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|---------------|---|---|
| <i>Topics</i> | <i>Singapore more selective in accepting foreign workers</i> | 1 |
| <i>Topics</i> | <i>Is China's semiconductor industry a supply chain threat?</i> | 3 |



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Topics *Singapore more selective in accepting foreign workers*

In the wake of the COVID-19 pandemic, Singapore has given priority to employing its own citizens and has implemented a stricter process on the whole to accept foreign workers. On the other hand, Singapore continues to accept foreign personnel, after careful selection, who will contribute to future economic development.

■ Singapore has achieved economic development by utilizing a wide range of foreign workers

Singapore has developed its economy by actively accepting foreign workers. Foreigners now account for nearly 40% of all employees, making up 50% of the manufacturing industry, a little over 70% of the construction industry, and 100% of domestic workers (maids). The ratio of foreigners to the total population of 5.69 million was 38% (2.16 million people), quite high compared to other countries (as of September 2020). Among foreign nationals, those with permanent resident status account for 9% (52 thousand people) of the population, while those without permanent resident status account for 29% (1.64 million people).

One of the reasons that Singapore has established itself as an Asian hub in various fields, including finance and logistics, and has achieved world-class economic prosperity is that it has accepted and utilized a wide range of both low-skilled and high-skilled foreign workers. Specifically, Singapore has prepared Work Permits for low-skilled workers, S-Passes for medium-skilled workers, and Employment Passes for high-skilled workers, and has established different management systems for each type of work visa. The number and contents of each visa have been adjusted according to the needs of the times.

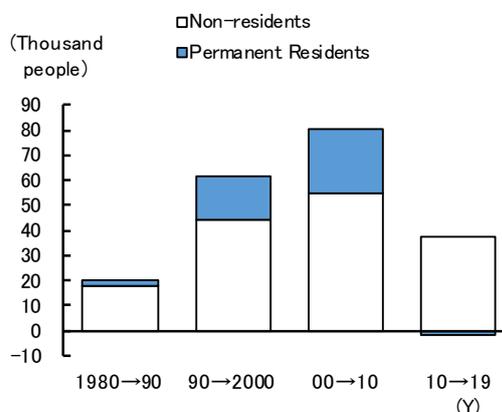
■ The acceptance of foreign workers has been progressively tightened

While Singaporeans recognized that foreign workers were making a significant contribution to their economy, they gradually became wary of their dependency on them, particularly high-skilled and medium-skilled foreign workers. In the field of high-skilled labor, the Singaporeans fear that favorable jobs are monopolized by foreigners who come from all over the world, while in the field of medium-skilled labor, priority is given to the employment of low-cost foreigners. The reason why low-skilled workers are not subject to concern in terms of employment is that few Singaporeans wish to work in low-skilled labor jobs, which reflects their high income level. This is different from the situation in European countries, where a number of movements ousting low-wage immigrants have gained traction, claiming that they take jobs from the locals.

Against this background, the Singaporean government has since the 2010s gradually been retreating from its previous favorable attitude toward accepting foreign workers. This is due to concerns that excessive dependence on foreign workers could discourage companies from investing in improving productivity and negatively affect sustainable economic development, in addition to considerations towards public sentiment.

The government has raised the cost of hiring foreign workers and expanded employment opportunities for its citizens. Specifically, the following measures were implemented in stages: increasing the foreign employment levy imposed on employers who hire foreign workers holding Work Permits and S-Passes (for low- and medium-skilled workers); lowering the foreign worker quota (the maximum ratio of foreign workers to all employees); and increasing the minimum monthly income required for holders of S-Passes and Employment Passes (for medium- and high-skilled workers). In addition, in 2014, it became mandatory for companies to post job openings on a government-operated website for citizens and permanent residents for a certain period of time before employing those with Employment Passes (for high-skilled workers). Requirements for obtaining permanent residency

<Changes in the Number of Foreigners in Singapore (Annual Average)>



Source: Singapore Department of Statistics database

have also been substantially tightened. As a result, the number of foreign nationals (the sum of permanent residents and non-residents), which had been increasing at the high pace of 62,000 and 80,000 per year in the 1990s and 2000s, respectively, slowed significantly to 36,000 in the 2010s.

The spread of COVID-19 during the past year hit Singapore's economy hard, and the country's deteriorating employment environment has placed foreign workers under additional public scrutiny. In response to this, the government further raised the minimum monthly salary requirement for holders of S-Passes and Employment Passes (for medium- and high-skilled workers) and the obligation of posting job openings in advance was also applied when hiring S-Pass holders (middle skilled workers), thus further prioritizing the employment of its own people.

■ **Necessary human resources are actively accepted after careful selection**

Meanwhile, the Singapore government introduced Tech.Pass in January 2021 as a new work visa for foreigners. As part of its efforts to strengthen the competitiveness in the information technology field and establish its position as a global technology hub, the government aims to attract high-skilled technology-related workers and has set an initial quota of 500 passes. This reflects the government's stance to actively accept personnel from overseas after carefully selecting areas for which there is a shortage of workers among the country's population. In terms of accepting foreign workers, the government is emphasizing on quality rather than quantity, focusing only on human resources that are truly deemed necessary for future economic development.

However, this could be interpreted as a message that Singapore is "reluctant to accept foreigners," which could hinder the securing of necessary human resources. Also, if the increased cost of hiring foreigners is not accompanied by improvements in the skills of Singapore's own citizens, it will be difficult for companies to hire quality human resources, which could adversely affect their business operations. Singapore, which has been using the acceptance of foreign workers for its economic development, is likely to face a difficult challenge going forward.

(Kaori Iwasaki)

<Singapore Tech.Pass>

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| <p>Overview</p> <ul style="list-style-type: none"> Work visa for founders, leaders and technical experts with experience in established or fast-growing tech companies. <p>Period</p> <ul style="list-style-type: none"> Two years <p>Requirements for obtaining Tech.Pass</p> <p>Meet at least two of the following criteria:</p> <ul style="list-style-type: none"> Have a last-drawn fixed monthly salary (in the last 1 year) of at least S\$20,000 Have at least 5 cumulative years of experience in a leading role in a tech company with a valuation/market cap of at least US\$500mil or at least US\$30mil funding raised. Have at least 5 cumulative years of experience in a leading role in the development of a tech product that has at least 100,000 monthly active users or at least US\$100mil annual revenue. <p>Benefits of obtaining Tech.Pass</p> <ul style="list-style-type: none"> Start and operate one or more tech companies Be an employee in one or more Singapore-based companies at any time Transit between employers or to an entrepreneur Be a consultant or mentor, lecture in local institutions of higher learning, or be an investor and director in one or more Singapore based companies Can accompany spouse, children, and parents Renew for another two years, upon meeting renewal criteria <p>Supervisory authority</p> <ul style="list-style-type: none"> Economic Development Board (EDB) |
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Source: Singapore Economic Development Board's "Tech.Pass" website

Topics *Is China's semiconductor industry a supply chain threat?*

The administration of U.S. President Joe Biden has announced a policy to stabilize the supply chain of four products, including semiconductors. However, it is extremely difficult for the United States to move away from its dependence on China for rare earths and pharmaceuticals. So, what about semiconductors?

■ The United States' dependence on China for four items was pointed out in an Executive Order issued by President Biden

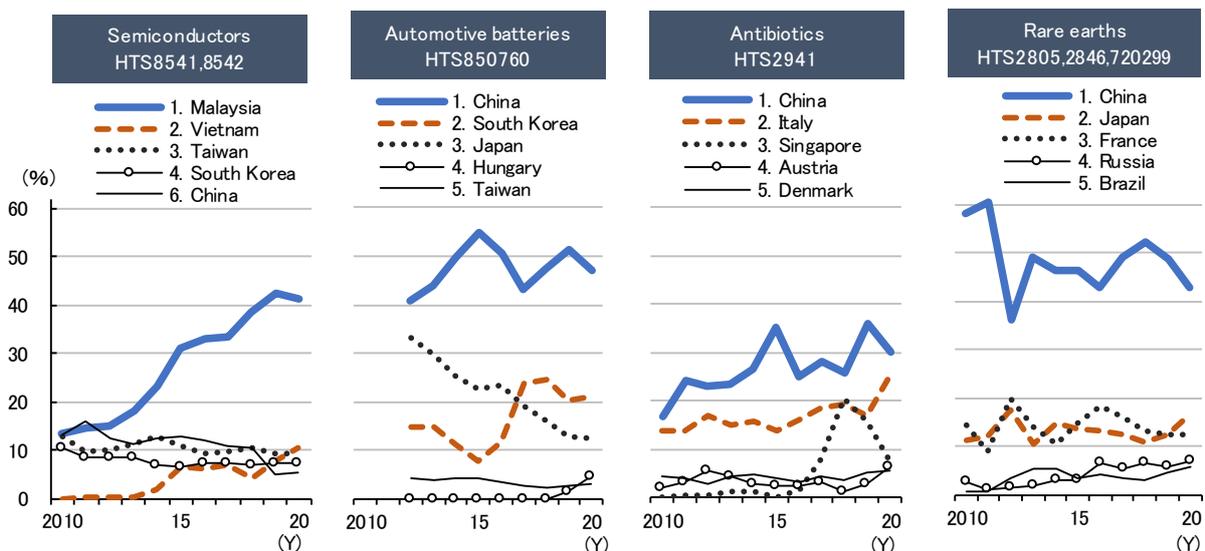
At the end of February, U.S. President Joe Biden signed an Executive Order to review the supply chain of four items including (i) semiconductors, (ii) high-performance batteries for electric vehicles, (iii) pharmaceuticals, and (iv) key minerals including rare earths, within 100 days, and to review six areas, including defense and information technology, within a year. The aim is to diversify suppliers by promoting domestic production and strengthening relationships with allies in order to stabilize the supply chain.

China poses a challenge in terms of stabilizing the supply chain. Looking at the percentage of imports from China in each of the four items, or in other words, the degree of dependence on China, it can be seen that while the percentage of imports of semiconductors from China was only 5.2% in 2020 and is on a declining trend, the percentage of imports of other items from China is at a very high level, or on an increasing trend. In addition, as pharmaceuticals are widely used, we looked at the imports of antibiotics whose dependency on China was seen as a problem in Europe in the wake of the COVID-19 pandemic.

In 2019, China accounted for 16.7% of global exports in semiconductors, 37.3% in automotive batteries, 34.1% in antibiotics, and 47.3% in rare earths. This indicates that it would be extremely difficult to build a stable supply chain for rare earths that is independent of China. As of 2020, China held 40% of the world's rare earth reserves and 60% of the world's rare earth production, and it would therefore be extremely challenging to lower the dependency on China. The same holds true for automotive batteries, which are made primarily of lithium, which is a rare metal.

As for pharmaceuticals, the focus will be on reviewing the dependence on China for pharmaceutical ingredients. In addition to the United States, many developed countries rely on imports from China for

<U.S. Import Dependency by Country/Region for the Four Items Pointed out in the Executive Order >



Source: Prepared by The Japan Research Institute, Limited based on material from the U.S. Census Bureau (imports for domestic consumption)

Note 1: HTS (Harmonized Tariff Schedule) is a U.S. trade item classification. N.A. for automotive batteries in 2010 and 2011. Thailand ranked fifth in semiconductor devices.

Note 2: The figures in the legend are based on the percentage of each country's imports of the respective products in 2020.

many of the active ingredients of their drugs, which has raised concerns about the stability of procurement in the wake of COVID-19 pandemic. India has said it aims to replace China as a production and export base, but its dependence on China is so high that the likelihood of becoming less dependent is extremely low.

■ Will China's semiconductor industry become No.1 in the world?

Semiconductors are somewhat complex. The semiconductor products pointed out by President Biden appear to be automotive semiconductors, whose shortage is becoming serious worldwide, but since China's share of the world's production of automotive semiconductors is low, "dependence on China" is not an issue. However, when looking at semiconductors on the whole, the picture becomes different. Boston Consulting Group (BCG) predicts that the semiconductor production capacity of China, which accounted for 15% of the world's semiconductor production in 2020, will reach 24% in 2030, surpassing that of Taiwan and South Korea and becoming the No.1 in the world. As semiconductors can determine not only the industrial competitiveness but also the superiority or inferiority of military power, breaking free of the dependence on China will inevitably become an important issue.

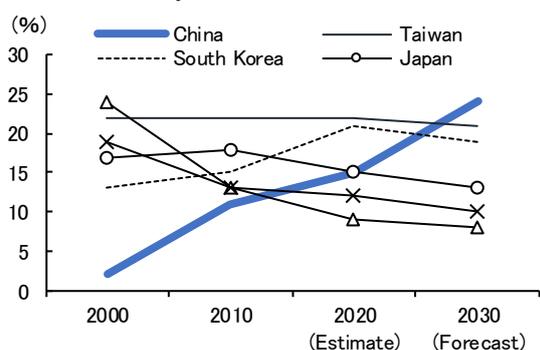
However, the prediction that China's semiconductor production capacity will continue to rise is inconsistent with the figure on the previous page showing China's low ranking in U.S. semiconductor imports. The reason for this is that it is not clear whether China's rapid progress in semiconductor production will be driven by local companies with domestic capital that has improved their technological capabilities or by foreign companies that have advanced into China. In the former case, building a supply chain that does not depend on China will emerge as an urgent issue. In the latter case, however, it is necessary to consider the supply chain after discounting to a certain extent the prediction that China will become the world's largest semiconductor supplier by 2030.

Looking at the semiconductor trade in China (including Hong Kong), imports far exceed exports. This is thought to be because imported semiconductors are exported only after being incorporated into other trade items such as smartphones, suggesting that local Chinese companies do not necessarily possess high semiconductor production capacity. In fact, despite China's industrial policy of "Made in China 2025," which calls for raising the domestic production rate of semiconductors to 70% by 2025, local Chinese companies accounted for only 5.9% of semiconductor production as of 2020.

This is also seen as a problem in China. In China, an industrial development fund has been established under the leadership of the central and local governments, and a large amount of money has been injected into the fund. In terms of semiconductors, however, in many cases, plans have stalled while plants remain under construction. The National Development and Reform Commission (NDRC) sounded the alarm in October 2020 that companies without experience, technology, or talent were entering the industry and wasting money. Another major stumbling block is the inability to import semiconductor manufacturing equipment, which is essential for producing cutting-edge semiconductors, due to the U.S. sanctions imposed against China.

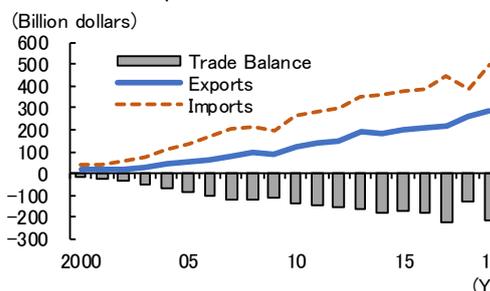
On the other hand, in reality it is both difficult and costly to completely exclude China, the world's

< Global Semiconductor Production Capacity (by Plant Location) >



Source: Prepared by The Japan Research Institute, Limited based on information from the Boston Consulting Group

< China's (including Hong Kong) Imports and Exports of Semiconductors >



Source: Prepared by The Japan Research Institute, Limited based on material from UN COMTRADE
Note: The figures for semiconductors are based on the sum of HS8541 and 8542

factory, from the supply chain. There are also moves in Europe to review the semiconductor industry supply chain. In these countries and regions, it is necessary to carefully analyze the actual role of China in the semiconductor supply chain and consider the most desirable form the supply chain should take.

(Yuji Miura)