

The Impact of the Opening of China-Europe Railway Express On the Development of Foreign Trade in Anhui Province

-- Based on the influence mechanism analysis of Hefei station at the line start

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Abstract: Since the "Belt and Road" initiative was put forward, China-Europe freight trains, as an important international transport channel for the Eurasian continent connectivity, have enhanced the level of bilateral trade facilitation and economic and trade cooperation, and had a profound impact on the development of foreign trade. Central trains is China to Europe and the "Belt and Road" international transport trains, central trains opening is the "Belt and Road" initiative China strengthen and countries along the important measures of connectivity, is an important gripper to promote the "Belt and Road" initiative, is an important part of "unicom" facilities, the opening of changed the previous central trains rely solely on maritime transport of export, greatly improve the level of export facilitation and management efficiency, for the improvement of foreign trade development provides strong conditions. The performance of China-Europe freight trains is even more impressive under the epidemic. As a huge potential mode of transportation between Europe and Europe, its importance is gradually emerging.

Keywords: China-Europe freight train, Regional innovation effect, Capital flow effect, Trade structure, Logistics efficiency

1. Introduction

Since the 20th century, the global economy has developed rapidly. Through the efforts of different countries, regions and international organizations, countries and regions in the world have become more directly and indirectly connected, and the trend of inseparable from each other has become more and more significant. Looking at the current world economic situation, the quality of international trade is more and more determined by the quality of international logistics, and the transport carrier of international trade is mainly sea transportation and air transportation. Since the reform and opening up, China has developed rapidly. After General Secretary Xi Jinping proposed the construction of "Belt and Road" in 2013, China's strength in all aspects began to take off qualitatively, especially in the export trade, and the growth rate has attracted worldwide attention. At this time, with the rapid growth of foreign trade, China-Europe railway express emerged at the historic moment, constantly changing the current situation of only sea and air freight in terms of cargo transportation, and gradually becoming the third main mode of transportation.

In March 2011, the first China-Europe railway express (Chongqing to Duisburg) Chongqing-New Europe was opened, marking the beginning of a new era of trade history between China and the European continent. In 2011 years ago, the trade between China and European countries rely more on shipping (air transport), although the shipping cost is low, but long time, poor efficiency, low safety factor (unsafe factors such as pirates), now, after continuous improvement and development, the Chinese government advocated "land silk road", on the basis of the development of central trains also ushered in the new historical opportunity. Central trains although only a steel train, but like a long cotton ribbon connecting the ends of the Eurasian continent, become China

and continental Europe to trade new vehicle, step by step to close the distance from each other, whether in economic cooperation or culture, science and technology, personnel exchanges, all play an irreplaceable role. According to statistics from the official website of China Belt and Road, as of June 2021, after the 10th anniversary of the operation of China-Europe railway express, the total number of trains has exceeded 40,000, with the total value of goods exceeding 200 billion US dollars, and 73 new operating lines can reach 22 countries and more than 160 cities. Through the Ministry of Commerce foreign trade statistics, in 2020, "Belt and Road" countries along the line and China's total trade accounted for nearly 30% of China's foreign trade, the opening of central trains accelerated the trade with countries along our country, improve the quality and efficiency of logistics, central trains also ushered in the world under the good opportunities for development. It can be imagined that the China-Europe railway express will occupy an increasingly important position in China's foreign trade.

2. Development Status of China-Europe Railway Express

2.1. The Basic Concept of China-Europe Railway Express

The official explanation of the China-Europe railway express: according to the fixed train number, line, shift period and the whole operation time, containers and other international intermodal trains running between China, Europe and countries along the "Belt and Road" line. Since its launch in 2011, China-Europe railway express have continuously innovated, explored, developed, grown rapidly and improved scientifically, and made remarkable achievements.

2.2. Background Conditions for the Opening of China-Europe Railway Express

With a large population, a large economy and a high GDP, Eurasia has huge potential for overall development and development. A large part of the development depends on the economic dividends brought by the Belt and Road Initiative. According to statistics, although the world economy has seemed stable in recent years, it has made struggling in the face of COVID-19, frequent local wars and ideological conflicts. But economic and trade between China and Europe have bucked the trend, with more than 60 percent of European companies and organizations in China hoping that they can be allowed to increase their investment and construction efforts in China. The strong resilience of the economic and trade cooperation between China and European countries is worth looking forward to.

Belt and Road After the start of the construction, build the inclusive, innovation, efficient economic destiny community, and at this moment drive the trade began qualitative leap of central trains follow the trend of history, stable development, steady increase, constantly pull the China and countries along the economic and trade exchanges, will also be our country inland trade potential inspired out, for China to the European continent, especially central and eastern Europe 16 countries trade export has a very big stimulus.

In recent years, China-Europe railway express have given full play to their comparative advantages, and have gradually been accepted and recognized by many countries, organizations and individuals, and become an important logistics delivery choice. Since 2018, China-Europe railway express have been developing crazily, and their quality has been improved. Most European countries have also launched relevant railway express or conducted supporting trade as passing routes. China-Europe railway express have become an important bridge for the exchanges and development of trade, economy, culture, science and technology between the two sides.

In the past nine years, more than 40,000 railway express have been running, far exceeding the expected target.

The initial development goal of China-Europe railway express is to seek the export of foreign trade export channel for Chinese mainland commodities, which has become a huge change in the development of channel trade and trade industry, which directly promotes the explosive growth of China-Europe railway express. Since its opening in 2011, China-Europe railway express have been operating in the Eurasian continent. Among them, 17 columns were launched in 2011,42 in 2012,80 in 2013,308 in 2014,815 in 2015,1,702 in 2016,3,673 in 2017,6,363 in 2018,8,225 in 2019,12,200 in 2020, and 7,323 in the first half of 2021, maintaining a high growth rate.

2.3. China-Europe Railway Express and Cross-Border Transport

In today's global economic integration, the basic premise of promoting export trade is to improve the logistics infrastructure. It can be seen that transportation plays a more and more important role in trade. Among them, the volume of ship transportation is larger, also known as shipping, his cost is low, the quantity of goods is large, long distance, the disadvantages of shipping is very obvious, is slow, suitable for fresh items, and the stand or fall of natural conditions directly affect the quality of shipping, after transportation to

the destination, land part more need other vehicles for auxiliary cooperation. Air transport volume is small, the speed of air transport is fast, suitable for customer needs more urgent items, disadvantages are more distinct, high cost, objective weather impact. Railway transport speed is fast, the volume is large, less affected by weather conditions. China and the 16 CEE countries have long land distances, so they are suitable for rail transport.

In recent years, China-Europe railway express have shown a rapid growth in the proportion of cross-border transport in foreign trade, and the growth rate is far faster than other modes of transportation. In the trade of goods between China and Central and Eastern European countries, it was mainly by sea, supplemented by air transport, but the disadvantages of these two modes of transportation are very distinct, which greatly affected the timeliness and competition of the arrival of carrying goods. After opening central trains, China and central and eastern Europe 16 logistics speed greatly improved, and turnover time is greatly shortened, railway inbound and outbound way rapid increase, and gradually replace the past sea and air way, become a new engine of the economic development of China and central and eastern Europe, central European trains in gradually changing China's export trade mode of delivery, increased the customer to carry out foreign trade optional.

3. Current Situation of Anhui's Foreign Trade

3.1. Trade Structure

In 2017, China's total import and export of goods reached 27.8 trillion yuan, up 14.2% year on year, of which export reached 15.33 trillion yuan, up 10.8%, and import reached 12.47 trillion yuan, up 18.7%. China's trade has reversed two consecutive years of negative growth. China's trade has reversed two consecutive years of negative growth. In 2017, China's total import and export of service trade reached 4.699.11 billion yuan, up 6.8%. In the first quarter of 2018, China's total import and export of goods reached 6.75 trillion yuan, up 9.4%, of which export reached 3.54 trillion yuan, up 7.4%, and import reached 3.21 trillion yuan, up 11.7%. Import and export became more balanced. Central China's imports and exports grew by 13.7% in the first quarter of 2018,4.3 percentage points higher than the national growth rate. In the first quarter of 2018, China's total import and export of services reached 1.253.04 billion yuan, up 11.4% year on year. As one of the cities with important influence in the central region, in the first three months of 2018, the total import and export volume of Anhui province reached 14.93 billion US dollars, including 7.65 billion US dollars and 7.28 billion US dollars. As one of the cities with important influence in the central region, in the first three months of 2018, the total import and export volume of Anhui province reached 14.93 billion US dollars, including 7.65 billion US dollars and 7.28 billion US dollars. In the first three quarters of 2018, the import and export to countries along the Belt and Road belt and Road reached 72.29 billion yuan, an increase of 5% over the same period last year.

The recently released "Anhui Trade Development Research Report" points out that the trade development between Anhui and the countries and regions along the belt and Road of "Belt and Road" shows a good development trend, the total import and export volume continues to increase, and the trade structure is constantly optimized.

From the perspective of the structure of import and export commodities, the imported products from the countries along the "Belt and Road" route in our province are mainly primary products and resource-based products. Our province's exports to countries along the Belt and Road were mainly concentrated in textile and clothing, mechanical and electrical products, manufactured goods and high-tech products, while the export of traditional labor-intensive products declined. From the perspective of cultural tourism, our province has a long history of foreign trade and cultural exchanges, with wechat business footprints covering all over Asia and Europe. Cultural cooperation projects between Our province and Belt and Road" countries along the Belt and Road are also under way. The fourth generation theme park with an investment of 8 million euros was completed and opened in Isfahan Province, Iran, and many countries along the Belt and Road have also invested in cultural tourism projects in Anhui Province.

3.2. Trade Entities

Our province has established seven major industrial alliances, such as "Advanced Manufacturing Industry Cooperation and Development Alliance" Project General Contracting Development Alliance "external Coal Resources Industry Cooperation and Development Alliance". With industrial alliance enterprises as the main force, Anhui has formed the basic situation of large state-owned enterprises as the leading group and related state-owned enterprises to go overseas together ". At the same time, private enterprises also increase the pace of "going out" and become the main force of foreign trade and cooperation in Anhui Province. Many companies have made a great achievement under the "Belt and Road" initiative. Anhui has initially formed a pattern of "one core and two wings", one core for private enterprises and two wings for state-owned enterprises and foreign-funded enterprises.

The global authoritative publication "Engineering News Record" released the world's largest 250 engineering contractors and international contractors in 2018, and 4 foreign engineering contracting enterprises in Anhui province entered the list. Among them, Anhui Construction Group ranked 38th in engineering contractors with \$9.418 billion, two from the previous year, Anhui Shuiian Construction Group Co., Ltd. ranked 177th; In the list of global 250 major international contractors, Anhui Foreign Economic Construction (Group) Co., Ltd. ranked 143rd, Anhui Construction Group Co., Ltd. ranked 192nd, Anhui Shuiian Construction Group Co., Ltd. ranked 210th, and Bengbu International Economic and Technical Cooperation Co., Ltd. ranked 244th, with 2 more enterprises over the previous year. In recent years, Anhui has actively promoted enterprises to "go out", actively participated in the "Belt and Road" construction and international cooperation, and achieved certain results. From January to July this year, the turnover of enterprises in Belt and Road" countries along the route was 860 million US dollars, up 41.3% year on year.

3.3. Trade Mode

In the first half of 2018, Anhui's import and export to countries along the Belt and Road ° route reached 47.66 billion yuan, accounting for more than 70% of the general trade import and export, and processing trade grew rapidly. The import and export of general trade to countries along the Belt and Road was 34.62 billion yuan, up 7.7%; the import

and export of processing trade was 11.02 billion yuan, up 15.9%. The export of mechanical and electrical products to countries along the Belt and Road accounted for 60% of the import and export, reaching 21.51 billion yuan, including 3.09 billion yuan for automobiles, 2.82 billion yuan for automatic data processing equipment and its components, 1.26 billion yuan for solar cells, and 3.83 billion yuan for traditional labor-intensive products.

The scale of foreign investment in Anhui province is rising steadily, and the increase of foreign investment plays a good role in promoting the increase of foreign trade in Anhui province. Our province and Africa covers 41 countries and regions, and signed project contracts of nearly 60 billion yuan. Accounting for 40% of the total amount of foreign projects contracted in our province, and the non-investment points account for 6% of the whole country.

In the first half of 2018, 15 new projects in Pakistan, India, Malaysia and Belarus along the "Belt and Road" were more than 10 million US dollars. The total contract amount was \$610.69 million, accounting for 77% of the province's problems, and the completed turnover was \$726.3 million, accounting for 56.9% of the province's problems, with a year-on-year growth of 35.7%. The total investment of investment enterprises in 12 countries along the Belt and Road reached 52.89 million US dollars, up 17% year on year, accounting for 12% of the total amount of the province.

4. Impact Mechanism of China-Europe Railway Express On the Foreign Trade of Anhui Province

4.1. Mechanism Analysis of the Export Impact of China-Europe Express Trains

The influence of China-Europe railway express on China's export trade mainly has two aspects: on the one hand, the opening and construction of China-Europe railway express can reduce the carrying cost (fixed cost) of foreign trade and export. Improving the reliable transportation infrastructure not only reduces costs, but also reduces unnecessary risks and uncertainties, thus stimulating more foreign trade enterprises to develop foreign trade. On the other hand, the variable costs of the export enterprises and organizations involved will also be reduced under the influence of the opening of the China-Europe railway express. The improvement of the construction of China-Europe railway express has enhanced the confidence of foreign trade enterprises. After the inventory flow of foreign trade goods is scientifically adjusted and effectively distributed by foreign trade export enterprises, the cost has been reduced and the efficiency has also been improved. Once the fixed cost is given, the foreign trade enterprises and organizations of various countries and regions expand the export scale and export flow of enterprises under the influence effect of China-Europe railway express. This method is also known as the intensive export margin of enterprises. The specific mechanism of action is as follows:

Economic theory, the opening of the china-eu trains around China products transportation to central and eastern European countries, and made in China is famous for its cheap, to trade power, grab the supply regional market, in economic theory, the regional economic integration theory, and central trains also provides conditions for the creation of trade and trade transfer, whether in terms of personnel water, the flow of foreign trade goods, or in the accessibility between

countries and countries, have played a role of boosting, but also constantly promote the improvement of trade facilitation standards.

In terms of empirical research, in modern economics, many scholars introduced transportation cost into the trade gravity model, and more determined the importance of transportation cost in export trade from the multi-level consideration of industry, enterprise and spatial perspective. Bougheas (1909) according to the theory of comparative advantage, will affect the important factors of trade transportation costs to join the traditional trade gravity model of empirical test, mainly discuss whether trade flow will change because of the amount of transportation cost, the results found: for infrastructure in larger countries and regions, due to the high level of transportation infrastructure, naturally lower the corresponding transportation costs, so as to improve the trade flow. Scholar Bensassi in the empirical analysis of transportation facilities research also use trade gravity model, he by collecting a lot of trade data, studied the influence of the construction of the trade, his research also proved that the opening of central trains on trade importers trade has a positive influence, and the quantity of central trains operation also affect the development of trade in different degrees. Gong Jing (2016) found in her research literature that the trade factor in the regional economy is determined by the trade cost, and the level of trade cost is also determined by the mode of transportation. The saving of trade time and trade cost of China-Europe railway express has a great role in promoting the increase of trade flow.

4.2. Intermediation Effect of Capital Flows

Hefei, as the starting station of China-Europe railway express (New Europe), is the node city and commodity collection of China-Europe railway express

Distribution, a steady stream of production factors pour into Chongqing in the form of goods, will produce agglomeration effect, agglomeration will bring benefits of scale economy and external economic effect can attract surrounding capital to flow into Chongqing, and ultimately improve the development of Hefei's foreign trade. According to Krudman (1991) of the "center-peripheral" theory, the economic development of better central city itself has a strong demand market, it will make the company to reduce logistics costs, better collect timely market demand information and address in the central city, more and more companies will bring economies of scale, in the production of the same type of products between the company can better division of labor and cooperation, and even can rise to a higher position in the global value chain (YouLijie, 2018). The agglomeration of enterprises makes it easier for high-end talents related to enterprise production to flow between companies, which enables human capital to better play its potential. The agglomeration of the company brings the savings of logistics cost, which is that the companies can jointly rent the same railway express or cruise ship, and the cost of sending and receiving goods for the logistics company is also greatly reduced. Under the effect of cost reduction and scale effect, central city companies will influx a large amount of capital investment, which will enable local manufacturers to expand production. The increase of output will increase exports, and eventually improve the level of foreign trade in central cities. The increase of foreign trade scale will bring about the expansion of the demand for human resources, thus improving the value of human capital and bringing about a

higher wage level. The high-tech zone will attract more workers to the central cities, which will increase the size of the city's consumer market. Economy of scale effect, logistics cost reduction, the flow of human and economic resources is prompted industrial agglomeration "centripetal force", will eventually bring the overall industrial level, it will also attract more foreign investment, output more high quality and cheap more internationally competitive goods, the expansion of production scale will import more foreign parts, intermediate products and production equipment, these eventually improve the level of foreign trade development of central city. To sum up, it can be seen that the opening of China-Europe railway express (new Europe) and the "agglomeration effect" formed by capital flow has improved the development level of foreign trade in Anhui Province.

4.3. Intermediation Effect of Regional Innovation

Central trains (new Europe) is a column of international transport trains across Eurasia, the beginning of its birth is to solve the problem of goods sold to Europe in Anhui province, and Anhui goods to break into the European market, must have good product quality, need to meet the European market of the stringent product standards and the high standards of consumers in developed countries, this is "reversed transmission" the industrial level development in Anhui province. Since Asustek, Acer and other high-end notebook manufacturers have settled down in Chongqing, they have not only brought orders and direct investment, but also brought advanced production technology and talents, which solves the threshold problem of some products to enter Europe. At the same time, Chongqing has established direct connectivity with western developed economies through China-Europe railway express, which makes the exchange and cooperation of innovation elements and research and development resources more convenient, and brings new impetus to the technology and technological improvement of the source source (Anhui Province) through the "reverse transfer" channel (Wang Guijun, 2019). This effective connection with Europe can also bring advanced management experience and technology to Chongqing at a very low price. Due to the natural characteristics of high investment, high risk of failure and long term of investment, the emergence of innovation cannot be separated from sufficient financial support. Under the influence of the government, the opening of China-Europe railway express is favored by banks and other financial units. For example, in 2013, Chongqing Branch of China CITIC Bank issued a loan of 300 million yuan to China-Europe Express Chongqing). These financial support helped the development and innovation of China-Europe Express through the most difficult initial period. Some research shows that the improvement of the regional financial level of a city can also promote the improvement of innovation quality. Zhang Kuan, 2019). The opening of the China-Europe railway express can promote the improvement of the financial level of the opened cities, expand the scale of local financial services, and enrich the level of financial services (Li Jia, 2021). This means that due to the government's key exposure and financial support in the early stage, the opening of China-Europe railway express has been some "implicit guarantee" from the government (Wang Xiongyuan, 2018), thus bringing the external effects of improving the local financial level and promoting the innovative development of urban areas. The improvement of regional innovation can directly improve the

international competitiveness of local products, exports will greatly increase, and local enterprises will also get rich profits, which will attract international investors

5. Conclusion

5.1. We will Strengthen Top-Level Design and Infrastructure Development

As a large inland city in central China, Hefei has always been at a geographical disadvantage in terms of foreign trade compared with the developed and convenient sea and transportation channels of coastal cities. The emergence of China-Europe railway express represents a new opportunity for the development of foreign trade in inland cities. The emergence of the new channel has reversed the more favorable situation of the coastal areas. For the connectivity between the Eurasian continents, the inland cities are closer to the new trade objects in terms of geographical distance, which makes the logistics cost lower than that of the eastern cities. Represented by Anhui central inland region to seize this opportunity, increase the construction of central trains, the top design, under the premise of reasonable layout, increase the construction of central trains surrounding facilities, improve the central trains freight volume and open number, increasing import and export trade volume, attract international direct investment, improve foreign direct investment, so as to continuously improve the level of foreign trade development in Anhui province.

5.2. We will Improve Industrial Upgrading and Enhance Overall Competitiveness

With the help of the capital flow effect and regional innovation effect of China-Europe railway express, the city will improve its own industrial upgrading and enhance the comprehensive competitiveness. The opening of central trains can reversed transmission enterprises want to export to developed countries to improve the quality of their products, in the process of enterprises will increase investment in scientific research and innovation, and because can establish effective connection with the European market, Hefei represents the opening of central trains city to lower price access to high-end technology and management experience, this is complete industrial upgrading, enhance the competitiveness of the city foreign trade important opportunities. The opening of the China-Europe railway express can attract international direct investment and domestic capital flows, As Hefei serves as the destination of China-Europe railway express and the distribution center of foreign trade commodities, Its impact can radiate to the surrounding cities that provide goods for the China-Europe railway express, This makes Hefei a central city in the "center-periphery" theory, With stronger production levels, greater market demand, updated market intelligence, and lower logistics costs, Chongqing will have a "agglomeration effect", The continuous high-end development of Anhui province will attract more foreign investment and strong foreign enterprises to settle down, All these can continue to empower the development of foreign trade in Anhui province.

5.3. Play a Leading Role in Promoting Peripheral Development

We will strengthen the advantages of China-Europe railway express and make China-Europe railway express more mature international freight channels. Central trains

more by those strict with timeliness and high added value of goods, which requires central trains as different from shipping, shipping the third mode of transportation to strengthen its own unique advantages, continue to consolidate this kind of product freight orders, and constantly create value profits, make it for their own development and eventually grow into an independent mature international transportation brand. Central trains should constantly upgrade "pass Tietong", and combined with big data, the Internet of new technology, makes the central trains freight container information can check at any time, at any time, reduce the number of open inspection, to ensure the safety of the freight, the stability of the time, this is in the current outbreak severe new situation is particularly important. Central trains in addition to the departure station like Hefei to infrastructure construction, also to layout along the logistics transfer station, sorting and cargo center, this not only can improve the operation efficiency of central trains, also can make Hefei as a "point" drive surrounding city axis along the common development, coordinated development, make full use of the central trains opened radiation effect.

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References

- [1] Original Guoli, Xu Chenxi. The impact of china-Europe freight trains on the development of foreign trade in Xinjiang [J]. Foreign economic and trade Practice, 2023, (08): 84-91.
- [2] Cai Jingjing. Research on the Impact of China-Europe Express Train Opening on the Export Structure of Cities in Central and western China [D]. Dalian Maritime University, 2023.DOI:10.26989/d.cnki.gdlhu.2023.001503.
- [3] Cao Jingjing, Jiang Xinlin, Wang Jianwei. Analysis of the mechanism of "Yixin Europe" China-Europe Express on foreign trade of Zhejiang Province [J]. Business Economics Research, 2023, (15): 143-146.
- [4] Li Yanli. China-Europe freight trains, Space Overflow and urban export trade [D]. Nanjing University of Finance and Economics, 2023.DOI:10.27705/d.cnki.gnjcj.2023.000007.
- [5] Luo Yuzhen. Study on the impact of China-Europe Express trains on the export added value of the originating enterprises [D]. Zhongnan University of Economics and Law, 2022.DOI:10.27660/d.cnki.gzczu.2022.001860.
- [6] Wang Haoming. Study on the influence of China-Europe Express train (Chongqing) on the development of Foreign trade in Chongqing [D]. Sichuan International Studies University, 2022.DOI:10.27348/d.cnki.gscwc.2022.000421.
- [7] Liu Hua, Fang Lele. The opening of China-Europe freight trains under "Belt and Road" and the transformation of structural momentum of foreign trade —— also on the differentiated impact of government and market [J]. Business Economics Research, 2020, (24): 147-150.
- [8] Liu Xinyan. Study on the impact of the opening of China-Europe Express train on the export trade of mechanical and electrical products in China [D]. Huazhong University of Science and Technology, 2022.DOI:10.27157/d.cnki.ghzku.2022.005232.