, "Direction of Trade Statistics," "World Economic Outlook Database for April 2007"; Statistics of Taiwan.

Foreign Exchange Rate Movements

(1) Yen/US$, Yen/Euro



(2) Effective Exchange Rates



Notes: 1. Real effective rates are weighted averages of the yen's exchange rates vis-à-vis 15 major currencies (27 economies) which are calculated from nominal exchange rates and price indexes of the respective economies.

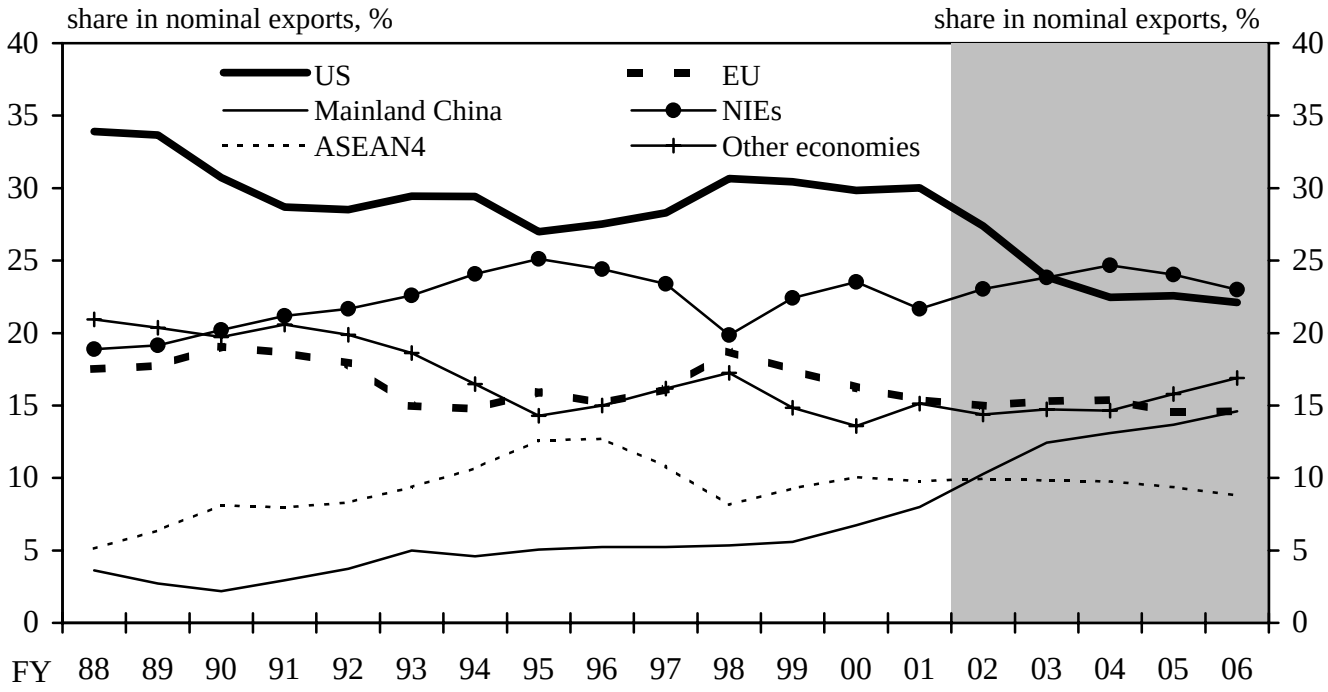
2. For a detailed explanation of effective exchange rates both in nominal and real terms, refer to BOX 2 "Real Effective Exchange Rate."

3. Calculated by the Bank of Japan. The most recent figure is the August average up to August 20.

Source: Bank of Japan, "Effective Exchange Rate."

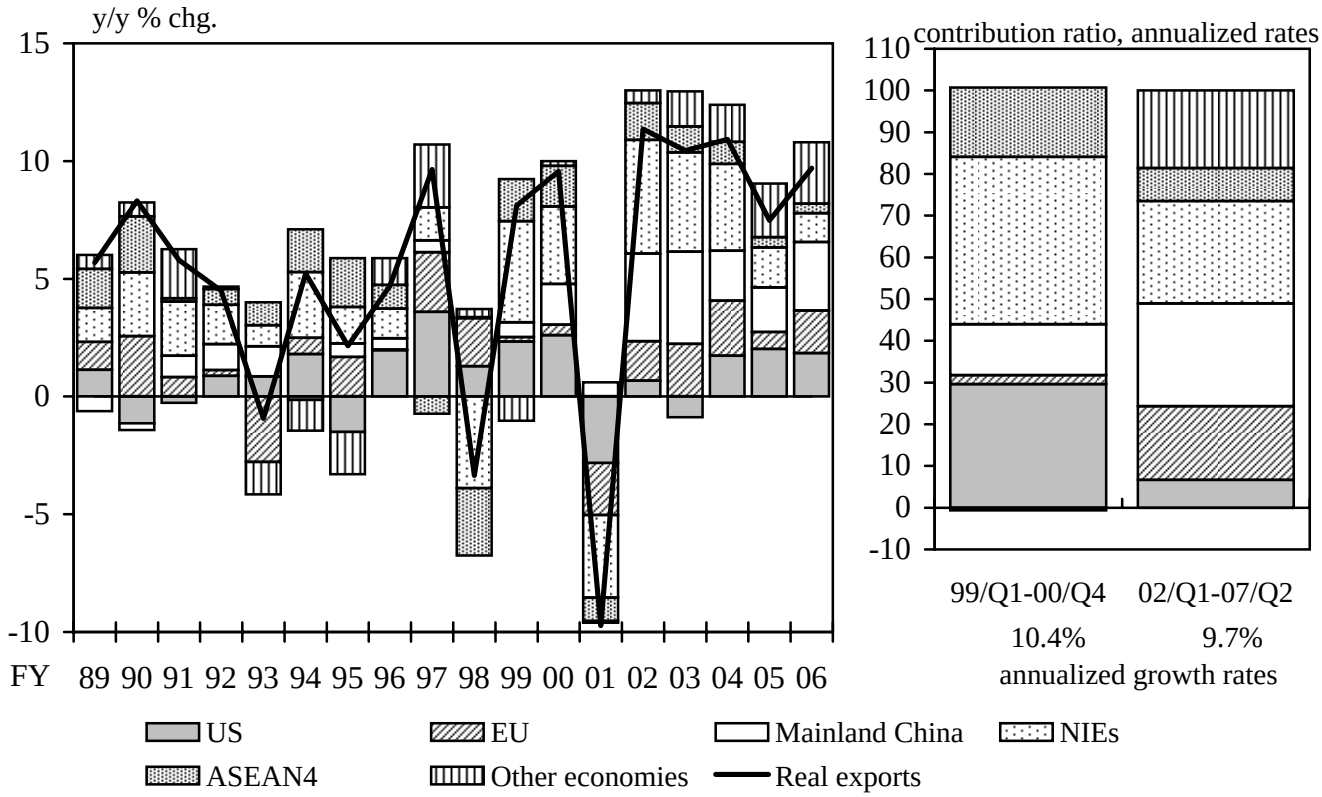
Exports by Destination

(1) Nominal exports by region



Note: Shaded area indicates the current period of expansion.

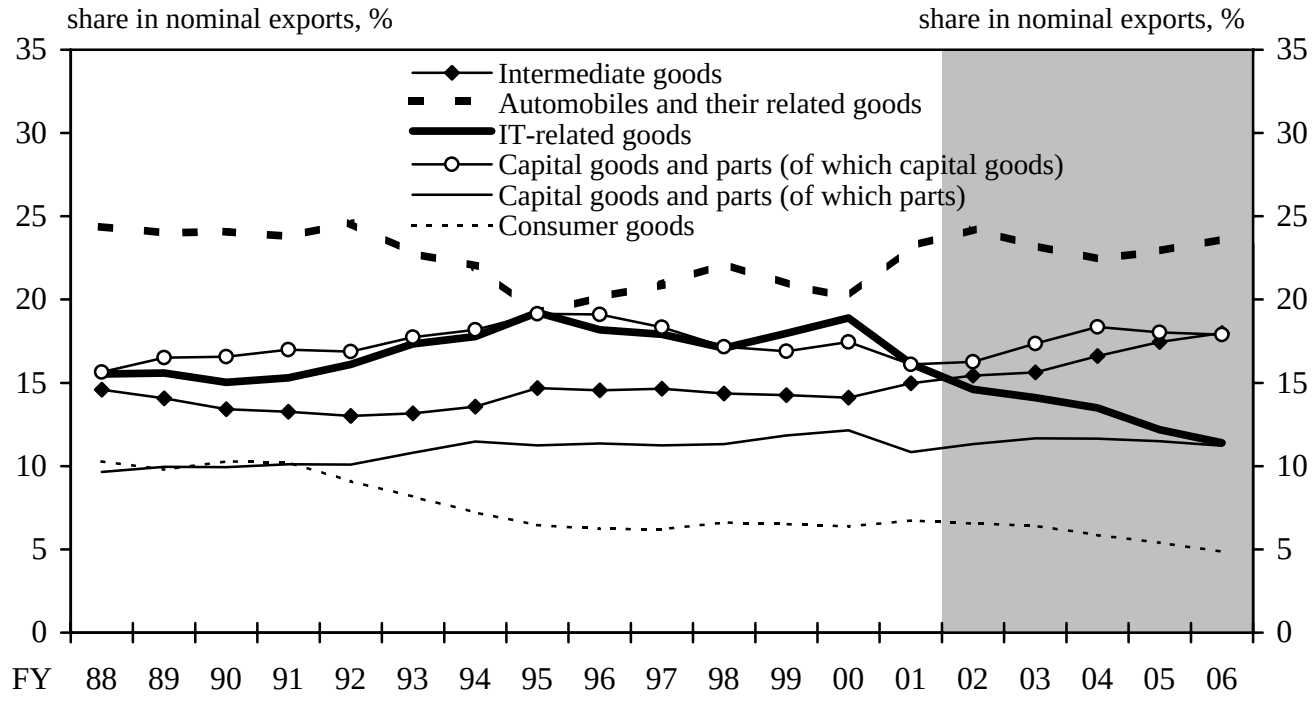
(2) Contributions to export growth by region



Note: Figures shown in the right chart of (2) are calculated from quarterly data.
Sources: Ministry of Finance, "The Summary Report on Trade of Japan";
Bank of Japan, "Corporate Goods Price Index."

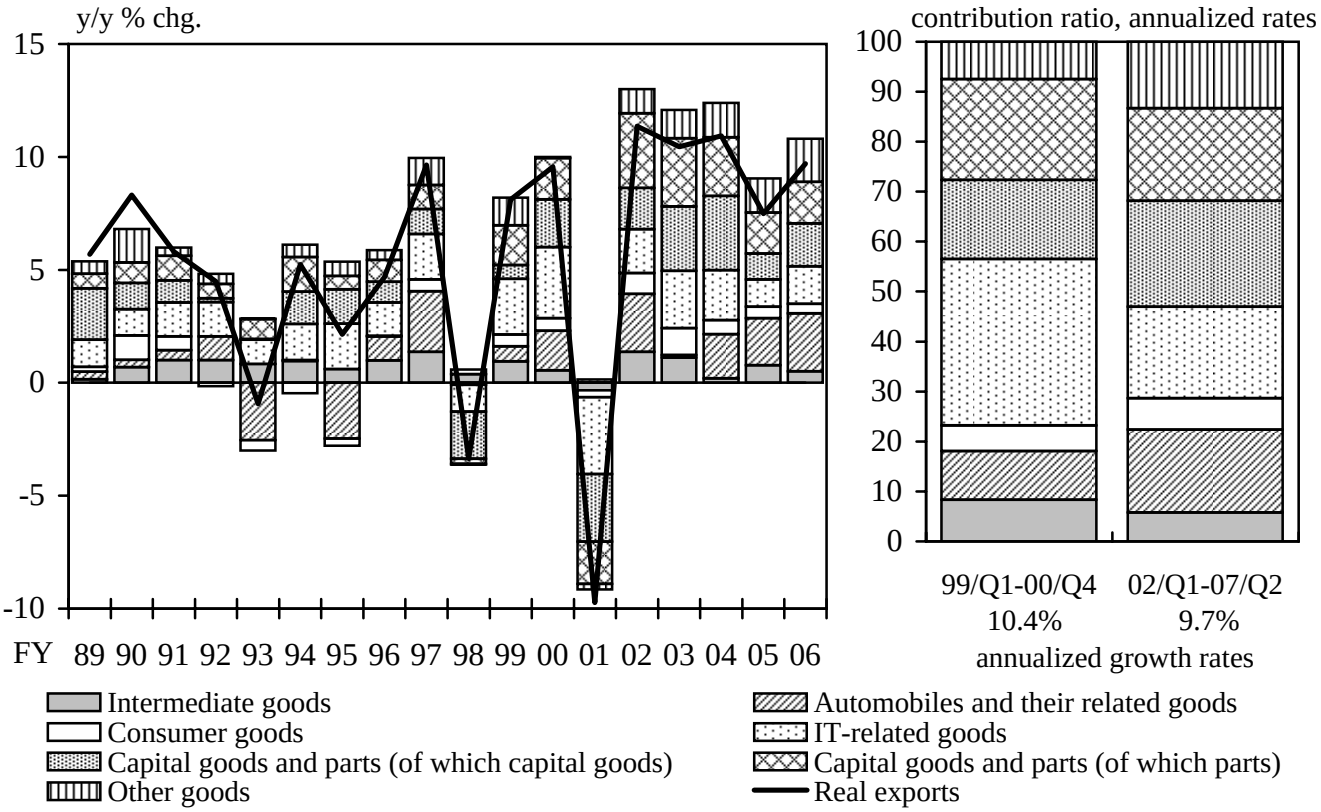
Exports by Goods Category

(1) Nominal exports by goods category



Note: Shaded area indicates the current period of expansion.

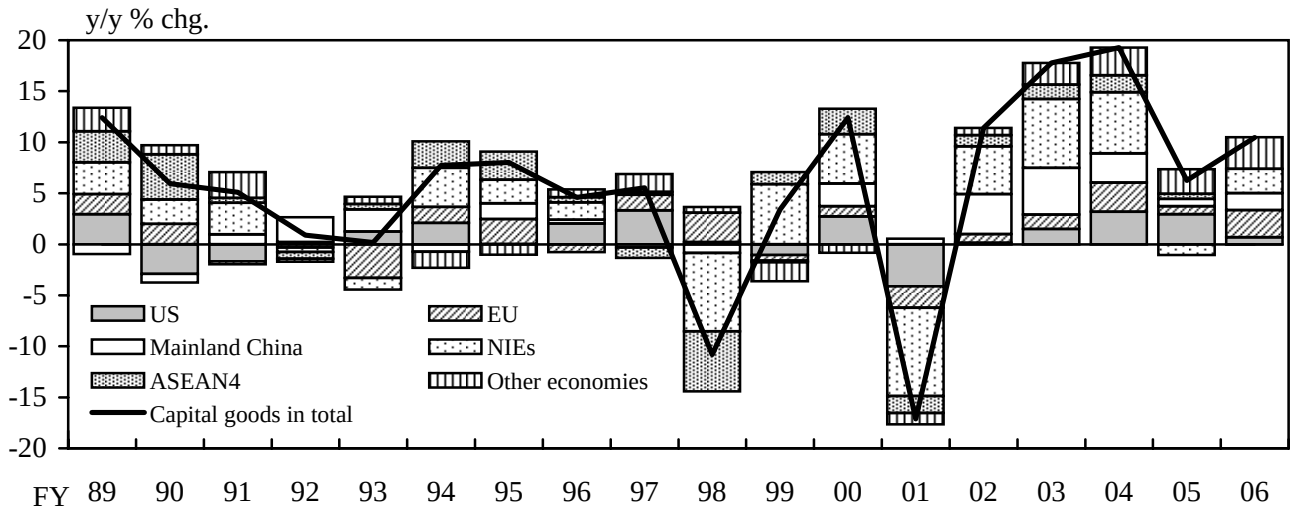
(2) Contributions to export growth by goods category



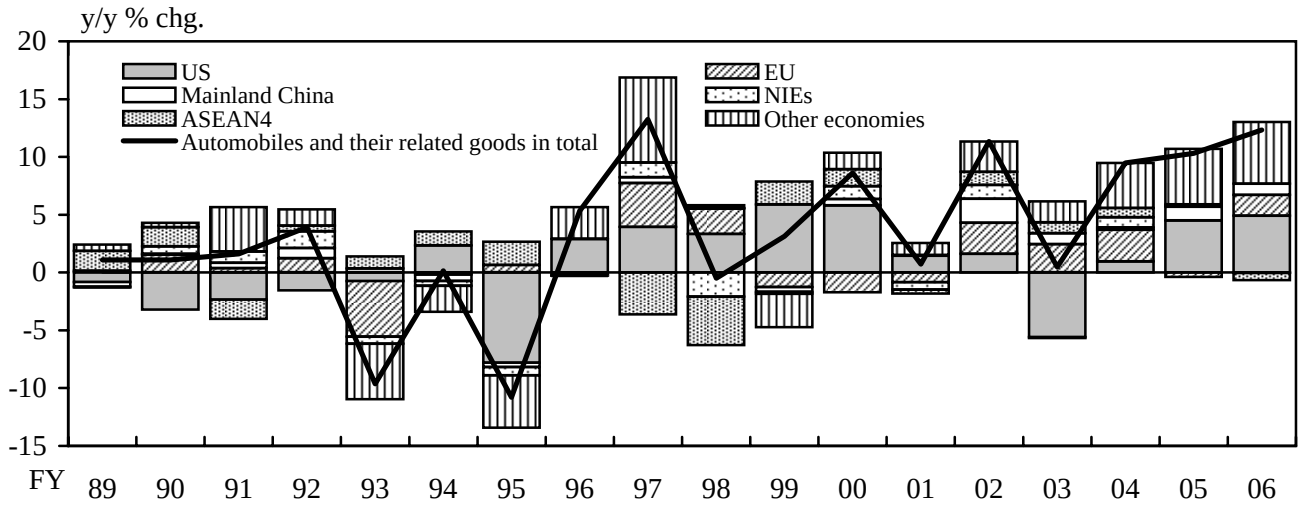
Note: Figures shown in the right chart of (2) are calculated from quarterly data.
Sources: Ministry of Finance, "The Summary Report on Trade of Japan";
Bank of Japan, "Corporate Goods Price Index."

Exports of Capital Goods and Automobiles and Their Related Goods by Destination

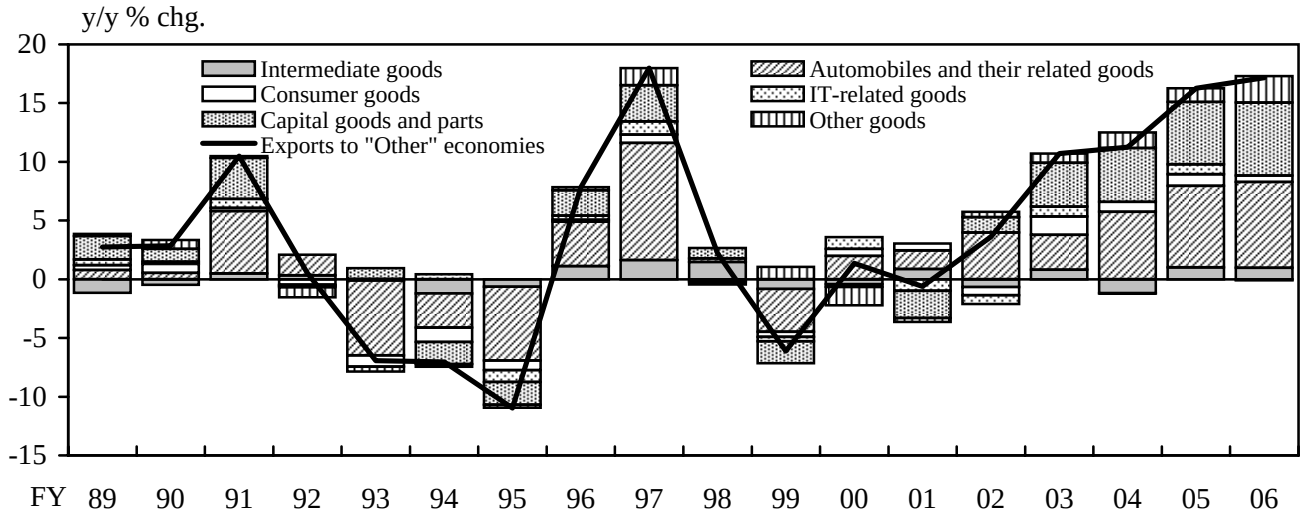
(1) Exports of capital goods and parts (of which capital goods) by destination



(2) Exports of automobiles and their related goods by destination



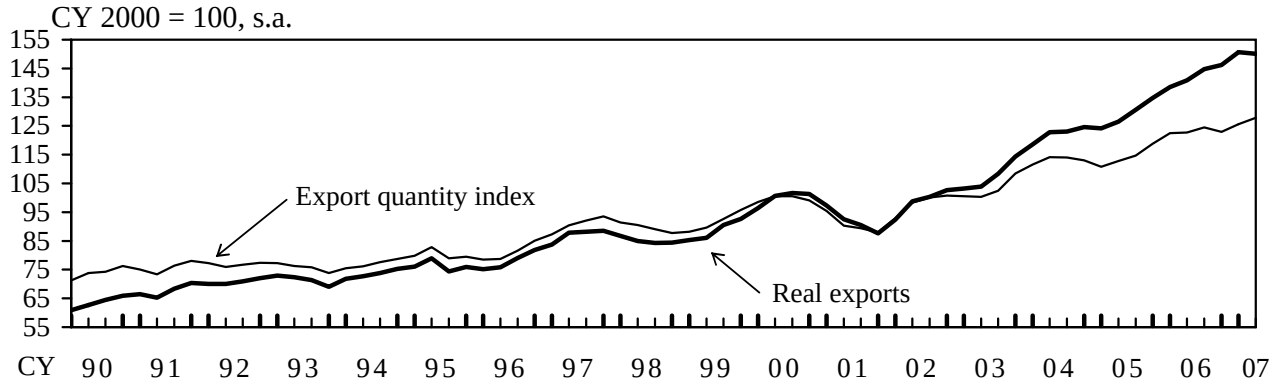
(3) Exports to "Other" economies



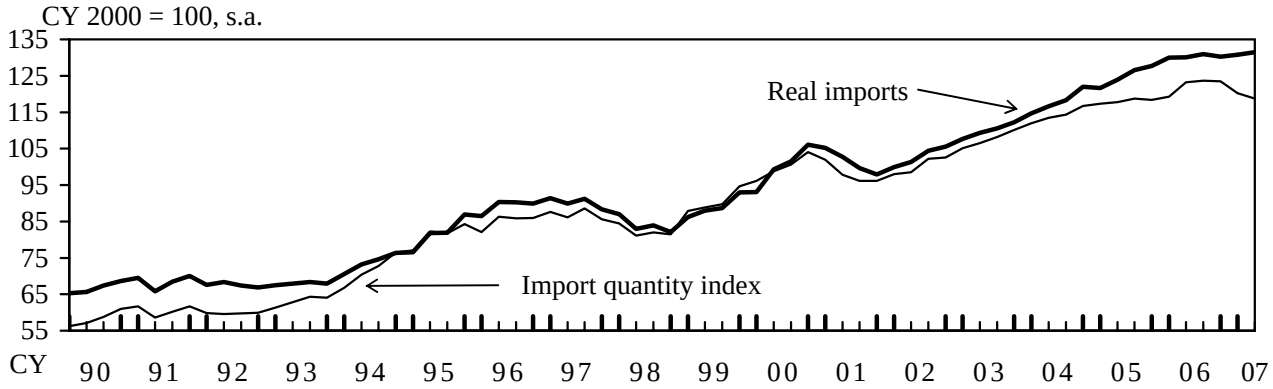
Sources: Ministry of Finance, "The Summary Report on Trade of Japan";
Bank of Japan, "Corporate Goods Price Index."

"Real" Index and "Quantity" Index of Exports and Imports

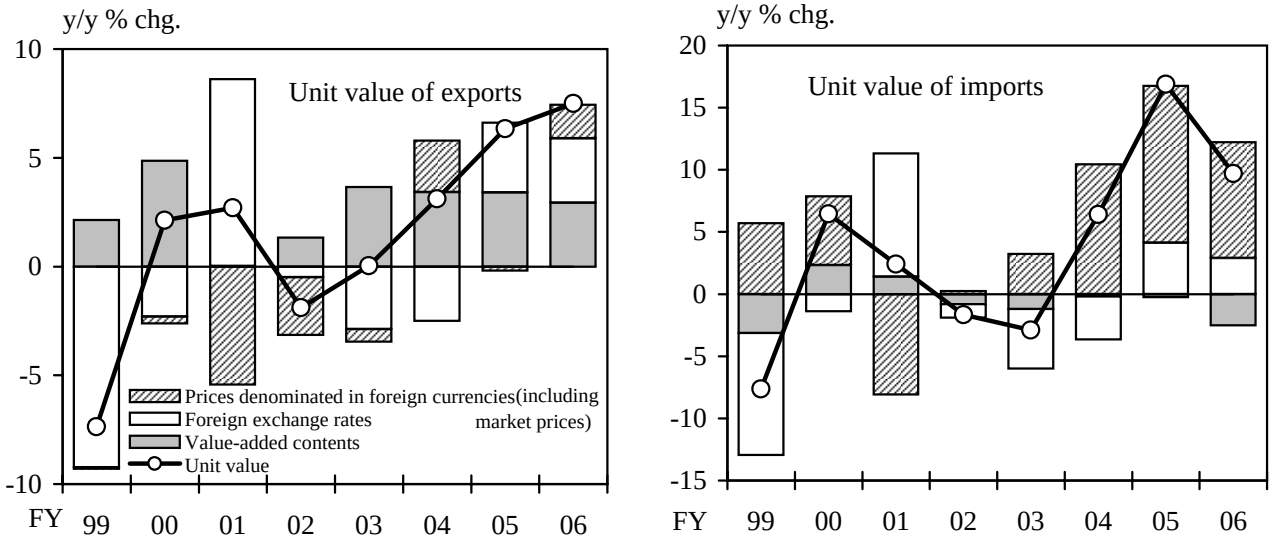
(1) "Real" exports and export "quantities"



(2) "Real" imports and import "quantities"



(3) Factors affecting unit value index (of trade index)

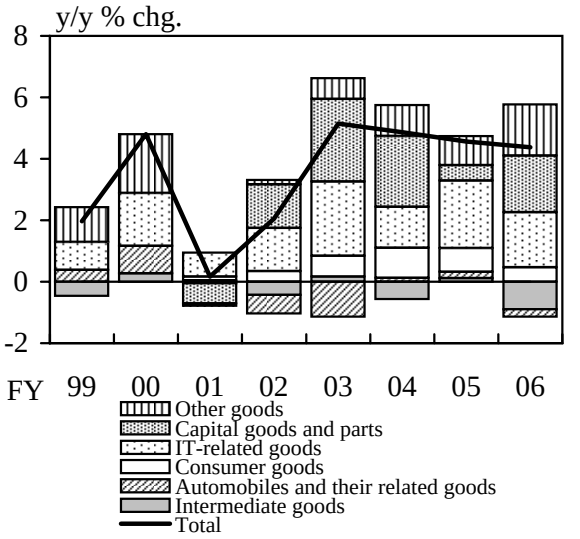


Notes: 1. Real index and quantity index in (1) and (2) are seasonally adjusted by X-12-ARIMA.
2. In (3), unit value indices published by the Ministry of Finance (Fischer index) have been decomposed using export and import prices (yen-base and contract currency basis) compiled by the Bank of Japan. For details, refer to *Konshu no Shihyo* (Indicator of the week) No.486 by the Cabinet Office.

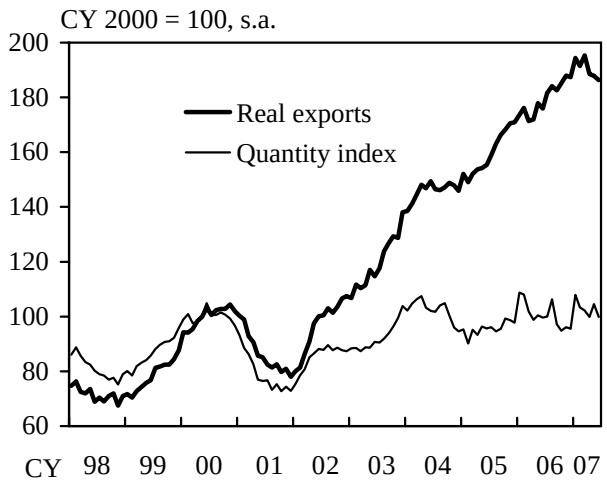
Sources: Ministry of Finance, "The Summary Report on Trade of Japan";
Bank of Japan, "Corporate Goods Price Index."

Increases in Value-added Components by Goods

(1) Increases in value-added components in the unit value of exports

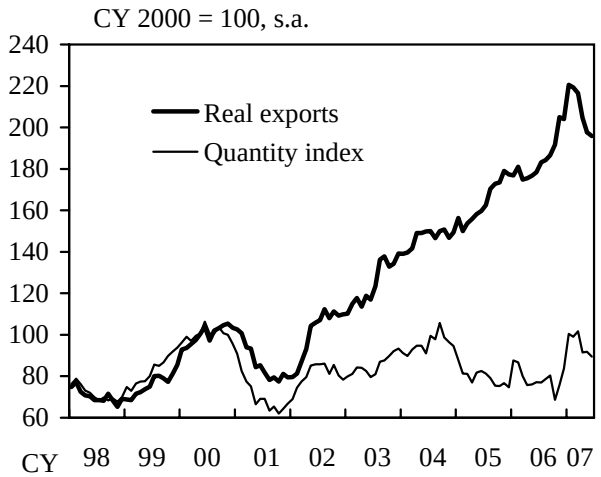


(2) Electrical machinery

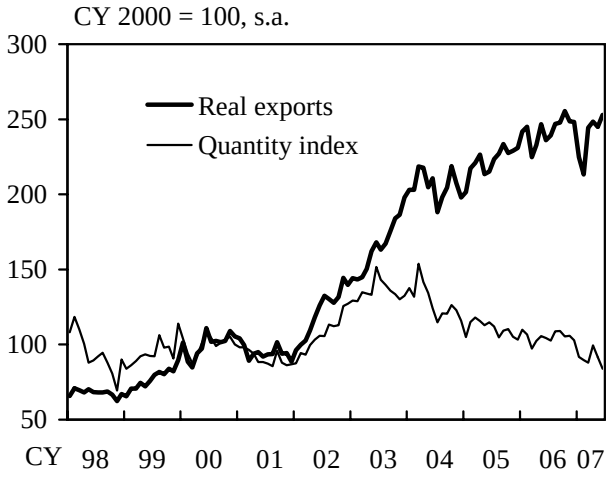


Note: The total in (1) refers to "contributions from changes in value-added contents" shown in the left part of chart 11(3).

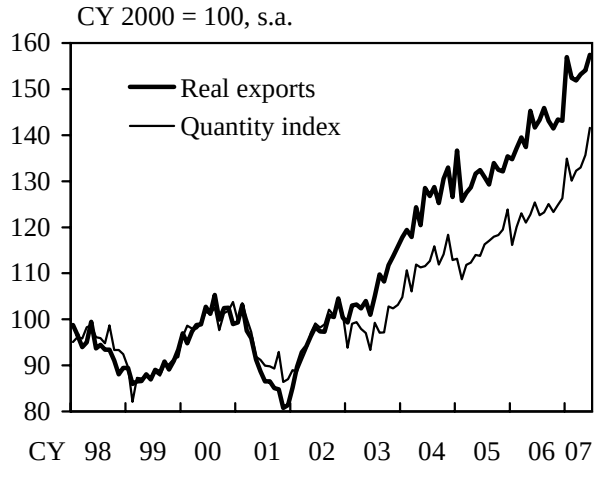
(2-1) Of which semiconductors and electronic parts



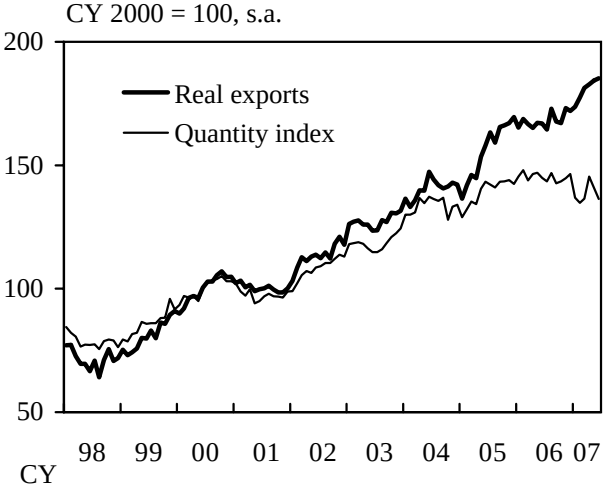
(2-2) Of which visual apparatus



(3) General machinery



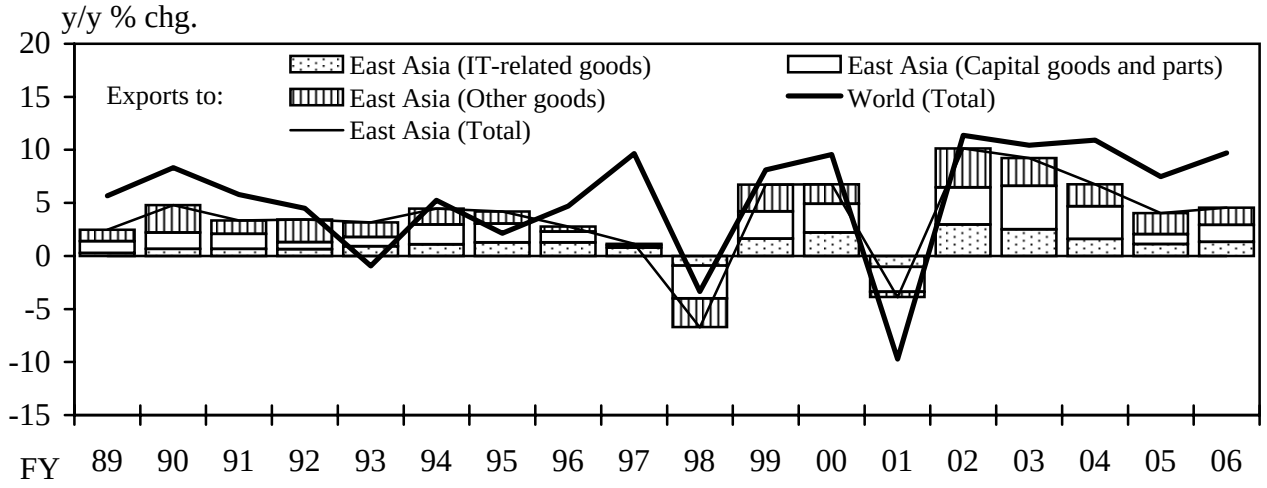
(4) Automobile parts



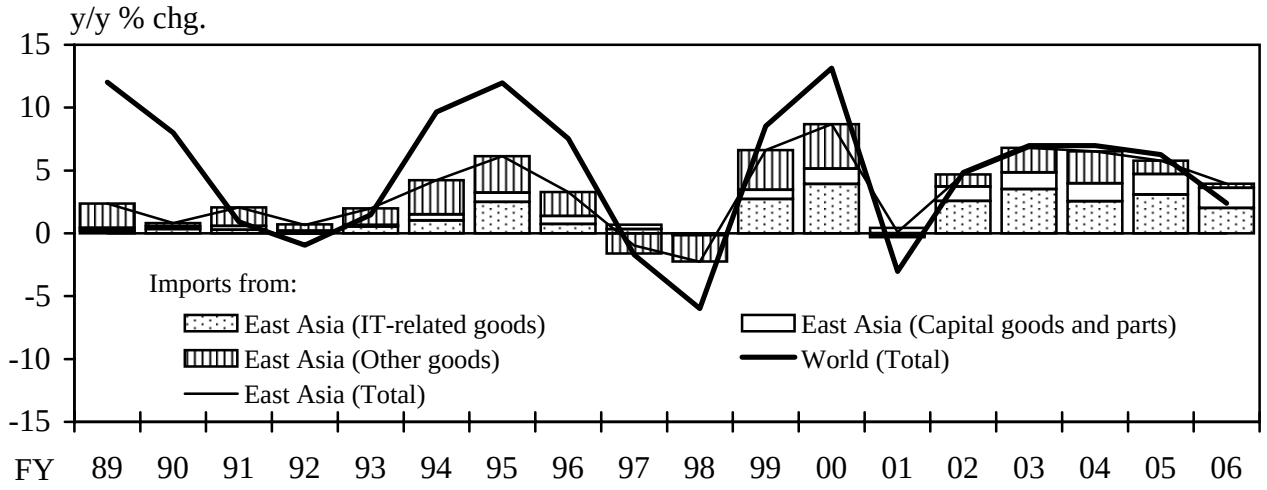
Sources: Ministry of Finance, "The Summary Report on Trade of Japan";
Bank of Japan, "Corporate Goods Price Index."

Japan's Trade with the East Asian Region

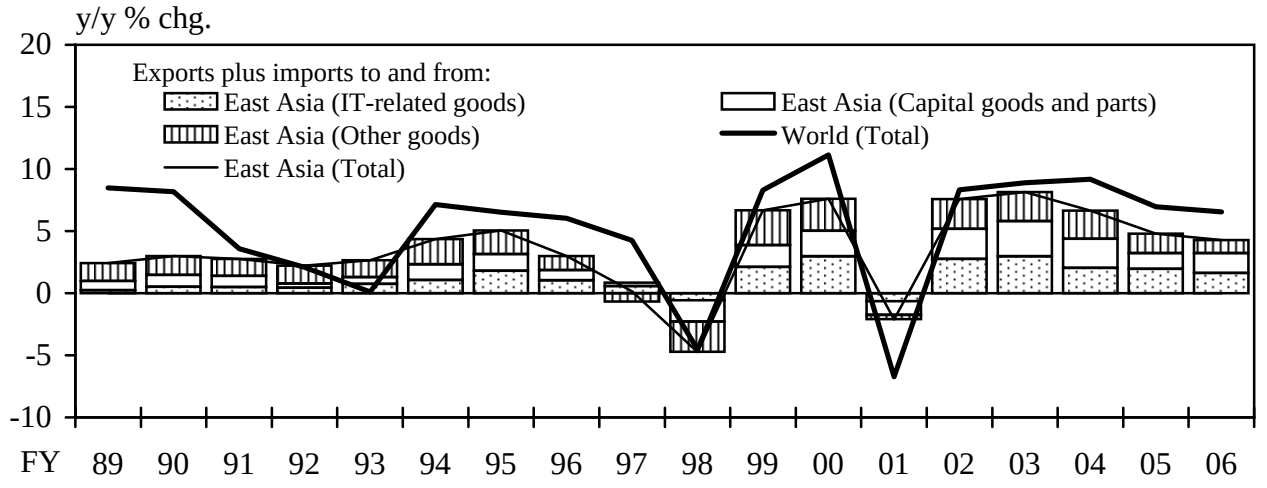
(1) Real exports to East Asian region (contributions to world total)



(2) Real imports from East Asian region (contributions to world total)



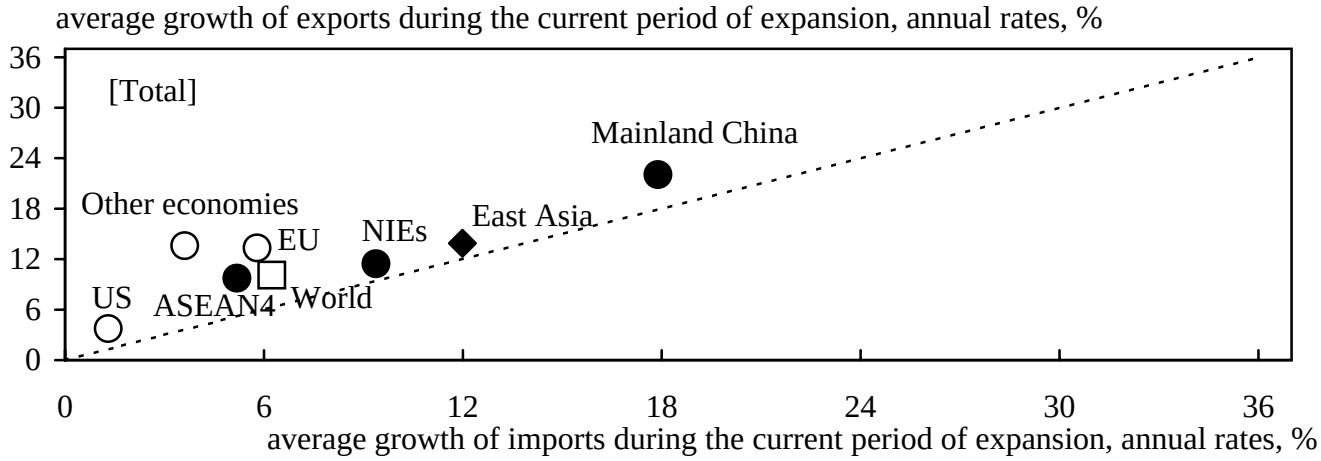
(3) Real exports plus imports to and from East Asian region (contributions to world total)



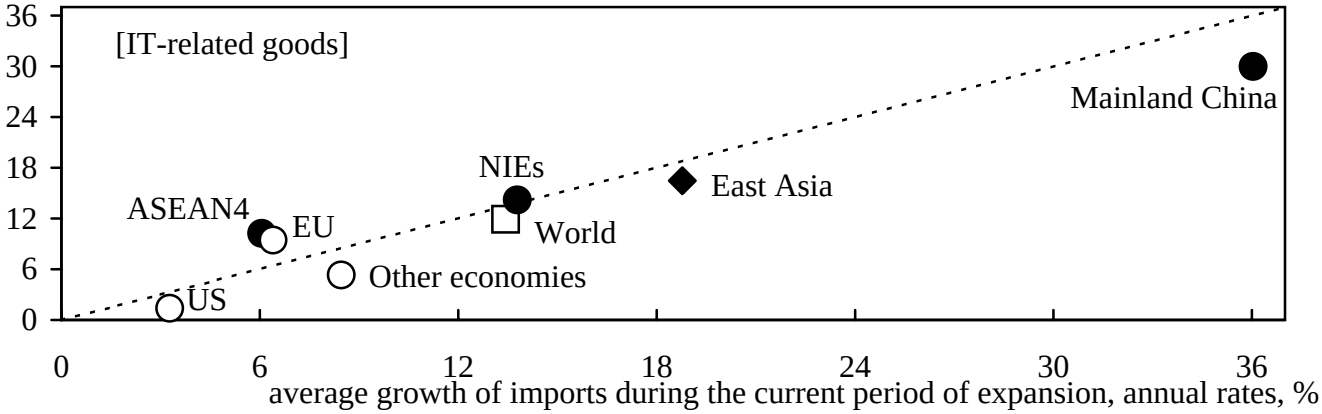
Sources: Ministry of Finance, "The Summary Report on Trade of Japan";
Bank of Japan, "Corporate Goods Price Index."

Developments of IT-related Goods and Capital Goods in Terms of Both Exports and Imports

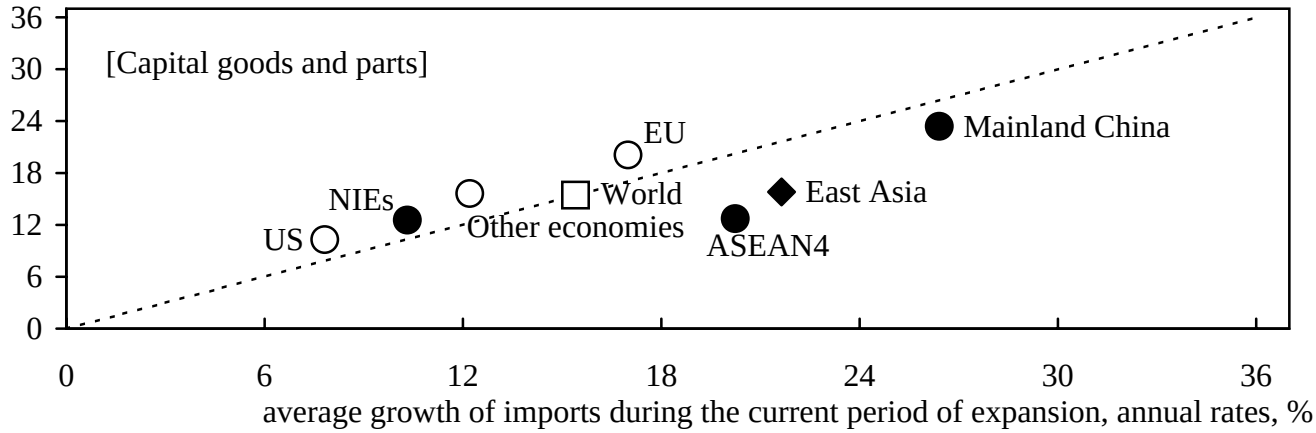
(1) Total exports and imports



(2) IT-related goods



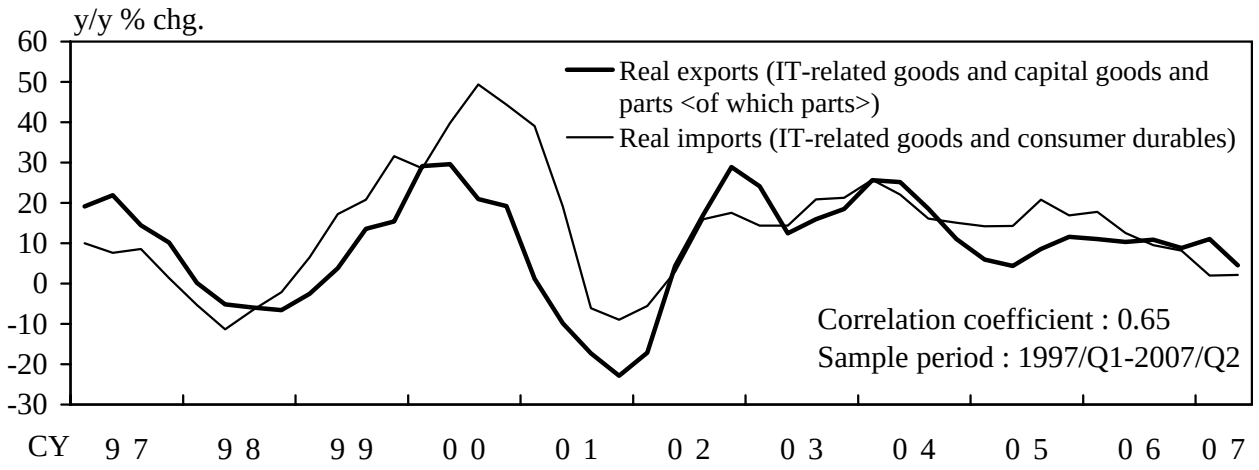
(3) Capital goods and parts



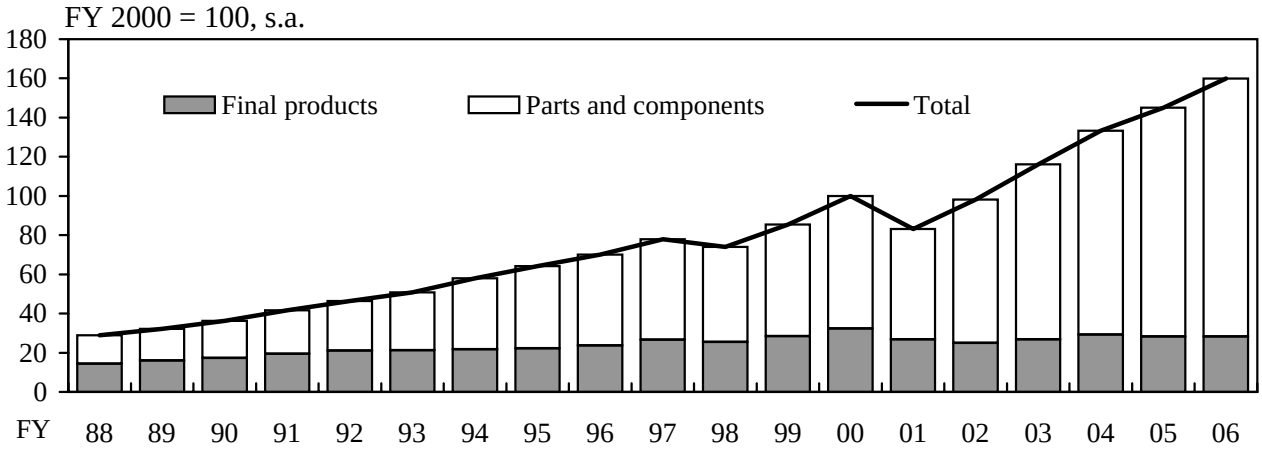
Sources: Ministry of Finance, "The Summary Report on Trade of Japan";
Bank of Japan, "Corporate Goods Price Index."

Exports and Imports of IT-related Goods

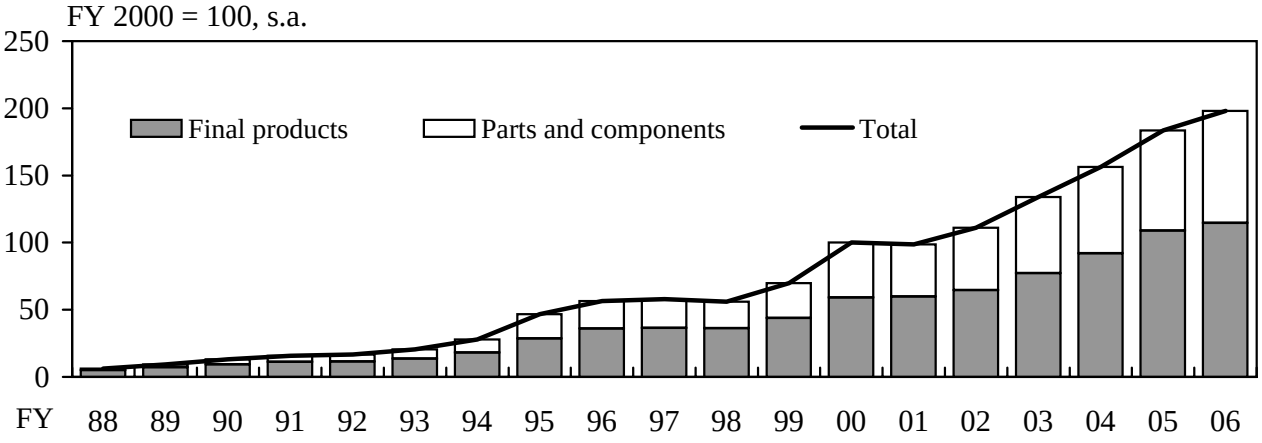
(1) Real exports and imports of broadly-defined IT-related goods



(2) Real exports of IT-related goods and capital goods and parts (of which parts)



(3) Real imports of IT-related goods and consumer durables

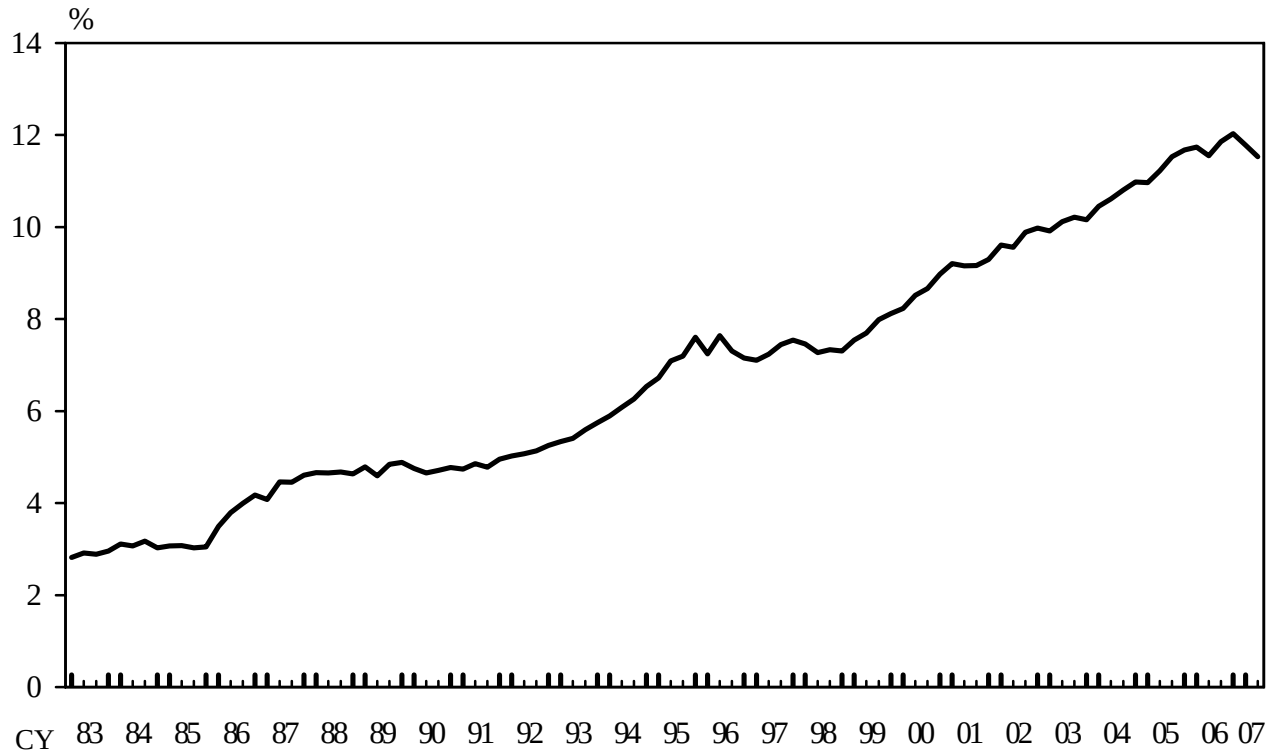


Notes: 1. In (2), parts and components include "semiconductors and other electronic parts," "parts of computer," "parts of audio and visual apparatus," "electrical apparatus" and "batteries and accumulators," while final products include "computers and units," "communication equipment" and "scientific optical instruments."
2. In (3), parts and components include "semiconductors and other electronic parts" and "parts of computers," while final products include "computers and units," "communication equipment," "scientific optical instruments" and "toys."

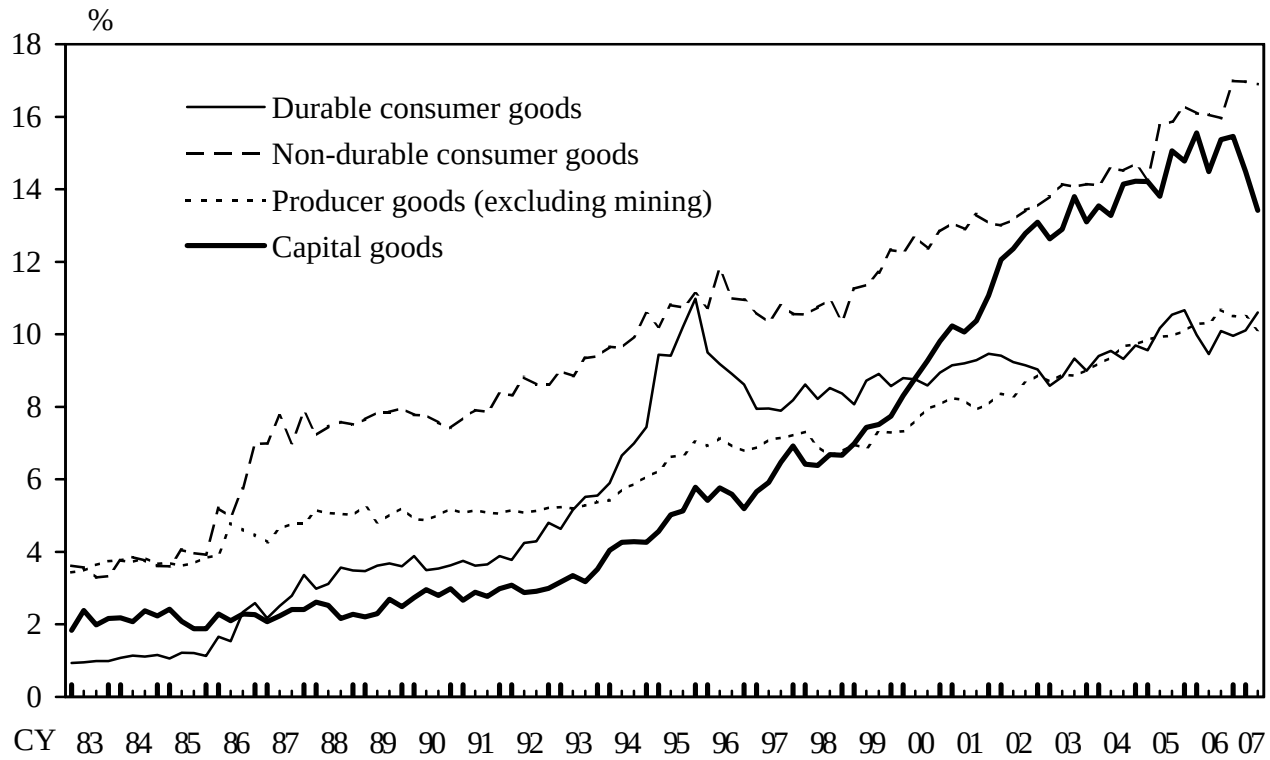
Sources: Ministry of Finance, "The Summary Report on Trade of Japan";
Bank of Japan, "Corporate Goods Price Index."

Rises in Import Penetration of Manufactured Goods

(1) Import penetration based on the *Indices of Industrial Domestic Shipments and Imports* (excluding mining)



(2) Penetration by goods

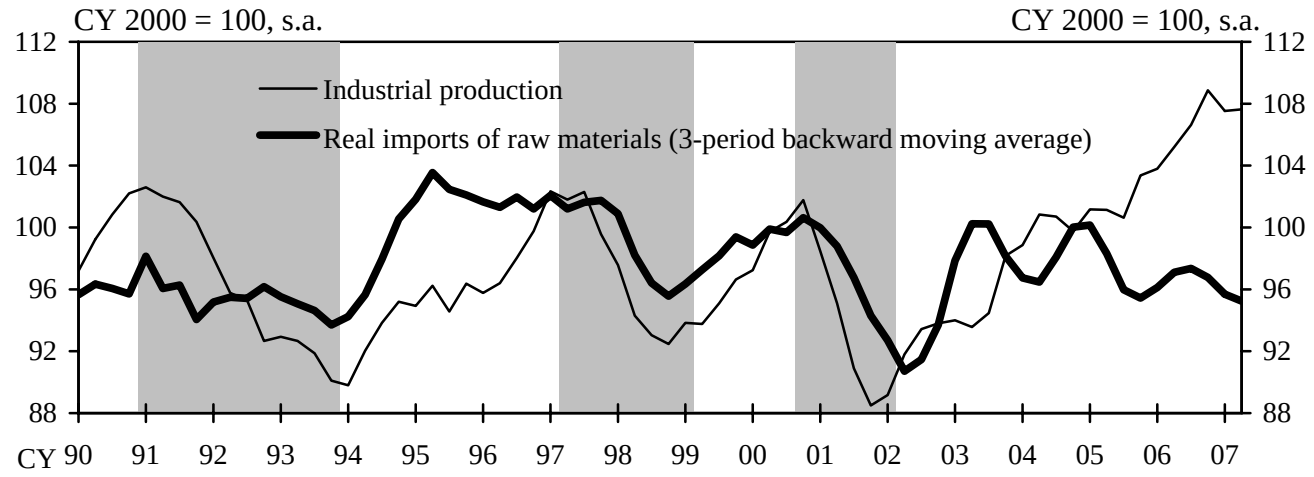


Note: Import penetration is calculated from the *Indices of Domestic Shipments and Imports* as follows:
(import index × import weight) / (total index × total weight)

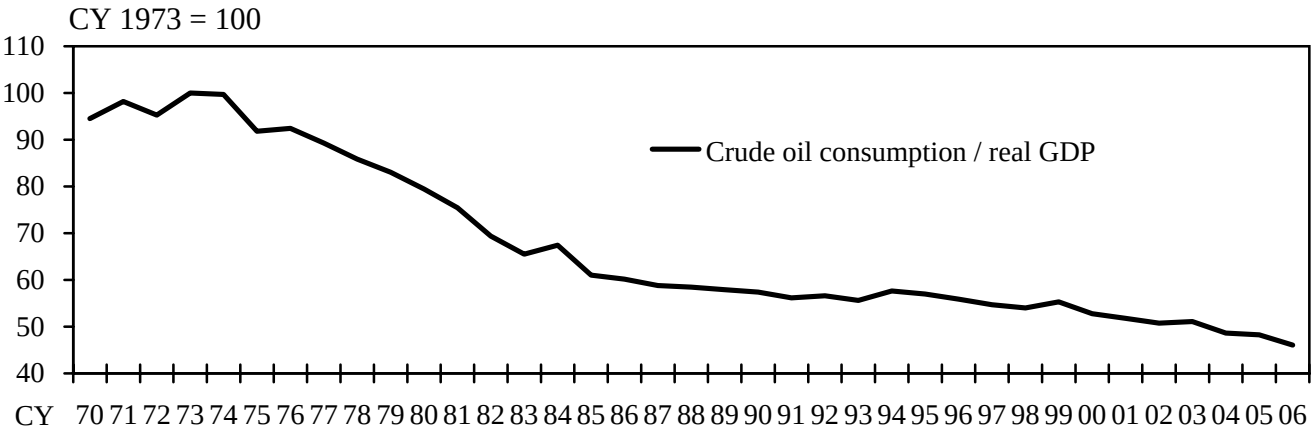
Source: Ministry of Economy, Trade and Industry, "Indices of Industrial Domestic Shipments and Imports."

Industrial Production and Imports of Raw Materials

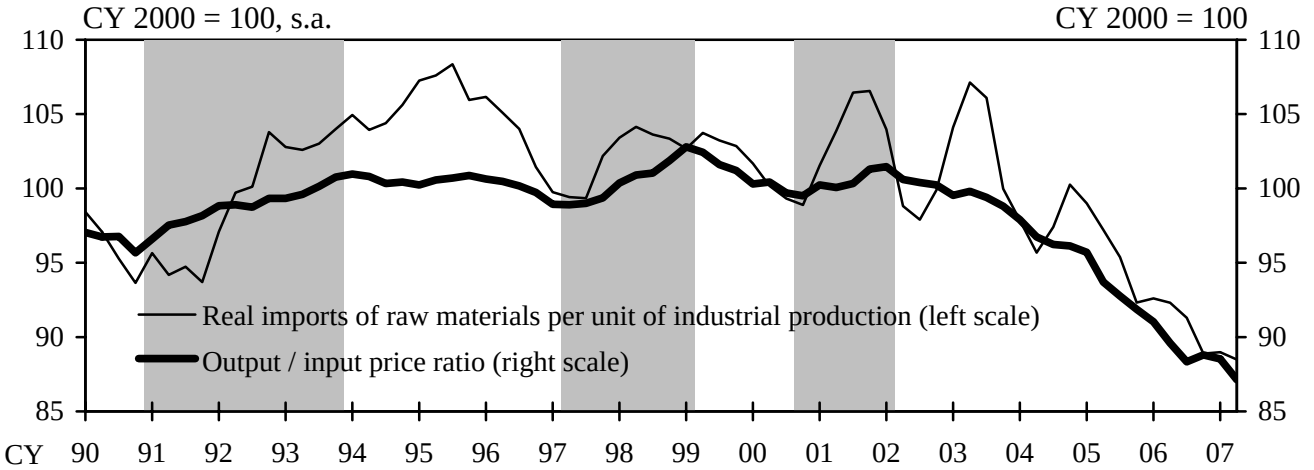
(1) *Indices of Industrial Production* and real imports of raw materials



(2) Crude oil consumption per unit of real GDP



(3) Output / input price ratio index and real imports of raw materials per unit of industrial production

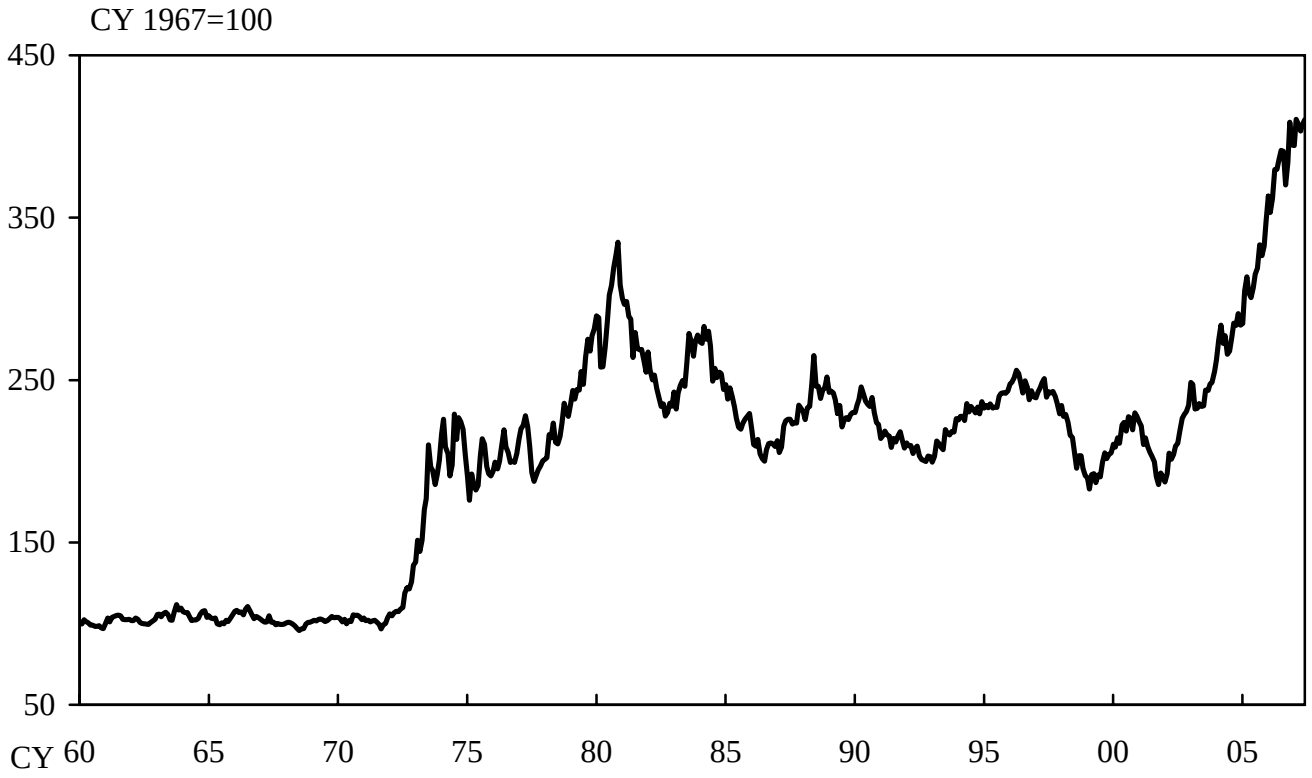


Note: Shaded areas indicate recessions.

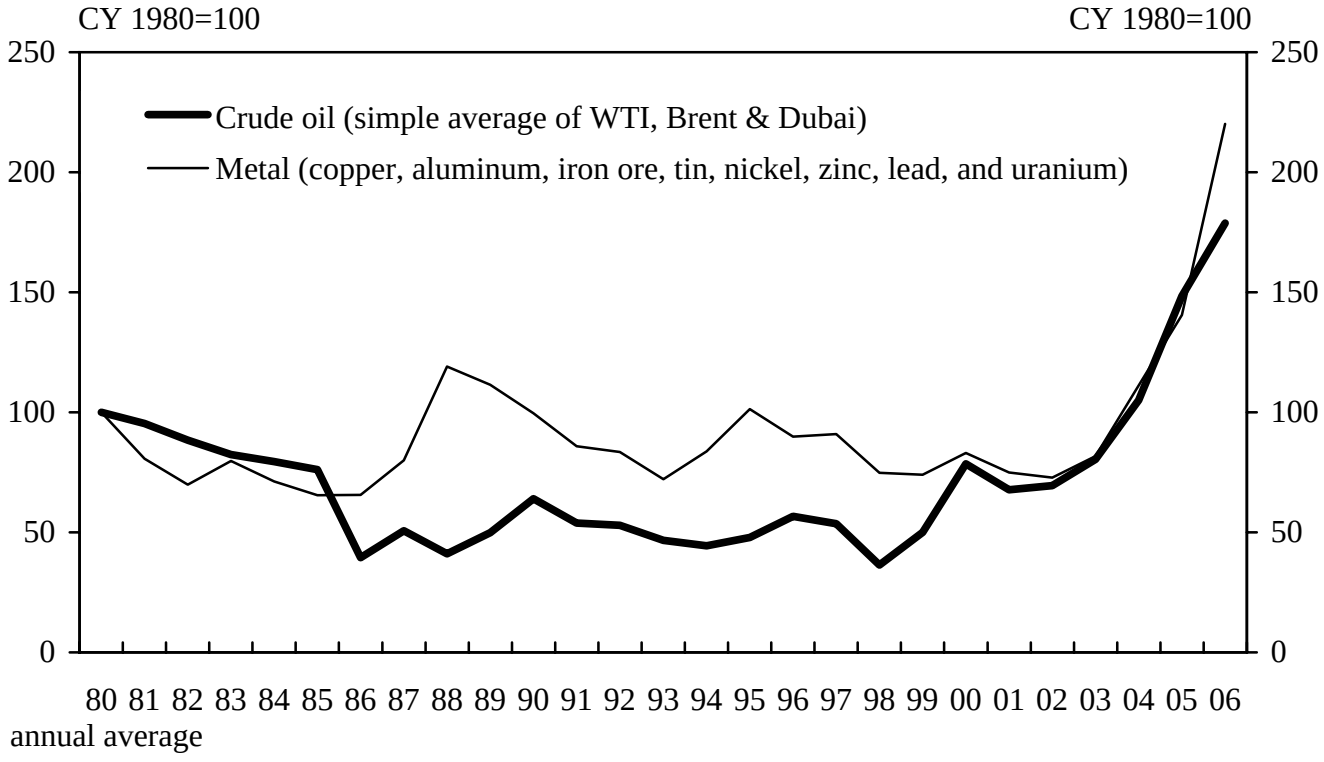
Sources: Ministry of Finance, "The Summary Report on Trade of Japan"; Ministry of Economy, Trade and Industry, "Indices of Industrial Production";
Bank of Japan, "Corporate Goods Price Index," "Input-output Price Index of the Manufacturing Industry by Sector."

Rises in International Commodity Prices

(1) CRB index (end of month)



(2) Crude oil prices and metal prices (IMF basis)

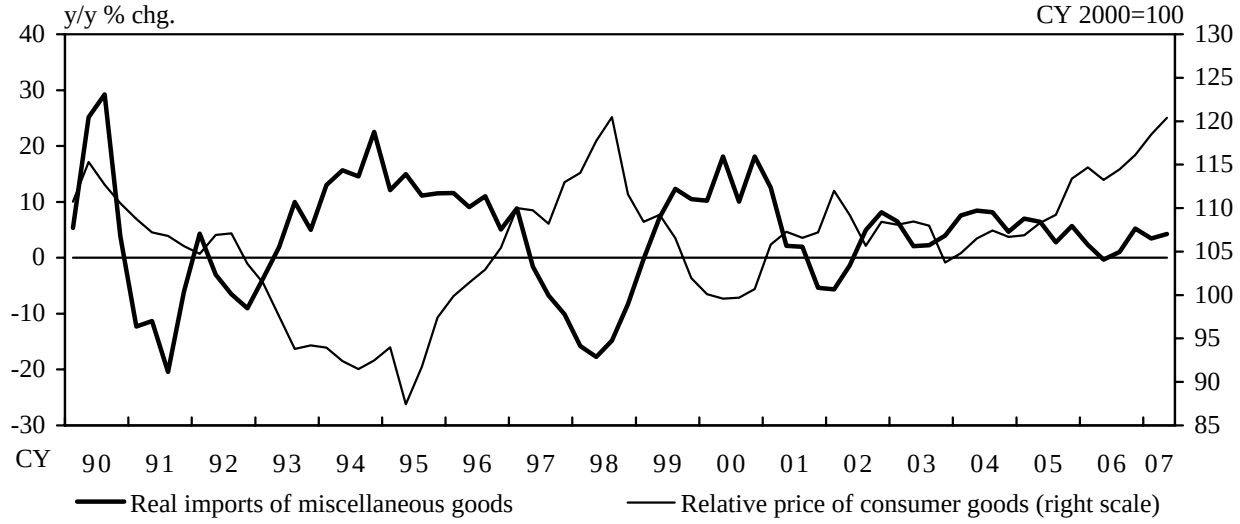


Sources: REUTERS-CRB index; IMF, "World Economic Outlook Database for April 2007."

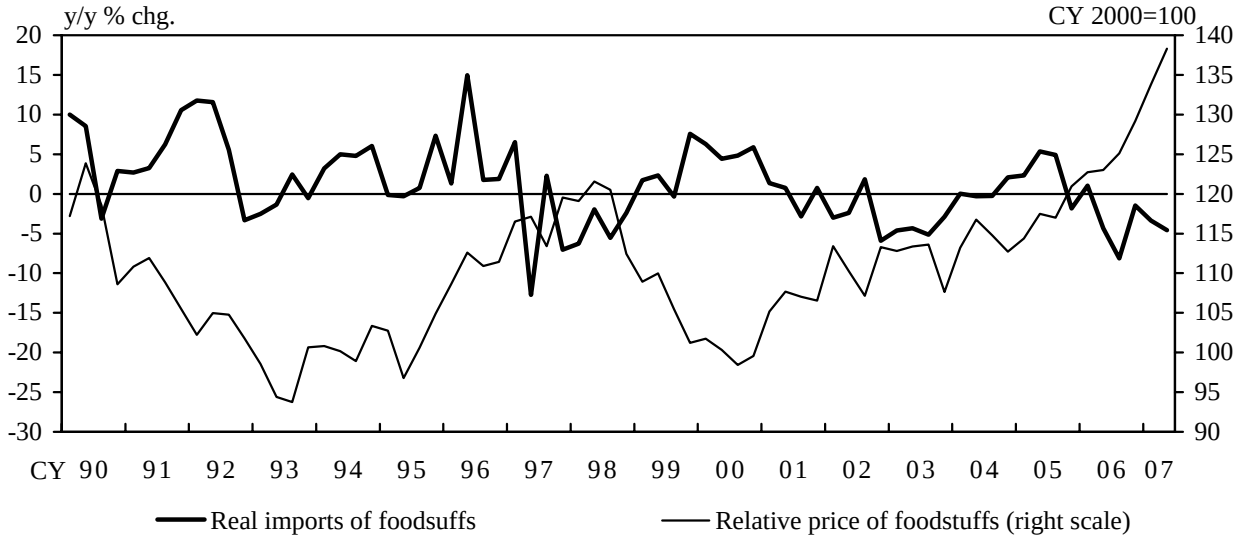
Relative Prices of Imported Goods Versus Domestically Produced Goods

(1) Relative prices of imports versus domestically produced goods : Consumer goods

(2) Miscellaneous goods



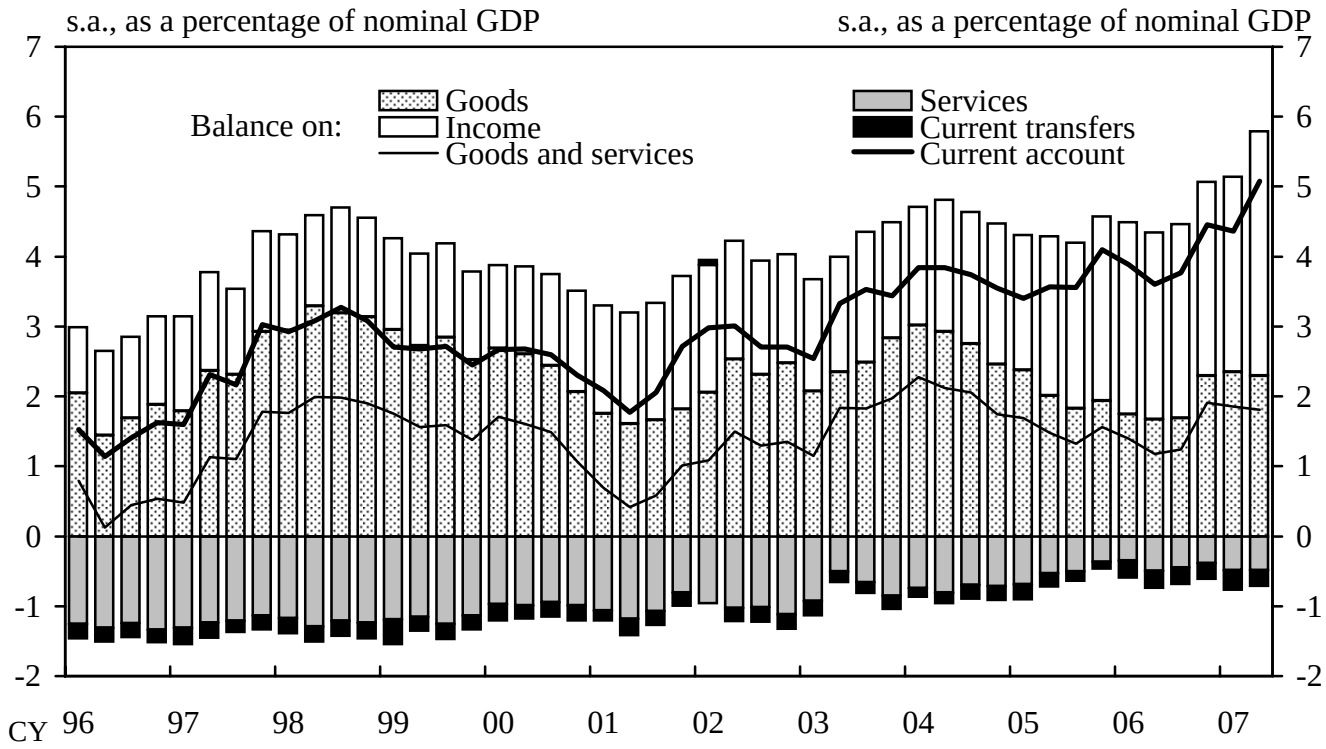
(3) Foodstuffs



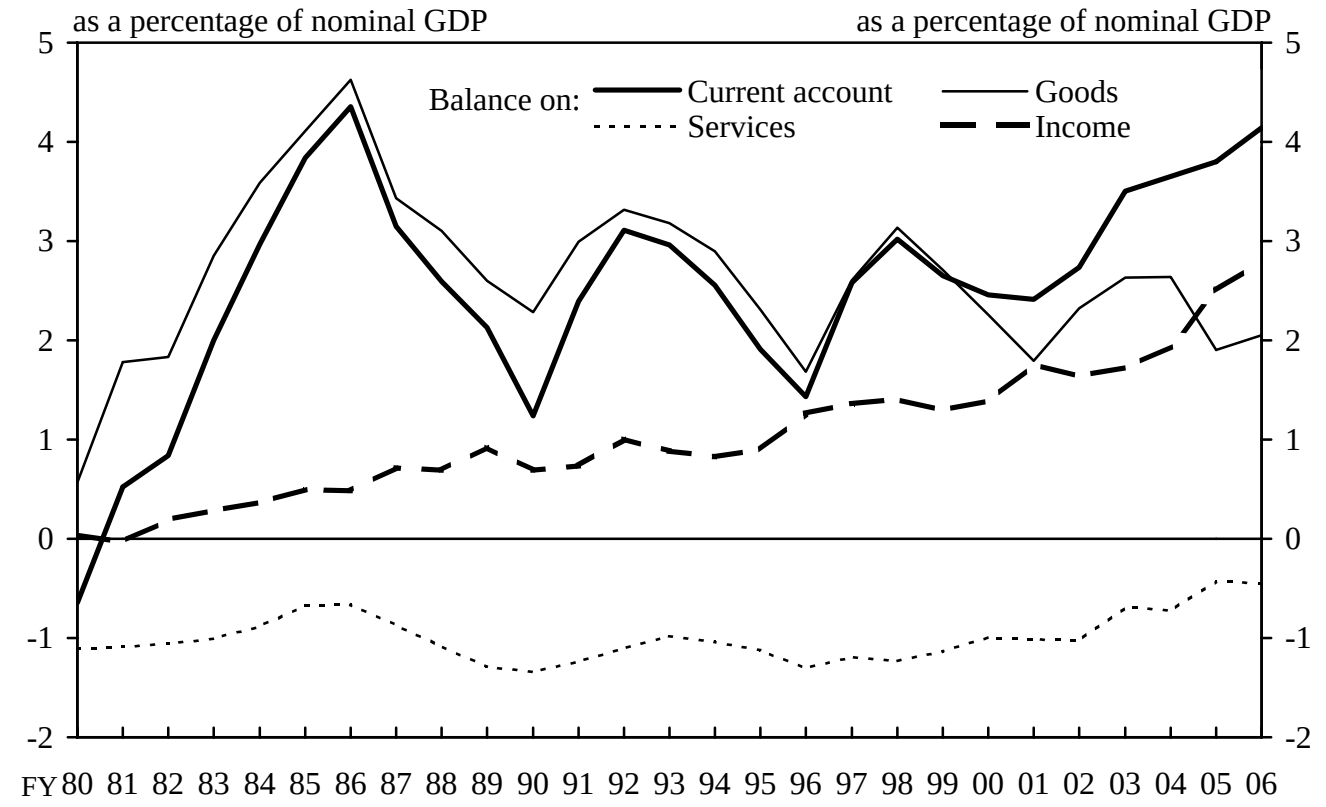
Note: Miscellaneous goods in (2) include furniture, bags and toys.
Sources: Ministry of Finance, "The Summary Report on Trade of Japan";
Bank of Japan, "Corporate Goods Price Index."

Current Account

(1) Current account

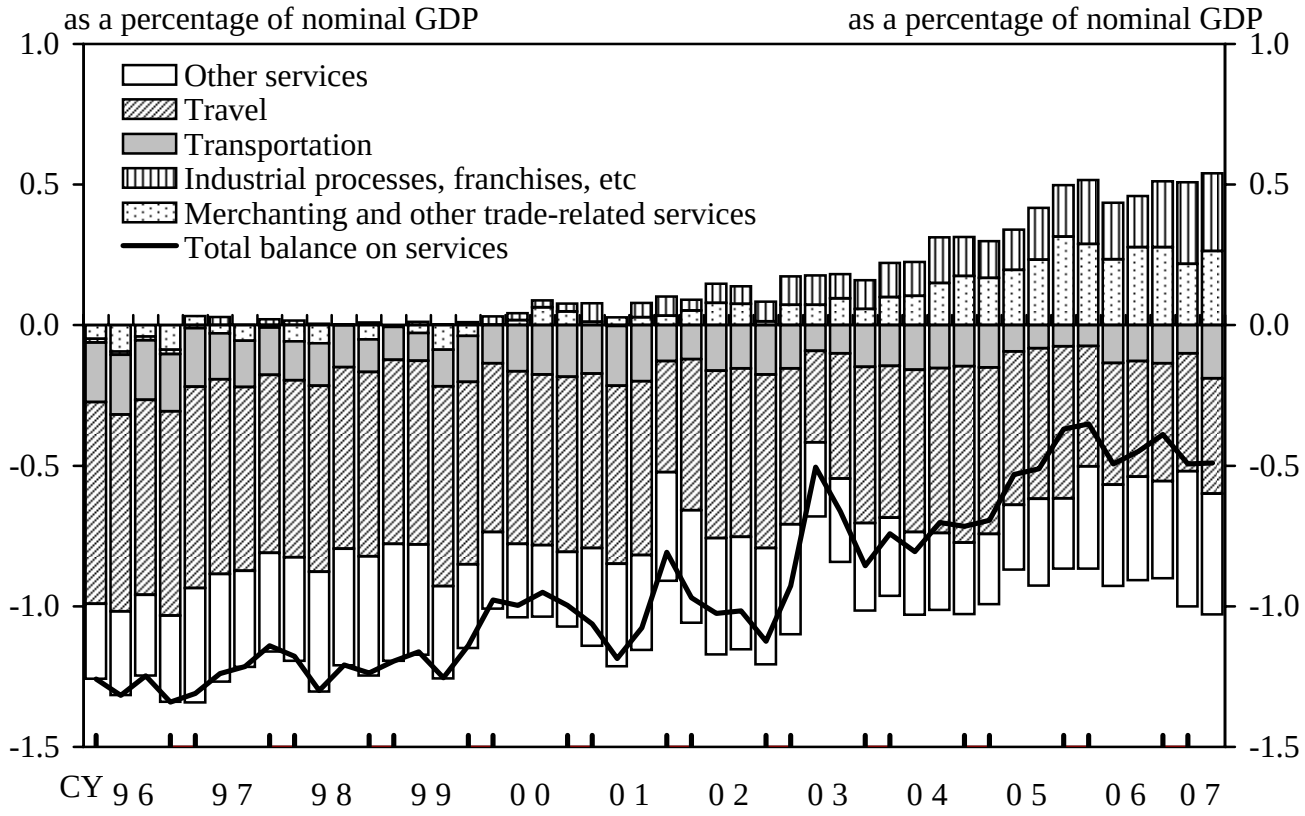


(2) Long-term development of current account



Sources: Bank of Japan, "Balance of Payments"; Cabinet Office, "National Accounts."

Improvement in Balance on Services

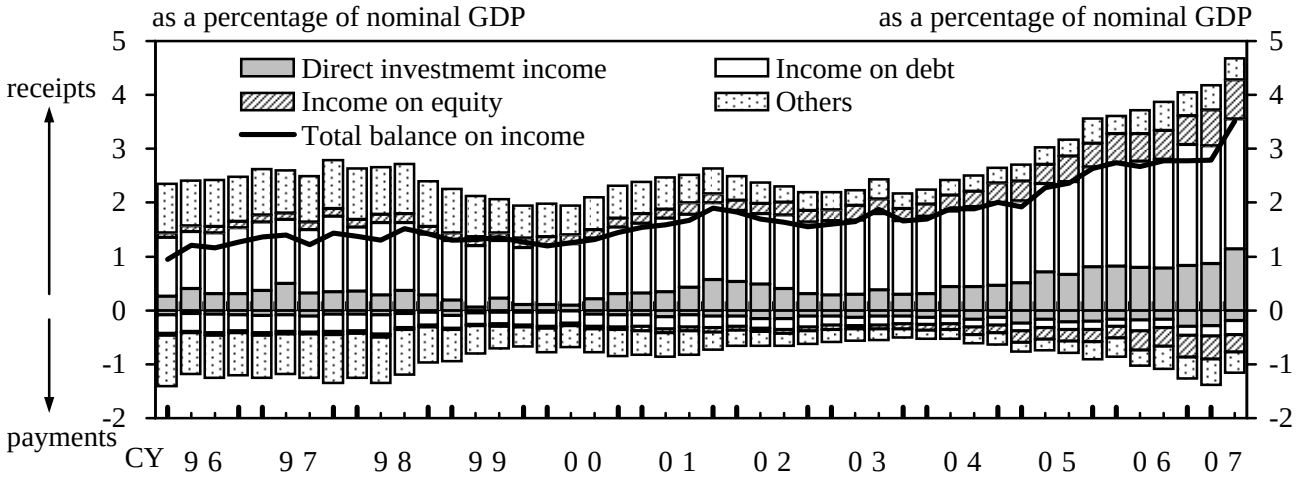


Note: Other services here include the following: "communication services," "construction services," "insurance services," "financial services," "computer and information services," "operational leasing," "miscellaneous business, professional, and technical services," "copyright fees," "personal, cultural, and recreational services," and "government services, n.i.e."

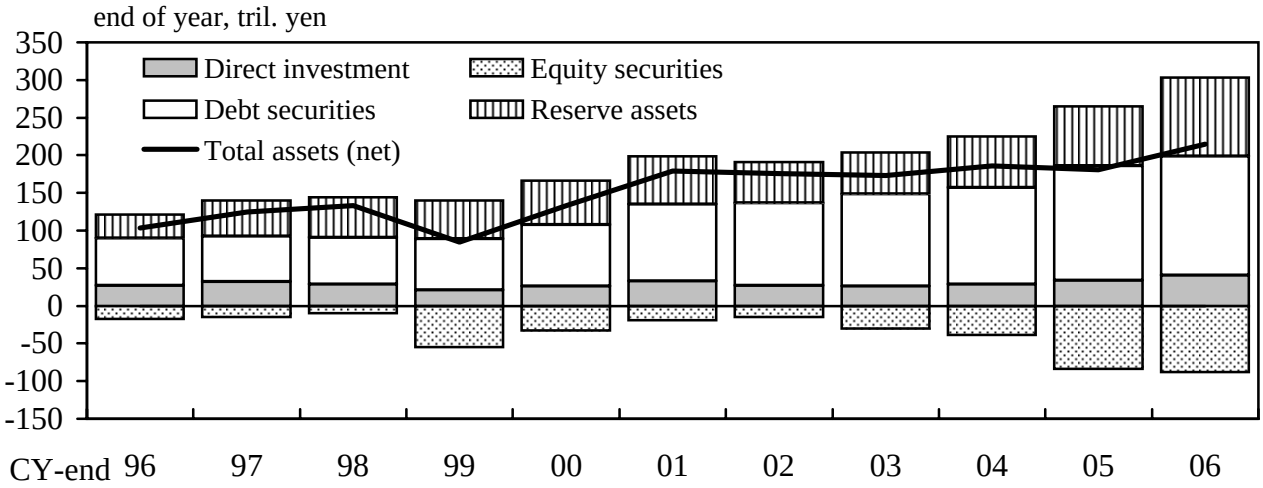
Source: Bank of Japan, "Balance of Payments."

Expansion of Income Balance Surplus

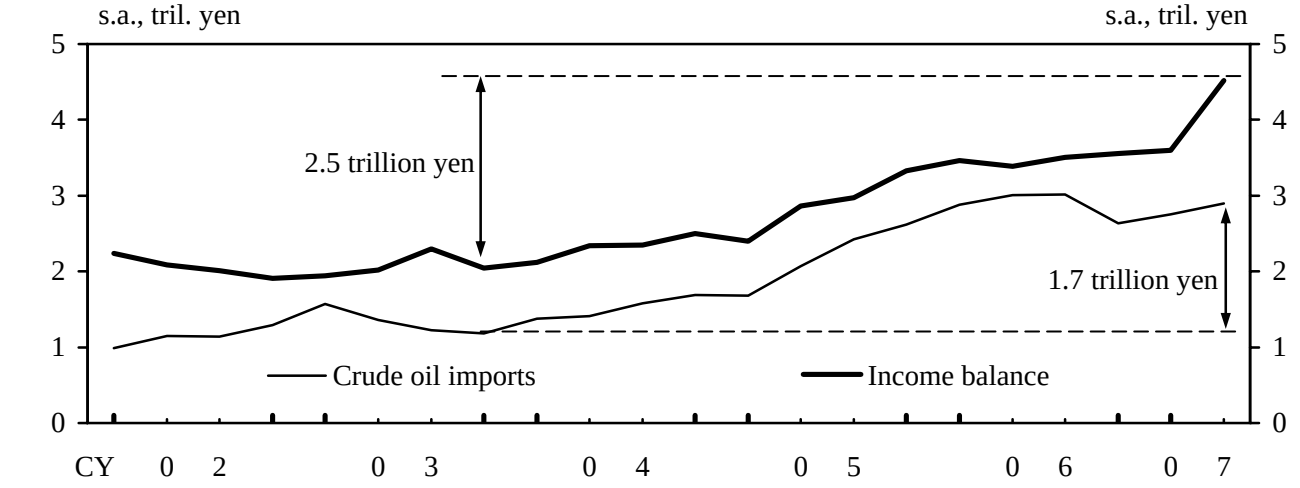
(1) Income balance



(2) Net international investment position of Japan



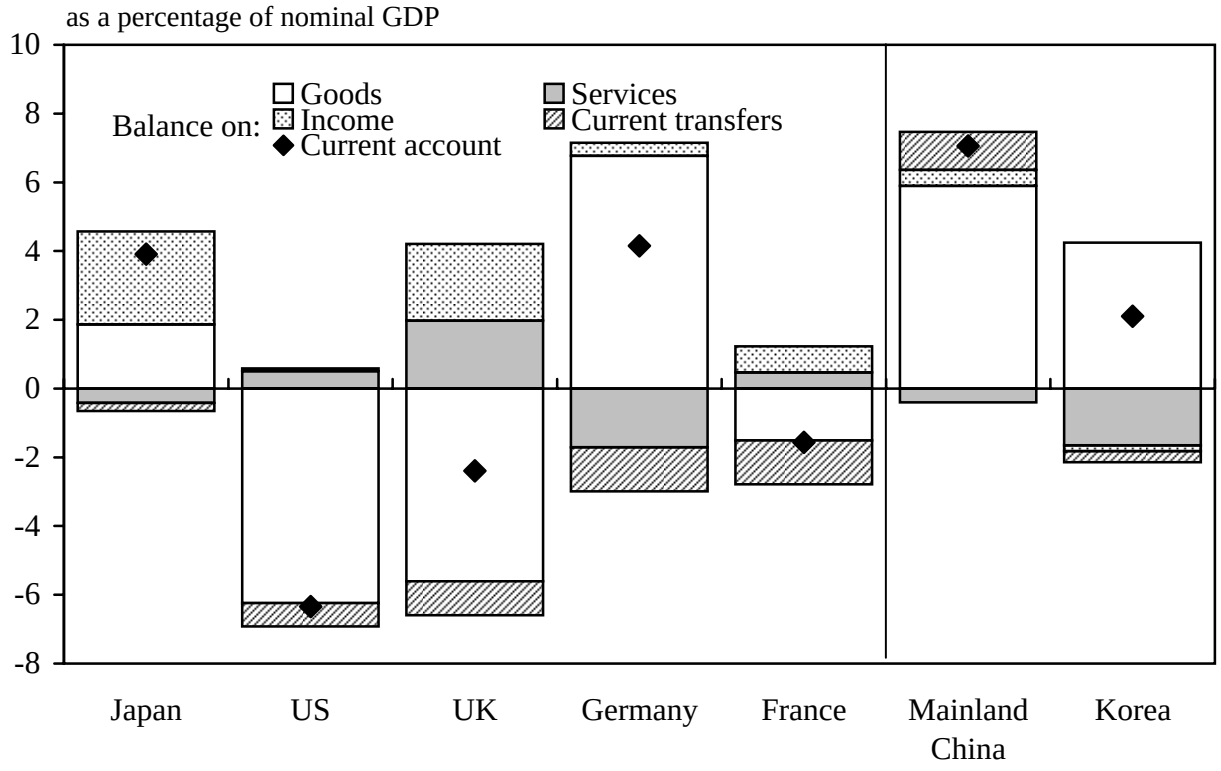
(3) Income balance and crude oil prices



Sources: Bank of Japan, "Balance of Payments"; Cabinet Office, "National Accounts."

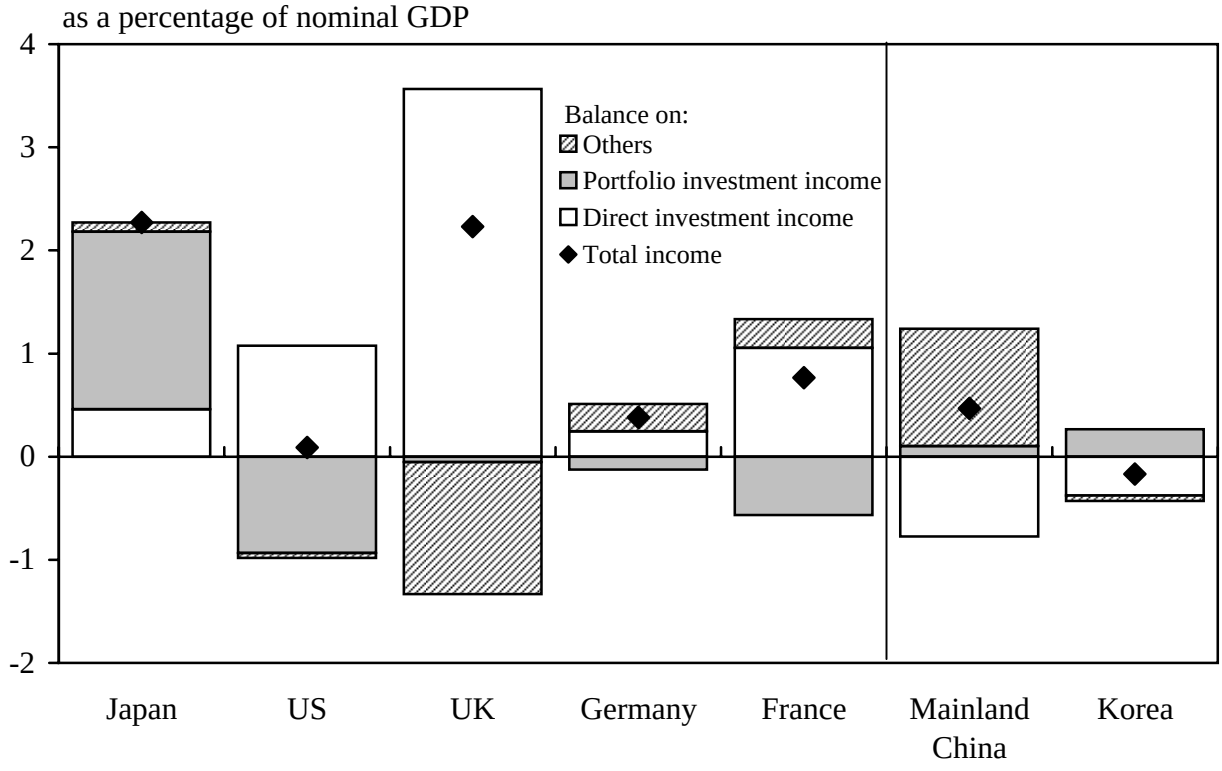
Current Account: International Comparison

(1) Current account: International comparison



Note: All data are for CY 2005, except for Japan (CY 2006).

(2) Income balance: International comparison.



Note: All data are for CY 2005.

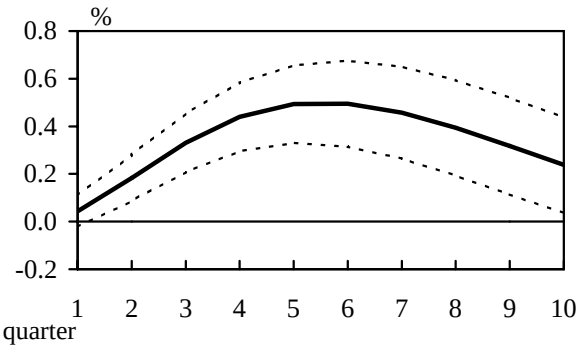
Sources: Bank of Japan, "Balance of Payments"; IMF, "Balance of Payments," "International Financial Statistics Yearbook 2006."

Elasticity of Exports: Exchange Rates and Income

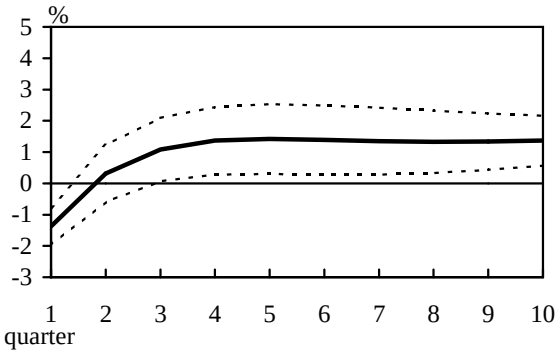
(1) Impulse response of exports based on VAR system

I. Sample period: 1975/Q1 to 1990/Q4

Response of exports to 1% depreciation of real effective exchange rate

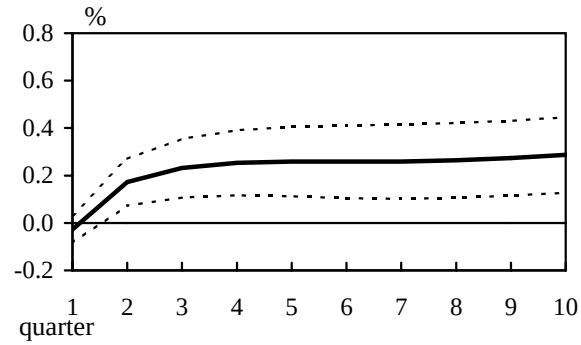


Response of exports to 1% quarterly growth in overseas economy

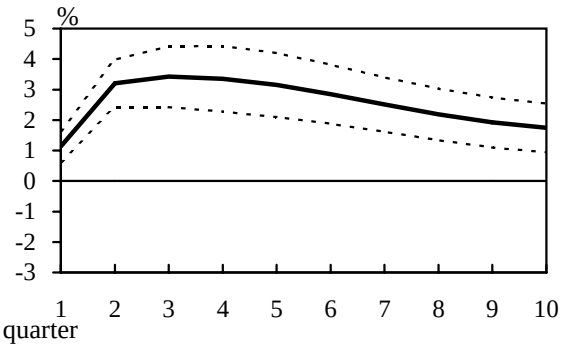


II. Sample period: 1991/Q1 to 2007/Q1

Response of exports to 1% depreciation of real effective exchange rate



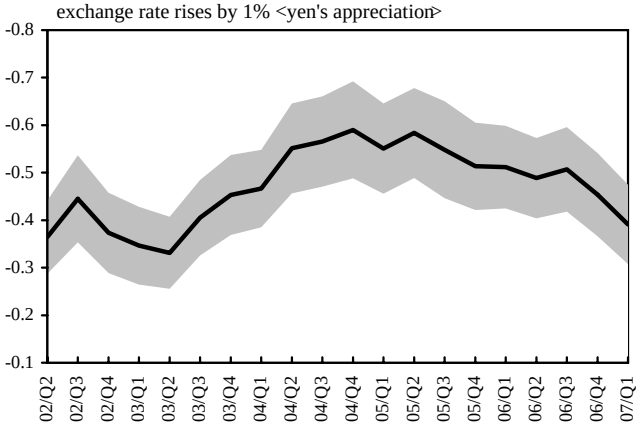
Response of exports to 1% quarterly growth in overseas economy



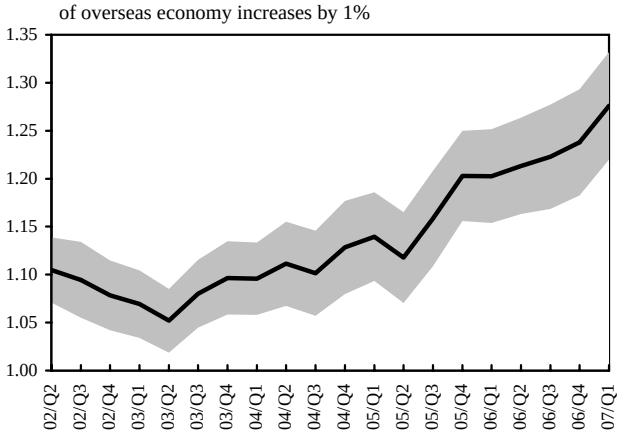
Note: The VAR model is composed of three variables: real effective exchange rates, growth in overseas economy and real exports (all of them are lagged twice). Charts show responses of exports to 1% shock of each variable. In the latter sample period II, "world semiconductor shipments" is also added as a variable. Dotted lines indicate confidence interval (±1 standard errors).

(2) Estimates of price elasticity and income elasticity of exports based on error-correction model

price elasticity : % changes in real exports when real effective exchange rate rises by 1% <yen's appreciation>



income elasticity : % changes in real exports when growth rate of overseas economy increases by 1%



Notes: 1. The elasticity is estimated from the error-correction model that includes the following long-term equilibrium relationship:

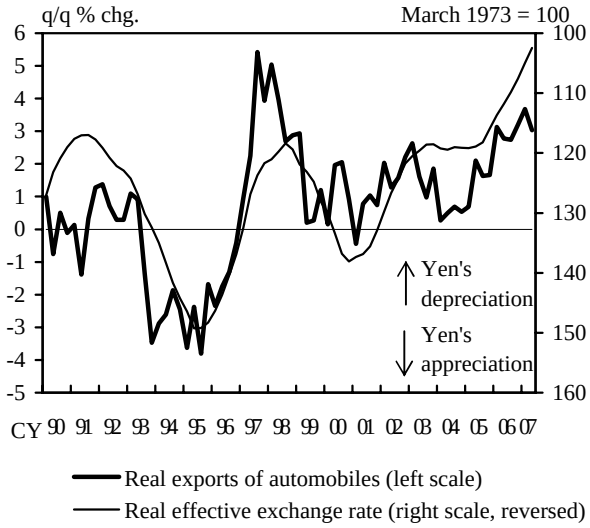
Real exports = α × real effective exchange rate + β × growth rate of overseas economy + constant
(All variables are in logs.)
α : price elasticity, β : income elasticity

2. Charts show the rolling estimates with a window size of 56 quarters. Horizontal axis shows end of period.
3. Shaded areas indicate ± 1 standard errors.

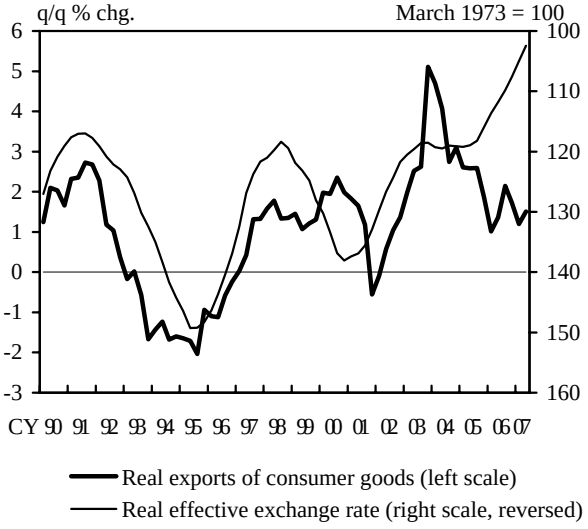
Sources: WSTS (World Semiconductor Trade Statistics), Ministry of Finance, "The Summary Report on Trade of Japan"; Bank of Japan, "Effective Exchange Rate," "Corporate Goods Price Index."

Correlation of Exports by Goods with Foreign Exchange Rates

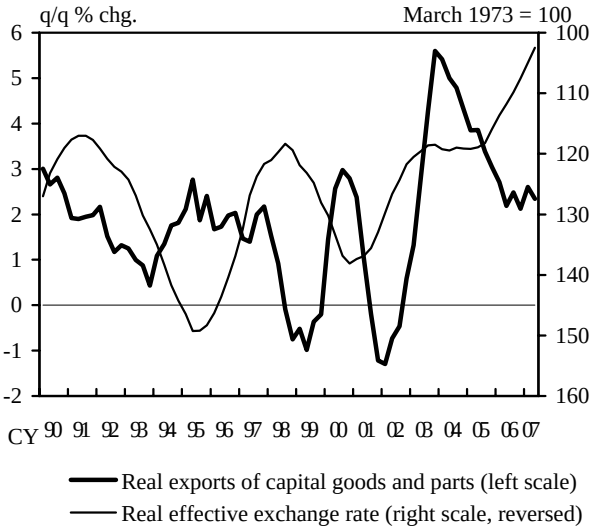
(1) Automobiles



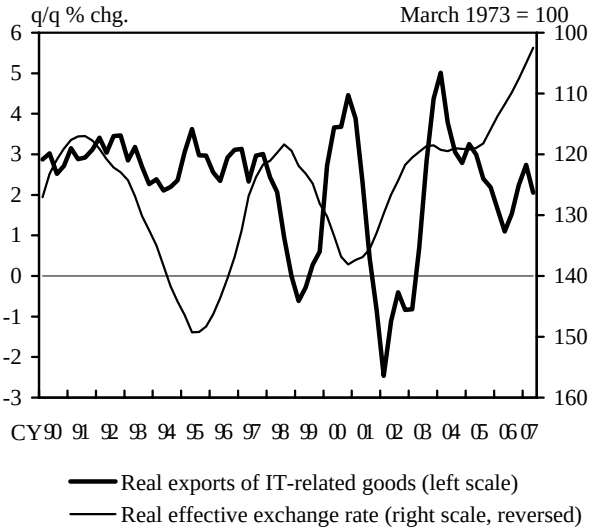
(2) Consumer goods



(3) Capital goods and parts



(4) IT-related goods



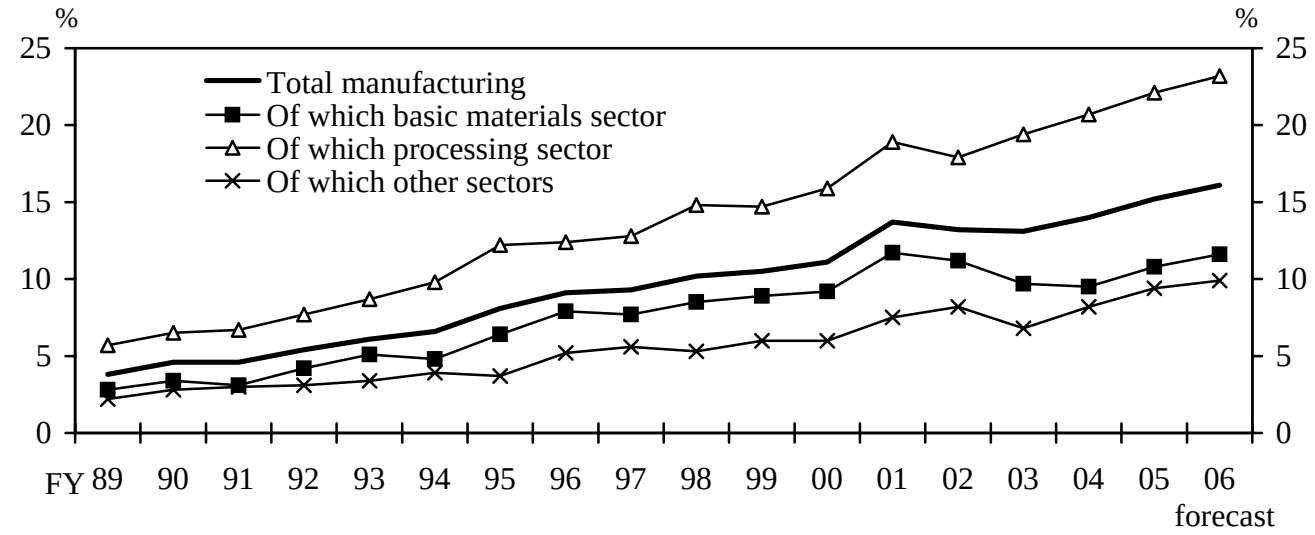
Note: Real exports and real effective exchange rates here are 8-period backward moving averages.

(5) Nominal share of exports by goods

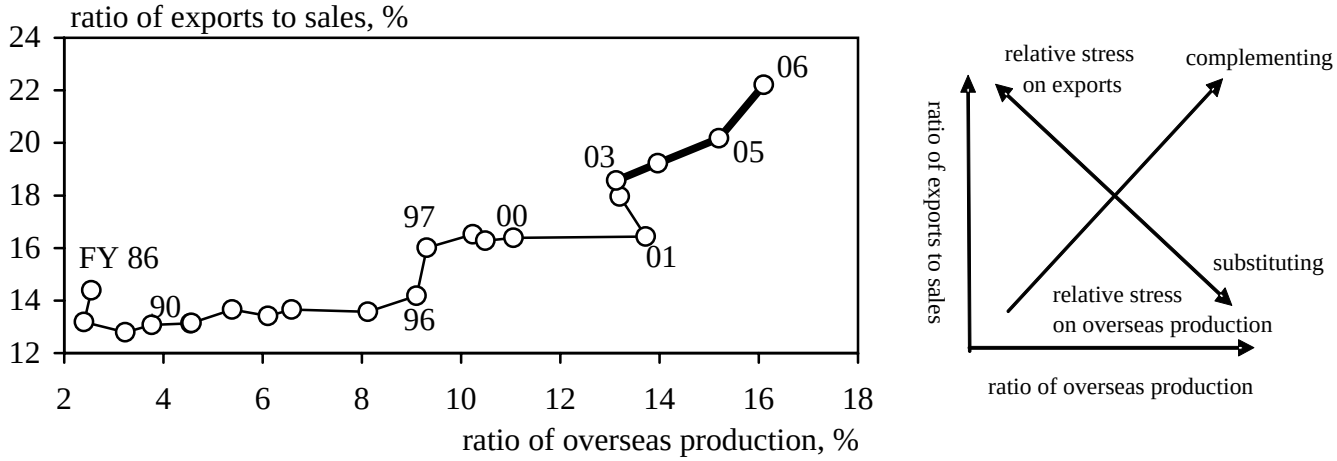
Sources: Ministry of Finance, "The Summary Report on Trade of Japan";
Bank of Japan, "Corporate Goods Price Index," "Effective Exchange Rate."

Overseas Production and Exports

(1) Ratio of overseas production

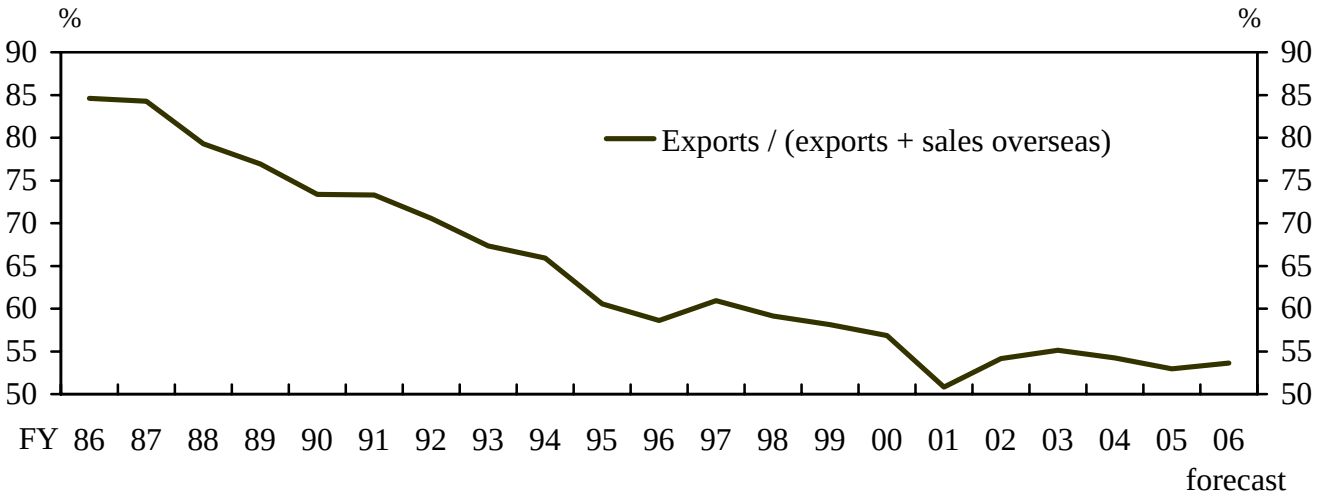


(2) Ratio of overseas production and that of exports to sales in the manufacturing sector



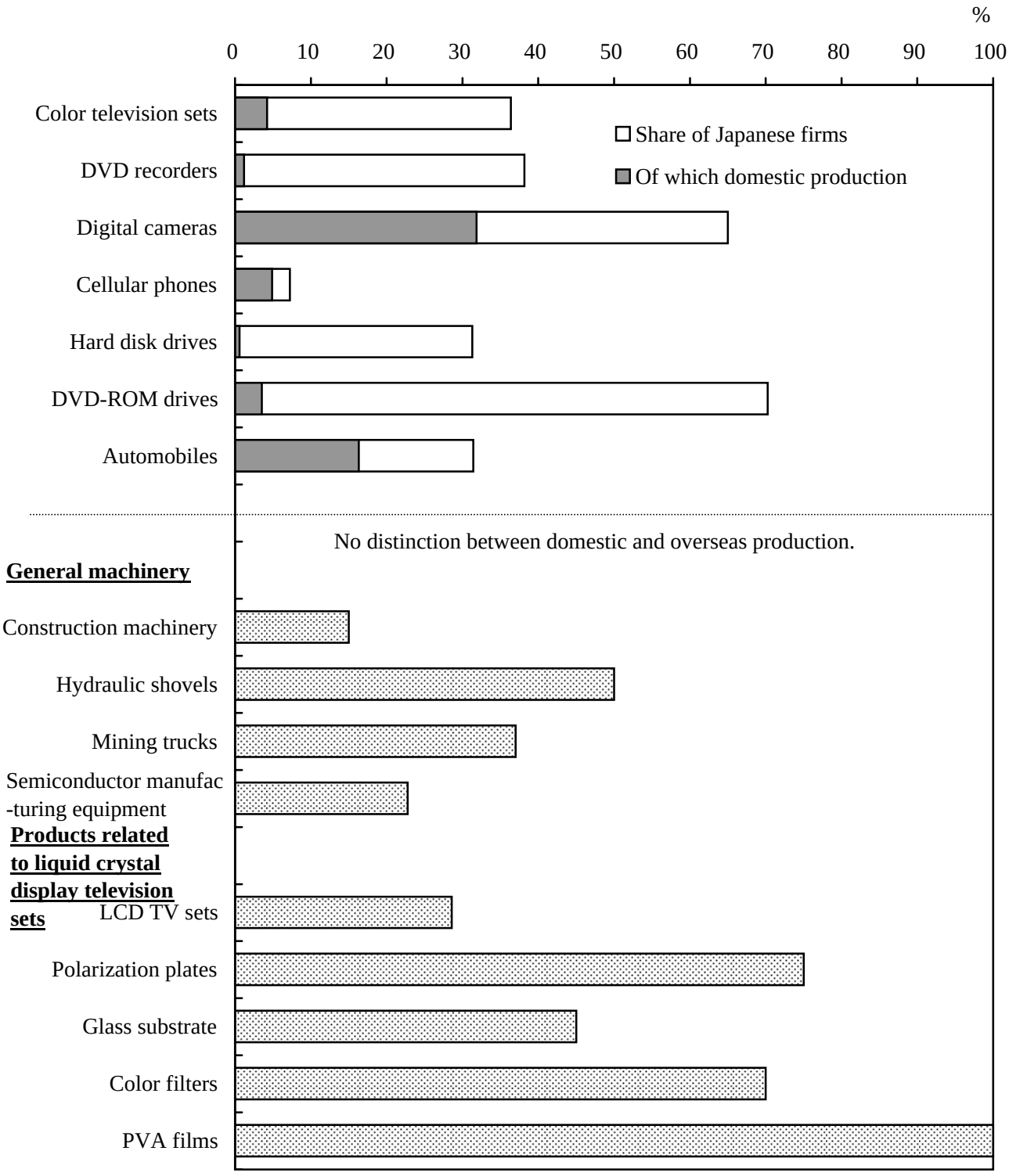
Note: Ratio of overseas production for FY is a forecast.

(3) Exports catering to overseas demand



Sources: Bank of Japan, "*Tankan* , Short-term Economic Survey of Enterprises in Japan";
Cabinet Office, "Annual Survey of Corporate Behavior."

Market Share of Japanese Firms

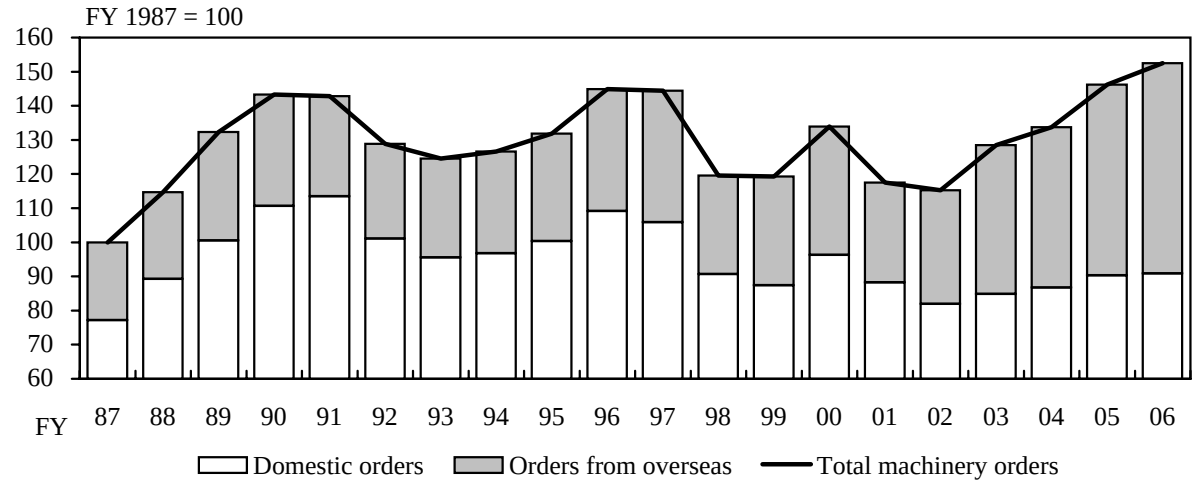


Notes: 1. Shares for general machinery and products related to liquid crystal display television sets (excluding LCD TV sets) are nominal-value-based, while others are quantity-based.
2. Data here are as of 2006, except for data of general machinery (excluding semiconductor manufacturing equipment) which are as of 2004 and of products related to liquid crystal display television sets (excluding LCD TV sets) as of 2005.

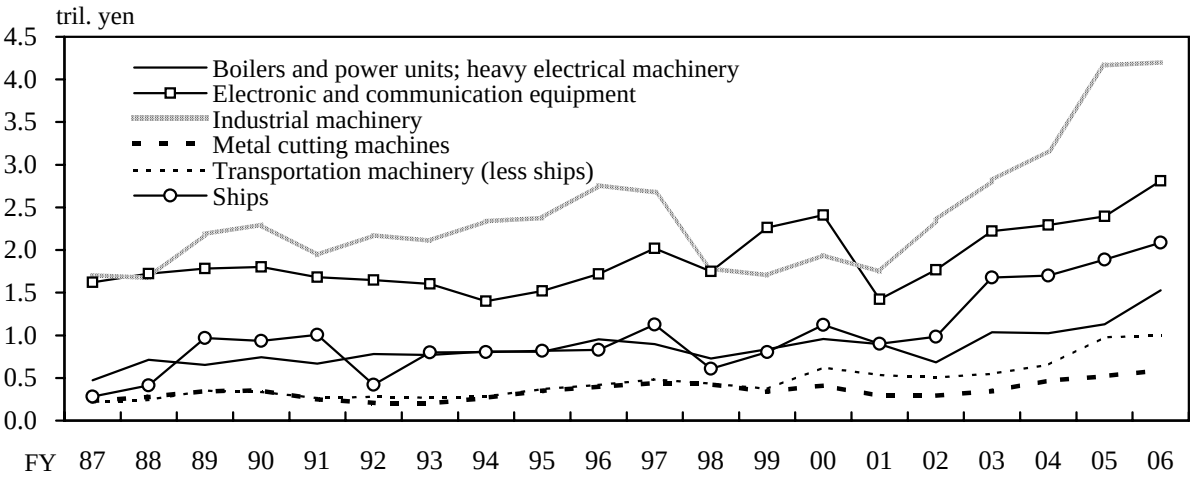
Sources: JEITA publication; The *Nihon Keizai Shimbun* ; Displaysearch press releases, etc.

Environment Surrounding Exports of Capital Goods

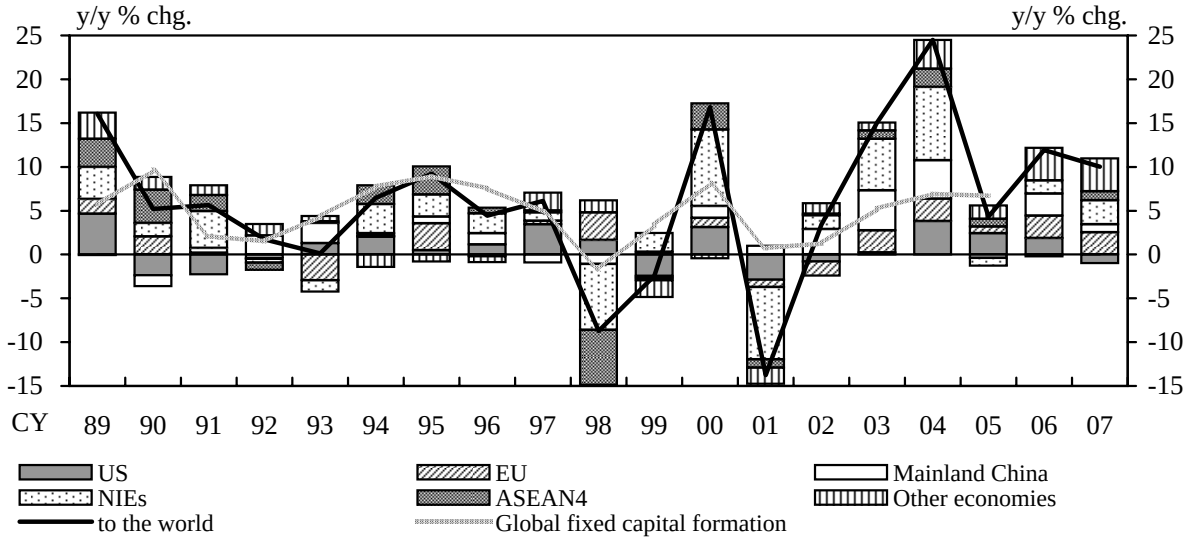
(1) Machinery orders from overseas



(2) Breakdown of machinery orders from overseas



(3) Exports of capital goods by region and global fixed capital formation

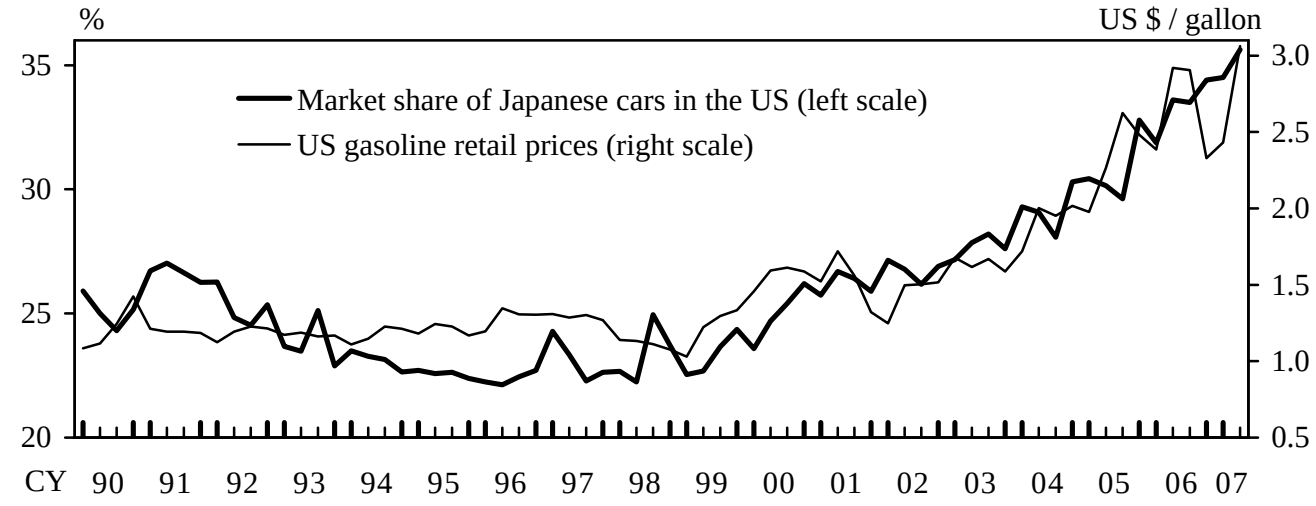


Notes: 1. In (3), 2007 figures are based on January-June data.
2. In (3), global fixed capital formation is calculated as the aggregate of fixed capital formation of major areas weighted by value of exports from Japan to those areas.

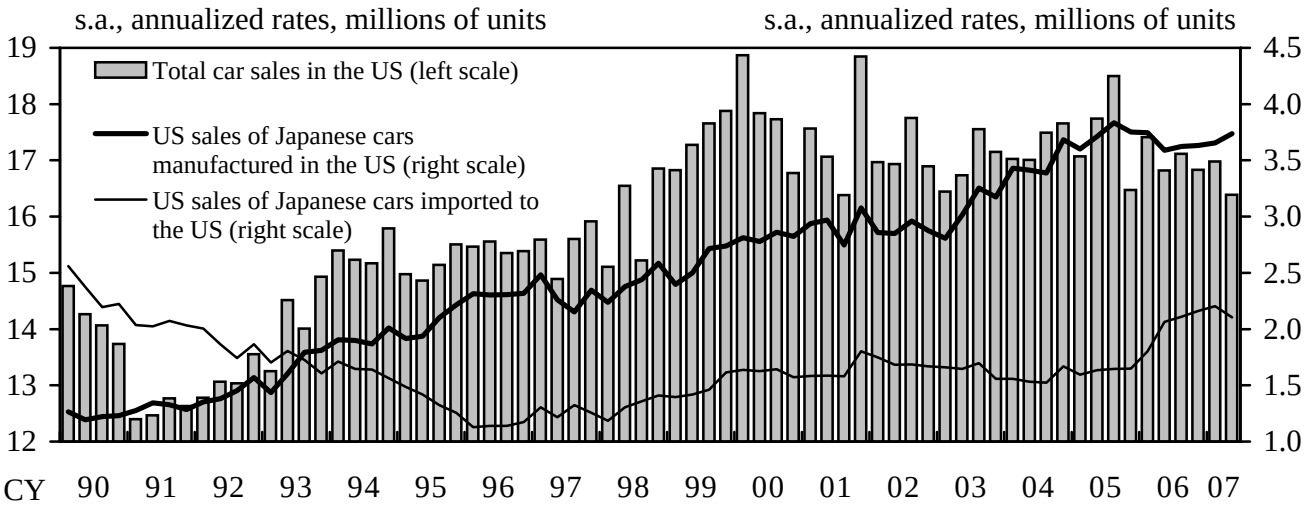
Sources: Cabinet Office, "Orders Received for Machinery"; Ministry of Finance, "The Summary Report on Trade of Japan"; Bank of Japan, "Corporate Goods Price Index," etc.

Environment Surrounding Exports of Automobiles and Their Related Goods

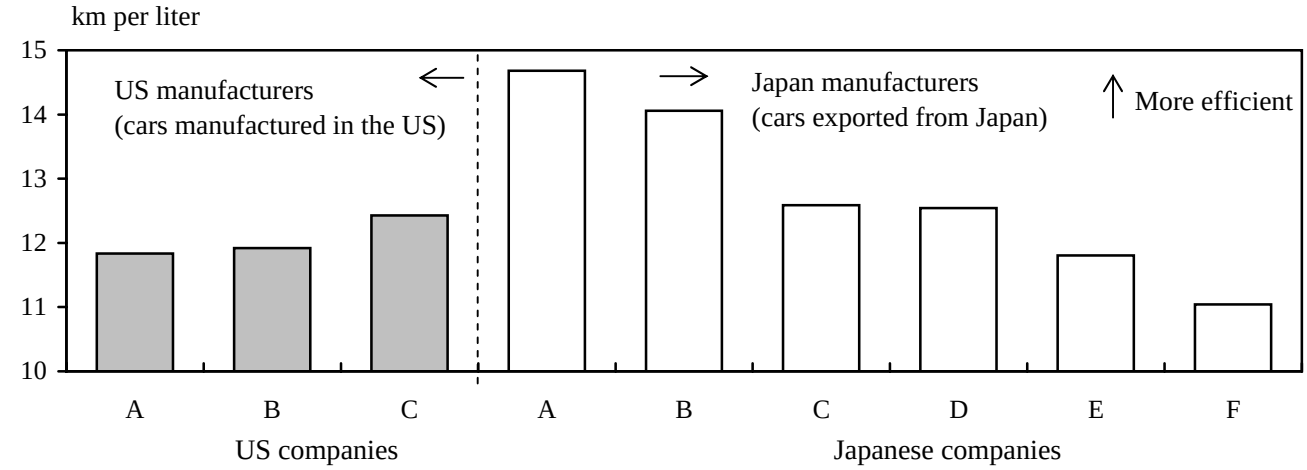
(1) Gasoline prices and market share of Japanese cars



(2) Sales of Japanese cars in the US



(3) Average fuel consumption of cars sold in the US

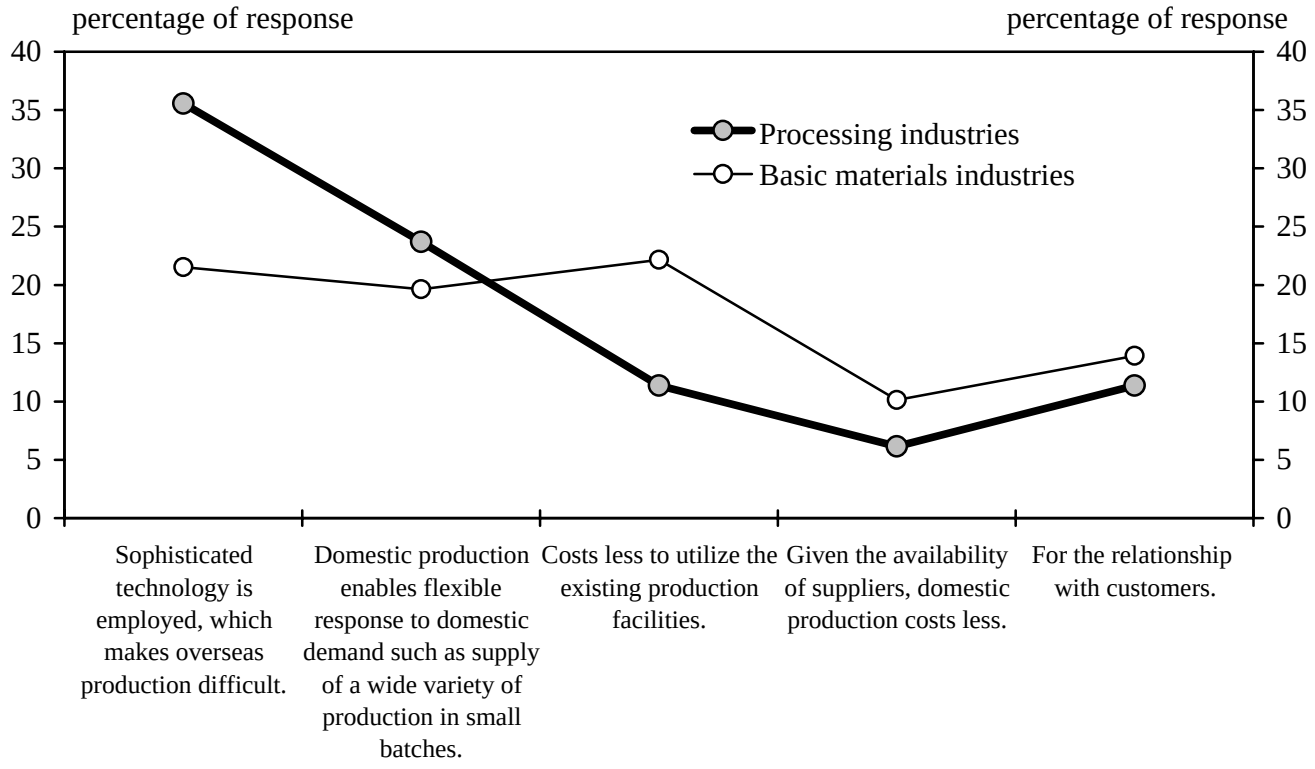


Note: Fuel consumption is calculated for each company as 2004-2006 averages.
Fuel consumption of different vehicle types are averaged using their sales volume as weights.

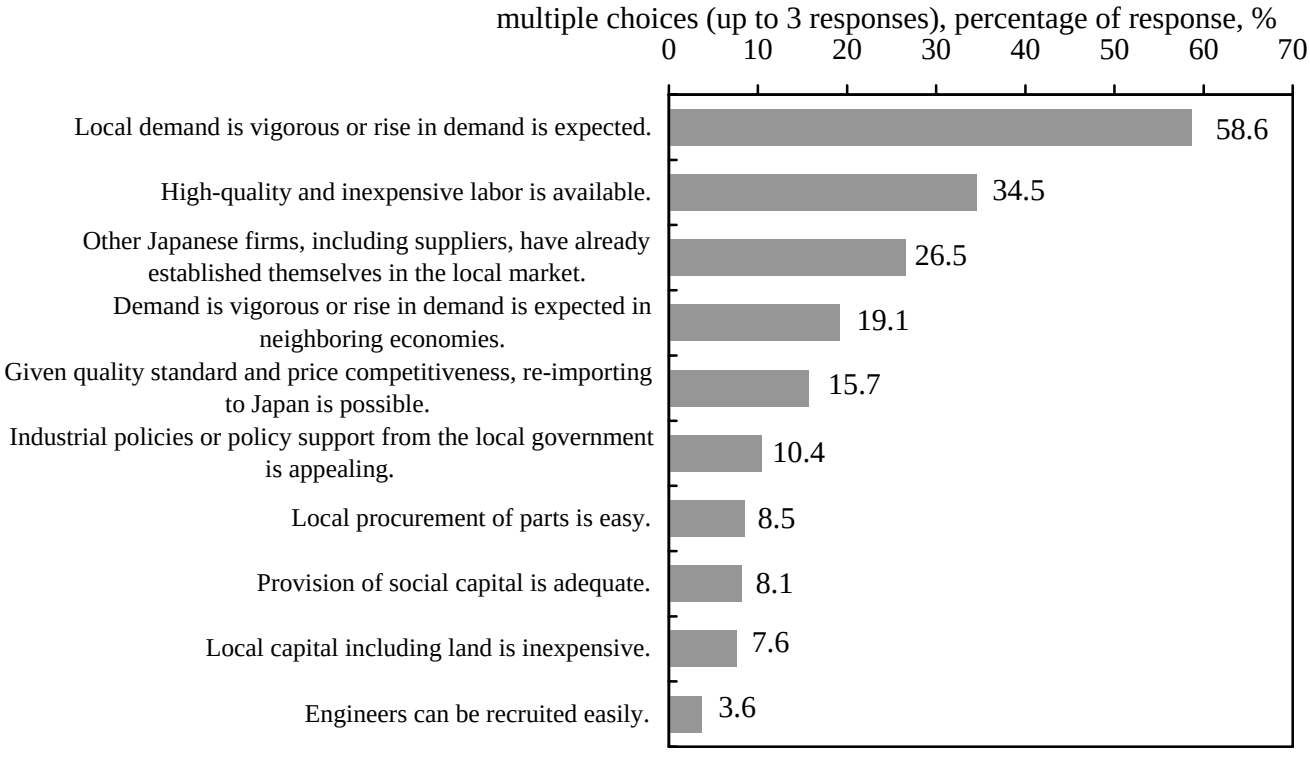
Sources: U.S.Department of Transportation, "Summary of Fuel Economy Performance";
U.S.Department of Labor, "Average Price Data"; Automotive News Inc., "Automotive News";
Japan Automobile Manufacturers Association, "Automobile & Motorcycle Statistics."

Factors Affecting the Choice Between Domestic and Overseas Production

(1) Reasons for domestic production



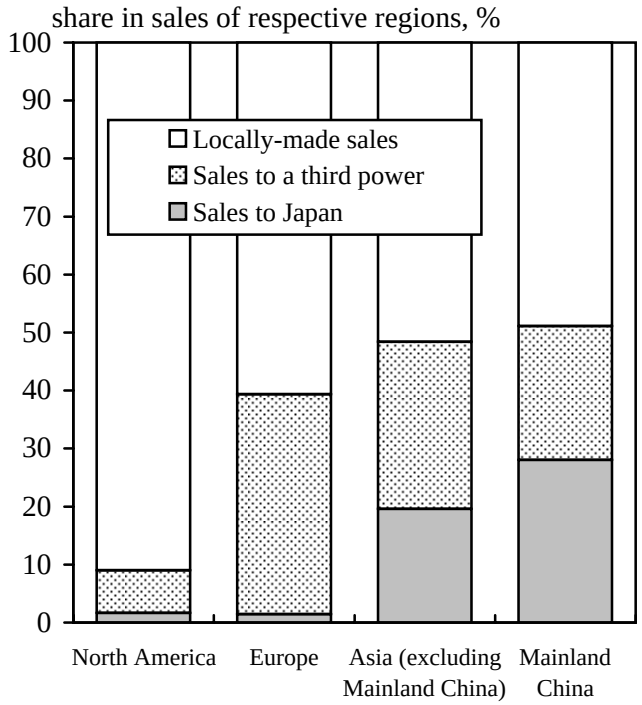
(2) Reasons for overseas production



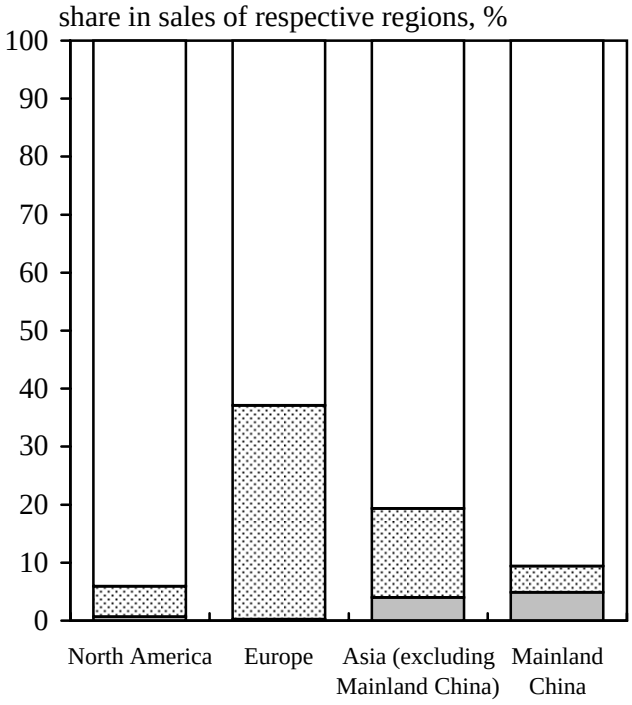
Sources: Cabinet Office, "Annual Survey of Corporate Behavior"; Ministry of Economy, Trade and Industry, "Basic Survey on Overseas Business Activities."

Sales of Overseas Subsidiaries of Japanese Firms

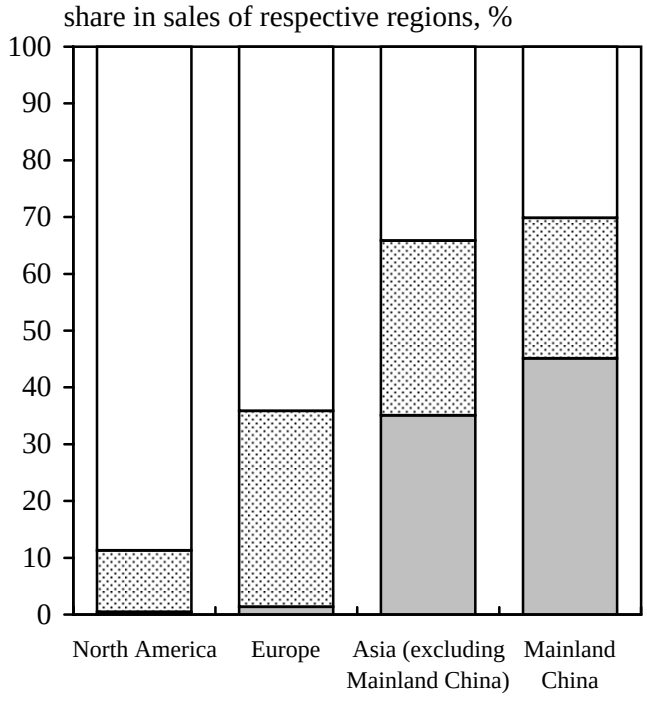
(1) Total of manufacturing industry



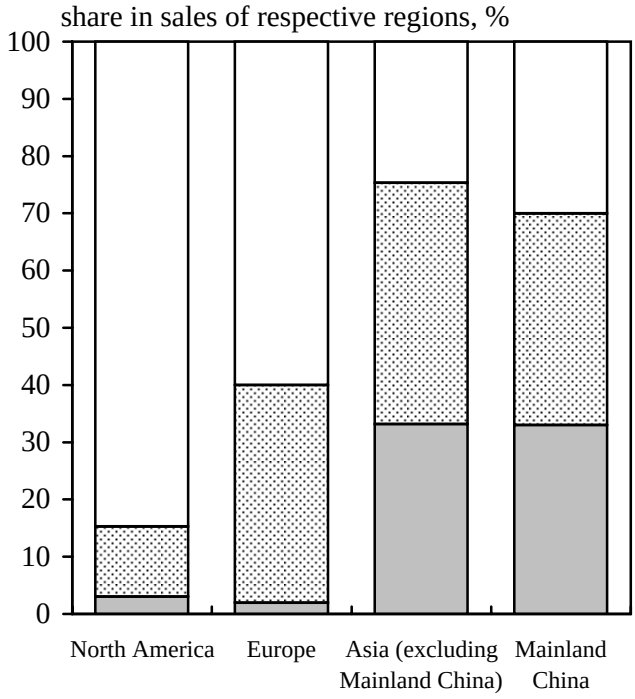
(2) Transportation equipment



(3) Industrial machinery



(4) Electrical machinery

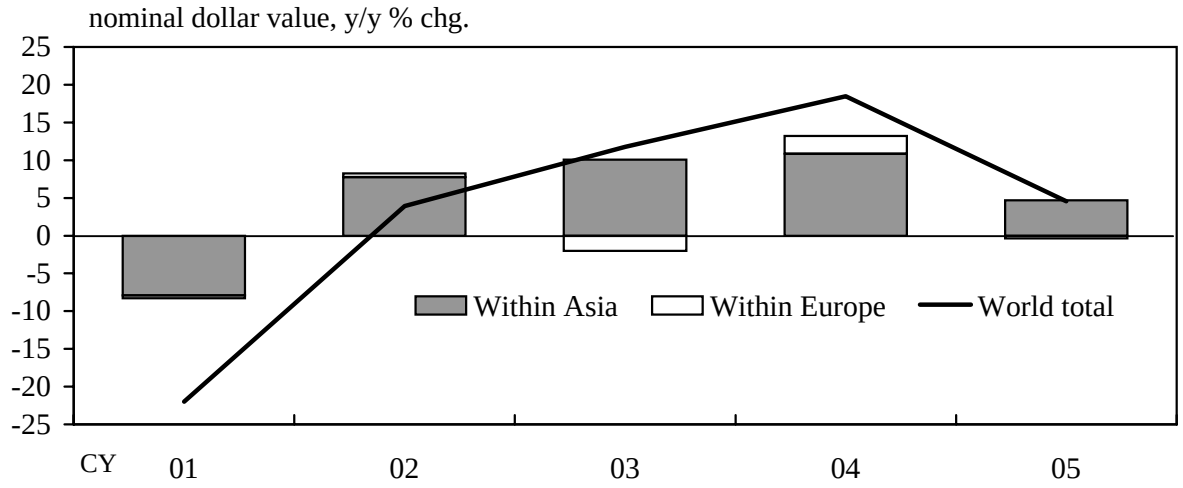


Note: For each industry and region, sales compositions by region are shown in percentages as of 2006.
For Europe and Asia (excluding Mainland China), "Sales to a third power" include exports to a third country within the same region.

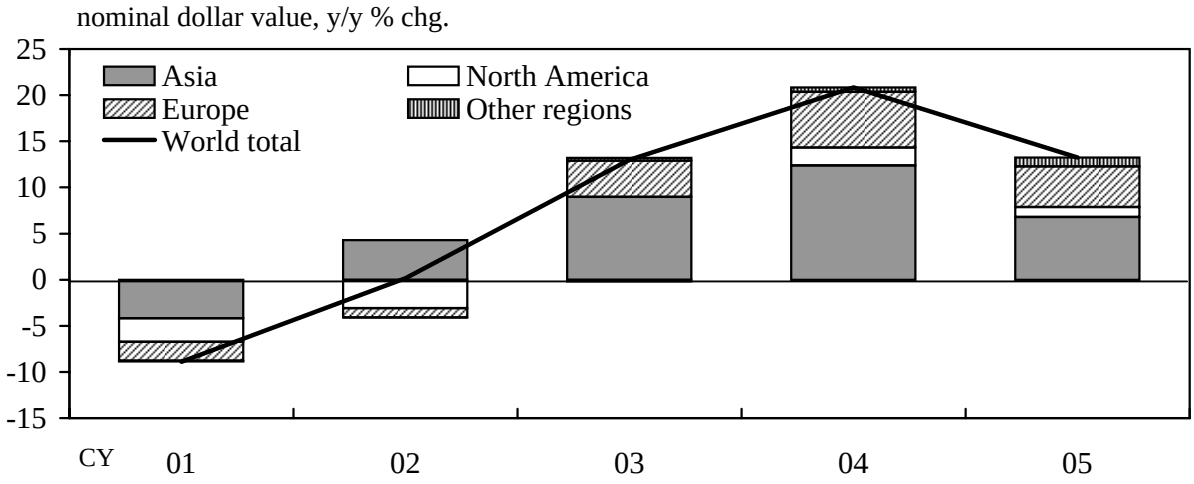
Source: Ministry of Economy, Trade and Industry, "Quarterly Survey of Overseas Subsidiaries."

Supply Structure of IT-related Goods Centered in East Asia

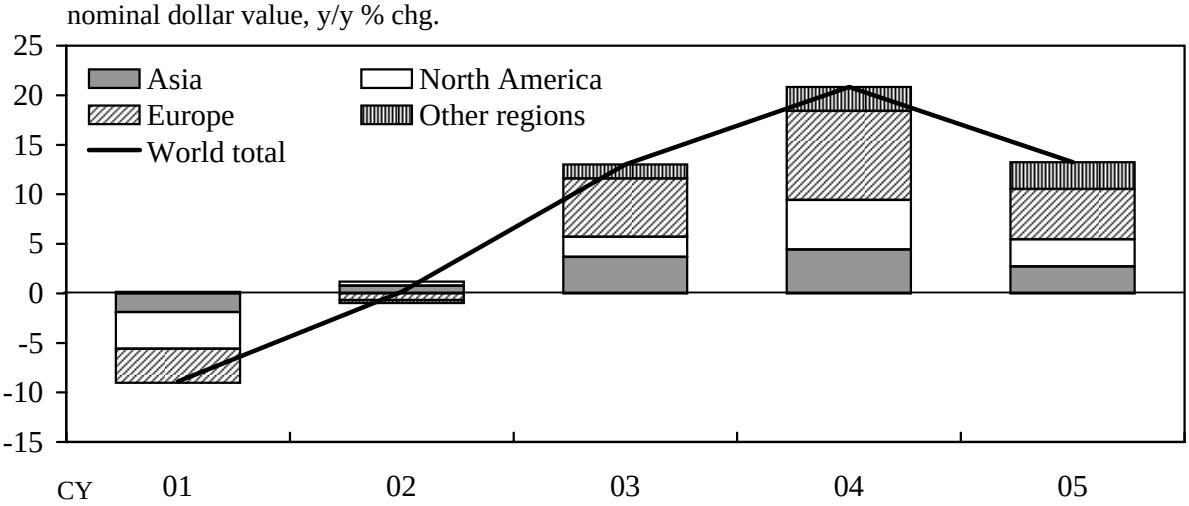
(1) Exports of integrated circuits and electronic components



(2) Exports of IT-related final products (personal computers and telecommunication equipment) classified by place of production



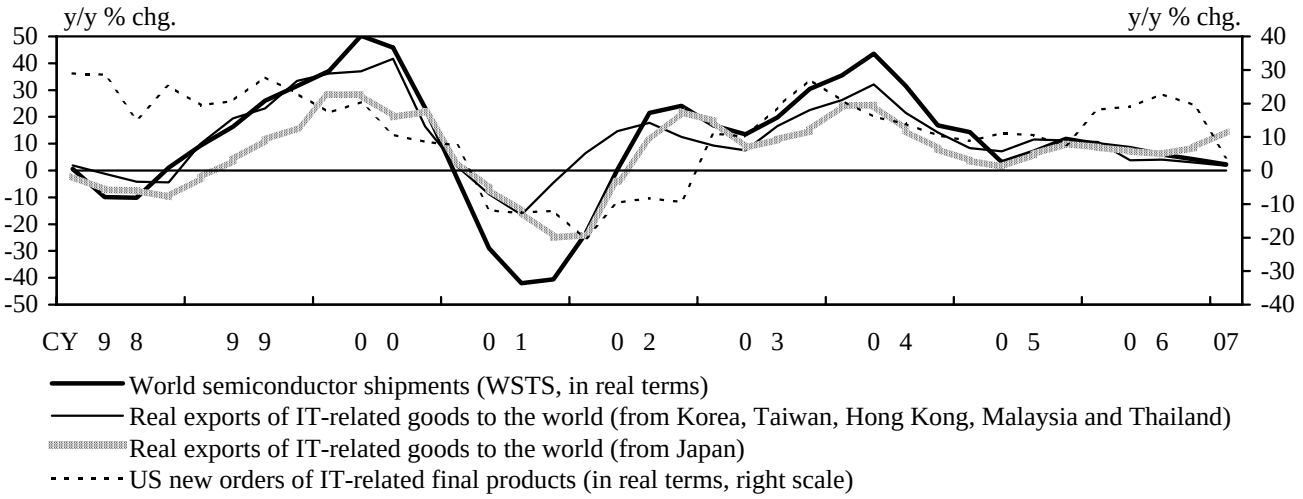
(3) Exports of IT-related final products (personal computers and telecommunication equipment) classified by destination



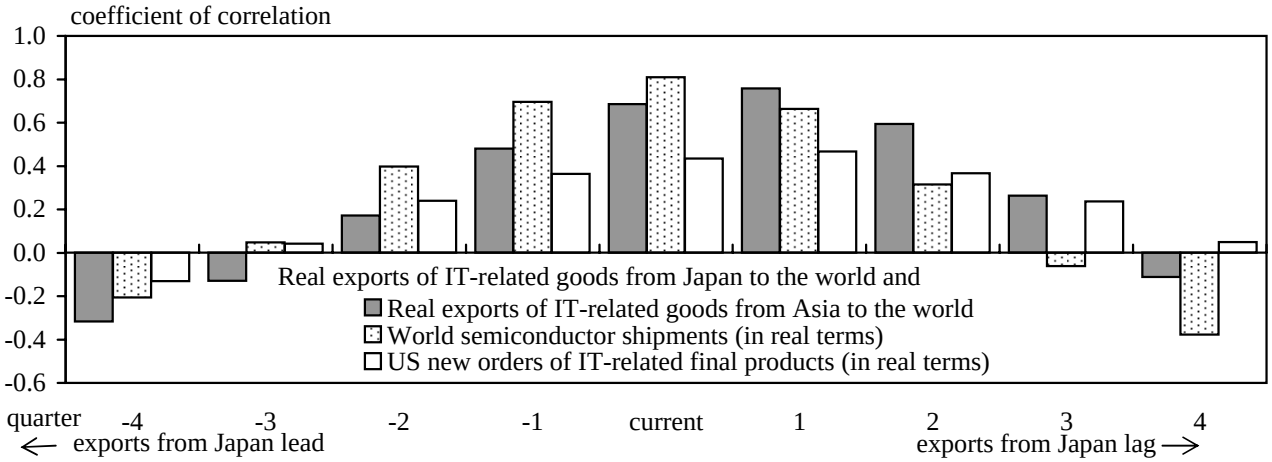
Note: Asia here includes Japan.
Source: World Trade Organization, "International Trade Statistics."

International Division of Labor in IT-related Goods

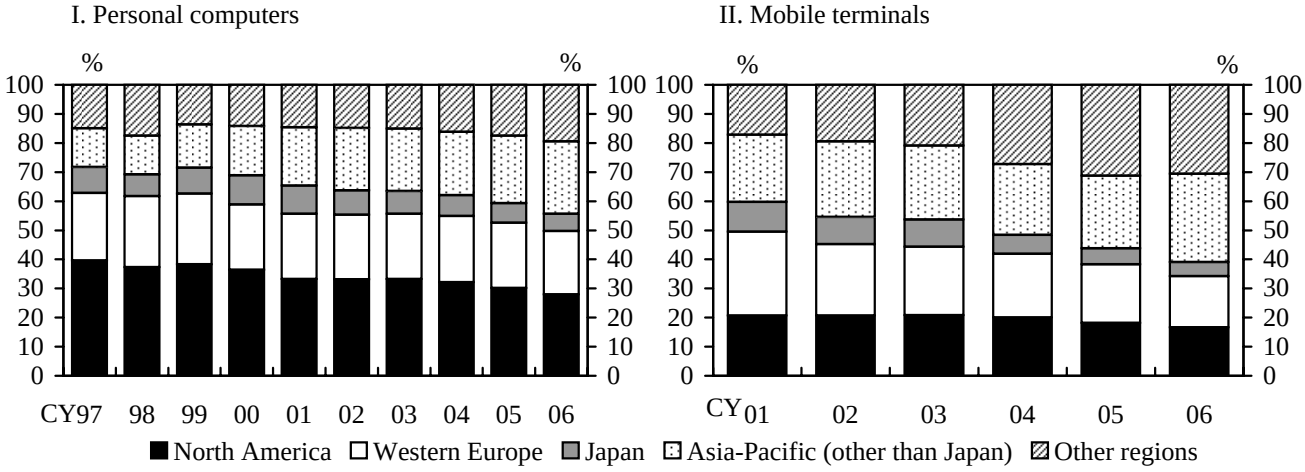
(1) Exports of IT-related goods from Japan and global demand in semiconductors



(2) Coefficient of correlation



(3) Shipments of personal computers and sales of mobile terminals to end users by region



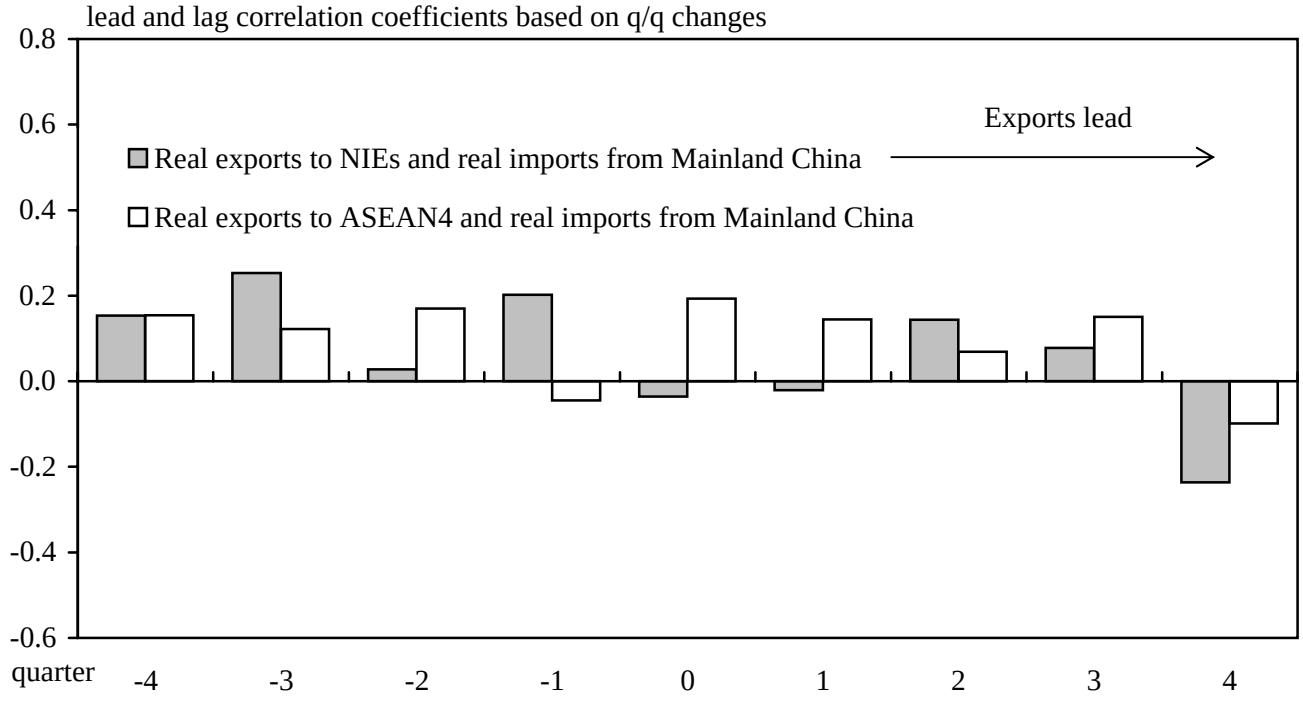
Notes: 1. World semiconductor shipments and exports of IT-related goods from Asia to the world have been deflated by "Electronic computers and accessories" of US PPI, while US new orders of IT-related final products have been deflated by "Electronic computers and computer equipment" of US PPI.

2. In (3)I, data are unit volumes of shipments (Gartner, May 2007).
In (3)II, data are sales of mobile terminals to end users (Gartner, July 2007).

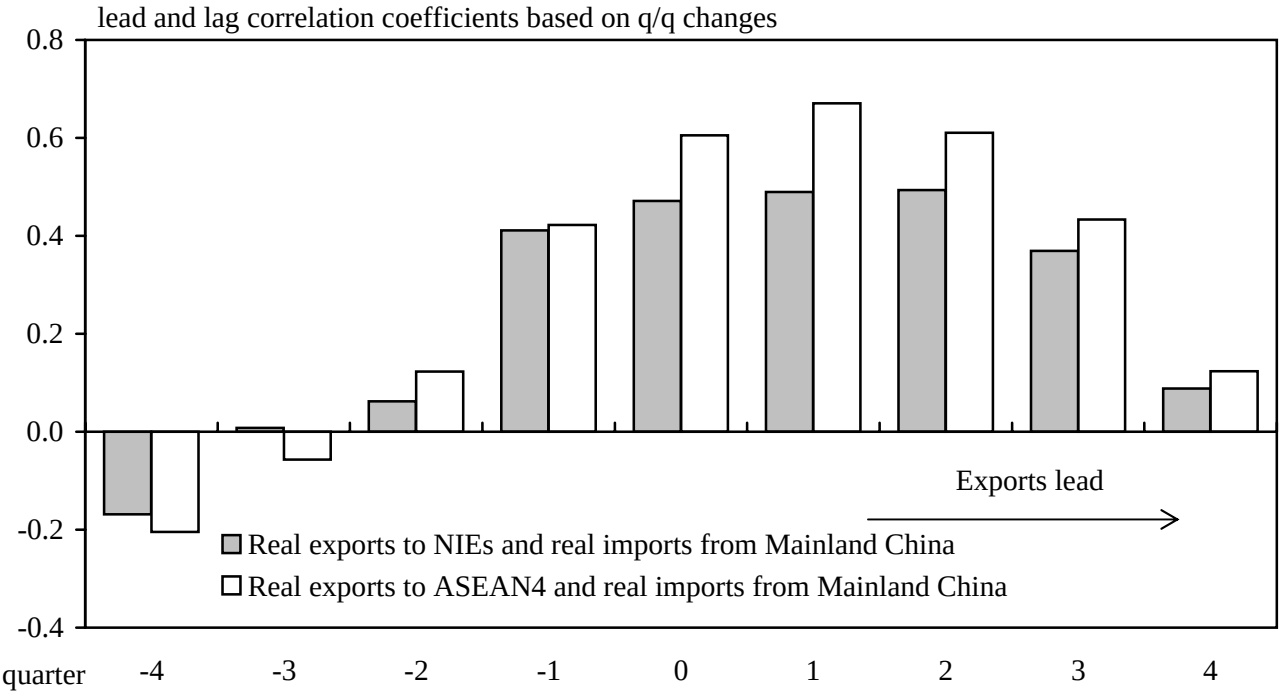
Sources: Ministry of Finance, "The Summary Report on Trade of Japan";
WSTS (World Semiconductor Trade Statistics), National trade data, Gartner (GJ07352).

Exports to NIEs / ASEAN and Re-imports From Mainland China

(1) From 1988 to 1997



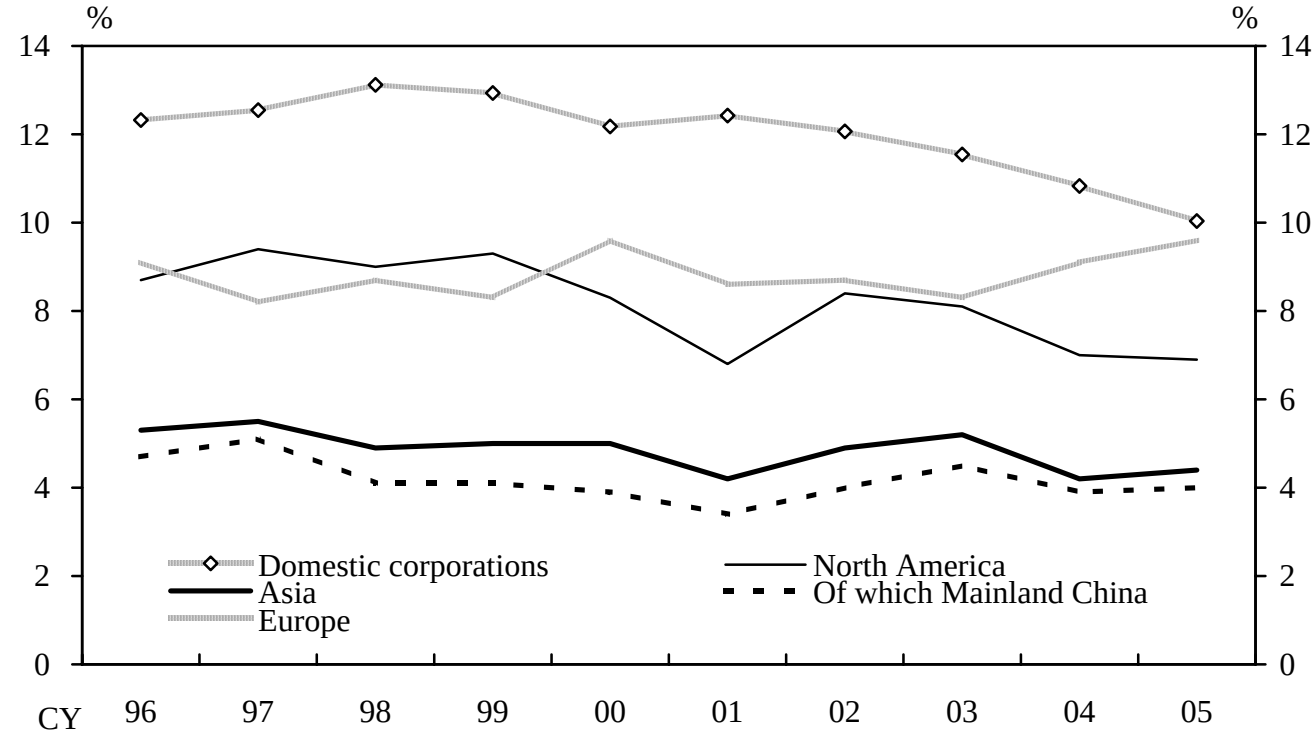
(2) From 1998 onward



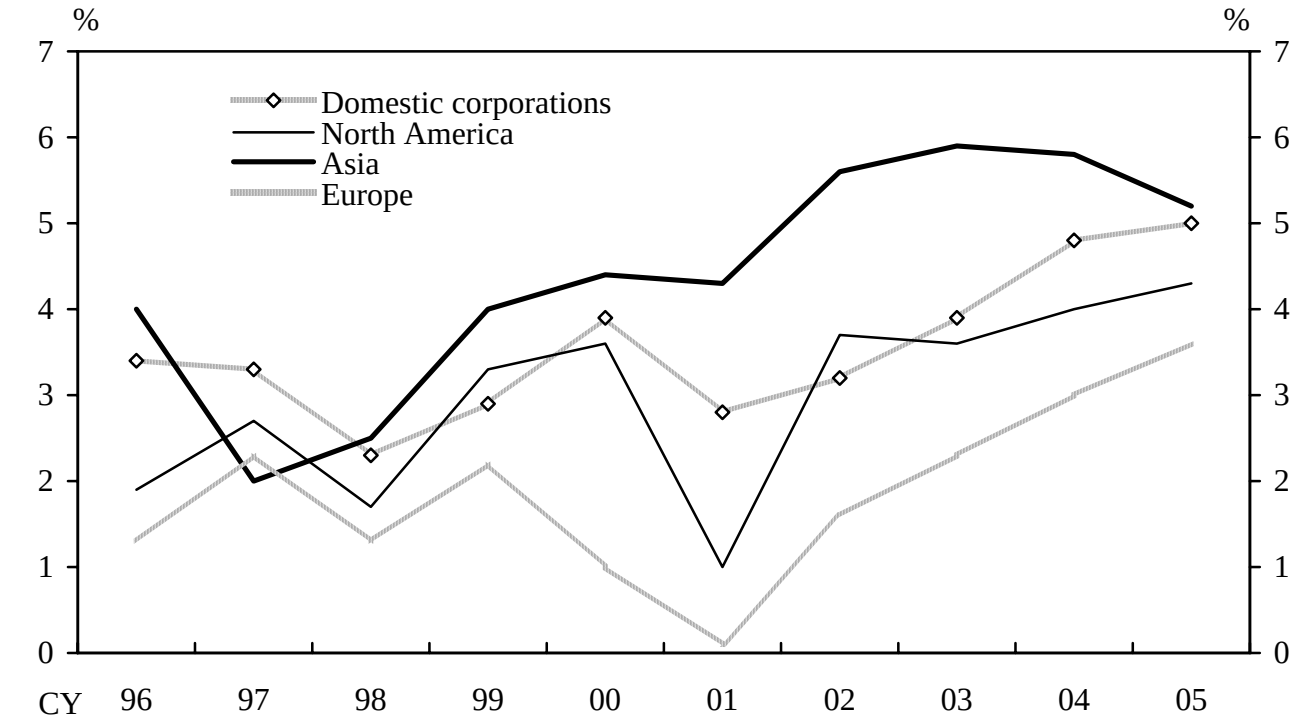
Sources: Ministry of Finance, "The Summary Report on Trade of Japan";
Bank of Japan, "Corporate Goods Price Index."

Profitability of Overseas Operations

(1) Ratio of salary expenses to sales (Japanese firms)

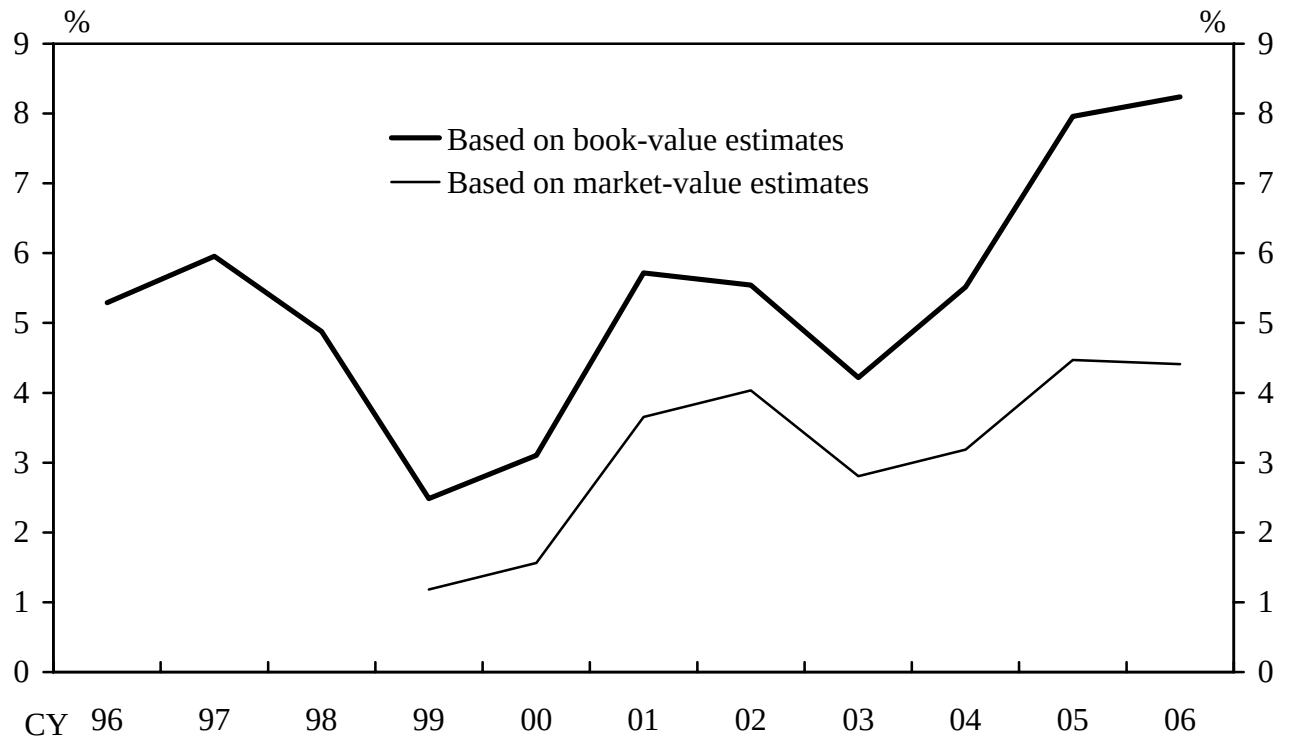


(2) Ratio of current profits to sales (Japanese firms)



Sources: Ministry of Economy, Trade and Industry, "Basic Survey of Overseas Business Activities,"
Ministry of Finance, "Financial Statements Statistics of Corporations by Industry, Annually."

Rate of Return on Japan's Foreign Direct Investment

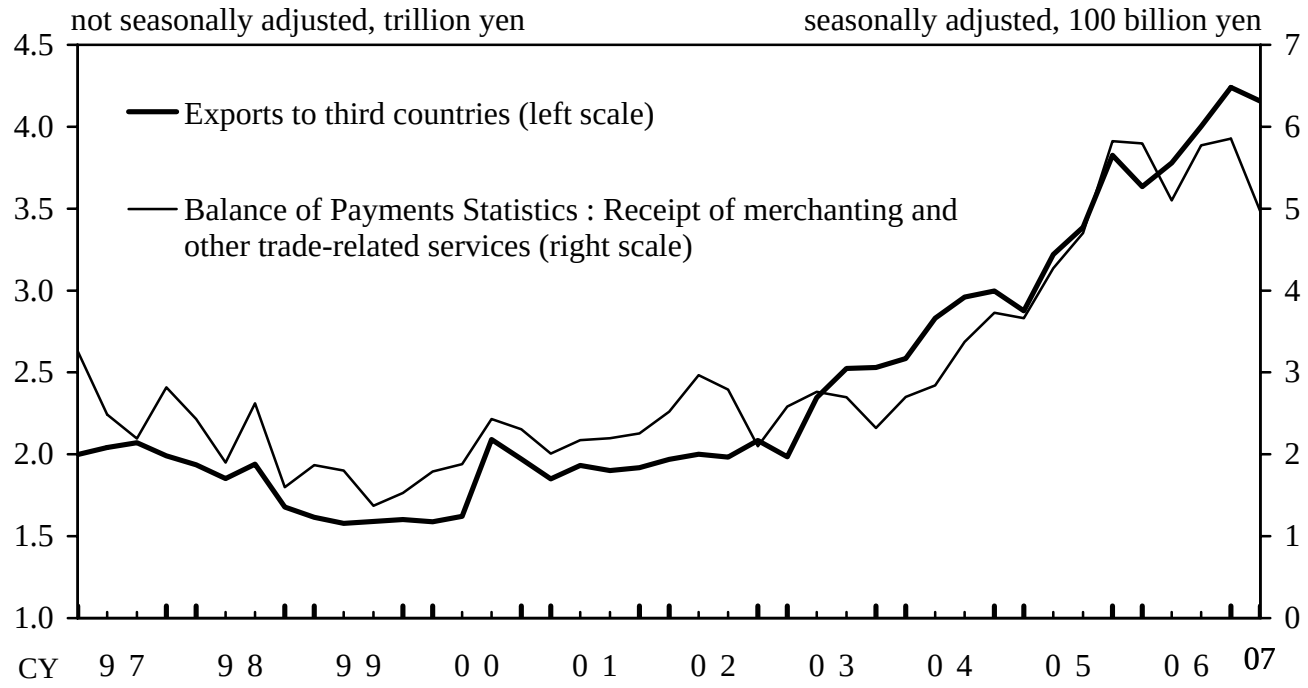


Notes: 1. Rate of return on foreign direct investment is calculated as follows:
Incomes received from foreign direct investment / direct investment assets.
Direct investment assets are calculated as averages of year-end balances of the current year and the previous year, except for the initial year (year-end balance of the same year is used).
2. For the market-value estimates, refer to "Release of the Market-Value Estimate of the Direct Investment Position" available on the Bank of Japan website.

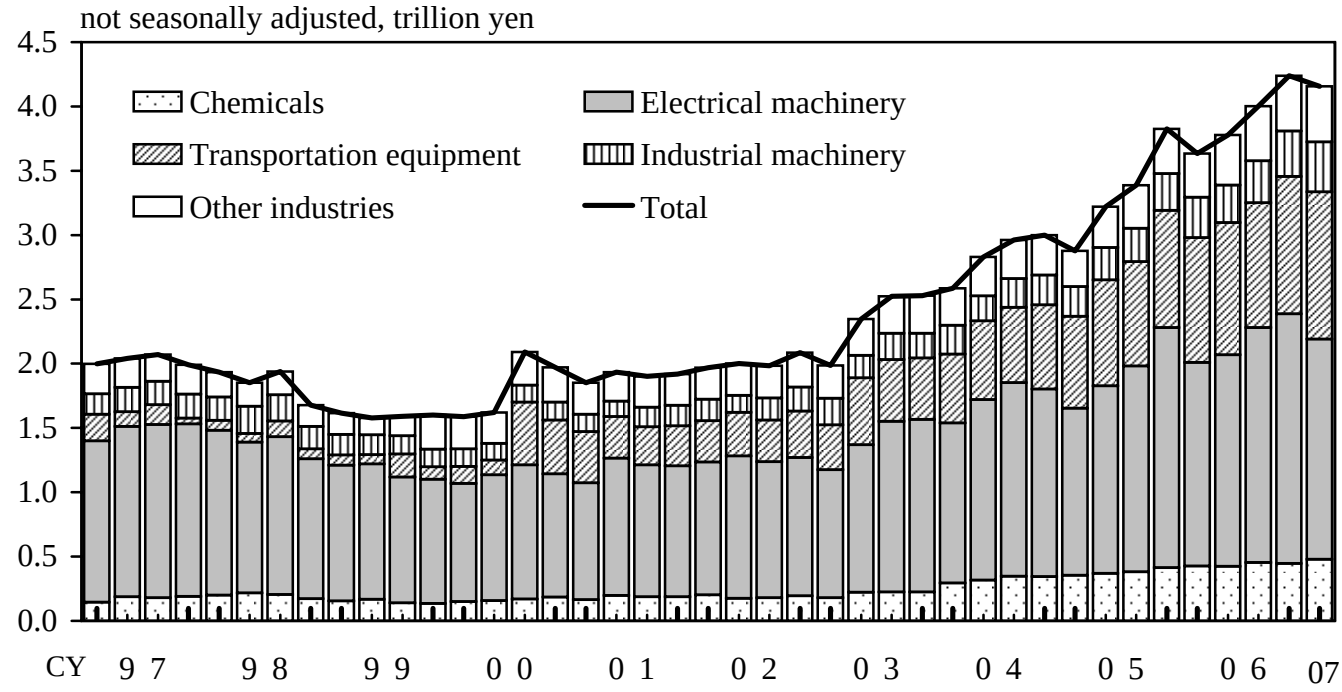
Source: Bank of Japan, "Balance of Payments."

Merchanting Trade of Japan

(1) Merchanting trade and exports of Japanese overseas subsidiaries to third countries



(2) Exports by industry of Japanese overseas subsidiaries to third countries

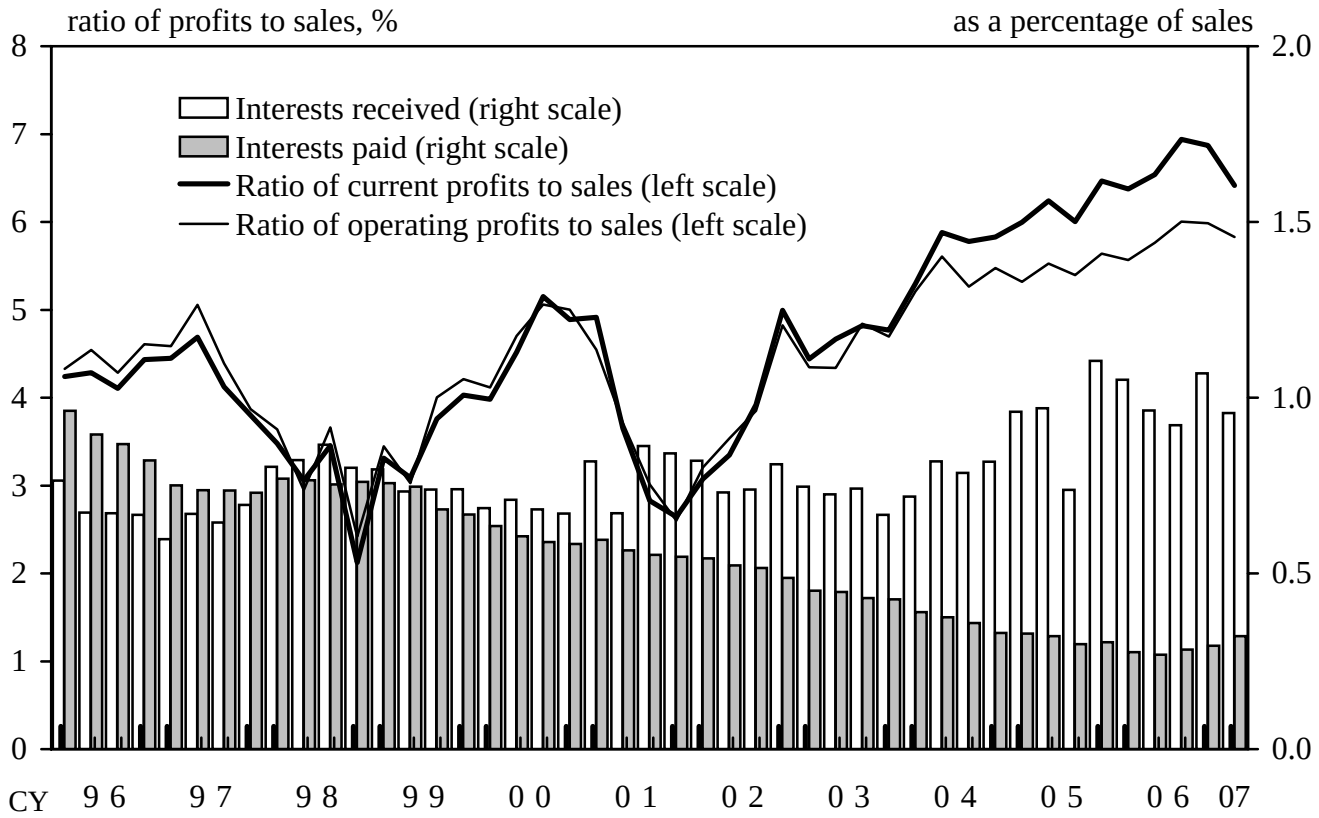


Note: Exports to third countries have been calculated by subtracting intraregional sales and exports to Japan from total sales.

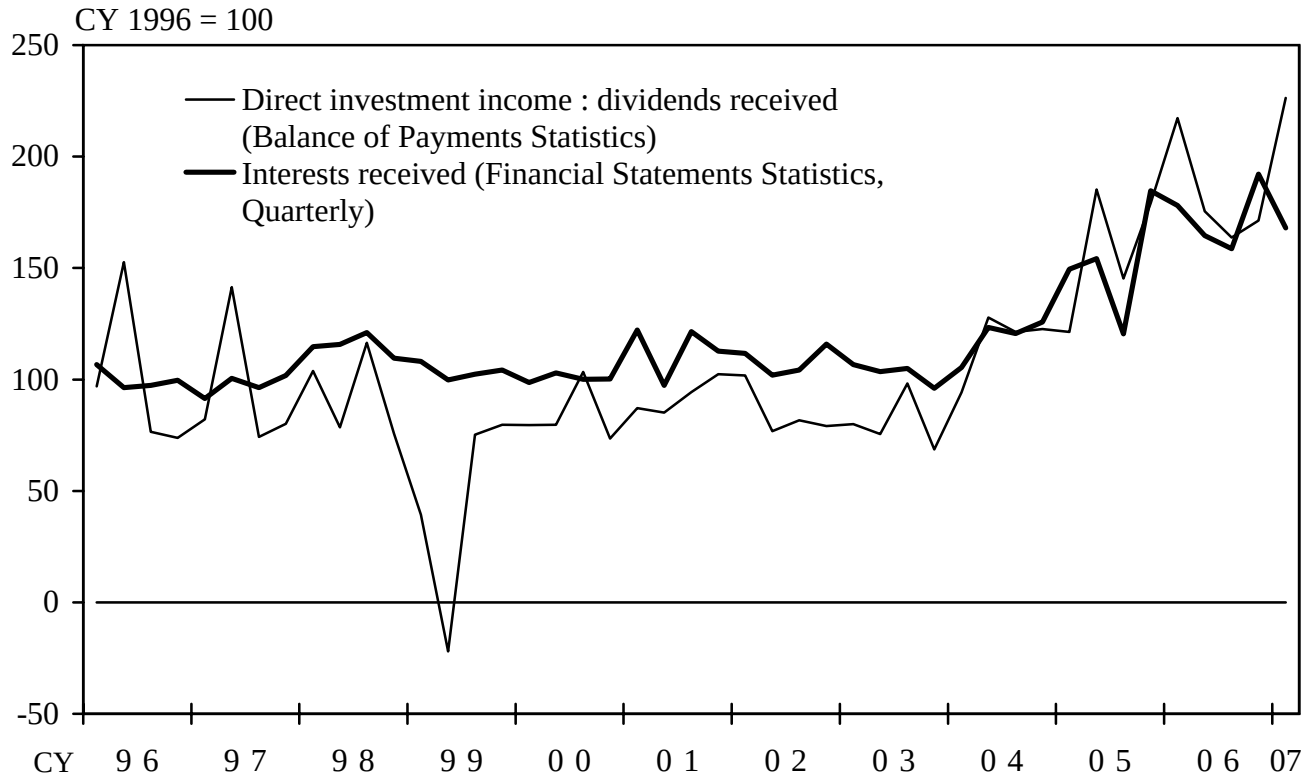
Sources: Bank of Japan, "Balance of Payments";
Ministry of Economy, Trade and Industry, "Quarterly Survey of Overseas Subsidiaries."

Profit Repatriation to Parent Corporations From Overseas Subsidiaries

(1) Interests received; impact on the ratio of current profits to sales (large manufacturing enterprises)



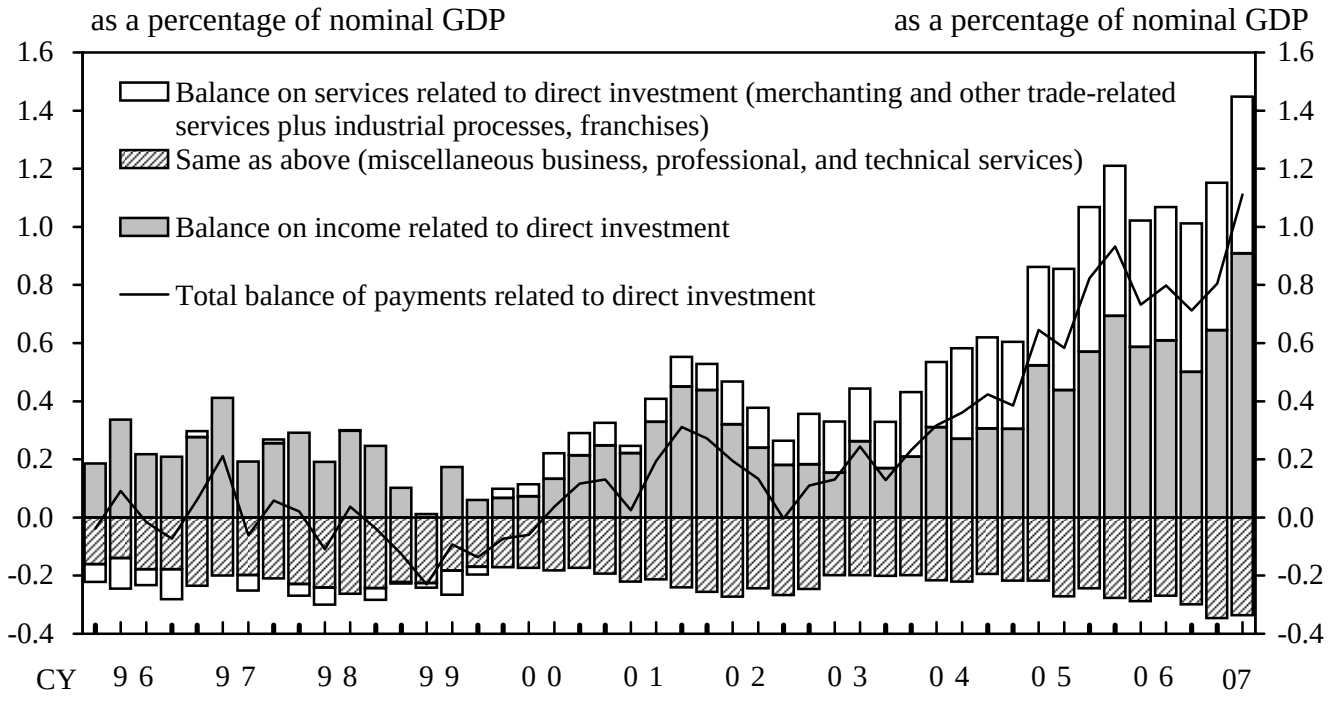
(2) Interests received in *Financial Statements Statistics, Quarterly* and dividends received in *Balance of Payments Statistics*



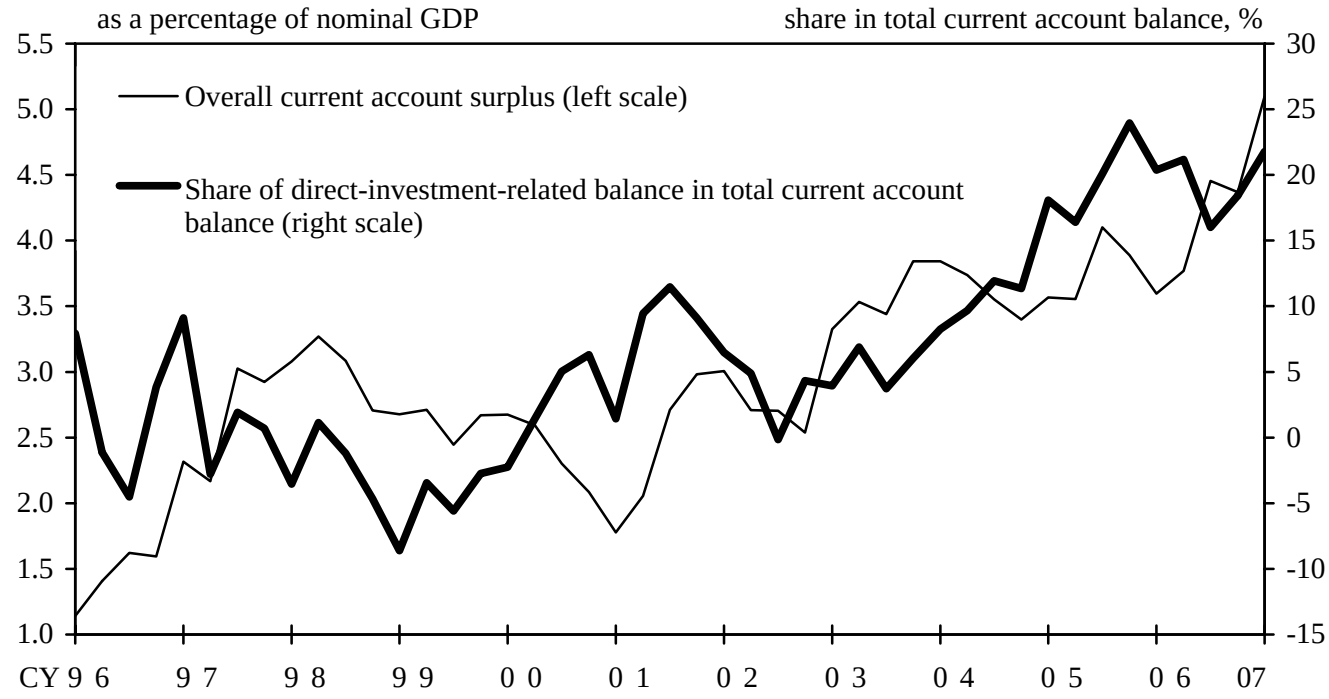
Sources: Ministry of Finance, "Financial Statements Statistics of Corporations by Industry, Quarterly";
Bank of Japan, "Balance of Payments."

Setting-up of Overseas Operations by Japanese Firms and Current Account Surplus

(1) Balance of payments related to direct investment



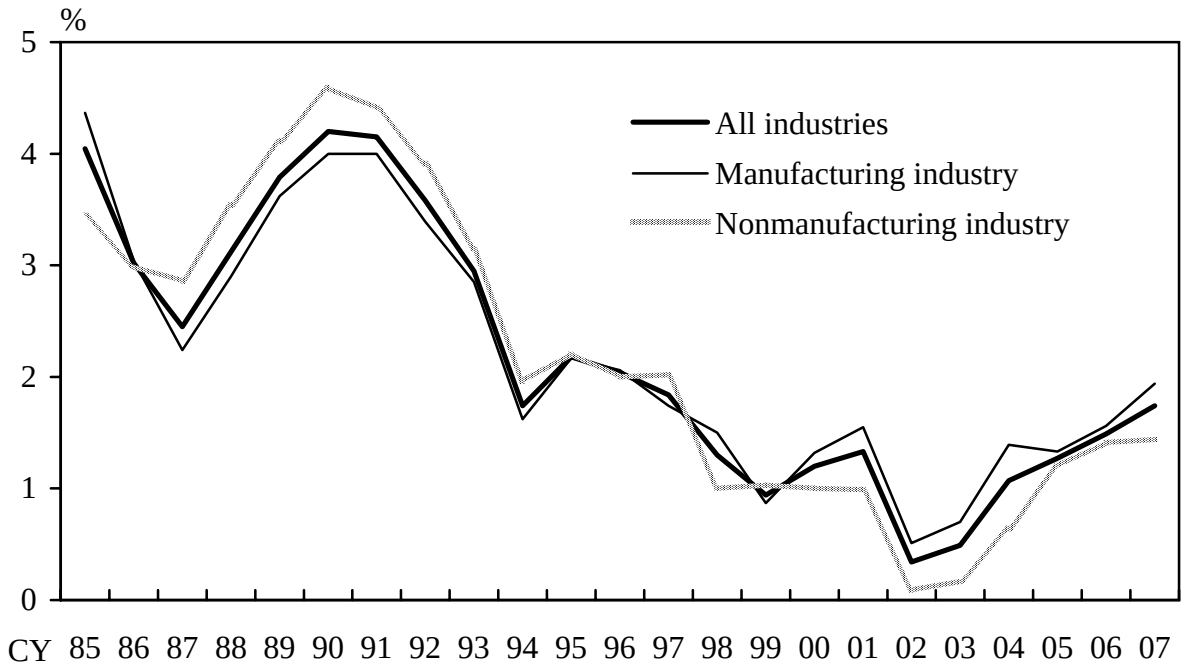
(2) Factors in direct-investment-related balance pushing up current account surplus



Note: Balance of payments related to direct investment has been calculated from individual items that are likely to fluctuate along with the setting-up of overseas operations by Japanese firms.
Sources: Bank of Japan, "Balance of Payments"; Cabinet Office, "National Accounts."

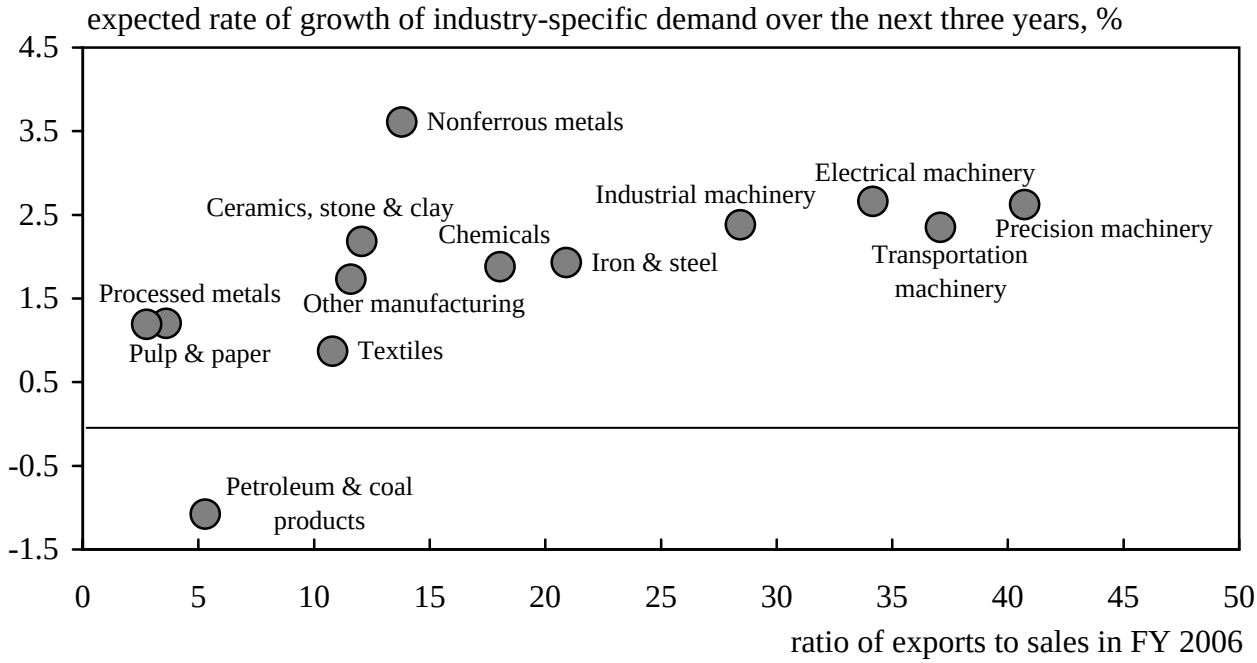
Growth Expectation of Firms

(1) Growth expectation of firms



Note: Growth expectation of firms refers to expected industry-specific demand over the next three years.

(2) Export ratio and firms' growth expectation

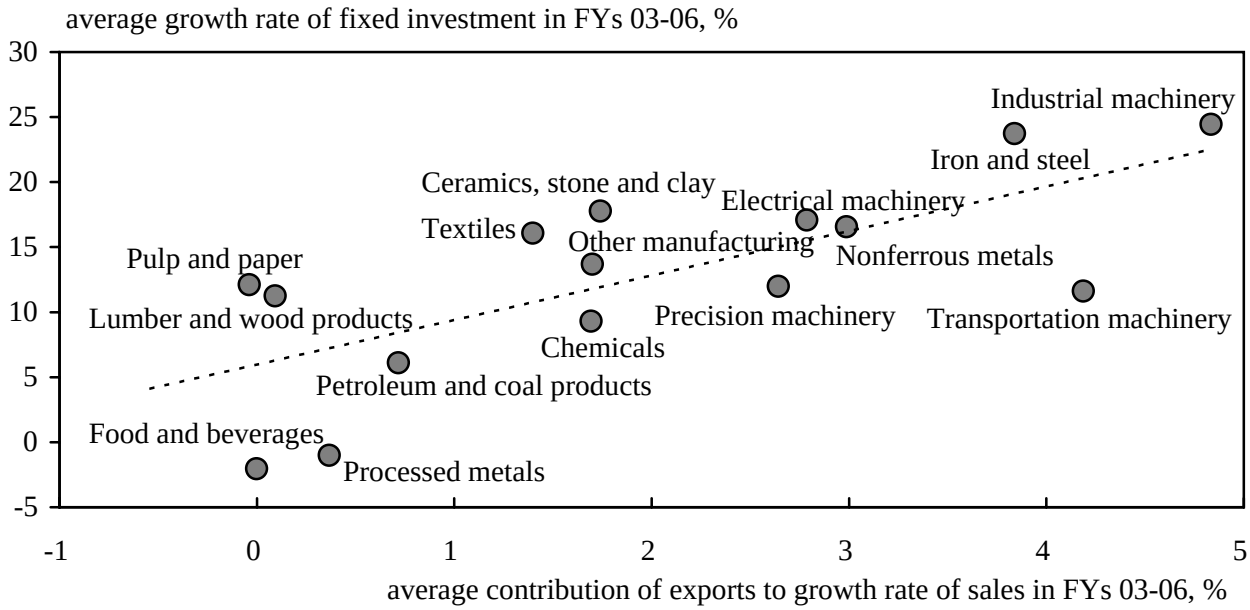


Note: Data for 13 industries are shown here for which data are available in both the *Annual Survey of Corporate Behavior* and *TANKAN*.

Sources: Cabinet Office, "Annual Survey of Corporate Behavior";
Bank of Japan, "*Tankan*, Short-term Economic Survey of Enterprises in Japan."

Relationship Between Exports and Business Fixed Investment

(1) Relationship between exports and fixed investment of large manufacturing enterprises



(2) Investment function estimate (by industry of large manufacturing firms)

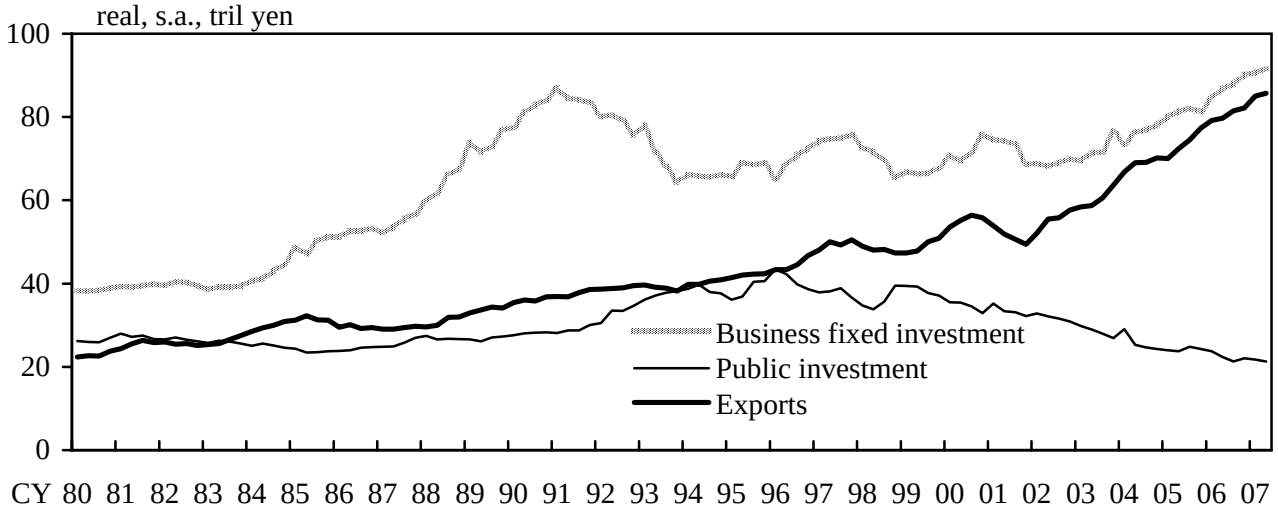
<Manufacturing investment by industry (SUR estimates)>
y/y % changes in real business fixed investment (i)
= a (i) + b × contribution of domestic sales to y/y % changes in real sales (i) + c × contribution of export sales to y/y % changes in real sales (i) + d × changes in real effective exchange rate

i : 12 different industries in the manufacturing sector are considered here.
sample period: FY 1993 to FY 2006

	Estimation result	
	without exchange rate	with exchange rate
domestic sales	0.38 ***	0.34 ***
exports	1.87 ***	1.96 ***
exchange rate		-0.96 ***

Notes:1. *** significant at 1 %
2. A rise in the real effective exchange rates indicates an appreciation of the yen.

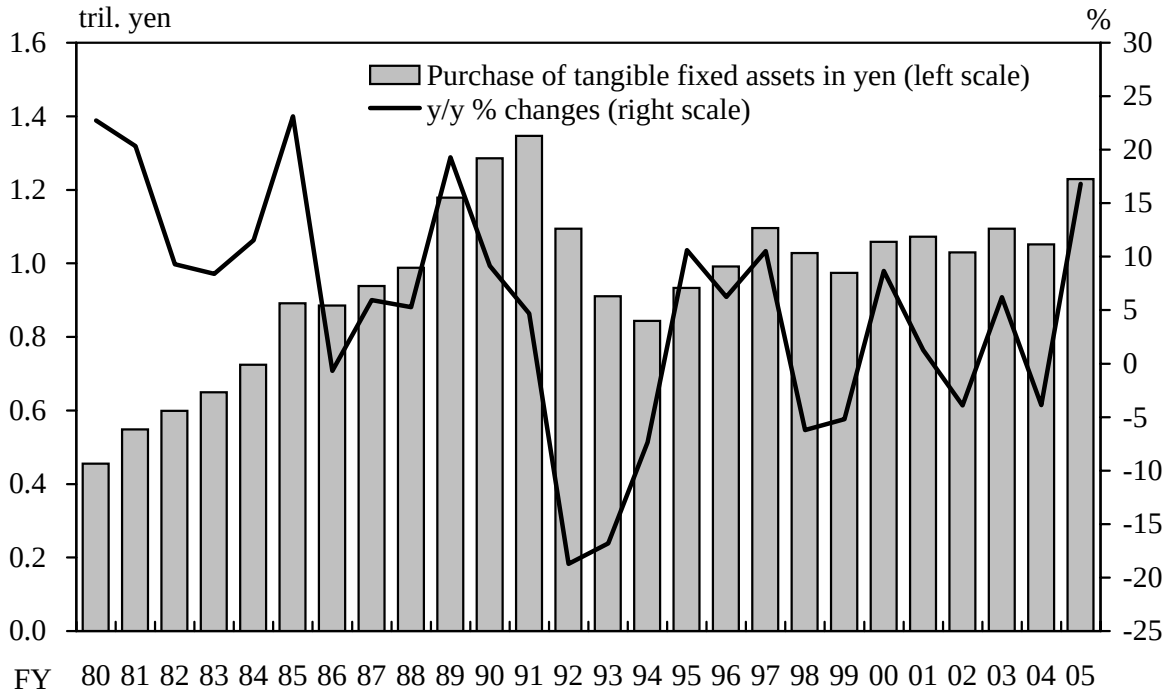
(3) GDP by component



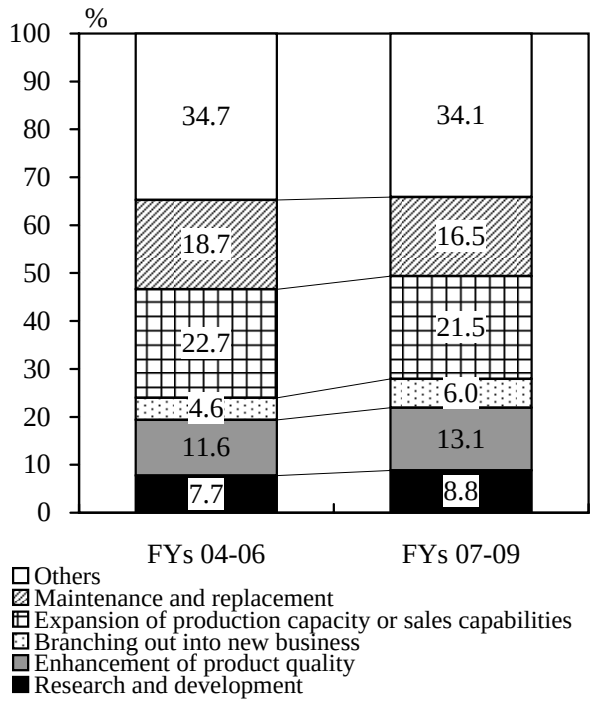
Sources: Bank of Japan, "*Tankan*, Short-term Economic Survey of Enterprises in Japan,"
"Input-output Price Index of the Manufacturing Industry by Sector";
Cabinet Office, "National Accounts."

Increases in Business Fixed Investment Used for Research and Development Purposes

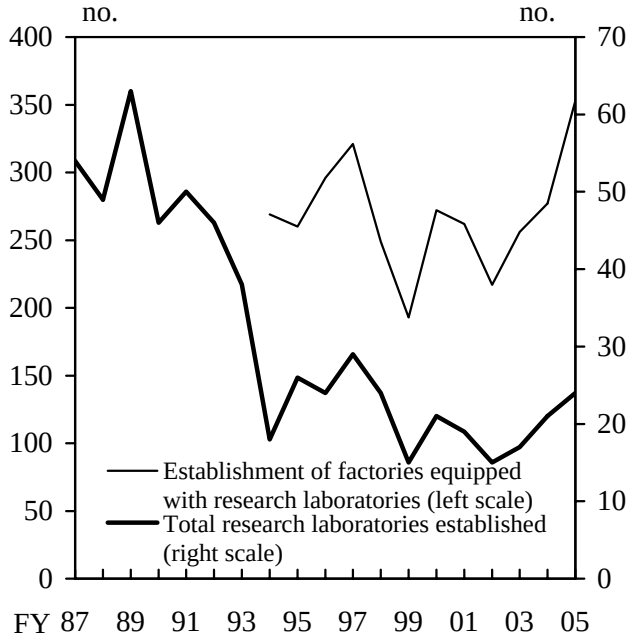
(1) Research and development expenditures for purchase of tangible fixed assets (in real terms)



(2) Fixed investment classified by purpose



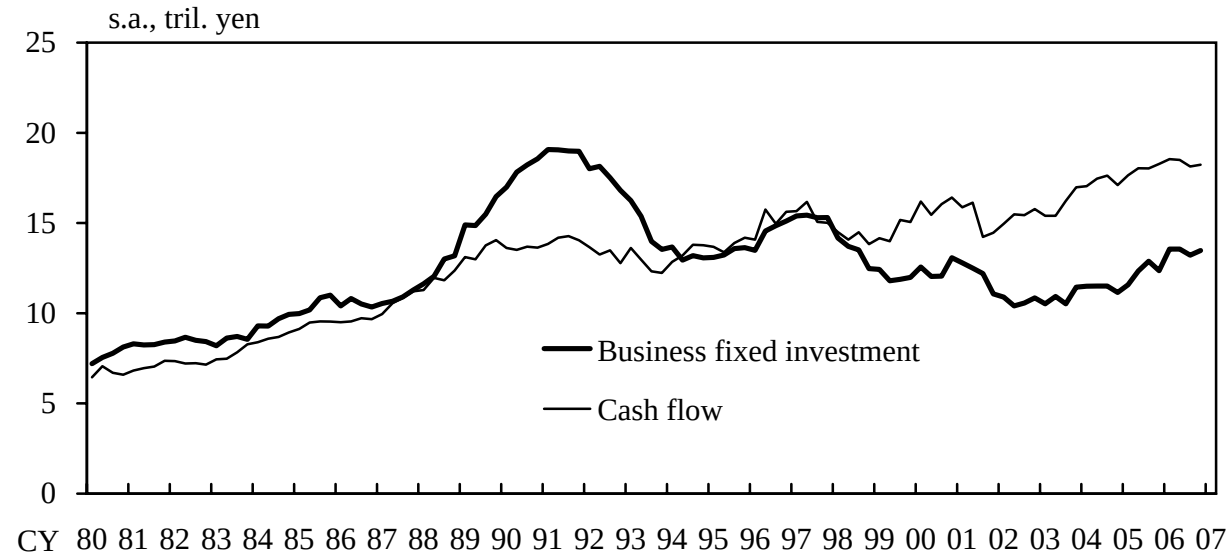
(3) Number of research laboratories established



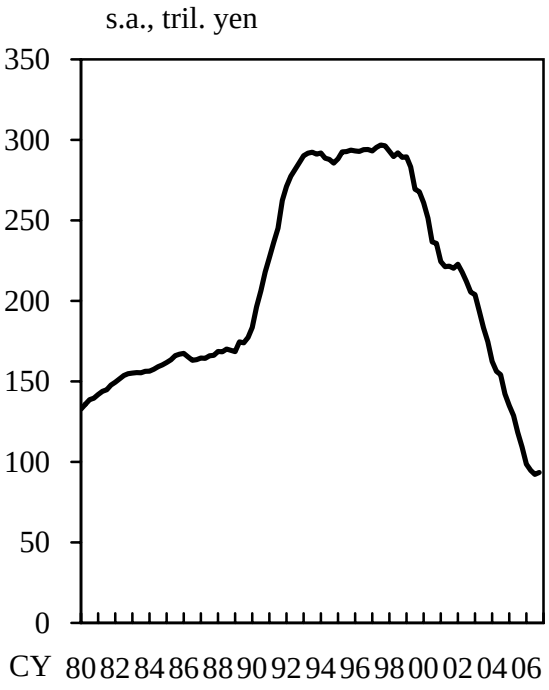
Sources: Ministry of Internal Affairs and Communications, "Survey of Research and Development";
Ministry of Economy, Trade and Industry, "Industrial Location Survey";
Cabinet Office, "Annual Survey of Corporate Behavior," etc.

Corporate Cash Flow and Net Debt Outstanding

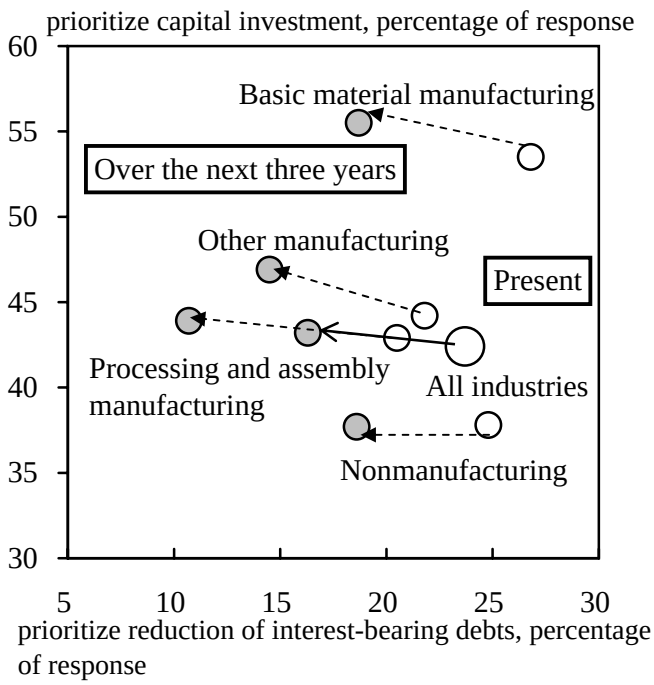
(1) Corporate cash flow and business fixed investment



(2) Net debt outstanding



(3) Stance on the use of profits

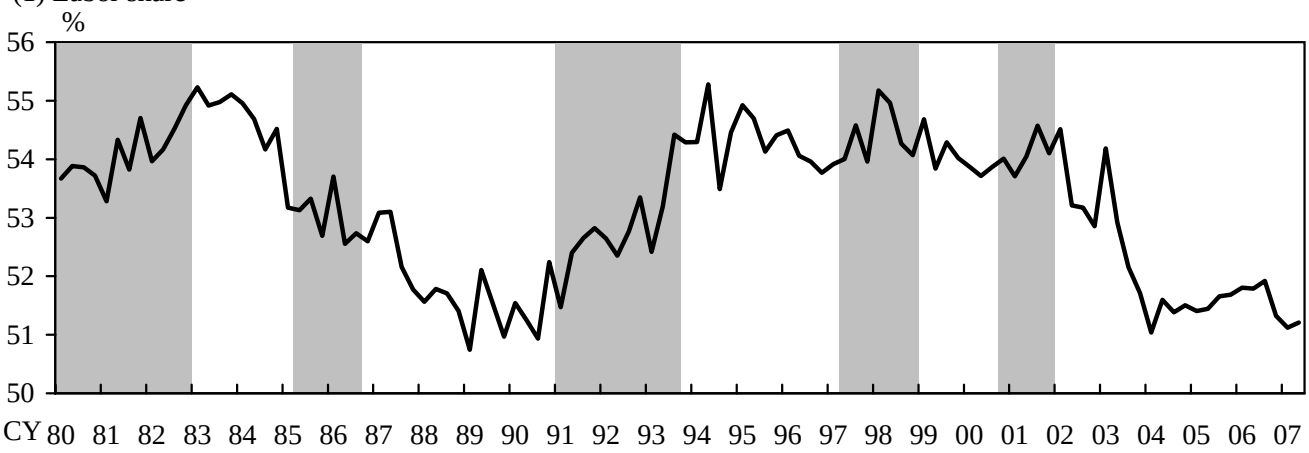


Notes: 1. In (1) and (2), figures have been adjusted for sample changes.
Data are for all enterprises of all industries.
2. Cash flow in (1) is calculated as current profits/2+depreciation expense
3. Net debt outstanding in (2) is calculated as financial liabilities (corporate bonds and long-term debt) less financial assets (cash and deposits accounts receivables and securities).
4. (3) refers to what firms prioritize when using their profits (as of January 2006).

Sources: Ministry of Finance, "Financial Statements Statistics of Corporations by Industry, Quarterly";
Cabinet Office, "Annual Survey of Corporate Behavior."

Restraining Pressure on Wages

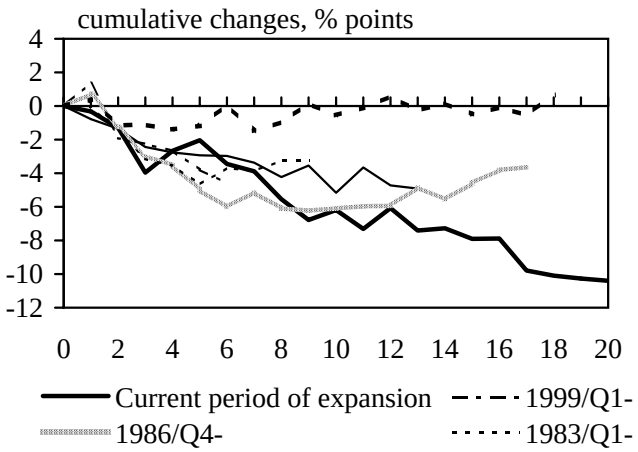
(1) Labor share



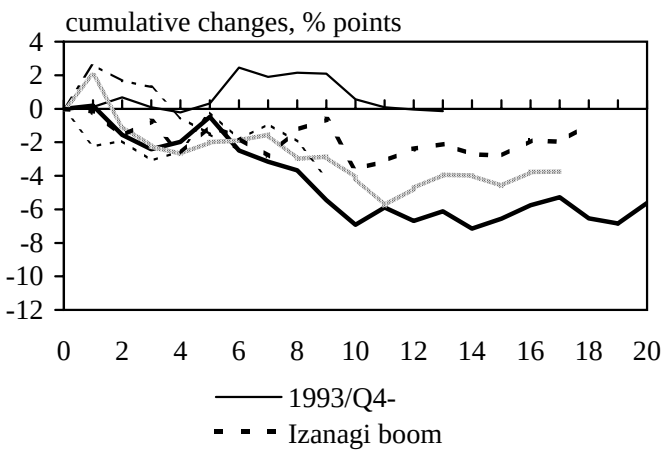
Notes: 1. Labor share = compensation of employees / nominal GDP
2. Shade areas indicate recessions.

(2) Labor share by industry and size of enterprises

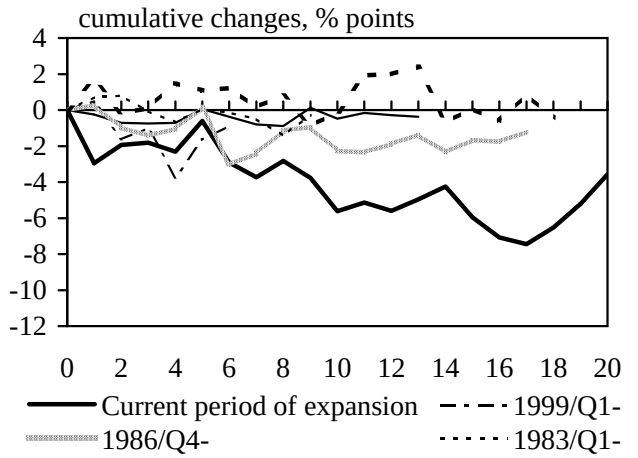
I. Manufacturing: Large enterprises



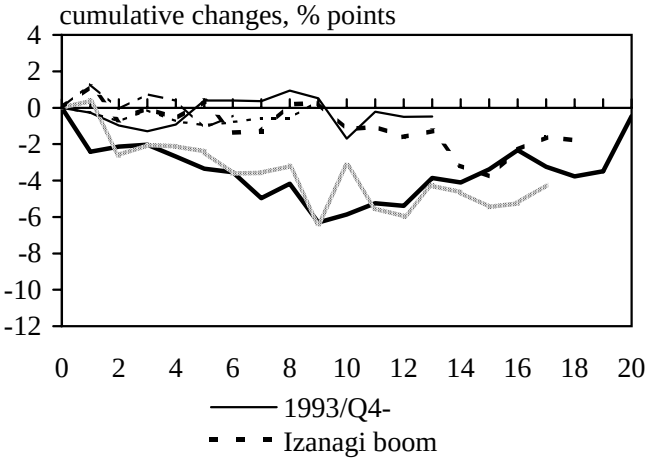
II. Manufacturing: Medium-sized and small enterprises



III. Nonmanufacturing: Large enterprises



IV. Nonmanufacturing: Medium-sized and small enterprises

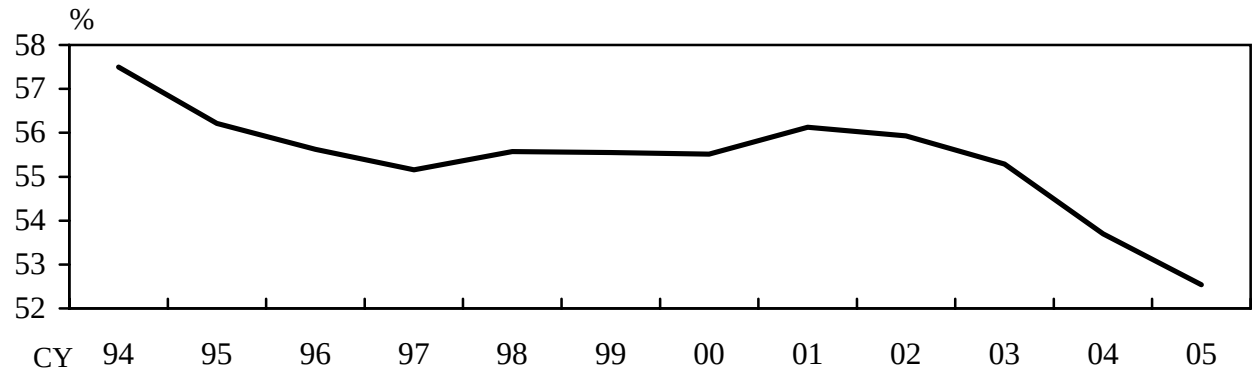


Notes: 1. Horizontal axis indicates period of expansion (in quarters).
2. Labor share = personnel expenses / value-added
Value-added is calculated as the sum of operating profits, personnel expenses, bonus for directors, rent on real estate and rent costs of other assets and tax and dues; personnel expenses include salaries of the employed, directors' remuneration and welfare expenses.

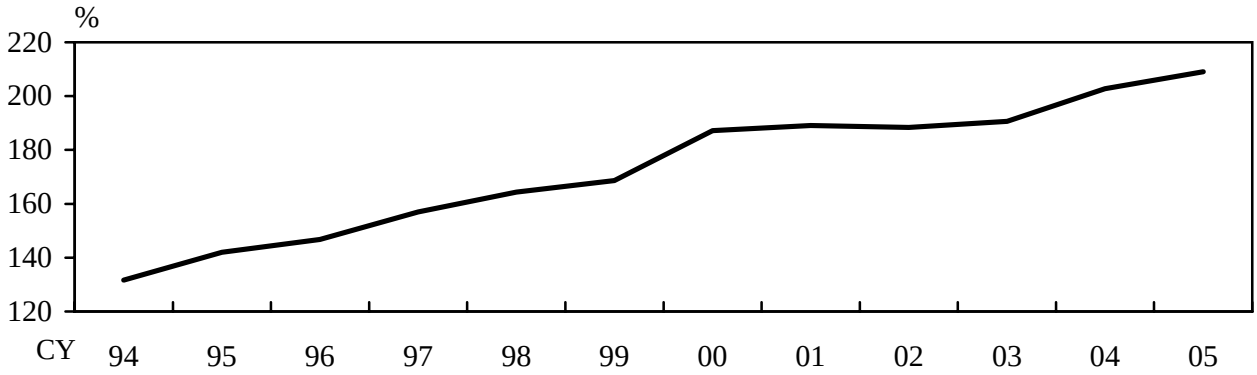
Sources: Cabinet Office, "National Accounts";
Ministry of Finance, "Financial Statements Statistics of Corporations by Industry."

Globalization of the Economy and Developments in Labor Share

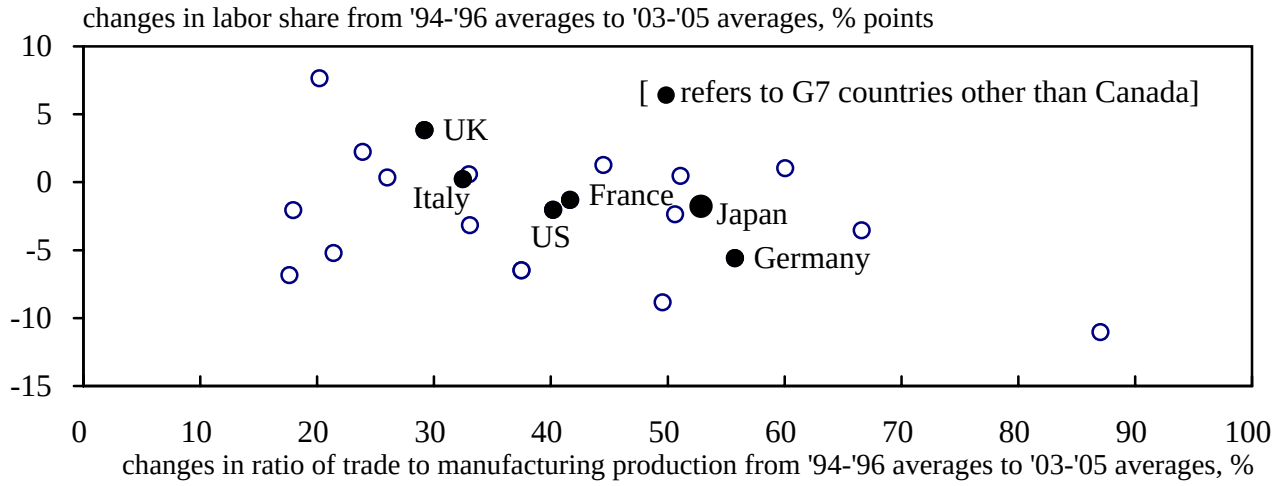
(1) Labor share in manufacturing sector of OECD countries
(= compensation of employees / nominal GDP)



(2) Ratio of trade to manufacturing production in OECD countries
(= exports plus imports / manufacturing production)



(3) Labor share in manufacturing sector and ratio of trade to manufacturing production

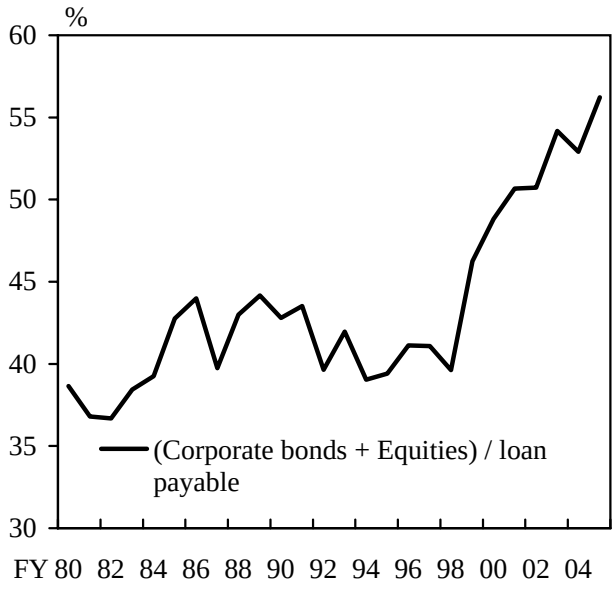


Notes: 1. Manufacturing sector here includes electricity, gas and water industries, in addition to the manufacturing sector classified in accordance with the SNA industry classification.
2. In (1) and (2), data of individual countries are summed up based on PPP.
Where missing data exist, particularly for 2005, the calculation is based on the assumption that figures are unchanged from the previous year.
3. Some countries such as Canada are omitted from the analysis due to lack of sufficient data.
Also in (3), Ireland has been excluded as an anomaly, as it is the only country exhibiting negative change in the ratio of trade to manufacturing production.

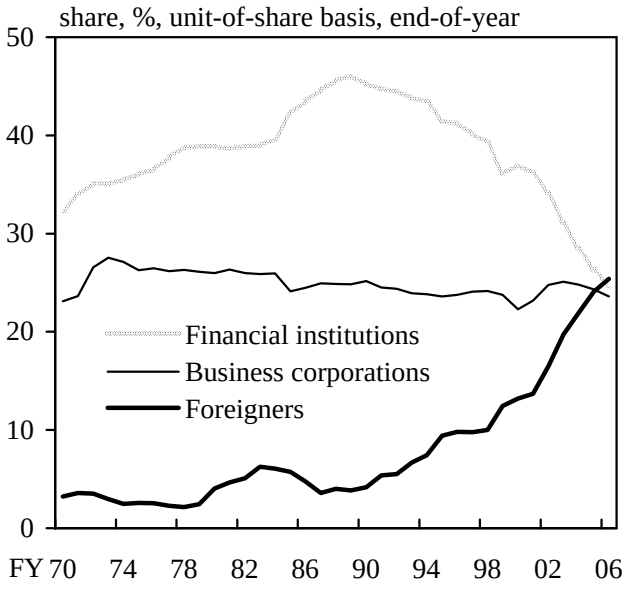
Sources: OECD, "National Accounts of OECD Countries; Main Aggregates," etc.

Globalization of the Capital Market

(1) Increasing importance of direct financing

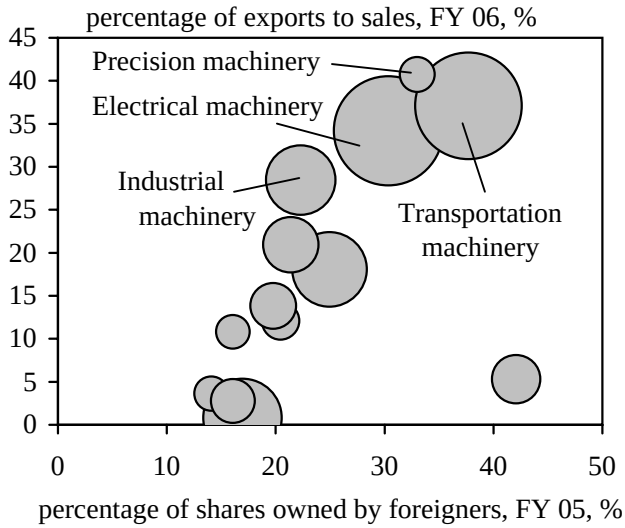


(2) Number of shareholders by type

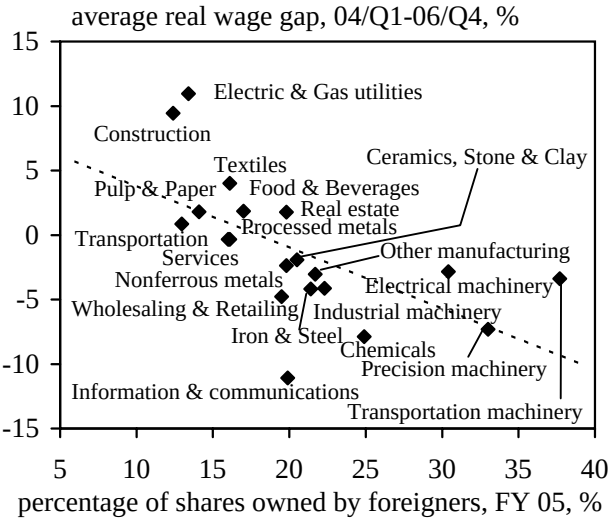


(3) Impact of shareholding by foreigners

I. Percent distribution of unit shares by type of shareholders and export dependency



II. Percent distribution of unit shares by type of shareholders and real wage gap

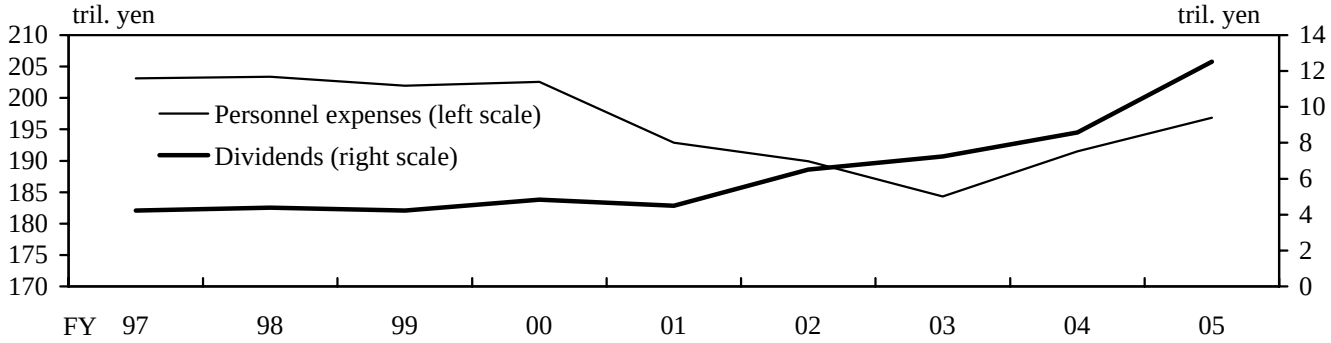


Notes: 1. Data in (2) and (3) are unit-of-share basis. In (2), data for 2004 and 2005 based on the figure that do not include "Livedoor Co., Ltd" (published by Tokyo Stock Exchange).
2. In (3) I, data are for 13 industries in the manufacturing sector that are commonly included in the *Shareownership Survey* and *TANKAN*. Size of circle indicates size of sales.
3. In (3) II, real wage gap is the deviation of real wages from their equilibrium level which is estimated, for each industry from the long-run relationship between real wages and productivity as follows:
Real wages = $\alpha + \beta \times$ labor productivity (sample period: 1975/Q2-2006/Q4)
All variables are in logs.
Real wages = (personnel expenses / GDP deflator) / (number of employees × total hours worked)
Labor productivity = (operating profits + depreciation expenses + personnel expenses) / GDP deflator / (number of employees × total hours worked)

Sources: Tokyo Stock Exchange, "Shareownership Survey";
Bank of Japan, "*Tankan*, Short-term Economic Survey of Enterprises in Japan";
Ministry of Finance, "Financial Statements Statistics of Corporations by Industry";
Ministry of Health, Labor and Welfare, "Monthly Labor Survey."

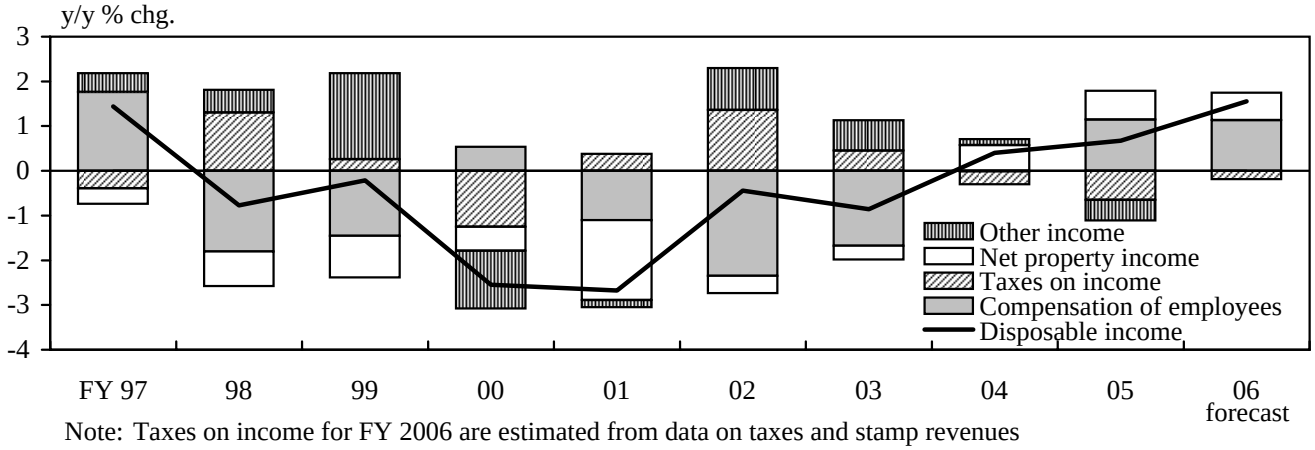
Dividends and Disposable Income

(1) Personnel expenses and dividends (*Financial Statements Statistics of Corporations by Industry, Annually;* All enterprises)



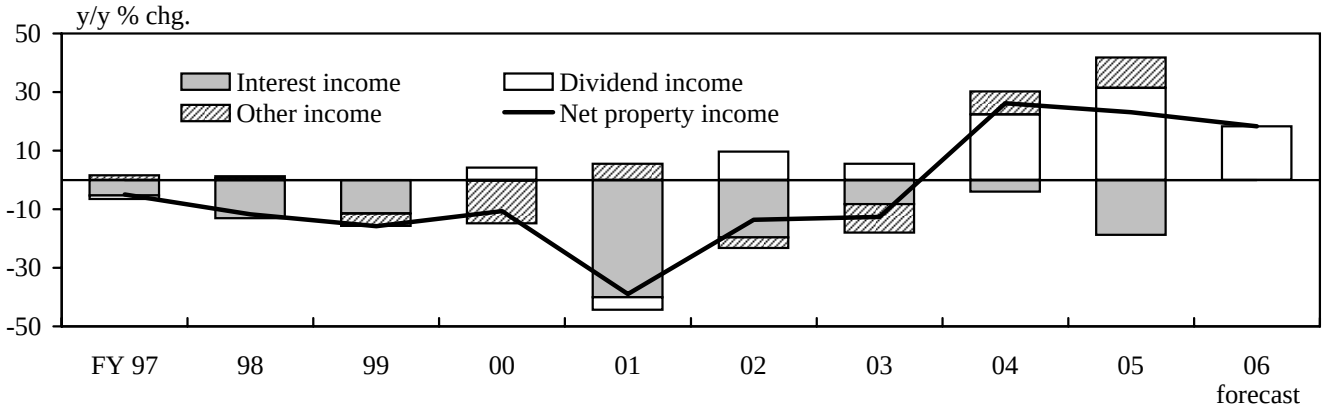
Note: Personnel expenses = salaries of the employed + directors' remuneration + welfare costs.

(2) Disposable income (SNA basis)



Note: Taxes on income for FY 2006 are estimated from data on taxes and stamp revenues published by the Ministry of Finance. See note below for "Net property income."
Figures for other items in FY2006 are assumed to be the same as in FY2005.

(3) Net property income (SNA basis)



Note: The figure for interest income in FY2006 is estimated as the year-on-year change in outstanding amount of deposits in the *Flow of Funds Accounts* from the end of FY2005 to the end of FY2006.
The figure for dividend income in FY2006 is estimated as the year-on-year change in dividend paid in FY2006 by enterprises listed on the 1st section of the Tokyo Stock Exchange, excluding financial institutions and nonbanks, adopting the April-March accounting period (the year-end dividends in March 2006 plus the mid-term dividends in September 2006).
Figures for other items in FY2006 are assumed to be the same as in FY2005.

Sources: Cabinet Office, "National Accounts"; Bank of Japan, "Flow of Funds Accounts"; Nikkei Financial QUEST; Ministry of Finance, "Financial Statements Statistics of Corporations by Industry, Annually," "*Sozei oyobi shunyuinshi, shunyugaku shirabe* (amount of revenues: taxation and stamp revenues, available in Japanese only)."