2 Supply trend and final demand
(1) Outline of supply trend for final demand

① 2006 supply trend

The overall supply for final demand increased by 2.2% compared to the previous year, up for the fourth consecutive year. The outline was as follows:

Overall industrial supply for consumption increased by 1.1% (id.), up for the eighth consecutive year, due to an increase in individual consumption by 1.3% (id.) and an increase in government consumption by 0.9% (id.).

Overall industrial supply for investment increased by 1.4% (id.), up for the third consecutive year, due to an increase in private corporation facilities by 3.7% (id.) and an increase in private housing by 4.5% (id.), both rising for the fourth consecutive year, although public investment decreased by 8.0% (id.), down for the seventh consecutive year.

Exports increased by 12.1%, up for the fifth consecutive year, and imports also increased by 6.9% (id.), up for the eighth consecutive year.

IT-related consumption increased by 0.5% (id.), up for the second consecutive year, and IT-related investment also increased by 0.7%, up for the fourth consecutive year including a leveling-off period.

Changes in the Indices of All Industries

(2000=100, Ratio to the previous year (quarter))

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ratio to the previous year</td>
<td>Ratio to the previous year</td>
<td>Ratio to the previous year</td>
<td>I</td>
<td>II</td>
</tr>
<tr>
<td>Total of final demand sector</td>
<td>2.1</td>
<td>1.5</td>
<td>2.2</td>
<td>1.1</td>
<td>0.5</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>6.7</td>
<td>1.7</td>
<td>5.6</td>
<td>▲ 0.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>2.0</td>
<td>1.5</td>
<td>1.5</td>
<td>1.3</td>
<td>▲ 0.1</td>
</tr>
<tr>
<td>Consumption</td>
<td>1.7</td>
<td>1.2</td>
<td>1.1</td>
<td>1.2</td>
<td>▲ 0.1</td>
</tr>
<tr>
<td>Personal consumption</td>
<td>1.4</td>
<td>0.9</td>
<td>1.3</td>
<td>1.0</td>
<td>▲ 0.1</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>0.8</td>
<td>0.5</td>
<td>2.4</td>
<td>0.0</td>
<td>▲ 0.5</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>1.5</td>
<td>1.1</td>
<td>0.9</td>
<td>1.3</td>
<td>▲ 0.1</td>
</tr>
<tr>
<td>(Special) IT-related</td>
<td>▲ 2.6</td>
<td>0.9</td>
<td>0.5</td>
<td>▲ 0.8</td>
<td>▲ 1.6</td>
</tr>
<tr>
<td>Government consumption</td>
<td>2.6</td>
<td>1.6</td>
<td>0.9</td>
<td>1.5</td>
<td>▲ 0.2</td>
</tr>
<tr>
<td>Investment</td>
<td>0.8</td>
<td>2.6</td>
<td>1.4</td>
<td>0.7</td>
<td>1.9</td>
</tr>
<tr>
<td>Public investment</td>
<td>▲ 12.4</td>
<td>▲ 4.2</td>
<td>▲ 8.0</td>
<td>▲ 0.4</td>
<td>▲ 1.5</td>
</tr>
<tr>
<td>Private housing</td>
<td>2.2</td>
<td>3.5</td>
<td>4.5</td>
<td>▲ 0.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Private corporation facilities</td>
<td>6.7</td>
<td>5.1</td>
<td>3.7</td>
<td>0.0</td>
<td>2.7</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>12.7</td>
<td>4.9</td>
<td>3.1</td>
<td>▲ 1.4</td>
<td>5.7</td>
</tr>
<tr>
<td>Construction</td>
<td>1.2</td>
<td>6.9</td>
<td>4.6</td>
<td>1.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>3.2</td>
<td>3.3</td>
<td>4.2</td>
<td>▲ 0.6</td>
<td>1.1</td>
</tr>
<tr>
<td>(Special) IT-related</td>
<td>3.6</td>
<td>4.7</td>
<td>0.7</td>
<td>▲ 2.5</td>
<td>4.7</td>
</tr>
<tr>
<td>Exports</td>
<td>11.3</td>
<td>4.1</td>
<td>12.1</td>
<td>▲ 1.6</td>
<td>2.3</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>11.9</td>
<td>3.5</td>
<td>12.2</td>
<td>▲ 1.6</td>
<td>1.7</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>9.2</td>
<td>5.8</td>
<td>12.0</td>
<td>▲ 0.9</td>
<td>4.2</td>
</tr>
<tr>
<td>Imports</td>
<td>8.5</td>
<td>5.4</td>
<td>6.9</td>
<td>0.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>8.3</td>
<td>6.1</td>
<td>7.1</td>
<td>0.2</td>
<td>4.6</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>9.8</td>
<td>3.3</td>
<td>6.7</td>
<td>1.5</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Notes: 1. For details of revision of base year to YR2000, and the definition of “IT-related consumption” and “IT-related investment” of the indices of all industrial supply, see “Outline of the revision of the 2000 base ‘Indices of All Industrial Supply’” on p.259 of the main text.
2. As the indices of all industrial supply are calculated using various statistical data, preliminary figures are used for some basic data. Therefore, you should note that the indices of the previous quarter have been corrected to the revised figures.
3. The ratios to the previous year are original indices, and others are based on seasonal adjustment indices.
Source: “The Indices of All Industries (Final demand components)” (Estimated values)
2. Trend of IT-related consumption and investment

IT-related consumption for 2006 increased by 0.5% compared to the previous year, up for the second consecutive year. Non-IT-related consumption also increased by 1.3% (id.), up for the fourth consecutive year.

IT-related investment for private corporation facilities increased by 0.7% (id.) due to an increase in software products, etc., up for the fourth consecutive year including a leveling-off period. Non-IT-related investment also increased by 4.5%, up for the fourth consecutive year.

Changes in IT-related Consumption

Index level (2000=100, Seasonally adjusted)

Note: IT-related consumption is consumption related to cellular phones, personal handy phone systems, personal computers, fixed telecommunications business and mobile telecommunications business that are supplied for personal consumption.
Source: "The Indices of All Industries (Final demand components)" (Estimated values)

Changes in IT-related Investment

Index level (2000=100, Seasonally adjusted)

Note: 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, facsimile machines, electronic switching systems, digital transmission equipment, fixed communication equipment, personal handy phone systems, basic exchange for mobile customer premises equipment, general purpose computers, mid-range computers, personal computers, external storage, input-output units, terminal equipment, software development and program creation (subcontracts) that are supplied to private corporation facilities.
Source: "The Indices of All Industries (Final demand components)" (Estimated values)
Changes in consumption by income level

Household final consumption expenditures have generally been increasing, but the growth slowed in 2006, accompanied with a sluggish increase in the total amount of cash earnings of workers. Therefore, we compared recent consumption expenditures per household (worker’s household with two or more persons) with that in 1993 following the bubble’s implosion and that in 2003, when income hit the bottom, to confirm the relationship between consumption and disposable income, and examined the constitution ratios of expense items and its changes by income level to consider characteristics of recent consumption.

Looking at the relationship between disposable income and consumption expenditures from 1993 to 2006, both disposable income and consumption expenditures have been decreasing since hitting a peak in 1997. In 1993, when income continued increasing, the nominal value was above the approximate line (theoretical value), indicating that consumption was rather active compared to income. In contrast, the nominal value was below the approximate line (theoretical value) in 2006. This can be interpreted as meaning that consumption expenditures have been held down compared to income in 2006 among these 13 years.

Examining the constitution ratios by expense item for each income level (Note) from 1993 to 2006, increases were observed in the constitution ratio of transport and communications and there were decreases in those of clothes and footwear and food for all income levels. In particular, there were notable increases in the constitution ratio of transport and communications for the income levels I to III, and that of education and culture and entertainment for the income levels IV and V.

Based on the constitution ratios by expense item for each income level in 2006, the income levels I to III especially spent a great deal on items essential to life, such as food, housing, lighting and heating, and water, while the income levels IV and V spent a lot on selective items, such as clothes and footwear, education, and culture and entertainment.

Note: Annual income levels (five levels) refer to groups obtained by dividing surveyed households equally into five groups according to their annual income. The groups are called “income levels I, II, III, IV, and V” in order of increasing income.

Relationship between Disposable Income and Consumption Expenditures (Nominal Value)

\[ y = 0.775x + 2.62 \]

\[ t = 10.6 \]

\[ R^2 = 0.903 \]
Comparison of Constitution Ratios by Expense Item for Each Annual Income Level
(2006, Specialization coefficient)

<table>
<thead>
<tr>
<th>Item</th>
<th>Total</th>
<th>Level I</th>
<th>Level II</th>
<th>Level III</th>
<th>Level IV</th>
<th>Level V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>1.00</td>
<td>1.15</td>
<td>1.02</td>
<td>1.05</td>
<td>0.97</td>
<td>0.89</td>
</tr>
<tr>
<td>Housing</td>
<td>1.00</td>
<td>1.65</td>
<td>1.41</td>
<td>0.93</td>
<td>0.76</td>
<td>0.74</td>
</tr>
<tr>
<td>Lighting, heating and water</td>
<td>1.00</td>
<td>1.28</td>
<td>1.12</td>
<td>1.06</td>
<td>0.95</td>
<td>0.81</td>
</tr>
<tr>
<td>Furniture and houseware</td>
<td>1.00</td>
<td>1.01</td>
<td>0.98</td>
<td>1.02</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Clothes and footwear</td>
<td>1.00</td>
<td>0.88</td>
<td>0.89</td>
<td>0.98</td>
<td>1.00</td>
<td>1.12</td>
</tr>
<tr>
<td>Healthcare</td>
<td>1.00</td>
<td>1.14</td>
<td>1.07</td>
<td>1.02</td>
<td>0.94</td>
<td>0.93</td>
</tr>
<tr>
<td>Transport and communications</td>
<td>1.00</td>
<td>0.99</td>
<td>1.11</td>
<td>1.11</td>
<td>0.96</td>
<td>0.90</td>
</tr>
<tr>
<td>Education</td>
<td>1.00</td>
<td>0.61</td>
<td>0.77</td>
<td>0.87</td>
<td>1.21</td>
<td>1.23</td>
</tr>
<tr>
<td>Culture and entertainment</td>
<td>1.00</td>
<td>0.83</td>
<td>0.91</td>
<td>1.00</td>
<td>1.07</td>
<td>1.07</td>
</tr>
<tr>
<td>Other expenditures</td>
<td>1.00</td>
<td>0.78</td>
<td>0.84</td>
<td>0.92</td>
<td>1.05</td>
<td>1.20</td>
</tr>
</tbody>
</table>

Source: “Family Income and Expenditure Survey” (Ministry of Internal Affairs and Communications)

Note: Specialization coefficient = Constitution ratio by expense item of each level / Constitution ratio by expense item of the total

In order to clarify the relationship between income and expenditures by item, we calculated the elasticity of income cross-sectionally between disposable income and expenditures by item for each annual income level as of 2004. As a result, compared with elasticity of income for consumption expenditures as a whole, elasticity of income was higher for education-related expenditures such as compensatory education, culture and entertainment-related expenditures such as durable goods for culture and entertainment, and clothes-related expenditures such as shirts and sweaters. In contrast, elasticity of income was low for expenditures for healthcare services and communications. In particular, elasticity of income for education-related expenditures was high, and income levels, whose impact was becoming weaker, have come to have a larger impact in recent years. This change may have been caused by a recent increase in educational expenses and have emerged as an expansion of the impact of income levels. Among services and durable goods for which elasticity of income is estimated to be high, items such as eating-out, communications, and household durable goods saw low elasticity of income and are considered to have characteristics as essentials for life.

Among overall consumption expenditures, the rate of selective expenditures (expenditures for items with higher elasticity of income than that for consumption expenditures as a whole) has declined for the income levels I to III and has risen for the income level V in recent three years, with the disparities expanding between the levels I to III and the levels IV and V.

As we have seen so far, it can be said that consumption of the middle and low income group concentrates on items essential to life such as communications, and that of the high income group on selective items such as education and culture and entertainment. In particular, an increase in education expenses in the high income group can be taken as an investment for the future. From a different point of view, it can be said that the income environment has less influence on expenditures for eating-out and household appliances, but has a larger influence on expenditures for education, culture and entertainment, and clothes. The expanding disparities in education expenses, in particular, caused by the income environment need to be closely examined, because they may bring about significant problems for the next generation.
Elasticity of Income by Item in 2004

Changes in Elasticity of Income by Item

Note: Elasticity of income was obtained by the following single regression formula.
\[ \log C = a \log I + b \] (C: Expenditures by item, I: Disposable income)

Ratio of Selective Expenditures among Overall Consumption Expenditures and its Changes (by Annual Income Level)

Sources: “National Survey of Family Income and Expenditure” (Ministry of Internal Affairs and Communications), “Family Income and Expenditure Survey” (Ministry of Internal Affairs and Communications)

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-20-
### Relationship between exports and capital investment

The recent relationship between the production, operating ratio, and capital investment implies that the rise of the operating ratio through production increases has been one of the factors to increase capital investment.

Based on the “Financial Statements of Corporations by Industry” (Ministry of Finance), capital investment has continued increasing compared to the same quarter of the previous year since the second quarter of 2003. In order to examine the contribution of domestic demand and exports to production during this period, we calculated elasticity of both factors against the production index, by using indices of shipments for domestic and those for exports. This elasticity shows the increase percentage that can be observed when shipments for domestic use and exports increase by 1%. The result showed the tendency that elasticity of exports against production has become larger.

Changes in the correlation coefficient of exports and production also show that their relationship has become stronger in recent years, indicating an expanding influence of exports on production. There is a possibility that exports have come to make a larger contribution to a recent increase in capital investment through a rising operating ratio led by a production increase. Changes in the correlation coefficient of exports and capital investment in fact indicate their strengthening relationship.

### Production, Operating Ratio, and Capital Investment of Manufacturing Industry

![Graph showing production, operating ratio, and capital investment of manufacturing industry.](image)

**Sources:** “Financial Statements of Corporations by Industry” (Ministry of Finance)

### Elasticity of Domestic Demand and Exports against Production

![Graph showing elasticity of domestic demand and exports against production.](image)

**Note:** Elasticity was obtained by the following regression formula, using data for the past five years including the current quarter (20 quarters).

\[
\log \text{production index} = \alpha + \beta \log \text{index of shipments for domestic} + \gamma \log \text{index of shipments for exports} \quad (\beta, \gamma = \text{elasticity})
\]

**Source:** “The Indices of Industrial Domestic Shipments and Exports”
Correlation Coefficient of Exports, Production, and Capital Investment

Note: The correlation coefficient is based on Indices of Industrial Production, the index of shipments for exports, and the amount of capital investment of the manufacturing industry for the past five years including the current quarter (20 quarters).

Sources: “Financial Statements of Corporations by Industry” (Ministry of Finance), “The Indices of Industrial Domestic Shipments and Exports”

Furthermore, at the stage of capital investment expansion from FY2003 to the present, capital investment has increased along with the increase in the export dependence, and the contribution ratio to the increase has been large for industries which are more closely related to exports. These facts also imply a close relationship between exports and capital investment.

We carried out a Granger Causality Test(Note) using multivariable autoregressive models (VAR) consisting of the two variables of exports and capital investment in order to statistically verify the influence of exports on capital investment. We obtained the results of F value = 3.0 and significance level = 0.022. The null hypothesis of no Granger Causality at a 5% significance level was rejected, and we could recognize causality, i.e. that the past export prices have had some influence on capital investment (causality in the sense of Granger).

Since recent capital investment seems to have been influenced largely by exports as we have seen so far, we need to keep an eye on the future trends of exports. However, capital investment receives influences not only from export trends but also from other various factors such as company earnings and capital stocks. The future trends of capital investment also need to be closely watched along with the changes in these economic conditions.

Export Dependence and Capital Investment of Manufacturing Industry

Note: Export dependence

\[
= \left( \frac{\text{Index of shipments for exports} \times \text{Export weight}}{\text{Shipments index} \times \text{Shipments weight}} \right) \times 100
\]

Sources: “Financial Statements of Corporations by Industry” (Ministry of Finance), “The Indices of Industrial Domestic Shipments and Exports”
Contribution Ratio to Growth Rate of Export-related Manufacturing Industries in Capital Investment

Note: Export-related manufacturing industries: Types of business whose export dependence exceeded 20% in FY2005 (general machinery, transport equipment, precision instrument, and electrical machinery (old classification))

Semi-export-related manufacturing industry: Types of business whose export dependence exceeded 10% in FY2005 (excluding the above-mentioned export-related industries; iron and steel, non-ferrous metals, chemicals, and textiles)

Export dependence
\[
\text{Export dependence} = \frac{((\text{Index of shipments for exports} \times \text{Export weight}) \div (\text{Shipments index} \times \text{Shipments weight})) \times 100}{100}
\]

Granger Causality Test of Exports and Capital Investment

The data is based on logarithm primary differences of the index of shipments for exports (seasonally adjusted; quarterly) and the amount of capital investment (manufacturing industry; indexation by deeming the amount in 2000 as 100; seasonally adjusted; quarterly) (confirming the steady nature by a Dickey-Fuller test)

The 5th lag is selected for VAR models based on AIC.

The period for estimation is from the fourth quarter of 1993, when the 12th business cycle started, to the third quarter of 2006.

Note: VAR models refer to models where multiple variables are considered to be determined mainly by each other’s past values. Formulas of the VAR models used for this analysis are as follows.

\[\begin{align*}
I_t &= a_0 + a_1I_{t-1} + a_2I_{t-2} + a_3I_{t-3} + a_4I_{t-4} + a_5I_{t-5} + a_6EX_{t-1} + a_7EX_{t-2} + a_8EX_{t-3} + a_9EX_{t-4} + a_{10}EX_{t-5} + u_{1t} \\
EX_t &= b_0 + b_1I_{t-1} + b_2I_{t-2} + b_3I_{t-3} + b_4I_{t-4} + b_5I_{t-5} + b_6EX_{t-1} + b_7EX_{t-2} + b_8EX_{t-3} + b_9EX_{t-4} + b_{10}EX_{t-5} + u_{2t}
\end{align*}\]

\[I_t\]: Capital investment of manufacturing industry (logarithm primary difference)
\[EX_t\]: Index of shipments for exports (logarithm primary difference)
\[a_1\sim a_{10}, b_1\sim b_{10}\]: Parameters
\[a_0, b_0\]: Constant terms
\[u_{1t}, u_{2t}\]: Disturbance terms

The Granger Causality Test is the method to judge causality in explaining respective variables by using VAR models, by way of comparing whether it is better to explain them by adding other variables’ past values than to explain them only by their own past values. For this analysis, the following two regression formulas are used to judge whether it is better to add past values of exports in order to explain the amount of capital investment through its past values.

\[\begin{align*}
I_t &= a_0 + a_1I_{t-1} + a_2I_{t-2} + a_3I_{t-3} + a_4I_{t-4} + a_5I_{t-5} + a_6EX_{t-1} + a_7EX_{t-2} + a_8EX_{t-3} + a_9EX_{t-4} + a_{10}EX_{t-5} + u_{1t} \\
I_t &= a_0 + a_1I_{t-1} + a_2I_{t-2} + a_3I_{t-3} + a_4I_{t-4} + a_5I_{t-5} + a_6EX_{t-1} + a_7EX_{t-2} + a_8EX_{t-3} + a_9EX_{t-4} + a_{10}EX_{t-5} + u_{1t}
\end{align*}\]

Sources: “Financial Statements of Corporations by Industry” (Ministry of Finance),
“The Indices of Industrial Domestic Shipments and Exports”
Recent trends in acquisition of plant sites and construction investment

At the current economic expanding stage, companies’ capital investment has been favorably increasing especially since 2003, and at the same time, the number of acquisitions of plant sites and the area of sites has been increasing as well since 2003. Meanwhile, construction investment (construction volume) had been generally declining due to a decrease in public investment in recent years, but started to increase in the latter half of 2005 accompanied with an increase in private sector non-housing construction investment. However, the situation of acquisition of plant sites, which has been generally favorable, varies by region. Therefore, we did a trial calculation using the inter-regional input-output table and clarified the degree of economic effects that have been created in respective regions by construction investment such as acquisition of plant sites and how much mutual impacts those effects have had among regions.

Based on the Survey of Factory Location Trend, the number of acquisitions increased for seven consecutive periods from the first half of 2003 to the first half of 2006, and in the first half of 2006, the number reached the highest level since the start of the economic expanding stage of the 12th business cycle following the bubble economy (since the first half of 1994). Analyzing the factors that increased the number of acquisitions of plant sites by region during the seven recent periods (from the first half of 2003 to the first half of 2006), the “Kanto,” “Kinki,” and “Chubu” regions have contributed significantly to the increase.

Next, looking at the changes in the amount of investment in land and buildings and in equipment, based on the Financial Statements of Corporations by Industry, active investment in land and buildings can be observed especially in the mining and manufacturing industry. Based on the Integrated Statistics on Construction Work, the amount of construction investment (volume) has been on an upward trend supported by the growth of private sector non-housing construction investment accompanied with an investment increase for the mining and manufacturing industry, although public investment has been on a declining trend. Looking at the relationship between acquisition of plant sites and construction investment for the mining and manufacturing industry, it becomes clear that the number of acquisitions occurred one period ahead of the amount of capital investment and construction volume.

Changes in Acquisition of Plant Sites by Region
(2000=100, 2-Period Backward Moving Average)

Source: “Survey of Factory Location Trend”
Changes in the Amount of Construction Investment (Volume)  
(2000=100, 2-Period Backward Moving Average)

Correlation between Acquisition of Plant Sites and Construction Investment  
(2000=100, 2-Period Backward Moving Average)

<table>
<thead>
<tr>
<th>Coverage</th>
<th>3 periods leading</th>
<th>2 periods leading</th>
<th>1 period leading</th>
<th>Coincident</th>
<th>1 period lagging</th>
<th>2 periods lagging</th>
<th>3 periods lagging</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Number of acquisitions of plant sites&quot; against &quot;Amount of capital investment&quot;</td>
<td>0.578</td>
<td>0.774</td>
<td>0.891</td>
<td>0.793</td>
<td>0.335</td>
<td>▲ 0.263</td>
<td>▲ 0.540</td>
</tr>
<tr>
<td>&quot;Number of acquisitions of plant sites&quot; against &quot;Construction volume&quot;</td>
<td>0.582</td>
<td>0.817</td>
<td>0.943</td>
<td>0.827</td>
<td>0.347</td>
<td>▲ 0.235</td>
<td>▲ 0.469</td>
</tr>
<tr>
<td>(Reference) &quot;Amount of capital investment&quot; against &quot;Construction volume&quot;</td>
<td>0.422</td>
<td>0.694</td>
<td>0.913</td>
<td>0.983</td>
<td>0.856</td>
<td>0.492</td>
<td>0.074</td>
</tr>
</tbody>
</table>

Sources:  
"Financial Statements of Corporations by Industry" (Ministry of Finance),  
"Integrated Statistics on Construction Work" (Ministry of Land, Infrastructure, and Transport),  
"Survey of Factory Location Trend"  

Source: “Integrated Statistics on Construction Work” (Ministry of Land, Infrastructure, and Transport)
In order to understand the effects created by construction investment in respective regions in Japan, we calculated the amount of production in respective regions and sectors induced by construction volume in the private sector in 2005 (1.9487 trillion yen) based on the Inter-Regional Input-Output Table for 2000. The total amount of inducement was 3.7238 trillion yen (effect ratio: 1.9109). The amount of inducement within respective regions accounted for nearly 70% in all regions, but the amount spreading to other regions (outside of respective regions) was relatively large in the “Shikoku (31.1%),” “Okinawa (29.9%),” “Tohoku (29.2%),” and “Chugoku (28.7%)” regions.

Among the “Kanto,” “Kinki,” “Chubu,” “Tohoku,” and “Kyushu” regions, where acquisition of plant sites has been rather active, the “Kanto,” “Chubu,” and “Kinki” regions had significant spillover effects on other regions with a large amount of inducement. There was a tendency that the “Kanto” region influenced almost all regions in Japan, while the “Chubu” region had a strong influence on East Japan including Kinki and the “Kinki” region spread its influence to West Japan including Chubu except for Okinawa. The amount of spillover effects on the Kanto region exceeded 50% in the Tohoku region, and the Kyushu region had influence on relatively close regions such as Kinki and Chugoku.

It has been observed that industries in respective regions which seem to have dominant power in Japan are apt to receive larger spillover effects from other regions and that a large portion of “commerce” is dominated by neighboring large urban areas (such as Kanto and Kinki).

As we have seen so far, the number of acquisitions of plant sites in Japan has been increasing mainly in regions such as Kanto, Kinki, and Chubu, reaching the highest level since the bubble economy. If this upward trend continues for the time being, construction investment for the mining and manufacturing industry will increase steadily and is expected to further contribute to the overall recovery of construction investment. The analysis based on the Inter-Regional Input-Output Table for 2000 showed that construction investment by acquisition of plant sites in a region has the largest spillover effects within the region, but if the region has a cluster of industry with dominant power in Japan, it has a good chance to receive significant spillover effects from construction investment in other regions as well. Therefore, respective regions should try hard to build up and foster industries that make the most of their regional advantage so as to attract effects of nationwide construction investment for the development of their regional economy.

Note: Refer to the main text (p.119) for limiting conditions and interpretation of the results of a trial calculation.
### Induced Production by Construction Investment in 2005 in Respective Regions in Japan (Estimated values)

<table>
<thead>
<tr>
<th>Region</th>
<th>Amount (Million yen)</th>
<th>Distribution ratio (%)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hokkaido</td>
<td>53278</td>
<td>81.7</td>
<td>75829</td>
</tr>
<tr>
<td>Tohoku</td>
<td>1713</td>
<td>1.7</td>
<td>180213</td>
</tr>
<tr>
<td>Kanto</td>
<td>11669</td>
<td>11.5</td>
<td>40098</td>
</tr>
<tr>
<td>Chubu</td>
<td>4791</td>
<td>4.7</td>
<td>10388</td>
</tr>
<tr>
<td>Kinki</td>
<td>4391</td>
<td>4.3</td>
<td>10328</td>
</tr>
<tr>
<td>Chugoku</td>
<td>1354</td>
<td>1.3</td>
<td>4969</td>
</tr>
<tr>
<td>Shikoku</td>
<td>499</td>
<td>0.5</td>
<td>1688</td>
</tr>
<tr>
<td>Kyushu</td>
<td>968</td>
<td>1.0</td>
<td>3269</td>
</tr>
<tr>
<td>Okinawa</td>
<td>22</td>
<td>0.0</td>
<td>57</td>
</tr>
</tbody>
</table>

| Subtotal (A) | 101237 | 100.0 | 254430 | 100.0 | 1403117 | 100.0 | 700173 | 100.0 | 638408 | 100.0 | 222086 | 100.0 | 82590 | 100.0 | 3723839 |

| Effect ratio (B) | 1.9002 | 1.8879 | 1.9161 | 1.9132 | 1.9072 | 1.9162 | 1.8929 | 1.9142 | 1.9021 | 1.9109 |

Note: Refer to the main text (p.121) for how to see this table.

Source: “Integrated Statistics on Construction Work” (Ministry of Land, Infrastructure, and Transport), “Inter-Regional Input-Output Table for 2000 (27 sectors)”
(2) Outline of export and import trends

① 2006 export and import trends

Looking at the trends of exports and imports for 2006 (on a quantity basis), exports as a whole increased by 12.1% compared to the previous year, due to increases in exports of goods (the mining and manufacturing industry) by 12.2% (id) and received services (the tertiary industry) by 12.0%. Imports as a whole increased by 6.9% (id.), due to increases in imports of goods (the mining and manufacturing industry) by 7.1% (id.) and service payments (the tertiary industry) by 6.7% (Id.).

By region, exports of goods increased in East Asia, the U.S., Europe, and ASEAN. Imports of goods also increased in East Asia, the U.S., ASEAN, and Europe.

Changes in Exports by Region (Goods)
Index level (2000=100, Seasonally adjusted)

Changes in Imports by Region (Goods)
Index level (2000=100, Seasonally adjusted)

Notes: 1. The export index by region is estimated by rearranging the trade statistics with the shipment index group, and the import index is estimated by rearranging the trade statistics with the total supply index group.
2. The regional classification was amended according to the revision of the base year 2000. The names of each country are as follows:
   ASEAN: Singapore, Thailand, Malaysia, the Philippines, Indonesia, Vietnam, Myanmar, Laos, Brunei, and Cambodia;
   East Asia: Republic of Korea, Taiwan, 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: “Breakdown List of Industrial Shipments” (Estimated values), “Table of Total Industrial Supply” (Estimated values)
Progress of overseas local production and impact on domestic production in the manufacturing industry

The Global Shipment Index of the Manufacturing Industry (an indicator combining shipments by domestic production and shipments by local production of overseas subsidiaries of the Japanese manufacturing industry) has been on an upward trend. Domestic shipments showed a similar upward trend to domestic production, while overseas shipments saw expansion, accounting for 21.1% of global shipments of the manufacturing industry in the third quarter of 2006, which was an increase of 6.2 percentage points from the first quarter of 2000. The overseas shipment index is rising accompanied with the expansion of the accumulated amount of direct overseas investment. The current rise in overseas shipment index was partly attributed to the progress of the production shift overseas by Japanese manufacturing companies seeking ways to enhance their international competitiveness.

The ratio of shipments for overseas markets (shipments for local sales, for third countries and for exports) among global shipments of the manufacturing industry (the overseas market ratio) was 35.2% in the third quarter of 2006, up by 8.2 percentage points from the first quarter of 2000, which indicates that the growth of global shipments of the Japanese manufacturing industry has been led by shipments for overseas markets. The overseas market ratio was high in such industries as precision instruments (63.1%), transport equipment (53.8%), electrical machinery (42.3%), general machinery (34.1%), chemicals (32.4%), and textiles (30.0%) in 2006, all showing increases from 2000. The overseas market ratio of the iron and steel industry decreased notably by 3.5 points from 2000 to 21.5%, and this was due to a decline in local sales.

Changes in Global Shipment Index of Manufacturing Industry

Changes in Accumulated Amount of Direct Overseas Investment and Overseas Shipment Index

Comparison of Global Shipment Index of Manufacturing Industry (By type of industry)
The overseas shipment index shows that sales of overseas subsidiaries have been increasing. Specifically, during the period from the first quarter of 2000 to the third quarter of 2006, the ratios of shipments for third countries and Japan among overall overseas shipments increased by 7.3 percentage points and by 4.2 percentage points, respectively, while that for local sales diminished. Based on the “Basic (Trend) Survey of Overseas Business Activities” (on a quantity basis expressed in real terms using the Average Corporate Goods' Price Indices (Bank of Japan)), sales to Europe and Asia contributed significantly to the increase in sales to third countries from FY2000 to FY2004. Overseas subsidiaries, which originally played a role as a product supply base mainly for respective countries they were located in, came to play a role as a product supply base for global markets as well.

The ratio of imports among Japan’s overall supply accounted for 11.8% in the third quarter of 2006, showing an increase of 3.8 percentage points from the first quarter of 2000. Dividing overall imports into reverse imports and other imports (referred to as net imports for descriptive purposes), reverse imports increased significantly, and its ratio accounted for 39.0% in the third quarter of 2006, up by 12.5 percentage points from the first quarter of 2000. The expansion of reverse imports contributed largely to the increase in the ratio of imports.

By industry, the ratio of imports among Japan’s overall supply was high for the precision instruments industry, textiles industry, non-ferrous metals industry, and electrical machinery industry in 2006, all showing increases compared to the year 2000. The ratio of reverse imports was high for the precision instruments industry and electrical machinery industry. In contrast, the ratio of net imports was high for the textiles industry and non-ferrous metals industry, for which almost all imports were net imports.

### Changes in Overseas Shipment Index by Sales Destination (Manufacturing Industry)

![Chart showing changes in overseas shipment index by sales destination.]

**Source:** “Global Shipment Index of the Manufacturing Industry” (Estimation)

### Changes in Imports (Manufacturing Industry)

![Chart showing changes in imports.]

**Sources:** “Global Shipment Index of the Manufacturing Industry” (Estimation), “Table of Total Industrial Supply” (Estimated values)

### Comparison of Overall Supply of Manufacturing Industry (By type of industry)

![Chart comparing overall supply of manufacturing industry.]

**Sources:** “Global Shipment Index of the Manufacturing Industry” (Estimation), “Table of Total Industrial Supply” (Estimated values)
We examined how domestic shipments have been affected by shipment activities of overseas subsidiaries. The impacts of overseas shipments on domestic shipments in FY2004 were calculated to be 58.8 trillion yen, which decreased the originally expected amount of domestic shipments (342.2 trillion yen) by 17.2% at the most.

(1) Both domestic shipments and overseas shipments increased for the general machinery industry, electrical machinery industry, and transport equipment industry. An increase in domestic shipments for domestic markets was brought about by expanding domestic demand, and an increase in shipments for exports was due to favorable overseas demand for Japanese products on a scale exceeding active overseas local production. For the transport equipment industry, shipments for local sales and third countries were much larger than those for exports. This shows the progress of the shift from exports to overseas local production.

(2) Domestic shipments declined or leveled off and overseas shipments increased for seven industries including the foods and tobacco industry. The decline or leveling-off in domestic shipments was due to a decrease in shipments for domestic markets, affected by expanding reverse imports and sluggish domestic demand.

(3) Domestic shipments increased and overseas shipments decreased for the iron and steel industry. An increase in domestic shipments for domestic markets was due to an expansion of domestic demand, and an increase in shipments for exports was due to favorable overseas demand for Japanese products. Among foreign demand, only local sales by overseas subsidiaries saw a decrease. There is a possibility that in the progress of technology transfers from Japan to local plants, the quality of local products and price hikes do not necessarily satisfy the needs of local markets. Some companies in the iron and steel industry, which once planned to shift their production bases overseas, started to withdraw and recover their domestic production by responding to active foreign demand with supply from Japan.

Global Shipment Index of Manufacturing Industry and Impacts of Overseas Shipments on Domestic Shipments

<table>
<thead>
<tr>
<th>Global Shipment Index of Manufacturing Industry (4-Period Backward Moving Average)</th>
<th>Impacts of overseas shipments on domestic shipments (FY2004 – FY2000 (billion yen))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic shipments</td>
<td>Overseas shipments</td>
</tr>
<tr>
<td>Domestic markets</td>
<td>For Exports</td>
</tr>
<tr>
<td>15.8 6.4 1.7 5.1 9.2 4.3 2.8 1.9</td>
<td>16,780</td>
</tr>
</tbody>
</table>

(1) Both domestic shipments and overseas shipments increased

(2) Domestic shipments declined or leveled off and overseas shipments increased

(3) Domestic shipments increased and overseas shipments decreased

Note: Among impacts of overseas shipments on domestic shipments, the amount of sales by local subsidiaries was obtained by changing the signs for FY2000 and FY2004 to negative ones and calculating the differences.

Sources: “Global Shipment Index of the Manufacturing Industry” (Estimation), “Basic (Trend) Survey of Overseas Business Activities,” “Trade Statistics” (Ministry of Finance)
It is notable that the amount of reverse imports was large for the electrical machinery industry and precision instruments industry. We examined this by comparing unit prices for exports and imports for these two industries.

For the electrical machinery industry, both reverse imports and domestic shipments increased significantly and there is a possibility that the quality varies between domestic products and products reversely imported. Comparing import unit prices and export unit prices (substituting with unit prices of domestic products) of items of the electrical machinery industry, export unit prices were about 1.8 times as high as import unit prices in 2005. The difference was larger than for items of the precision instruments industry (about 1.5 times). From this fact, it is considered that in the electrical machinery industry, relatively highly-functional (high-value added) products are manufactured in Japan and relatively lower ranked (lower-value added) products are manufactured overseas (by local subsidiaries). As a result, products reversely imported are unlikely to be directly competitive with domestic products, and vertical intraindustry trade has been carried out in part between overseas subsidiaries and Japan.

For the precision instruments industry, overseas shipments increased, while domestic shipments decreased. Furthermore, the portion of reverse imports among overall supply increased and shipments for domestic markets among domestic shipments decreased. All these facts imply the progress of a production shift overseas. Import unit prices of items of the precision instruments industry increased by about $19.6/kg from 2000 to 2005, showing a larger expansion than those of items of the electrical machinery industry (leveling off at about $0.1/kg (id.)). In the precision instruments industry, manufacturing technologies of local subsidiary plants as well as local companies seemed to have improved significantly and have helped production shift from domestic production to overseas production.

As we have seen so far, Japanese manufacturing companies’ production shift overseas has affected domestic shipments in various ways. However, in the long run, Japanese companies’ global expansion will contribute to the economic growth of countries accepting such direct investments and will lead to a further development of Japanese economy.

Changes in the Amount and Unit Prices of Exports and Imports of Items of Electrical Machinery Industry and Precision Instruments Industry

<table>
<thead>
<tr>
<th>Items of electrical machinery industry</th>
<th>Items of precision instruments industry</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image_url" alt="Graph" /></td>
<td><img src="image_url" alt="Graph" /></td>
</tr>
</tbody>
</table>

Source: “Trade Statistics” (Ministry of Finance)
3. Trends by kind of industry

(1) Trend in the manufacturing industry

A. Iron and Steel industry

– Both production and shipments increased for the first time in two years, reflecting favorable domestic and foreign demand. –

① Production increased by 2.2% compared to the previous year, up for the first time in two years, due to increases in hot-rolled steel and steel castings and forgings, reflecting favorable domestic and foreign demand. Shipments also increased by 2.5% (id.), up for the first time in two years, due to increases in all the industries. Inventory decreased by 0.9% compared to the end of the previous year, down for the first time in two years, due to decreases in metallic-coated steel and crude steel, etc.

② Sub-classification by industry

1) Production of crude steel increased by 2.0% compared to the previous year, up for the fifth consecutive year including a leveling-off in 2005.
2) Production of hot-rolled steel increased by 3.2% (id.), up for the first time in two years.
3) Production of steel pipes and tubes increased by 1.6% (id.), up for the first time in two years.
4) Production of cold-finished steel also increased by 1.6% (id.), up for the first time in two years.
5) Production of metallic-coated steel decreased by 0.1% (id.), down for the second consecutive year.
6) Production of steel castings and forgings increased by 2.8% (id.), up for the fourth consecutive year.

B. Non-ferrous metals industry

– Production increased for the second consecutive year, due to increases in optical fiber for communication wires and cables products and die castings, etc. –

① Production increased by 5.6% compared to the previous year, up for the second consecutive year, due to increases in all the industries including electric wires and cables. Shipments also increased by 4.0% (id.), up for the fourth consecutive year, due to increases in all the industries including electric wires and cables. Inventory decreased by 0.8% compared to the end of the previous year, down for the second consecutive year, due to decreases in non-ferrous metal and copper and copper-base alloys and aluminum rolling products, etc.

② Sub-classification by industry

1) Production and shipments of non-ferrous metal increased (compared to the previous year) by 2.8% and by 3.3% (id.) respectively, both rising for the second consecutive year. Inventory decreased by 1.9% compared to the end of the previous year, down for the first time in two years.
2) Production and shipments of copper and copper-base alloys and aluminum rolling products increased (compared to the previous year) by 1.8% and by 2.1% (id.) respectively, up for the first time in two years. Inventory decreased by 0.7% compared to the end of the previous year, down for the first time in two years.
3) Production and shipments of electric wires and cables increased (compared to the
previous year) by 12.1% and by 5.7% respectively, up for the second consecutive year. Inventory decreased by 0.1% compared to the end of the previous year, down for the second consecutive year.

4) Production of non-ferrous metal castings increased by 5.0% compared to the previous year, up for the fifth consecutive year.

C. Fabricated metals industry
– Production decreased for the sixth consecutive year, due to decreases in Steel bridges and aluminium sashes for wooden houses, etc. –

① Production decreased by 0.8% compared to the previous year, down for the sixth consecutive year, due to decreases in fabricated structural metal products and metal products of buildings. Shipments decreased by 1.4% (id.), down for the tenth consecutive year, due to decreases in fabricated structural metal products and equipment for heating and kitchens, etc. Inventory increased by 6.8% compared to the end of the previous year, up for the first time in two years, due to increases in equipment for heating and kitchens, etc.

② Sub-classification by kind of industry

1) Production of fabricated structural metal products decreased by 5.2% compared to the previous year, down for the first time in two years. Shipments decreased by 6.1% (id.), down for the seventh consecutive year.

2) Production of metal products for buildings decreased by 3.1% (id.), down for the sixth consecutive year. Shipments decreased by 1.2% (id.), down for the second consecutive year. Inventory decreased by 9.3% compared to the end of the previous year, down for the second consecutive year.

3) Production of equipment for heating and kitchens increased by 3.2% compared to the previous year, up for the first time in five years. Shipments decreased by 4.2% (id.), down for the third consecutive year. Inventory increased by 36.5% compared to the end of the previous year, up for the first time in two years.

4) Production of other metal products increased by 0.8% compared to the previous year, up for the fourth consecutive year. Shipments increased by 0.6% (id.), up for the third consecutive year. Inventory also increased by 6.0% compared to the end of the previous year, up for the first time in six years.

D. General machinery industry
– Both production and shipments increased for the fourth consecutive year, due to increases in special industrial machinery and engineering and construction machinery, etc. –

① Production increased by 6.0%, rising for the fourth consecutive year compared to the previous year, due to increases in special industrial machinery, engineering and construction machinery, boilers and power units, fans, pumps and oil hydraulic equipment, and industrial robots, etc. Shipments also increased by 5.8% (id.), up for the fourth consecutive year, due to increases in special industrial machinery, engineering and construction machinery, fans, pumps and oil hydraulic equipment, boilers and power units,
and parts of industrial machinery, etc. Inventory increased by 0.3% compared to the end of the previous year, up for the third consecutive year, due to increases in metal cutting machinery, tools for machines, engineering and construction machinery, other industry machinery, and metal forming machinery, etc. Inventory ratio decreased by 1.4% compared to the previous year, down for the first time in two years.

② Sub-classification by kind of industry

1) Production of **special industrial machinery** increased by 13.5% (id.), up for the first time in two years, due to increases in semiconductor products machinery, flat-panel display manufacturing equipment, printing machinery, and injection molding machinery, etc.

2) Production of **engineering and construction machinery** increased by 14.7% (id.), up for the fourth consecutive year, due to increases in shovel type excavators, construction cranes, and earth finishing machinery.

3) Production of **boilers and power units** increased by 11.1% (id.), up for the third consecutive year, due to increases in steam turbines for general use, water-tube boilers, internal combustion engines for industry and parts and accessories of steam turbines.

4) Production of **Fans, pumps and oil hydraulic equipment** increased by 7.4% (id.), up for the fourth consecutive year, due to increases in pneumatic equipment, oil hydraulic equipments, and fans and blowers.

5) Production of **industrial robots** increased by 8.7% (id.), up for the fourth consecutive year, due to an increase in numerically controlled robots.

6) Production of **office machinery** decreased by 31.4% (id.), down for the second consecutive year, due to decreases in digital and full color copying machines and duplicating machines.

7) Production of **refrigerating machines and appliances** decreased by 1.8%, down for the second consecutive year, due to decreases in refrigerating machines for general refrigeration and air conditioning, packaged type air conditioners, and refrigerating display cabinets, etc.

E. Electric machinery industry

- **Production increased for the fourth consecutive year, due to increases in lithium ion storage batteries and switching devices, etc.** -

① Production increased by 6.0% compared to the previous year, up for the fourth consecutive year, due to increases in all the industries, including batteries, switching devices, and electrical rotating machinery, etc. Shipments increased by 6.0% (id.), up for the fourth consecutive year, due to increases in all the industries, including batteries, switching devices, and electrical rotating machinery, etc. In spite of a decrease in household electrical machinery, inventory increased by 3.7% compared to the end of the previous year, due to increases in batteries, electrical stationary machinery, and wiring devices and luminaries, etc. Inventory ratio decreased by 4.6% compared to the previous year, down for the first time in two years.

② Sub-classification by kind of industry
1) Although there were decreases in alkaline storage batteries, etc., production of batteries increased by 11.9% (id.), up for the fifth consecutive year, due to increases in lithium batteries, etc. as well as in lithium ion storage batteries with an expanding demand for those for cellular telephones and personal computers, and lead acid storage batteries with a favorable demand for those for automobiles.

2) Although there was a decrease in electromagnetic clutches, production of switching devices increased by 6.8% (id.), up for the third consecutive year, due to increases in programmable controllers and electromagnetic relays, as well as in switching and controlling equipment with an increase in demand for monitoring control equipment for domestic power companies.

3) In spite of a decrease in single phase induction motors, production of electrical rotating machinery increased by 5.2% (id.), up for the first time in two years, due to an increase in servo motors for semiconductor products machinery, machine tools, and industrial robots, an increase in small capacity motors for motor vehicle parts, digital cameras, and surveillance cameras, and an increase in three phase induction motors for individual purposes for domestic and overseas markets.

F. Information and communication electronics equipment industry
– Production increased for the first time in three years, due to increases in digital cameras, liquid crystal televisions, and terminal equipment, etc.–

① Production increased by 4.4% compared to the previous year, up for the first time in three years, due to increases in all the industries, including household electronic machinery, electronic computers, and communication equipment. Shipments increased by 2.8% (id.), up for the first time in two years, due to increases in all the industries, including household electronic machinery, electronic computers, and communication equipment. In spite of an increase in liquid crystal television, inventory decreased by 7.2% compared to the end of the previous year, down for the first time in two years, due to decreases in color televisions, DVD-videos, and video tape recorders. The inventory ratio increased by 10.0% compared to the previous year, up for the first time in two years.

② Sub-classification by industry
1) Although there were decreases in video cameras, etc., production of household electronic machinery increased by 12.6% (id.), up for the fifth consecutive year, due to increases in digital cameras with favorable demand for exports to the U.S. and in liquid crystal televisions with expanding demand caused by the 2006 World Cup.

2) In spite of decreases in personal computers, production of electronic computers increased by 0.5% (id.), up for the first time in two years, because terminal equipment increased with increasing orders for automatic teller machines and other terminal equipment for the financial industry, external storage increased with increasing orders for high-end models for domestic and overseas markets, and general-purpose computers also increased with increasing orders for high-end models for the domestic communications industry.

3) In spite of decreases in electric switching systems, etc., production of communication equipment increased by 0.5% (id.), up for the first time in three
years, because there were increases in PHS, etc., as well as in fixed communication equipment, with receiving of increasing orders for wireless disaster-prevention systems for municipalities, and in cellular telephones, for which orders increased due to an increasing demand for switching to highly-functional models with enhanced music functions and introduction of new models accompanied with the start of the number portability system.

G. Electronic parts and device industry

– Production increased for the fifth consecutive year, due to increases in metal oxide semiconductor ICs (memory) and active matrix LCDs (middle and small), etc. –

1. Production and shipments increased (compared to the previous year) by 19.4% and by 17.9% respectively, up for the fifth consecutive year, due to increases in all the industries, including integrated circuits, electronic parts, and semiconductor parts, etc. Inventory increased by 37.5% compared to the end of the previous year, up for the first time in two years, due to increases in all the industries, such as integrated circuits, electronic parts, and semiconductor parts, etc. The inventory ratio also increased by 7.7% compared to the previous year, up for the third consecutive year.

2. Sub-classification by industry

1) In spite of a decrease in bipolar ICs, production of integrated circuits increased by 20.7% (id.), up for the first time in two years, due to increases in metal oxide semiconductor ICs (memory) mainly for cellular telephones, in metal oxide semiconductor ICs (logic ICs) for game machines, liquid crystal televisions, and cellular telephones, and metal oxide semiconductor ICs (CCD) for cellular telephones, etc.

2) In spite of a decrease in active matrix LCDs (large), etc., production of electronic parts increased by 18.9% (id.), up for the fifth consecutive year, due to the following reasons: active matrix LCDs (middle and small) increased with an increasing demand for cellular telephones; and fixed capacitors increased not only due to an increasing demand for personal computers and cellular telephones, but also due to an increase in small high-capacity ceramic capacitors, caused by an increase in loading number through advancement of functions.

H. Transport equipment industry

– Both production and shipments increased for the fifth consecutive year, due to increases in passenger cars, etc. –

1. Production of transport equipment increased by 5.1% compared to the previous year, up for the fifth consecutive year, due to increases in passenger cars, motor vehicle parts, and industrial vehicles, etc. Shipments also increased by 7.8% (id.), up for the fifth consecutive year, due to increases in passenger cars, motor vehicle parts, and ships and ships engines, etc. Inventory increased by 12.3% compared to the end of the previous year, up for the second consecutive year, due to increases in passenger cars, motorcycles, and buses. The inventory ratio increased by 3.1% compared to the previous year, up for the second consecutive year.
Sub-classification by industry

1) Production of **passenger cars** increased by 11.1% (id.), up for the third consecutive year. By goods, large passenger cars increased by 16.0% (id.), up for the eighth consecutive year, due to increases in domestic demand as well as in exports mainly to the U.S. and Europe. Midget passenger cars increased by 9.2% (id.), up for the third consecutive year, due to the effect of the introduction of new models and consumers’ preference for midget cars with good mileage in the domestic market. In contrast, in spite of an increase in exports to the U.S. and Europe, small passenger cars decreased by 1.8%, down for the first time in two years, due to a decrease in domestic use.

2) Production of **trucks** decreased by 3.8% (id.), down for the third consecutive year. By goods, in spite of an increase in exports to the U.S. and East Asia, large trucks decreased by 3.6% (id.), down for the third consecutive year, due to a decrease in domestic use. In spite of an increase in exports to the Middle East and the U.S., small trucks decreased by 4.0%, down for the third consecutive year, due to a decrease in domestic use. Midget trucks also decreased by 4.7% (id.), down for the first time in two years, due to a decrease in domestic use.

3) Production of **motor vehicle parts** increased by 6.2% (id.), up for the eighth consecutive year, due to increases in all goods, including the chassis and body parts, drive, transmission and control parts, and suspension and brake parts, etc.

4) Production of **motorcycles** increased by 2.3% (id.), up for the third consecutive year, due to an increase in motorcycles of more than 125ml, although there was a decrease in motorcycles of less than 125ml.

Number of registrations and reports of new vehicles

Looking at domestic demand of automobiles by the number of new registrations and reports of new vehicles, the number of vehicles, as a whole, stood at 5.74 million (a decrease of 1.9% (id.), down for the first time in four years). Within this figure, passenger cars were 4.642 million, a decrease of 2.2% (id.), down for the second consecutive year. Trucks were 1.08 million, a decrease of 0.5% (id.), down for the first time in two years. Buses were 18 thousand, a decrease of 0.9% (id.), down for the third consecutive year.

I. Precision instruments industry

- Production increased for the fourth consecutive year, due to increases in interchangeable lenses for cameras and analytical instruments, etc.

  1. In spite of a decrease in watches and clocks, production increased by 7.2% compared to the previous year, up for the fourth consecutive year, due to increases in measuring machines and instruments, and optical apparatus and parts. In spite of a decrease in watches and clocks, shipments increased by 2.2% (id.), up for the third consecutive year, due to increases in measuring machines and instruments, and optical apparatus and parts. In spite of a decrease in optical apparatus and parts, inventory increased by 24.3% compared to the end of the previous year, up for the first time in five years, due to increases in measuring machines and instruments and watches and clocks. The inventory ratio increased by 1.6% compared to the previous year, up for the first time in five years.
② Sub-classification by industry

1) In spite of decreases in testing machines, production of measuring machines and instruments increased by 6.3% (id.), up for the fourth consecutive year, because analytical instruments increased due to increases in photometric analysis equipment and chromatography-separation-distillation equipment, and gas-meters and precision measuring machines and instruments increased due to a production increase preparing for an expected demand increase for replacing products whose test period expires in 2006 due to the revision of the Measurement Act in November, 1993.

2) In spite of a decrease in 35mm cameras, production of optical apparatus and parts increased by 20.7% compared to the previous year, up for the third consecutive year, due to an increase in interchangeable lenses for cameras as a result of a production increase of special models accompanied with the release of new models corresponding to single lens reflex digital cameras.

3) Production of watches and clocks decreased by 4.6% compared to the previous year, down for the eighth consecutive year, due to decreases in all goods, including battery driven type watches (complete) and battery driven type clocks, as well as battery driven type watches (movement) whose decrease had been caused by development of foreign makers, including Chinese ones.

J. Ceramics, stone and clay products industry

Both production and shipments decreased for the sixth consecutive year, due to a decrease in glass and glass products caused by discontinuing production of cathode-ray tubes. –

① Although there was an increase of 1.4% compared to the previous year in other ceramics, stone and clay products, production decreased by 2.3% (id.), down for the sixth consecutive year, due to decreases in glass and glass products (down by 6.0% (id.)), ceramic wares and fine ceramics (down by 2.6% (id.)), and cement and cement products (down by 0.4% (id.)). Shipments decreased by 1.8% (id.), down for the sixth consecutive year, due to decreases in glass and glass products (down by 4.7% (id.)), ceramic wares and fine ceramics (down by 3.4% (id.)), and cement and cement products (down by 0.5% (id.)). Inventory also decreased by 2.6% compared to the end of the previous year, down for the fifth consecutive year, due to decreases in glass and glass products, ceramic wares and fine ceramics, and other ceramics, stone and clay products. The inventory ratio increased by 0.8% compared to the previous year.

② Sub-classification by industry

1) Although glass such as safety glass and glass fiber wool products increased due to favorable demand for automobiles and construction, production of glass and glass products decreased by 6.0% compared to the previous year, down for the third consecutive year, because there were decreases in all goods of glass products, including a sharp decline of glass products due to discontinuing production of cathode-ray tubes.

2) Although cement increased due to demand for redevelopment and disaster-relief work, production of cement and cement products decreased by 0.4% (id.), down for the
first time in two years, due to a decrease in cement products especially for civil engineering work caused by weakness in public construction works

3) Production of **ceramic wares and fine ceramics** decreased by 2.6% (id.), down for the sixth consecutive year, due to a decrease in fine ceramics for structural use, as well as a decrease in ceramic wares, including ceramic wares for tableware and kitchenware, and tiles, due to an increase in inexpensive imports and a decrease in demand.

4) Production of **other ceramics, stone and clay products** increased by 1.4% (id.), up for the fourth consecutive year, due to increases in gypsum boards, quick lime, refractory bricks, solidity carbonaceous electrodes, and monolithic refractory.

**K. Chemicals (excl. Drugs) industry**

- **Production decreased for the first time in five years, and shipments leveled off.** –

  ① Production decreased by 0.9% compared to the previous year, down for the first time in five years, due to decreases in industrial organic chemicals, cyclic chemicals and synthetic dyes, and sensitive materials for photography, etc. Shipments leveled off at 0.0% (id.), because there were increases in cosmetics, plastic (materials), and aromatic hydrocarbons (petroleum, origin), while there were decreases in industrial organic chemicals, sensitive materials for photography and cyclic chemicals and synthetic dyes, etc. Inventory decreased by 1.3% compared to the end of the previous year, down for the first time in two years, due to decreases in plastic (materials), cyclic chemicals and synthetic dyes, industrial inorganic chemicals, pigment and catalyst, etc.

  ② Sub-classification by industry

  1) Production of **industrial organic chemicals** decreased by 3.3% compared to the previous year, down for the first time in four years, due to decreases in acrylonitrile, ethylene glycol, ethylene dichloride, and phthalate plasticizers, etc.

  2) Production of **cyclic chemicals and synthetic dyes** decreased by 3.1% (id.), down for the second consecutive year, due to decreases in phenol, styrene monomer, and phthalic anhydride, etc.

  3) Production of **sensitive materials for photography** decreased by 6.0%, down for the sixth consecutive year, due to decreases in color rolled films, and color sensitized paper.

**L. Petroleum and coal products industry**

- **Both production and shipments decreased for the first time in two years, due to decreases in gasoline and kerosene.** –

  ① In spite of increases in coke and naphtha, production decreased by 1.6% compared to the previous year, down for the first time in two years, due to decreases in gasoline, kerosene, and heavy fuel oil B and C, etc. In spite of increases in coke and gas oil, shipments decreased by 2.0% (id.), down for the first time in two years, due to decreases in kerosene, gasoline, and heavy fuel oil B and C, and naphtha, etc. In spite of decreases in coke and gas oil, inventory increased by 7.4% compared to the end of the previous year, up for the first time in three years, due to increases in kerosene, heavy fuel oil B and C,
and naphtha, etc. The inventory ratio increased by 2.8% compared to the previous year, up for the second consecutive year.

2) Trends in major items

1) Production of gasoline decreased by 0.9% compared to the previous year, down for the first time in two years. Shipments decreased by 1.0% (id.), down for the first time in four years, with a decrease in the number of gasoline-fueled vehicles. Inventory increased by 0.8% compared to the end of the previous year, up for the first time in two years.

2) Production of naphtha increased by 0.8% compared to the previous year, up for the sixth consecutive year. Shipments decreased by 1.6% (id.), down for the first time in two years, due to production decrease of pure benzene, ethylene, and pure toluene for petrochemicals, which is a major recipient. Inventory increased by 2.6% compared to the end of the previous year, up for the third consecutive year.

3) Production of kerosene decreased by 5.2% compared to the previous year, and shipments also decreased by 7.2% (id.), both down for the first time in two years, because demand for kerosene for heating declined due to the warm winter and fuel conversion in the industrial sector had progressed. Inventory increased significantly by 34.3% compared to the end of the previous year, due to a decrease in shipments.

4) Production of gas oil decreased by 0.1% compared to the previous year, down for the first time in three years. Shipments increased by 0.1% (id.), up for the third consecutive year. This was due to steady movement of domestic cargoes, although the number of gas oil-fueled vehicles had been decreasing. Inventory decreased by 1.3% compared to the end of the previous year, down for the first time in two years.

5) Production of heavy fuel oil B and C decreased by 4.1% compared to the previous year, down for the third consecutive year. Shipments also decreased by 5.1% (id.), down for the first time in two years, due to a decrease in demand for electricity and the progress of fuel conversion for industrial demand. Inventory increased by 10.8% compared to the end of the previous year, up for the first time in three years.

6) Due to an increase in steel production, production of coal products (coke) increased by 1.2% compared to the previous year, up for the first time in three years. Shipments increased by 5.7% (id.), up for the first time in two years, due to an increase in demand for exports. Inventory decreased by 24.7% compared to the end of the previous year, down for the first time in two years.

M. Plastic products industry

– Both production and shipments increased for the first time in two years due to increases in plastic products for machine tools and parts. –

1) Production and shipments both increased by 0.8% compared to the previous year, up for the first time in two years, due to increases in manufacturing material-related production, although there were decreases in construction material-related production and consumption material-related production. In spite of a decrease in construction material-related production, inventory also increased by 2.3% compared to the end of the previous year, up for the second consecutive year, due to increases in manufacturing material-
related production and consumption material-related production.

② Production by use

1) In **manufacturing material-related items**, plastic products for machine tools and parts increased by 3.5% compared to the previous year, up for the first time in two years, due to an increase in parts for transport equipment. Plastic containers blow-molding increased by 3.0% (id.), up for the first time in two years, due to a favorable demand for PET bottles for drinks backed by higher temperatures than usual. Plastic synthetic leathers also increased by 0.6% (id.), up for the fourth consecutive year, due to an increase in demand for automobile interiors, etc. In contrast, plastic containers (excl. blow-molding) decreased by 1.2% (id.), down for the first time in four years, due to decreases in pallets for transportation and containers for industrial use, etc.

2) In **consumption material-related items**, plastic products for daily necessaries and miscellaneous goods decreased by 4.0% compared to the previous year, down for the eleventh consecutive year, including a leveling-off period, due to decreases in storage goods and gardening supplies. Plastic formed products also decreased by 1.3% (id.), down for the second consecutive year, due to decreases in styrene paper for foods, etc. Plastic film and plastic sheets decreased by 0.2% (id.), down for the second consecutive year, due to decreases in film for agriculture, as well as in wrapping film with the influence of a price hike.

3) In **construction material-related items**, plastic pipes decreased by 5.8% compared to the previous year, down for the second consecutive year, because PVC pipes decreased due to decreasing public works and a price hike. There were also decreases in plastic plates by 5.5% (id.), down for the second consecutive year due to a decrease in corrugated plates, plastic reinforced products by 3.4% (id.), down for the first time in two years due to decreases in bathtubs, etc., and plastic materials for buildings by 0.2% (id.), down for the second consecutive year due to decreases in rain gutters and their accessories.

**N. Pulp, paper and paper products industry**

- **Both production and shipments increased for the third consecutive year.** –

  ① In spite of a decrease in paperboard, production increased by 0.6% compared to the previous year, up for the third consecutive year, due to increases in paper, converted and processed paper, and pulp. In spite of a decrease in paperboard, shipments also increased by 0.9% (id.), up for the third consecutive year, due to increases in paper, converted and processed paper, and pulp. Inventory increased by 0.3% compared to the end of the previous year, up for the fourth consecutive year, due to increases in paper, and converted and processed paper, although there were decreases in pulp and paperboard.

  ② Sub-classification by industry

  1) In spite of decreases in uncoated printing paper, communication paper, and wrapping and packing paper, production of **paper** increased by 0.6%, compared to the previous year, up for the third consecutive year, due to increases in coated printing paper, newsprint paper in rolls, and household and sanitary paper. In spite of a decrease in
uncoated printing paper, shipments increased by 1.1% (id.), up for the third consecutive year, due to increases in newsprint paper in rolls, household and sanitary paper, wrapping and packing paper, and communication paper. Inventory increased by 0.6% compared to the end of the previous year, up for the fourth consecutive year.

2) Production of **paperboard** decreased by 0.2% compared to the previous year due to a decrease in paperboard for paper containers and shipments decreased by 0.4% (id.) due to decreases in paperboard for paper containers and container board, both down for the sixth consecutive year. Inventory decreased by 0.6% compared to the end of the previous year, down for the first time in three years.

3) Production of **converted and processed paper (corrugated cardboard sheets)** increased by 1.0% compared to the previous year, up for the fifth consecutive year. Shipments increased by 0.8% (id.), up for the fourth consecutive year.

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**O. Textiles industry**

- Both production and shipments decreased mainly in clothes and woven fabrics.

1) Production decreased by 3.8% compared to the previous year, down for the 18th consecutive year since 1989, due to decreases in all the industries, including clothes, woven fabrics, and man-made fibers, etc., but excluding other textile products. This was due to sluggish domestic demand affected by bad weather conditions, such as a long rainy season and a warm winter, and an increase in manufactured imports. Shipments also decreased by 2.8% (id.), down for the 18th consecutive year, due to decreases in all the industries, including clothes, woven fabrics, and man-made fibers, etc. Inventory decreased by 3.4% compared to the end of the previous year, down for the ninth consecutive year, due to decreases in industries including spun yarn, man-made fibers, and woven fabrics, but excluding other textile products.

2) Sub-classification by industry

1) Production of **man-made fibers** decreased by 2.8% compared to the previous year, and shipments decreased by 2.4% (id.). This is due to decreases in synthetic fibers (filament) and synthetic fibers (staple) due to sluggish demand for clothes and the influence of a fire accident at certain establishments. Inventory decreased by 7.4% compared to the end of the previous year, due to decreases both in synthetic fibers (filament) and synthetic fibers (staple).

2) Production of **spun yarn** decreased by 7.5% compared to the previous year, and shipments decreased by 3.4% (id.). This is due to decreases in cotton yarn and synthetic fiber yarn resulting from reduction of domestic production scale. Inventory decreased by 20.9% compared to the end of the previous year, due to decreases in all the goods including cotton yarn.

3) Production and shipments of **woven fabrics** decreased (compared to the previous year) by 5.3% and by 6.0% respectively. This is because synthetic fiber fabrics (filament), silk and spun silk fabrics, and cotton fabrics, etc. decreased due to sluggish demand for women’s clothes. Inventory decreased by 5.9% compared to the end of the previous year, due to decreases in synthetic fiber fabrics (filament) and cotton fabrics, etc.
4) Production and shipments of **clothes** decreased (compared to the previous year) by 6.5% and by 4.0% respectively. This is due to decreases in all the goods, such as woven fabrics outer wear, knitted fabrics outer wear, and hosiery owing to an increase in manufactured imports and a decline in demand caused by bad weather conditions. In spite of increases in woven fabrics outer wear and under wear, inventory decreased by 1.0% compared to the end of the previous year, due to a decrease in knitted fabrics outer wear.
(2) Trends in the tertiary industry

A. Commerce

① The total sales amount for the wholesale industry was 450.6940 trillion yen. Total sales increased by 6.2% compared to the previous year, up for the third consecutive year, due to the following reasons. Although the agricultural, livestock and aquatic products wholesale industry decreased, there were increases in the mineral and metal materials wholesale industry and the machinery and equipment wholesale industry due to favorable conditions mainly in exports of machinery for construction and mines, machine tools, electronic parts such as semiconductors, and automobiles.

② The total sales amount for large wholesalers was 121.1608 trillion yen. Total sales increased by 6.2% (id.), up for the third consecutive year.

③ The total sales amount for the retail industry was 129.7850 trillion yen. Although there were decreases in the motor vehicles retail industry, etc., total sales increased by 0.2% (id.), up for the second consecutive year, due to increases in other retail industries and in the fuel retail industry, resulting from a price hike of petroleum products due to an upsurge in crude oil.

④ The total sales amount for large retailers was 21.1483 trillion yen, decreasing by 0.8% (id.), down for the ninth consecutive year.

⑤ The total sales amount and service sales amount for convenience stores was 7.3990 trillion yen, increasing by 0.5% (id.).

B. Specific service industries

• Business support services

① The contract amount for commodity leases (based on acceptance inspection) decreased by 0.6% compared to the previous year, down for the first time in three years. The purchase amount for delivery items also decreased by 0.5% (id.).

② The total sales amount for the rental industry increased by 0.6% (id.), up for the second consecutive year.

③ The total sales amount for the information service industry increased by 4.5% (id.), up for the third consecutive year.

④ The total sales amount for advertising increased by 0.2% (id.), up for the fourth consecutive year. “Transportation advertisement” and “insertions and direct mail” were especially active.

⑤ The total amount handled by the credit card services increased by 9.5% (id.). By type of business, sales credit business increased by 12.3% (id.), while consumer credit business decreased by 1.1% (id.).

⑥ The total amount of orders received in engineering services decreased by 3.0% (id.). The breakdown shows that foreign demand decreased by 7.1% (id.) and domestic demand decreased by 1.4% (id.).

• Personal services

① In the leisure and amusement services, pachinko parlors, amusement parks and theme parks, and golf practice ranges increased, while golf courses, bowling alleys, movie theaters, theater and performance facilities, and companies promoting professional sports
and performances decreased.

② In the culture and lifestyle services, sales increased for all types of business except cultural centers.