Trade War Impact on GVCs and China’s Counter Measures

Natalia A. Volgina and Liu Pengfei
Peoples’ Friendship University of Russia, Moscow, Russia
nat_volgina@yahoo.com, lynvb@yandex.ru

Abstract. After joining the WTO in 2001, China has become the largest supplier of goods to Europe, Asia, Africa and South America, as well as the US. Dissatisfaction with high and long-term trade deficit stimulated the US to accept tariff restrictions in trade with China, which was called the “trade war”. The purpose of this paper is twofold: to identify the possible consequences of trade war for existing production linkages within the GVCs; to characterise the counter measures carried out both by Chinese companies and Chinese government. In this paper we consider only trade war direct effects on China. We highlight a set of implications of the trade war on China in terms of company performance. These effects include trade diversion (a short-term effect), switching suppliers (a medium-term effect), and production shift (a long-term effect). The combination of effects has led to a high probability of transformation along the GVCs. Chinese government responds in order to restore broken ties in the chain. One of the most important ways is to focus on the domestic market and move from an export-oriented economy to a consumer-oriented economy with technological and scientific leadership. China has set the task of combining the GVC model with the development of the internal value chain model. The reconstruction of the value chain will take place mostly between countries along the “One Belt – One Road”.

Keywords: Global value chains (GVCs) · National value chains · Trade war · China · US · Trade diversion · Suppliers’ switching · Production shift · “Made in China 2020”

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1 Introduction

In the years since China joined the World Trade Organization in 2001, the country has grown into a world major exporter. According to data released by the World Bank (World Bank Open Data), over the ten years from 2007 to 2017, China’s share of the global capital goods market has grown from 5% to more than 20%. The country became the largest supplier of goods to Europe, Asia, Africa and South America as well as to the United States. China accounts for more than 21% of US imports (which is more than the total EU’s share of 19%) (WTO Trade profiles 2019). Over the past decades, the US deficit in trade in goods with China has steadily increased. So, if in 2000 it amounted to 83.8 billion dollars, in 2019 it amounted to 345.2 billion dollars (US Census Bureau).
Dissatisfaction with high and long-term trade deficit, as well as US claims to China in the field of illegal borrowing of intellectual property (according to the White House, from 225 to 600 billion dollars a year), exorbitant subsidies of the Chinese government to Chinese state enterprises stimulated the United States to accept tariff restrictions in trade with China. Since 2018, the US administration has implemented several measures limiting free trade with China (and some other countries). Tariffs were imposed in two waves to encompass around $400bn worth of goods shipped between the US and China. China has introduced retaliatory measures, and a trade war has begun. Trade disagreements between China and the US had a deep impact on the global economy as a whole, and on global value chains (GVCs), which form the skeleton of the world economic system.

The purpose of this paper is two-fold: to identify the possible consequences of trade war for existing production linkages within the GVCs; to characterise the counter (protective) measures carried out both by Chinese companies and Chinese government.

2 Methodology

Over the past decades, the nature of the global economy has undergone significant changes due to the rapid growth GVCs trade. Countries and companies today produce goods differently than in the past. In the 21st century, products are “Made in the world”. Such international fragmentation means that firms combine inputs in a special way: production tasks are carried out in the geographical location that can do this at the lowest costs (Blanchard 2019). The phenomenon of GVC is well understood; see for example: Jones and Kierzkowski (2001, Baldwin (2016), Johnson and Noguera (2017).

For the effective performance of GVCs, stable linkages within the chain are very important. They can be measured in various ways, in particular, through the share of intermediate goods in mutual trade between countries. Nowadays, roughly 50% of total gross US imports and exports consist of intermediate goods; this figure is even higher for China, for which 70% of gross imports and 62% of gross exports are intermediates. These figures highlight the importance of taking into account countries’ GVC integration when analyzing potential trade war effects (Erken et al. 2019).

While trade wars have always been disruptive, they are particularly expensive and divisive in the GVC era. In general, there is a consensus among researchers that GVCs increase tariff impact. Higher import tariffs on intermediates can directly and indirectly hurt companies in countries that have imposed tariffs. See, for example: Amiti et al. (2019), Balistreri et al. (2018), Bellora and Fontagné (2019).

The consequences of a trade war will not be limited to China, because many countries depend on China for their industries’ supply chains. For example, the percentage of parts and components for electrical and electronic goods imported from China (UNCTAD stat) for the whole world is accounted for 30%, for Vietnam – 28%, for South Korea – 32%, for US – 46%, for Japan – 49%, for France – 32%. Besides, China is the assembly hub for much of the Asian region’s manufacturing. It follows that the effects of a trade war will not be limited only by direct consequences for China (direct effects), but they will also include indirect effects influencing other countries. Nevertheless the indirect effects can also be very significant because countries are very interdependent through value-added chains of international production.
It is not surprising that, anticipating the very serious consequences of a trade war for its economy, China began to take measures to ensure the security of its economy, as well as its value-added chains. A large number of works by Chinese economists are devoted to these very issues. See for example: Cheng (2018), Li et al. (2018), Li (2018), Wang and Wang (2019), Sang and Yang (2015), Zhang et al. (2019), Ge et al. (2016), Jin and Wang (2017).

3 Results

More than possible that the trade war will not be short-term, even despite the fact that in January 2020 the first phase of the trade deal was concluded. The long-term nature of the trade war is determined by deep US-Chinese trade contradictions, they have accumulated over decades.

We consider only direct effects, that is, the effects on China. These effects include trade diversion (a short-term effect), switching suppliers (a medium-term effect), and production shift (a long-term effect). Obviously, this separation of effects is rather arbitrary, since they can overlap.

3.1 Trade Diversion as a Short-Term Effect

One of the first effects of the trade war was the trade diversion. Trade between China and the United States began to decline slowly, that is, China's exports to the United States began to decline slowly. As follows from the data of US Census Bureau, for the first four months of 2020, the US trade deficit in trade with China decreased to 76.4 billion dollars, while in the same period in 2019 it amounted to 107.1 billion dollars, and in 2018 – 118.5 billion. Of course, the contraction of trade flows as a result of the coronavirus pandemic also influenced the reduction in Chinese exports.

Trade diversion means that the US is buying from countries other than China. This is a small positive for the EU and the UK, but most of all for the countries of the Asian hub - Vietnam, Cambodia, Malaysia and Thailand. According to a research report by Panjiva, made by Standard & Poor’s Global Market Intelligence, company specializing in global trade data, U.S. imports from China began to redistribute starting in 2019. In the first quarter of 2019, imports of Chinese-made furniture decreased by 13.5%. However, furniture imports from Vietnam increased by 37.2%, and furniture imports from Taiwan – by 19.3%; import of refrigerators from China decreased by 24.1%, while import of refrigerators from South Korea and Mexico increased by 31.8% and 32%, respectively.

3.2 Switching Suppliers as a Medium-Term Effect

As the trade war has dragged on, companies have had to consider finding alternative suppliers that are not subject to higher tariffs. The lower-middle income countries in Southeast Asia such as Vietnam, Cambodia, and Indonesia became favoured destination for shift in supply chains and thus had a chance to grow. One of the challenges here is finding suitable suppliers. The volume of sales coming out of China is so large
that no other single country can pick that up, so these countries might have to expand the list of good suppliers in order to take more orders coming from China (Gereffi 2019).

3.3 Production Shift as a Long-Term Effect

Chinese companies not only change their suppliers, but also move out their production. Anticipating trade war, multinational companies were already looking for alternative manufacturing locations, moving part of their production outside China, and redrawing their supply chains accordingly (Geneva Business News 2018). The current trade conflict between China and the US has accelerated this shift in Chinese production to other Asian countries that are part of the Asian factory: Thailand, Indonesia, Malaysia and Vietnam, where labor-intensive industries are being transferred. And Vietnam was among the highest ranked countries on the Where Will They Go index (Hayat 2019).

Capital-intensive industries with a high level of use of technology are transferred to Japan, South Korea, Europe and other countries or regions. Most Japanese companies indicated that they would decide to relocate factories. Mitsubishi Electric moved a metal processing plant to the United States and relocated headquarters from China to Japan; Toshiba Machinery has also relocated several production bases from Shanghai to Japan and Thailand. or discuss the cost burden with customers (Cheng 2018). Some companies set up production inside the US to circumvent the tariff barriers. For instance, Foxconn announced that it would set up some plants in the US, though they haven’t been completed yet.

What are the main challenges facing companies trying to relocate their supply chain out of China into neighbouring countries?

First, it is the availability of an appropriate production base. For example, the key input for the apparel industry are textile fabrics and yarn, so Chinese companies should offshore to places that also have a suitable textile industry that can supply those factories. Secondly, it is the availability of sufficient labor of appropriate qualifications. For example, Cambodia specializes mainly in apparel, but the Cambodian labor force isn’t very large, diversified or skilled.

But the main difficulty is that China has created production centers, the so-called “hubs” that are located in large regions of China. This is something that no other country has been able to match, and thus China has a far greater breadth of consumer goods production. It can offshore some of these products to other countries, but it couldn’t offshore this wide range of industries. Even countries like Vietnam can only handle a small portion of what China makes.

Given China’s highly integrated up-stream, mid-stream, and downstream manufacturing landscape, moving some supply chain out of China will result in fragmentation and higher production costs (Gereffi 2019). Once it became clear that the dispute was more than transitory, investment started being diverted away from China and mainly into Southeast Asia. Investments into and from the United States have also been affected following China’s retaliatory tariffs. There are significant costs associated with this restructuring.

In general, cross-border transfer of industries is complex and time-consuming. For multinational companies, the cost of reloading the production chain is higher; it is not
only the problem of tariffs, but also the costs of logistics, infrastructure, the supply chain, as well as the completeness and maturity of the supporting industry (Li et al. 2018). Overall, the ongoing trade conflict is accelerating the redesign and break-up of global supply chains as companies move their production to South East Asia and some other regions (Geneva Business News 2018).

3.4 Chinese Government Counter Measures

How is China coping with the relocation of supply chain?

The most important way for China to adapt the shifting supply chain is to focus on the larger domestic market and to shift away from an export-oriented economy to a consumption-oriented one. Consumption is still a very insignificant factor in the growth of the Chinese economy. Compare consumption expenditure (in % of GDP, 2018): for USA, UK – around 80–85%, and for China – around 53% (in 2000 it was around).

The ambitious program “Made in China 2025”, launched in 2015, focuses on internal development and achieving technological and scientific leadership. According to this program, China by 2025 should become a leader in the production of electric vehicles, in the aerospace industry, robotics, and the development of artificial intelligence and in other advanced areas. The plan “Made in China 2025” targets 70% self-sufficiency in high tech industries by 2025 and a dominant position in global markets by 2049, through methods including use of subsidies, acquisitions and tech transfers.

A positive thing for China is the ability to use its domestic market as a way to move up the value chain further and faster. The most important aspect here was China’s desire to overcome the country’s qualitative dependence on American technology. The dependency of the Chinese high-tech industry on US know-how incorporated in US intermediates may not be large in terms of the share in total production (1.8%), but these components are still vital to this industry and it could take decades for China to become self-sufficient in these areas (Erken et al. 2019).

However, China dominates the mid-tech industry, and its global share has nearly tripled to 32% over the past decade, surpassing the United States in 2009 and the EU in 2012. In 2018, China’s total import and export of high-tech products accounted for about 30.7% of total foreign trade, industrial products accounted for more than 90% of exports, and high-tech products also exceeded 30%. But we have to take into account that this high-tech exports are mostly exports of foreign affiliates in China, with very high foreign value added component. The profound implications of the American technological blockade and denouement for China will become more visible in the future (National Science Board 2018).

However, achieving technological goals will not be easy for China. The United States began to pursue a tough competition policy of confrontation with China in the field of science and technology, the so-called war of technology. The United States included 44 Chinese institutions in the “list of organizations” based on “violation of US national security or foreign policy” in order to strengthen the technical export blockade against China (Li 2018). These steps from the United States no longer enable China to rely solely on cooperation within the framework of the GVCs. For the modernization of China, it is necessary to move away from the past path of technology implementation, like “absorption-reintegration” (Yildirim et al. 2018).
4 Conclusion

The trade war had a profound effect on the Chinese economy and triggered a wide-ranging retaliation. China is pursuing internal reforms aimed at expanding domestic demand and innovation to achieve “technological dominance”. From the point of view of value chains, this means a shift from a focus on GVCs to a combination of a global value chain model with a national value chain model.

This approach will strengthen China’s position in the system of the international division of labor, accelerating the process of modernisation, a significant increase in the intensity of R&D in manufacturing industry (Sang and Yang 2015).

Geographic aspects of chain restructuring in the framework of initiative “One Belt One Road” (OBOR) are also very important. China is currently the largest trading partner for 25 countries along the OBOR, as well as the largest source of foreign direct investment. The development needs of other countries along the OBOR, through integration and use of resources, will help to form an interconnected services market, capital market, technology market within the regional chain (Zhang et al. 2019).

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