Mizuho Economic Outlook & Analysis

April 6, 2017

How will US-China trade friction affect the Japanese economy?

< Summary >

◆ The rapidly expanding US trade deficit with China seems to be inviting job losses even in high value-added areas. This is fueling the rise in protectionism in the Trump administration.

◆ The huge US trade deficit with China involves virtually the entire supply chain spreading throughout the Asian region. If the US starts slashing its trade deficit with China, the entire Asian economy will be affected, centering on the electronic components sector.

◆ Even after the US-China summit, it will be difficult for the Trump administration to relax its hard stance toward China until the US sees its trade deficit decline. We need to monitor how the risk of uncertainty over the US trade policy may shrink the volume of trade transactions.

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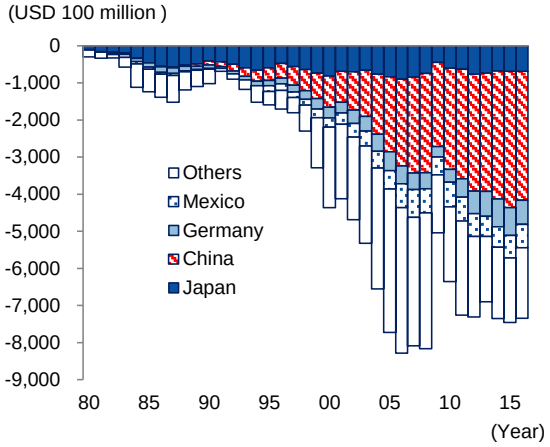
1. The US trade deficit with China has become the focus of attention

With the US-China summit on April 6 and 7 approaching, the US trade deficit with China is inviting more criticism. Look for example at "The President's 2017 Trade Policy Agenda" released on March 1, which stated: "Our trade deficit in goods and services with China soared from $81.9 billion in 2000 to almost $334 billion in 2015, an increase of more than 300 percent," clearly demonstrating the government's cautious stance on trade with China. Furthermore, on March 31, a presidential executive order to investigate the causes of the trade deficit was released, and in the press conference held one day before the release, Commerce Secretary Wilbur Ross actually named China (along with Japan, Germany and Mexico) as the target of the investigation.

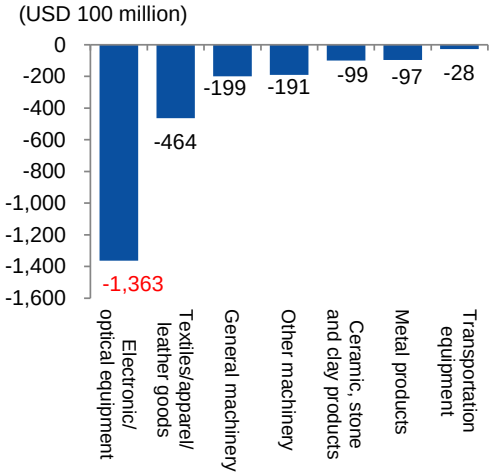
The US trade deficit with China is drawing attention because of its sudden rise, starting in 2001, the year when China joined the WTO, and growing to about half (47%) of the entire US deficit in 2016 (**Chart 1**). Breaking down the US trade deficit with China by industry (as of 2011), the share of the electronic and optical equipment sector, which is a relatively high value-added sector, is disproportionally high, with the trade deficit amounting to $136.3 billion (**Chart 2**). This is followed by textiles/apparel/leather goods ($46.4 billion) and general machinery ($19.9 billion), but these sectors account for under 40 percent of the total deficit compared with the electronic and optical equipment sector.

Chart 1: US trade balance



Source: Made by MHRI based on the US Department of Commerce.

Chart 2: Industrial breakdown of the US trade balance against China (2011)



Note: The data are as of 2011.
Source: Made by MHRI based on the OECD.

2. Background to the criticism on the trade deficit: the US continues to lose jobs even in high value-added industries

The rapid expansion of the trade deficit with China in the 2000s led to job losses in the US manufacturing sector, and this is considered one of the main factors for the rise in protectionism in the United States. The standard economic theory goes as follows: even if certain industries lose jobs due to rising imports, resources will be redistributed to other industries that have a comparative advantage, which will in turn offset the employment loss. But in the real world, the process of employment redistribution is time-consuming. It seems that the US found it difficult to deal with the sudden change in the labor market triggered by the sharp increase in the trade deficit with China in the 2000s, even though the US is known for its highly mobile labor market.

The employment loss effect in the US due to expanding imports from China has been confirmed by the empirical analyses of leading economists in recent years. For example, in the 2000s (1999-2007) the US lost approximately 3.45 million jobs in the manufacturing sector, and according to Acemoglu et al. (2016), job losses directly caused by the increase in Chinese imports was about 580,000, rising to roughly 1.66 million jobs if we include indirect ripple effects (part of the estimate results are shown in **Chart 3 [1]**). On the other hand, the study found almost no redistribution effect where job losses in one industry are absorbed by other industries.

The degree of employment loss effect driven by the expanding trade deficit with China seems to vary depending on the industry. Since Acemoglu et al. (2016) studied only the employment loss effect of the entire US (or entire US manufacturers), we estimated the effect by industry using their quantitative analysis results (**Chart 3 [2]**). Our estimate results revealed that the problem of job loss due to the rise in Chinese imports is particularly serious in the electric machine and industrial/communication machine sectors. Of the actual 950,000 jobs lost in the two industries, those directly caused by increasing Chinese imports numbered 200,000, accounting for about 20 percent of the total job losses. It should be noted that if we included indirect effects, the employment loss from rising Chinese imports would swell threefold (about 60 percent of the entire job losses), albeit we did not conduct the estimate this time.

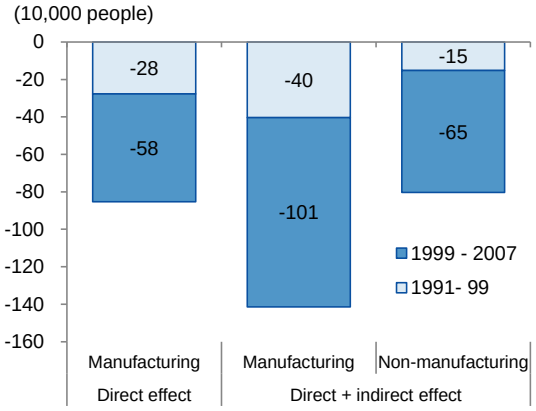
Meanwhile, in the apparel, oil and petroleum products, and transportation equipment sectors, the impact of job losses on the back of increasing Chinese imports remained subdued, as can be seen in the actual number of job losses led by the increase in Chinese imports (apparel: 30,000, oil/petroleum products: 10,000, transport equipment: 10,000) against the total number of job losses (apparel: 410,000, oil/petroleum products: 280,000, transport equipment: 270,000). In these industries, imports are also expanding from

emerging countries other than China (Vietnam for the apparel industry, Mexico for the transportation equipment industry, for example), meaning that job losses are not confined to the expansion of imports from China.

Hence, the primary factor behind the rise in protectionism is the loss of jobs in high value-added industries, such as electric machinery and industrial/communication machines, triggered by an acute expansion of the US trade deficit with China after 2001, the year when China joined the WTO. Since the job losses caused by the US trade deficit with China are a fact supported by empirical analyses conducted by leading economists, the protectionism stance of the Trump administration will likely be deep-rooted and harsh.

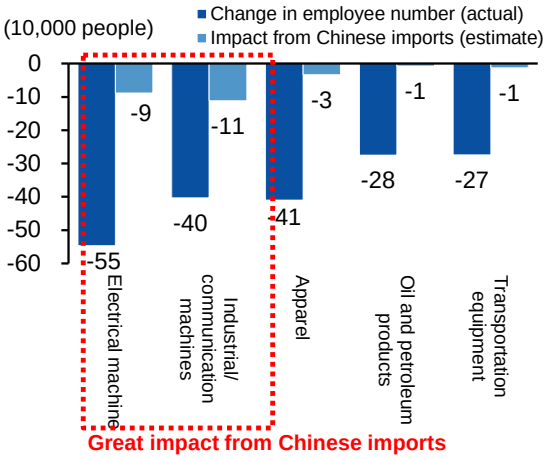
Chart 3: Estimate results on the job loss effect in the US due to increasing Chinese imports (Based on Acemoglu et al. [2016])

[1] Entire US (by manufacturing/non-manufacturing)



Source: Made by MHRI based on Table 8 of Acemoglu et.al. (2016).

[2] By industry (only direct effect)



Note: Calculated based on Table 2 of Acemoglu et.al. (2016). 1999-2007.
Source: Made by MHRI based on the UN, *Comtrade*, among others.

3. The US slashing its trade deficit with China will affect the entire world economy

(1) The trade deficit with China involves virtually the entire supply chain extending throughout Asia

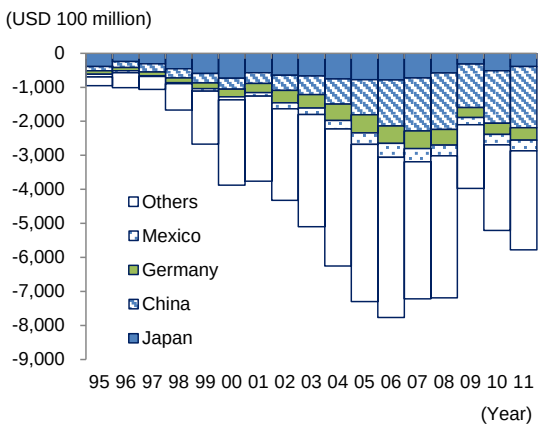
To estimate the potential impact of the situation where the US starts reducing its trade deficit with China, we must recognize that the huge US trade deficit with China actually means a trade deficit with the entire supply chain that extends throughout the Asian region and is not limited to China.

China is positioned last in the Asian supply chain. This means that parts first

manufactured in Japan, South Korea or Taiwan are shipped to China for assembly into final products, before export to final consumption markets such as the United States. Therefore, the value of the US trade deficit with China also includes the value of parts produced in Japan, South Korea or Taiwan as the constituent elements of final products (price of final product = prices of parts + labor cost + other expenses + profit). In other words, we can say that the US trade deficit with China actually includes the trade deficit with Japan, South Korea and Taiwan as well.

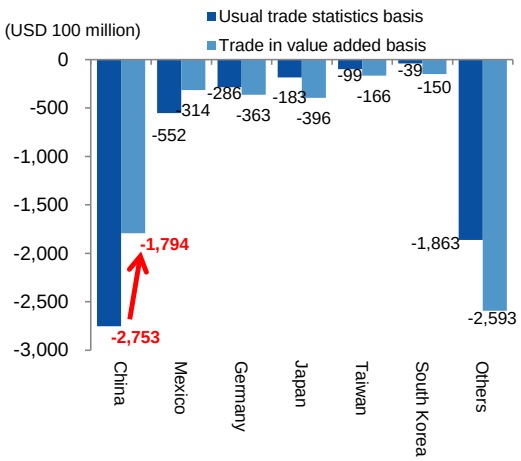
If we reclassify the value of parts exported to the US after assembly into final products in China by the parts-producing countries, how does it affect the structure of the US trade deficit? We used "trade in value added" data released by the OECD to confirm this point, as shown in **Charts 4 and 5**. There was no change in the tendency for China to represent the highest share of the total US trade deficit among all other countries, but the US trade deficit with China was $179.4 billion, or about two-thirds of the usual trade deficit with China (2011: $275.3 billion). On the other hand, the trade deficit with Japan, South Korea and Taiwan increased to $39.6 billion (usual trade deficit: $18.3 billion), $15 billion (usual trade deficit: $3.9 billion) and $16.6 billion (usual trade deficit: $9.9 billion), respectively. Furthermore, the increase in the trade deficit was not confined to Japan, South Korea and Taiwan, and with the gradual expansion of the trade deficit with numerous countries, the trade deficit with "other countries" in the chart has risen, and we should pay attention to this point.

Chart 4: US trade deficit (Value-added trade basis)



Source: Made by MHRI based on the OECD, *Trade in Value Added*.

Chart 5: US trade deficit by country (Comparison of usual trade statistics and value-added trade statistics)



Note: The data are as of 2011.
Source: Made by MHRI based on the OECD, *Trade in Value Added*.

(2) For the Japanese economy, the impact of reducing the US trade deficit with China cannot be offset by a production increase in the US

As stated in the previous section, the US trade deficit with China is equivalent to its deficit with the entire supply chain in the Asian region. For this reason, if the US starts slashing its trade deficit with China, it will affect the entire global economy centering on core countries of the supply chain, such as Japan, South Korea and Taiwan.

So we estimated the potential impact on the global economy (production ripple effect) using the international input-output table (Timmer et al. [2015]) in the case where the US reduced its imports from China and halved its trade deficit with China (on a usual trade statistics basis) (equivalent to a 34 percent uniform reduction in US imports from China). Our estimate results revealed that the ripple effect was particularly large in the electronic and optical equipment (including electronic parts) sector in Japan, South Korea and Taiwan, three important countries incorporated into the Asian supply chain (see **Chart 6 [1]**. It should be noted that the greater part of the ripple effect occurred in China, though it is not presented in the chart). On the other hand, while industries in the US and Germany also suffered as a whole, the impact on their electronic and optical equipment sectors remained limited.

Our estimate results also revealed that the negative impact spread thinly and broadly to other countries not presented in the chart. When we added up the production ripple effects in these countries (excluding China), the figure was -$38.6 billion, a substantial negative figure. This suggests that for companies engaged in manufacturing activities in a wide range of countries, the complexity of the supply chain that includes the Chinese economy may exert an unexpected impact on their operations depending on how trade friction between the US and China evolves. It should be added that if the US implements measures that trigger an acute inventory adjustment, it runs the risk of a temporary yet substantial decline in production volume, albeit we did not include this possibility in the estimate.

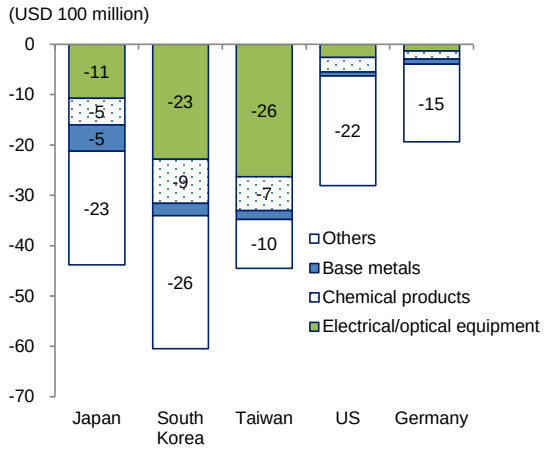
Meanwhile, an increase in US production can offset the negative production ripple effect from reduced Chinese imports to a certain extent, primarily because the export destination of parts produced in Japan, South Korea and Taiwan would shift to the US from China. However, if the final production processes also shift to the US from China, parts suppliers in Japan, South Korea and Taiwan may move their production sites to the US to save on transportation costs. Hence, an increase in US production cannot fully offset the negative production ripple effect that would occur in Japan, South Korea and Taiwan (since the risk of technology drain is lower in the US than in China, parts manufacturers may be encouraged to transfer their production to the US).

In fact, when we estimated the impact of the case where the reduction in US imports

from China increases production in the US by the same volume, the sum of the production ripple effects on Japan, South Korea and Taiwan was a negative figure (**Chart 6 [2]**). If we look at the impact on Japan, while the production ripple effect from a reduction in the US deficit with China was -$4.3 billion, the impact from the production volume increase in the US remained at the +$2.7 billion level. On the other hand, in NAFTA, the benefit from the production increase in the US was bigger than the negative impact of the US reducing imports from China. If we look at Mexico, while the production ripple effect from the US slashing its trade deficit with China was -$200 million, the impact of the production increase in the US reached +$2.8 billion.

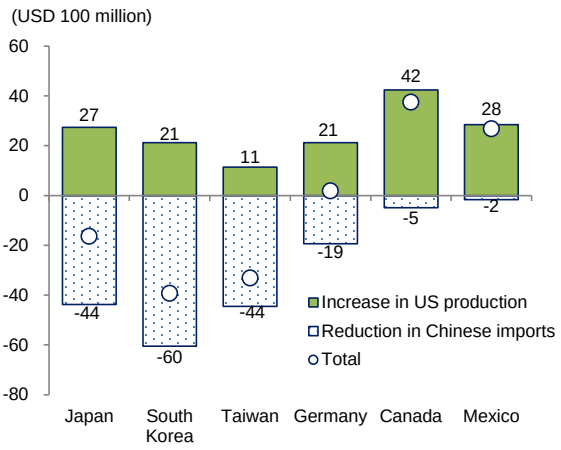
Chart 6: Production ripple effect on other countries if the US reduces its trade deficit with China (Estimate)

[1] Trade deficit with China reduced by half



Note: The data shows the production ripple effect on other countries in the case where the US trade deficit with China is reduced in half by decreasing Chinese imports.
Source: Made by MHRI based on WIOD.

[2] Trade deficit with China reduced by half ([1]) + production increase in the US



Note: The production ripple effect on other countries in the case where the US trade deficit with China is reduced in half by decreasing Chinese imports and increasing production in the US by the same amount.
Source: Made by MHRI based on WIOD.

4. It will be difficult for the Trump administration to ease its hard stance unless it confirms an actual decline in its trade deficit

In this report, we confirmed the high likelihood that the rapid increase in the US trade deficit with China has resulted in employment losses even in high value-added sectors, and this phenomenon has fueled a rise in protectionism. On that basis, the trade deficit with China virtually means a trade deficit with the entire supply chain extending throughout the Asian region, and our analysis indicates that if the US starts reducing its deficit with China, the move will affect not only China but also the world economy,

including Japan.

Lastly, we look at what actual measures the United States may take in slashing its trade deficit with China. We hold that the radical measure of (1) imposing a 45 percent tariff on Chinese imports mentioned during the presidential election campaign is not a realistic option given its substantial negative effect on US consumers, which may strengthen criticism of the Trump administration. (Refer to Tokuda/Takase [2017] for an estimate of the potential impact in the case where a 10 percent tariff is imposed on automobiles.) Next, concerning (2) the "border adjustment" proposal being discussed as part of corporate tax reform, we think it will also be difficult to implement as various industries, including the retail sector, may be seriously damaged if the high rate of 20 percent is adopted. (Refer to Tokuda/Takase [2017] for discussion points on the “border adjustment.”)

In this case, strengthening traditional methods such as (3) anti-dumping measures will most likely be the core option for the Trump administration. But various reports released by the USTR suggest that the Trump administration may not respect the procedures set forth by the WTO and may unilaterally impose sanctions in violation of the WTO rules. If the US imposes sanctions based on arbitrary judgments, uncertainty over the timing of trade sanctions may reduce the volume of trade transactions (because companies may hesitate to engage in trade transactions with the US), and this is a source of concern.

On the other hand, if the US places emphasis on (4) market opening to reduce its trade deficit with China, it may exert a positive influence on the Japanese economy. As pointed out in the “2017 National Trade Estimate Report on Foreign Trade Barriers,” the Chinese market is characterized by various non-tariff barriers, such as unfair support to local companies as part of China’s national industrial policy, lack of protection of intellectual property owned by foreign companies, and cyber theft of technology. If China were to correct these problems, it would be a positive factor not only for the United States but also other countries, including Japan. It goes without saying that for the Chinese economy to exit the era of technological catch up and step up to become a country capable of generating world-leading innovation, China will have to respond to these issues sometime soon.

In the upcoming US-China summit, there is speculation that China will strike a bargain on the trade deficit issue by offering “deals” that may include increasing US imports or expanding investment bound for the US. Nonetheless, even if the Trump administration welcomes such measures, they will not be sufficient to relax the hard stance of the US on trade issues, unless a reduction in the trade deficit can actually be confirmed. Trade friction between China and the US involves the entire supply chain across the Asian region, and since trade friction is also partly attributable to their

respective economic structures (excessive investment in China and excessive consumption in the US, among others), the issue is complex and not easily solved. The US and China require time to discuss this complicated issue and seek more adequate solutions. Since the potential ripple effect on other countries may greatly change depending on the measures taken by the two countries during the course of their discussions, we need to continue watching carefully the development of the discussions between the two nations.

Refer to the original Japanese report at the following with respect to reference material.

https://www.mizuho-ri.co.jp/publication/research/pdf/insight/jp170406.pdf