2. Supply trends and final demand

(1) Outline of supply trends for final demand

1) Supply trends for the quarter

**[Characteristics]**

- Supply for final demand as a whole increased by 0.4% from the previous quarter, up for the second consecutive quarter.
- Overall industrial supply for consumption increased by 1.3% from the previous quarter, up for the second consecutive quarter, thanks to increases in both personal consumption and government consumption.
- Overall industrial supply for investment decreased by 2.6% from the previous quarter, a decline for the 11th consecutive quarter, due to decreases in public investment and the demand for private corporation facilities and private housing.
- Exports increased by 7.8% from the previous quarter, posting an increase for the second consecutive quarter, and imports increased by 9.2% (id.), up for the first time in six quarters.
- IT-related consumption and IT-related investments decreased by 3.3% and 4.6%, respectively, from the previous quarter, both showing decreases for the first time in two quarters.

### Changes in the Indices of All Industries (Final Demand Components)

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>III</td>
<td>IV</td>
<td>I</td>
<td>II</td>
<td>III</td>
</tr>
<tr>
<td>Total of final demand sector</td>
<td>-1.9</td>
<td>-0.6</td>
<td>0.1</td>
<td>-0.8</td>
<td>-1.3</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>3.8</td>
<td>0.7</td>
<td>-0.6</td>
<td>-2.7</td>
<td>-2.1</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>0.8</td>
<td>-0.3</td>
<td>0.1</td>
<td>-0.8</td>
<td>-0.6</td>
</tr>
<tr>
<td>Consumption</td>
<td>1.1</td>
<td>-0.9</td>
<td>0.1</td>
<td>-0.3</td>
<td>-0.6</td>
</tr>
<tr>
<td>Personal consumption</td>
<td>-1.2</td>
<td>0.2</td>
<td>-0.1</td>
<td>-0.6</td>
<td>-2.4</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>3.7</td>
<td>1.0</td>
<td>0.1</td>
<td>-1.2</td>
<td>-0.9</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>0.4</td>
<td>-1.3</td>
<td>-0.6</td>
<td>-0.4</td>
<td>-0.7</td>
</tr>
<tr>
<td>IT-related investment</td>
<td>-1.4</td>
<td>-6.2</td>
<td>2.7</td>
<td>-2.7</td>
<td>1.8</td>
</tr>
<tr>
<td>Government consumption</td>
<td>0.7</td>
<td>-0.3</td>
<td>-0.2</td>
<td>0.5</td>
<td>-0.3</td>
</tr>
<tr>
<td>Investment</td>
<td>-1.8</td>
<td>-4.6</td>
<td>-1.9</td>
<td>-1.4</td>
<td>-0.4</td>
</tr>
<tr>
<td>Public investment</td>
<td>-5.2</td>
<td>-3.7</td>
<td>-2.2</td>
<td>-1.1</td>
<td>-0.7</td>
</tr>
<tr>
<td>Private housing</td>
<td>-8.5</td>
<td>-9.7</td>
<td>-8.9</td>
<td>2.2</td>
<td>-5.5</td>
</tr>
<tr>
<td>Private corporation facilities</td>
<td>1.4</td>
<td>-5.6</td>
<td>0.3</td>
<td>-0.9</td>
<td>-0.8</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>1.6</td>
<td>-7.6</td>
<td>0.7</td>
<td>-3.4</td>
<td>-3.8</td>
</tr>
<tr>
<td>Construction</td>
<td>-2.4</td>
<td>-7.7</td>
<td>-0.3</td>
<td>-8.0</td>
<td>-1.0</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>3.4</td>
<td>-1.3</td>
<td>3.7</td>
<td>0.1</td>
<td>4.4</td>
</tr>
<tr>
<td>IT-related investment</td>
<td>-3.1</td>
<td>2.8</td>
<td>-1.5</td>
<td>8.6</td>
<td>-3.0</td>
</tr>
<tr>
<td>Exports</td>
<td>8.4</td>
<td>-3.5</td>
<td>3.9</td>
<td>1.7</td>
<td>-2.9</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>8.7</td>
<td>-3.9</td>
<td>0.1</td>
<td>-3.2</td>
<td>-1.8</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>7.6</td>
<td>-3.6</td>
<td>0.5</td>
<td>2.2</td>
<td>-2.3</td>
</tr>
<tr>
<td>Imports</td>
<td>3.1</td>
<td>-0.1</td>
<td>0.8</td>
<td>3.0</td>
<td>0.5</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>1.7</td>
<td>-0.7</td>
<td>0.3</td>
<td>3.3</td>
<td>1.7</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>8.3</td>
<td>-2.8</td>
<td>2.6</td>
<td>2.0</td>
<td>-1.1</td>
</tr>
</tbody>
</table>

Notes: 1. As the indices of all industries (final demand components) are calculated using various statistical data, preliminary figures are used for some basic data. Therefore, note that the indices of the previous quarters have been corrected to the revised figures.
2. Ratios to the previous year are original indices and other figures are based on seasonally adjusted indices.
Source: “The Indices of All Industries Activity (Final demand components)” (Estimated values)
2) Trends in IT-related consumption and investment

【Characteristics】
・IT-related consumption for the third quarter of 2009 decreased by 3.3% from the previous quarter, down for the first time in two quarters. Meanwhile, non-IT-related consumption increased by 2.1% (id.), up for the second consecutive quarter.
・IT-related investment for private corporation facilities decreased by 4.6% from the previous quarter, down for the first time in two quarters. Meanwhile, non-IT-related investments also decreased, down by 1.6% (id.), showing a decline for the eighth consecutive quarter.

<table>
<thead>
<tr>
<th>Changes in IT-related Consumption</th>
<th>Changes in IT-related Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index level (2005 = 100, Seasonally adjusted)</td>
<td>Index level (2005 = 100, Seasonally adjusted)</td>
</tr>
<tr>
<td>Personal consumption</td>
<td>Private corporation facilities</td>
</tr>
<tr>
<td>IT-related consumption (Right-side)</td>
<td>IT-related investment</td>
</tr>
</tbody>
</table>

Notes: 1. IT-related consumption consists of that of mobile phones, car navigation systems, desktop computers, notebook computers, regional and long-distance telecommunications, ISP, mobile telecommunications, software products, and Internet-related services, all of which are supplied for personal consumption.
2. IT-related investments are investments related to communication wires and cables, power wires and optical fiber products for cables, digital and full-color copying machines, key system telephone equipment, electronic switching systems, digital transmission equipment, fixed communication equipment, cellular telephones, basic exchanges for mobile customer premises equipment, general purpose computers, mid-range computers, desktop computers, notebook computers, external storage, input-output units, terminal equipment, system-use cash registers, projectors, industrial-use television equipment, software development and program creation (subcontracts) that are supplied to private corporation facilities.
Source: “The Indices of All Industries Activity (Final demand components)” (Estimated values)
Impacts of deteriorated corporate earnings on employment and income

【Analysis point 1】
～ Corporate earnings have deteriorated significantly mainly in the manufacturing industry, due to sharp sales declines after the Lehman shock ～

【Characteristics】
・The manufacturing industry failed to reduce personnel costs and other fixed costs sufficiently to cope with sharp sales declines since last fall. The ratio of break-even sales has been exceeding 100% for large manufacturing companies since the fourth quarter of 2008 and for small-to-mid-sized manufacturing companies since the first quarter of 2009. Corporate earnings are in the red.
・During the second quarter of 2009, both large companies and small-to-mid-sized companies showed a sign of recovery in their sales. However, sales have remained at a low level, and the ratio of break-even sales has continued to be as high as around 100%. Corporate earnings are still in an extremely severe situation.

Fig. II-1-13 Changes in Ratio of Break-Even Sales by Industry and by Company Size

![Graph showing changes in ratio of break-even sales by industry and company size.]

Notes: 1. Break-even point = Fixed costs / Marginal income ratio
   Fixed costs = Personnel costs + depreciation costs + non-operating costs + general and administrative costs × 0.7
   Marginal income ratio = 1 – Ratio of variable costs = 1 – (Sales – Fixed costs – Ordinary profit) / Sales
2. For both the manufacturing and non-manufacturing industries, large companies are those with capital of 100 million yen or more, and small-and-mid-sized companies are those with capital of less than 100 million yen.

Source: “Financial Statements Statistics of Corporations by Industry” (Ministry of Finance)
【Analysis point 2】
~Unit labor costs for the manufacturing industry have increased significantly since the fourth quarter of 2008, as a result of a failure in coping with rapid sales declines through cost reductions by cutting wages and reducing employees~

【Characteristics】
・Unit labor costs(Note) for the manufacturing industry recorded a significant rise of 34.8% from the previous year in the first quarter of 2009.
・The rise slowed down a little in the second quarter of 2009, but was still at a high level of 26.4% (id.).
・In contrast, unit labor costs for the non-manufacturing industry have risen only by a small magnitude.

Fig. II-1-14 Changes in Unit Labor Costs (Manufacturing & Non-manufacturing)


Note: Unit labor costs refer to labor costs required for creating one unit of goods or services and are obtained by dividing personnel costs (nominal payrolls) by the amount of real value added. Generally speaking, when unit labor costs rise, companies cannot ensure profits unless passing on the costs to sales prices.

・When analyzing changes in unit labor costs (changes from the previous year) in terms of the growth rates of wages and labor productivity,(Note) the following becomes clear:
~In the manufacturing industry, a decline in the operation rate due to sales declines caused labor productivity to deteriorate significantly, at a higher pace than the drop in wages. As a result, unit labor costs increased rapidly.
~In the non-manufacturing industry, wages are decreasing in a similar manner, but the deterioration of labor productivity has been rather limited, and unit labor costs have not increased as notably as for the manufacturing industry.

Fig. II-1-15 Factor Analysis of Changes in Unit Labor Costs (Manufacturing)


Note : Unit labor costs (ULC) = Personnel costs / Amount of real value added
= (Personnel costs / Number of employees) / (Amount of real value added / Number of employees)
= Wages / Labor productivity
【Analysis point 3】
～ In the manufacturing industry, companies have coped with the rise in unit labor costs not by passing on the costs to sales prices but by squeezing and reducing profits～

【Characteristics】
・Analyzing changes in unit sales prices for the manufacturing industry, it becomes clear that in response to rising unit labor costs, companies have curbed the rise in unit sales prices by way of significantly reducing unit profits.(Note)
・For the non-manufacturing industry, thanks to a smaller rise in unit labor costs, the magnitude of decline in unit profits was also smaller, compared with the manufacturing industry.

Fig. II-1-19 Factor Analysis of Changes in Unit Sales Prices (Manufacturing)

Fig. II-1-20 Factor Analysis of Changes in Unit Sales Prices (Non-manufacturing)


Note: Unit sales prices = Amount of nominal value added / Amount of real value added
= (Personnel costs / Amount of real value added) + ((Depreciation costs + Interest costs) / Amount of real value added) + (Ordinary profit / Amount of real value added)
= Unit labor costs + Unit non-labor costs + Unit profit

【Analysis point 4】
～ As companies are expected to continue reducing unit labor costs for the time being, the conditions of employment and wages are highly likely to remain severe, in contrast to the recovering trend of corporate profits.～

【Characteristics】
・The rise in unit labor costs on an all-industry basis slowed down significantly in the second quarter of 2009.
・In the meantime, the jobless rate (unemployment rate) and wages (nominal compensation of employees) have never ceased deteriorating.

Fig. II-1-21 Unit Labor Costs, Compensation of Employees and Unemployment Rate

Note: Each data is normalized using averages and standard deviation.
Source: “Labor Force Survey” (Ministry of Internal Affairs and Communications), “National Accounts” (Cabinet Office)
【Analysis point 5】
～ In the mid-to-long term, a much larger number of jobs was created in the non-manufacturing industry than the number lost in the manufacturing industry. ～

【Characteristics】
・During the period after the Lehman shock from September 2008 to August 2009, the number of employees (excluding those engaged in agriculture and forestry) decreased by 0.93 million in the manufacturing industry, while the increase in the number of employees in the non-manufacturing industry was limited to nearly 0.21 million, mainly in the medical, health care and welfare industry.
・However, when looking at the changes in the number of employees (excluding those engaged in agriculture and forestry) in a longer term from before the Lehman shock (from January 2007 to August 2009), the number in the manufacturing industry and the construction industry decreased by 1.05 million and 0.22 million, respectively, or by 1.27 million in total, while the number of employees in the non-manufacturing industry increased by as many as 1.33 million in total, mainly in the medical, health care and welfare industry and the accommodations, eating and drinking services industry.

Fig. II-1-22 Changes in Number of Employees by Industry (Sept. 2008 → Aug. 2009)  
Fig. II-1-22 Changes in Number of Employees by Industry (Jan. 2007 → Aug. 2009)  

Source: “Labor Force Survey” (Ministry of Internal Affairs and Communications)  
Source: “Labor Force Survey” (Ministry of Internal Affairs and Communications)

【Analysis point 6】
～ As the number of totally-unemployed people increased rapidly, a significant increase has been observed in the number of such persons becoming non-workers since the fall of 2008, when the Lehman shock hit the world. Meanwhile, the probability of people changing from being unemployed to being a non-worker has decreased since the Lehman shock, which indicates such people’s stronger eagerness to find jobs amid further deterioration of the employment environment ～

【Characteristics】
・Although the probability of changing from being unemployed to being a non-worker (transition probability) has been declining, the number of people who were totally-unemployed in the previous month and became non-workers in the relevant month has started to increase since the Lehman shock.
・This is not because such transition probability became higher, but because the total number of totally-unemployed people increased and this increased the number of people who are forced to become non-workers.

Fig. II-1-26 Flow between Employment and Unemployment and Transition Probability (All industries)

Note: Generally, it is considered that transition from the status of unemployed to a non-worker in recession reflects job seekers’ reluctance to find jobs after repeated failures. However, in order to understand their reasons for being non-workers, the situation needs to be analyzed by studying the effect of the accumulated increase of the number of unemployed people and that of changes in the flow between employment and unemployment (referred to as transition probability, which means, in this case, the probability of totally-unemployed people becoming non-workers).
Correlation between domestic production, profits, and capital investment and that among industries

【Analysis point 1】
~ After the bubble burst, the causality of production and profits to capital investment has become weaker in large companies. In small-and-mid-sized companies, capital investment is more affected by profits than by production. ~

【Characteristics】
- With regard to the “correlation between production, profits, and capital investment” which we analyzed in the Analysis of All Industrial Activities for the second quarter of 2009, we examined whether there have been any changes in their causality and effects before and after the bubble burst, by newly using VAR models. (Note 1) Examining the causality of production (changes in sales from the previous year) and profits (return on total assets) to capital investment (rate of new capital investment) (Note 2) by company size and by type of industry through the Granger causality test (Note 3) we found the following:
  - Large companies in types of industries where production and profits show clear causality to the rate of new capital investment have suffered significant decreases in sales and the return on total assets from the previous year. This implies that such causality has become weaker since the bubble burst.
  - Regarding small-and-mid-sized companies, few industries have shown causality between the changes in sales from the previous year and the rate of new capital investment throughout the period. In contrast, the number of industries that showed causality between the return on total assets and the rate of new capital investment increased to five from four after the bubble burst.

Notes: 1. Models in which multiple variables are considered to be mutually determined mainly based on their past values
2. Rate of new capital investment = New fixed assets excluding land / Fixed assets excluding land
3. The method used to judge causal relationships of variables based on whether each variable can be explained better by also using past values of other variables than by only using past values of said variable

<table>
<thead>
<tr>
<th>Type of industry</th>
<th>Changes in sales from the previous year</th>
<th>Return on total assets (ROA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacture of food</td>
<td></td>
<td>Manufacture of food</td>
</tr>
<tr>
<td>Manufacture of lumber &amp; wood products</td>
<td>**</td>
<td>*</td>
</tr>
<tr>
<td>Manufacture of pulp, paper &amp; paper products</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Printing &amp; allied industries</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Manufacture of chemical &amp; allied products</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Manufacture of petroleum &amp; coal products</td>
<td>***</td>
<td>**</td>
</tr>
<tr>
<td>Manufacture of ceramic, stone &amp; clay products</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Manufacture of iron &amp; steel</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Manufacture of non-ferrous metals &amp; products</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Manufacture of fabricated metal products</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Manufacture of production machinery</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Manufacture of business oriented machinery</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Manufacture of electrical machinery, equipment &amp; supplies</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Manufacture of motor vehicles, parts &amp; accessories</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Manufacture of miscellaneous transportation equipment</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>Miscellaneous manufacturing industries</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table II-2-4 Results of Granger Causality Test (Large companies)
[ Cause] Changes in sales and return on total assets
→ [Effect] Rate of new capital investment

Table II-2-4 Results of Granger Causality Test (Small-and-mid-sized companies)
[ Cause] Changes in sales and return on total assets
→ [Effect] Rate of new capital investment

   After the bubble burst: 1994 to the second quarter of 2009 (62 quarters: “After”)
2. Asterisks show significance levels (***: 1%, **: 5%, and *: 10%), meaning that the null hypothesis (“there is no causality”) can be rejected.
Source: “Financial Statements Statistics of Corporations by Industry” (Ministry of Finance)
Since the bubble burst, capital investment has been reduced significantly, and even in types of industries where profits show the causality to capital investment, the size of new investment has diminished.

**Characteristics**

- We conducted factor analysis of new capital investment, with regard to types of industries where causality could be observed between the return on total assets (ROA) and the rate of new capital investment after the bubble burst.
- Before the bubble burst, fixed assets were significant contributory factors for capital investment in many industries, but their contributions have decreased notably since the collapse of the bubble economy. Companies seem to have refrained from making large-scale capital investment in order to significantly increase their fixed assets.
- Looking at the trends of the manufacture of production machinery (large companies), where the causality could be recognized, although there have been no big changes in new investment-related factors since the bubble economy collapsed, their new capital investment has shown a trend in line with the changes in the ROA, which suggests that companies have made small-scale capital investment nimbly in response to the ROA.
- In the manufacture of business oriented machinery (large companies), where no causality was observed, in spite of a constant rise in the ROA, new capital investment-related factors have diminished since the bubble burst, and companies seem to have refrained from making capital investment.
- Regarding small-and-mid-sized companies in the manufacture of non-ferrous metals and products, where the causality could be confirmed, the ROA and the rate of new capital investment have moved in tandem with each other since the bubble burst, but the recovery of the latter has been much slower than that of the former.

![Fig II-2-12 Factor Analysis of Rate of New Capital Investment of Large Companies by Industry](image1)

![Fig II-2-14 Factor Analysis of Rate of New Capital Investment of Small-and-Mid-Sized Companies by Industry](image2)

Note: Factor analysis of the rate of new capital investment is as follows:
- Rate of new capital investment \( (A) = \frac{\text{New fixed assets excluding land (both at the term end))}}{\text{C}} \)
- \( \Delta A \times \Delta B \times C \)
- \( (\Delta A \times \Delta B \times C) \) (i)
- \( [\Delta A \times \Delta B \times C] \) (ii)
- New capital investment-related factors (inverse cycle)

For other industries, see the main text.

Source: "Financial Statements Statistics of Corporations by Industry" (Ministry of Finance)
【Analysis point 3】
~ The impacts of sales*1 of large automobile manufacturers*2 on the total sales of the manufacturing industry as a whole were larger at the peak after the bubble burst but lasted shorter than before the collapse of the bubble economy ~

【Characteristics】
・Taking large-sized manufacturers of motor vehicles, parts and accessories*2 as an example, we examined whether there were any changes in the impacts before and after the bubble burst, by using the impulse response functions(Note) which is one of the analysis methods of VAR models.
・The impacts of the changes in sales from the previous year*1 and the ROA on the rate of new capital investment have diminished since the bubble economy collapsed.
・In terms of the changes in sales from the previous year, those of large-sized manufacturers of motor vehicles, parts and accessories had greater impacts on those of the manufacturing industry as a whole at the peak after the bubble burst, but such impacts diminished faster than before the collapse of the bubble economy.

Fig. II-2-16, 17 Cumulative Impulse Response Functions

<Large-sized manufacturers of motor vehicles, parts and accessories>  (Changes in sales from the previous year → Rate of new capital investment)
(Changes in sales from the previous year of large-sized manufacturers of motor vehicles, parts and accessories → Those of large-sized manufacturers)

Note: Impulse response functions are used when any shock occurred in any variable so as to find the correlation between variables in time series, by examining feedback relationships among variables making up a VAR model.

Source: “Financial Statements Statistics of Corporations by Industry” (Ministry of Finance)
(2) Outline of exports and imports

Export and import trends for the quarter

【Characteristics】

- Looking at the trends of exports for the third quarter of 2009 (on a quantity basis), in terms of the indices of all industries (final demand components), exports of goods (the mining and manufacturing industry) increased by 10.0% from the previous quarter and exports of services (the tertiary industry) increased by 5.7% (id.), resulting in a 7.8% increase from the previous quarter for all exports.

- By region, exports of goods to East Asia, ASEAN, the United States, Europe, and the Middle East all increased.

![Changes in exports by region (Goods, 2005 = 100, Seasonally adjusted)](image)

【Characteristics】

- By region, imports of goods from ASEAN, the Middle East, the U.S., East Asia and Europe all increased.

![Changes in imports by region (Goods, 2005 = 100, Seasonally adjusted)](image)

Notes:
1. The export index by region is estimated by rearranging the trade statistics into shipment index groups, and the import index by region is estimated by rearranging the trade statistics into supply index groups.
2. The names of each country or region are as follows:
   - ASEAN: Singapore, Thailand, Malaysia, Philippines, Indonesia, Vietnam, Myanmar, Laos, Brunei and Cambodia
   - East Asia: Republic of Korea, Taiwan and China (including Hong Kong)
   - Middle East: Iran, Iraq, Bahrain, Saudi Arabia, Kuwait, Qatar, Oman, Israel, Jordan, Syria, Lebanon, the United Arab Emirates, Gaza and Yemen

Sources: “The Indices of Industrial Domestic Shipments and Exports,” “The Indices of Industrial Domestic Shipments and Imports” (both estimated values)
Japan’s and China’s trade with the U.S. and emerging countries

【Analysis point 1】
～ Japan’s exports increased due to favorable demand from the BRICs, Asian countries and the U.S. ～

【Characteristics】
・ After posting double-digit decreases in the fourth quarter of 2008 (down by 11.9% from the previous quarter) and in the first quarter of 2009 (down by 29% (id.)), Japan’s exports increased continuously in the second and third quarters of 2009 (up by 9.9% (id.) and by 9.5% (id.), respectively).
・ Exports to the BRICs, Asian countries, and the U.S. contributed significantly to the increase in overall exports in the third quarter of 2009. Exports to the BRICs increased due to favorable demand for transport equipment and electrical machinery for China; those to Asian countries increased thanks to increases in general machinery and other manufactured goods for South Korea, other manufactured goods for Taiwan, and steel, transport equipment, and electrical machinery for Thailand; and those to the U.S. increased, backed by an increase in transport machinery.

Fig. II-3-8 Changes in Japan’s Exports (Contribution ratio to changes from the previous quarter)
(Seasonally adjusted; Dollar basis)

Note: The BRICs refers to Brazil, Russia, India and China (including Hong Kong; hereinafter the same).
Source: “World Trade Atlas” (GTI)

【Analysis point 2】
～ In recent years, China has generally surpassed Japan in the value of trade with the BRICs and VISTA countries ～

【Characteristics】
・ Emerging countries (the BRICs and VISTA) hold nearly half of the world population (mid-2006 estimated population), with a GDP nearly three quarters the size of that of the U.S. In particular, China stands out for its economic power.
・ China has been rapidly expanding the amount of world trade.
・ Comparing Japan`s exports to the BRICs (excluding China) and VISTA with China`s expanding exports, China`s exports to Brazil, Russia, and India and to VISTA have both largely exceeded those of Japan in recent years.
・ China far surpasses Japan in exports to all of Brazil, Russia, India and VISTA countries (in 2008).
Fig. II-3-10 Changes in Trade Values of Japan and China

Exports to the BRICs
- Japan → Brazil + Russia + India
- China → Brazil + Russia + India
- Japan → BRICs (Right scale)

Exports to VISTA countries
- Japan → VISTA
- China → VISTA

Fig. II-3-11 Japan’s and China’s Exports to Emerging Countries (2008; 1 billion dollars)

Exports to Brazil, Russia, and India
- Japan’s exports
- China’s exports

Exports to VISTA countries
- Japan’s exports
- China’s exports

Notes: 1. VISTA refers to Vietnam, Indonesia, South Africa, Turkey and Argentina.
2. “A → B” means exports from A to B.
Source: “World Trade Atlas” (GTI)

【Characteristics】
- Comparing Japan’s and China’s exports to emerging countries by commodity, Japan surpasses China only in the amount of exports of transport equipment.
- Japan’s exports are mainly concentrated on machinery products, such as transport equipment and general machinery. In contrast, China’s export commodities are more wide-ranging, with a large amount of exports of electrical machinery and general machinery, as well as other products and textiles.

Fig. II-3-13 Comparison of Japan’s and China’s Exports (2008)

To Brazil + Russia + India
- Japan’s exports
- China’s exports

To VISTA countries
- Japan’s exports
- China’s exports

Notes: 1. HS 2-digit commodities are classified into each category of commodities.
2. Regarding the amount of China’s exports of other products (in 2008), the amount of diamond and plastic products exported to Brazil, Russia, and India, and of plastic products and shoes exported to VISTA countries, was large.
Source: “World Trade Atlas” (GTI)
【Analysis point 3】
Japan’s and China’s exports of general machinery to the U.S. have come to show different distribution ratios in their overall exports

【Characteristics】
・ With regard to Japan’s and China’s exports of general machinery to the U.S. and of electrical machinery to Russia, we examined whether the distribution ratios of export commodities at a certain point in time were similar in Japan and China, and calculated correlation coefficients between Japan’s exports and China’s exports (on an HS 4-digit commodity basis).
・ Regarding general machinery, correlation coefficients between Japan’s and China’s exports to the U.S. have constantly been declining, and the similarity in distribution ratios of export commodities has diminished between the two countries.
・ This is because exports of HS 8471 (data processing machines, including personal computers) from China to the U.S. increased significantly. In particular, China’s exports of HS 847130 (laptop computers) increased rapidly in and after 2003.

【Characteristics】
・ In a similar way to that mentioned above, we examined correlation coefficients of exports between Japan and China. Correlation coefficients have been declining for general machinery, and the similarity of the two countries’ distribution ratios for export commodities has diminished.
・ This is because exports of HS 8471 (data processing machines, including personal computers) from China to Japan increased significantly. In particular, China’s exports of HS 847130 (laptop computers) increased rapidly.
・ Increasing direct investment has strengthened the importance of China as a processing and assembly base, and the triangular trade (Japan exports parts of ICs and other products to China, has them assembled locally, and exports completed products to the U.S.) and reverse import to Japan have expanded. Such moves have affected the changes in the similarity of Japan’s and China’s distribution ratios for export commodities.

Note: Among HS 2-digit commodities, data processing machines, including PCs, are classified into HS 84 (general machinery). We followed such classification here.
Source: “World Trade Atlas” (GTI)