

# System construction and practice test of trade circulation theory—Based on the critique of the conjugate circulation theory

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**Abstract:** The theory of trade circulation refers to the analysis of the circulation path and mechanism of global trade flows, revealing the exchange mode of goods and services between different countries and regions and its influencing factors. The theory focuses on the role and effect of trade in the global economy, and discusses how trade affects national economy, industrial structure and global economic order through various channels. It is of great guiding significance for international trade policies, development strategies and economic growth patterns. This study discusses the applicability and effectiveness of trade circulation theory in the context of global economy, analyzes its core concepts, basic assumptions and theoretical framework, and finds that trade circulation theory can effectively explain complex phenomena and dynamic changes in global trade, and provide theoretical support for optimizing trade policies and promoting international cooperation. Through the discussion of conjugate circulation theory and two-way convection model, the characteristics and challenges of trade under different economic systems and market conditions are revealed, and the reference for formulating flexible and effective trade policies is provided. This paper also analyzes the transformation and development of the Hong Kong Free Trade Area, explains the practical significance of the application of the theory, and emphasizes the importance of in-depth understanding and application of the trade circulation theory under the background of globalization and economic change.

**Keywords:** Trade circulation theory; Conjugate circulation theory; Global trade

## 1. Introduction

### 1.1 Research Background

With the deepening of globalization, trade is no longer limited to a single country or region, but has formed a complex global trade network. As a theoretical framework for analyzing and explaining global trade flows, the theory of trade circulation is particularly critical. It helps to understand the interdependence between economies and changes in trade patterns by exploring the global flow of goods and services and the factors that influence them. In this context, in-depth study of trade circulation theory will not only help optimize trade policies and promote international cooperation, but also provide more accurate decision-making basis for economic policymakers.

At the same time, with the progress of science and technology and the wide application of information technology, the mode of trade and market interaction have also undergone profound changes. Traditional trade theories and models may no longer be fully applicable in today's complex trade environment. Therefore, an in-depth study of the trade circulation theory can not only reveal the deep-seated motivations and laws behind trade behavior, but also provide theoretical support and practical guidance for coping with the new challenges facing global trade. These challenges include but are not limited to the rise of trade protectionism, the rise of emerging market economies and the impact of digital economy on traditional trade patterns. Therefore, the study of trade circulation theory is particularly urgent and necessary.

### ***1.2 Research purpose and significance***

The purpose of this study is to systematically analyze the applicability and effectiveness of trade circulation theory in the context of global economy. By deeply exploring the core concepts, basic assumptions and theoretical framework of trade circulation theory, we can better understand and explain the complex phenomena and dynamic changes in global trade. It can also explore the applicability of trade circulation theory in different economic systems and market conditions, so as to provide more forward-looking and operational suggestions for global trade governance and international economic policies.

This study aims to provide practical guidance to trade policymakers, business decision makers, and academics on how to optimize trade flows and promote economic growth. With the deepening of global economic integration today, the in-depth study of trade circulation theory has important policy significance and practical value. Through in-depth understanding of trade circulation theory's ability to explain trade flows and its positioning in global value chains, it can provide theoretical support for countries to formulate more flexible and effective trade policies. In addition, the study of trade circulation theory can also promote the further improvement of international trade rules and systems, so as to promote the development of the global trade system towards a more fair, open and inclusive direction. To sum up, the significance of this study is to deepen the theoretical understanding of trade circulation theory and improve its empirical research level, so as to cope with the new challenges and opportunities brought by globalization and economic change.

### ***1.3 Research Methods***

This study will use literature research method, theoretical analysis and case research method to explore the trade circulation theory, systematically comb out and analyze the relevant research results and theoretical framework of the trade circulation theory at home and abroad, so as to establish the theoretical basis and analysis framework of the research. Through the comprehensive examination of historical development, main views and controversies, we can deeply understand the formation background and theoretical evolution of trade circulation theory.

## **2. Literature Review**

### ***2.1 Development of trade circulation theory***

As one of the important theories in the field of international trade, the development of trade circulation theory is full of rich exploration and changes. From the early economists' basic analysis of trade to the later complex models and empirical studies, the theory of trade circulation has evolved and enriched, profoundly affecting the development direction and practical application of international trade theory. This section will systematically review the development of trade circulation theory from the aspects of its initial formation, the evolution of key ideas, and the application and development trend of the theory. The germ of trade circulation theory can be traced back to the early trade theory of economics, especially the theoretical exploration of the basic principles and effects of international trade. Economist Adam Smith first put forward the theory of absolute advantage in his classic book *The Wealth of Nations*, emphasizing that countries should focus on industries with their own absolute advantage in trade. Smith's theory laid the foundation for the later international trade theory, especially the analysis of the impact of trade flow, market efficiency and welfare, and became one of the theoretical starting points of the trade circulation theory<sup>[1]</sup>.

With the passage of time, the trade circulation theory has gradually expanded from the single absolute advantage theory to the more complex comparative advantage theory and relative advantage theory. David Ricardo's comparative advantage theory emphasizes the relative cost advantage of international trade. Even if a country does not have an absolute advantage in all commodities, it can still achieve trade expansion and economic growth through specialization and trade. This theory not only deepens the understanding of trade benefits and resource allocation efficiency, but also provides a new perspective and method for further exploration of international trade patterns and structures in the theory of trade circulation<sup>[2]</sup>.

The theory of trade circulation has been further developed in the 20th century, especially in the context of globalization and economic integration, and its theoretical content and research methods have been significantly enriched and expanded. The emergence of new trade theories, such as

protective trade theory and market failure theory at home and abroad, makes the trade circulation theory not only limited to a single analysis of trade efficiency and advantages, but also involves more complex economic issues such as market structure, government intervention and trade policy. Especially in the process of the rise of transnational corporations and the development of global value chains, the theory of trade circulation gradually pays attention to diversified trade forms such as division of labor, technology transfer, outsourcing and cooperation in trade, thus promoting the diversification of international trade modes and the change of trade structure.

## **2.2 Current research status at home and abroad**

In China, the research status of trade circulation theory shows the characteristics of diversification and deepening. In recent years, scholars have explored and deeply analyzed the theory of trade circulation under different research fields and perspectives. For example, Yang Zhengdong and Zheng Chengjun (2020) put forward the "double circulation" evaluation index system of cultural trade under the Belt and Road Initiative in their research. From the perspective of cultural trade, they discussed how cultural products can flow bidirectional in different cultural backgrounds and market environments under the Belt and Road Initiative. By establishing an evaluation index system, they systematically evaluated the two-way flow effect of cultural trade, providing theoretical support and practical reference<sup>[3]</sup> for promoting the internationalization of cultural industries.

Secondly, Hu Liangyi and Pan Tianbo (2016) focused on the spillover of maritime Silk Road lacquer ware culture in the Qing Dynasty. Through in-depth analysis of the spread and acceptance of lacquer ware culture in the maritime Silk Road trade in the Qing Dynasty, they revealed how cultural products were spread and imagined across cultures along with trade activities. This study not only explores the circulation mechanism of cultural trade from a historical perspective, but also provides important cases and arguments<sup>[4]</sup> for the cognition of cultural value of cultural products in international trade. In addition, the study of Pan Min, Zhang Sizan and Xiao Wen (2020) focuses on the competition and cooperation strategies of Chinese industries under the dual circulation structure of global value chains. They analyzed the positioning and role of Chinese industries in the global value chain from the perspective of technological level and technological structure of trade added value, and discussed how Chinese enterprises can gain competitive advantages<sup>[5]</sup> in international trade through technological cooperation and competitive strategies. This research not only deepens the understanding of two-way flows in GVCS, but also provides empirical support and theoretical guidance for the internationalization strategy of Chinese industries. Domestic scholars have demonstrated a wide range of interest and deep insight in the study of trade circulation theory.

In foreign countries, the study of trade circulation theory has a long history and covers a wide range, and various academic literature and research papers have explored the development and application of this theory from different perspectives. Postma and Enthoven's book, *The Riches of Atlantic Trade: Dutch Transatlantic Trade and Shipping, 1585-1817* (2021), delves into the complex dynamics of Dutch involvement in transatlantic trade over two centuries. Their research reveal show Dutch commerce expanded and evolved during this time period, focusing on Dutch economic strategies, shipping routes and business networks in global trade. Through detailed archival research and analysis, Postma and Enthoven provide a comprehensive picture of how Dutch merchants responded to and exploited the opportunities presented by transatlantic trade, Has had a major impact<sup>[6]</sup> on Dutch economic history and the wider economic history of the Atlantic world. Jack S. M(2021) explores the importance of the theory of trade circulation in the study of the economic history of Tudor and Stuart England. He focuses on how trade facilitated economic ties between England and the continent and its colonies, and gives an in-depth analysis of how these trading activities shaped the economic structure and social relations of the time. In particular, there maybe discussions about the formation and evolution of trade networks and how these affected power and political patterns<sup>[7]</sup>. In addition, Jack S. M. may have explored how market economies developed gradually during this period and explained the process of their formation and expansion through the circulation theory of trade.

## **3. The systematic construction of trade circulation theory**

### **3.1 Comparative analysis of "conjugate circulation theory" and bidirectional convection model**

In the field of economics, "conjugate circulation theory" is a traditional idea heavily influenced by David Ricardo and Adam Smith. As shown in Figure 1, the theory emphasizes that resource allocation

and economic growth in markets occur through the interaction between supply and demand. The theory derives from the core idea of classical economics, which is to allocate resources and promote economic growth through free markets and price mechanisms.

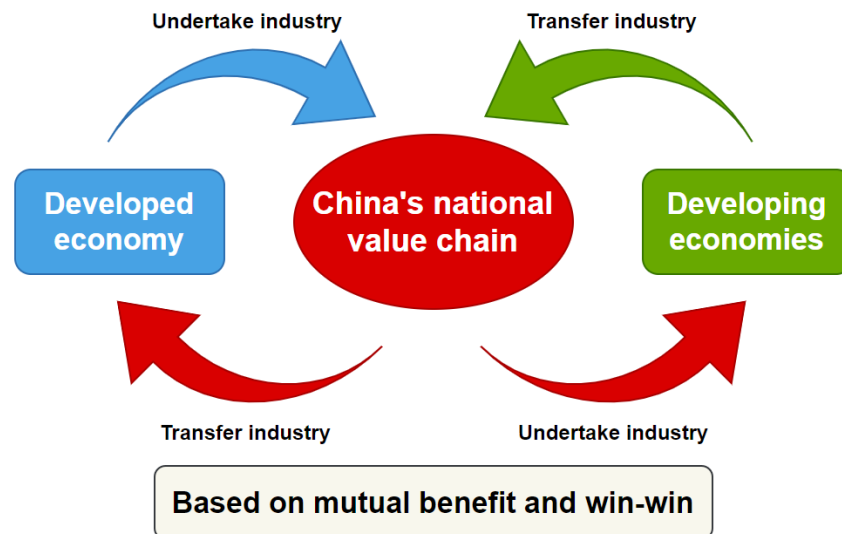


Figure 1: Schematic diagram of industrial transfer under the conjugate circulation theory system

In contrast to the "conjugate circulation theory" is the "two-way convection model", which points out that the two-way flow in free trade is not only one-way economic benefits, but also the problem of trade imbalance.

According to the "conjugate circulation theory", the market is an automatically regulated mechanism that determines the prices of goods and services through supply and demand, thereby achieving efficient allocation of resources. David Ricardo elaborated on the competitive advantages of markets and the benefits of free trade in his works, arguing that countries should relax trade restrictions in order to increase the size and efficiency<sup>[2]</sup> of their economies.

The "two-way convection model" puts more emphasis on the two-way and balanced nature of trade. This model holds that in free trade, although trade can promote the efficient allocation of resources and the integration of the global economy, it may also lead to problems such as trade deficit and unbalanced industrial restructuring. Different from the conjugate circulation theory, the two-way convection model warns that in the context of globalization and free trade, countries should treat trade policies prudently to prevent inequalities and trade imbalances in economic development. From the perspective of theoretical content, the conjugated circulation theory emphasizes the self-regulating ability and efficiency advantage of the market, and believes that free trade contributes to the optimal allocation of global resources and improves the overall economic efficiency. In contrast, the two-way convection model pays more attention to the balance and sustainable development of trade, advocating policy intervention and international cooperation to solve structural problems in trade while opening up the market.

In practical applications, the conjugate circulation theory provides theoretical support for promoting globalization and free trade, and promotes the expansion of international markets and economic integration; While the two-way convection model provides policymakers with more ideas to consider trade balance and national economic security to avoid risks caused by a single dependence on external markets. In summary, conjugate circulation theory and two-way convection model represent two different economic perspectives, explaining the nature and challenges of free trade from the perspective of market efficiency and trade balance respectively.

The construction and assumptions of economic principle models in trade circulation theory do not only rely on the theories of comparative advantage and absolute advantage, but also need to consider the critique of existing theories and the exploration of new theories to better explain and predict the complex phenomena of international trade. Although comparative advantage and absolute advantage theories can explain some trade flows, conjugate circulation theories provide a critique of these theories,

pointing out that under certain conditions, trade flows maybe affected by more factors, such as political factors, trade barriers and fluctuations in production costs.

Conjugated circulation theory emphasizes the role of more variable factors in trade circulation that can lead to instability in trade patterns and dynamic changes in trade relations. For example, although the theory of absolute advantage can explain the US 'advantage in the field of national defense and security, in fact, international political and geopolitical factors may affect the trade pattern between the US and third world countries, resulting in its trade in the field of national defense and security not entirely dependent on absolute advantage.

In addition, a critical analysis of trade circulation also shows that trade patterns are not static, but change with changes in the international economic and political environment. Thus, although China's role in international trade is gradually increasing, unlike some assumptions in conjugated circulation theory, its importance maybe reflected more in its enhanced manufacturing and technology sectors, as well as a more complex role in global value chains. As an important trading entity, China's evolving position in international trade and increasing influence on the global economy does not mean that its role is fixed or indispensable, but that it is constantly adjusting and adapting to changes in the global economic landscape.

### 3.2 Construction and hypothesis of triangular trade model

The triangular structure of trade circulation can indeed effectively explain China's role positioning in international trade. As shown in Figure 2, in this structure, China, as an important trade body, has formed a complex trade relationship with the United States and the third world countries. China exports high quality industrial products to the United States, which reflects China's advantages in the manufacture of mechanical and electrical industrial, while obtaining high-tech agricultural products and technical support for it. At the same time, China exports Mid-low quality labor-intensive products to third world countries, as well as obtain raw materials and energy, which reflects its role in the global value chain and resource acquisition strategy. This triangular structure helps China to diversify its risks through different trading partners and markets, while expanding its influence and position in international trade.

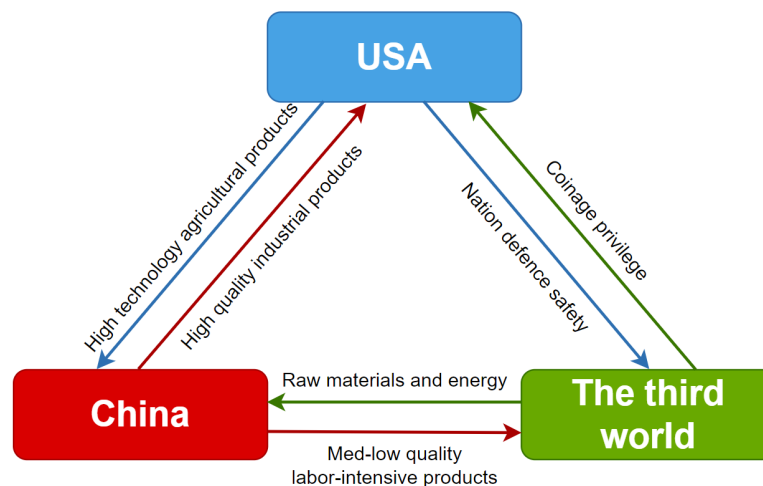


Figure 2: Triangular trade circulation structure chart

In contrast, the conjugate circulation theory may fail to fully take into account the influence of external factors such as political factors, trade barriers, and fluctuations in production costs on trade relations. Therefore, the triangular structure of trade circulation more stably explains China's role as a global trade body. China's trade strategy is not only based on the principles of comparative and absolute advantage, but also depends on its position in the global economy and participation in the multilateral trading system. This structure provides China with diversified trade opportunities and market choices, helping it to play a more important and lasting role in international trade.

**4. A practical inspect of the theory of trade circulation**

**4.1 The triangular trade pattern of China, East Asian countries and the United States**

The “triangular trade circulation” model refers to the complex trade network involving three countries, which has been proved in reality and has the truth. China is also involved in a similar triangular trade pattern, such as the trade relationship between East Asian countries such as China, Japan and South Korea and the United States. This model has played an important role in the rapid growth of Chinese exports to the United States, but it is not the black triangle trade of the early years.

The development of globalization makes the production process of products more and more cross national borders, forming a complex international production network. Such networks are particularly developed in East Asia, where the different stages of production of many products are completed in different countries. Japan, South Korea and other economies export a lot of intermediate goods to China, such as electronic components and mechanical parts. China uses its abundant labor resources and sophisticated manufacturing infrastructure to process and assemble these intermediate goods into final consumer or industrial goods. These final products are exported to developed markets such as the United States and the European Union. As a result, China has become a major global exporter.

This triangular trade model brings economic benefits to virtually all parties involved. China has gained economic development through the growth of processing manufacturing, while Japan, South Korea and others have provided high-quality intermediate goods, and the United States and other developed countries have obtained the final products they need.

**4.2 Transformation and development of the Hong Kong Free Trade Area**

Once an important hub for China's foreign trade, the Hong Kong Free Trade Area has long relied on its superior geographical location and efficient logistics system. However, with the changes in the global trade pattern and China's economic development, Hong Kong is facing transformation and challenges, and need re-examine its role and development strategy. According to the theory of conjugated circulation, HongKong's free trade zones used to rely on foreign investment and an export-oriented economy. However, with the rapid rise of the Chinese mainland's economy and the promotion of its opening-up policy, Hong Kong's positioning in the global supply chain faces adjustment. The development of manufacturing and logistics infrastructure on the Chinese mainland has made logistics directly from the production location to the destination more convenient, reducing the reliance on intermediate links such as Hong Kong.

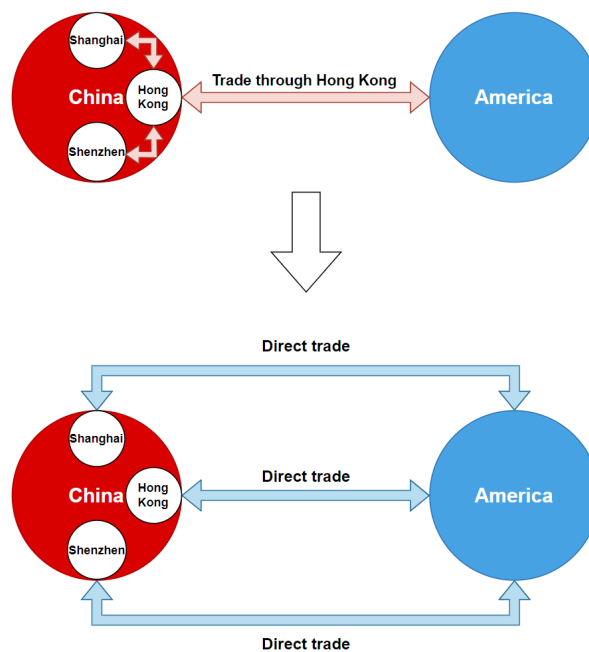


Figure 3: Chart of changes in Sino-US trade

Over the past four decades, Hong Kong, with its strong financial, service and trading systems, has attracted a large number of foreign investment and multinational companies. However, with the rise of other Asian cities such as Singapore and Shanghai as more competitive financial and trade centers, as well as the increase in free trade zones and the development of the digital economy, Hong Kong's advantages in these areas are being challenged, and it needs to step up innovation and enhance its market competitiveness.

The HongKong Free Trade Zone needs to carry out innovation and reform of policies and market mechanisms. As shown in Figure 3, against the backdrop of rapid changes in the global economy and adjustments in trade rules, Hong Kong is no longer the only export, and needs to improve market transparency and reduce transaction costs to attract more international companies and investors to participate in the construction and development of its free trade zones.

## 5. Conclusions

This study systematically analyzes the applicability and effectiveness of trade circulation theory in the context of global economy, and deeply discusses the core concepts, basic assumptions and theoretical framework of trade circulation theory through literature research and case analysis. The research shows that the trade circulation theory can effectively explain the complex phenomena and dynamic changes in global trade, and provide a solid theoretical foundation and practical guidance for optimizing trade policies and promoting international cooperation. At the same time, through the discussion of conjugate circulation theory and two-way convection model, the characteristics and challenges of trade under different economic systems and market conditions are revealed, which provides an important reference for formulating flexible and effective trade policies. The transformational development case of the Hong Kong Free Trade Area further illustrates the practical significance of the application of the theory, indicating that in the context of globalization and economic change, it is of great policy significance and practical value to understand and apply the trade circulation theory deeply. Through the in-depth discussion of this study, it provides forward-looking and operational suggestions for the formulation of global trade governance and international economic policies, and promotes the further improvement and practical application of trade theories.

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