

The Impact of the Trade War on Manufacturing and Workers in China and the United States

Zhanning Zhao

United World College in Mostar, Xuzhou, 221000, China

Abstract. Nowadays, in global level, United States and China are widely accepted as the first and second largest economies. By calculating the Gross Domestic Production (GDP) in nominal terms, we can observe that in 2022 the United States is still the most powerful economy with a GDP at \$24.79 trillion while the GDP of China follows afterwards at \$18.46 trillion which is far ahead of Japan, the third largest economy with a GDP of \$5.38 trillion. Moreover, these two countries dominate the manufacturing in the world, which takes a great proportion of economic impetus due to flexible industrial policies and effective investments from governments and enterprises.

Keywords: U.S.-China Trade War; Manufacturing; Worker Impact.

1. International Manufacturing before the Trade War

Specifically, China has experienced a rapid economic development since the initiation of Reform and Open-door Policy in 1978[1]. Following the instruction of Deng Xiaoping, a series of strategies were instituted aim to revive the economy and society in China from the Cultural Revolution, including the active introduction of foreign capital and technology while upholding the socialist [2]. In the following decades, the central and local governments assigned cities and provinces with various policies and tasks on account of their geographical and resource advantages, including the special economic zones (SEZs), the open coastal cities and high-tech development zones etc. [3]. By virtue of the flexible and open economic policies, tremendous foreign capitals and cash inflows mainly from Hong Kong and US were attracted into the enterprises in these zones, and in turn promotes the development of industries.

In order to participate in global production sharing, Jones and Kierzkowski pointed out that the cost-of-service linkages (the costs of connecting and/or coordinating activities into a smooth sequence to produce the final good) cannot outweigh the profits from the labour market conditions [4]. Fulfilling this prerequisite, Chinese large population base is an inherit ascendancy compared to any other nations. This solid base contributes to the large amount of labor in domestic market for which manufacturers could hire at a relatively low price according to the general relationship between demand and supply. Equipped with abundant human capitals, many enterprises can also rent vast space for storehouse and factories for the vast available space in many suburban areas, which from another perspective lower the costs. These two advantages enabled manufacturing companies to undertake those traditional labor-intense production or assembling from outside that demand both middle-level workers and trainable low-cost unskilled workers at great quantities [5].

As China was injected with inputs, capitals and technologies along with domestic merits, manufacturing output soared. Among developing countries, China has been the largest recipient of direct foreign investment since 1992, and has ranked top ten of trading countries in the world.[6] To further deplete the products manufactured in China and promote the exports, on one aspect, Chinese government along with developed countries negotiate to reduce the high tariff which has seriously hamper the action to open market and expand international trades. Take the tariff schemes with United States for example, high tariff rates of the Smoot-Hawley Tariff Act in 1930 still impeded the trade relation despite the establishment of official diplomatic relation in 1979[7]. On the other aspect, China became a formal member of World Trade Organization (WTO) on 11 December 2001, after long-lasting negotiation and certain conditions being met.

The impact of joining WTO, for Chinese market and economy, is proved to be pivotal and all-around in the long run. The direct change is the transformation of job distribution. As it is estimated

that around 10 million jobs would be converted from agriculture and heavy industry like iron and aluminum to service and light industry such as textiles and garments [8]. Moreover, as one of the main reasons for the participation, exports have grown in an astounding rate benefiting from the mutual tariff set reduction both on imports into China mainland and on Chinese products to other member countries [9].

Nowadays, China has gained its supremacy in exports and manufacturing, and even surpassing United States as the largest manufacturing economy in 2010. Following, according to the statistics of Global Manufacturing Output in 2016, China has accounted for almost a quarter by 28.7%, far leading US as the second Manufacturing country sharing 15.6% [10]. This huge gap also reflected the continuous entrenched trade deficit (import more than export) in United States, serving as one significant element for the following Trade War. In contrast, with consumers in the Western World, led by United States, consistently bought a great number of Chinese products in the 21th century, a foreign trade surplus (export more than import) has been achieved by China, as well as abundant foreign exchange surplus (dollars).

2. The Initiation of Trade War

In modern society, by virtue of the large working age population and relative cheap remuneration required, many developing countries, especially in south and east Asia, have learned from Chinese instrumental reforms to attract capitals and cash flows from foreign enterprises, developing industries and manufacturing. Consequently, the exports from developing countries, including China, occupies a sizeable share in global manufacturing output, which sacrifices that in United States especially and lead to exacerbated domestic unemployment and a large scale of discontent for the lost jobs and social welfare. This popular dissatisfaction, along with the entrenched trade deficit and the so-called intellectual property theft by China prompted the US former president Donald Trump to conduct sanctions on Chinese trade in January 2018. The sanction mainly embodied in some unilateral measures to hoist the tariff and other trade barriers on China, attempting to force Chinese government to make changes to the claimed unfair trade practices [11] and decelerate the pace of technology research and development. In response to these abrupt, provocative behaviors, the government of China immediately took several retaliatory actions, which officially marked the commencement of US-Sino Trade War.

3. Impact on Chinese Manufacturing and MIC 2025

The US-China Trade War has two main negative effects on Chinese manufacturing. The first one was that those sanctions and conditions required have had forceful impact on Chinese industry policy; and secondly the initial “Made in China 2025” plan was strongly threatened and altered [12].

On March 13, 2018, President Trump signed the ““Presidential Memorandum Targeting China's Economic Aggression” and tariffs on heavy industry like the steel and aluminum were introduced [13]. This document was later widely considered as the first strike towards Chinese manufacturing field. Furthermore, many countries were exempted from the heavy tariff later, but not China. On April 3, 2018, Trump administration announced another sanction aimed to intensifying the conflicts. In the announcement, 25 percent tariffs were imposed on imports from China across more than 1,300 categories of products, approximately \$50 billion [14]. Among these 1,300 types, goods like televisions, batteries, machinery equipment, medical devices [15] are included. According to the United States Trade Representatives (USTR), the products enlisted were largely beneficial from the manufacturing policies in China, especially the “Made in China 2025” [16]. It also claimed that the plan is “a very, very serious challenge, not just to us, but to Europe, Japan and the global trading system.[17]”

As a master plan and industrial policy issued in 2015, Made in China 2025(MIC 2025), intents to further develop and upgrade domestic manufacturing sectors comprehensively [18]. Although having

already dominated the international manufacturing output in the early 21th century, China was still perceived as the “world factory” which indicates that the majority of products were cheap and low-tech while depending on the abundant low-cost labor forces and supply-chain merits [19]. Nevertheless, the Chinese government is endeavoring to alter this entrenched prejudice by adjusting the focus to the development of technology and innovation. Moreover, there is another international trend that is prompting Chinese manufacturing to seek another expansion capacity and opportunity. As I mentioned above, many developing in South Asia have absorbed the experience and try to earn more share of international trade on virtue of the relatively cheap labor forces. Compared to them, China is losing its static comparative advantage as the overall wages of labor force in recent years has improved a lot, which in another way compels the local manufacturing to transform and acquire alternative dynamic comparative advantage in some high-technology fields.

Besides targeting at the dominance in domestic market, one underlining purpose of Made in China 2025 plan is to compete for those high-tech market shares which has been monopolized by US along with other major industrialized democracies [20]. Confronting the challenge, Trump administration determined to prioritize the protection of native enterprises and intellectual property [21]. Consequently, a sizable amount of manufactured goods put into the blacklist with high tariffs were those included in the MIC 2025, such as those relating to artificial intelligence [22]. In response, Beijing chose to wipe out all the public references regarding to Made in China 2025 plan tactically [23]. Besides, the plan was reevaluated and recalibrated surreptitiously and still came into effect in spite of sanctions [24].

In detail, however, the plan still made some unexpected conversion like a shift of the emphasis. Before trade war, “green sustainability” was the primary goal of Chinese government which can have potential sacrifice to the pursuit of economic development [25]. In post trade war era, another policy topic “innovation advancement” was emphasized, reflecting the decision makers’ possible apprehension and internal limited resources [26].

4. Impact on US Manufacturing

After investigating into how US-Sino Trade War has affected Chinese manufacturing, it is also very meaningful to take a look at the ever-changing situation in US domestic market at the mean time as it can reflect the effectiveness of Trump Administration’s actions.

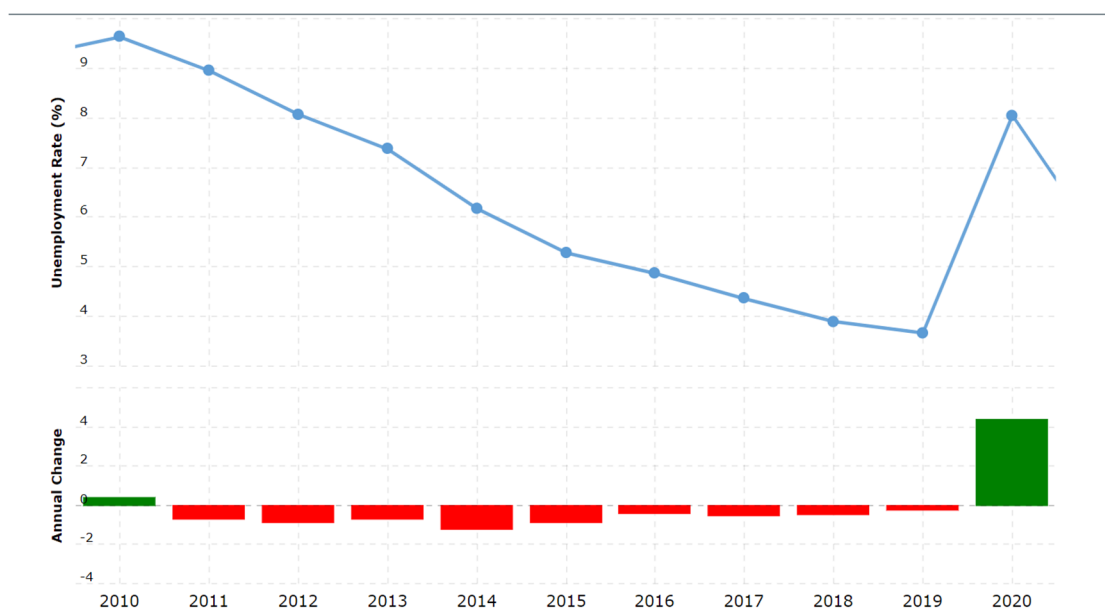


Fig 1. “U.S. Unemployment Rate 1991-2022,” MacroTrends

Theoretically, the increasing tariffs on the imports ought to protect domestic manufacturing sectors and promote the rate of employment following. Nevertheless, this assumption does not account for the actual circumstances because some other elements influencing protectionist effect worth considering [27]. For example, after the tariffs set, the reliance on imports or the limitation of internal resources may fail to efficiently move the foreign consumption towards domestic product [28]. Moreover, the retaliatory measures on the exports from United States would irreversibly cause negative effect to the domestic output, requiring the government to reevaluate if these impacts have overwhelmed the benefits as estimated.

First, we can conclude the if the government has achieved the goal to protect and promote the employment in domestic market. According to the data from the World Bank, the unemployment rate in United States has experienced a steady decline from 2011 to 2019, and a precipitous rebound since 2020 due to Covid-19, as it is presented in the following Fig 1.

Besides, if we take a closer look, the slope of the decline is more prone to parallel compared with years before, indicating a possible plight to control the unemployment since the Trade War. Besides, the data also proves that the industry policies implemented before higher tariffs can potentially contribute to the overall manufacturing in US, and it is the abrupt sanctions together with the inevitable retaliations aroused the disturbance and confusion. For example, as it was reported in Investor's Business Daily, giant companies like Boeing, General Motors, and Apple may become the target of Chinese increasing tariffs and pay the price for Trump Administration [30].

Besides, although the tariffs imposed by United States may come into effect and offer more manufacturing jobs for workers. Still, due to the relatively high wage offered to labor force and the unexpected lower efficiencies (lack of basic training), some enterprises involving large number of workers have stated that the profits are declining. Take the electronic output for instance, China is so far the largest electronic supplier in global market, accounting for 54% in 2019[30]. During the trade war, the made-in-China electronic imported into US dropped around 12 percent by the third quarter in 2019[31]. On the contrary, the domestic industries seemed not capable to undertake such proportion smoothly due to the lack of infrastructure and human resources. Encountering the modest growth in electronic output and huge demand from other high-tech enterprises, the government has no choice but to negotiate with other developing countries like Vietnam in order to fill the rest demand gap. Comprehensively speaking, the whole process can be understood as transferring the import from China to other supplier, which did not meet the goal to alter the long-lasting trade deficit.

In fact, long before the US-Sino Trade War started, many economists had evaluated different methods to erase the trade deficit and suggested that increase the tariffs towards other countries may not be as effective as expected. Besides, the obvious foreign trade deficit does not put US economy in a significant plight since it is not the only or the foremost factor of unemployment [32].

5. The Termination of Trade War and Covid-19 Era

With the imminent expiration of Donald Trump's term of office and the outbreak of Covid-19, the mutual trade war gradually came to a conclusion. Fortunately, the US-Sino trade war did not escalate into a cold war or even hot World War III as crowds worried about. In January 2020, two countries reached a phase one agreement although many sections of the policies would extend their potency for a few more years [34].

Statistically, during the peak of the trade war, 245,000 U.S. jobs were sacrificed. Among these jobs, the majority were account for the American companies doing business in China mainland and those relying on Chinese material and products [33]. But with the halt of escalation and a gradual callback of tariffs, another 145,000 jobs are estimated to recover in the trade [34].

Overall, the trade war has negative impacts on not only both countries but the international market overall, especially the global manufacturing output. With the implementation of high tariffs, individual consumers and companies had to pay higher prices on a variety of goods [35]. Moreover, the world as a whole lost great welfare due to serious decrease in allocation efficiency [35].

In 2020, the sudden pandemic has brought about significant inconvenience and critical strike towards the global economy. After two-year struggle, China and America both put great efforts and money to maintain the basic operation within the nation, embodied in the continuous negative growth in terms of nominal GDP. Specifically, a great amount of multinational trade has been stagnating. In face of the Covid-19, people are more aware of the importance of international cooperation and the harm of unilateralism advocated in US before.

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