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The US-China Competition: Industrial Chain and the Future of Systemic Great Power

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ABSTRACT

The global supply chain system driven by U.S.-China strategic competition faces a new contraction, adjustment, and reconstruction pattern. Facing the current possible development directions such as "limited globalisation", "de-globalization", and "de-China-ization", the global supply chain system, especially the role of China in supply chain engagement, will become more and more uncertain. From the perspective of China's response, this paper proposes several key response strategies and presents a win-win alternative for developing countries.

Keywords: Global Supply Chain, Industrial Chain, Dual Circulation, US-China Competition

1 INTRODUCTION

In March 2018, then-President Trump demanded tariffs imposed on goods imported from China based on "China's theft of US intellectual property and trade secrets," involving an estimated $60 billion in goods (Nytimes.com, 2018). It is the beginning of the US-China trade dispute (USTR, 2018).

Since then, the US has launched a technology blockade policy against Chinese high-tech companies headed by Huawei and ZTE (Mascitelli & Chung, 2019). It denotes that the US and China have entered a period of comprehensive strategic collision. Not only do they compete with each other in economics, but also technological innovation (Wang & Zeng, 2020).
The devastating and ongoing effects of COVID-19 is strengthening resolve in the United States to consider ways to entrench 'economic distance' from China. Even with Biden in the White House in 2021, that sentiment remained. US authorities raised the 3Ds rhetoric of Diversify, Disentangle and Decouple of supply chains (Lee, 2020).
In March 2021, only 45 days after Biden was elected, the "Interim National Security Strategy Guidance" was released. The "Guidance" is the first draft and framework of the Biden administration's National Security Strategy Report (Biden Jr, 2021).

The US Secretary of State Blinken delivered his first foreign policy speech on the same day that the "Guidance" came out. He listed China as the most significant geopolitical threat of the century. He argued that China could continuously challenge a stable and open international order. Whether in economy, diplomacy, military or science and technology, China has become a big power with the comprehensive application of these capabilities (USAGov, 2021).

The US government has put forward the concept of "The Great Power of Systemic". The US government has tagged the label on their perception towards China, and it also shows that the US-China trade war has entered a stage of systemic competition (Korkmaz & Turan, 2021). The supply chain plays a significant role in this systematic competition between the US and China.

Intel's announcement at the end of 2021 that it would ban products from Xinjiang altogether was a harbinger of "multinational involvement in geopolitical disputes between China and the United States" that would be repeated in the coming years. The US will try to curb China's development by frequently disrupting the supply chain (SWP, 2021).

"How to reduce the dependence of the American manufacturing industry on China" has become the most core political policy of the US. According to that, the "de-China-zation" of global industrial and supply chains has become irreversible (Liu, 2021).

Last five years, the relationship between U.S.-China has changed unpredictably (Shangguan & Seow, 2022). Although, several scholars have offered their perspectives on the game between the great powers of the US and China from the viewpoint of geopolitics (Lee et al., 2018; Wong, 2021), economic development (Pop & Grigoraş, 2021), and trade disputes (Tyers & Zhou, 2021; Wang et al., 2021). Nevertheless, few researchers from the industrial chain layout try to understand the confrontation between the two countries. Some scholars are willing to pay attention to the suppression and policy adjustment of the US against China, but few researchers observe how China finds a way out of a stalemate (Jin et al., 2021). Scholars focus on the U.S.-China trade gap but fail to systematically review China's "alternatives" (Jeong & Lee, 2021).

Considering the above, the analytical framework is shown： First, it critically reviews the unstable development status. It states the strategies and changes of their respective industrial chain layouts in the past two years from the perspectives of the United States and China. Then from the perspective of China, the current situation and possible development direction of China's industry are analysed through the dual-cycle model. Finally, emerging trends are illuminated by assessing comments from policy practitioners and policy elites, as well as critical signals of changes in government policy.

2. Re-definition of Supply Chain Management

Supply chain management (SCM) was first proposed in the early 1980s. It only focused on logistics management at first (Houlihan, 1985). With the gradual development of economic globalisation, SCM becomes more and more complex (Zhu & Sarkis, 2004).

Yee and Tan (2004) defined Supply Chain Management as integrating other management functions and business processes across organisational boundaries. He stated that a supply chain is not a single business unit anymore but also can be a network.

However, the traditional definition of supply chain management is static (Zamboni et al., 2009). The dynamic environment is not considered (Gammelgaard & Flint, 2012). After the 2010s, more and more scholars have begun to analyse the supply chain from a dynamic perspective (Fahimnia et al., 2015; Kazemi et al., 2019; Khan et al., 2021). Putting the supply chain into a dynamic environment for analysis, how the supply chain works as a system and to be a key factor affecting the dynamic development, and controlling it has become a remarkable new insight from recent policymakers and scholars(Wieland, 2021).

Since the trade war between the US and China began in 2018, supply chain management has become more and more changeable. Numbers of enterprises adopt new supply chain management strategies

to counter geopolitical risks (Choi, 2021; Sodhi & Tang, 2021). The supply chain no longer only pursues resources, low prices and high efficiency, and stability becomes a more urgent demand (Bui et al., 2021). Some scholars put forward the concept of Supply Chain Diversification.

2.1 Supply Chain Diversification

Supply Chain Diversification means that countries or companies manage the risks in the supply chain by using multiple suppliers simultaneously (McMaster et al., 2020). It is a risk-prevention action to prevent over-reliance on some countries or companies as a significant supplier (Zhou et al., 2020). Diversification of supply chains does not necessarily lead to disentangle or to decouple. However, before attempting to disentangle or decouple from suppliers, it must diversify its supply chain system (Lin et al., 2021).

Supply chain diversification can reduce a company's dependence on critical suppliers, but also adds complexity to its management (Handfield et al., 2007). Supply chain diversification is a big challenge to the coordination ability of enterprises. Insufficient coordination ability will reduce enterprises' judgment on the sustainability of the supply chain and even affect the ability of enterprises to respond after the chain is disconnected(Hwang & Min, 2015).To make up for this lack of capacity, companies need to increase additional efforts and investment in personnel and resources to coordinate with more suppliers and customers(Choi & Krause, 2006), meanwhile, communication to different regions and cultural backgrounds will generate more time and costs.

Furthermore, larger customer bases and more complex supply nodes require higher information processing capabilities (Pereira et al., 2014). All of the above will lead to a geometric increase in the number of information flows, physical flows, and relationships (Rushton et al., 2022). When there is a risk of chain breakage, companies with multiple suppliers and customers need multiple interfaces to arrange transportation, and the secondary risk also increases several times (Katsaliaki et al., 2021). In short, to diversify supply chains, companies will pay an additional price to increase their information processing capabilities (Srinivasan & Swink, 2018), especially during a pandemic with a highly volatile and uncertain environment (Ozdemir et al., 2022). Also, failure to coordinate with suppliers can affect production schedules, lead to related issues such as inconsistent product quality, and require additional effort.

2.2 Disentangle Supply Chain

After China promulgated the "Made In China 2025(MIC2025)"(Gov, 2015), the US recognised that China had become a significant actor in power, authority, and wealth distribution in today's world (Regilme Jr, 2019). It is not difficult to find from Figure 1 that in the past 20 years, Global trade power has been quietly shifting. China has become a competitor that the U.S. cannot be ignored. According to data released by Knoema (2020), among countries in the world, only the U.K., France, Canada, and Mexico currently have more trade with the U.S. than with China. There are statistical errors in the trade between "U.S.-India" and "China-India". China has gradually taken the lead in the trade volume with the economies of various countries.

Figure1. US-China as a Global Trade Power Compare
Data from Knoema Data Hub Catalog 2022. Retrieved from
https://cn.knoema.com/infographics/hxkevje/global-economic-trends-us-overtaken-by-china-as-a-global-trade-power

In White House's latest report on building resilient supply chains to revitalize U.S. manufacturing, they propose a new approach: reducing reliance on China by disentangling the Chinese element in the supply chain. The report emphasizes that Chinese components in supply chains need to be stripped away, especially in important technological and strategic areas like semiconductors. It is necessary to prevent China from becoming stronger. At present, the required technical areas that need to be separated include Semiconductor manufacturing and advanced packaging, large capacity batteries, Critical minerals and materials, and Pharmaceuticals and active pharmaceutical ingredients (APIs) (House, 2021). However, the definition of such areas will continue to expand (Lee, 2020).

Although more scholars regard supply chain disentangling as a preventive risk management method, it is also a precursor of decoupling. Especially in the current situation between China and the United States, decoupling means that decoupling will become possible.

2.3 Decouple Supply Chain

Supply chain decoupling represents the last step of the 3Ds strategy and the successful diversification and disentangling of the supply chain. Decoupling implies a complete split from China in the supply chain or sector (Lee, 2020).

However, until 2021, China still takes the top 1 import by country and over Vietnam (Top2 country) almost 35.2%. See Figure 2 as follows.

U.S. Imports by Country | 2021

Country	Percent of U.S. Imports	Number of U.S. Imports
China	41.5%	3,139,939
Vietnam	6.3%	474,305
India	4.8%	359,675
Germany	4.0%	301,815
Taiwan	3.3%	249,465
South Korea	3.3%	248,959
Italy	3.1%	236,731
Japan	2.4%	182,636
Thailand	1.9%	145,421
Belguim	1.8%	136,298
Spain	1.6%	119,431
Indonesia	1.5%	116,989
Brazil	1.4%	107,471
Hong Kong	1.4%	107,428
Mexico	1.4%	105,763
Malaysia	1.1%	84,990
France	1.0%	77,469
United Kingdom	1.0%	76,557
Everywhere Else	17.2%	1,298,985

All countries with 1%+ of global imports of the U.S. between January 1 and June 30, 2021 shown. See Methodology for more and contact Jungle Scout for the complete list.

Figure2. U.S. imports by country in 2021.
Adapted by JungleScout (2021), Global Imports Report 2021

Figure 3 shows the trend of US imports from 2015 to the first half of 2021. The top 10 countries have consistently captured ~70% of the total share of importance to the U.S. since 2015, with China accounting for about 40% of the entire claim. Although, the percentage of U.S. imports has fluctuated in recent years, with Vietnam consistently gaining share and India bouncing back from a challenging 2020. Compared to early 2020, India, Vietnam, and Italy are the countries that increased their share of total U.S. imports the most. Australia, New Zealand, and Canada experienced declines during this same period (JungleScout, 2021).

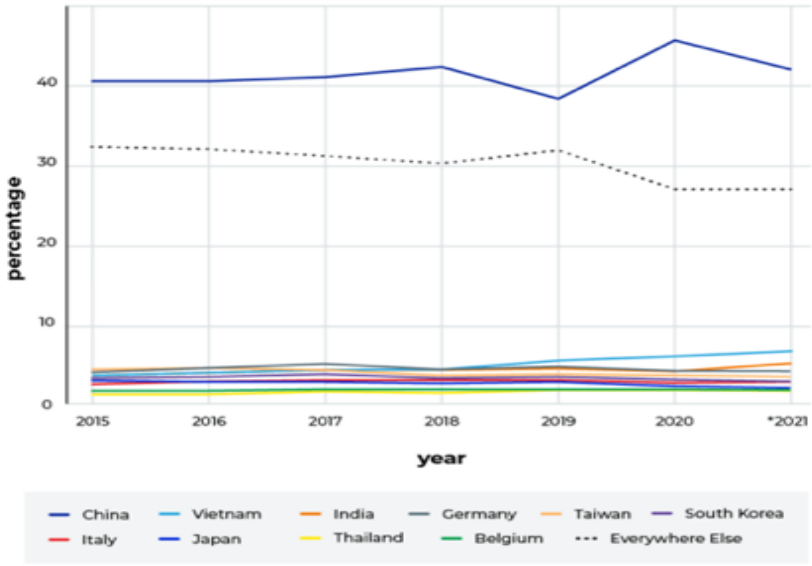

Figure3. Share of U.S. Imports by Country between 2015 and 2021.
Adapted by JungleScout (2021), Global Imports Report 2021

However, among the top ten importing countries and regions, China has always been at an absolute advantage, which also made the U.S. authorities see the vulnerability of its supply chain and put forward the concept of "de-China-ization" in early 2021.

2.4 De-China-ization

A 250-page supply chain analysis report released by the White House in early 2022 pointed out that five drivers lead to the fragility of the U.S. supply chain (House, 2021).

2.4.1 Insufficient manufacturing capacity

After the 21st century, the manufacturing capacity of the United States is declining. Between 2000 and 2010, nearly one-third of manufacturing jobs were replaced by low-wage countries (Bonvillian, 2017). Economists in the United States have estimated that about 25% of unemployment can be attributed to China's rise, especially after China accedes to the World Trade Organization (David et al., 2013). However, productivity growth in the United States is also not optimistic, with most industries lagging Germany on average (Baily et al., 2020). In the United States today, many small and medium-sized manufacturers do not invest enough in new technology to increase productivity. Contrary to popular belief that "robots are coming", the loss of manufacturing capacity in the United States has resulted in a loss of innovation (Pisano & Shih, 2012). Once innovating is lost, it is not easy to rebuild. When production capacity goes overseas, R&D and the wider industrial chain often move overseas as well.

2.4.2 National policies and current trends

In 2019, the European Union announced a research and development investment of up to 3.5 billion US dollars to stimulate the production of lithium batteries for electric vehicles. It is the strategic plan adopted by the EU to improve its internal competitiveness after the US investment in the domestic industrial base has declined. As the world's most advanced semiconductor chip production area, Taiwan provides companies with subsidy policies, including 50% of land costs and 45% of construction and facilities. Likewise, semiconductor subsidies in South Korea and Singapore have

also reduced the cost of facility ownership by 25-30%. China's promotion policy stands out among other countries. Stimulate domestic production and stimulate the landing of critical supply chains in China (House, 2021).

2.4.3 The rely of the U.S.

Globalization used to be a good option for keeping supply chains resilient. However, on the road of globalization, companies blindly seek to reduce costs and improve efficiency, combined with the incentive policies of relevant countries, resulting in the current geographical concentration of supply chains in a few countries. Such centralization would make U.S. and global manufacturing companies vulnerable.

Whether it is a global pandemic like covid-19 or a geopolitical event, it will easily cause a chain-broken crisis. The United States relies heavily on specific countries and regions in specific industries: 92% of cutting-edge semiconductor production relies on Taiwanese companies. More than 75% of battery manufacturing comes from China. Although India and China are vying for market share in U.S. pharmaceuticals, nearly 70% of India's APIs are imported from China.

Accordingly, the White House proposes the following recommendations to address the short-, medium- and long-term supply chain problems encountered by the United States and make corresponding countermeasures to maintain a distance from China. 1. Reinvigorate the US manufacturing industry by reshaping the supply chain to ensure the production and innovation capabilities of US companies; 2. Through cooperation with allies, reduce the Chinese element in the supply chain to reduce the vulnerability of the global supply chain; 3. Continue to invest and increase incentive policies, and play the role of the government as a market player, so that the US supply chain can gain a firm foothold.(House, 2021).

3. Reshaping the supply chain: what we will gain ?

The above chapter describes the White House's analysis, attitude, and plans which are already underway or in the pipeline. It will have a significant impact on the global supply chain, and the reshaping of the global supply chain will be irreversible.
However, the reshaping of supply chains is a strategic crackdown by the US in response to China's rise. In essence, the comparative economic scale between the United States and China has reached a critical turning point. It is the inevitable result of the actual collision of the comprehensive national development capabilities of the U.S. and China (Shangguan & Seow, 2022). However, it has caused great shocks and oscillations to the world economy and many multinational corporations.

3.1 Re-layout of the industrial chain

At present, this extreme and unilateral trade protectionism in the United States will inevitably be transmitted from the field of investment to the area of trade. The resulting negative effect is that emerging countries and developing countries have fully stimulated their awareness of investment barriers and trade barrier protection in high-end consumer markets. Emerging countries and developing countries have more substantial incentives to promote the independent innovation ability of local enterprises (Zheng et al., 2021). On the other hand, when the U.S. and other western developed countries implement trade protectionism, populism will gradually increase or even explode. Developed and developing countries' populism and trade protectionism will form a fierce confrontation. Under such a trend, the scale of global trade is bound to be severely impacted and shrink sharply. The export market of traditional manufacturing in developing countries will face highly fierce competition. A further drop in profits could trigger deeper populism. The willingness of developing countries to participate in global supply chains will also be further dissipated. Such

negative behaviour will further aggravate the contraction and reconstruction of the global supply chain system. Regional supply chains or joint supply chain systems will become the trend (Tsai et al., 2021).

The exclusive regional trade system formulated by the United States, Canada, Mexico, and other countries has made all countries realize that a balanced game pattern between regions can maximize development benefits (Vu et al., 2021).

The global supply chain system may be gradually decomposed into regional supply chain systems such as Europe, North America, and Asia (Bui et al., 2021). This regional supply chain system and more prominent regional boundaries will make deglobalization possible. Therefore, the industrial chain will also follow the trend of the supply chain to further regionalize (Pla-Barber et al., 2021).

3.2 Reshuffle in the global industrial chain

The seller and buyer countries have formed an interdependent and mutually restrictive interest game pattern in the original global supply chain division of labour and trade system. Take Huawei mobile phones as an example: developed countries use their leading advantages in scientific and technological innovation to create and produce all kinds of advanced production equipment, critical spare parts and critical materials with high-tech innovation content and export them to China. Chinese enterprises Huawei use advanced production equipment from developed countries. Essential spare parts and materials are assembled and manufactured to produce mobile phones or other terminal products, exported to the markets of developed countries and other developing countries to form a global circular system dominated by the division of labour and trade system of development and industrial chain. More importantly, in the worldwide supply chain division of the labour and trade system dominated by the form of "developed countries sell → developing countries buy + developing countries sell → developed countries buy", there is an interdependent and mutually restrictive benefit game and symbiotic pattern between developing and developed countries. Specifically, the "sale" of developed countries and the "purchase" of developing countries are formed in the links of critical spare parts and advanced production equipment with high-tech content.

In contrast, the "purchase" of developed countries and the "sale" of developing countries are formed in the final commodity link of assembly and are mutually beneficial. Win-win trade and benefit cycle mechanism is formed between them (Hauge, 2020).

However, the "U.S. priority" and a series of actions taken by the U.S. against China have broken the balance naturally created by the market (Boylan et al., 2021). Therefore, the interest distribution pattern in the global value chain system will inevitably undergo significant adjustment and reconstruction under the impact of U.S.-China strategic competition. Then it directly leads to the reshuffle and distribution of the industrial chain.

3.3 The impact of different countries

The U.S. ban on Huawei has dealt a fatal blow to the global supply chain system of Chinese high-tech companies. This in turn undermines China's leading position in the global supply chain system. It may even curb the continued rise of the Chinese economy (Kwan, 2020). Therefore, many countries believe that China is the biggest victim of the contraction and reconstruction of the global supply chain system.

However, from the perspective of China's unique comprehensive advantages and deepening opening-up strategy, China is not the biggest victim of this round of contraction and reconstruction of the global supply chain system. Instead, the main victims are Germany and Japan, India, and Vietnam.

Developed economies such as Germany and Japan, which are highly dependent on exports, will undoubtedly become one of the biggest victims of the contraction and reconstruction of the global supply chain system (Mendoza, 2020). Because, as the main beneficiaries of the global supply chain system, Japan and Germany will inevitably suffer considerable losses in the pattern of benefit distribution in the global value chain as long as the existing global supply chain system shrinks and adjusts.

On the other hand, developing countries such as India and Vietnam, which only rely on the advantages of low-cost labor and try to obtain economic development opportunities through export-oriented strategies, will also become prominent development stakeholders in economic contraction and reconstruction. Global supply chain system. In the strategic thinking of India, Vietnam and other countries, the strategic competition launched by the United States against China has brought additional strategic opportunities for these countries to develop manufacturing industries. Therefore, choosing to follow the U.S.'s strategy of challenging China during this critical period can gain tolerance and concessions from the U.S. in occupying China's market share in the global supply chain system. However, the U.S. strategic motivation and core goal is to use import restrictions to expand U.S. exports to solve the dilemma of underemployment and sluggish income growth among the U.S. middle class. Countries such as India and Vietnam cannot import a large amount from the United States, so they will not gain continuous export opportunities and trade surplus space to the United States. On the contrary, the most important thing for the contraction and reconstruction of the global supply chain system is to completely block the space for large developing countries such as India to use the existing global supply chain system to obtain opportunities for export-oriented development. Moreover, the destructive reconstruction behavior strategy of the United States driven by the current global supply chain system and value chain system is bound to stimulate and affect the most fundamental development opportunities and development interests of many other developed countries, large developing countries, and small and medium-sized countries. Large-scale developing countries, the resulting chaos and complex game state, as well as rebound and confrontation effects, are likely to exceed the imagination and control of the U.S. itself (Fajgelbaum & Khandelwal, 2021).

4. From China's perspective：

4.1 "de-China-ization" or "de-U.S.-ization"

From the current situation, the worst of the competition between the U.S. and China may lead to the "de-China-ization" of the global supply chain system (Liu, 2021). It will seriously damage the external environment for China's economic development. However, given the current interdependence of the supply chain between the U.S. and China, the consequences of "de-China-ization" may also mean the occurrence of "de-U.S.-ization".

The leading advantage of the U.S. in the global supply chain now lies in the benign development mechanism that the high-tech multinational companies in the U.S. have formed: 1. Continued massive investment in research and development, and 2. The innovative high rate of return brought by occupying the global high-end consumer market (Bhidé, 2009).

Take the integrated circuit industry as an example. In the past ten years, the investment in the R&D of the integrated circuit industry in the United States was 312 billion U.S. dollars, and it reached 39 billion U.S. dollars in 2018 alone (Matyushok et al., 2021).

In 2018, the global product revenue of the U.S. integrated circuit industry was about $226 billion, twice that of South Korea, five times that of Japan, six times that of Europe, and 15 times that of China (Hart, 2018).

High income is the premise of maintaining high innovation input. However, the market size of the U.S. integrated circuit industry, the U.S. domestic market only accounts for less than 25%, while China accounts for 23%. In the long run, "de-China-ization" will eventually weaken the virtuous cycle mechanism in massive R&D in U.S. hi-tech areas (Grimes & Du, 2020).

Based on China's national conditions, the technological blockade of the U.S. is likely to force and accelerate China's independent rise in the field of international technological innovation and strategic emerging industrial systems. In China's latest 2035 plan promulgated; the government has given a particularly active response to the current blockade of 35 key core technologies (Harold & Kamijima-Tsunoda, 2021). If this U.S.-China game falls into a long-term confrontation, "de-China-ization" will likely turn into "de-U.S.-ization".

4.2 China proposes a new option of " dual circulation"

The "dual circulation" development pattern is not to exclude opening-up and generalise the national system but to consolidate, improve and cultivate internal skills under the environment of poor external circulation (Javed et al., 2021).

It is a countermeasure for the U.S. to contain China's rise. In the short term, it relies on the domestic consumption of the super-large population, and in the long term, it relies on the continuous R&D of enterprises to achieve technological breakthroughs. It combines the reconstruction of the global supply chain with the adjustment of the domestic economic structure to find an exemplary method for import substitution and technological breakthroughs.

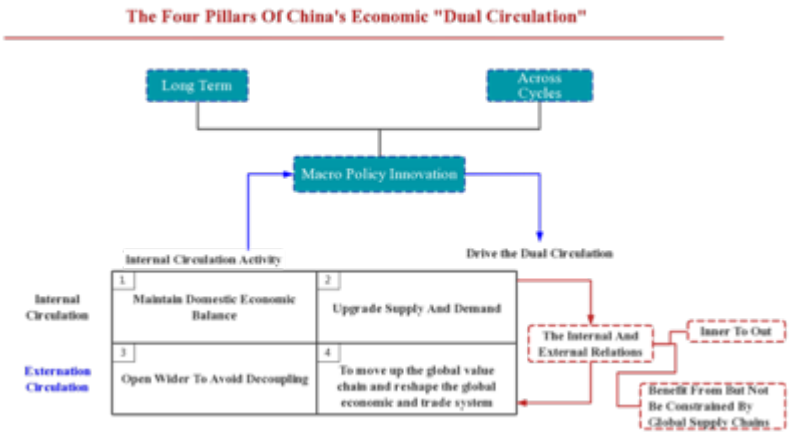

Figure 4. The four pillars of Dual Circulation. Own Work.

Recently, the Chinese government has frequently mentioned accelerating the formation of a new "dual circulation" development pattern. The proposal of "dual circulation" as the most critical governance strategy is by no means accidental. It is a significant judgment made by the central government based on the current more severe international environment and domestic situation that may last for a long time. It is determined by various constraints encountered by chance (Yifu & Wang, 2021).

Figure 4 shows the apparent logical chain behind it is: Based on the significant changes, facing the medium and long term, and based on the protracted war, form a "dual circulation", which should not only solve the problem of poor circulation of domestic demand but also solve the problem of "neck sticking" in the core technology field through greater openness and independent innovation.

In short, the "dual circulation" is a comprehensive system of both passive defense and active attack under the situation of "de-globalisation" and the increased risk of "decoupling" between the U.S. and China. It is a comprehensive measure of "passive response" + "active planning". Also, a response to China and the U.S. in science technology Partial "decoupling" in the economic and trade field is the core of the pressure.

4.3 Connotation of "dual circulation"

Build a domestic circulation based on domestic demand. The domestic cycle is in the dominant position, which is the basis and guarantee of the international process. It is a system aimed at solving economic security. From the perspective of the four links of production, distribution, exchange, and consumption in the economic cycle, unblocking the domestic process requires opening the connection mechanism between income distribution and circulation exchange and organically combining production and consumption. We should support the vast domestic market demand through solid production capacity and feedback the production transformation and upgrading through the enormous domestic market volume; Through the reform of income distribution, we will develop productive social forces and stimulate market vitality.

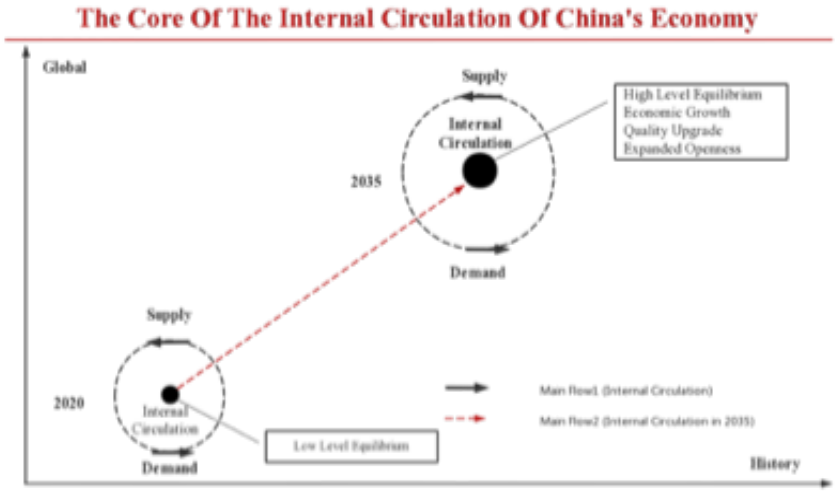

Figure 5. The core of the internal circulation of China. Own Work.

The dual circulation focuses on domestic processes and promotes international circulation. The National Development and Reform Commission emphasized that over the past 40 years of reform and opening, China has deeply integrated into the East Asian financial system and the global economic system, and its comprehensive economic strength has been significantly enhanced (Bi & Zhang, 2021). Its participation in the global economy has steadily increased and it has become a connecting hub for the value cycle of major economies around the world. Global circulation is the extension and supplement of domestic circulation (Lin, 2021).

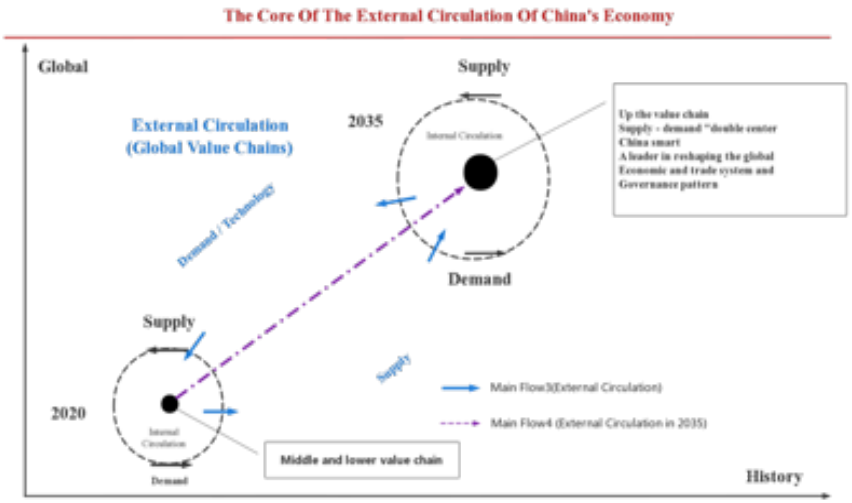

Figure 6. The core of the external circulation of China. Own Work.

So far, more than 163 countries and regions in the world have relations with China through the trade of final consumer goods or intermediate products (Wu et al., 2021). Therefore, in addition to insisting on expanding domestic demand, China also needs to further expand its high-level opening to the outside world. Support the "external circulation" with the "internal circulation" and accelerate the formation of a new development pattern in which the domestic and international dual circulations promote each other.

With the intensification of the anti-international globalization trend and the intensification of the negative impact of the epidemic, China and even the global industrial chain and supply chain have exposed problems such as the disconnection of production, supply, and marketing, and the asynchronous upstream and downstream, reflecting the insecurity, instability and fragility of the world production system (Sodhi & Tang, 2021).

Therefore, China urgently needs to give full play to the super-large-scale processing and manufacturing system and the potential of the domestic market, based on the two major market advantages of domestic production and consumption, and gradually build a mutually beneficial domestic and international dual- circulation mechanism (See as Figure7).

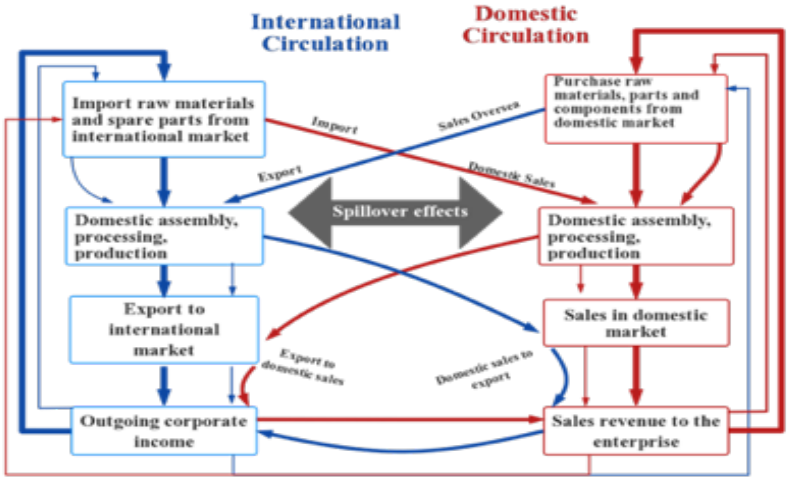

Figure 7. International-Domestic dual circulation (Own work).

5. Conclusion

5.1 China's coping strategy and its key strategies

First, avoid falling into the trap of treating strategic thinking with tactical thinking, and try to trade the concessions and compromises of various short-term interests for the United States to stop or reduce its strategic intention to curb the improvement of China's independent ability of scientific and technological innovation. As a unique, developing country like China, entirely relying on the existing global supply chain system and its export-oriented development strategy can only promote China's transformation from a low-income country to a middle-income country; Relying on the two-way virtuous circle mechanism between China's colossal scale and upgraded domestic demand market and the sustainable improvement of independent innovation ability, it is possible to promote China to continue to develop from a middle-income country to a high-income country. For China at a specific stage, appropriately reducing its dependence on the low-end links of the global supply chain system may be more conducive to implementing China's domestic demand-driven development strategy and the overall transformation and upgrading of its economic structure. In other words, the blockade and containment strategy of scientific and technological innovation launched by the United States against China may not fundamentally cause actual damage to China's core development interests, and the core task facing China is to promote the formation and strengthening of the domestic demand-driven development model as soon as possible.

Second, give full play to the dual incentive role of the government and the market, fully implement the new national system, achieve a comprehensive breakthrough in the critical core technological innovation restricting the current and future essential industrial chains and strategic emerging industrial approach as soon as possible, and ensure the global competitiveness of China's industry and national security. The comprehensive technology blockade and containment strategy launched by the United States against China's local high-tech multinational enterprises have had a significant impact on the safety of China's critical industrial chain and strategic emerging industrial system in the short term, forcing China to implement a comprehensive independent breakthrough strategy in the required core technology innovation fields of key industrial chain and strategic emerging industrial system at present and the future.

At present, China's continuous investment in basic research applied basic research, original innovation, disruptive technological innovation, advanced production equipment, critical spare parts, and critical materials at the national and enterprise levels is insufficient, resulting in a severe lack of independent ability in the field of crucial core technological innovation in key industrial chains and strategic emerging industrial systems. Therefore, the strategy to resolve and crack the national security risks of China's industrial chain and product chain should be to make use of China's unique government and market mechanism, organically integrate the system, actively implement the new national strategy, and focus on the critical core technological innovation fields related to China's economic security. On the one hand, in line with the principle of fair competition, the state must make full use of and encourage institutions of higher learning and government-affiliated scientific research institutions to form interdisciplinary, interdisciplinary and interdisciplinary cutting-edge research teams in basic research, applied basic research, original innovation and disruptive technological innovation. Through the sustained massive investment of the government, we can encourage these areas to focus on tackling critical problems. On the other hand, by deepening the integration system of industry, University and research, tax reduction and exemption policies, preferential listing and financing policies, and various enterprise research funding plans given by the government based on the principle of market competition, we can mobilise and encourage enterprise departments to invest in high-intensity and sustainable research in advanced production equipment, essential parts and components and critical materials, to form a micro-enterprise led New joint research teams and enterprise groups strongly supported by the government.

Third, go beyond the simple dichotomy of state-owned enterprises and private enterprises, give full play to the synergy of state-owned enterprises and private enterprises in China's current and future critical industrial chains and strategic emerging industrial system, especially grasp their joint role in breaking the "neck" of key core technological innovation restricting key industrial chains and strategic emerging industrial approach. In particular, we should pay attention to the essential role of joint-stock enterprises in China's market competition mechanism. The United States and some western developed countries accuse China of violating the WTO market fair competition mechanism. One focus is state-owned enterprises. Therefore, how China scientifically defines the essential position of state-owned enterprises in the national economy and scientifically considers the specific expression of public ownership in China is not only related to the practical form of China's basic socialist principles but also related to China's essential positioning of how to adhere to the strategy of deepening opening to the outside world and further integrate into the global system. From the perspective of improving the independent ability in the field of crucial core technological innovation that restricts China's current and future critical industrial chains and strategic emerging industrial system, as well as China's comprehensive strategic task of building an innovative country, we must also have a new understanding of the expression form and strategic positioning of state-owned enterprises. On the one hand, we should take the initiative to give full play to the synergy between state-owned enterprises and private enterprises in China's current and future critical industrial chains and strategic emerging industrial system, especially in the field of breaking the "neck" key core technological innovation restricting key industrial chains and strategic emerging industrial strategy. On the other hand, it is necessary to go beyond the current simple dichotomy between state-owned enterprises and private enterprises, strengthen the essential position of joint-stock enterprises held by the whole people in China's public ownership, take the initiative to make use of the direct channel financing mechanism of listed enterprises, and truly solve the breakthrough of enterprises in the implementation of basic research, applied basic research and critical core technology innovation, And the dilemma of short R & D investment in advanced production equipment, necessary spare parts, essential materials and core processes.

At present, the attitude of the United States towards China is a competitive, life and death, zero-sum game strategy. China is trying to achieve a peaceful rise and hopes to make a steady leap forward through a win-win policy. This contradicts the idea of the United States. In the next few years, the most challenging problem for enterprises, especially multinational enterprises, is how to find their own living space among big countries. The United States is inevitably far more robust than China in the field of high-end science and technology, and China's manufacturing capacity and efficiency in the middle and low end are unmatched by any country. It isn’t easy to occupy dividends on both sides as a multinational company in two or three years. Only cause the lowest loss by reorganising the supply chain layout.

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