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# Mizuho Economic Outlook & Analysis

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## *Quality is the key to the future of Japan's exports amid China's rising presence in the capital goods markets of the US and the EU*

### < Summary >

- ◆ The slowdown of emerging market economies has affected growth in Japan's exports, but slumping exports to the US and the EU in the capital goods markets have also had an impact.
- ◆ Japan's share in capital goods imports by the US and the EU continues to decline, while China's share has increased substantially. In the two categories which account for the bulk of capital goods trading, Japan competes with China in more than 70% of the items.
- ◆ Under these difficult circumstances, products with a technological advantage have market share. Export volume growth is expected to remain sluggish, but developments in the enhancement of product value will determine the future path for manufacturers.

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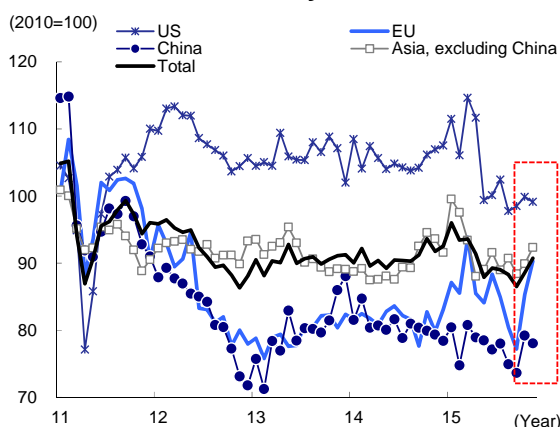
## 1. Capital goods exports to the US and the EU remain sluggish

The decline in Japan's exports has finally stopped, but they continue to remain sluggish. The export volume index for November 2015 (seasonally adjusted by MHIRI) rose 2.5% month-over-month, climbing two consecutive months, but the index was still below the 2014 average (**Chart 1**). Slumping exports can be attributed to the emerging market slowdown and the consequent adjustments affecting global production. The weak growth of capital investment accompanying the fall of operation rates has also contributed to the stagnation of exports. But a look at export trends since 2000 suggests that weak demand is not the only factor behind sluggish exports.

**Chart 2** shows the shifts in the composition of export items since 2000. There is an apparent change in the ratio of intermediate goods, such as parts and processed goods, which have steadily increased. In fact, exports of intermediate goods in 2013 totaled 451.3 billion dollars, which was 1.7 times that of 2000 (268.6 billion dollars). By region, growth was mostly concentrated in East Asia (**Chart 3-left**), especially China (+244% vs 2000), South Korea (+98%) and Thailand (+171%). By industry, intermediate goods in the chemical, metal (iron and steel, non-ferrous, metal products) and electrical machinery sectors all showed considerable growth.

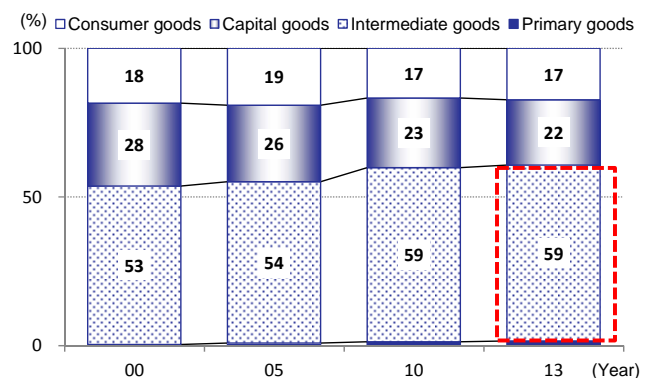
Capital goods exports have also increased since 2000, but export growth was limited to 27 billion dollars (as opposed to 182.7 billion dollars of intermediate goods). By region, exports of capital goods to the US and the EU have actually declined (**Chart 3-right**). These figures suggest that not only slowing growth in emerging countries but

**Chart 1: Export volume index in recent years**



Note: Seasonally adjusted by MHIRI  
Source: Made by MHIRI based on the Ministry of Finance, *Trade Statistics*.

**Chart 2: Shifts in the composition of export items**



Source: Made by MHIRI based on the Research Institute of Economy, Trade and Industry, *RIETI-TID 2013*.

also declining capital goods exports to the US and the EU have been weakening Japan's exports in recent years.

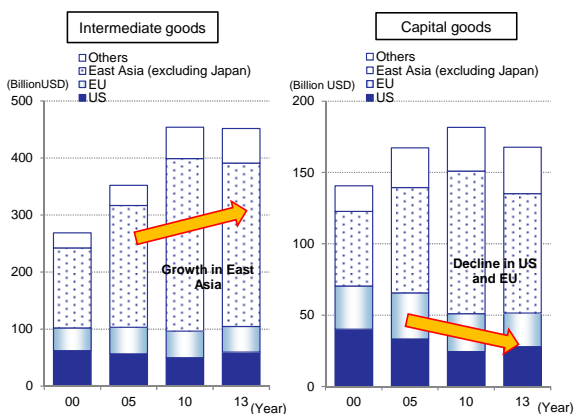
Next, we will look at the statistics of the respective countries to examine the reasons behind the drop in capital goods exports to the US and the EU.

## 2. China's capital goods dominate the US and the EU markets

Capital goods imports by the US have basically continued to grow, with the exception of the period during the financial crisis following the collapse of Lehman Brothers. The value of capital goods imports in 2013 was up 69% from 2000 (**Chart 4**). Likewise, capital goods imports in the EU grew more than 80% from 2000 to 2013. In other words, the decline in Japan's capital goods exports to the US and the EU were not due to a drop in demand. Instead, Japan lost export share by failing to take advantage of the expanding market. Herein lies the problem.

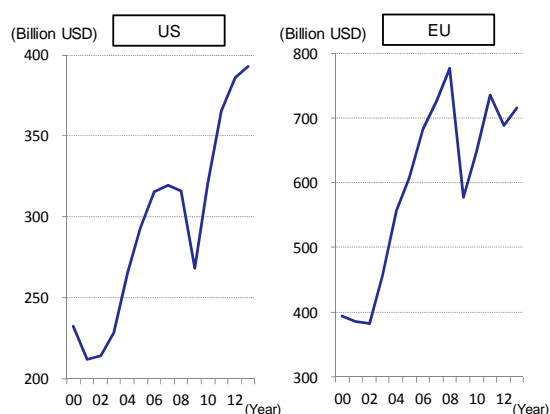
**Chart 5** shows the market share of countries exporting capital goods to the US and the EU. While Japan's share has continued to shrink, China's has dramatically increased. Japan's share in the US capital goods imports in 2013 was 7%, falling 10 points from 17% in 2000. China, on the other hand, surged 29 points to 39% from 10% in 2000, thereby increasing its presence. The breakdown of China's 29-point share increase was 14 points in electrical machinery and another 14 points in general machinery, with these two categories accounting for virtually all of the share growth. Japan, meanwhile, lost 2 points in electrical machinery and 5 points in general machinery.

**Chart 3: Shifts in the export value of intermediate and capital goods by destination**



Source: Made by MHRl based on the Research Institute of Economy, Trade and Industry, *RIETI-TID 2013*.

**Chart 4: Value of capital goods imports by the US and the EU in recent years**



Source: Made by MHRl based on the Research Institute of Economy, Trade and Industry, *RIETI-TID 2013*.

China has also been expanding into the EU's capital goods market. About 60% of trading in the EU is conducted with other EU members, so China's share is not as large as in the US. Still, China's share of the EU capital goods imports in 2013 was 17%, or 4 times higher than in 2000 (4%). By contrast, Japan's share shrank from 8% to 3% in the same period.

China's capital goods include final products whose parts are imported from other countries and assembled in China. Even so, the expansion of China's market share is striking. Assembly of capital goods requires precision and the completed goods need to have high durability, features that would make production difficult without China's technological advancement. We can assume that intensifying competition with China lies behind Japan's decline in capital goods exports.

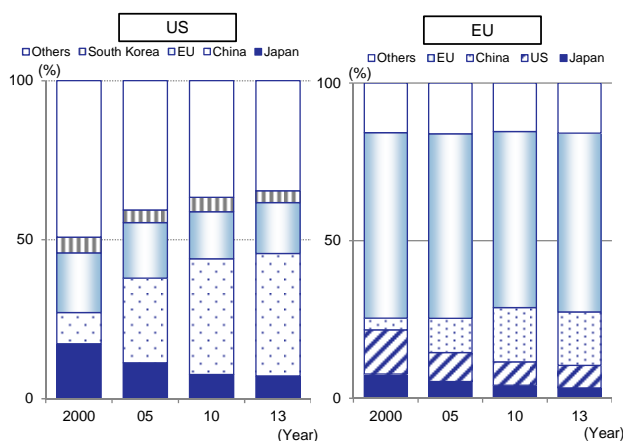
### 3. Japan competes with China in more than 70% of the capital goods related to electrical and general machinery

Next, we will examine how much the items lost share to China in the US and the EU. China's and Japan's shares in electrical machinery (63 items) and general machinery (123 items) were calculated per item to confirm changes between 2000 and 2013.

**Chart 6** shows the percentage of items that lost share to China (items in which Japan's share dropped and China's increased). The ratios exceed 70% in both the US and the EU.

In the US, 85.7% of the surveyed electrical machinery items and 70.1% of the general

**Chart 5: Shifts in the market share of capital goods in the US and the EU**



Source: Made by MHRI based on the Research Institute of Economy, Trade and Industry, *RIETI-TID 2013*.

**Chart 6: Ratio of items that lost market share to China**

	Exports to the US	Exports to the EU
Electrical machinery	<b>85.7% (54/63)</b>	<b>84.1% (53/63)</b>
General machinery	<b>70.1% (82/117)</b>	<b>78.3% (94/120)</b>

Note: 1. China's and Japan's market shares were calculated per item (electrical machinery: 63 items, general machinery: 123 items) to compare market shares in 2013 with those in 2000. The table shows the percentage of items in which China's share expanded and Japan's declined.

2. Items not exported from Japan in 2000 and 2013 have been excluded.

Source: Made by MHRI based on the United Nations, *UN comtrade*.

machinery items lost out to China. China particularly expanded its share in transmitter and copier exports in the electrical machinery category, while in the general machinery category, China distinguished itself in automatic data processing.

In the EU, 84.1% of the surveyed electrical machinery items and 78.3% of the general machinery items lost market share to China. Items in which China expanded market share in the EU overlap with items in the United States.

These figures apparently support the notion that China has been increasing its market share in the US and the EU because it has technologically caught up with Japan.

#### **4. Some Japanese items have increased their market share despite difficult circumstances**

Japan's market share has grown in several categories despite difficult circumstances, notably, excavators (SITC code 7232), rotary positive displacement pumps (7425), ballasts for discharge tubes (77123), and apparatus based on the use of alpha, beta, or gamma radiation (77422).

Excavators have particularly maintained their high market share in the US and the EU. Excavators include hydraulic shovels, which are Japan's leading construction equipment.

Japan's share of US excavator imports rose from 44% in 2000 to 55% in 2013. China's share was a meager 1% in 2013. Japan's share of EU excavator imports expanded from 47% to 54%. As in the US, China's share in the EU was only 3% in 2013.

Japan has maintained a high market share in excavators based on its technological advantage. Production of construction equipment in Japan gained momentum after World War II. In the beginning, hydraulic shovels were produced in partnership with US and European manufacturers, who were technologically more advanced at the time. Later, domestic demand grew for hydraulic shovels which could operate efficiently in small areas. As a result, engineers exercised their ingenuity and originality, driving technological improvements relevant to manufacturing the key parts of hydraulic shovels. This became the base for greater competitiveness and gaining market share in global markets.

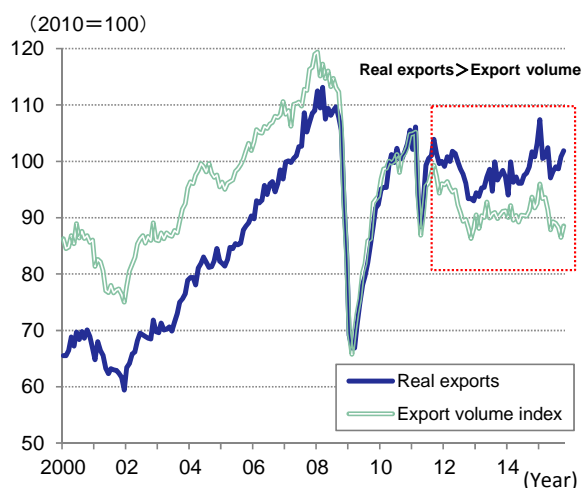
#### **5. Products with high value added are the key to earning export profits**

Competition in exports is intensifying as technological advancements in emerging countries are catching up with developed countries, and this changing environment is making it difficult for Japan to compete by price alone. As with excavators mentioned earlier, maintaining a competitive edge will become increasingly important.

Statistics indicate that companies are improving the value of their products rather than increasing the volume of exports. **Chart 7** compares Japan's real exports to the export volume index. Real exports include shifts in quality (increase/decrease in value added). The export volume index, on the other hand, shows changes in volume and does not reflect changes in quality. Thus, if an item shows no change in export volume but its price rises due to improvement in quality, then the export volume index will remain the same while the real export index goes up. Comparing the two indices, real exports exceeded the export volume index in mid-2011 and the gap has gradually widened. Facing fierce price competition with other countries and the prolonged appreciation of the yen, companies are attempting to secure sales volume and profits by enhancing the value of their export items.

Given the recent trend among companies to meet overseas demand by producing goods overseas, we are inclined toward the view that the rise of Japan's export volume will remain subdued. However, Japan can expand its presence by strengthening the country's technological advantage and enhancing the value added of its export goods. The move to bring production back to Japan may be important, but building a structure not easily affected by exchange rates and other external factors is the real key for Japan's manufacturers to make a comeback.

**Chart 7: Real exports and export volume index in recent years**



Source: Made by MHRI based on the Bank of Japan, *Real Exports and Real Imports*, and the Ministry of Finance, *Trade Statistics*.