The Second quarter of 2006

Analysis of All Industrial Activities

Summary

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September 6, 2006

Research and Statistics Department, Economic and Industrial Policy Bureau,
Ministry of Economy, Trade and Industry
1. Industrial activities on an upward trend

(1) Outline of all industrial activities

Looking at overall industry in terms of the indices of all industrial activities in the second quarter of 2006, it increased by 0.7% compared to the previous quarter, up for the sixth consecutive quarter, standing at 106.2 which was the highest level with year 2000 as the base. The indices of all industrial activities have been on an upward trend as a whole.

Changes in the Indices of All Industrial Activities

<table>
<thead>
<tr>
<th>Indices of All Industrial Activities</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indices of All Industrial Activities</td>
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<td>103.9</td>
<td>102.3</td>
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<tr>
<td>%Change from the Previous Quarter (Year)</td>
<td>2.4%</td>
<td>1.8%</td>
<td>1.6%</td>
</tr>
<tr>
<td>%Change from the Same Quarter of the Previous Year</td>
<td>2.9%</td>
<td>2.8%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Indices of Agriculture, Forestry &amp; Fisheries Production</td>
<td>93.6</td>
<td>90.8</td>
<td>90.8</td>
</tr>
<tr>
<td>%Change from the Previous Quarter (Year)</td>
<td>5.6%</td>
<td>5.6%</td>
<td>6.0%</td>
</tr>
<tr>
<td>%Change from the Same Quarter of the Previous Year</td>
<td>6.0%</td>
<td>5.5%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Indices of Construction Industry Activities</td>
<td>106.2</td>
<td>106.2</td>
<td>106.2</td>
</tr>
<tr>
<td>%Change from the Previous Quarter (Year)</td>
<td>0.8%</td>
<td>0.8%</td>
<td>0.2%</td>
</tr>
<tr>
<td>%Change from the Same Quarter of the Previous Year</td>
<td>0.8%</td>
<td>0.8%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Indices of Industrial Production</td>
<td>100.2</td>
<td>101.3</td>
<td>100.7</td>
</tr>
<tr>
<td>%Change from the Previous Quarter (Year)</td>
<td>1.1%</td>
<td>1.2%</td>
<td>1.2%</td>
</tr>
<tr>
<td>%Change from the Same Quarter of the Previous Year</td>
<td>7.2%</td>
<td>6.0%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Indices of Tertiary Industry Activities</td>
<td>105.7</td>
<td>107.8</td>
<td>106.2</td>
</tr>
<tr>
<td>%Change from the Previous Quarter (Year)</td>
<td>2.2%</td>
<td>2.0%</td>
<td>0.6%</td>
</tr>
<tr>
<td>%Change from the Same Quarter of the Previous Year</td>
<td>1.9%</td>
<td>2.8%</td>
<td>1.8%</td>
</tr>
</tbody>
</table>

Notes: 1. The weight is based on the Composition ratio by sector of gross value added in the input-output table of YR2000 (Ministry of Internal Affairs and Communications). Since Indices of Agriculture, Forestry & Fisheries Production contain no data corresponding to the Indices of All Industrial Activities for 2005 and the indices for quarters, the weight was calculated without their weight.
2. The annual values and %change from the same quarter of the previous year are original indices, and others are based on indices seasonally adjusted.
(2) Outline of industrial activities – Production on an upward trend –

Production trend for the second quarter of 2006

Industrial production for the second quarter of 2006 increased by 0.9% compared to the previous quarter, up for the third consecutive quarter. The seasonally adjusted index was 104.9, the highest point with year 2000 as the base.

By type of goods, non-durable consumer goods decreased by 4.3% (id.) down for the first time in three quarter. In contrast, there were increases in capital goods (by 7.6% (id.)), up for the first time in two quarters, durable consumer goods (by 1.9% (id.)), up for the third consecutive quarter, and construction goods (by 2.7% (id.)), up for the first time in four quarters. Producer goods remained flat.

By industry, there were increases in eleven industries, including the general machinery industry, the transport equipment industry and the fabricated metals industry, while decreases were observed in five industries, including the chemicals industry and the electronic parts and devices industry. The food and tobacco industry remained unchanged.

By demand, shipments for domestic demand increased by 1.6% compared to the previous quarter, up for the first time in two quarters, while those for exports increased by 0.6% (id.), up for the fifth consecutive quarter.

Changes in Indices of Industrial Production, Shipments, Inventory, and Inventory Ratio
(2000=100, Seasonally adjusted)
## Changes in Indices of Industrial Production (2000=100, Seasonally adjusted)

<table>
<thead>
<tr>
<th></th>
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<td>III</td>
<td>IV</td>
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<tr>
<td>Production</td>
<td>100.2</td>
<td>101.3</td>
<td>100.8</td>
<td>99.8</td>
<td>101.2</td>
<td>101.1</td>
<td>100.6</td>
<td>103.4</td>
<td>104.0</td>
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<tr>
<td>(%Change from the Previous Quarter (Year))</td>
<td>5.5</td>
<td>1.1</td>
<td>▲ 0.1</td>
<td>▲ 0.9</td>
<td>1.4</td>
<td>▲ 0.1</td>
<td>▲ 0.5</td>
<td>2.6</td>
<td>0.6</td>
<td>▲ 0.9</td>
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</tr>
<tr>
<td>(%Change from the Same Quarter of the Previous Year)</td>
<td>-</td>
<td>-</td>
<td>7.2</td>
<td>0.4</td>
<td>1.8</td>
<td>1.2</td>
<td>0.2</td>
<td>▲ 0.2</td>
<td>3.0</td>
<td>3.2</td>
<td>4.1</td>
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<td>Shipments</td>
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<td>103.9</td>
<td>103.0</td>
<td>102.1</td>
<td>102.3</td>
<td>103.5</td>
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<td>106.5</td>
<td>106.8</td>
<td>108.8</td>
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<tr>
<td>(%Change from the Previous Quarter (Year))</td>
<td>5.3</td>
<td>1.3</td>
<td>▲ 0.3</td>
<td>▲ 0.9</td>
<td>0.2</td>
<td>1.2</td>
<td>0.6</td>
<td>2.3</td>
<td>0.1</td>
<td>2.1</td>
<td></td>
</tr>
<tr>
<td>(%Change from the Same Quarter of the Previous Year)</td>
<td>-</td>
<td>-</td>
<td>7.1</td>
<td>0.3</td>
<td>1.6</td>
<td>0.8</td>
<td>0.2</td>
<td>▲ 0.9</td>
<td>4.3</td>
<td>4.0</td>
<td>5.5</td>
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<td>Domestic</td>
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<td>99.0</td>
<td>99.4</td>
<td>98.1</td>
<td>99.5</td>
<td>99.3</td>
<td>101.6</td>
<td>103.3</td>
<td>103.1</td>
<td>102.9</td>
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<tr>
<td>(%Change from the Previous Quarter (Year))</td>
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<td>8.0</td>
<td>1.5</td>
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<td>0.2</td>
<td>▲ 0.9</td>
<td>0.3</td>
<td>▲ 0.2</td>
<td>2.3</td>
<td>▲ 0.3</td>
<td>1.6</td>
</tr>
<tr>
<td>(%Change from the Same Quarter of the Previous Year)</td>
<td>-</td>
<td>-</td>
<td>5.3</td>
<td>5.1</td>
<td>0.3</td>
<td>0.2</td>
<td>▲ 0.1</td>
<td>3.0</td>
<td>2.7</td>
<td>3.8</td>
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<tr>
<td>Exports</td>
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<td>121.8</td>
<td>119.9</td>
<td>121.9</td>
<td>126.4</td>
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<tr>
<td>(%Change from the Previous Quarter (Year))</td>
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<td>3.8</td>
<td>0.3</td>
<td>0.2</td>
<td>▲ 0.6</td>
<td>1.7</td>
<td>3.7</td>
<td>3.0</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>(%Change from the Same Quarter of the Previous Year)</td>
<td>-</td>
<td>-</td>
<td>5.3</td>
<td>11.8</td>
<td>7.3</td>
<td>1.0</td>
<td>0.5</td>
<td>4.2</td>
<td>8.1</td>
<td>13.0</td>
<td>12.6</td>
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<td>Inventory</td>
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<td>91.5</td>
<td>89.5</td>
<td>92.0</td>
<td>92.3</td>
<td>94.1</td>
<td>94.3</td>
<td>95.0</td>
<td>94.0</td>
</tr>
<tr>
<td>(%Change from the Previous Quarter (Year))</td>
<td>▲ 0.3</td>
<td>5.3</td>
<td>0.4</td>
<td>1.7</td>
<td>▲ 2.2</td>
<td>2.8</td>
<td>0.3</td>
<td>2.0</td>
<td>0.2</td>
<td>0.7</td>
<td>1.1</td>
</tr>
<tr>
<td>(%Change from the Same Quarter of the Previous Year)</td>
<td>-</td>
<td>▲ 0.8</td>
<td>0.8</td>
<td>▲ 0.3</td>
<td>2.5</td>
<td>2.3</td>
<td>3.1</td>
<td>5.3</td>
<td>3.2</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>Inventory Ratio</td>
<td>95.4</td>
<td>99.1</td>
<td>95.1</td>
<td>96.7</td>
<td>96.2</td>
<td>98.0</td>
<td>97.9</td>
<td>100.2</td>
<td>100.2</td>
<td>100.3</td>
<td>98.4</td>
</tr>
<tr>
<td>(%Change from the Previous Quarter (Year))</td>
<td>▲ 0.3</td>
<td>3.9</td>
<td>1.2</td>
<td>1.7</td>
<td>▲ 0.5</td>
<td>1.0</td>
<td>▲ 0.1</td>
<td>2.3</td>
<td>0.3</td>
<td>▲ 0.2</td>
<td>▲ 1.0</td>
</tr>
<tr>
<td>(%Change from the Same Quarter of the Previous Year)</td>
<td>-</td>
<td>▲ 0.8</td>
<td>0.8</td>
<td>▲ 0.3</td>
<td>2.5</td>
<td>2.3</td>
<td>3.1</td>
<td>5.3</td>
<td>3.2</td>
<td>1.8</td>
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<tr>
<td>Operation Rate</td>
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<td>103.6</td>
<td>102.2</td>
<td>102.3</td>
<td>103.2</td>
<td>104.3</td>
<td>102.8</td>
<td>105.2</td>
<td>104.8</td>
<td>103.0</td>
<td>105.0</td>
</tr>
<tr>
<td>(%Change from the Previous Quarter (Year))</td>
<td>4.8</td>
<td>1.0</td>
<td>1.0</td>
<td>0.3</td>
<td>▲ 0.2</td>
<td>0.9</td>
<td>1.1</td>
<td>▲ 1.4</td>
<td>2.3</td>
<td>▲ 0.6</td>
<td>1.0</td>
</tr>
<tr>
<td>(%Change from the Same Quarter of the Previous Year)</td>
<td>-</td>
<td>-</td>
<td>7.9</td>
<td>0.3</td>
<td>1.6</td>
<td>1.0</td>
<td>0.2</td>
<td>▲ 0.9</td>
<td>3.0</td>
<td>3.2</td>
<td>4.1</td>
</tr>
</tbody>
</table>

Notes: 1. The values for Domestic Shipments and Exports are based on the Indices of Industrial Domestic Shipments and Exports.
2. The annual values and %change from the same quarter of the previous year are original indices, and others are based on indices seasonally adjusted.
## Production Trend by Item

The major items for which production increased in the current quarter are as follows:

Flat-panel display manufacturing equipment increased by 52.8% compared to the previous quarter, up for the first time in two quarters, due to an export boom to Asian countries including Taiwan and Korea in addition to increases in local demand because of the increase of production of panel for flat screen televisions; semiconductor products machinery increased by 16.3% (id.), for the first time in two quarters, due to the expansion of semiconductor markets as seen in increasing demand for digital home appliances such as flat-screen televisions and cellular phones and demand for advanced and multi-functional products; large passenger cars increased by 3.6% (id.), up three consecutive quarters in a row, due to an increase in domestic demand as well as exports to the U.S. and Europe.

On the other hand, lithium ion storage batteries decreased by 11.6% (id.), down for the first time in two quarters, due to the downturn in demand for notebook personal computers for such destinations as Taiwan; metal oxide semiconductor IC (memory) decreased by 5.0%(id.), down for the first time in six quarters because it fell for cellular phone use; metal oxide semiconductor IC (logic) contracted by 4.5% (id.), down for the first time in two quarters, mainly due to a backlash of a substantial increase for game machines and cellular phones recorded last quarter.

### Production Trend by Item (Second quarter of 2006)

<table>
<thead>
<tr>
<th>Items that contributed to Increase</th>
<th>Changes from the Previous Quarter (%)</th>
<th>Contribution Ratio (% points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flat-panel display manufacturing equipment</td>
<td>52.8</td>
<td>0.25</td>
</tr>
<tr>
<td>Semiconductor products machinery</td>
<td>16.3</td>
<td>0.22</td>
</tr>
<tr>
<td>Large passenger cars</td>
<td>3.6</td>
<td>0.16</td>
</tr>
<tr>
<td>Mid range computers</td>
<td>42.3</td>
<td>0.12</td>
</tr>
<tr>
<td>Mechanical presses</td>
<td>69.5</td>
<td>0.08</td>
</tr>
<tr>
<td>Electronic applied toys</td>
<td>28.9</td>
<td>0.07</td>
</tr>
<tr>
<td>Digital cameras</td>
<td>12.4</td>
<td>0.07</td>
</tr>
<tr>
<td>General steam turbines</td>
<td>17.3</td>
<td>0.05</td>
</tr>
<tr>
<td>Motorcycles (More than 125ml)</td>
<td>27.3</td>
<td>0.05</td>
</tr>
<tr>
<td>Parts and accessories of boilers</td>
<td>39.0</td>
<td>0.05</td>
</tr>
<tr>
<td>Machining centers</td>
<td>13.6</td>
<td>0.05</td>
</tr>
<tr>
<td>Midget passenger cars</td>
<td>6.4</td>
<td>0.04</td>
</tr>
<tr>
<td>Parts and accessories of steam turbines</td>
<td>23.7</td>
<td>0.03</td>
</tr>
<tr>
<td>Internal combustion engines for industry</td>
<td>5.9</td>
<td>0.03</td>
</tr>
<tr>
<td>Combines</td>
<td>24.6</td>
<td>0.03</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Items that contributed to Decrease</th>
<th>Changes from the Previous Quarter (%)</th>
<th>Contribution Ratio (% points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium ion storage batteries</td>
<td>▲ 11.6</td>
<td>▲ 0.14</td>
</tr>
<tr>
<td>Metal Oxide Semiconductor IC (Memory)</td>
<td>▲ 5.0</td>
<td>▲ 0.13</td>
</tr>
<tr>
<td>Metal Oxide Semiconductor IC (Logic)</td>
<td>▲ 4.5</td>
<td>▲ 0.08</td>
</tr>
<tr>
<td>Cellular telephones</td>
<td>▲ 8.0</td>
<td>▲ 0.07</td>
</tr>
<tr>
<td>Active matrix LCD (Large)</td>
<td>▲ 6.8</td>
<td>▲ 0.06</td>
</tr>
<tr>
<td>Video cameras</td>
<td>▲ 19.5</td>
<td>▲ 0.05</td>
</tr>
<tr>
<td>Stamping dies</td>
<td>▲ 11.1</td>
<td>▲ 0.04</td>
</tr>
<tr>
<td>Fixed communication equipments</td>
<td>▲ 30.3</td>
<td>▲ 0.04</td>
</tr>
<tr>
<td>Oil space heaters</td>
<td>▲ 20.2</td>
<td>▲ 0.03</td>
</tr>
<tr>
<td>Skin cream products</td>
<td>▲ 3.5</td>
<td>▲ 0.03</td>
</tr>
</tbody>
</table>

Note: Degree of contribution to total growth rate of 0.9% (percentage points)
Inventory trend

For overall industrial production, inventory increased by 1.8% compared to the end of the same quarter of the previous year, up for the sixth consecutive quarter in the second quarter of 2006. Production also increased by 4.1% compared to the same quarter of the previous year, up for the third consecutive quarter. As a result, on the chart of inventory cycle, inventory was on an accumulation stage.

By type of goods, both production and inventory of final demand goods have been generally on a medium- and long-term declining trend, and the center of circulation has shifted toward the left and downward. Therefore, we have examined the inventory trends together with the values from which trend fluctuations for production and inventory have been eliminated. The degree of increase in inventory of final demand goods for the second quarter of 2006 has diminished compared to the previous quarter and the degree of increase in production has expanded. As a result, inventory was in an accumulation stage near the border of an accumulation stage and an expanding stage before elimination, and inventory was in an expanding stage near the border after elimination. Before elimination, inventory increased compared to the end of the same quarter of the previous year, up for the third consecutive quarter, and production also increased compared to the same quarter of the previous year for the three quarters in a row. In contrast, after elimination, inventory continued to increase, up for the tenth consecutive quarter since the first quarter of 2004.

As for production goods, inventory was on an accumulation stage in the second quarter of 2006. This is because though inventory increased compared to the end of the same quarter of the previous year for the seventh consecutive quarter, its increase ratio contracted this year, and also production gained for four quarters in a row.

As for the electronic parts and devices industry for the second quarter of 2006, for which production adjustment has been conducted due to inventory expansion since the latter half of 2004, inventory increased by 17.9% compared to the end of the same quarter of the previous year and production increased by 20.8% compared to the same quarter of the previous year. Both showed a double-digit increase of two quarters in a row. Inventory was near the border of an accumulation stage and an expanding stage.

Changes in the Inventory Cycle

1) Mining and manufacturing

2) Final demand goods
3) **Producer goods**  

4) **Electronic parts and devices**  

Note: Trend fluctuations of the production index and inventory index were obtained by the linear regression formula of the least squares method from the first quarter of 1996 to the second quarter of 2006.
Prices of raw materials including crude oil are recently on the increase. The effect of the tendency is gradually spreading as some companies are revising their products prices.

Of these, not only other institutions analyzed the increase of crude oil, but also we conducted an analysis of the effect brought by price increase of crude oil and iron ore in the Analysis of All Industrial Activities (in the First Quarter of 2005). In this summary, we will overview the effect of increasing price of non-ferrous metals to trend of input-output prices, etc. and import trend of non-ferrous metal ores, etc. including the effect to manufacturing industry.

Japan’s corporate goods price index bottomed out in the fourth quarter of 2003 and is on an upward trend since then. Looking at this from the order of high index level by classification (which are sectors defined by the Bank of Japan using the Japan Standard Classification as references and are close to kind of industry), non-ferrous metal is the highest at 189.0, next comes petroleum oil and coal products at 181.1, followed by iron and steel at 131.8 and chemical products at 109.7 for the second quarter of 2006.

Next, we will check index of terms of trade (output price / input price). In the quarter of 2006, only the index of terms of trade in precision instruments exceeded 100.0 (terms of trade improving) standing at 100.2. Incidentally, transport equipment showed just 100.0. In contrast, among those industries whose indices are low (deteriorating), non-ferrous metals was the lowest standing at 76.0. Chemical products came in next to last at 82.5, then both of metal products and electric machinery standing at 82.7, and lastly followed by petroleum and coal products at 82.9. Comparing to the indices of terms of trade in comprehensive manufacturing and non-ferrous metals, non-ferrous metals significantly decreased since the fourth quarter of 2003 and it was lower as much as by 13.6 points since it stood at 76.0 while comprehensive manufacturing recorded 89.6 in the second quarter of 2006. Consequently, it can be said that price increase of raw materials has not sufficiently been passed on product price in case of non-ferrous metal.
Changes of Input/Output Price Ratio Indices by Classification

Changes of Input/Output Price Ratio Indices, etc. of Non-Ferrous Metals

Source: Input-Output Price index of the Manufacturing Industry by Sector (The Bank of Japan)
Looking at the trend of the transaction prices of non-ferrous metals at the London Metal Exchange which exclusively handles non-ferrous metals, monthly average LME prices there show us that copper bare core was traded mostly at between $2,000 and $3,000 per ton up to the middle of 2003, however, the prices subsequently moved upward until it soared to $8,046 in May 2006 because demand was outstripping supply mainly due to China’s growing demand and strikes of mines. It later slightly fell to $7,198 in June 2006, but it still remains at a high level.

Secondly, looking at the trend of copper bare metal consumption, while the global consumption was 12.4 million tons in 1996, it reached 16.82 million in 2005, up 35.6% compared to 1996. By country, China became the world No.1 consumer country in 2005 which consumed 3.64 million tons with its global share 21.6% while the country held the third position consuming 1.19 million with the share standing at 9.6% in 1996. The U.S. ranked the second position with the world share of 13.5% in 2005 using 2.27 million tons which was less than 2.61 million tons with the global No.1 share of 21.0% recorded by the country in 1996. On the other, Japan lost the lead to China and ranked in the third position in 2005 consuming 1.23 million tons whose share standing at 7.3%, while Japan kept the global second position by consuming 1.48 million tons with the share of 11.9% in 1996.

Further, we did a trial calculation on effect extent toward “producer price” in case selling price of smelting and refining of non-ferrous metals is up by 10% employing the Extended Input-Output Tables of 2004. It revealed that the kind of industry (excluding the sector of its own) which had the strongest spillover effect or whose price increased the most was non-ferrous metals (excluding smelting and refining of non-ferrous metals), whose price increase ratio at 4.659%, then Other Electrical Equipment (1.150%) and Reuse and Recycling (0.554%) followed in this order.

Trend of Copper Bare Metal Prices and Consumption and Others

1) Changes of LME prices of bare metal of major non-ferrous metals
2) Changes of global consumption of copper bare metal

![Graph showing changes of global consumption of copper bare metal](image)

Source: Japan Oil, Gas and Metals National Corporation (JOGMEC) as an independent administrative agency

Top five kinds of industries (sectors) in terms of producer price hike ratio in case selling price of smelting and refining non-ferrous metals is up by 10% (excluding its own sector)

![Bar chart showing top five kinds of industries](image)

Notes:
1. Using Transaction Value Table or Market Value Assessment Table of the Extended Input-Output Tables of 2004, we integrated to 51 sectors, separately preparing a special column for “smelting and refining of non-ferrous metals”
2. The trial calculation was obtained by the following formula.
   \[
   \text{Price increase ratio seen in terms of producer price} = \text{price increase ratio of smelting and refining of non-ferrous metals} \times 10\% \times (0.1) \times 51 \times (I-A)^{-1} \times 100
   \]
3. For details such as prerequisites for the trial calculation, see the main text.

Source: “The Extended Input-Output Tables of 2004”
Secondly, though corporate profits of non-ferrous metals related companies turned minus (red) in the fourth quarter of 2001, the profits continued to be plus (black) since the first quarter of 2002 in tandem with the growing sales. The operating profits of the second quarter of 2006 reached record high of ¥223.3 billion, surpassing the so far highest profits of ¥184.4 billion registered in the first quarter of 1980. Looking at the trend of the changes from the same quarter of the previous year of sales, it significantly increased, up above 20% on and after the fourth quarter of 2005 for two quarters in a row, and it further jumped, up 38.4% in the second quarter of 2006.

With sales increasing, terms of trade deteriorated. However, corporate profits did not necessarily deteriorate. Raising corporate profits would be fully possible even in a situation where terms of trade are deteriorating if a certain degree of increased raw materials prices is passed on the product price.

Therefore, we examined the break-even point. The sales were temporarily lower than the break-even point in the fourth quarter of 2001, which recorded red. After this period, the sales are in an upward tendency, but the break-even point is increasing on a slower pace. Break-even sales ratio (break-even point divided by sales) also showed us that the ratio peaked out at 105.4% in the fourth quarter of 2001 and began to lower since then. High revenue of non-ferrous metals can also be explained by the ratio as low as 60.4% recorded in the second quarter of 2006.

As described above, the corporate profits of non-ferrous metals related companies is lately on an upward trend because they are to some degree successful in passing the cost up to price increase of products taking advantage of the increase of raw material prices at the back of the growing demand mainly due to exports and also various business efforts taken to pull in fixed costs such as sales and administrative cost.

However, changing transaction terms of ores as raw materials is now under review in other non-ferrous metals industry, which may weigh on future corporate profits. Further increase of global demand and supply shortage of raw materials in the overall non-ferrous metals may make it difficult to maintain the supply and demand balance. Therefore, it is necessary to pay attention to future movement of non-ferrous metals.

Trend of Operating Profits and Break-even Points, etc. of Non-ferrous Metals

1) Changes of operating profits
2) Break-even sales ratio, etc.

Notes: Fixed cost = Labor cost + total depreciation cost + interest expenses, etc.
Variable cost = Sales – ordinary income – fixed cost
Break-even point = Fixed cost / {(1 – (variable cost / sales)}
Break-even point sales ratio = (Break-even point / sales) × 100

Source: “Financial statements statistics of corporations by industry” by Ministry of Finance
Changes in Indices of Tertiary Industry Activities (2000=100, Seasonally adjusted)

<table>
<thead>
<tr>
<th>Index level</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity, Gas, Heat Supply and Water</td>
<td>115.7</td>
<td>116.4</td>
<td>117.4</td>
</tr>
<tr>
<td>Information and Communication</td>
<td>107.6</td>
<td>115.5</td>
<td>117.8</td>
</tr>
<tr>
<td>Transport</td>
<td>107.4</td>
<td>111.1</td>
<td>113.4</td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td>110.9</td>
<td>106.6</td>
<td>112.8</td>
</tr>
<tr>
<td>Medical, Health Care and Welfare</td>
<td>117.1</td>
<td>118.5</td>
<td>118.8</td>
</tr>
<tr>
<td>Eating and Drinking Places, Accommodations</td>
<td>104.3</td>
<td>106.2</td>
<td>108.3</td>
</tr>
<tr>
<td>Others</td>
<td>95.3</td>
<td>96.5</td>
<td>98.8</td>
</tr>
</tbody>
</table>

Note: Industries on the chart are the major seven industries in the Indices of Tertiary Industry Activities Contribution ratios include others, which is the total of four industries other than the major seven industries. The annual values and %change from the same quarter of the previous year are original indices, and others are based on indices seasonally adjusted.
② A perspective on the effect caused by holidays such as three-day weekends to activities of kinds of industries which are related to personal services

Since the introduction of the so-called “Happy Monday System” in 2000, the Coming of Age Day was changed to the second Monday of January. In tandem with this move, the Sports Day, the Sea Day and the Respect for the Aged People Day also were put on Monday, thus we have more three-day weekends now. It is assumed that consecutive holidays have an influence on personal-services-related kinds of industries since many people historically go on foreign and domestic tours during the long holiday season in May in particular. We will, consequently, conduct an analysis to know whether activities of personal-services-related kinds of industries are affected by a vacation with more than two days.

If, for example, a Saturday and a Sunday are holidays and a national holiday is followed by the weekend, then we define here such holidays of more than two days in a row as holidays of more than two days. Counting such holidays of more than two days yearly in and after 1998, the holidays of more than two days are recently on the increase because the Coming of Age day and the Sports Day were moved to Monday in 2000 and the Sea Day and the Respect for the Aged Day were changed to fall on Monday in 2003.

Here, we would like to examine whether the analysis on which the fact that more than two consecutive holidays comprised of a Saturday and a Sunday and a national holiday, etc. which follows the weekend becomes a vacation of more than two days is premised is suitable or not. First, the ratio of regular employees whom complete two day-offs a week are entitled to remains unchanged since 1997 when it passed 60%. Secondly, the average working hours of Working persons against a weekday was approximately 60% for Saturday and a little more than 30% for Sunday in 2001. The average working hours on Saturday and Sunday does not seem so short compared to weekdays. However, considering some businesses take off on weekdays and work on Saturday and Sunday and a larger proportion of people take offs on Saturday and Sunday, we believe that the premise of three-day weekend has no problem.

### Number of holidays with three days or more in a row comprising Saturday, Sunday and national holidays

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of holiday with three days or more</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>9</td>
<td>9</td>
<td>8</td>
<td>5</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>National holidays other than above</td>
<td>9</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

Notes: 1. A case where a Saturday and a Sunday are holidays and the subsequent Monday is defined as a holiday by the Law on National Holidays.
2. May always has a three-day weekend even if Saturday and Sunday does not attach to a national holiday, but it is counted. January 1st is excluded because there are year-end through New Year holidays.
Ratio of regular employees to which five-day workweek is applied

Notes: 1. Intended firms are private companies employing more than 30 regular employees at its headquarters except those belonging to agriculture, forestry and fisheries industries.
2. Intended workers are those employed as regular employees without fixing the period to work and from those excluding part-timers.
3. “A five-day workweek in any form” includes “a full five-day week” with two days off every week and “other five-day workweek” where a five-day workweek happens three times per month or every other week or two times per month or once a month which has in reality fewer holidays compared to “a full five-day workweek”
Source: Up to 1999 based on “General Survey on Wages and Working Hours System” and from 2001 “General Survey on Working Conditions”, both of which were conducted by Ministry of Health, Labor and Welfare.

Average working hours of Working persons by the day of the week

Source: “Survey on Time Use and Leisure Activities” compiled by Ministry of Internal Affairs and Communications.
From among personal-services-related kinds of industries, we picked up mainly those sectors which can be expected to come under the influence of holidays, and we checked how holidays with more than two days had an effect on indices of tertiary industry activities sector by sector. We adopted %change from the same quarter of the previous year of indices of industry activities of each kind of industry as explained variable. As explaining variable, we used as the two basic variables; the difference of number of days compared to the same month of the previous year of holidays with more than two days, and the difference of number of days compared to the same month of the previous year of other holidays which do not comprise of three or more consecutive days. Besides these two types, we added other two types where comparison to (or difference with) the same month of the previous year were replaced by comparison to (or difference with) the previous month in the first two types. Consequently, we conducted a regression estimate using the total four kinds\(^{(Note)}\).

As a result, we found that holidays with more than two days in “domestic air passenger transport”, “accommodations” and “general eating and drinking places” and so on made the month’s activities boost. However, we found that sectors such as “cinemas” were not so much activated by holidays with more than two days as other holidays probably due to the competition with other businesses.

This trial calculation is based on the assumption that three consecutive holidays are realized by adding a national holiday to full two days (Saturday and Sunday) off every week. But workers who enjoy full five-day week are occupying about 60% of laborers since 1997, and many people are not entitled to take such three holidays in a row. Therefore, not only the Happy Monday System but also the extended application of the full five-day workweek or taking more annual paid holidays is considered to be necessary to increase activities of various types of business in tertiary industry.

Note: We also conducted a regression estimate in which the total amount of cash earnings was added to explaining variable. For detail, see page 59 to 61 of the main text.
Regression Analysis on the Effect toward Indices of Tertiary Industry Activities

<table>
<thead>
<tr>
<th>Year-on-year of Indices of Tertiary Industry Activities (explained variable)</th>
<th>Year-on-year of Indices of Tertiary Industry Activities (explained variable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method 1</td>
<td>Method 2</td>
</tr>
<tr>
<td>Holidays with more than two days Difference with the same month of the previous year</td>
<td>Holidays with more than two days Difference with the same month of the previous year</td>
</tr>
<tr>
<td>Increase ratio of indices of industry activities (%)</td>
<td>t value</td>
</tr>
<tr>
<td>&lt;Passenger Transport&gt;</td>
<td></td>
</tr>
<tr>
<td>Railway Passenger transport</td>
<td>▲ 0.1</td>
</tr>
<tr>
<td>Road Passenger Transport</td>
<td>▲ 0.1</td>
</tr>
<tr>
<td>Water Passenger Transport</td>
<td>1.3</td>
</tr>
<tr>
<td>Air Passenger Transport</td>
<td>0.9</td>
</tr>
<tr>
<td>International Air Passenger Transport</td>
<td>1.6</td>
</tr>
<tr>
<td>Domestic Air Passenger Transport</td>
<td>0.8</td>
</tr>
<tr>
<td>&lt;Retail Trade&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;Personal Services&gt;</td>
<td></td>
</tr>
<tr>
<td>&lt;Eating and Drinking Places&gt;</td>
<td></td>
</tr>
<tr>
<td>General Eating and Drinking Places</td>
<td>0.2</td>
</tr>
<tr>
<td>Amusement and Recreation Facilities</td>
<td>0.2</td>
</tr>
<tr>
<td>Reference: Tertiary Industry</td>
<td>▲ 0.1</td>
</tr>
</tbody>
</table>

Notes:
1. The intended period of Method 1 & 2 was from February 1999 to May 2006. December and January were excluded because year-end and New Year’s holidays are in the months. The intended period of Method 3 & 4 was from March 1998 to April 2006. Months when you always have three-days-holidays, May, January and October since 2000, July and September since 2003, and the months which follow such months are excluded from a regression estimate because the effect caused by three-days-holidays is reduced due to seasonal adjustments. Also, as year-end and New Year’s holidays are in December and January, the two months and the following month also are excluded.
2. Month-on-month of indices of tertiary industry activities were obtained using uniquely calculated seasonally-adjusted-index by X-11 default of X-12 ARIMA.
3. Other holidays are Saturdays, Sundays and national holidays which do not constitute three or more holidays in a row.
4. Increase ratio of indices of industry activities shows an increase ratio per holiday of indices of tertiary industry activities by each kind of industry in a value (coefficient x 100) by a coefficient obtained by a regression estimate. This is a value defined by per holiday and therefore the ratio of three-days-holidays increases threefold.
5. Figures in significant cases (Method 1 |t|>1.666, Method 2 |t|>1.667, Method 3|t|>1.694, Method 4 |t|>1.696) in level of significance of 10% (both sides) by each method are shaded.
6. The intended period of Method 1 & 2 was from February 1999 to May 2006. December and January were excluded because year-end and New Year’s holidays are in the months. The intended period of Method 3 & 4 was from March 1998 to April 2006. Months when you always have three-days-holidays, May, January and October since 2000, July and September since 2003, and the months which follow such months are excluded from a regression estimate because the effect caused by three-days-holidays is reduced due to seasonal adjustments. Also, as year-end and New Year’s holidays are in December and January, the two months and the following month also are excluded.
7. Month-on-month of indices of tertiary industry activities were obtained using uniquely calculated seasonally-adjusted-index by X-11 default of X-12 ARIMA.
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10. Figures in significant cases (Method 1 |t|>1.666, Method 2 |t|>1.667, Method 3|t|>1.694, Method 4 |t|>1.696) in level of significance of 10% (both sides) by each method are shaded.