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Will the Supply Chain “Escape Dependence on China” after Covid-19?

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- Executive Summary -

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The spread of the Covid-19 infections has created growing momentum to reconsider overseas production bases. In particular, there are strong concerns about excessive dependence on China, whose presence has grown to the point that it is called the "world's factory." The Japanese government is indicating that it will support a return to domestic production and a diversification of production bases. Currently, however, dependence on China is still growing because of increased demand for notebook PCs and household appliances by the large number of people now working remotely, along with the skyrocketing demand for masks. How will the supply chain of the future change in the wake of Covid-19? This article considers the potential changes in the supply chain following the difficulties of Covid-19.

Will the Supply Chain “Escape Dependence on China” after Covid-19?

Finding an Alternative to the “World’s Factory” Is Not Easy

Tomoyuki Ota
Head, Research Department-Asia
Mizuho Research Institute Ltd.
tomoyuki.ota@mizuho-ri.co.jp

1. World's Supply Network Shredded by Covid-19

It is difficult to imagine an end to Covid-19 infections. More than 600,000 new infections are occurring every day in the world, casting a dark shadow on the world economy. The difficulties caused by Covid-19 have in fact had a tremendous negative impact on the world economy. The real GDP growth rate for April-June 2020 in major countries recorded the largest decline in post-WWII history, and 38 million jobs are said to have disappeared in 20 developed countries.¹ The rapid economic deterioration was brought on by the so-called lockdown measures implemented in many countries to prevent the spread of the infection. The measures include restrictions on people’s movements and curtailment of business hours. Since the drag on the economy has been so great, economic activities have been gradually resuming while people continue to observe infection-prevention measures such as social distancing. However, the pace of economic reopening has been slow overall due to concerns about reigniting the spread of infection.

The slowdown of global economic activity has had a major impact, not only by causing disruptions in demand but also in the supply network. This is because China, which was referred to as the source of the pandemic, where the pandemic originated, is a major global production base, and so the shock waves spread in the blink of an eye to various parts of the world via international trade. In fact, Japanese and South Korean automakers, which rely on parts supplied by China, have been forced to cut production significantly due to parts shortages caused by factory shutdowns. In addition, it is widely known that demand for electronic components from Japan, South Korea, and Taiwan has fallen sharply because of halted operations at smartphone assembly plants in China, which accounts for two-thirds of global production of smartphones.

2. Growing Momentum to Reconsider the Supply Network

Given the disruption of supply chains caused by the Covid-19 pandemic, there is growing momentum among companies with global operations to diversify their suppliers and to reconsider their overseas production bases. In particular, there are strong concerns about excessive dependence on China, whose presence has grown to the extent that it is called the “world’s factory.” The Japanese government has also indicated a desire to provide strong incentives, through policy support, to return to domestic production and to diversify production bases. This effort will focus on emergency supplies that are indispensable for preserving people’s lives and materials that support key industries, such as automobiles. In fact, a budget of 243.5 billion yen was appropriated for emergency economic measures in April. According to media reports, it appears that an increase in the third supplementary budget is being considered for the diversification of overseas production bases, and in addition, the subsidy for

¹ BROOKINGS Institute, “The effects of COVID-19 on International Labor Markets: An update” (<https://www.brookings.edu/research/the-effects-of-covid-19-on-international-labor-markets-an-update/>)

returning to Japan was increased by 86 billion yen in response to an unexpectedly large number of applications.²

Despite such initiatives, if one looks at the current imports from China, one can see that dependence on China is actually increasing rather than decreasing, partly due to a boost from the special demand caused by Covid-19.³ Domestic Japanese manufacturers are ramping up production of masks and alcohol disinfectant in quick succession, but the demand, which exceeds Japan's domestic production capacity, is boosting imports from China. Another factor that reminds us of the extent of our dependence on China is the high demand for notebook PCs and home appliances accompanying the expansion of remote work.

How will the supply chain of the future transform in the wake of Covid-19? To what extent will such a transformation reduce China's status as a production base? In the following sections, we will consider the future of the supply chain based on the actual situation of trade transactions.

3. China's Substantial Domestic Market; Approximately 40% of Production is for Foreign Markets

First, let us examine the production structure in China. It may be thought that most of the production in China is devoted to exports because it is called the world's factory, but about 60% of the production value on a value-added basis is consumed in China. While China is the world's factory, it is also the world's second largest economy, and so domestic demand is substantial. Japanese companies have many manufacturing bases in China, and 67.5% of these production bases' shipment destinations are in China.⁴ Since these transactions are premised on local production for local consumption, there is little incentive to transfer production outside China. Consequently, it may be assumed that the roughly 40% of production destined for overseas markets could be affected by the supply chain review. Incidentally, the figure of 40% is almost the same as the ratio of exports to domestic Japanese production.

4. China's Export Share Exceeds 50% for 459 Items Including Mobile Phones

So, to what extent will China's production for overseas markets be affected by supply chain reviews? Needless to say, the supply chain reviews will not cover all goods. The target is goods that are uniquely dependent on China. This is because if a certain good is less dependent on China, then it is relatively easy to switch procurement to another country in case of emergency. In such cases, there is no need to go out of one's way to spend money on increasing the number of suppliers outside China.

Therefore, in order to get an idea of the scale of the targets that could be candidates for transfer of production, we confirmed the percentage of Chinese exports out of total global exports for each item. Specifically, based on the HS codes (6 digits) (i.e., the import/export item numbers for statistical purposes) the percentages of Chinese exports out of total global exports were calculated for more than 6,000 items traded in 2018. Items for which the percentage exceeded 50% were deemed to be items that may be subject to production transfer. As a result of the

² Reuters, (October 16) "Applications Exceed Number Expected in Budget for Reshoring of the Supply Chain – 86 Billion Yen Added as Reserve Funds", Nikkei Inc. (October 15), "To Diversify the Supply Chain, Government Subsidies Provided to Companies Establishing Southeast Asian Bases", etc.

³ Takayuki Miyajima (2020), "Imports Increase in Response to Demand Shift During Coronavirus" (Mizuho Research Institute Ltd. "Mizuho Insight" September 3, 2020)

⁴ JETRO, "2019 Survey on Business Conditions of Japanese Companies in China"

calculations, it was found that for 459 of the 6,553 items, China's share of global exports exceeds 50%. Looking in detail at the 459 items, mobile phones have the largest export value. In 2018, \$141.7 billion worth of mobile phones was exported from China to various parts of the world. This is followed by data processing devices such as PCs (\$95.9 billion), toys (\$25.5 billion), footwear (\$15.8 billion), and lighting equipment (\$13.8 billion). Incidentally, in terms of high dependence on China, although the monetary amount is not large, the world depends on China for over 90% of some chemical products, such as chloramphenicol, which is a type of antibiotic, and triethyl phosphite, which is used for reagents and catalysts.

5. China's Position as the "World's Factory" Is Unshakeable

The total export value of 459 items that could be subject to production transfer is \$659.2 billion. This is equivalent to 26.4% of China's total export value (\$2,494.2 billion). At first glance, the impact on the Chinese economy seems to be large, but it is not the case that all production of these items will be transferred to other countries. In the first place, there are only a limited number of countries that can replace China in terms of supply capacity, so realistically, it can be assumed that production transfers will be carried out within a scope that will reduce dependence on China only to a certain extent.

So, when the impact is calculated on the assumption that the scope of production transfer is limited to the products for which China's share of global exports exceeds 50%, the decrease in export value due to the production transfer is about 5% of the total and is only 2% (5% x the 40% bound for foreign markets) of China's production value as a whole.

Of course, the actual outcome depends on how much the countries of the world reduce their dependence on China. Considering that there is no country that has the production capacity to replace China, it is difficult to expect a significant transfer of production in the short term. Even if every country slightly reduces its dependence on China in the wake of Covid-19, China's position as the world's factory will not be significantly shaken at this time. To view this from a different angle, this demonstrates how deeply China is integrated into the world's supply chains.

6. High Hurdles to "Escaping Dependence on China" for Japanese-owned Companies

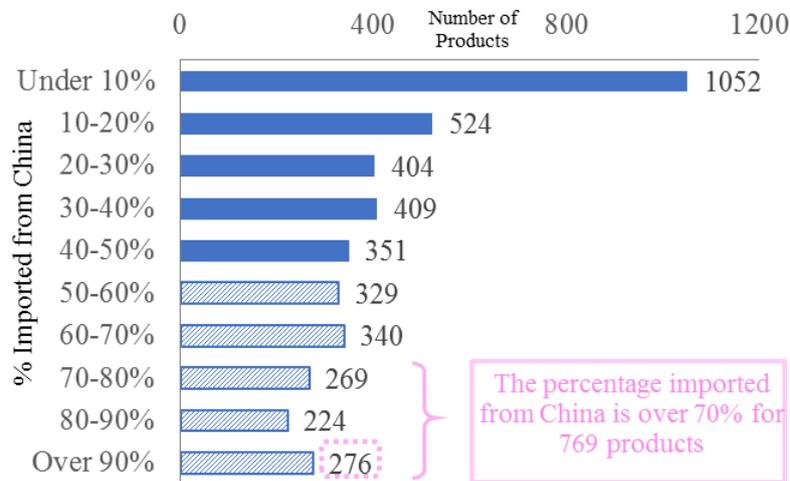
So far, we have seen the impact of production transfer from the standpoint of China, but when we look at transactions with China from the standpoint of Japan, the view is different. In fact, the details of trade transactions with China depend on the geographical situation and industrial structure of the country involved. Due to its geographical proximity, Japan has been promoting division of labor in production with China; thus, Japan has a wide range of transactions with, and is naturally highly dependent on, China. In other words, this signifies that, for Japanese-owned companies, breaking away from dependence on China is an urgent issue, and it will bring about large changes. Therefore, as in the previous analysis, let us first confirm the actual state of imports from China to Japan.

The value of imports from China in 2018 was \$173.6 billion, or 23% of Japan's total imports. When we calculated the dependence on China for each imported item based on the HS codes (6 digits), out of the total number of items imported from China, which is 4,178 items, China's share exceeded 50% in 1,438 items. The total import value

of the 1,438 items is \$122.3 billion, which is about 70% of the value of imports from China. Compared to the above-mentioned dependence on China on a global basis, Japan's number of items is 3.1 times higher and the export value share is 2.6 times higher. This result reconfirms the strength of the ties between Japan and China.

Of particular note is the high dependence of China for certain items. Of the 1,438 items, 769 items were more than 70% dependent, and 276 items exceeded 90% (Figure 1). Japan's dependence on China exceeded 90% across the board for PCs and game consoles as well as for home appliances such as air conditioners. In addition, most processed marine products and vegetables as well as chemical products such as hydrogen fluoride and ethyl acetate are supplied by imports from China. If China's share of these items were to be reduced to 50%, then it would be necessary to transfer \$35 billion, or 20% of the value imported from China, to other countries. Is it actually possible to procure from other countries on such a scale?

Figure 1 Number of Products by Level of Dependence on China



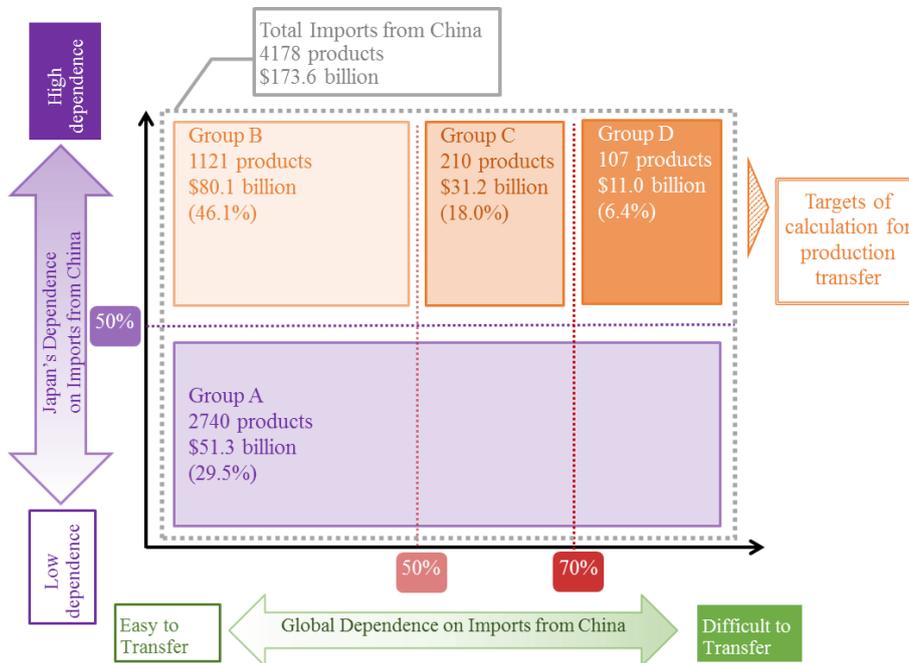
Source: Prepared by Mizuho Research Institute based on UNCOMTRADE materials.

7. Readiness of Japanese-owned Companies to “Escape Dependence on China”

Figure 2 shows Japan's imports from China, grouped by “Japan’s Dependence on Imports from China (vertical axis)” and “Global Dependence on Imports from China (horizontal axis)” by product group. Of these, Group A is products with less than 50% dependence on China, and it is assumed that this status quo will be maintained for now. On the other hand, looking at Group B, Group C, and Group D, which are more than 50% dependent on China, the suppliers for these products are subject to review. However, it should be noted that the world is also dependent on China for products in Group C and Group D. Even if Japanese companies try to find new suppliers for products in these two groups, it will be a rather difficult task because Chinese products occupy the majority of the world market. Among them, Group D, which is more than 70% dependent China, faces a high hurdle to transfer production. For the item clusters belonging to this group, it is necessary to diversify the suppliers as well as to return to domestic production. At the same time, strengthening of the production systems of the alternative suppliers will be vital. It is not possible to strengthen the production systems of alternative suppliers overnight. To do this will require an appropriate amount of time, money, and corporate readiness. While it is true that there are concerns about excessive dependence on China, it should be noted that reducing dependence also carries

considerable risks.

Figure 2: Structure of Imports from China by Degree of Dependence on China



Source: Prepared by Mizuho Research Institute based on UNCOMTRADE materials.

8. Multifaceted Evaluation is Required When Examining the Division of Labor in Production

Due to the impact of Covid-19, concerns about the vulnerability of the supply chain – and concerns about excessive dependence on China in particular – have increased. Many companies have mentioned doing reviews of their overseas bases. Meanwhile, it is also true that no country has the production capacity to immediately replace China, which has cultivated its position as the world’s factory. Henceforth, as part of the diversification of supply chains, there is likely to be gradual development of production bases in countries and regions that will replace China. However, it will take a considerable amount of time for the effects of this to become apparent. Consequently, for the time being, existing supply chains are likely to be strengthened, with the focus on raising inventory levels and local procurement ratios.

Beyond that, the situation is complicated. The supply chains that stretch around the world have undergone changes along with the changing times, factoring in technological innovation and the rise of emerging countries. In a sense, the fact that we became strongly conscious of the resilience of the supply chain in the wake of the Covid-19 is a reflection of the times. On the other hand, there is no change in the importance of local wage levels, infrastructure development, trade/investment regulations, or political stability, which has conventionally been taken into consideration. In order to predict the future of the supply chain, it is necessary to pay attention not only to the broad effects of the sharpening US-China conflict but also to the progress of digitalization and the accompanying data regulations of each country.

As seen above, there are many variables that influence the future of supply chains. The amount of influence each

variable has will likely differ depending on the product sector. Under such circumstances, when discussing the future system for division of labor, it is important to make evaluations that are multifaceted. Companies should be prepared to make even more flexible decisions in response to changing circumstances.

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