The Third Quarter of 2012
Analysis of All Industrial Activities

Summary

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・Trends in inventories and inventory ratio

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December 5, 2012
Research and Statistics Department,
Minister’s Secretariat,
Ministry of Economy, Trade and Industry
Trends in the indices of operating ratio and production capacity

【Analysis Point 1】
- Indices of operating ratio and production capacity 1) continue to decline -

【Characteristics】
- The indices of operating ratio in the third quarter of 2012 decreased by 5.3% from the previous quarter, down for the second consecutive quarter, mainly due to the decline in the transport equipment industry.
- The indices of production capacity decreased by 0.4% from the previous quarter, down for the fourth consecutive quarter, mainly due to the decline in the electronic parts and devices industry.
- Among the factors behind the decrease in the indices of production capacity are the reduced production capacity for household appliances and consolidation of domestic production sites for improving productivity.

Fig. 1 Trends in the Indices of Industrial Production, Operating Ratio, and Production Capacity (2005=100)

Fig. 2 Contribution Ratio to Indices of Operating Ratio for Major Industries, as Changes from the Previous Quarter
(2005=100, seasonally adjusted)

Fig. 3 Contribution Ratio to Indices of Production Capacity for Major Industries, as Changes from the Previous Quarter
(2005=100, end of quarter)

Note: The shaded part indicates the economic contraction stage. Source: “Indices of Industrial Production”

1) The indices of operating ratio indicate the production facility utilization in the manufacturing industry and are obtained by calculating the ratio between the achievable output at the facilities owned by a company and their actual output (output / production capacity) and assuming the figure in the base year (2005) as 100. For the indices of production capacity, the maximum production at a production facility under standard production conditions is defined as the production capacity, and that capacity is converted into an index, assuming that of the base year (2005) as 100. Although the indices of operating ratio cover the same items as the indices of production capacity, production capacity is identified only for the items for which surveys are possible. For this reason, the number of applicable items is only 163, which is less than that for the indices of industrial production (496). It should therefore be noted that there is a difference in the covered items between them.

2) In this document, major industries refer to the industries that account for at least 300.0 of the indices of operating ratio, and at least 500.0 of the indices of production capacity, of all the manufacturing industries (10000.0).
Changes in operating ratio are correlated to those in production capacity

**Characteristics**

- Changes in the operating ratio are correlated to those in production capacity because shortly after a change in the operating ratio, capital investment (flow) changes and then production capacity (stock) changes as well.
- The plotted indices of operating ratio and production capacity show that all the economic cycles since the 10th, except the 13th, follow the steps like this: (1) The operating ratio increases in the early stage of economic recovery, while production capacity does less (or can even decrease); (2) When the economic recovery becomes more prevalent, letting the operating ratio continue to rise, production capacity rises as well; (3) When the economy peaks off, making the operating ratio fall, the increase in production capacity slows down.
- This process is described from the viewpoint of enterprise activity like this: (1) In the initial phase of economic recovery, companies increase the operating ratio of their existing facilities; (2) When the operating ratio reaches a certain level, they begin to make capital investment for capacity enhancement in order to increase production capacity, recognizing that raising the operating ratio alone is no longer enough to achieve the desired production increase; (3) During the economic contraction phase, companies first reduce their operating ratio and then reduce capital investment shortly thereafter in order to stop enhancing production capacity.
- During the period since the first quarter of 2009, the indices of operating ratio increased first while the indices of production capacity decreased, and then the indices of production capacity rose. This pattern resembles the 14th cycle but the increase in the indices of production capacity was smaller than that in the 14th cycle. Meanwhile, the indices of operating ratio and production capacity both declined in the recent period.

**Fig. 14 Relationship between the Indices of Operating Ratio and Production Capacity (2005=100)**

(Production capacity)

(Operating ratio)

Notes: 1. The indices of operating ratio are seasonally adjusted. The indices of production capacity are as of the end of the quarter.
2. The 10th cycle took place from 1983 I to 1986 IV; 11th from 1986 IV to 1993 IV; 12th from 1993 IV to 1999 I; the 13th from 1999 I to 2002 I; and 14th from 2002 I to 2009 I.
3. The dot (●) denotes the peak in each economic cycle.

Source: Data from “Indices of Industrial Production”
It is suggested that during the 14th cycle, companies in the “transport equipment,” “chemicals,” and “electronic parts and devices” industries ramped up production by increasing the operating ratio of the existing facilities in the first half of the period and attempted to enhance production capacity in the second half.

During the period since the first quarter of 2009, the “transport equipment” and “chemicals” industries restricted capital investment aimed at production capacity enhancement in order to remove or consolidate excess capacity, while adjusting production by adjusting the operating ratio of the existing facilities.

By contrast, the “electronic parts and devices” industry first ramped up production by increasing the operating ratio of the existing facilities while reducing production capacity, and then enhanced production capacity. Halfway through this, companies began to reduce the operating ratio while increasing production capacity. With production flagging in the recent period, it is suggested that companies have been decreasing both the operating ratio and production capacity.

**Fig. 15 Transport Equipment**
Relationship between Indices of Operating Ratio and Production Capacity (2005=100)

**Fig. 16 Electronic Parts and Devices**
Relationship between Indices of Operating Ratio and Production Capacity (2005=100)

**Fig. 17 Chemicals**
Relationship between Indices of Operating Ratio and Production Capacity (2005=100)

Notes: 1. The indices of operating ratio are seasonally adjusted. The indices of production capacity are as of the end of the quarter.
2. The dotted lines indicate the indices of operating ratio levels at which the indices of production capacity hit the bottom during the 14th cycle or the period since the first quarter of 2009.
Source: Data from “Indices of Industrial Production”

With the indices of industrial production, operating ratio, and production capacity all decreased in the recent period, their future trends need to be monitored carefully.

3) The three industries are particularly discussed here: transport equipment industry, which has significantly contributed to indices of operating ratio trends since the first quarter of 2009; electronic parts and devices industry, which has substantially contributed to indices of production capacity trends; and chemicals industry, which accounts for the largest part among materials industries.
As to trends in the indices of producers’ inventories, they peaked at 109.7 in the fourth quarter of 2008 and began to fall due to the occurrence of the Lehman shock, decreasing for four consecutive quarters to 93.0 in the fourth quarter of 2009.

Once the indices rebounded in the first quarter of 2010, the upward trend continued to reach 107.8 in the third quarter of 2012.

The indices of inventory ratio increased to 149.6 in the first quarter of 2009 due to the occurrence of the Lehman shock, but continued to decrease since then for four consecutive quarters to reach down to 106.3 in the first quarter of 2010.

The indices continued to rise since the second quarter of 2010 and reached 127.9 in the third quarter of 2012, the second highest after the level recorded following the Lehman shock.

~ The levels of indices of producers’ inventories and inventory ratio have been rising since 2010 ~

**Characteristics**

- As to trends in the indices of producers’ inventories, they peaked at 109.7 in the fourth quarter of 2008 and began to fall due to the occurrence of the Lehman shock, decreasing for four consecutive quarters to 93.0 in the fourth quarter of 2009.
- Once the indices rebounded in the first quarter of 2010, the upward trend continued to reach 107.8 in the third quarter of 2012.
- The indices of inventory ratio increased to 149.6 in the first quarter of 2009 due to the occurrence of the Lehman shock, but continued to decrease since then for four consecutive quarters to reach down to 106.3 in the first quarter of 2010.
- The indices continued to rise since the second quarter of 2010 and reached 127.9 in the third quarter of 2012, the second highest after the level recorded following the Lehman shock.

**Fig. 1 Changes in Indices for All Mining and Manufacturing Industries (2005=100, seasonally adjusted)**

**Index level**

<table>
<thead>
<tr>
<th>Production</th>
<th>Shipment</th>
<th>Inventories (end-quarter)</th>
<th>Inventory ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>105.6</td>
<td>105.9</td>
<td>103.3</td>
<td>99.8</td>
</tr>
<tr>
<td>108.4</td>
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<td>109.5</td>
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<td>103.5</td>
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<td>109.7</td>
</tr>
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<td>92.8</td>
<td>101.0</td>
<td>102.2</td>
<td>108.3</td>
</tr>
<tr>
<td>74.2</td>
<td>102.7</td>
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<td>79.0</td>
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<td>124.3</td>
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<tr>
<td>90.1</td>
<td>94.7</td>
<td>107.6</td>
<td>106.8</td>
</tr>
</tbody>
</table>

Note: The shaded part indicates the period in which the indices of industrial production and producer’s shipments peaked.

Source: “Indices of Industrial Production”
In the first quarter of 2009, the growth rate of inventory ratio was the highest in the period around the Lehman shock, mainly driven by the general machinery, iron and steel, and transport equipment industries.

By type of goods, the contribution ratio to both the increase and decrease was the largest for producer goods and capital goods.

By type of business, in the first quarter of 2009, when the growth rate of the contribution ratio was the highest during the period covered, the general machinery, iron and steel, and transport equipment industries primarily contributed to the growth.

Fig. 3 Changes in the Contribution Ratio in the Period around the Lehman Shock, by Type of Goods
(2005=100, seasonally adjusted indices)

Ratio to the previous quarter, contribution ratio to growth rate (%), % points

Source: “Indices of Industrial Production”

Fig. 4 Changes in the Contribution Ratio in the Period around the Lehman Shock, by Type of Business
(2005=100, seasonally adjusted indices)

Ratio to the previous quarter, contribution ratio to growth rate (%), % points

Source: “Indices of Industrial Production”

1) This refers to the period from 2008 I to 2010 I, which is among the three periods respectively starting from 2008 I, 2010 II, and 2012 I, during which the indices of production and shipments for all mining and manufacturing industries (seasonally adjusted, quarterly) peaked.
In the second quarter of 2011, the growth rate of inventory ratio was the highest in the period around the Great East Japan Earthquake, mainly driven by the foods and tobacco, transport equipment, and electronic parts and devices industries.

Trends in the inventory ratio in the period around the Great East Japan Earthquake analyzed by seasonally adjusted indices (ratio to the previous quarter) show that the indices increased for three consecutive quarters from the second quarter of 2010 to the fourth quarter of 2010, decreased in the first quarter of 2011, rose in the second quarter, and fell again for two consecutive quarters from the third quarter.

By type of goods, the contribution ratio was the largest for producer goods in the second quarter of 2011, but in its previous and subsequent quarters the contribution ratios of non-durable consumer goods and durable consumer goods were higher.

By type of business, in the second quarter 2011, when the growth rate of the contribution ratio was the highest during the period covered, the foods and tobacco, transport equipment, and electronic parts and devices industries primarily contributed to the growth.

**Fig. 5 Changes in the Contribution Ratio in the Period around Great East Japan Earthquake, by Type of Goods**

(2005=100, seasonally adjusted indices)

**Fig. 6 Changes in the Contribution Ratio in the Period around Great East Japan Earthquake, by Type of Business**

(2005=100, seasonally adjusted indices)

2) This refers to the period from 2010 II to 2011 IV, which is among the three periods respectively starting from 2008 I, 2010 II, and 2012 I, during which the indices of production and shipments for all mining and manufacturing industries(seasonally adjusted, quarterly) peaked.
In the second quarter of 2012, the growth rate of inventory ratio was the highest during the recent period, mainly driven by the information and communication electronics equipment, electronic parts and devices, and transport equipment industries.

**Characteristics**

- Trends in the inventory ratio during the recent period analyzed by seasonally adjusted indices (ratio to the previous quarter) show that the indices decreased in the first quarter of 2012 and increased for two consecutive quarters from the second quarter.
- By type of goods, the contribution ratio was particularly large for durable consumer goods and producer goods during the period since the second quarter of 2012.
- By type of business, in the second quarter of 2012, when the growth rate of the contribution ratio was the highest during the period covered, the information and communication electronics equipment, electronic parts and devices, and transport equipment industries primarily contributed to the growth.

**Fig. 7 Changes in the Contribution Ratio during the Recent period, by Type of Goods**

(2005=100, seasonally adjusted indices)

Ratio to the previous quarter, contribution ratio to growth rate (% , % points)

Source: “Indices of Industrial Production”

**Fig. 8 Changes in the Contribution Ratio during the Recent Period, by Type of Business**

(2005=100, seasonally adjusted indices)

Ratio to the previous quarter, contribution ratio to growth rate (% , % points)

Source: “Indices of Industrial Production”

3) This refers to the period from 2012 I to 2012 III, which is among the three periods respectively starting from 2008 I, 2010 II, and 2012 I, during which the indices of production and shipments for all mining and manufacturing industries (seasonally adjusted, quarterly) peaked.
~ The main contributor to the increased inventory ratio was shipment-related factors in the period around Lehman shock and inventory-related factors in the period around the Great East Japan Earthquake and the recent period ~

【Characteristics】

- In the period around the Lehman shock, domestic shipments and exports contributed to the inventory ratio positively. Inventories began to contribute negatively in early 2009.
- Although inventory-related factors contributed negatively, the positive contribution of shipment-related factors was greater, resulting in the rise of the inventory ratio.
- It is believed that the inventory ratio increased because the decline in shipments due to a rapid slowdown in the global economy was far greater than the decrease in inventories arising from inventory adjustment.
- In the period around the Great East Japan Earthquake, inventories constantly contributed positively since the third quarter of 2010. Shipments contributed positively since the occurrence of the earthquake.
- The inventory ratio rose because of the combination of the continued positive contribution of inventory-related factors since the pre-disaster period and the resumed positive contribution of shipment-related factors in the aftermath of the earthquake.
- Factors of the increase in the inventory ratio probably include the positive and negative impacts of policy measures (e.g. eco-car subsidy, home appliance eco-points), post-disaster disruption in the supply chain, the complete switchover to digital terrestrial TV broadcast, and the Thai flooding.
- During the recent period, inventories positively contributed constantly. Shipments positively contributed only in the third quarter of 2012.

Fig. 9 Contribution to Inventory Ratio for All Mining and Manufacturing Industries, by Type of Factor (% points)

Notes: 1. The contribution is broken down as follows:
   Based on $S = D + E$
   and $\text{Ir} = 1 / S$
   
   \[
   \frac{\Delta \text{Ir}}{\Delta t} = \frac{\Delta S}{\Delta t} - \left( \frac{\Delta D}{\Delta t} + \frac{\Delta E}{\Delta t} \right)
   \]
   
   \(S\): Shipments \(D\): Domestic shipments \(E\): Exports \(\text{Ir}\): Inventory ratio

2. The inventory ratios used here are released values (the weighted average of the indices of inventory ratio for each item was obtained to provide an aggregated value).

3. The indices of inventory ratio calculated by dividing the indices of producers’ inventories (average during period) by the indices of producers’ shipments (average during period) was used for breaking down the contribution ratio.

Source: “Indices of Industrial Production” and “The Indices of Industrial Domestic Shipments and Exports”
【Analysis Point 6】
～ Inventory cycle graphs for the recent period indicate that inventories shifted from an expanding to an accumulation stage and then returned to an expanding stage ～

【Characteristics】
• The changes in the stage shown in the inventory cycle graphs\(^4\) indicate that in the period around the Lehman shock, the inventory adjustment stage continued for four consecutive quarters from the fourth quarter of 2008 after the breakout of the Lehman shock.
• In the period around the Great East Japan Earthquake, although an inventory adjustment stage was experienced in the second quarter of 2011 after the disaster, the other three quarters were at an expanding inventory stage.
• In the recent period, inventories shifted from an expanding stage in the first quarter to an accumulation stage in the second quarter but then returned to an expanding stage in the third quarter. This situation was caused by the decline in shipments in 2011 due to the disaster and by the rebound in 2012.

![Fig. 10 Changes in the Stage for All Mining and Manufacturing Industries](image)

Note: The individual stages are abbreviated as follows:
- Adjustment: Inventory adjustment stage
- Decreased inventory: Unintended decreasing stage of inventory
- Accumulation: Inventory accumulation stage
- Expanding: Expanding inventory stage

Source: “Indices of Industrial Production”

4) An inventory cycle arises from a gap between shipments and demand. In a inventory cycle graph, an inventory cycle develops counterclockwise like this: the stage where inventories are intentionally adjusted due to sluggish demand (A in the graph) → the stage where an unintended decrease in inventories occurs due to a leveling off of the decrease in demand (B) → the stage where inventories are accumulated in accordance with recovery in demand (C) → the stage where inventories expand due to a slowdown in demand.
1. Trends of all industrial activities

(1) Outline of all industrial activities (third quarter of 2012)

~ Flagging industrial activities ~

【Characteristics】

- The indices of all industrial activities decreased by 0.5% from the previous quarter, down for the third consecutive quarter.
- Although the indices of construction industry activity and tertiary industry activity increased, those of industrial production decreased.

Changes in the Indices of All Industrial Activities (2005=100)

<table>
<thead>
<tr>
<th></th>
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<td>IV</td>
<td>I</td>
<td>II</td>
<td>III</td>
<td>IV</td>
<td>I</td>
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<tr>
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<td>95.4</td>
<td>96.6</td>
<td>96.4</td>
<td>95.1</td>
<td>94.2</td>
<td>96.2</td>
</tr>
<tr>
<td>% Change from the Previous Quarter (Year)</td>
<td>3.1</td>
<td>-0.5</td>
<td>0.7</td>
<td>-0.2</td>
<td>-1.3</td>
<td>-0.9</td>
<td>2.1</td>
</tr>
<tr>
<td>% Change from the Same Quarter of the Previous Year</td>
<td>-</td>
<td>3.2</td>
<td>2.1</td>
<td>-0.5</td>
<td>-1.6</td>
<td>-0.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Indices of Agriculture, Forestry and Fisheries</td>
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<td>91.1</td>
<td>91.1</td>
<td>91.1</td>
<td>91.1</td>
<td>91.1</td>
<td>91.1</td>
</tr>
<tr>
<td>% Change from the Previous Quarter (Year)</td>
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<td>-0.8</td>
<td>-0.8</td>
<td>-0.8</td>
<td>-0.8</td>
<td>-0.8</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>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Indices of Construction Industry Activity</td>
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<td>-1.8</td>
<td>3.2</td>
<td>-7.5</td>
<td>3.3</td>
<td>-1.5</td>
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<tr>
<td>% Change from the Same Quarter of the Previous Year</td>
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<td>-3.2</td>
<td>-0.6</td>
<td>2.3</td>
<td>-5.1</td>
<td>-3.2</td>
<td>-2.8</td>
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<tr>
<td>Indices of Industrial Production</td>
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<td>92.2</td>
<td>94.3</td>
<td>94.2</td>
<td>92.8</td>
<td>88.9</td>
<td>93.7</td>
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<tr>
<td>% Change from the Previous Quarter (Year)</td>
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<td>-1.0</td>
<td>-0.1</td>
<td>-1.5</td>
<td>-4.2</td>
<td>5.4</td>
<td>0.4</td>
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<tr>
<td>% Change from the Same Quarter of the Previous Year</td>
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<td>14.0</td>
<td>5.9</td>
<td>-1.3</td>
<td>-5.8</td>
<td>-0.9</td>
<td>-1.6</td>
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<td>Indices of Tertiary Industry Activity</td>
<td>97.8</td>
<td>97.9</td>
<td>98.2</td>
<td>98.5</td>
<td>97.5</td>
<td>98.0</td>
<td>98.5</td>
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<td>% Change from the Previous Quarter (Year)</td>
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<td>0.6</td>
<td>0.3</td>
<td>-1.0</td>
<td>-0.5</td>
<td>1.5</td>
<td>0.5</td>
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<tr>
<td>% Change from the Same Quarter of the Previous Year</td>
<td>-</td>
<td>1.8</td>
<td>1.6</td>
<td>-0.3</td>
<td>-0.5</td>
<td>0.3</td>
<td>0.6</td>
</tr>
<tr>
<td>Indices of Government Services, etc.</td>
<td>97.8</td>
<td>97.6</td>
<td>97.8</td>
<td>97.5</td>
<td>97.3</td>
<td>97.4</td>
<td>97.6</td>
</tr>
<tr>
<td>% Change from the Previous Quarter (Year)</td>
<td>-0.2</td>
<td>0.0</td>
<td>-0.3</td>
<td>-0.2</td>
<td>0.1</td>
<td>0.2</td>
<td>0.1</td>
</tr>
<tr>
<td>% Change from the Same Quarter of the Previous Year</td>
<td>-</td>
<td>-0.6</td>
<td>-0.8</td>
<td>-1.0</td>
<td>-0.4</td>
<td>-0.1</td>
<td>0.6</td>
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</tbody>
</table>

Index level (2005=100, seasonally adjusted)

Ratio to the previous quarter, contribution ratio to growth rate (%)

Note: 1. Since the Indices of Agriculture, Forestry & Fisheries Production contain no data corresponding to the Indices of All Industrial Activities for quarters, the index for 2011, or % change from the previous year, these figures were 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
~ Declining industrial production ~

1) Production trends for the quarter

【Characteristics】
- The indices of industrial production for the third quarter of 2012 decreased by 4.2% from the previous quarter, down for the second consecutive quarter.
- By type of goods, although construction goods increased, decreases were observed in producer goods and durable consumer goods, etc.
- By type of business, three industries, including the information and communication electronics equipment industry, increased, while 14 industries, including the transport equipment industry, decreased.
- By demand, shipments for domestic demand decreased for the first time in five quarters, while shipments for exports decreased for the second consecutive quarter.

![Changes in the Indices of Industrial Production](image)

![Changes in Export Shipments and Domestic Shipments](image)

2) Production trends by item

【Characteristics】

<i>Major items that decreased during the third quarter of 2012</i>
- i) Large passenger cars (for the second consecutive quarter)
  - Due to a decline in exports to the U.S. and the Middle East
- ii) Metal oxide semiconductor ICs (Memory) (for the second consecutive quarter)
  - Due to adjustment of production for use for memory cards
- iii) Drive, transmission and control parts (for the first time in five quarters)

<i>Major items that increased during the third quarter of 2012</i>
- i) Cellular telephone (for the first time in two quarters)
  - Due to increased new products
- ii) General steam turbines (for the second consecutive quarter)
- iii) Photovoltaic modules (for the first time in four quarters)
  - Due to increased production for large solar power plants and residential use

<table>
<thead>
<tr>
<th>Items that Contributed to Decrease</th>
<th>Changes from Previous Quarter (%)</th>
<th>Contribution ratio (% points)</th>
<th>Items that contributed to increase</th>
<th>Changes from Previous Quarter (%)</th>
<th>Contribution ratio (% points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Large passenger cars</td>
<td>-14.6</td>
<td>-1.02</td>
<td>i) Cellular telephone</td>
<td>60.3</td>
<td>0.22</td>
</tr>
<tr>
<td>ii) Metal oxide semiconductor ICs (Memory)</td>
<td>-28.8</td>
<td>-0.29</td>
<td>ii) Steam turbines for industry</td>
<td>47.6</td>
<td>0.09</td>
</tr>
<tr>
<td>iii) Drive, transmission and control parts</td>
<td>-9.9</td>
<td>-0.26</td>
<td>iii) Photovoltaic modules</td>
<td>15.8</td>
<td>0.08</td>
</tr>
<tr>
<td>iv) Small passenger cars</td>
<td>-11.1</td>
<td>-0.21</td>
<td>iv) Quartz crystal units and multiple components</td>
<td>20.1</td>
<td>0.07</td>
</tr>
<tr>
<td>v) Large trucks</td>
<td>-18.4</td>
<td>-0.20</td>
<td>v) External storages</td>
<td>18.7</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Note: Degree of contribution to total growth rate of -4.2% (% points)
3) Inventory trends

【Characteristics】

- The inventory cycle for the third quarter of 2012 was as follows.

(i) Mining and manufacturing
- Still remained at an expanding inventory stage

(ii) Final demand goods
- Still remained at an expanding inventory stage

(iii) Producer goods
- Shifting from an inventory accumulation stage to an inventory adjustment stage

(iv) Electronic parts and devices
- Still remained at an inventory adjustment stage

(v) Iron and steel
- Shifting from an inventory accumulation stage to an inventory adjustment stage

(vi) Transport equipment
- Shifting from an inventory accumulation stage to an expanding inventory stage

Changes in Inventory Cycle

(i) Mining and manufacturing

(ii) Final demand goods

(iii) Producer goods

(iv) Electronic parts and devices

(v) Iron and steel

(vi) Transport equipment
(3) Outline of tertiary industry activities
- Tertiary industry activities remaining unchanged

Trend for the quarter
【Characteristics】

- Tertiary industry activities for the third quarter of 2012 increased by 0.1% from the previous quarter for the first time in three quarters.
- By type of business, five out of 13 major categories, including the accommodations, eating and drinking industry, showed increases. On the other hand, eight industries, including the scientific research, professional and technical services industry, declined.

Changes in Indices of Tertiary Industry Activity for Major Industries (2005=100, seasonally adjusted)

Note: The line graph shows the indices of tertiary industry activities for six major industries.

### Changes in Indices of Tertiary Industry Activities (2005=100)

<table>
<thead>
<tr>
<th>Type of business (Division)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary Industry</td>
<td>97.8</td>
<td>97.9</td>
<td>98.2</td>
<td>98.5</td>
<td>97.5</td>
<td>97.0</td>
</tr>
<tr>
<td>(%Change from the Same Quarter of the Previous Year)</td>
<td>1.3</td>
<td>0.1</td>
<td>-0.6</td>
<td>0.3</td>
<td>-1.0</td>
<td>-0.5</td>
</tr>
<tr>
<td>Finance &amp; Insurance</td>
<td>99.6</td>
<td>100.0</td>
<td>99.7</td>
<td>99.4</td>
<td>99.2</td>
<td>99.0</td>
</tr>
<tr>
<td>(%Change from the Previous Year)</td>
<td>1.3</td>
<td>1.6</td>
<td>-0.3</td>
<td>-0.5</td>
<td>0.3</td>
<td>0.6</td>
</tr>
<tr>
<td>Transport &amp; Postal Activities</td>
<td>101.3</td>
<td>105.0</td>
<td>101.9</td>
<td>103.1</td>
<td>98.7</td>
<td>97.7</td>
</tr>
<tr>
<td>(%Change from the Same Quarter of the Previous Year)</td>
<td>5.1</td>
<td>-3.4</td>
<td>1.9</td>
<td>-3.0</td>
<td>1.2</td>
<td>4.5</td>
</tr>
<tr>
<td>Wholesale Trade &amp; Retail Trade</td>
<td>106.6</td>
<td>107.2</td>
<td>108.4</td>
<td>101.4</td>
<td>107.5</td>
<td>109.4</td>
</tr>
<tr>
<td>(%Change from the Previous Year)</td>
<td>1.5</td>
<td>0.2</td>
<td>-0.4</td>
<td>1.1</td>
<td>-4.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Electric, Gas, Heat Supply &amp; Water</td>
<td>100.1</td>
<td>101.4</td>
<td>103.6</td>
<td>103.9</td>
<td>99.1</td>
<td>97.9</td>
</tr>
<tr>
<td>(%Change from the Same Quarter of the Previous Year)</td>
<td>1.8</td>
<td>0.3</td>
<td>0.1</td>
<td>1.2</td>
<td>-1.4</td>
<td>9.5</td>
</tr>
<tr>
<td>Medical, Health Care &amp; Welfare</td>
<td>100.6</td>
<td>107.2</td>
<td>108.4</td>
<td>101.4</td>
<td>107.5</td>
<td>109.4</td>
</tr>
<tr>
<td>(%Change from the Same Quarter of the Previous Year)</td>
<td>1.5</td>
<td>0.2</td>
<td>-0.4</td>
<td>1.1</td>
<td>-4.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Information &amp; Communications</td>
<td>98.8</td>
<td>98.2</td>
<td>98.8</td>
<td>98.0</td>
<td>96.9</td>
<td>98.0</td>
</tr>
<tr>
<td>(%Change from the Previous Year)</td>
<td>1.3</td>
<td>0.1</td>
<td>-0.6</td>
<td>0.3</td>
<td>-1.1</td>
<td>0.7</td>
</tr>
<tr>
<td>Learning Support</td>
<td>100.7</td>
<td>100.6</td>
<td>100.7</td>
<td>100.5</td>
<td>100.2</td>
<td>100.6</td>
</tr>
<tr>
<td>(%Change from the Same Quarter of the Previous Year)</td>
<td>0.2</td>
<td>-1.1</td>
<td>0.0</td>
<td>-1.1</td>
<td>0.0</td>
<td>-3.4</td>
</tr>
<tr>
<td>Electricity, Gas, Heat Supply &amp; Water</td>
<td>106.6</td>
<td>107.2</td>
<td>108.4</td>
<td>101.4</td>
<td>107.5</td>
<td>109.4</td>
</tr>
<tr>
<td>(%Change from the Previous Year)</td>
<td>1.5</td>
<td>0.2</td>
<td>-0.4</td>
<td>1.1</td>
<td>-4.0</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Note: The annual figures and the changes from the same quarter of the previous year are based on the original indices, 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 the quarter

**[Characteristics]**

- Supply for final demand as a whole decreased by 2.2% from the previous quarter, down for the first time in five quarters.
- Overall industrial supply for consumption decreased by 0.3% from the previous quarter, down for the third consecutive quarter, because of the decline in personal consumption, despite the increase in government consumption.
- Overall industrial supply for investment decreased by 2.4% from the previous quarter for the first time in three quarters, due to the decline in private corporation facilities, public investment, and private housing.
- Exports decreased by 6.3% from the previous quarter for the first time in three quarters, and imports increase by 1.6% (id.), up for the fourth consecutive quarter.

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

(2005=100, ratio to the previous year (quarter))

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ratio to the previous year</td>
<td>Ratio to the previous year</td>
<td>III</td>
<td>IV</td>
<td>I</td>
</tr>
<tr>
<td>Total of final demand sector</td>
<td>4.4</td>
<td>-1.2</td>
<td>0.8</td>
<td>0.4</td>
<td>-2.5</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>18.8</td>
<td>-5.1</td>
<td>2.5</td>
<td>-0.1</td>
<td>-5.4</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>1.9</td>
<td>0.3</td>
<td>0.7</td>
<td>0.3</td>
<td>-1.4</td>
</tr>
<tr>
<td><strong>Consumption</strong></td>
<td>3.2</td>
<td>-0.5</td>
<td>1.3</td>
<td>-0.3</td>
<td>-2.4</td>
</tr>
<tr>
<td>Personal consumption</td>
<td>4.0</td>
<td>-1.1</td>
<td>1.4</td>
<td>-0.4</td>
<td>-2.8</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>12.1</td>
<td>-3.4</td>
<td>4.3</td>
<td>-1.0</td>
<td>-7.0</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>1.5</td>
<td>0.3</td>
<td>0.6</td>
<td>-0.3</td>
<td>-1.4</td>
</tr>
<tr>
<td>Government consumption</td>
<td>1.1</td>
<td>0.9</td>
<td>0.3</td>
<td>0.3</td>
<td>-0.2</td>
</tr>
<tr>
<td><strong>Investment</strong></td>
<td>2.0</td>
<td>-1.4</td>
<td>1.1</td>
<td>-1.3</td>
<td>-2.7</td>
</tr>
<tr>
<td>Public investment</td>
<td>-4.6</td>
<td>-6.6</td>
<td>-1.3</td>
<td>-5.8</td>
<td>-2.7</td>
</tr>
<tr>
<td>Private housing</td>
<td>-4.6</td>
<td>-6.6</td>
<td>2.0</td>
<td>1.1</td>
<td>1.0</td>
</tr>
<tr>
<td>Private corporation facilities</td>
<td>6.1</td>
<td>0.8</td>
<td>2.5</td>
<td>2.8</td>
<td>-4.0</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>20.6</td>
<td>1.6</td>
<td>3.5</td>
<td>1.2</td>
<td>-5.9</td>
</tr>
<tr>
<td>Construction</td>
<td>-6.7</td>
<td>-1.5</td>
<td>3.6</td>
<td>8.3</td>
<td>-0.3</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>0.7</td>
<td>1.1</td>
<td>-0.8</td>
<td>2.3</td>
<td>-3.6</td>
</tr>
<tr>
<td><strong>Exports</strong></td>
<td>24.2</td>
<td>-1.6</td>
<td>-0.9</td>
<td>3.0</td>
<td>0.9</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>27.1</td>
<td>-0.8</td>
<td>-1.3</td>
<td>-1.3</td>
<td>-2.0</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>17.7</td>
<td>-3.6</td>
<td>-0.4</td>
<td>0.3</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Imports</strong></td>
<td>12.4</td>
<td>2.0</td>
<td>1.3</td>
<td>0.7</td>
<td>-0.5</td>
</tr>
<tr>
<td>Mining and manufacturing (Goods)</td>
<td>15.7</td>
<td>5.5</td>
<td>3.0</td>
<td>1.4</td>
<td>1.8</td>
</tr>
<tr>
<td>Tertiary industries (Services)</td>
<td>4.1</td>
<td>-8.3</td>
<td>1.4</td>
<td>-1.8</td>
<td>-4.4</td>
</tr>
</tbody>
</table>

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

【Characteristics】

• Looking at capital investment of SMEs in the third quarter of 2012 by using the indices of tertiary industry activities (wholesale trade of general machinery and equipment) as its surrogate, it decreased by 1.4% from the previous quarter, showing a decrease for the fifth consecutive quarter.

Changes in the Indices of Tertiary Industry Activities (Wholesale Trade of General Machinery and Equipment)
(2005=100, seasonally adjusted)

Source: “Indices of Tertiary Industry Activity” (Ministry of Economy, Trade and Industry)
Outline of exports and imports

1) Export trends for the quarter

【Characteristics】
- Looking at the trends of exports for the third quarter of 2012 (on a quantity basis), in terms of the indices of all industries (final demand components), exports of goods (mining and manufacturing industry) decreased by 5.7% from the previous quarter and exports of services (the tertiary industry) by 3.9%(id.), resulting in a 6.3% decrease from the previous quarter for all exports.
- By region, exports of goods to the United States, ASEAN, Europe, East Asia, and the Middle East all decreased.

2) Import trends for the quarter

【Characteristics】
- Looking at the trends of imports for the third quarter of 2012 (on a quantity basis), in terms of the indices of all industries (final demand components), imports of goods (mining and manufacturing industry) decreased by 1.1% from the previous quarter, although all imports increased by 1.6% from the previous quarter.
- By region, imports of goods from Europe increased, while those from ASEAN, East Asia, the Middle East, and the United States decreased.