

China pushed to nurture domestic semiconductor industry by its conflict with the US

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The conflict between China and the US appeared to settle for a while after the first phase of a trade deal was agreed at the start of the year, but it is now escalating on multiple fronts since the outbreak of the COVID-19 pandemic. In terms of technology, the US announced on 9th September that it has revoked more than 1,000 visas issued for Chinese international students. On the 15th of September, the US implemented the tighter controls on exports to Huawei that it announced in May and August. Such actions are indicative of the US limiting the transfer of technology to China by tightening regulations on people, goods and money.

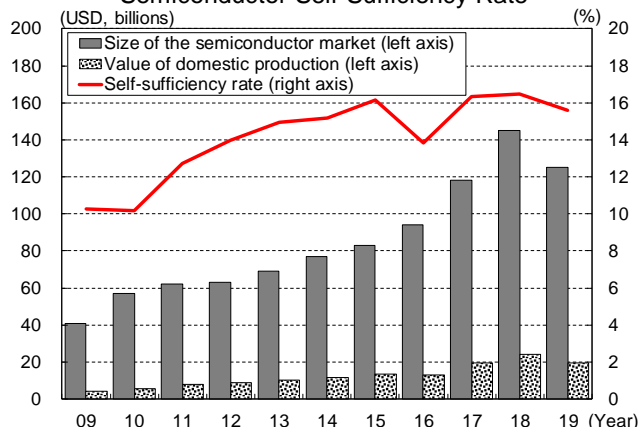
Meanwhile, China has been forced to push forward with its own research and development domestically and improve its degree of self-sustainability in semiconductors. The technology of Chinese companies in the semiconductor manufacturing field is said to be around five years behind that of companies in Taiwan, which boast the largest production capacity in the world. China's self-sufficiency rate for semiconductors was low at around 15% as of 2019 (Chart 1) and has a considerable way to go before it reaches its target of raising this to 70% by 2025, which it set as part of its "Made in China 2025" plan.

On 4th August, the Chinese government announced its Policies of Promoting High-Quality Development of Integrated Circuit Industry and Software Industry (Table 1). The policy puts the semiconductor industry at the heart of China's information industry and is divided into eight sections, including preferential tax policies, financing and research and development. In the tax policy section, it states income tax and import tariff exemptions will be offered to companies who reach certain levels in terms of technology, and in the financing section, support will be given using government investment funds. In addition, the government stated it will build national platforms to further the development of core technologies in its research and development section, and it appears to have made a national commitment that focuses on nurturing its semiconductor industry. Furthermore, the government will announce its 14th Five Year Plan (2021~2025) at its fifth plenary session of the 19th CPC Central Committee in October and it is reported that the Plan will contain widespread support for the semiconductor industry.

China has a history of developing its economy by using various headwinds as opportunities for "self-reform". It will be important to see whether or not China can use external pressures to accelerate the growth of its domestic semiconductor industry this time and can develop its

whole economy by combining investment in new infrastructure with its push in digital-related policies.

Chart 1: Size of China's Semiconductor Market and Semiconductor Self-Sufficiency Rate



Source: IC insights, MUFG Bank Economic Research Office

Table 1: Overview of Policies of Promoting High-quality Development of Integrated Circuit Industry and Software Industry

Preferential tax policies	Provide tax and import tariff exemptions for companies who fulfill certain requirements, such as size of integrated circuits and operating period.
Financing	Improve guidance for important projects, prevent overlap of investment, encourage M&A based on market principles, strengthen support with government investment funds.
Research and development	Build national platforms to further R&D of core technologies, encourage the introduction of a national standard, improve competitiveness of industry through standardisation.
Trade	Enable the smooth flow of equipment imports for priority companies, promote the export of integrated circuits, software and information technology.
Education	Develop integrated circuit and software learning at universities.
Improved intellectual property rights	Strengthen copyright protection for integrated circuit and software developers, encourage companies to register exclusive rights, strictly manage the intellectual property rights system.
Market application	Push continuous technology and industry upgrade through policy and market application and advance the agglomeration development of the industries.
International collaboration	Establish excellent business conditions for multinational corporations expanding business into China. Increase communication with domestic and foreign industry groups.

Source: State Council of the PRC, MUFG Bank Economic Research Office

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