

# Mizuho Economic Outlook & Analysis

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## **Will the Chinese Economy Drive Japan's Export Recovery?**

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## **1 . Japan's exports are recovering**

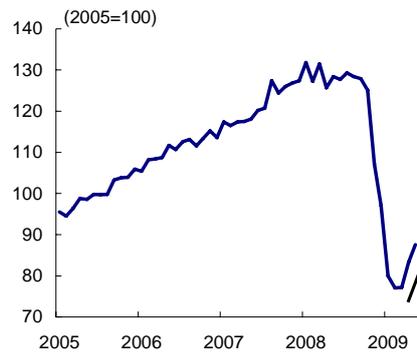
### **(1) Sharp drop in exports in two consecutive quarters**

Japanese exports fell sharply after the “Lehman Shock” last fall, which triggered the global financial turmoil and a significant decrease in global demand, followed by the contraction of the world’s manufacturing activities and trade transactions. Japan’s real exports (SNA Basis) fell by 14.7% q-o-q during the Oct-Dec quarter of 2008, and 26.0% q-o-q during the Jan-Mar quarter of 2009, renewing the steepest-ever fall since such statistics were first collected in 1955 for two quarters in a row. A breakdown of Japan’s exports by destination (seasonal adjustments by Mizuho Research Institute (MHRI)) shows that exports declined for two quarters in a row not only to the US and Europe - the epicenter of the global financial crisis - but also to various countries and regions, including emerging economies where trade credits are hard to obtain in the face of the contraction of the financial market: exports to the US (-14.2% q-o-q in the Oct-Dec quarter of 2008→-33.8% q-o-q in the Jan-Mar quarter of 2009); exports to the EU (-15.6% q-o-q in the Oct-Dec quarter of 2008→-28.1% q-o-q in the Jan-Mar quarter of 2009); exports to China (-14.4% q-o-q in the Oct-Dec quarter of 2008→-16.5% q-o-q in the Jan-Mar quarter of 2009); and exports to NIEs (-18.9% q-o-q in the Oct-Dec quarter of 2008→-18.9% q-o-q in the Jan-Mar quarter of 2009). Japan, whose economic growth was supported by external demand after 2002, has been severely hit and has been forced to cut production drastically.

### **(2) Exports are picking up after bottoming out**

As the financial market is showing signs of stability, the world is emerging from its worst trade contraction in decades. Japan’s real exports (as calculated by the Bank of Japan (BOJ)) increased for the third consecutive month in May: a 0.1% m-o-m increase in March, for the first time in eight months, followed by a 7.9% m-o-m increase in April and a 5.1% m-o-m increase in May (**Chart 1**). The pace of increase varies depending on the destination of exports, but it can be assumed that Japanese exports as a whole have already bottomed out and are beginning to show recovery. The focus is now shifting to the pace of future recovery, following a nearly 40% decline since the outbreak of the financial crisis.

**Chart 1: Change in real exports from Japan**



Note: The latest readings pertain to May 2009.  
Source: Bank of Japan, *Real Exports and Real Imports*.

### **(3) Rising expectations toward exports to China**

Trends in exports to China are attracting particular attention. These accounted for 6.7% of Japan's total exports in FY2000 - still only a quarter of its shipments to the US (29.8%). Exports to China in the following eight years, however, grew at an annual average of more than 10%, and as a result, China's share of Japan's total exports increased to 16.5% in FY2008, almost equal to the US' share (17.0%) (**Chart 2**). China has recently launched economic stimulus measures worth four trillion yuan to boost its economy. As a result, there are growing expectations in Japan that increased domestic demand in China might drive the recovery of Japan's exports, and ultimately the recovery of the entire Japanese economy.

There is no doubt that the trend sketched above holds the key to the pace of Japan's export recovery. However, although China's share and the US' share are relatively close, the composition of these exports is quite different. This report will consider how China's increased domestic demand will affect the pace of recovery of Japanese exports to that country, and of total Japanese exports, focusing especially on structural differences between shipments to the US and China.

**Chart 2: Breakdown of real exports in terms of value**

( % )

	FY1985	FY1990	FY1995	FY2000	FY2005	FY2008
US	37.7	30.7	27.0	29.8	22.6	17.0
China	6.8	2.2	5.1	6.7	13.7	16.5
EU	12.0	19.1	15.9	16.2	14.6	13.6
Asia (ex China)	18.8	29.8	39.0	34.5	34.5	33.5
Others	24.7	18.2	13.0	12.8	14.6	19.4

Source: Ministry of Finance, *Trade Statistics*.

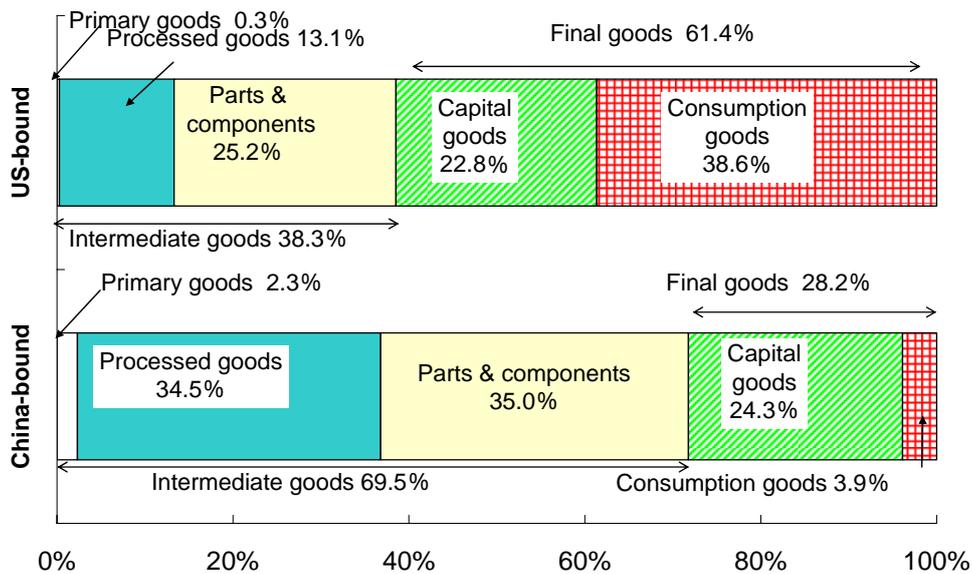
## 2 . Major structural differences in exports to China and the US

### (1) Exports to the US are comprised mainly of final goods while exports to China are primarily intermediate goods

When we look at Japan's exports by stage of demand, we find a major structural difference between shipments to China and the US (**Chart 3**). In 2007, final goods - capital and consumption goods - accounted for 61.4% of total exports to the US, while intermediate goods - processed goods and parts & components - accounted for the rest (38.3%). In the case of exports to China, the ratio of final goods to the total was 28.2%, whilst the ratio of intermediate goods to the total was 69.5%. The difference is significant in that exports to the US are mainly final goods, while those to China are mainly intermediate goods. In light of the main focus of this report, the next point to consider is how much any increase in Chinese domestic demand will contribute to increasing the exports of intermediate goods - the main category of Japan's exports to China.

Trends in final goods are basically determined by local demand, whereas there are three trade patterns in intermediate goods, which are processed into finished products in the country to which they are exported: (i) shipment to local markets in that country; (ii) export to Japan (i.e., reverse import); or (iii) export to other countries. It is impossible to accurately trace the final destinations of these intermediate goods once they have been exported to the US or China, but it is possible to partially infer the final destinations from the trends of Japanese companies operating in the US or China.

**Chart 3: Breakdown of US-bound and China-bound exports**



Note: The figures are based upon statistics for 2007.  
 Source: Ministry of Economy, Trade and Industry, *RIETI-TID2008*.

**(2) Export is a significant source of revenue for Japanese companies operating in China**

The breakdown of the sales of Japanese companies operating in the US shows that local sales account for 91.4% of their total sales, compared to 2.3% for sales from exports to Japan (i.e., reverse import), and 6.3% for exports to other countries (**Chart 4**). It is assumed that most intermediate goods exported to Japanese companies with operations in the US are used to produce products for sale in the US market. Meanwhile, local sales make up approximately 60% of the total sales of Japanese companies operating in China. This is significantly lower than their US counterparts. However, sales from exports are high, and indeed, exports to Japan and other countries account for 22.3% and 17.1% respectively. Industries with a high proportion of exports to China, such as electrical machinery, information and telecommunications equipment, and general-purpose machinery, all have higher sales from exports (sales from exports of electrical machinery, information and telecommunications equipment, and general-purpose machinery are 68.1%, 62.4% and 62.4% respectively. **Chart 5**).

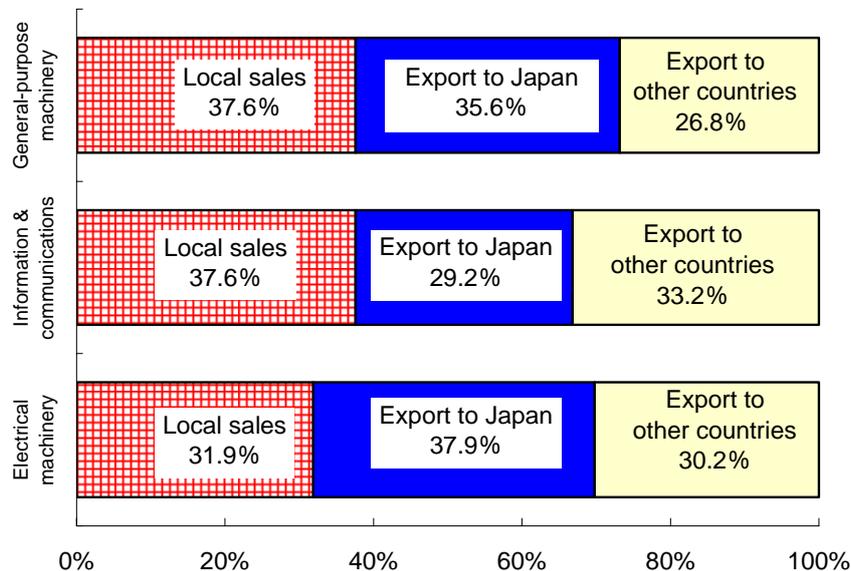
**Chart 4: Trends of Japanese companies operating in the US and China**

	(%)	
	Overseas affiliates in the US	Overseas affiliates in China
Local sales	91.4	60.6
For exports	8.6	39.4
Bound for Japan	2.3	22.3
Bound for other countries	6.3	17.1

Note: The readings are based upon a survey of manufacturers in FY2007.

Source: Ministry of Economy, Trade and Industry, *Basic Survey on Overseas Business Activities*

**Chart 5: Trends of Japanese companies operating in China by industry**



Note: The readings pertain to 2008.

Source: Ministry of Economy, Trade and Industry, *Quarterly Survey of Overseas Subsidiaries*.

**(3) Japanese companies operating in the US and China have different reasons for entering the market**

The Japan Bank for International Cooperation (JBIC) surveyed Japanese manufacturers that have expanded their businesses overseas. The manufacturers cited various reasons (multiple answers allowed) why they view the US and the Chinese markets are promising (Chart 6). 69.7% cited “the current size of the local market” in the US, but this fell to less than 37.1% as the reason cited for interest in China. However, for the latter, nearly 77.6% cited “growth potential,” which clearly indicates their expectation in the potential of the Chinese market rather than the current level of local demand.

Furthermore, in the case of the US market, only a few companies surveyed (5.3% and 0.0% respectively) cited it as a “base of export to other countries” and as a “base of export to Japan,” whereas in the case of the Chinese market, 15.0% and 11.9% cited these two reasons respectively. Japanese companies, therefore, are expanding their businesses in China while at the same time seeing it as an export base to Japan and other countries. Using inexpensive labor in China, Japanese companies assemble finished products from the intermediate goods sent from Japan, and then sell them to Japan and other countries. Inexpensive labor was cited by 44.9% of the respondents as the reason why they think China is promising, but zero percent in the case of the US.

**Chart 6: Reasons for China and the US being viewed as promising for overseas operations by Japanese corporations**

	China (ratio)	US (ratio)
Future growth potential of local market	77.6	39.5
Inexpensive source of labor	44.9	0.0
Current size of local market	37.1	69.7
Supply base for assemblers	24.8	18.4
Inexpensive components & raw materials	16.3	0.0
Concentration of industry	15.6	18.4
Base of export to other countries	15.0	5.3
Qualified human resources	13.9	14.5
Base of export to Japan	11.9	0.0
Profitability of the local market	8.8	27.6
Developed local infrastructure	8.2	30.3
Advantages in terms of raw material procurement	6.8	1.3
Tax incentives for investment	6.5	1.3
Developed local logistics services	4.1	19.7
Base for product development	3.4	21.1
Stable social/political situation	2.0	32.9
Good for risk diversification to other countries	1.7	1.3
Stable policies to attract foreign investment	1.4	0.0

Note: Survey in November 2008.

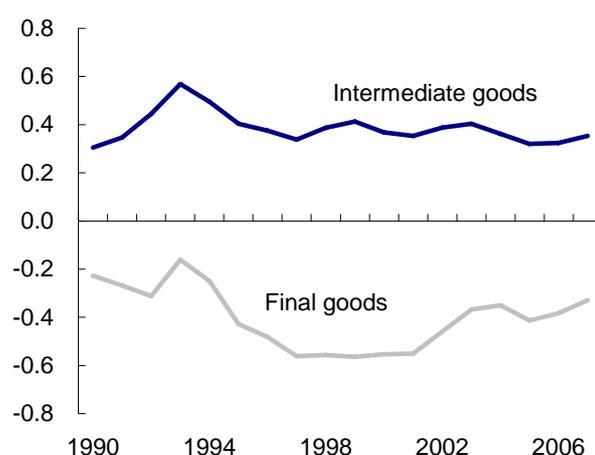
Source: Japan Bank for International Cooperation, *Survey Report on Overseas Business Operations by Japanese Manufacturing Companies*.

#### **(4) Trade with China shows export specialization in intermediate goods and import specialization in final goods**

This section looks at the Trade Specialization Index (TSI) for Japan’s trade with China. This index indicates the degree of export or import orientation in a particular product group. The closer the TSI is to +1, the more that product group is export oriented, whilst the closer the TSI is to -1, the more that product group is import oriented. As **Chart 7** shows, the TSI of intermediate goods exported to China from Japan has been

positive over the period, whilst the TSI of final goods has been negative over the same period. Thus, we can see that intermediate goods are export oriented and final goods are import oriented when viewed from Japan. This would seem to reflect the structure of Japan's trade with China. That is, as seen in products such as electrical machinery and general-purpose machinery, in particular, which constitute a large portion of exports to China, intermediate goods, including components, are procured from suppliers in Japan, assembled in China, and then re-exported to Japan as final goods.

**Chart 7: The trade specialization index (TSI) for Japan-China trade**



Note:  $TSI = (\text{export value} - \text{import value}) \div (\text{export value} + \text{import value})$

Source: Made by Mizuho Research Institute (MHRI), based upon Ministry of Economy, Trade and Industry, *RIETI-TID2008*.

**(5) Approximately 30% of China-bound exports are intended for demand outside China**

If we suppose that all final goods exported from Japan are intended for local market, and all the primary goods and intermediate goods exported from Japan are allocated proportionately to (i) local sales, (ii) export to Japan and (iii) export to other countries according to the same ratio for Japanese companies active in China and the US, nearly all exports (in terms of monetary amounts) to the US (96.6%) are directly or indirectly intended for local sales (**Chart 8**). Meanwhile, 71.6% of exports to China are intended for local sales, 16.1% for export to Japan and 12.3% for export to other countries. It is believed that exports to the US are primarily determined by trends in US final demand, whereas exports to China are strongly influenced by trends in demand outside China, such as in Japan and the US, in addition to Chinese final demand. Thus, in the case of China, it can be pointed out that there is only a small possibility that the growth of

Chinese domestic demand will lead to an increase in Japanese exports to China.

**Chart 8: Estimates of final destinations of US-bound and China-bound exports**

	(%)	
(%)	Exports to China	Exports to the US
Local sales	71.6	96.6
For export	28.4	3.4
To Japan	16.1	0.9
To other countries	12.3	2.5

Source: Estimates by MHRI, based upon data released by the Ministry of Economy, Trade and Industry.

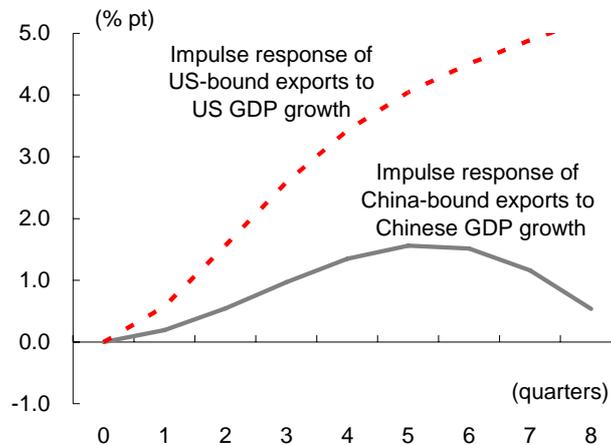
### **3 . Determining factors of exports to the US and China**

#### **(1) Local demand is the main factor in exports to the US**

This section offers quantitative analysis of determining factors in Japan’s exports to the US and China, based on their trade structures described in the preceding section.

From the estimated results of impulse response functions of exports to the US and China (**Chart 9**), we can see that exports to the US respond greatly to local demand (US GDP). These estimated results need to be interpreted with a sufficient margin, but if US GDP increases by 1%, exports to the US will increase by approximately 1.6% pt in six months, and 3.2% pt in a year. Meanwhile, if Chinese GDP increases by 1%, exports to China will increase by roughly 0.5% pt in six months, and 1.3% pt in a year. Therefore, it is assumed that exports to the US are determined by local demand, whilst exports to China are affected not only by local demand but also by other factors.

**Chart 9: Impulse response function (IRF) for exports to the US and China in response to local demand**



Note: This report estimates a VAR model consisting of three following variables: (i) US GDP, (ii) the volume of exports to the US, and (iii) the JPY/USD exchange rate, and another VAR model consisting of the three following variables: (i) Chinese GDP, (ii) the volume of exports to China, and (iii) the JPY/USD exchange rate, and then compares the accumulated impulse response functions of the two countries based on the assumption that each country's GDP increases by 1% from the previous year.

Sources: Estimates by MHRI, based upon International Monetary Fund, *World Economic Outlook*, and Ministry of Finance, *Trade Statistics*.

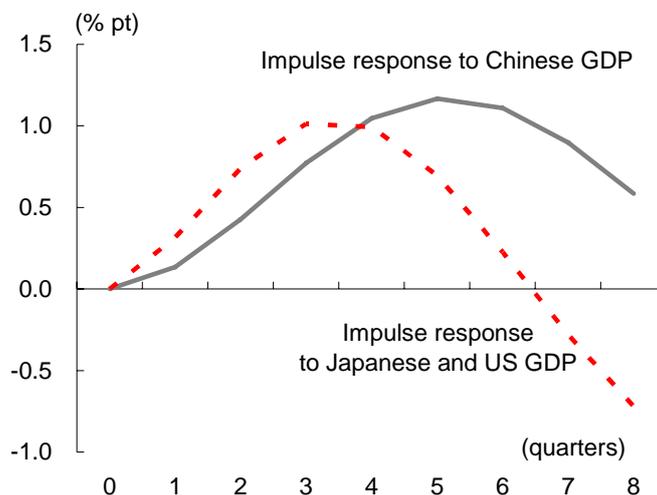
## (2) Trends in external demand are also important for exports to China

With respect to exports to China, we have estimated the impulse response functions in response to (i) local demand (Chinese GDP) and (ii) demand for export to other regions (the GDPs of Japan and the US are used as proxy variables). **Chart 10** shows that the “pull-up” effect of Chinese GDP growth is approximately 0.4% pt in six months, and 1.0% pt in a year; the “pull-up” effect of GDP growth in Japan and the US is approximately 0.7% pt in six months, and 1.0% pt in a year. Therefore, it can be said that exports to China are affected by Japanese and US GDPs, as well as Chinese GDP, and especially for a short time period of between six months and one year the effect of Japanese and US GDPs is greater than that of Chinese GDP. Hence, it can be considered that the increase in Japanese and US GDPs is likely to lead to an increase in exports of intermediate goods, which account for a large share of exports to China, and for this reason, Japanese and US GDPs have a bigger impact on exports to China. However, in the long term, Chinese GDP’s effect is greater than the impact of Japanese and US GDPs. This is surely due to the stable increase in Chinese final demand, supported by its continued high economic growth.

As the above analysis shows, it is clear that trends in external demand, mostly from Japan and the US, and not just Chinese local demand are the determining factors in exports to

China, which have risen nearly 20% per annum over the last few years. Apparently, underlying this rise was the high economic growth of the US and the booming Japanese economy dependent on exports to the US market.

**Chart 10: Impulse response function (IRF) for exports to China**



Note: This report estimates a VAR model consisting of four following variables: (i) Japanese and US GDPs, (ii) Chinese GDP (iii) volume of exports to China, and (iv) the JPY/USD exchange rate, and produces the accumulated impulse responses for the volume of exports to China based on the assumption that Chinese GDP, and Japanese and US GDPs increase by 1% from the previous year.

Sources: Estimates by MHRI, based upon IMF, *World Economic Outlook*, Ministry of Finance, *Trade Statistics*.

## 4. Conclusion

### (1) Economic stimulus measures are unlikely to result in a rapid recovery of exports to China

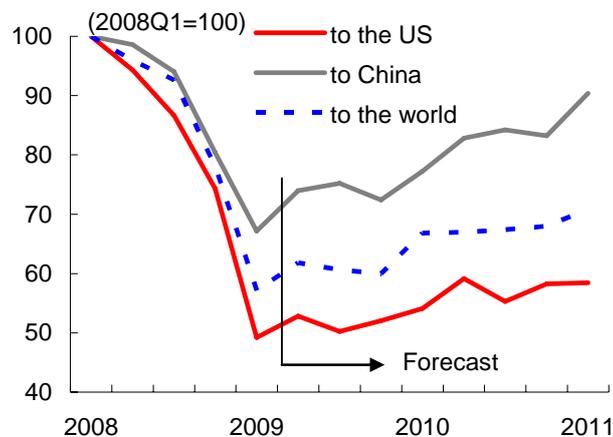
China is currently trying to bring about domestic demand-led growth by investing in infrastructure and by launching economic stimulus measures such as the *Home Appliance Subsidy Program for Rural Areas*, which subsidizes farmers who purchase home appliances. Some positive effects on Japanese exports can be expected. However, given the trade structure of China described above, we conclude that Japan will not gain much benefit from this. As part of this infrastructure investment, Japanese exports of non-ferrous metals are increasing, but they make up only 3% of Japan's total shipments to China (FY2008), and therefore, they are not significant enough to help ignite a full export recovery. Furthermore, although demand for home appliances is expected to grow in China because of the subsidy program, Japanese products are not eligible for subsidies in many cases. Therefore, Japan cannot expect any significant increase in

exports of intermediate goods, including semiconductors. Since Japan-made components are difficult to mount on inexpensive products sold in China, it is expected that any positive effect on Japanese exports to China will be limited. In addition, thanks to a Chinese government tax cut for purchasers of small and medium sized cars (with an engine size of 1600cc or less), sales of some Japanese cars are improving. However, with respect to the *Small Car Subsidy Program for Rural Areas* (cars with an engine size of 1300cc or less), a large share of eligible cars are made by Chinese manufacturers, so only a limited number of Japanese companies are reaping the benefits.

**(2) The slow recovery of US final demand bodes a slow pace of Japan's export recovery**

Even if Chinese final demand is boosted by the economic stimulus measures, it is unlikely for the time being that this alone will help Japan's exports to China to return to the high growth rates experienced before the financial crisis. As we have said, the pace of the recovery in Japanese exports depends heavily on the revival of US final demand. In the US, the current adjustment of the property market is likely to continue for a while. House prices are falling and are likely to remain flat even after bottoming out. The drop in house prices is a factor in restraining consumer spending because of the reverse wealth effect and balance sheet adjustments by households. The recovery of US final demand is likely to remain sluggish, and therefore we expect a slower pace of recovery in Japanese exports to the US. Furthermore, the US slump will delay the recovery of Chinese exports there, and will become an indirect restraining factor on Japan's exports to China. We forecast that Japanese exports will head towards recovery but growth will remain weak in 2009 and 2010, hovering far below the levels they reached before the financial crisis (**Charts 11 and 12**).

**Chart 11: Trends and forecast on export volume (by geographic destinations)**



Sources: Made by MHRI, based upon Ministry of Finance, *Trade Statistics* and others.

**Chart 12: Forecasts on volume of exports (by geographic destinations)**  
(Y-o-y % change)

	FY2008	FY2009	FY2010
World	-26.0	-23.4	9.6
US	-23.2	-31.4	8.9
China	-6.1	-12.8	13.9

Note: The readings regarding FY2009 and FY2010 are forecasts.

Sources: Made by MHRI, based upon Ministry of Finance, *Trade Statistics* and others.

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