The Review of the Year 2010
Analysis of All Industrial Activities

Summary

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March 24, 2011
Research and Statistics Department,
Economic and Industrial Policy Bureau,
Ministry of Economy, Trade and Industry
1. Trends of all industrial activities

(1) Outline of all industrial activities (2010)
~ Industrial activities picked up for the first time in three years ~

[Characteristics]
- The indices of all industrial activities increased by 3.0% from the previous year, up for the first time in three years, due to the rise in the indices of both the industrial production and tertiary industry activity, while those of both the construction industry activity and government services etc. dropped.
- On a quarterly basis, six consecutive quarterly rises ended in the third quarter, and the fourth quarter saw a 1.1% drop from the previous quarter, down for the first time in seven quarters.

### Changes in the Indices of All Industrial Activities (YR2005=100)

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Indices of All Industry Activity</td>
<td>100.0</td>
<td>93.0</td>
<td>95.8</td>
<td>91.8</td>
<td>92.4</td>
<td>93.8</td>
<td>93.8</td>
<td>93.9</td>
<td>95.2</td>
</tr>
<tr>
<td>%Change from the Previous Quarter (Year)</td>
<td>-1.9</td>
<td>-7.7</td>
<td>3.0</td>
<td>-6.3</td>
<td>1.1</td>
<td>1.1</td>
<td>0.1</td>
<td>1.4</td>
<td>0.8</td>
</tr>
<tr>
<td>%Change from the Same Quarter of the Previous Year</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-11.1</td>
<td>-9.3</td>
<td>-7.0</td>
<td>-3.7</td>
<td>-7.6</td>
<td>-3.7</td>
</tr>
<tr>
<td>Indices of Agriculture, Forestry and Fisheries</td>
<td>98.0</td>
<td>94.8</td>
<td>❄️</td>
<td>❄️</td>
<td>❄️</td>
<td>❄️</td>
<td>❄️</td>
<td>❄️</td>
<td>❄️</td>
</tr>
<tr>
<td>%Change from the Previous Quarter (Year)</td>
<td>-1.1</td>
<td>-3.3</td>
<td>❄️</td>
<td>❄️</td>
<td>❄️</td>
<td>❄️</td>
<td>❄️</td>
<td>❄️</td>
<td>❄️</td>
</tr>
<tr>
<td>%Change from the Same Quarter of the Previous Year</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-11.1</td>
<td>-9.3</td>
<td>-7.0</td>
<td>-3.7</td>
<td>-7.6</td>
</tr>
<tr>
<td>Indices of Construction Industry Activity</td>
<td>86.4</td>
<td>81.6</td>
<td>76.0</td>
<td>86.8</td>
<td>85.1</td>
<td>79.8</td>
<td>75.6</td>
<td>76.1</td>
<td>75.5</td>
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<tr>
<td>%Change from the Previous Quarter (Year)</td>
<td>-7.6</td>
<td>-5.8</td>
<td>-6.9</td>
<td>-0.5</td>
<td>-2.0</td>
<td>-6.2</td>
<td>-5.3</td>
<td>0.7</td>
<td>-0.8</td>
</tr>
<tr>
<td>%Change from the Same Quarter of the Previous Year</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-11.1</td>
<td>-9.3</td>
<td>-7.0</td>
<td>-3.7</td>
<td>-7.6</td>
</tr>
<tr>
<td>Indices of Industrial Production</td>
<td>103.8</td>
<td>91.1</td>
<td>94.0</td>
<td>74.2</td>
<td>79.0</td>
<td>83.2</td>
<td>88.1</td>
<td>94.3</td>
<td>95.7</td>
</tr>
<tr>
<td>%Change from the Previous Quarter (Year)</td>
<td>-2.4</td>
<td>-21.9</td>
<td>15.9</td>
<td>-20.0</td>
<td>6.5</td>
<td>5.2</td>
<td>5.9</td>
<td>7.6</td>
<td>1.5</td>
</tr>
<tr>
<td>%Change from the Same Quarter of the Previous Year</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-34.6</td>
<td>-27.4</td>
<td>-19.4</td>
<td>-4.3</td>
<td>-27.5</td>
</tr>
<tr>
<td>Indices of Tertiary Industry Activity</td>
<td>101.8</td>
<td>96.5</td>
<td>97.8</td>
<td>96.8</td>
<td>96.2</td>
<td>96.8</td>
<td>96.5</td>
<td>97.4</td>
<td>97.5</td>
</tr>
<tr>
<td>%Change from the Previous Quarter (Year)</td>
<td>-1.0</td>
<td>-5.2</td>
<td>1.3</td>
<td>-3.1</td>
<td>-0.6</td>
<td>0.6</td>
<td>-0.3</td>
<td>1.1</td>
<td>-0.1</td>
</tr>
<tr>
<td>%Change from the Same Quarter of the Previous Year</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-34.6</td>
<td>-27.4</td>
<td>-19.4</td>
<td>-4.3</td>
<td>-27.5</td>
</tr>
<tr>
<td>Indices of Government Services etc</td>
<td>98.4</td>
<td>98.5</td>
<td>97.5</td>
<td>98.5</td>
<td>98.3</td>
<td>98.4</td>
<td>98.4</td>
<td>97.6</td>
<td>96.9</td>
</tr>
<tr>
<td>%Change from the Previous Quarter (Year)</td>
<td>-1.4</td>
<td>0.1</td>
<td>-0.9</td>
<td>0.2</td>
<td>-0.2</td>
<td>0.1</td>
<td>0.0</td>
<td>-0.8</td>
<td>-0.7</td>
</tr>
<tr>
<td>%Change from the Same Quarter of the Previous Year</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.3</td>
<td>-0.1</td>
<td>0.7</td>
<td>-0.1</td>
</tr>
</tbody>
</table>

#### Notes:
1. The weight is based on the contribution ratio, by sector, of gross value added in the input-output table of YR2005 (Ministry of Internal Affairs and Communications). Since the Indices of Agriculture, Forestry & Fisheries production contains no data corresponding to the Indices of All industrial Activities for 2010 or the indices for the quarters, the weight was calculated without them.
2. The annual values and % change from the same quarter of the previous year are original indices, and others are based on seasonally adjusted indices.
(2) Outline of industrial activities
~ 2010 production recorded the first increase in three years ~

1) 2010 Production trends

[Characteristics]
• The indices of industrial production for 2010 increased by 15.9% from the previous year, up for the first time in three years.
• By type of goods, producer goods, capital goods, and others increased, while non-durable consumer goods decreased.
• By type of business, the production in 16 industries, including the transport equipment industry, increased, while the production in the foods and tobacco industry decreased.
• By demand, shipments for both domestic demand and foreign demand made the first increase in three years.

2) Production trends by item

[Characteristics]
<Major items that increased in 2010>
(1) Large passenger cars (for the first time in three years) ••• production increased for the United States, Europe, East Asia, etc., as well as for domestic use
(2) Semiconductor products machinery (for the first time in three years) ••• production increased for Taiwan, South Korea, the United States, etc., as well as for domestic use
(3) Drive, transmission, and control parts (for the first time in three years)

<Major items that decreased in 2010>
(1) Steel bridges (for the second consecutive year) ••• production of both over and under 2,000 tons decreased
(2) Parts and accessories of steam turbines (for the first time in six years)
(3) Metal oxide semiconductor ICs (micro computer) (for the third consecutive year) ••• production decreased for domestic use.

Changes from the Previous Year by Item and Contribution Ratio(Note) (2010)

<table>
<thead>
<tr>
<th>Items that Contributed to Increase</th>
<th>Changes from the Previous Year (%)</th>
<th>Contribution ratio (% points)</th>
<th>Items that Contributed to Decrease</th>
<th>Changes from the Previous Year (%)</th>
<th>Contribution ratio (% points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Large passenger cars</td>
<td>39.9</td>
<td>2.17</td>
<td>(1) Steel bridges</td>
<td>-26.3</td>
<td>-0.14</td>
</tr>
<tr>
<td>(2) Semiconductor products machinery</td>
<td>132.5</td>
<td>0.69</td>
<td>(2) Parts and accessories of steam turbines</td>
<td>-20.4</td>
<td>-0.07</td>
</tr>
<tr>
<td>(3) Drive, transmission and control parts</td>
<td>33.5</td>
<td>0.63</td>
<td>(3) Metal oxide semiconductor ICs (micro computer)</td>
<td>-11.5</td>
<td>-0.07</td>
</tr>
<tr>
<td>(4) Bearings</td>
<td>48.1</td>
<td>0.49</td>
<td>(4) Backlight for LCD panels</td>
<td>-41.3</td>
<td>-0.05</td>
</tr>
<tr>
<td>(5) Active matrix LCDs (Large)</td>
<td>47.0</td>
<td>0.43</td>
<td>(5) Cellular telephone</td>
<td>-6.3</td>
<td>-0.04</td>
</tr>
</tbody>
</table>

Note: Degree of contribution to total industrial growth rate of 15.9% (% points)
3) Inventory trends

[Characteristics]
- The inventory cycle for the fourth quarter of 2009 was as follows.
  1. **Mining and manufacturing** • Remained in an inventory accumulation stage
  2. **Final demand goods** • Remained in an inventory accumulation stage
  3. **Producer goods** • Shifted from an inventory accumulation stage to an expanding inventory stage.
  4. **Electronic parts and devices** • Remained in an expanding inventory stage.
  5. **Iron and steel** • Shifted from an inventory accumulation stage to an expanding inventory stage.
  6. **Transport equipment** • Shifted from an inventory accumulation stage to an expanding inventory stage.
(3) Outline of tertiary industry activities

~ Tertiary industry activities increased in 2010, up for the first time in three years ~

Trends for 2010

[Characteristics]
- Tertiary industry activities for 2010 increased by 1.3% from the previous year, up for the first time in three years.
- By type of industry, 7 of 13 major categories, including wholesalers and retailers, increased.

Note: The line chart shows the indices of tertiary industry activities of five major industries.

Changes in Indices of Tertiary Industry Activities (YR2005=100; Seasonally adjusted)

Note: The annual figures and changes from the same quarter of the previous year are not seasonally-adjusted, while the others are based on seasonally-adjusted indices.
2. Supply trends and final demand

(1) Outline of supply trends for final demand

1) Supply trends for 2010

[Characteristics]

- Supply for final demand increased by 4.2% from the previous year, up for the first time in three years.
- Overall industrial supply for consumption increased by 2.5% from the previous year, up for the first time in three years due to rises in personal consumption and government consumption.
- Overall industrial supply for investment increased by 1.6% from the previous year, up for the first time in four years, due to a rise in private corporation facilities, although both public investment and private housing decreased.
- Exports increased by 23.8% from the previous year, and imports increased by 13.5% from the previous year, both up for the first time in three years.
- IT-related consumption increased by 6.4% from the previous year, up for the first time in three years, and IT-related investments increased by 2.1% from the previous year, up for the first time in two years.

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

(Year 2005 = 100, Ratios to the previous year (quarter))

<table>
<thead>
<tr>
<th></th>
<th>2008 (Ratio to the previous year)</th>
<th>2009 (Ratio to the previous year)</th>
<th>2010 (Ratio to the previous year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total of final demand sector</td>
<td>2.1</td>
<td>3.8</td>
<td>4.0</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>4.2</td>
<td>19.9</td>
<td>22.9</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>0.7</td>
<td>3.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Consumption</td>
<td>0.9</td>
<td>3.6</td>
<td>4.0</td>
</tr>
<tr>
<td>Personal consumption</td>
<td>1.2</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>0.6</td>
<td>10.5</td>
<td>15.3</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>1.3</td>
<td>3.7</td>
<td>0.2</td>
</tr>
<tr>
<td>(Special) IT-related</td>
<td>2.2</td>
<td>3.5</td>
<td>6.0</td>
</tr>
<tr>
<td>Government consumption</td>
<td>0.4</td>
<td>1.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Investment</td>
<td>1.8</td>
<td>1.4</td>
<td>1.4</td>
</tr>
<tr>
<td>Public investment</td>
<td>3.7</td>
<td>2.8</td>
<td>4.8</td>
</tr>
<tr>
<td>Private housing</td>
<td>9.7</td>
<td>12.4</td>
<td>14.6</td>
</tr>
<tr>
<td>Private corporation facilities</td>
<td>3.6</td>
<td>20.5</td>
<td>5.6</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>7.6</td>
<td>31.1</td>
<td>21.1</td>
</tr>
<tr>
<td>Construction</td>
<td>7.6</td>
<td>9.4</td>
<td>6.7</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>3.9</td>
<td>15.0</td>
<td>0.8</td>
</tr>
<tr>
<td>(Special) IT-related</td>
<td>2.8</td>
<td>8.7</td>
<td>2.1</td>
</tr>
<tr>
<td>Exports</td>
<td>3.0</td>
<td>24.4</td>
<td>23.8</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>2.3</td>
<td>26.4</td>
<td>27.3</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>3.6</td>
<td>19.3</td>
<td>16.1</td>
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<td>Imports</td>
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<td>1.4</td>
<td>1.4</td>
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<tr>
<td>Mining and manufacturing (Goods)</td>
<td>0.4</td>
<td>14.5</td>
<td>15.6</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>2.8</td>
<td>12.3</td>
<td>9.7</td>
</tr>
</tbody>
</table>

Notes: 1. As the indices of all industries (final demand components) are calculated using various statistical data including preliminary figures, therefore, note that some indices of the previous quarters may have been revised.

2. Ratios to the previous year are original indices and other figures are based on seasonally adjusted indices.

Source: "The Indices of All Industry Activity (Final demand components)" (Estimated figures)
2) Trends in IT-related consumption and investment

[Characteristics]
- IT-related consumption for 2010 increased by 6.4% from the previous year, while Non-IT-related consumption also rose by 2.8%, both up for the first time in three years.
- IT-related investment for private corporation facilities increased by 2.1% from the previous year, up for the first time in two years. Non-IT-related investment also increased by 6.7%, up for the first time in three years.

Notes: 1. IT-related consumption consists of that for mobile phones, car navigation systems, desktop computers, notebook computers, regional and long-distance telecommunications, ISP, mobile telecommunications, software products, and Internet-related services, all of which are supplied for personal consumption.
2. IT-related investments are investments related to communication wires and cables, power wires and optical fiber products for cables, digital and full color copying machines, key system telephone equipment, electronic switching systems, digital transmission equipment, fixed communication equipment, mobile phones, basic exchanges for mobile customer premises equipment, general purpose computers, mid-range computers, desktop computers, notebook computers, external storage, input-output units, terminal equipment, system use cash registers, projectors, industrial use television equipment, software development, and program creation (subcontracts) that are supplied to private enterprise.

Source: “The Indices of All Industry Activity (Final demand components)” (Estimated figures)

3) Capital investment trend of small and medium companies

[Characteristics]
- According to the indices of the tertiary industry activity (wholesalers of general machinery and equipment) as proxy indices, capital investment by small and medium companies in 2010 decreased by 13.8% from the previous year, down for the third consecutive year.

Source: “Indices of Tertiary Industry Activity” (Ministry of Economy, Trade and Industry)
About leasing trends and effect of changes in the lease accounting standard

[Analysis point 1]
~ The lease ratio continues to decline after peaking in FY2002, regardless of the size of the company, while it is relatively high among small and medium companies. ~

[Characteristics]
• The amount of capital investment by leasing presented a similar movement to that of the amount of capital investment; when the latter was on the rise, the former increased and when the latter was on the decline, the former declined too.

II-2-14 Changes in lease ratio by company size

Notes: 1. The amount of capital investment by leasing indicates the purchase price of leasing items by leasing companies.
2. The lease transaction volume indicates contract price, which lessees pay to leasing companies during their contract period including expense charge.
3. The amount of capital investment is from the Financial Statements Statistics of Corporations by Industry (quarterly report).

II-2-15 Changes in the lease ratio by company size

Notes: 1. Lease ratio = Amount of capital investment by leasing/Amount of capital investment
2. Large companies are companies with a capital of 100 million yen or over. Small and medium companies are companies with a capital of under 100 million yen.

II-2-16 Contribution analysis of the rate of change in the amount of capital investment by leasing

Source: “Lease Statistics” (Japan Leasing Association)
[Analysis point 2]
~ The lease transaction volume is shrinking across the board, except for electronic computers and related equipment, which remains at about the same level in real terms. ~

[Characteristics]
• The lease transaction volume by type of equipment shows that most of the equipment saw a peak in FY2006 and a sharp decline from FY2007.

II-2-17 Changes in lease transaction volume by type of equipment

Source: “Lease Statistics” (Japan Leasing Association)

• An analysis of the year-on-year rate of change in lease transaction volume by a price factor and a volume factor (so called quantum factor) shows that industrial machinery, civil engineering/construction machinery, and engineering machinery, etc. are influenced little by a price factor and greatly by a volume factor while electronic computers and related equipment are mainly influenced by a price factor.

• The lease transaction volume of electronic computers and related equipment declined mainly due to their price drop, but in real terms, they remained at about the same level.

II-2-18 Factor analysis of the year-on-year rate of change in lease transaction volume by type of equipment

Notes:
1. Factor analysis is given by the following formula.
   \[ N = P \times R \]
   \[ \Delta N = \Delta P \times R + P \times \Delta R \]
   [Price factor] [Volume factor]

2. Corporate service price index by type of equipment is used.

Sources: “Lease Statistics” (Japan Leasing Association), “Corporate Service Price Index” (Bank of Japan)
Immediately after the application of the lease accounting standard, the amount of loss in the capital investment estimated in the Financial Statements Statistics of Corporations by Industry was about 640 billion yen.

[Characteristics]

- The “accounting standard for lease transactions,” which has been applied since FY2008, has changed the way to record leased items on a balance sheet. In the past, the lessors (leasing companies) capitalized the items on their balance sheets as fixed assets. However, the new standard requires the lessors to put them as liquid assets and the lessees (non-leasing companies) to record them as fixed assets.
- The effect of the “accounting standard for lease transactions” can be found in the changes in the newly acquired fixed assets of leasing companies as of the end of a term (equivalent to capital investment). 2.1 trillion yen in fixed assets in the first quarter of 2008 (as of the end of the term) declined by 1.5 trillion yen to 0.6 trillion yen in the next quarter.

II-2-23 The amount of loss in capital investment due to the change in the lease accounting standard (estimate)

Note: Estimate formula: $Z_t = \frac{Y^t \times (1 - R_t)}{2008}$

- $Z_t$: Amount of loss in capital investment
- $Y^t$: Predictive value of the total of “Other tangible fixed assets” and “Intangible fixed assets”
- $R_t$: Application rate of the accounting standard

$Y^t$ is calculated through extrapolation by the following regression equation:

$$\ln(Y_t) - \ln(Y_{t-1}) = \alpha + \beta \times (\ln(X_t) - \ln(X_{t-1}))$$

- $X_t$: Lease transaction volume
- $Y_t$: Total of “Other tangible fixed assets” and “Intangible fixed assets”
- $\alpha$: Intercept
- $\beta$: Regression coefficient

Sources: “Lease Statistics” (Japan Leasing Association),
“Financial Statements Statistics of Corporations by Industry (quarterly report)” (Ministry of Finance)
(2) Outline of exports and imports

Export and import trends for 2010

[Characteristics]

• Looking at the trends of exports for 2010 (on a quantity basis), in terms of the indices of all industries (final demand components), the exports of goods (the mining and manufacturing industry) increased by 27.3% from the previous year and the exports of services (the tertiary industry) increased by 16.1% from the previous year, resulting in a 23.8% increase from the previous year for all exports.

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

[Characteristics]

• Looking at the trends of imports for 2010 (on a quantity basis), in terms of the indices of all industries (final demand components), the imports of goods (the mining and manufacturing industry) increased by 15.6% from the previous year and the imports of services (the tertiary industry) increased by 9.7% from the previous year, resulting in a 13.5% increase from the previous year for all imports.

• By region, the imports of goods from ASEAN, East Asia, Europe, the United States, and the Middle East all increased.

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

Sources: “The Indices of Industrial Domestic Shipments and Exports”
“The Indices of Industrial Domestic shipments and Imports” (both estimated values)