

Topic selection: Pandemics and globalization: economics, culture, and policy

Research question: How COVID-19 pandemic affects China's foreign trade?

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Abstract

The purpose of this article is to explore the impact of coronavirus on today's (2020) trade, and we will collect datas, cite academic resources, and elaborate on our own proposals to achieve this goal. This paper will first analyze the overall situation of China's foreign trade market from January to July in 2020, then focus on the influences of COVID-19 on the food industry, pharmaceutical industry, and manufacturing industry, and at the same time, propose relevant solutions.

Introduction and general description:

Coronavirus was wreaking havoc in East Asia at the beginning of 2020, and it spread globally in April. Due to the severe epidemic situation, countries underwent different level of stagnation of development and economic recession. The extremely high rate of unemployment followed by the lockdown caused the termination of production in various industries and numerous middle and small-sized enterprises to collapse. Also, because of the virus's high infectiousness, international communication has been cut down badly, and global trade has been hit heavily by the self-closing markets around the world. To try to contain this 'disaster', governments imposed restraint on land, air, and sea transportation, which led to the slowing down of import and export trade flow in several countries. The significance of this study is to help us better understand the relationship between the pandemic and the economy, as well as shows our predictions and policy suggestions on the epidemic situation.

First of all, we will look at the important components and related datas of China's foreign trade in 2020 through Figure 1.

overview of China's foreign trade

	total	general trade	processing trade	mechanical and electronic products	labor-intensive products
total costs per trillion yuan	14.2	8.55	3.36		
total increased costs/%	-3.2	-2.6	-8		
import costs per trillion yuan	7.71	4.56			
import increased costs/%	-3	-2			
export costs per trillion yuan	6.53	3.99		5.5	1.5
export increased costs/%	-3.3	-3.2		0.2	-1.4
ratio in the total costs/%		60.1	23.6		
ratio in export costs				58.6	19.4

Figure 1: Overview of China's foreign trade (from January to July in 2020)

From the table, we can conclude that this year, the total trade volume in China is 14.24 trillion yuan, including 8.55 for import and 3.36 for export. Among the total volume, general trade accounts for the largest proportion, and the largest export contributor is mechanical and electronic products. This is because the epidemic has reduced offline communications, and instead, people searched for more online interactions. Looking at the growth rate, we can see that almost every portion is less than the past year. It can be seen that the COVID-19 has a great impact on trade. Due to its infectiveness, to protect the citizens, governments had to reduce transnational contacts, and therefore international trade has been greatly hampered, and each country's trade and economic losses cannot be ignored.

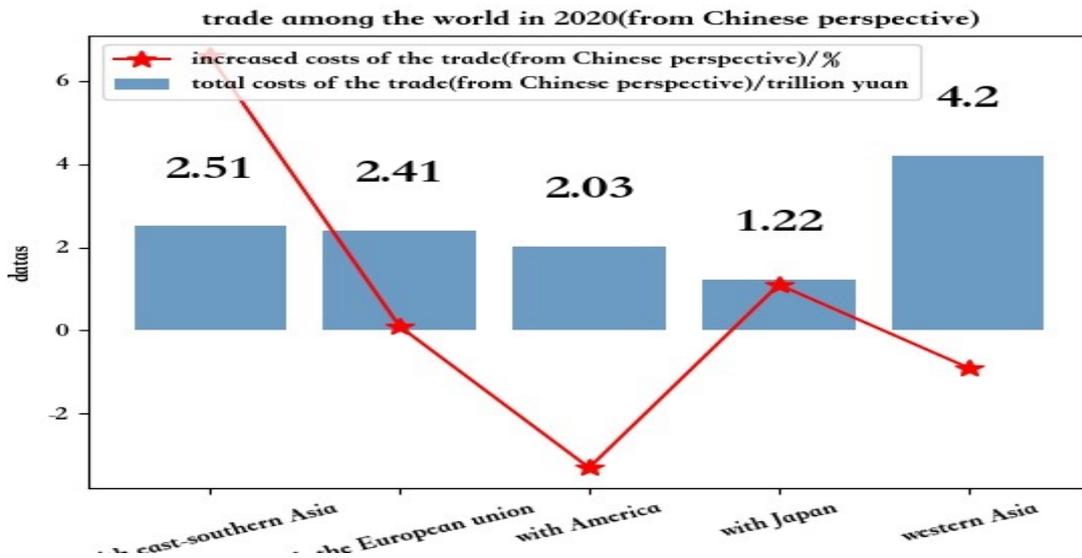


Figure 2: The total volume of China's foreign trade (from January to July in 2020)

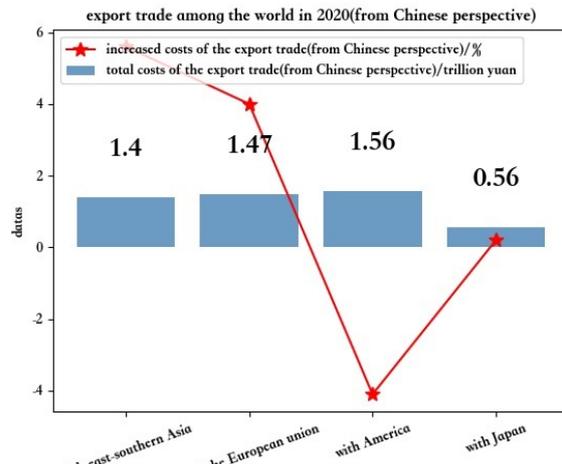
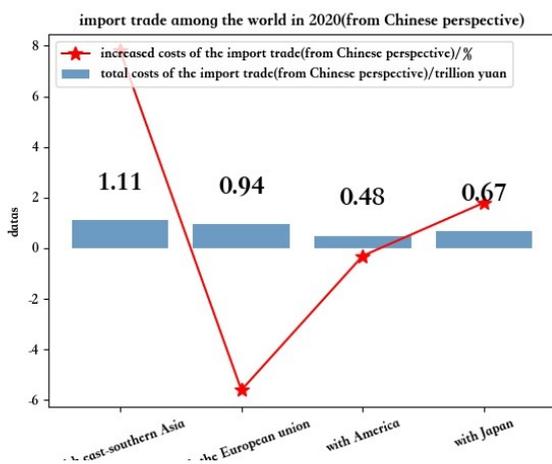


Figure 3 & 4: Costs of China's export trade and costs of China's import trade (from January to July in 2020)

Secondly, the three figures above show the trade between China and other regions among the world. We can say that China's trade with the European union and America were most affected. The total trade volume between the United States and China drops sharply, which is almost 4% loss, compared with last year. This may be because of the seriousness of the epidemic in the US in the past three months (from April to July) and the increasing rigidity of China-US relations. As for the import trade, the trade with the European union declined most severely. The reason of this is that when COVID-19 in China has already been controlled, Europe was in dire straits, and to avoid the resurgence of the virus, Chinese government put a strict control on imports. However, in the special situation, the trade between China and the Southeast Asia increases dramatically. Southeast Asia even becomes China's biggest foreign trade partner. (The details are shown in Figure 5)

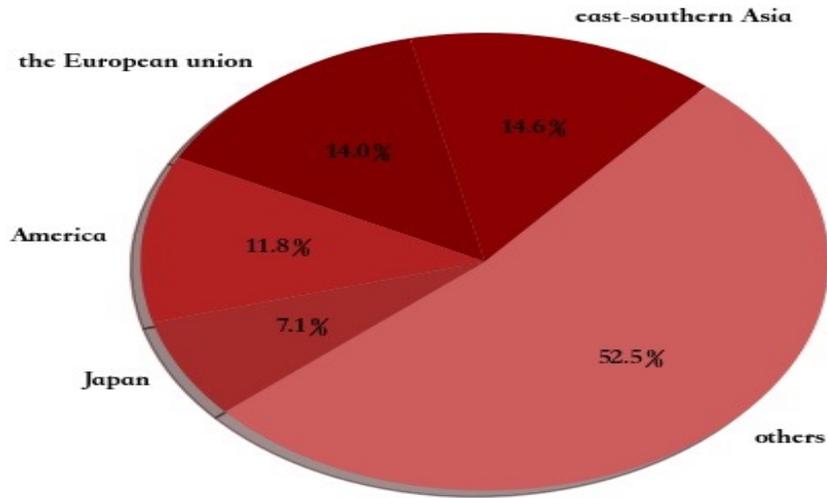


Figure 5: The proportion of China's foreign trade (from January to July in 2020)
 Thirdly, we will focus on some statistics on specific industries.

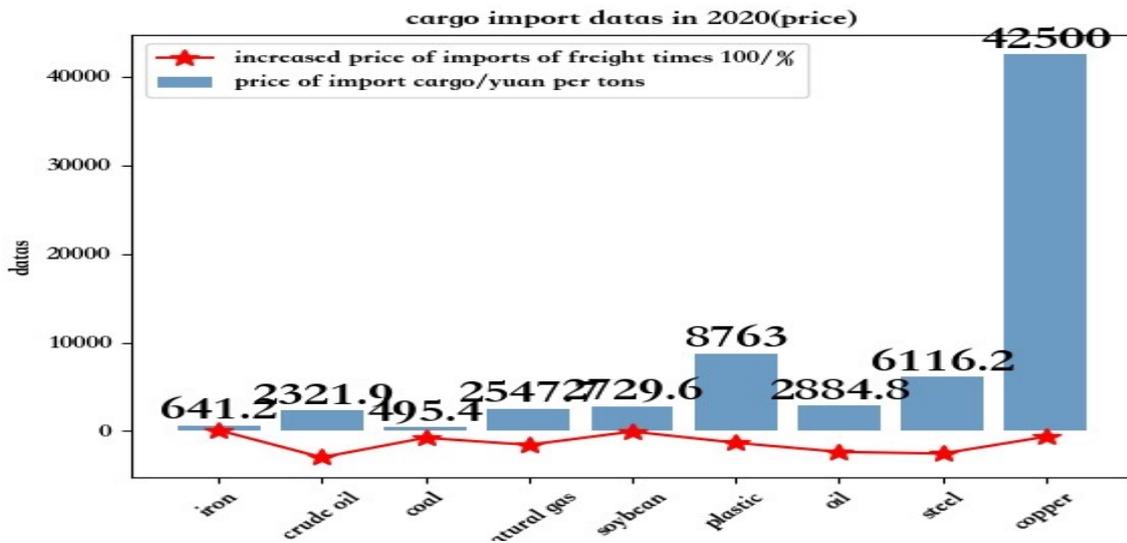


Figure 6: Volume of import cargo in China's foreign trade (from January to July in 2020)

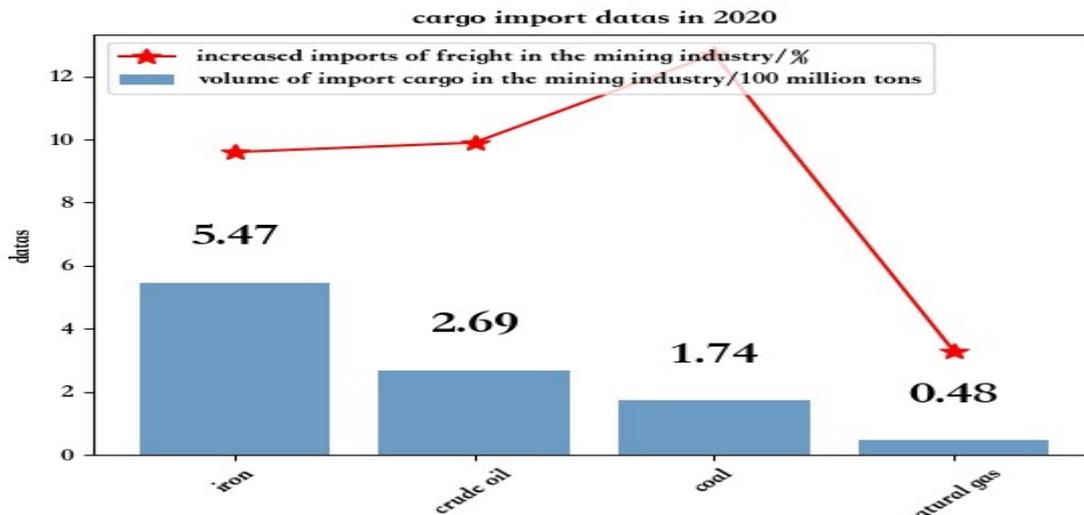


Figure 7: Costs of import cargo in China's foreign trade (from January to July in 2020)

1. The mining industry: From Figure 6 & 7, we can see that in 2020, the imports of mineral products have increased, and the costs of them have slightly decreased (almost unchanged). The reason of the increase in total trade volume of mining industry is mainly because in June China's domestic inventory cycle has picked up, which leads to a relatively strong demand for inventory replenishment, and thus, in addition to the decline (in June) in crude oil imports caused by the recovery of oil prices, China's imports of major commodities have increased significantly. At the same time, due to the agreement between China and America, the imports of agricultural products also accelerated significantly in June.

2. Labor-intensive industry: Figure 8 shows that except textile including respirators, other products' total trade volume have decreased. The decline of those products is basically for two reasons. First, China is one of the major producers of labor-intensive industries, but the pandemic at the beginning of 2020 shut down Chinese factories for nearly one month, and this has delayed the supply of these products in China. Second, in April, epidemics around the world 'crimped' the communications between nations, so the demand of labor-intensive products through trade was declined. However as for textile, because respirator is one of the most effective way to fight against virus, so all over the world are trying to produce masks. Therefore, both demand and supply of respirators were raised. At the same time, because of the increasing production of masks, the supply of other products is temporarily slow. These are the reasons why textile has a different trend. (Some detailed analysis will be discussed in section four: manufacturing industry)

3. Pharmaceutical and electronic industry: It can be seen that, in Figure 9, in the first half of 2020, the total volume of pharmaceutical and electronic products have increased to varying degrees. The most obvious growth is medicinal instruments. Medicine is the most effective and fundamental way to solve the virus, so in such a special period, the trade of medical products is all over the world. People use trade to help countries in need of medical assistance and confront COVID-19 together. What's more, as mentioned above, pandemic has changed the way people used to live and communicate. In order to protect themselves, people have to stay at home for a long time, which makes people more dependent on electronic products. And thus, electronic industries become the second largest sector for trade growth. (More detailed information about pharmaceutical industry will be discussed in section two)

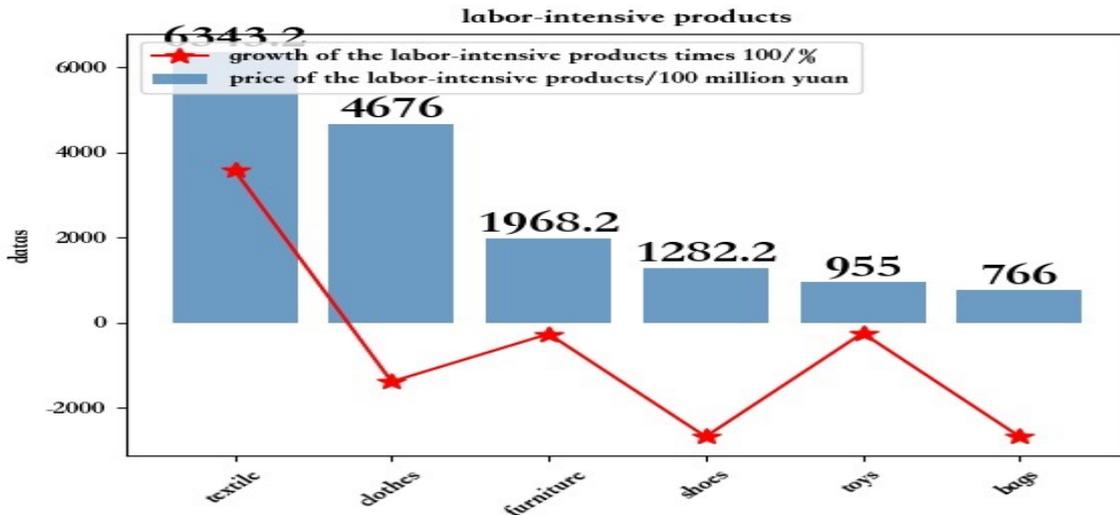


Figure 8: Costs of export of labor-intensive products in China's foreign trade (from January to July in 2020)

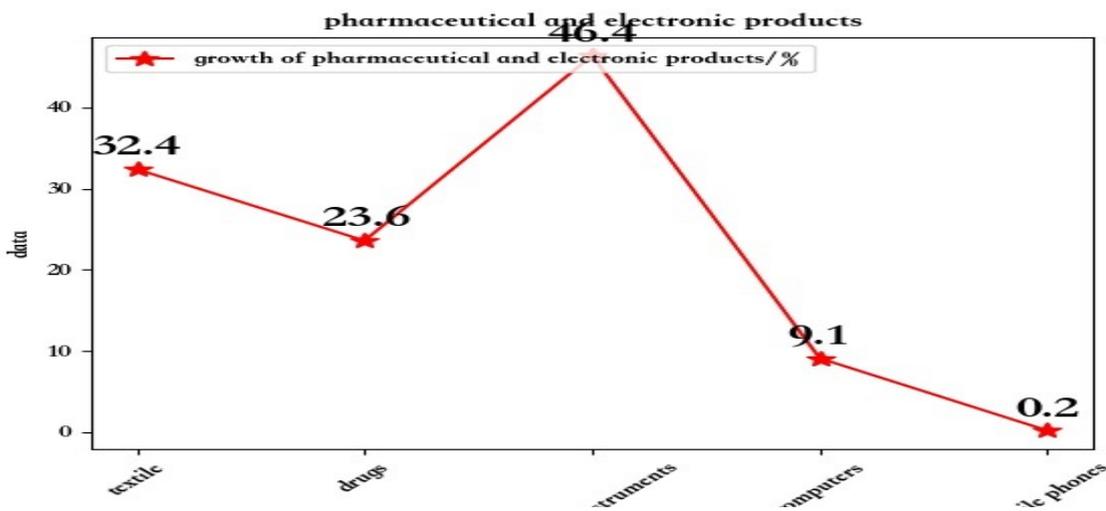


Figure 9: Growth of export of pharmaceutical and electronic products (from January to July in 2020)

To conclude, pandemic causes the trade of pharmaceutical and electronic products increased significantly, but compared with the last year, the total volume of China's foreign trade is declined. Among all trade partners, the European union and the United States have a decline of the trade with China. However, China continues to maintain frequent trade contacts with Southeast Asian countries, which has become the China's largest partner among the world.

Section 1: Food industry

Coronavirus is such a highly contagious disease that food also can become contaminated and travels to other areas of the world and subsequently infects people living there. Therefore, food security has escalated unprecedentedly. As a result, governments strengthened the regulation of food imported and exported in order to sustain their nations and to avoid causing panic among the population. However, this kind of action has caused serious crises in small countries since they mostly depend on imported agricultural and aquatic products from others. But if governments do not do so here comes the problem of how to ensure stable production for themselves. So, under such conditions the export restriction should not be adopted, relevant policies should be introduced to the public by governments, and countries the world over should unite to work out a suitable plan to meet the challenges.

While a few people agree with the idea that trade restriction will ensure food security, certain data illustrate the fact that the ban will only be harmful to the economy. Since our goal is to minimize negative impacts the pandemics bringing to the population, the implementation of export restriction will only against the benefit of every country, hence, it should not be adopted. However, early information indicates that several countries have shown objection to the imported products from China:

1. On January 30, 2020, Federal Service for Veterinary and Phytosanitary Supervision of Russia issued a temporary animal import restriction lasting for one month, including ornamental animals and aquatic products from China;
2. Armenia put a ban on importing animal products and raw materials from China; Kyrgyzstan prohibited importing meat China;
3. on February 7, 2020, Fahrettin Koca, the Minister Ministry of Health in Turkey, proclaimed that Turkey would suspend the import of animal products involving fowls, seafood and so on from China.

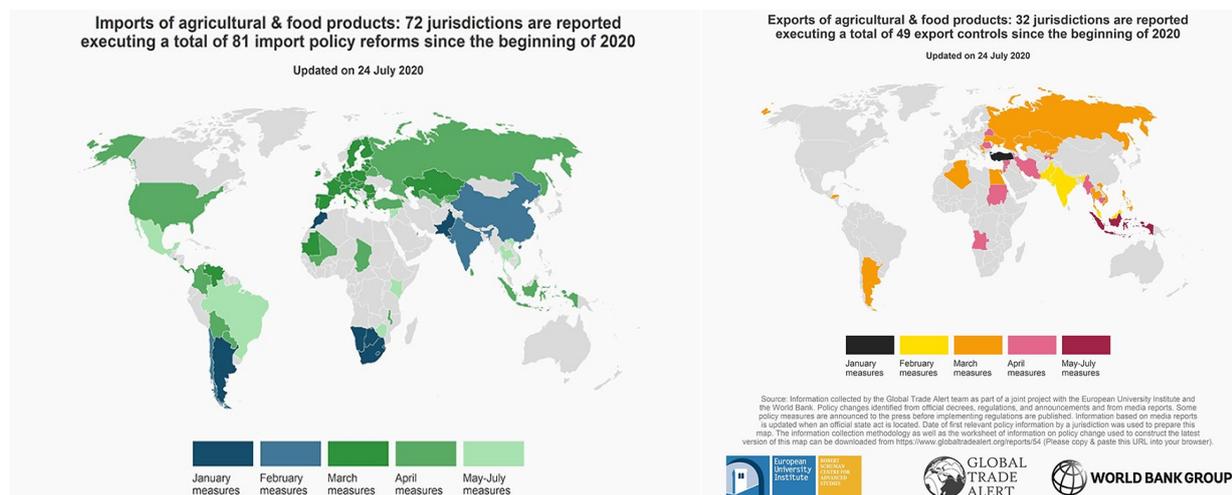


Figure 10 & 11: Import and Export of food industry

Such inhibition would adversely affect food availability such as domestic supplies being insufficient and foreign goods being wasted. That is, some countries have to import substantial agricultural products to support their huge population. But as soon as the restriction implemented, abundant commodities would be blocked and self-supply would be difficult to achieve. Shortages of essential food products would emerge. On the contrary, other countries were facing another serious problem—overproduction. Because of the restriction, products could not be sold to others and be overstocked in their own nations resulting in increased price volatility. Consequently, the adoption

by many governments of successive export restrictive measures to secure their own food safety would lead to a widespread food insecurity crisis due to the disruption in global trade supply chains. Furthermore, snags to supply chains would affect to the exports from some emerging market and developing economies of perishable products such as flowers, fruits and vegetables. However, there are also good news under such condition. Trade between China and Indonesia, Brazil, and Malaysia has not been influenced by the pandemic. Communication between China and these countries remains stable, so they are more resistant to crises such as serious food shortages and price spikes. According to the data reported by General Administration of Custom, P.R.China(GACC), since April, 2020 the gross value of import and export has increased. Here is the table from GACC.

1.Summary of Imports and Exports (In USD)								
B: Monthly								
								Unit:US\$ million
Year&Month	Total	Export	Import	Balance	1 to 6			
					Total	Export	Import	Balance
2020.01-02	592,471	292,778	299,693	-6,915	592,471	292,778	299,693	-6,915
Year on year	-11.0	-17.1	-4.0		-11.0	-17.1	-4.0	
2020.03	350,207	185,133	165,074	20,059	942,678	477,911	464,767	13,144
Year on year	-4.1	-6.6	-1.1		-8.5	-13.4	-3.0	
Month on month	56.9	129.8	15.8					
2020.04	355,025	200,114	154,912	45,202	1,297,704	678,025	619,679	58,346
Year on year	-5.1	3.4	-14.2		-7.6	-9.0	-6.0	
Month on month	1.4	8.1	-6.2					
2020.05	351,262	207,147	144,115	63,033	1,648,965	885,172	763,793	121,379
Year on year	-9.2	-3.2	-16.6		-7.9	-7.7	-8.2	
Month on month	-1.1	3.5	-7.0					
2020.06	380,727	213,574	167,153	46,421	2,029,692	1,098,746	930,946	167,800
Year on year	1.5	0.5	2.7		-6.3	-6.2	-6.4	
Month on month	8.4	3.1	16.0					

Figure 12: GACC table: Summary of Imports and Exports (In USD) B: Monthly

The table demonstrates the gradually improving trade flow between China and other countries, and indirectly reveals that the world is getting better from the pandemic. To conclude, as the World Bank has joined other organizations in calling for collective actions to keep food trade flowing between countries, we should realize that export restrictions are unwarranted and could hurt food security in importing countries and economy development in exporting countries.

Government of each country is the most effective and the most powerful regulator that should take the responsibilities to maintain the economy growth while assure the maintenance in normal production and life of people. First of all, expedite customs procedures with a view to reduce processing times and related administrative burdens in accordance with national laws and regulations. Information related to import and export can all be found on the official website of

General Administration of Custom, P.R.China(GACC). Requirements about imported food and procedures needed are all presented on the web pages, and transactional statistics are showed on the data tables. Waste of time is no longer a problem, electronic means for customs processing that are more convenient are used, transparency of data and provisions is promoted and face-to-face interactions that may cause the infections of coronavirus are minimized. Secondly, a group of farmers should be subsidized by the states. For one thing their initiatives in production will be encouraged; for another farmers who have great deficit can live for quite a time depending on those money before returning to normality. Fears were growing of the COVID-19 outbreak following the appearance of a number of cases in China, and panic buying of rice, flour, and oil began to occur among people. At that time, there were two possible problems: grain shortages and surge in prices. Fortunately, agricultural products yields didn't drop, and although prices of food experienced periodic fluctuations, the overall prices were still relatively stable in China.



Figure 13: Soybean oil market trend chart of the European market, unit: euro/ton



Figure 14: Soybean oil market trend chart of the Chinese market, unit: RMB/ton



Figure 15: Wheat market trend chart of the American market, unit: dollar/bushel



Figure 16: Wheat market trend chart of the Chinese market, unit: RMB/ton

According to the first two charts, the price of soybean oil in both European and Chinese markets decreased from January to May and recovering slightly from May to August. According to the following two charts, the price of wheat fluctuated significantly and showing tendency to decline in American market. That is, although the pandemic has dealt a blow to the world agricultural markets, the resilience of market is much stronger than we thought. Then what caused the loss or unemployment of farmers? Due to the lockdown of some cities in China, a few farmers who spent their Spring Festival in their hometowns could not go back and continue their cultivations. Another group of farmers growing fruits and vegetables for living could not sell all of their products because of the export restriction. Recently, Farmers receiving low income as a result of the pandemic have been subsidized by Chinese governments:

1. From January to June, providing farmers who endured losses with 1000 ¥ per month as allowance;
2. From May to December, for the unemployed farmers who insured for less than one year after January 1, 2019, temporary allowance will be given monthly according to the minimum standard of insurance in that city;
3. Local governments can purchase masks, alcohol, and disinfectants for them referring to the situation.

To summarize, international trade processes more quickly and conveniently and domestic trade grows more prosperous because of the implementation of policies brought by the government.

Last but not the least, international collaboration. The only way to minimize the impacts of the pandemic is to unite: in order to protect their own people, governments must work together to develop programs that benefit all. Our goal should be to create an international trade system based on mutually beneficial cooperation rather than malign competition when taking countermeasures in responding to the COVID-19 pandemic. Firstly, to ensure that critical supplies are delivered to every area of the world, protectionism (the advocacy, system, or theory of protecting domestic producers by impeding or limiting, as by tariffs or quotas, the importation of foreign goods and services) and other trade barriers should be eliminated. Secondly, information sharing. Report timely and accurate information about the pandemic objectively and transparently. In this respect, China has strengthened the tie with WHO and WTO, shared information on pandemic monitoring, investigation and risk assessment in time, improved prevention and control measures based on discussions. Although this crisis impels a few countries to cut global connections such as travels, trade and data flow, such attempts will just produce paradoxical effects. Expanding global cooperation will provide more convenience to all the nations and we will be more stronger confronting the pandemic.

In the view of the fact that the pandemic is still prevailing, steps must be taken at once. Although

developments of the world have been hampered, trade among countries cannot be stopped. There are still unknown difficulties waiting for us, and to better cope with challenges, export restriction cannot be adopted, new policies should be carried out by the governments, and communications among nations should be enhanced. The COVID-19 pandemic is not only a crisis, but also a new opportunity for each state to develop.

Section 2: Pharmaceutical industry

The COVID-19 (Coronavirus Disease 2020) pandemic spread unprecedented panic and health crisis across the globe, which also placed disruptive effects on the global economy and the international trade. Under the depressing over-all environment, the pharmaceutical industry unexceptionally experienced intense development pressures and exposed its vulnerabilities in the medical manufacturing chain. However, the pharmaceutical science field faces great development prospect due to the increasing demand and its crucial role in the ongoing fight against the pandemic of coronavirus.

Confronting the global health emergency situation, the pharmaceutical industry is undoubtedly under great responsibility. The coronavirus can easily transmit through droplet and contact, which means it is highly contagious and the spread of infection can be uncontrollable shortly if the pharmaceutical institutions cannot be able to respond quickly. Unfortunately, the coronavirus hit the public during Chinese Spring Festival which was the biggest holiday time when the passenger volume would reach to maximum of the year. Hence the coronavirus disease occupied the whole nation of China, aided by the happily gathered crowd and unprepared medical organizations and hospitals. Within a short period of time, the rapidly increasing demand for medicine for coronavirus treatment made the number of medical orders skyrocketed. In a short term, the impacts of the COVID-19 pandemic on China's pharmaceutical industry is both positive and negative, which is analyzed as below. (Cai, Gilbraith, Jia)

Short term impact of COVID-19 on China's pharmaceutical industry		
	Positive Impacts	Negative Impacts
Medical Institutions	<ul style="list-style-type: none"> · boosts the development of internet assisted medical treatment · accelerates the application of hierarchical medical systems · introduces third-party medical image and testing centers to reallocate resources to remit the shortage problems in hospitals 	<ul style="list-style-type: none"> · serious cross-infection cases at hospitals and institutions · non-coronavirus patients lacks medical resources and treatments
Pharma Companies	<ul style="list-style-type: none"> · increasing demand and orders for medical resources · more investment in R&D of vaccine for coronavirus 	<ul style="list-style-type: none"> · chronic disease drugs is in excess of demand in hospitals · innovation progression of medicine encounters limitations · obstruction of recruitment for clinical research affects new drug R&D
Pharmaceutical Retail	<ul style="list-style-type: none"> · online pharmacies sales increase · medicine delivery service is becoming popular 	<ul style="list-style-type: none"> · daily operations of pharmacies and retail store is interrupted due to traffic reasons and social distance worries

Figure 17: Short term impact of COVID-19 on China's pharmaceutical industry

China plays an important role in the global supply chain of pharmaceuticals. The two main stages of pharmaceutical manufacturing process are the production of active pharmaceutical ingredients (APIs) and the formulations production. Basically, APIs are the chemical-intensive functioning parts of the medicine, while the formulation process combines API with other substances in order to transform it into various drugs. As far as now, China has been the biggest producer of APIs worldwide which produces around 40% of the world's API usage. After the lockdown, China had

gradually resumed pharmaceutical manufacturing operations to dispatch the orders of medical ingredients and pharma intermediates which are mostly backlogged oversea indents. (Ilancheran, Shi) But as the environmental protection policy becomes more and more constraining, many small and medium-sized manufacturing enterprises are facing the risk of collapse, which adds up to the pressure of the production of APIs. And under this circumstance, the yield of APIs and pharmaceuticals not only affects the Chinese market, but also the worldwide supply chain. So this epidemic is a chance for Chinese pharmaceutical manufacturing enterprises to upgrade the system in order to increase the yield.

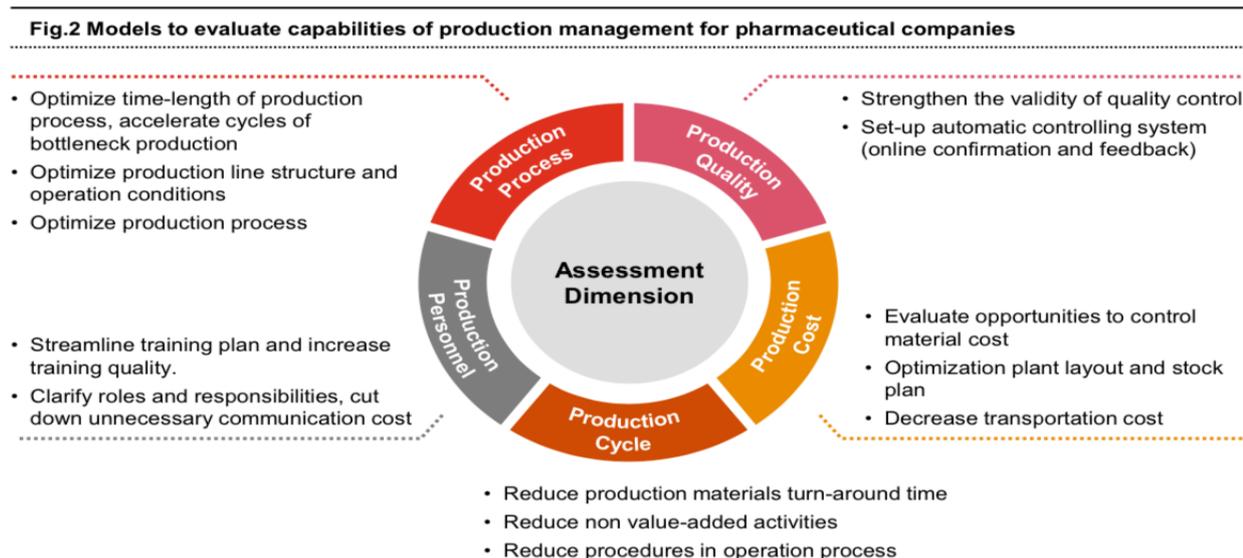


Figure 18: Models to evaluate capabilities of production management for pharmaceutical companies

This sudden widespread contagion of coronavirus detected the shortcomings of China's medical system, which made it crucial to sum up the experiences and seek for new opportunities in adversity, and now the COVID-19 pandemic opens the window for China's digital transformation in the pharmaceutical industry. Due to the massive outbreak, offline hospitals are packed with coronavirus-infected patients, which makes the hospital a high-risk place for cross-infection, so the advantages of internet hospitals become obvious under this situation. China's internet medical treatment modes can be classified as: minor consultations, internet hospitals and remote consultations. (Cai, Gilbraith, Jia) Minor consultation mainly serves as interrogation which is not allowed to do any diagnosis or prescriptions. The internet hospitals are authorized to deal with common diseases and further consultations of chronic diseases. And remote consultation can work through phone calls and video meetings, which is more convenient and safe under the situation when the patient's clinical request is straightforward. And the follow-up treatment can be independent of doctor intervention, the patient can get medicines from online pharmacies according to the prescription. Online consultation can not only reduce the probability of cross-infection, but can also ease the pressure of offline hospitals by preliminary screening the patients to guide only suspected cases to hospitals in order to most effectively allocate the limited medical resources. Especially in the case where COVID-19 is highly contagious and life-threatening, digital treatments can protect both the patient and the doctor. Moreover, the hospital overcrowding problem can also be solved by the establishment of the Hierarchical Treatment System (HTS). Back in 2003 when SARS impacted China, where the situation was rather similar, and the government had established the basic HTS which largely increased the efficiency of health resources and reduced the expenses of medical treatments. So when COVID-19 first hit the public, the medical institutions was able to

react relatively faster. Yet there is still space for improvements, which this time more emphasis was put on the function of community medical institutions. The promotion of HTS can also reach the goal of patient selection and resource allocation. (Campy, Wang, Zhao, Zhou) The COVID-19 pandemic did bring unmeasurable damage to the economy, yet on the other hand, it also accelerated the promotion of China's digital transformation and the hierarchical treatment system.

Even though the demand for medical ingredients and instruments is rapidly increasing, the revenue it brings to China's whole pharmaceutical market is only temporary. Under the currently overall depressing economic environment, the pharmaceutical industry is without expectation facing negative influences. (Dionisio, Mandurnekar) But this "pressure test" also opens up opportunities to improve and draws China towards innovation and development. China had effectively managed the COVID-19 outbreak after a struggling anti-virus warfare, and the clinic experiences accumulated from the significant number of patients are valuable information to the treatment of coronavirus in all nations since the COVID-19 pandemic had become a worldwide problem by the early 2020. Therefore, China is at a competitive standing in the market with great potential as the capital market provides strong support for China's pharmaceutical research and development. Driven by the government policy and preponderant resources, China's medical innovation progress will turn into a new pattern of globalization.

Section 3: Manufacturing industry

China, being the world's largest manufacturing economy and exporter of goods, has become an integral link in global supply chains. As the first country affected by the pandemic, Chinese government has implemented strict anti-pandemic measures such as quarantine, control of the movement of people, lockdown and restrictions on exit and entry. These measurements helped China quickly contained the spread of pandemic, but they have affected the country's manufacturing industry in some extent. This section will mainly focus on how China's manufacturing sector was constrained during the pandemic, what kind of turmoil did the global market gone through, how will the pattern of international market be affected.

Background

Despite China's ongoing economic restructuring, the value created by manufacturing remains an important part of GDP. In 2019, value-added from manufacturing accounted for 27.17% of China's GDP, which is a bit lower than the 27.84% in 2018. (Fast Easy Finance network) In addition to domestic consumption, many goods are shipped around the world every year. China, as the world's top trader, accounted for 12.4% of global trade, which was \$4.6 trillion, in 2018. (CSIS ChinaPower) According to data, China mainly exports communications products, steel, ceramics, clothing, textiles, metallurgical raw materials, high-tech products, auto parts, energy products, building material. The goods that China mainly exports can be characterized as Labor-intensive products, which are basic industries and articles for daily use. Though many countries now turn to southeast Asian countries to import these products, China still has its comparative advantage due to the advanced communication facilities and production process. China mostly imports high-tech products (chip), crude oil, ore, machine parts, precision instruments, wood, most of them being raw material of manufacturing. A look at China's main imports and exports shows that China plays an important role in the world trade. At the same time, from the perspective of historical data, China's import scale and export scale change in the same direction, and the emergence of this phenomenon is determined by China's economy and foreign trade structure.

How China's manufacturing sector was constrained during the pandemic

As the first country to suffer from the pandemic, China has put in place strict control measures to prevent the widespread of disease. These measures keep people safe, but they also pose a challenge to the manufacturing industry. In the short term, the prevention of the pandemic and the quarantine influenced the normal production and the logistics operation, which in turn affected the continuity of global supply and satisfaction of customers' demand. Many enterprises were faced with the problem of order default. Although COVID-19 broke out during the traditional Chinese festival which was always the manufacturing slack season, industries were still being hit hard. Workers who returned to their hometown to celebrate the festival could not return to work on schedule. Domestic manufacturing and logistics enterprises have been idle for a long time, and the recovery rate of production capacity is also inconsistent. Under the COVID-19 Pandemic, enterprises were unable to effectively open production lines and the had difficulty in supplementary recruitment. It may also be unable to start work because of inadequate allocation of pandemic prevention materials and supporting infrastructure. Different regions have different epidemic severity and inconsistent control efforts, which also leads to the mismatch between the upstream and downstream of the whole industrial chain for resuming work. Some enterprises are ready to start work, but their suppliers may not be able to resume work.

In those regions more affected by the epidemic, the situation is even less optimistic. For example, the manufacturing of optical chips in China is highly concentrated in Wuhan (the first city to

discover COVID-19, an area where patients are concentrated) and the operation was insufficient due to the pandemic. Many downstream companies in the optoelectronics industry relied on suppliers in Wuhan and had no backup in other regions. Serious shortages were common among these companies. Provinces that near Hubei (where Wuhan belongs to) such as Hunan, Henan, Sichuan were big provinces for labor output and the policy of lockdown had severe impact on the transferring of personnel. For provinces like Guangdong and Zhejiang which were also hit hard by the pandemic were big provinces for foreign trade.

To made matter worse, the pandemic showed its worse side to labor-intensive industries. From January to February 2020, China's export fell by 15.9 percent, while exports of labor-intensive products fell by 18.8 percent. (Xingqian Li)The more labor-intensive enterprises were, the harder they were hit by the pandemic. The quarantine measures for epidemic prevention and control were firstly to restrict the movement of people, so the more labor-dependent enterprises are, the more passive they become. However, more automated factories can operate on a few people, so it is less difficult to resume work.

Turmoil that the global market gone through

The passage will be focusing on the challenges experienced by countries around the world in chronological order. The first part is the dramatic change in supply and demand caused by the Chinese blockade. The second part is the global outbreak of the pandemic since March and how it aggravated the situation that the manufacturing industry in China faced in import and export.

Part-1

Many countries depend on China, such as those in Southeast Asia, East Asia and South America, which are major producers of raw materials, while China, as a major manufacturer and consumer, buys a lot of their products and promotes their economic development. At the same time, China also sells OEM goods, electronic products, auto parts and light industrial products to Europe and The United States. Up to now, China accounts for about 20% of global trade in manufactured intermediate goods.



Figure 19: China Integration in global value chains, by sector

From the perspective of product classification, China plays an extremely important role in global market in the manufacture of precision instruments, machine, Automotive, communication

equipment, electrical machinery, etc. They are both labor-intensive industries and will be highly influenced by the pandemic because Crowds and mass return to work are not allowed in January or February.



Source: National Bureau of Statistics of China

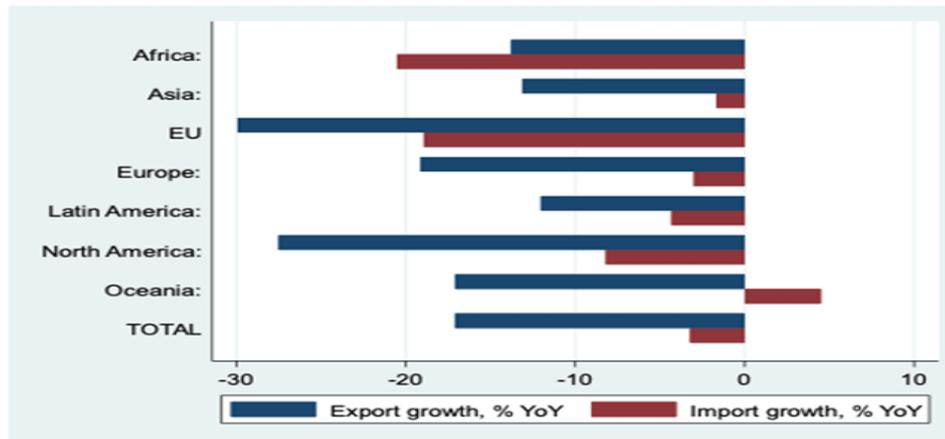
Figure 20: China's Purchasing Managers Indices

The data above shows a drastic decline in China's output until February 2020 by using Purchasing Managers Indices which is a critical production index. According to a report done by the United Nations on "Global Trade Impact of the Coronavirus epidemic", "This index is highly correlated with exports and such a decline implies a reduction in exports of about 2 percent on an annualized basis. In other words, the drop observed in February spread over the year is equivalent to -2 percent of the supply of intermediate goods." (United Nations UNCTAD)

In the first two months of 2020, China's total imports and exports in US dollar terms reached US \$592 billion, down 11% year-on-year. Exports totaled us \$292.45 billion. Compared with the same period last year, it decreased by 17.2%. Imports totaled US \$299.54 billion, down 4% year on year; A trade deficit of \$7.1 billion. (General Administration of Customs, P.R.China)The COVID-19 epidemic has had a serious impact on China's foreign trade, and the pressure on exports is more evident from the current data.

In the first two months of this year, according to statistics by product category, China's largest exports were machinery and electrical equipment, totaling 128.7 billion US dollars, accounting for 44% of the total, down 16.1% year-on-year. It was followed by textile raw materials and their products, totaling 29.4 billion US dollars, accounting for 10.1%, a year-on-year decrease of -20.2%. Third place went to miscellaneous goods, with a total of 18.2 billion US dollars, accounting for 6.2%, a year-on-year decline of -22.8%. Only mineral exports grew, up 7.2% to \$7.7 billion. The others were down by more than 10 per cent. (General Administration of Customs, P.R.China)

Exports and imports between China and the regions of the world (% change) between Jan and Feb, 2019 and Jan and Feb, 2020



Source: General Administration of Customs of People’s Republic of China (GACC)

Figure 21: Changes in China's trade with other countries in January-February 2020

The above picture illustrates the changes in China's trade with other countries in January-February 2020. It is obvious that the trade volume between China and most regions decreased significantly in January and February compared with the same period last year.

It was obvious that the pandemic had caused China's industry to reduce production. On the one hand, it had seriously affected the export of industrial products, and on the other hand, it had greatly reduced the demand.

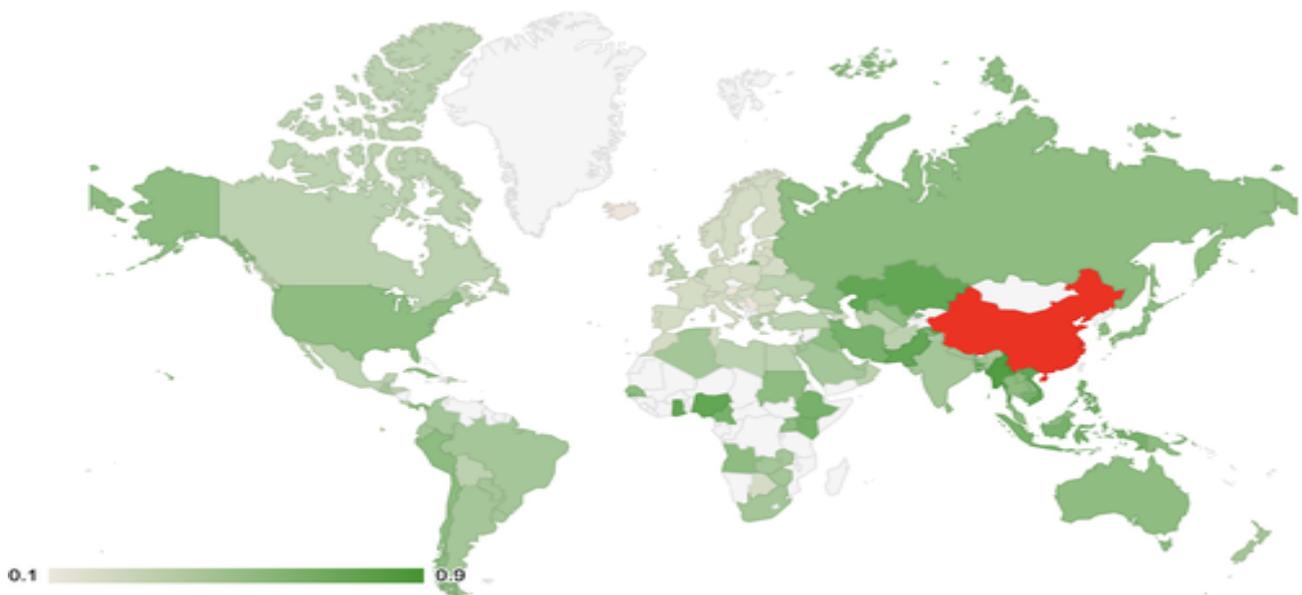


Figure 22: Projected chart, percentage decline in the world economy due to the outbreak in China

The above figure illustrates country level output drop geographically due to China’s production stagnation. These data are based on manufacturing labor loss of China (take the data of Hubei province as references and carry on the estimation. China's Labor force is also divided into formal and informal, informal labor is difficult to calculate, the team was to estimate the number), the degree of economic dependence of other countries to China. The researchers eventually compare manufacturing sector's losses to the 2017 figures. (because the us-china trade began in 2018, the

researchers wanted to eliminate the factors)

According to the data, Asian countries, some African countries, Australia and America are greatly influenced by the stoppage of China's economic because they have a close trade relationship with China and China is also the largest trade partner of many countries. For European countries, which seem to be less affected by the outbreak of epidemic in China do have less damage. However, some of their industries such as machinery, automotive, and chemicals production was hit heavily.

To sum up, during the first two months since the outbreak (January and February) the majority of the countries worldwide faced a great loss in economic because of the economic stoppage in China, which was an important manufacturing producer and consumer.

Part-2

Since March, the pandemic has spread rapidly in many parts of the world. The United States, the European Union, Japan and the South Korea, as large economies, were the worst-hit areas by the disease and they had a great influence on China's industries.

South Korea's electronics and auto industries have been shut down because of the Covid-19 outbreak, while Japan's manufacturing, retail and service industries have also been severely affected by the outbreak. In terms of trade, public information shows that in 2018, South Korea mainly exported mechanical and electrical products, transportation equipment, base metals and products to the world; They mostly exported mechanical and electrical products, chemical products, optics, clocks and medical equipment to China. The top three categories of Japan's major exports to the world are mechanical and electrical products, transportation equipment and chemical products.

China is exposed to Japan and South Korea in mechanical and electrical products (especially auto parts, semiconductors), chemicals (especially new materials) and other fields. The spread of the epidemic in Japan and South Korea impacted the domestic semiconductor industry and automobile manufacturing industry in the middle and lower reaches.

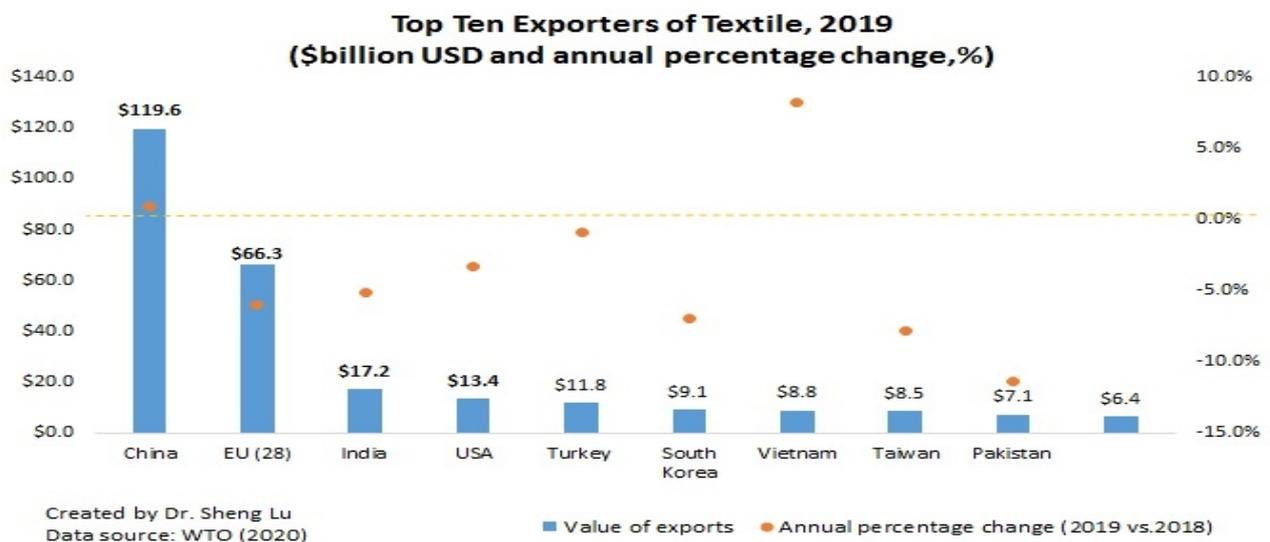
As for European countries and the US, China mainly imports industrial finished products, including transportation equipment, mechanical and electrical products, chemical products, optical clocks, and medical equipment. China mainly exports mechanical and electrical products, chemical products, furniture, toys, textiles, and raw materials as well as base metals. In 2018, China maintained a large trade surplus with EU and the US, which indicate the reduction in demand caused by the pandemic in European and American countries will have a greater impact on China's trade.

Since April many garment factories, shoe factories, yarn factories and fabric factories in China have decided to temporarily suspend. Consumer markets in Europe and the United States were following the Chinese market into a downturn, and brand customers have become cautious, canceling and postponing orders from March to June, and it was still difficult to judge the market after June. With many spring and summer clothes already arriving in warehouses and stores, wholesalers and brand owners were also under great pressure. If clothes remain unsold for a long time, stores' cash flow would be strained.



Figure 23: The number of stores closed by fashion brands due to the epidemic

The above figure shows the number of stores that some of the fashion brand closed during March. The charts below show the world's top ten exporter in clothing and textile industries, with China topping the list. As a major exporter of clothing and textile products, China is the most sensitive to the changes in the garment industry. The large-scale sharp decrease in demand will greatly impact China's manufacturing industry and trade. In fact, many factory owners complained that the price of raw materials and the number of orders had plummeted.



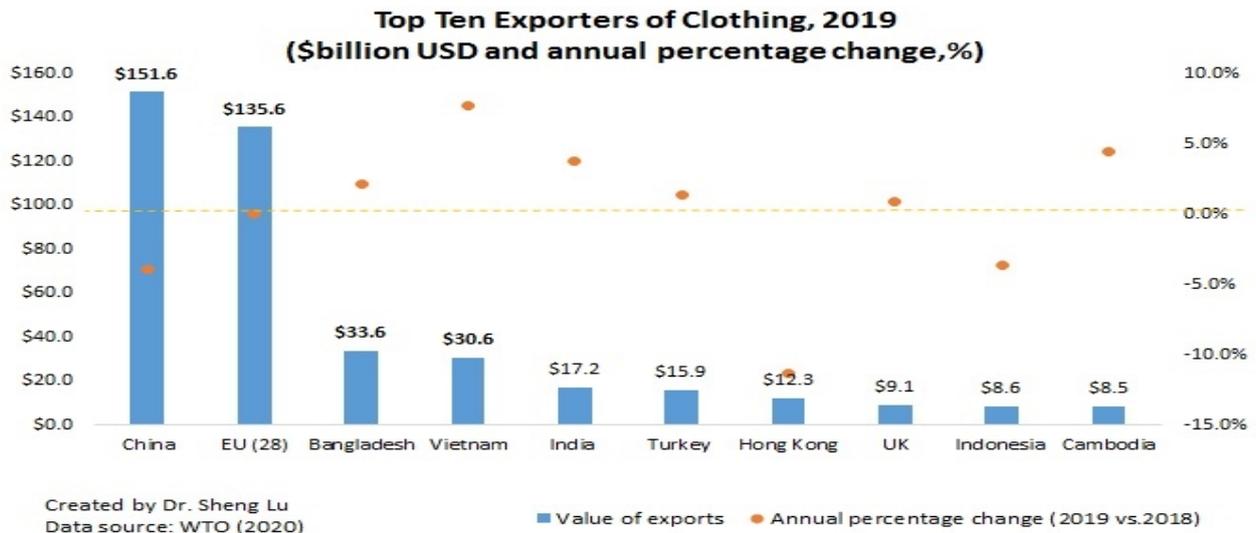


Figure 24 & 25: Top ten exporters of textiles in 2020 & Top ten exporters of clothing in 2020

In conclusion, the outbreak of COVID-19 in the world had extreme effects on China's multiple manufacturing sectors. In the face of declining purchasing power, the closure of physical stores and factories, the cancellation or postponement of orders received by many Chinese factories caused by the pandemic, the export and import level remained low.

Changes in China's foreign trade strategy

COVID-19 pandemic, as the unpredictable catastrophe that hit the world heavily in 2020, served as a booster of change. It has changed the trade patterns of many countries and accelerated some of the adjustments that are under way. As the most vocal nation on this topic, China faces both passive adjustment and active change in global trade.

In recent years, as labor prices have risen in China, many countries have stopped building factories in China and turned to places like Southeast Asia. In the early days of the outbreak, as the country most affected by the epidemic, China's production was greatly affected, and many enterprises even accelerated their decision to move their production out of China. A report published in March showed that Daikin has said it is considering moving assembly of commercial air conditioners from Wuhan to Malaysia or other countries, possibly shifting production of key products such as compressors to Japan or Thailand if delays continue. In late January, Foxconn made provisions to move some production to India and Taiwan for filling Apple's orders. Asics, a Japanese sportswear company, said it was preparing to move outsourced production in Wuhan to Vietnam and Indonesia. Faced with such a situation, Chinese government are actively changing the manufacturing enterprises and the foreign trade strategies.

Today, China's industry and policy community are working together to achieve the following two changes: from "excess capacity" to "flexible capacity", which can increase the flexibility of China's economy in the face of exogenous shocks; The shift from "Made in China" to "designed in China", which will help China become more competitive. Besides, high-tech fields such as 5G, artificial intelligence and the Internet experienced a minor impact caused by the pandemic than labor-intensive industries.

China's foreign trade strategy has also been adjusted. Influenced by the sharp decline in trade with western countries in the early stage of the pandemic and the insufficient control policy of the

disease in western countries during the global outbreak, the Chinese government decided to strengthen its ties with Asian countries (which can be clearly seen on the below figure). According to data released by the General Administration of Customs, China's total trade in goods with ASEAN reached 2.09 trillion yuan in the first half of 2020, up 5.6% percent year-on-year. Among them, China's export to ASEAN was 1.15 trillion yuan, with a year-on-year growth of 3.4%. The import volume from ASEAN was 938.57 billion yuan, with a year-on-year increase of 8.5%. ASEAN has historically risen to become China's largest trading partner, replacing the EU. (Li)

The rise and fall of the volume of trade between China and its major trading partner from January to March 2020

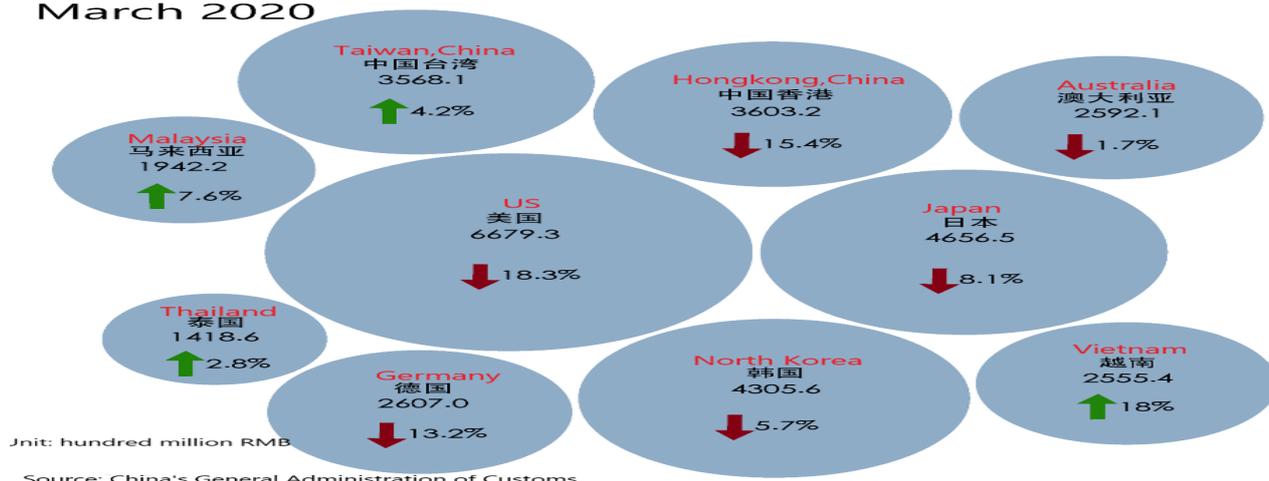


Figure 26: The rise and fall of the volume of trade between China and its major trading partner.

To sum up, the epidemic has posed great challenges to China's foreign trade manufacturing industry. While actively optimizing the industrial structure to make China's manufacturing industry more internationally competitive, the Chinese government is also looking for new trading partners, which makes China's foreign trade more stable.

Appendixes:

Fig. 1 to 9. *China's foreign trade*. Retrieved August, 2020 from https://www.sohu.com/a/407794186_120209831

Fig. 1 to 9. *China's foreign trade*. Retrieved August, 2020 from https://mbd.baidu.com/newspage/data/landingsuper?context=%7B%22nid%22%3A%22news_9708663552640367967%22%7D&n_type=0&p_from=1

Fig. 10 & 11. *Import and Export of food industry*. Retrieved August, 2020 from COVID-19 Trade Policy Database: Food and Medical Products, World Bank: <https://www.worldbank.org/en/topic/trade/brief/coronavirus-covid-19-trade-policy-database-food-and-medical-products>

Fig. 12. *Summary of Imports and Exports (In USD) B: Monthly*. Retrieved August, 2020 from General Administration of Custom, P.R.China: <http://english.customs.gov.cn/Statics/1550cdcd-3075-4f7a-940b-77b0c2c2f16b.html>

Fig. 13. *Soybean oil market trend chart of the European market*. Retrieved August, 2020 from Ministry of Commerce of the People's Republic of China: <http://price.mofcom.gov.cn/pricequotation/pricequotationdetail.shtml?seqno=25>

Fig. 14. *Soybean oil market trend chart of the Chinese market*. Retrieved August, 2020 from Ministry of Commerce of the People's Republic of China: <http://price.mofcom.gov.cn/pricequotation/pricequotationdetail.shtml?seqno=155>

Fig. 15. *Wheat market trend chart of the American market*. Retrieved August, 2020 from Ministry of Commerce of the People's Republic of China: <http://price.mofcom.gov.cn/pricequotation/pricequotationdetail.shtml?seqno=15>

Fig. 16. *Wheat market trend chart of the Chinese market*. Retrieved August, 2020 from Ministry of Commerce of the People's Republic of China: <http://price.mofcom.gov.cn/pricequotation/pricequotationdetail.shtml?seqno=144>

Fig. 18. *Models to evaluate capabilities of production management for pharmaceutical companies*. Retrieved August, 15th, 2020 from <https://www.pwccn.com/en/healthcare/publications/epidemic-response-covid-19-issue-2.pdf>

Fig. 19. *China Integration in global value chains, by sector*. Retrieved August, 2020 from <https://unctad.org/en/PublicationsLibrary/ditcinf2020d1.pdf?user=1653>

Fig. 20. *China's Purchasing Managers Indices*. Retrieved August, 2020 from <https://unctad.org/en/PublicationsLibrary/ditcinf2020d1.pdf?user=1653>

Fig. 21. *Changes in China's trade with other countries in January-February 2020*. Retrieved August, 2020 from

Fig. 22. *Projected chart, percentage decline in the world economy due to the outbreak in China*. Retrieved August, 2020 from

<https://onlinelibrary.wiley.com/doi/full/10.1111/coep.12482>

Fig. 23. *The number of stores closed by fashion brands due to the epidemic.* Retrieved August, 2020 from

https://www.sohu.com/a/381602065_788506

Fig. 24 & 25. *Top ten exporters of textiles in 2020 & Top ten exporters of clothing in 2020.* Retrieved August, 2020 from

<https://shenglufashion.com/2020/08/03/wto-reports-world-textiles-and-apparel-trade-in-2019/>

Fig. 26. *The rise and fall of the volume of trade between China and its major trading partner.* Retrieved August, 2020 from

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