3. Trends in supply and final demand

(1) Summary of supply and shipment

All industries' supply for consumption rose 0.4% from the preceding quarter, the fifth consecutive increase. All industries' supply for personal consumption grew 0.6% from the preceding quarter, while that for government consumption leveled off.

All industries' supply for investment increased 1.2% after a decline in the preceding quarter. All industries' supply for public investment fell 2.0%, while that for private housing rose 2.4% and that for private equipment investment rose 1.1%.

All industries' supply for consumption and investment (1995=100; change on preceding year and quarter; seasonally adjusted) (estimates)

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</thead>
<tbody>
<tr>
<td></td>
<td>Change on preceding year</td>
<td>Change on preceding year</td>
<td>1~3</td>
<td>4~6</td>
<td>7~9</td>
</tr>
<tr>
<td>Consumption</td>
<td>-1.6</td>
<td>0.9</td>
<td>0.1</td>
<td>-0.7</td>
<td>0.3</td>
</tr>
<tr>
<td>Personal consumption</td>
<td>-1.9</td>
<td>1.0</td>
<td>0.0</td>
<td>-1.0</td>
<td>0.4</td>
</tr>
<tr>
<td>Government consumption</td>
<td>-0.1</td>
<td>0.7</td>
<td>0.5</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Investment</td>
<td>-7.1</td>
<td>0.2</td>
<td>0.7</td>
<td>-5.3</td>
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</tr>
<tr>
<td>Public investment</td>
<td>-1.5</td>
<td>3.9</td>
<td>-2.0</td>
<td>-0.8</td>
<td>1.4</td>
</tr>
<tr>
<td>Private housing</td>
<td>-12.5</td>
<td>1.3</td>
<td>0.1</td>
<td>-1.6</td>
<td>-1.6</td>
</tr>
<tr>
<td>Private equipment investment</td>
<td>-8.2</td>
<td>-2.1</td>
<td>1.2</td>
<td>-8.0</td>
<td>-2.2</td>
</tr>
</tbody>
</table>

Source: "Comprehensive Table of Industrial Supply"; "Indices of Tertiary Industry Activities"; "Comprehensive Construction Statistics" (Ministry of Construction); "Construction Price Index" (Construction Price Survey Group); and "Input-Output Table for 1995" (Management and Coordination Agency).

Domestic shipments of consumer goods rose 0.9% from the previous quarter, the second consecutive increase. Domestic shipments of durable and nondurable consumer goods increased by 0.7% and 1.2% respectively.

Domestic shipments of investment goods rose 1.3%, the third consecutive growth. While domestic shipments of construction materials fell 1.8%, those of capital goods rose 1.9%.

Because exports to Europe shrank, the total exports fell 1.2%, the first decrease in three quarters. The total imports fell 0.3% after a rise in the preceding quarter, because imports from Europe declined.
Domestic shipment and export (1995=100; change on preceding year; seasonally adjusted change on preceding quarter)

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</thead>
<tbody>
<tr>
<td>Domestic shipment</td>
<td>-7.8</td>
<td>1.3</td>
<td>-1.6</td>
<td>-4.9</td>
<td>0.0</td>
<td>-0.1</td>
<td>2.0</td>
<td>-1.3</td>
<td>2.8</td>
<td>1.8</td>
<td>1.1</td>
</tr>
<tr>
<td>Final demand goods</td>
<td>-8.3</td>
<td>-0.9</td>
<td>-0.5</td>
<td>-5.4</td>
<td>-0.1</td>
<td>-0.4</td>
<td>1.4</td>
<td>-2.4</td>
<td>2.2</td>
<td>0.9</td>
<td>1.0</td>
</tr>
<tr>
<td>Investment goods</td>
<td>-12.3</td>
<td>-2.4</td>
<td>0.3</td>
<td>-10.4</td>
<td>0.2</td>
<td>-3.3</td>
<td>4.2</td>
<td>-5.3</td>
<td>6.1</td>
<td>0.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Capital goods</td>
<td>-12.8</td>
<td>-1.9</td>
<td>0.8</td>
<td>-12.6</td>
<td>0.6</td>
<td>-4.2</td>
<td>5.4</td>
<td>-5.9</td>
<td>8.0</td>
<td>0.4</td>
<td>1.9</td>
</tr>
<tr>
<td>Construction materials</td>
<td>-10.9</td>
<td>-3.6</td>
<td>-1.6</td>
<td>-5.1</td>
<td>-0.1</td>
<td>-1.9</td>
<td>0.5</td>
<td>-2.8</td>
<td>2.4</td>
<td>-0.2</td>
<td>-1.8</td>
</tr>
<tr>
<td>Consumer goods</td>
<td>-4.4</td>
<td>0.3</td>
<td>-0.6</td>
<td>-1.5</td>
<td>0.4</td>
<td>1.2</td>
<td>-0.6</td>
<td>0.3</td>
<td>-0.4</td>
<td>1.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Durable consumer goods</td>
<td>-6.4</td>
<td>1.1</td>
<td>-1.7</td>
<td>-0.7</td>
<td>1.5</td>
<td>2.2</td>
<td>-2.2</td>
<td>0.3</td>
<td>0.7</td>
<td>2.3</td>
<td>0.7</td>
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<tr>
<td>Non-durable consumer goods</td>
<td>-3.2</td>
<td>-0.1</td>
<td>-0.5</td>
<td>-1.2</td>
<td>-0.5</td>
<td>0.6</td>
<td>0.7</td>
<td>-0.4</td>
<td>-0.7</td>
<td>0.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Export shipment</td>
<td>-0.1</td>
<td>1.6</td>
<td>-3.2</td>
<td>0.3</td>
<td>2.1</td>
<td>-3.4</td>
<td>1.8</td>
<td>-2.0</td>
<td>5.1</td>
<td>3.0</td>
<td>-1.2</td>
</tr>
<tr>
<td>Final demand goods</td>
<td>0.6</td>
<td>-3.7</td>
<td>-2.6</td>
<td>-1.0</td>
<td>1.8</td>
<td>-3.4</td>
<td>0.9</td>
<td>-6.3</td>
<td>4.9</td>
<td>1.2</td>
<td>-2.0</td>
</tr>
<tr>
<td>Producer goods</td>
<td>-1.1</td>
<td>9.2</td>
<td>-4.3</td>
<td>1.9</td>
<td>2.9</td>
<td>-3.6</td>
<td>1.9</td>
<td>5.2</td>
<td>6.0</td>
<td>5.1</td>
<td>-1.2</td>
</tr>
</tbody>
</table>

Source: "Breakdown List of Industrial Shipment"
(2) Supply for consumption and trends in consumption

Supply for consumption

According to the indices of all industries' supply for personal consumption (estimates), supply rose 0.6% after a decrease in the preceding quarter. Industrial supply rose 1.8%, the second consecutive increase. It rose chiefly in the electrical machinery industry and the food and tobacco industry. Supply from the tertiary industries increased 0.2% after a decline in the preceding quarter.

Indices of all industries' supply for personal consumption (estimates) (seasonally adjusted; 1995=100)

Source: "Comprehensive Table of Industrial Supply" and "Indices of Tertiary Industry Activities"; and "Input-Output Table for 1995" (Management and Coordination Agency).

Industrial supply (seasonally adjusted; 1995=100)

Source: "Comprehensive Table of Industrial Supply" and "Indices of Tertiary Industry Activities"; and "Input-Output Table for 1995" (Management and Coordination Agency).
Trends in consumption by households including single-member households

All households' real consumption expenditure has been sluggish from the second half of 1997. In the second half of 1999, it declined 1.9% compared with the same period a year earlier. Consumption expenditure of single-member households (which are not included in all households' real consumption expenditure) has been in an uptrend since the second half of 1998. In the second half of 1999, it increased 2.1% compared with the same period a year earlier. All industries' supply for personal consumption rose 1.2% in the second half of 1999.

Real consumption expenditure of all households and single-member households (compared with the same period a year earlier)

Note: All households are those covered by "Report of the Family Income and Expenditure"; single-member households are those covered by "Single-member Household Income and Expenditure Survey." The latter survey has been published semiannually since 1995. We compared changes on a year earlier since 1996.

(3) Supply for investment and trends in investment

Supply for investment

According to the index of all industries' supply for investment (estimate), supply rose 1.2% after a decline in the preceding quarter. Generally, supply has remained at the same level in recent years. Supply from the tertiary industries decreased for the first time in three quarters, while supply from the construction industries leveled off, and supply from mining and manufacturing industries rose consecutive three quarters.

By demand, while supply for public investment decreased for three quarters, supply for private housing rose after a decline in the preceding quarter, and supply for private equipment investment increased for the third quarter in a row.

Indices of all industries' supply for investment (estimate) (seasonally adjusted; 1995=100)

Source: "Comprehensive Table of Industrial Supply" and "Index of Tertiary Industry Activities"; "Comprehensive Construction Statistics" (Ministry of Construction); "Construction Price Index" (Construction Price Survey Group); and "Input-Output Table for 1995" (Management and Coordination Agency).
Factors for capital investment

With regard to trends in manufacturers' capital investment, we analyzed the following factors: trends in sales (demand factor); profit from investment (profit factor); understanding of existing capital stock (stock adjustment factor); and debt burden rate (balance-sheet adjustment factor). The stock adjustment factor and the balance-sheet adjustment factor have almost consistently had a negative effect on investment since 1992. The profit factor has had a positive effect on investment since 1995 because of the central bank's credit-easing stance. This positive effect is expanding because of better environments for profitability. The demand factor's negative effect is gradually shrinking.

We forecast that the stock adjustment factor and the balance-sheet adjustment factor will have a negative effect on investment for the time being, but investment will recover because of improvement in the demand factor and the profit factor.
Analysis of factors for capital investment (manufacturing industries)

1. The following are the formula for estimating capital investment through factor analysis and the result of the estimate:
   \[ I = 0.63*DS(-1) + 2.29*PR - 0.59*ST - 0.96*BS \]
   (2.8) (3.6) (-5.4) (-2.5)
   adj R² = 0.85    D.W. = 0.46
   Numbers in parentheses are T values.

   * The estimate covers the quarters from the January-March quarter of 1985 to the October-December quarter of 1999.

   I (capital investment): value of new tangible fixed assets (compared with the same quarter a year earlier)
   DS (demand factor): sales (compared with the same quarter a year earlier)
   PR (profit factor): pretax return on total assets (before interest payment) - contracted interest of
domestic bank (general)
   ST (stock adjustment factor): production facilities D1 (manufacturing) - average during the quarters covered by
the estimate
   BS (balance-sheet adjustment factor): debt burden rate - average during the quarters covered by the estimate

   * Debt burden rate = long-term debt / cash flow (seasonally adjusted) □ 100
   Long-term debt = corporate bonds + long-term loans
   Cash flow = pretax profit □ 1/2 + depreciation

2. We calculated the capital investment and the demand factor by the method of moving averages, taking into consideration
preceding two quarters.

Source: "Quarterly Report of the Business and Investment Survey of Incorporated Enterprises" (Ministry of Finance);
"Monthly Report of Finance and Economy Statistics"; and
"Survey of Short-term Business Conditions of Domestic Enterprises" (Bank of Japan).

\[ \square \] Trends in machinery orders

The order-sales ratios remarkably increased with regard to the capital goods for production facilities, transportation, and electric power. When the order-sales ratio exceeds 100, shipments of capital goods are expected to rise.
Order index, sales index, and order-sales ratio by use

Order index and sales index

Order index
Sales index

Order-sales ratio

Note:
1. We calculated the order and sales indices as follows: we seasonally adjusted orders and sales by X-12 and X-11, made them indices (1995=100), and calculated the moving averages of them, taking into consideration preceding two quarters.
2. The order-sales ratio = order index / sales index \( \times 100 \)
3. We classified machines according to use as follows:
   - Production facilities: machine tools, electric meter, semiconductor production equipment, industrial robot, metal working machinery, chemical machinery, synthetic resin processing machinery, textile machinery, and conveying machinery.
   - Transportation: trains, road vehicles, airplanes, and ships
   - Electric power: nuclear power generator, firepower generator, hydroelectric generator, internal combustion engine, generator, and other heavy electric machinery
   - Agriculture: agricultural machinery
   - Construction: construction machinery
   - Telecommunications and broadcast: telecommunications equipment
   - Office: computers
   - Others: applied electronic equipment, hydraulic and wind machinery, refrigerators, mining machinery, and other industrial machinery

Source: "Survey of Machinery Orders" (Economic Planning Agency)
(4) Export and import

Exports fell 1.2% from the preceding quarter: exports to East Asia increased, while those to Europe, the US, and ASEAN9 decreased. Imports fell 0.3%: imports from Asia increased, while those from Europe and the US decreased.

Export

- Index by area (seasonally adjusted; 1995=100)

Contribution to change on preceding quarter

Import

- Index by area (seasonally adjusted; 1995=100)

Contribution to change on preceding quarter

Note:
1. We reclassified trade statistics to calculate the export index by area and the import index by area.
2. We classified countries into the following areas:
   ASEAN9: Singapore, Thailand, Malaysia, Brunei, Philippines, Indonesia, Vietnam, Laos, and Myanmar.
   East Asia: Korea, China, Taiwan, and Hong Kong.
   Middle East: Iran, Iraq, Bahrain, Saudi Arabia, Kuwait, Qatar, Oman, Israel, Jordan, Syria, Lebanon, United Arab Emirates, Gaza, and Yemen.