

The Impacts of China-US Trade War on Chinese Industry

Mingxun Miao^{1, *, +}, Liying Yang^{2, +}

¹Beijing Huijia Private School, Beijing, China

²Beijing Chaoyang Tongwen Foreign Language School, Beijing, China

*Corresponding author: 23miaomingxun@huijia.edu.cn

+These authors contributed equally

Abstract. The China-US trade war is one of the largest trade wars and has been a hot topic in the global economy since 2018. In this paper, we will explore the impact of the China-US trade war on Chinese industries by collecting and analyzing previous information. We find that the start of the US-China trade war will negatively affect three aspects of Chinese industry. At the same time, the China-US trade war has led China to carry out innovation and breakthroughs.

Keywords: Impacts, China-US Trade War, Chinese Industry, Governmental Procurement, Tariff, Imports and Exports.

1. Introduction

The China-US trade war is mainly between countries to restrict each other's economic development through trade protection means. Regarding data, imports from China account for about 15% of US imports. According to the trade data between China and the US for the past five years, the share of US imports to China has been relatively stable at more than 15.5% in all years except for 2019, when there was a significant decline (down 2.7 percentage points). US exports to China account for about 7% of total US exports. According to the China-US trade data in the past five years, after reaching a peak of 8.4% in 2017, the share of US exports to China began to become a downward trend in 2018 and 2019, with the share declining to 6.5% in 2019. The US is essential to China, as shown by the China-US data.

Meanwhile, the China-US trade war has affected China's government procurement business. Also, the US used various trade protectionism, such as tariffs, to restrict the import and export of Chinese industries in the China-US trade war, resulting in significant losses to most Chinese industries. Furthermore, Huawei and other processing industries can also be used as two typical examples. Huawei, as a representative industry of Chinese technology, was put on the blockade list by the US after the China-US trade war because its presence posed a significant threat to the US. [1,2] Finally, the China-US trade war led the US to stop exporting parts or other products like China, which affected the Chinese manufacturing industry. Both industries have suffered technological and economic losses due to the China-US trade war. [3,4,5] This paper will explore the three effects mentioned above on the Chinese side of the China-US trade war through an analysis of published papers.

2. Impacts of China-US trade war on Chinese industry

2.1 Adjust tariff

Trade wars are the primary means of raising tariffs, which the United States imposes on the Chinese. Therefore, the impact of tariffs from a trade war is threefold.

First, from the standpoint of businesses, trade and economic tensions affect some companies with an export focus, which could result in cost hikes, order cancellations, and other issues. Businesses must deal with the difficulties of cutting production, shutting down, and restructuring. Businesses in electrical machinery, wood processing, chemical products, and other industries are somewhat impacted. However, it should be emphasized that on the one hand, the American tariff imposed on certain of our export goods will tardily be transferred to the upstream and downstream of the industrial

chain and value chain. In addition, the effects of China-US trade tensions can be managed from the standpoint of domestic consumption. Trade disputes between China and the US barely affect the Chinese population. For instance, fewer than one-third of our country's soybean imports come from the United States, and since American soybean can only be used to extract oil here, the soybean oil price is likely to increase. Lastly, economic and trade tensions impact the dry capital market, but they are not the primary cause. Psychological reasons mainly influence the stock market's volatility. The strong dollar and outside uncertainty are the leading causes of the currency market's volatility, but cyclical behavior also has an impact. In addition, the current level of volatility in the stock and currency markets is no more than it has been in recent years. Therefore, maintaining expectations is a critical duty remains. [6]

Based on the paragraph above, many industries significantly impact the Chinese supply chain. The industry is one of the critical engines, a country's economic growth is the real economy. However, the developed countries of the third industry accounted for the proportion higher and higher, especially in the financial sector. Many workers in the process of industry transformation will be in the service sector and may not be able to find a suitable job. The service industry does not necessarily need so many laid-off workers. [7]

For China to raise tariffs on the United States, for example, by this time, there will be a part of Chinese goods choose no longer exported to the United States. Because with the improvement of market competition and tariff, such China commodity exports to the United States will be not worth, even exported to the United States, and the United States similar products on the price of competitive disadvantage. At that time, the American side could manufacture this commodity and marketable at home, which was conducive to American industrial development. [8,9]

There are some trade war implications for China's stock market and futures market. Trade wars are bound to impact the overall market economy significantly, the overall market risk appetite can cause significant, and with market attributes as the primary goods, there is no doubt that the stock market will usher in a wave of considerable downside risk. However, there are specific opportunities in a trade war. For example, the United States will prioritize happy technology, ZTE, and Huawei in a trade war. For example, while constructing a wall, all countries for emerging science and technology development speed, driving technology sector, with chip, semiconductor technology sector with the theme of rising, thus a non-ferrous metal futures prices of production materials.

At the same time, China's trade fightback will be dominated by many agricultural product imports, which, to some extent, causes the rapid rise in the bolt, agricultural prices trade war pulls for the agricultural sector to speak of a boost. Furthermore, as market risk aversion rises, the haven of temperature rises, and defensive sectors in the stock market, such as the gold plate, and medicine plate, will be relatively strong. Shanghai silver prices rose in tandem with the gold futures market. [10,11]

Overall, Trade conflicts and economic globalization are unavoidable trends, but global economic unity is not. Trade protection is an unreasonable action because economic growth for all nations is mutually beneficial. The origin China is therefore working hard to encourage the adjustment of China's industrial and commercial structure while also addressing the trade tensions with the United States: We will push for the development of a fair and just market, the improvement of overall national strength, and the sound, harmonious, and sustainable development of China's international trade development. Strengthen its development, improve the nation's core competitiveness, promote urbanization development, and upgrade the economic structure.

2.2 Limit governmental procurement

2.2.1. The disadvantage of governmental procurement

During the China-US trade war, government procurement played a remarkable role in protecting and restricting each other. One typical example is HUAWEI declaring they invent 5G. Nowadays, HUAWEI is the second largest producer of smartphones after Samsung. [12] It attains both technological and price advantage to occupy a considerable market share. To defend its position,

HUAWEI is a crackdown by the United States. The underlying goal of the US is to stop China from developing in a variety of areas, not only the trade imbalance. [13] Here is how we are crushing Huawei: Huawei is restricted by government procurement from buying semiconductors.

Export control in 2020, the United States further increased sanctions on Chinese high-tech enterprises. The second limit was that In November 2021, the United States signed the Secure Equipment Act of 2021 because of the threat Huawei posed to the American market. The idea is to get Chinese Internet communications equipment out of the US market altogether. Huawei, as a leading enterprise in science and technology, has become a successful private enterprise in the technology field of the fourth revolution. The United States, aware of the potential threat Huawei may have, has cracked down on Huawei technologically and blocked its market.

HUAWEI, as we can see in these limits, due to its high dependence on semiconductors, 5G will become an empty talk without purchasing chips, hurting global technology and the economy. [figure 1] from this event, The United States has perfectly protected its science and technology industry by prohibiting other countries' government procurement.

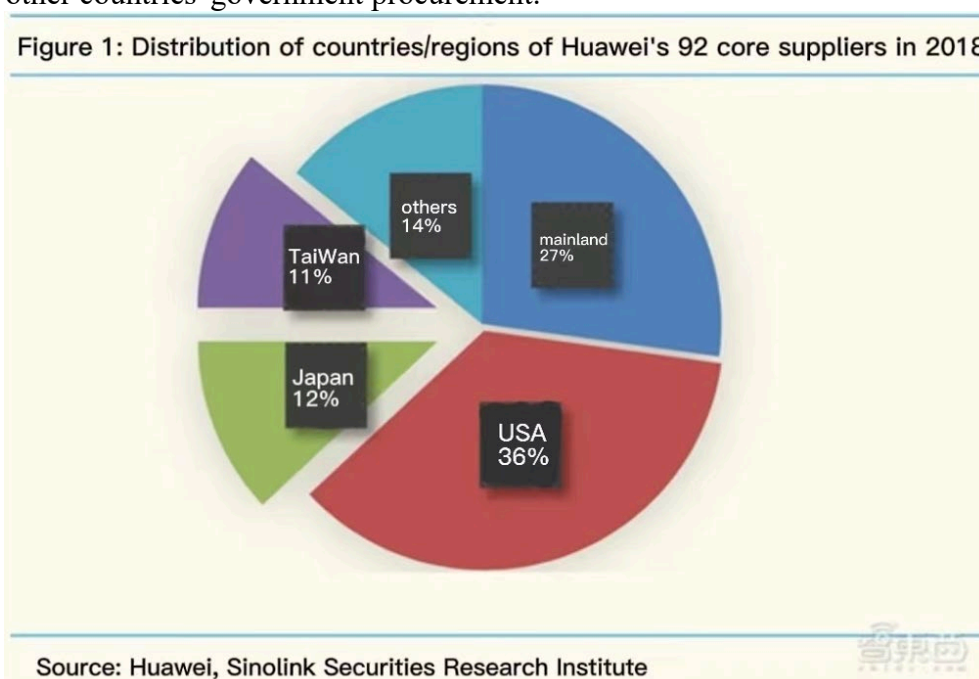


Figure 1: Distribution of countries/regions of Huawei's 92 core suppliers in 2018

2.2.2. The advantage of governmental procurement

As we can see, the US use government procurement to protect their technology industries. China also uses it as a protection mechanism. Which not only protects technology and management; it also plays a significant role in economic development. [14] Additionally, the legal and institutional foundation for China's public procurement system is still insufficient, despite the use of public procurement as a national tool for advancing industrial and environmental goals having grown recently. [15]

The first advantage is budgetary savings. Savings refer to the discrepancy between the actual cost of the contract and the expected cost. The Agreement on Government Procurement enhances competitiveness and results in surplus savings in public procurement. The analysis also illustrates that the level of competition and emergence of saving in the public procurement process is relatively tight.

The main method of savings in the government procurement process is to use GPA. Even though the saving calculation approach has many limitations, due to the database's size, we cannot estimate the market price of each project in the data set. Savings have calculated the percentage of the total price divided by the estimated price. The manner is: [16]

$$\text{Saving} = [\text{final price}/\text{estimated price}] \times 100\%$$

In this open and transparent procurement system, which combines centralization with decentralization, the general fund savings rate is more than 10 percent.

In China, the top five challenges include a lack of financial access, a slow-moving bureaucracy, inflation, unstable policies, and corruption. [17] Government procurement can cut off economically to solve inefficient, corruption and degeneration. Based on realizing the systematization and openness of the government procurement market, through a multivariate ordered profit model: it proved that the 28 red flags list illustrates five aspects of the procurement cycle which may hide numbers of corruptions [18] Through indicators in government procurement can stop corruption from the root.

The third one is that protect domestic infant industries. A new industry is too weak to compete with foreign firms' well-known production efficiencies and significant economies of scale. [19] It used government procurement to help this industry develop at a lower cost, provide a convenient policy, and defend other foreign firms.

2.3 Control the import and the export

2.3.1. The negative impacts of the import and the export

In the China-US trade war, the US controls China's imports and exports and the development of its industries. For example, when Chinese manufacturing industries want to export to the United States, China needs to pay more taxes to export its products to the United States, which significantly increases the cost of exporting Chinese industries. When products are exported to the US, the price will naturally increase due to the export cost, which makes consumers rely on local industries or other imported industries. This way, the Chinese manufacturing industry will lose a lot in the process, and Chinese products will be much less competitive in the US market. [20]

Previous studies had shown that China's trade dependence on the US rose rapidly from 2002 to 2008 and reached its highest point in 2008, when China, as a typical import/export-driven economic development model, increased its share of trade driven by the rising scale of exports to the US, thus rapidly boosting economic growth. This also reflects the importance of the United States for importing and exporting Chinese products. [21] Figure 2 shows that China's trade dependence on the United States was rising before 2008. Although China's trade dependence on the US has been lower than the US trade dependence on China since then, China still needs to export many goods to sustain its economy.

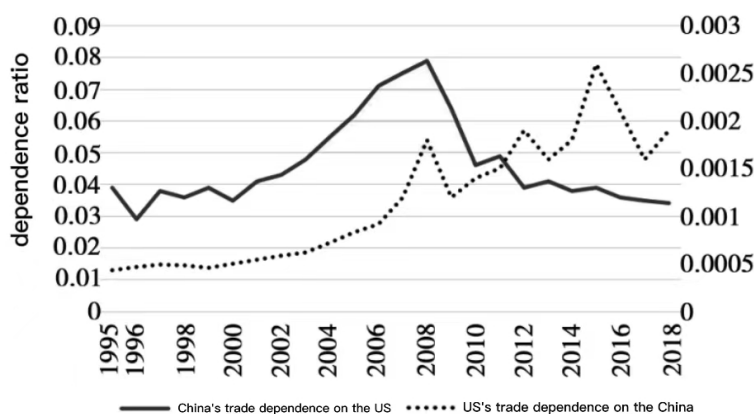


Figure 2: Changes in China-US Trade Dependence

Meanwhile, a study confirms the impact of US-China trade on China's imports and exports. In that study, the size of China's both exports and imports were the explanatory variables. There are two other main explanatory variables: one is total imports and exports between China and the US, and the other is trade remedy cases between China and the US. To ensure higher validity of the study, the researcher controlled for variables such as GDP, taxes, exchange rate, and R&D. [22]

The researcher constructed a test model to study the impact of the US-China trade war on China's imports and exports. After that, data on relevant variables were then collected from 2001-2018. After collection, the researcher processed the data type and downgraded the variance of the data. Later, the

researcher tested for smoothness by using ADF unit root test. Finally, the results were obtained by heteroskedasticity and autocorrelation tests. [22]

The findings indicate that, first, China's total exports and imports are influenced by both China's and the US' total exports and imports, the number of trade remedy cases between the two countries, GDP, tax, exchange rate, and R&D. They show that the rise in the number of trade remedy cases and the RMB exchange rate has a suppressive effect on China's exports and imports commerce because the sign of the coefficients for both of these variables is negative and also a negative correlation between the number of trade remedy cases between China and the US and the total value of China's exports and imports. This is because as the number of trade remedy cases initiated between China and the US rises, it indirectly raises the trade frictions between the two countries, which may be a detrimental effect in China and the US's economic and trade ties and a possible decline in commerce between the two nations. Second, uncertainty exists over how the exchange rate of the RMB in relation to the USD will affect total imports and exports. When the exchange rate increases, the RMB appreciates in value in comparison to the USD, which encourages imports and discourages exports. Third, the biggest influence on China's exports and imports volume globally is the US-China trade balance. The entire exports and imports volume of China will inevitably shift in the same direction over a brief period of time due to the volatility in trade volume between the two nations. China will be more negatively impacted by this trade war than the US, in part because China depends more on bilateral trade between China and the US than the US does. [22]

2.3.2. The positive impacts of the imports and the exports

Controls on American exports are no longer limited to the products themselves. In Huawei's case, the competition has risen to the technical level. Trump proposed several policy strategies to deal with this technology war during his office. [23] There were a lot of other policy changes before Biden came to power, but technology policy was improved and continued. Therefore, our view is that competition in science and technology is an essential factor for national growth and an excellent way to promote national development. China recognizes the importance of technology. The level of science and technology is the solid foundation and primary driving force for a country's future development in all aspects. [24]

Research and development are the best and most fundamental way to solve the problem of Huawei's policy suppression from the United States. The suppression of Chinese technology by the United States has dramatically stimulated the enthusiasm and determination of the Chinese people to develop the technology. The most important thing for high-tech companies is the ability to innovate independently. With the support of the Chinese government, cultivating more talents has enhanced the soft power of the Chinese talent market. Under the correct guidance, the company is willing to invest more energy and financial resources in technical research, development, and technological transformation. [25] Only technical excellence can put oneself in a competitive position. Despite the restrictions, American sanctions have energized Huawei's researchers. So far, Huawei has developed its own HMS service and started building its R&D and manufacturing chip plant in Shanghai, independent of the United States, leaving Chinese chips independent of products. Huawei's workforce has grown rather than fall in the wake of the US crackdown. [26] The number of employees has expanded from 188,000 to 194,000. Huawei began to respond to the crackdown smartly, launching the idea of human resources innovation. It means redeploying resources and technology in new ways to maximize the benefits of the enterprise. When hiring talent, Huawei is hugely focused on its soft power. They argue that hiring is not to fill vacancies but to hire at a growth rate. [27] Moreover, Huawei pays attention to the training and renewal of its staff. The skills of the staff will have new requirements depending on the time of day. Thanks to US policy incentives, Huawei now holds the most significant number of patents in 5G technology and charges 5G patent fees to brands like Apple and Samsung. As the CEO of Huawei said, "If the US does not make it, where can I steal it?" This statement is a powerful testament to Huawei's success and the efforts of the US to motivate the Chinese people. [28]

In fact, except for Huawei, the rest of the Chinese companies have not been significantly affected, and their profits have soared. For example, Semiconductor Manufacturing International Corporation (SMIC), a foundry, is China's largest and most advanced company. Its performance has soared since it lacked chips. Its operating revenue was 9.28 billion yuan, up 21.5 percent yearly. Net profit was 2.077 billion yuan, up 22.6 percent year on year. Net profit in the first three quarters reached 7.318 billion yuan, up 137.6 percent yearly.

Thus, the US export control has not had a significant negative impact on domestic enterprises but has had some excellent effects. It has encouraged domestic firms to become self-reliant and even experts in making chips. At the same time, it is not only the mobile industry but also the manufacturing industry.

3. Result & Conclusion

In terms of three aspects: tariffs, government procurement, and import/export trade, Chinese industries are restricted because of the increase in tariffs, and they cannot export well abroad, causing a decrease in competitiveness. Moreover, China's import and export trade has been affected because of the tariffs. Likewise, the impact of China-US trade on government procurement has led to the protection of the US. Industry and has restricted Chinese industry.

However, the emergence of trade wars has helped China continue achieving its growth. Known as the "factory of the world," China is now on the rise. China's manufacturing industry and its technology sector have surged forward. As a result, China has gradually begun to stop relying on imports and exports to the United States. China can gradually become self-sufficient and surpass other countries in technology, making others dependent on Chinese technology, reducing the adverse effects of the China-US trade war, and building Chinese high technology.

What is more significant is that it is worth noting that the US ban on China after the China-US trade war will not have many positive effects on the economies and technologies of both sides and consumers. This decision is damaging China's economic and technological development, as well as the economic and technological development of the United States. Therefore, it would be wise not to blame each other but to discuss the issue cooperatively and sacrificially.

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