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Understanding the recent Sino-U.S. trade conflict

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ABSTRACT

To understand Sino-U.S. trade relations, this article interprets the trade imbalance between China and the United States from the Trump administration's perspective. The Trump administration claims that the Chinese government's subsidies and high import tariffs cause the Sino-U.S. trade deficit, resulting in job losses in the U.S. The Trump administration therefore argues that imposing high tariffs on Chinese exports can resolve the deficit. The article finds that U.S. statistical accounting overestimates the deficit. Reducing China's imports cannot increase U.S. employment, and China provides the United States with low-price and high-quality products. Chinese investors tend to invest the surplus by purchasing U.S. Treasury bonds. In addition, the United States limits Chinese investments due to 'national security' concerns. China's upgrading to the high end of the global value chain is a consequence of economic development. Therefore, the two countries should rebalance Sino-U.S. trade by seeking economic and trade cooperation via trade negotiations.

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1. Introduction

In March 2018, the U.S. Trump administration triggered a trade conflict with China by planning to impose a 25% tariff on $50 billion worth of imports from China starting on 6 July 2018. China reacted to this unilateral trade measure by imposing higher tariffs on $50 billion worth of imports from the United States, based on the rule of 'Equal Size and Equal Proportion.' On July 24, the Trump administration threatened to impose higher tariffs on another $200 billion worth of imports from China. On August 1, the Trump administration continued to threaten to impose a 25% tariff on all imports from China (around $510 billion, according to U.S. statistics). On September 18, the Trump administration announced a 10% tariff on $200 billion worth of imports from China. China reacted by imposing 5%-10% tariffs on $60 billion worth of imports from the United States and filing additional charges against the U.S. trade measures on Chinese goods at the World Trade Organization (WTO). Since then, the escalating trade conflict has moderated, and trade talks between the two countries have been in progress since the meeting between President Xi and President Trump at the Group of Twenty Summit on 1 December 2018. However, all these Chinese and U.S. trade measures have posed serious challenges for the normal bilateral trade and cooperation

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relationship between China and the United States and cast a shadow on the current global trade system.

The ongoing Sino-U.S. trade conflict continues to escalate, because the Trump administration aims to resolve the Sino-U.S. trade imbalance. Therefore, to understand the nature of the trade imbalance between China and the United States, it is extremely important to forecast future potential trade conflicts between the two countries. To understand Sino-U.S. trade relations and the causes of the conflict, it is useful to start by evaluating the Sino-U.S. trade imbalance from the perspective of the Trump administration and analyzing the validity of its views and arguments.

This paper is organized as follows. Section 2 outlines the core views of the Trump administration toward Sino-U.S. trade relations and provides comprehensive analysis of the arguments raised by the Trump administration. Section 3 argues that the Sino-U.S. trade imbalance does not hurt the U.S. economy. Section 4 analyzes the fundamental causes of the Sino-U.S. trade imbalance and evaluates the validity of the Trump administration's accusations that China's trade policies are unfair. Section 5 provides evidence of China's upgrading along the global value chain in the long run. Section 6 concludes.

2. How the trump administration views the Sino-U.S. trade imbalance

Since China joined the WTO in 2001 and became its 143rd member, the volume of trade between China and the United States has continued to expand. China and the United States have benefited enormously from deepening trade liberalization. However, the United States also continues to run a trade deficit in the Sino-U.S. trade relation.

The Trump administration holds four views on the growing trade imbalance between China and the United States. (1) In bilateral trade between China and the United States, the surplus benefits China, and the deficit hurts the U.S. economy. (2) The main causes of the Sino-U.S. trade imbalance are the Chinese government's subsidies for Chinese exporters and unfair tariff policies. (3) To solve the trade imbalance between China and the United States, the only solution is to suppress China's exports by imposing high tariffs on Chinese exports to the United States. (4) The goal of resolving the Sino-U.S. economic and trade imbalances is to force China to continue specializing in the low-value-added segments of the global value chain, so that the United States can maintain its monopoly market power in the high-value-added segments of the global value chain.

'Made in China 2025' aims to build up and strengthen China's capacity as a global trade power. Keeping China from achieving this goal has become the main motivation for the United States' continued expansion of the trade conflict. This is the most important view of the Trump administration, which believes that doing so can prevent the Chinese economy from catching up with the U.S. economy.

The Trump administration claims that the United States has been hurt significantly by the Sino-U.S. trade imbalance. As shown in Figure 1, since China's accession to the WTO, trade between China and United States has been increasing over time. The bilateral trade volume between China and the United States has surged, from

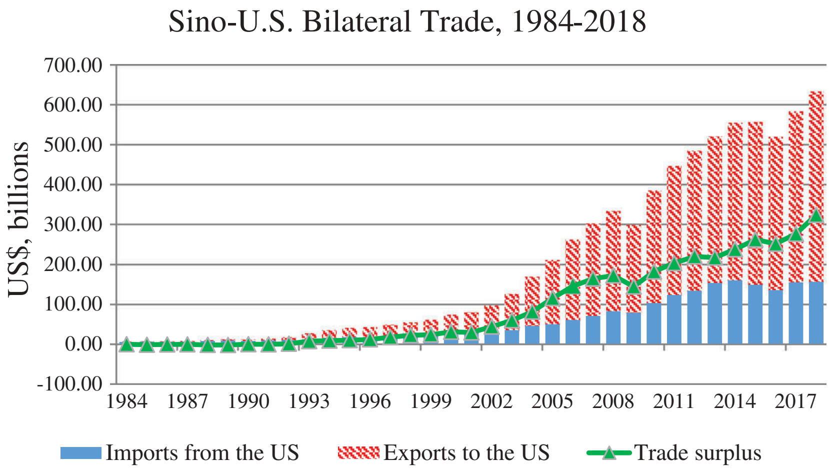

Figure 1. Sino-U.S. Bilateral Trade.
Source: CEIC database.

$98 billion in 2001 to $524 billion in 2016, at an annual growth rate of 14%. China and the United States have thus become each other's most important trading partners.

Meanwhile, the trade imbalance between China and the United States has also grown. According to the statistics of the General Administration of Customs of China, the U.S. trade deficit with China was $275.8 billion in 2017. According to U.S. statistics, the trade imbalance between China and the United States is even larger. The United States reports $516 billion worth of imports from China and $150 billion worth of exports to China in 2017, resulting in a deficit of $370 billion.

The discrepancy between the two countries' measures of the deficit hinges on how to measure China's exports. China's statistical agency does not include Hong Kong's exports to the United States in China's total exports to the United States. This is because exports from Hong Kong are mainly re-exports from not only mainland China, but also, to a large extent, from many other Association of Southeast Asian Nations countries to the United States. In contrast, the U.S. statistical agency simply includes all exports from Hong Kong in calculating the total exports from China to the United States, ignoring the large proportion of re-exports, and therefore tends to overestimate the size of the trade imbalance between China and the United States.

Nevertheless, the difference in statistical accounting practices between China and the United States does not affect the share of the Sino-U.S. trade imbalance in the total U.S. deficit. Regardless of the statistical method, the Sino-U.S. trade deficit accounts for two-thirds of the total U.S. trade deficit. Table 1 reports the two industries featuring the largest Sino-U.S. trade imbalances, textiles and mechanical and electronic equipment, as well as the industry that is subject to the most anti-dumping and countervailing investigations, steel and aluminum.

Moreover, the Trump administration is concerned about the labor market consequences of the Sino-U.S. trade imbalance. According to the estimates of Autor, Dorn, and Hanson (2013), across various zones in the United States, the U.S. manufacturing industry has lost nearly three million jobs due to import competition from China.

Table 1. Sino-U.S. bilateral trade, selected industries, 1993–2016 (US$, billions).

	Steel		Textile		Mechanical & electronic equipment	
Year	Exports	Imports	Exports	Imports	Exports	Imports
1993			3.3	0.2	2.9	3.8
1994			3.2	0.9	4.6	4.5
1995			3.2	1.4	5.5	5.1
1996			3.2	1.1	6.5	5.6
1997			3.6	1.0	8.3	5.4
1998			3.8	0.4	10.5	6.5
1999			4.0	0.2	12.5	8.0
2000			4.6	0.3	16.4	9.2
2001			4.6	0.3	18.0	11.4
2002			5.4	0.4	26.2	11.2
2003			7.2	1.1	39.4	11.4
2004			9.1	2.3	56.7	15.5
2005			16.7	2.1	72.8	16.8
2006			19.9	3.0	92.6	21.4
2007			22.9	2.4	107.9	23.7
2008	6.92	1.22	23.3	2.6	113.5	26.2
2009	1.51	0.90	24.6	1.7	104.7	22.3
2010	1.63	0.63	31.5	3.1	132.9	28.7
2011	2.58	0.65	35.1	4.2	150.0	29.5
2012	2.88	0.57	36.2	5.0	163.4	29.0
2013	2.75	0.58	39.0	3.8	169.3	38.3
2014	4.02	0.69	41.9	2.5	182.9	38.3
2015	2.85	0.58	44.8	2.0	179.9	35.7
2016	1.71	0.45	42.4	1.3	172.9	31.3

Source: CEIC database.
Note: The values are for China's exports to and imports from the United States.

Similarly, Pierce and Schott (2016) find that U.S. manufacturing industries that are more exposed to China's exports, due to the United States granting Permanent Normal Trade Relations status to China, have seen larger declines in manufacturing employment. In short, the Trump administration holds an ingrained 'Mercantilist' view – that a trade surplus is always beneficial for a country, while a trade deficit will definitely impair a country's welfare. Such a view is not without political basis. Using U.S. election data, Autor et al. (2016) find that regions that have been hit harder by import competition from China have been more politically polarized in congressional elections, and, more importantly, those regions have shifted toward the Republican candidate in presidential elections.

The Trump administration tends to blame the Chinese government's large subsidies for exporters and high tariffs for the huge bilateral imbalance in Sino-U.S. trade. First, the Trump administration believes that the Chinese government has provided a large amount of export subsidies to export firms. In particular, because China has initiated a clear-cut industrial policy plan, 'Made in China 2025,' a considerable number of high-tech sectors are heavily subsidized, especially integrated circuits and machines and equipment used to produce semiconductors and integrated circuits. As a result, the subsidies effectively lower the production cost of these industrial products, undermining the advantages of U.S. firms competing within the same product segments in the international market. Second, the Trump administration argues that China's high import tariffs have significantly hampered U.S. exports to China. For example, China's import tariff on automobiles is 25%, while the U.S. average import tariff on automobiles is 2.5%. Third, the Trump administration accuses China of restricting the maximum shareholding of foreign investors, especially U.S. investors, to 25%. Fourth, the Trump administration believes that China lacks effective intellectual property protection and even instructs state-owned enterprises to acquire U.S. companies, to 'plagiarize' their high-tech technologies.

Based on such an understanding, the Trump administration has moved toward the United States imposing high tariffs on imports from China, to balance and compensate the trade imbalance between the two countries. By doing so, the United States can continuously maintain its position in the high-value-added segments of the global value chain, monopolizing and dominating the two ends of the 'smile curve' of the global value chain.[1] Thus, the United States aims to keep China in the low-value-added segments of the global value chain and specializing in the middle segments of the 'smile curve.'

The four arguments above constitute the Trump administration's core views on the current trade imbalance between China and the United States, as well as the administration's starting point in designing trade and diplomatic policies. The first three core views of the Trump administration are only held by the administration itself and its few core supporters. The majority of the economists around the world are clearly opposed to these views, because they deviate from basic facts or fundamental economic rationales. However, the last core idea – that China should remain at the low-value-added segments of the global value chain while the United States should keep its monopolistic position in the high-value-added segments of the global value chain – is not only held by the Trump administration, but also by some U.S. economists. It is therefore critical to analyze and evaluate the causes and consequences of the Sino-U.S. trade imbalance to disentangle facts from opinions.

3. Sino-U.S. trade imbalance does not hurt the U.S. economy

Since China's accession to the WTO, the Sino-U.S. trade imbalance has continued to widen. But the trade imbalance between China and the United States does not hurt the U.S. economy. Instead, if the U.S. government can properly design and apply its relevant policies, the Sino-U.S. trade imbalance could benefit the United States, for the following three reasons.

First, China's expanding exports provide U.S. consumers with many products at low prices and good quality. The Chinese manufacturing sector covers almost the whole industrial chain. Within the U.S. imports from China, consumer goods account for about 32%, intermediate products account for about 27%, and capital goods account for about 41%. If the United States imposes high tariffs on Chinese products, the amounts imported from China will be significantly reduced. In such a case, the United States would have to substitute imports from other countries for imports previously from China, which would significantly increase U.S. domestic prices.

Amiti, Redding, and Weinstein (2019) and Fajgelbaum et al. (2019) find that import tariff burdens are completely passed through to domestic consumers. The resulting aggregate real income loss is $1.4 billion per month, according to Amiti, Redding, and Weinstein (2019), or an aggregate welfare loss of $7.8 billion, according to Fajgelbaum et al. (2019). In an earlier study, Amiti et al. (2017) find that China's WTO entry reduced the U.S. price index of manufactured goods by 7.6% over 2000 to 2006. More broadly, as discussed by Feenstra (2018), opening up to trade can improve an importing country's welfare by increasing product varieties, facilitating creative destruction, fostering competition, and lowering market power. Costinot and Rodríguez-Clare (2018) find that the U.S. gains from trade are equivalent to 2%-8% of U.S. gross domestic product (GDP).

Second, taking a step back, reducing imports from China would not necessarily create more jobs in the United States. For example, the United States pays $10 for a shirt produced by China, $12 for a shirt produced by Vietnam, and $13 for a shirt produced by United States itself. Because China's price is the lowest, China possesses the distinct comparative advantage in shirt production, and the United States imports shirts from China. The Trump administration blames China for 'robbing' jobs in the United States and the decline in manufacturing employment. However, if the United States imposes a 25% tariff on China, the price of a shirt made in China would be $12.5, which is higher than the price of a shirt made in Vietnam ($12), so the United States would divert its imports of shirts from China to Vietnam, rather than shift the demand to U.S. domestic producers. Such a trade diversion effect hampers the creation of U.S. domestic jobs by imposing higher tariffs only on China's products.

Moreover, with global input-output linkages nowadays, U.S. manufacturers rely heavily on imported intermediate inputs to produce. Imposing higher tariffs on China's products would thus potentially reduce U.S. employment, by increasing the imported input costs of U.S. manufacturing firms. For example, Wang et al. (2018) find that intermediate inputs imported from China help downstream U.S. firms to expand their employment through the global supply chain, especially employment in the service sector.

Summing the negative competition effect of imports on the own and upstream industries and the positive supply chain effect of imports on the downstream industries, the net effect of imports from China on U.S. employment turns out to be positive 1.27% across U.S. regions. This finding overturns the conventional perception that increases in imports from China negatively impact the U.S. labor market. Fort, Pierce, and Schott (2018) document that the decline in U.S. manufacturing employment started in the late 1970s, and one-fourth of the manufacturing decline is explained by firm exit. They find that the decline in manufacturing employment has been driven by not just trade, but also technology (such as automation). Lee and Yi (2018) use a multi-country general equilibrium model to show that the decline in trade cost between China and the United States led both countries to specialize in their sectors of comparative advantage, increasing the skill premia in both countries. Therefore, trade opening also causes distributional effects, and the U.S. government should also use redistributive mechanisms to ameliorate the inequality induced by globalization. Lyon and Waugh (2018) find that a progressive tax system is valuable in redistributing the gains from trade across different workers.

Third, and more importantly, China reinvests most of the trade surplus from Sino-U.S. bilateral trade back into the United States. The U.S. trade deficit was caused by the large amounts of Chinese exports to the United States. But once China receives the trade surplus, it needs to invest the surplus abroad to increase the value of its reserve assets. China has spent most of its foreign reserves on purchasing U.S. Treasury bonds, which are usually recognized as one of the safest assets. Figure 2 shows that since China's accession to the WTO, the U.S. Treasury bonds held by investors from mainland China have accounted for more than 5% of the U.S. debt in total. This proportion exceeded 8% before the financial

Figure 2. China's Holdings of U.S. Debt, Size and Share.
Source: Wind Economic Database.

crisis. Meanwhile, the U.S. Treasury bonds held by investors from mainland China accounted for more than 35% of China's current account balances over the years. From this perspective, China is the United States' creditor, and the United States is borrowing China's wealth and resources. Therefore, the United States has benefited twice from its trade relations with China: U.S. consumers and firms enjoy the low prices of Chinese products, and the U.S. economy borrows from China to develop its own economy.

4. Comparative advantage determines the Sino-U.S. trade imbalance

The Trump administration claims that the bilateral trade surplus was caused by Chinese government subsidies for exporters or unfair trade policies. But the key source of the trade imbalance between China and the United States is comparative advantage due to the difference in factor endowments. The following analysis disentangles different types of exports: labor-intensive products and capital-intensive products.

For labor-intensive products, China's trade surplus arises from its advantage of low labor costs. The cost of labor in China is only $750 per month; in the United States, it is about $4,200 per month, more than five times higher than in China. However, as shown in Figure 3, China's labor productivity has reached 45% of that of the United States. In other words, for a labor-intensive product, China has obvious comparative advantage. Such a comparative advantage has led to a large trade surplus in China's labor-intensive products.

For capital-intensive products, a large trade surplus is the inevitable consequence of the division of the global value chain. The United States is in the upstream of the industrial chain, and the United States, South Korea, and other countries export a large number of intermediate input products of parts and core components to China. China processes and assembles all these intermediate products into final products, leveraging its comparative advantage in the labor-intensive tasks (Figure 4). China then exports

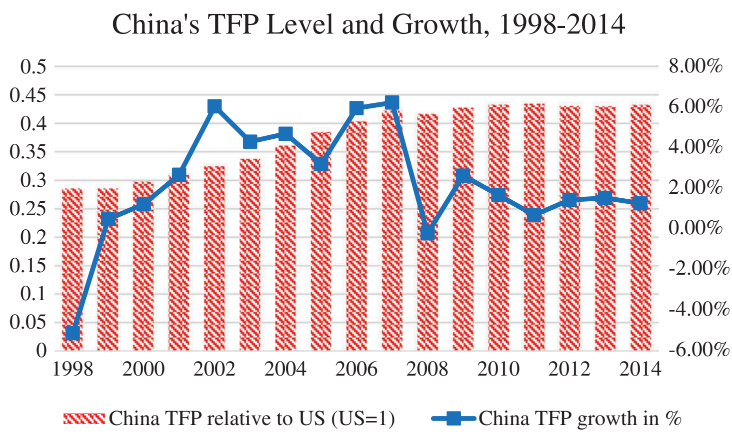

Figure 3. China's total factor productivity relative to the United States.
Source: Penn World Table 9.0.

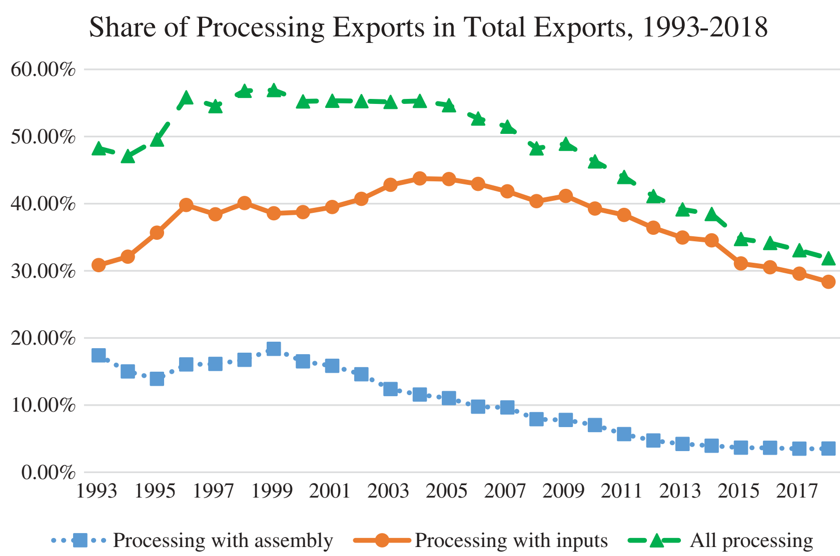

Figure 4. China's processing exports.
Source: CEIC database.

the final products to the United States, the European Union, and other places. Therefore, although China runs a huge trade surplus in the statistics, the actual value-added attributed to China is small. Take the iPhone 4 as an example. The price of the finished product exported from China to the United States is $179, but China's value added is only $6.5. The other $172.5 is from raw materials and intermediates produced by various countries around the world.

Therefore, based on the analysis above, China's trade surplus is an inevitable consequence of economic development and the division of the global value chain, and it is closely related to the income gap between China and the United States. It is not caused by China's subsidies to its domestic companies. Even if China and the United States did not implement any strategic trade policies, the Sino-U.S. trade imbalance would remain, not only from the past two decades, but also in the future for a long period of time.

Here we analyze the four arguments that the Trump administration usually uses to accuse China of unfair trade policies. The first argument is that the Sino-U.S. trade imbalance is due to the high tariffs that China imposes on U.S. imports. For example, China imposes a 25% tariff on automobiles produced in the United States, while the United States only imposes a 2.5% tariff on China-produced automobiles. However, although the numbers are all correct, this argument is invalid. The reasons are as follows. First, China's 25% tariff on U.S. automobiles before 1 July 2018 was clearly stipulated when China joined the WTO, and it was also agreed by the United States. Thus, China is acting in accordance with the WTO rules. According to the WTO regulations, developing economies can impose higher tariffs on imports. China's GDP per capita in 2017 was about $9,400. According to the World Bank's categorization, China is still a developing economy. Therefore, although China's economy has developed rapidly in the 40 years of reform and opening up, it has not yet become a developed economy. Of course, when China fully develops to a high-income economy in the future, its tariffs should also be reduced to the level of developed economies accordingly.

Second, if the United States has any issues with China's tariff policies, it should initiate a complaint with the WTO Dispute Resolution Committee. For the United States to raise its tariffs unilaterally violates the WTO regulations and undermines the effectiveness of the WTO dispute resolution mechanism.

Third, compared with other developing economies, China's import tariff on automobiles is not high, and the U.S. tariff on automobiles is not lower than the tariffs imposed by other developed economies. For example, Japan's import tariff on automobiles is already zero.

Fourth, the tariff on automobiles is an exception in the import tariff gaps between China and the United States. As shown in Figure 5, China's average tariff across more than 6,000 imported products is 7.8%, while the average U.S. tariff is 3%. Therefore, the

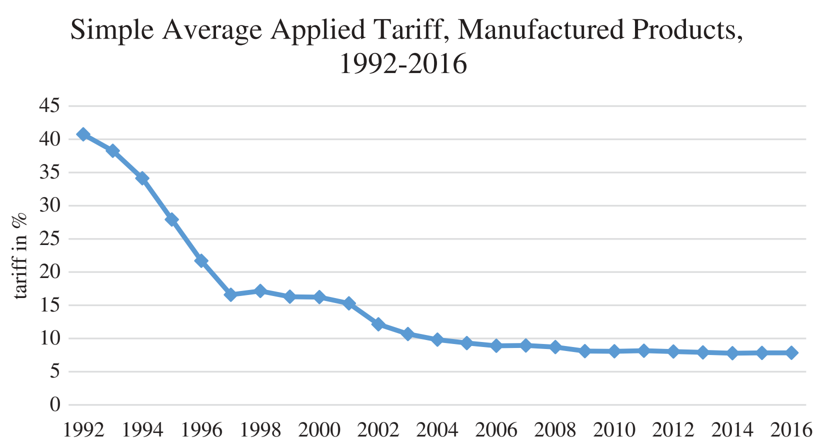

Figure 5. China's simple average applied tariff.
Source: World Bank.

actual gap in average tariffs between China and the United States is not as large as what the Trump administration claims.

The second argument of the Trump administration is that the Chinese government has provided a large amount of export subsidies for exporters. Mainly, the Trump administration claims that China has subsidized the key manufacturing industries that China intends to develop in the future. This argument is obviously invalid. First, the WTO does not prohibit its member states from providing industrial subsidies. In contrast, subsidies for certain industries, especially green industries, are even encouraged. The WTO requires that its member countries be transparent about their industrial subsidies, and China complies with this requirement. In particular, Chinese above-scale manufacturing firms explicitly report the amounts of subsidies received from the state in their financial statements. By contrast, the United States has frequently used such industrial subsidies as well.

Second, the United States usually imposes non-tariff barriers, such as export subsidies, to protect its own industries. For example, in the U.S.-Japan trade war in the 1980s, the United States directly imposed high tariffs on Japan's motorcycles exported to the United States, to protect the Harley-Davidson. Similarly, the United States imposed a voluntary export restraint to limit the quantity of Japanese vehicles exported to the United States in the early 1980s. Before 2005, the United States, together with the European Union and Canada, imposed import quotas on certain textile and clothing products produced by developing economies. The United States has also used strict import quotas for white sugar, to protect its sugar production industry. Recently, the Trump administration issued a subsidy of $12 billion to agricultural products in response to the Chinese government's high tariff on U.S. soybeans.

The third argument of the Trump administration in accusing China of unfair trade policies has to do with China's shareholding restriction on foreign-invested companies, especially U.S. investors, which is 25% at maximum. As for this complaint, the bottom line is that China has always been willing to attract foreign direct investment. In 2015, foreign direct investment in China amounted to $135 billion. In the first 35 years of China's reform and opening up, foreign investors in China mostly enjoyed so-called 'super national treatment.' To be specific, foreign-invested companies in China can enjoy the preferential policy of 'Exemption for Two Years, Discount for Three Years.' That is, in the first two years of their establishment, foreign-invested enterprises are exempted from paying interest and taxes, and in the following three years, they enjoy a discounted interest and tax rate of 17%, which is half the regular corporate tax rate. Therefore, the shareholding restriction is consistent with the rationale of 'Gradual Reform.' More importantly, the investment restriction is not particularly targeted at U.S. investors.

By contrast, the United States has often conducted administrative intervention on Chinese companies' investments in the United States and frequently refused those investments for reasons of 'national security.' The usual argument from the United States is that Chinese companies would obtain advanced technologies from the acquired companies. However, in international investment, obtaining the advanced technologies of another company is exactly the purpose of mergers and acquisitions. Entrepreneurs are not philanthropists, and the goal of mergers and acquisitions is to maximize expected profits, a purely commercial behavior that should be respected by a market economy.

Of course, in certain cases that really involve national security issues, the United States should take actions on the acquisition, given that it would affect the country's national security. However, this does not always seem to be the case. Two years ago, when a Chinese company acquired a pork-selling company in California, the U.S. government refused the transaction due to concerns about national security, which is extremely confusing and unreasonable. In addition, the United States has long refused to allow Chinese state-owned enterprises to acquire U.S. companies. Recently, the U.S. government has intensified its stipulations, by refusing any investments or acquisitions if the participating Chinese companies have any committees of the Communist Party of China. Obviously, such an action goes beyond the scope of economic disputes. Furthermore, many private enterprises from China have been blocked by the United States because of 'national security' concerns. The failure of Sany Heavy Industry, which is a private enterprise, to acquire U.S. companies last year is another example.

Finally, the fourth argument of the Trump administration is to accuse China of poor intellectual property protection. Admittedly, China's intellectual property protection is not as strong as that in the United States, and many areas need further strengthening. However, two caveats should be recognized. First, the protection of intellectual property rights is closely related to the income and development stage of an economy. Intellectual property protection in high-income countries is relatively complete, while intellectual property protection in low- and middle-income countries is still catching up. For example, a textbook of 'Principles of Economics' sells for about $100 in the United States, but the same package of contents sells for around $26 in Hong Kong, with the notice 'Not Sold in the US or Canada.' Because firms realize that per capita income in Asia is generally lower than that in the United States and Canada, they need to implement 'pricing to market.'

Second, China's intellectual property protection has made great progress and advancement since China's accession to the WTO. Compared with countries at a similar per capita income level, China's current intellectual property protection is remarkable.

5. China's value-added upgrading is the consequence of economic development

The Trump administration's motivation for launching a large-scale trade conflict with China is to keep the United States in the high-value-added segments of the global value chain and China in the low-value-added segments. Clearly, such an idea reflects typical thoughts of historical nihilism and hegemony.

First, from a historical perspective, the United States was not always in the high-value-added segments of the global value chain. In 1894, the United States surpassed the United Kingdom in industrial output and became the world's largest industrial country. Even so, the U.S. economy did not stand out among world economies by reaching the high-value-added segments of the global value chain until after World War II. In other words, the United States did not reach the high end of the global value chain in the very beginning, and its rise in the value added of industrial products took a rather long period of time. By the same token, it is unreasonable for the United States to restrict China and other countries from upgrading along the global value chain.

Second, if China manages to upgrade from the low end to the middle and high end of the global value chain, the United States will not suffer losses but rather gain from China's upgrading. The economic rationale is that increases in market size will reduce the fixed costs of all exported products, incentivizing manufacturers to increase outputs and thus achieve economies of scale in production.

Third, it is not viable for China to stay in the middle and low end of the global value chain in the future. China has become the 'world's factory' of global industrial products, mainly thanks to its relatively low labor costs compared with advanced economies such as the United States, Europe, and Japan. However, China does not show significant comparative advantage in costs of labor when compared with Southeast Asian countries. As indicated in Figure 6, the wages of blue-collar workers (represented by manufacturing workers) and white-collar workers (represented by manufacturing managers) in China are already at the high end of those in Southeast Asian countries. Currently, China is still exporting a large number of labor-intensive products to Europe and the United States. This is not because China still possesses comparative advantage in labor-intensive products compared with Southeast Asian countries, but simply because Southeast Asian countries with lower labor costs than China have relatively small export scales and are currently not able to take over the whole of China's huge market shares in the developed economies.

Fourth, China has the capacity to upgrade along the global value chain. This can be seen by examining the export quality improvement of China's industrial products, especially after 2000 (Yu 2015; Ing, Yu, and Zhang 2018). As indicated by Figure 7,

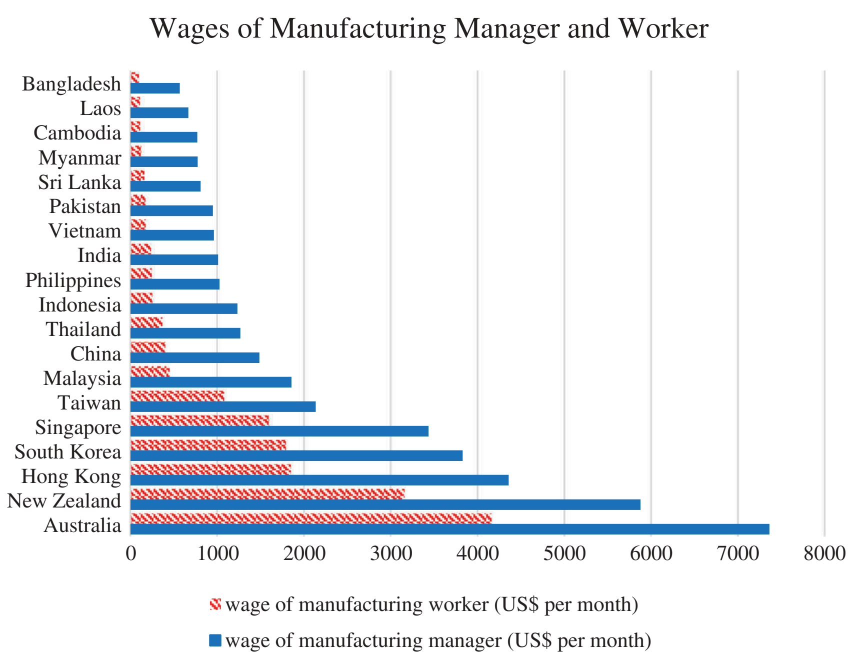

Figure 6. Comparing costs of labor: White-Collar and Blue-Collar workers.

Figure 7. Median China export quality index.
Source: Ing, Yu, and Zhang (2018).

the median export quality index of Chinese manufacturing exports increased from 1.07 in 2000 to 1.36 in 2012, an increase of around 27%. Therefore, China has been offering products with not only low prices, but also high quality. According to the observation of the increasing quality of China's manufacturing exports, China's value added in its exports should also be rising, which is a natural outcome of economic development.

6. Cooperation is the only solution to the Sino-U.S. trade imbalance

The Trump administration seems to believe that by imposing high tariffs on China's exports, the United States can resolve the large Sino-U.S. trade imbalance and, at the same time, expand employment. However, such measures will not work, for several reasons. First, if the United States imposes high tariffs on imported products, China and other countries will certainly retaliate by imposing high tariffs on U.S. products, triggering a large-scale trade conflict and trade war. In this case, on the one hand, consumer prices in the United States will rise and consumer surplus will decrease accordingly. On the other hand, exports from the United States to China will be hampered, reducing domestic manufacturing production and employment.

Second, high tariffs on Chinese products cannot bring back lost jobs to the United States. Instead, high tariffs on Chinese products would increase the employment opportunities in other Southeast Asian countries through trade diversion. Guo et al. (2018) find that the Sino-U.S. trade war will cost the United States an economic loss of about 0.7% of its total GDP, which amounts to around $200 billion today.

Compare the trade policies of the Trump administration and the Obama administration. The Obama administration also tried to reduce the Sino-U.S. trade imbalance, but it adopted more sensible measures and policies. In contrast to the Trump administration, the Obama administration did not impose high tariffs or trade barriers on Chinese exports. Meanwhile, it also aimed to facilitate China's imports from the United States. Therefore, from the perspective of the United States, Obama proposed the plan of 'doubling imports within five years.' The advantage of this plan is that both China and the United States have increased economies of scale and trade, making the 'pies' bigger. By expanding the size of trade, the gains from trade of the two countries also increase. The Chinese government has always promoted such types of economic and trade cooperation to rebalance Sino-U.S. trade.

In short, the four main misunderstandings of the Sino-U.S. trade imbalance induced the Trump administration to trigger and expand the recent Sino-U.S. trade conflict. The trade imbalance between China and the United States has resulted from the differences in factor endowments and global value chain positions of the two countries. Therefore, escalating the Sino-U.S. trade conflict cannot resolve the Sino-U.S. trade imbalance. The only solution to the Sino-U.S. trade imbalance is to achieve trade cooperation through effective trade negotiations and other dispute resolution mechanisms.

Note

1. The concept of 'smile curve' was first proposed by Stan Shih, the founder of Acer Inc. According to Shih's observation, in the personal computer industry, the left and upstream end of the value chain focuses on technology and patent, the middle segment of the value chain refers to manufacturing and assembly, and the right and downstream end of the value chain concentrates on marketing and branding. Usually, the left and right ends are of higher value-added, while the middle segment is of lower value-added. Therefore, a smile curve is formed when one relates a segment's value-added to its position in the value chain.

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