

Analysis on the Influencing Factors of China's Export Competitiveness of Mechanical and Electrical Products

Changfei Li*, Sumei Li

Shandong Xiandai University, Jinan, Shandong, China

**corresponding author*

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Abstract: In recent years, with the continuous improvement of China's export volume of mechanical and electrical products, how to effectively enhance its export market competitiveness and further promote its export trade to a new level has become the focus of attention of governments at all levels. Based on this, this paper analyzes the factors that affect the export competitiveness of mechanical and electrical products, and carries out theoretical and Empirical Analysis on the influencing factors. Finally, based on the analysis of the influencing factors, it puts forward targeted feasible countermeasures to improve the export competitiveness of mechanical and electrical products.

1. Introduction

In recent years, more and more countries, especially the less developed countries, take improving the export competitiveness of mechanical and electrical products as an important national development strategy. The electromechanical industry is the pillar industry of China's national economy. In recent years, China's foreign trade scale has expanded rapidly. The considerable export data of China's mechanical and electrical products show that the industry has entered a period of vigorous development, however, many studies have shown that the export competitiveness of China's mechanical and electrical products has not increased in the same proportion with the sharp increase of exports. Therefore, it is necessary to comprehensively analyze the source structure and promotion strategies of export competitiveness of mechanical and electrical products, so as to improve the export competitiveness of mechanical and electrical products. Therefore, this paper makes a tentative analysis and Research on the influencing factors of China's export competitiveness of mechanical and electrical products, so as to explore the path to enhance the export competitiveness of mechanical and electrical products.

2. Literature Review

(1) Domestic research status

Many domestic scholars have studied the trade status of China's mechanical and electrical products, the influencing factors, and the export competitiveness of mechanical and electrical products in various provinces and cities.

Related research on export competitiveness of mechanical and electrical products related

research on Influencing Factors of export competitiveness of mechanical and electrical products Guo Penghui (2012) believes that among the internal factors, the lack of research and development capacity of advanced technology and equipment, the dominant mode of processing trade, excessive concentration of export market and high production cost are the internal factors that inhibit the export competitiveness of mechanical and electrical products [1]. The low demand of international market, the uncertainty of RMB exchange rate and the prevalence of trade protectionism also affect the mechanism to a certain extent The promotion of international competitiveness of electric products. Hou Junyan et al. (2017) based on the export data research found that the factors affecting the export competitiveness of mechanical and electrical products are national income, technology R & D investment, foreign direct investment and effective exchange rate [2]. The increase of the first three factors has a positive and positive effect on the enhancement of the export trade competitiveness of China's mechanical and electrical products, while inhibiting the improvement of export trade competitiveness of mechanical and electrical products The role of RMB appreciation. Zhao Meijuan (2017) found that the factors affecting the export of mechanical and electrical products are economic scale, labor productivity, trade costs and external shocks [3]. The first two have a positive effect on the export competitiveness of mechanical and electrical products, while the latter two are negative.

(2) Foreign research status

The research on export trade competitiveness of mechanical and electrical industry is the majority in China. The research on this aspect in foreign countries is mainly from a large category of mechanical and electrical products. The following is a brief overview of relevant foreign literature:

First, the measurement index of export trade competitiveness. The most important thing for a country's export is the high level of export competition, not just the comparison of quantity and quality. On the issue of how to quantify a country's export height, Ricard Hausmann (2004) calculated the export technical complexity of a specific commodity based on the technical level of the final product, so as to measure the export competitiveness of a certain commodity; antras et al. Proposed the upstream degree index based on the value chain structure.

Second, research on export trade of mechanical and electrical products under specific objects. Abolfazl Fathi et al. (2016) analyzed the export status of Iran's automobile industry, and considered that the main factors influencing the development of export competitiveness of Iran's automobile industry were related industries and supporting industries, R & D investment, demand conditions, government and opportunities [4]. A. Gribkov, d.zakharchenko et al. (2014) compared the machine tool production between Russia and other newly industrialized countries by using the characteristic indicators of industry competitiveness [5]. The results show that the overall competitiveness of Russia's machine tool industry is low, and the lack of investment hinders the development of its competitiveness. Nik maheran Nik Muhammad et al. (2009) conducted a comparative study on the export competitiveness of Malaysia and other economies by using the two indicators of constant market share and revealed comparative advantage [6]. It was found that Malaysia's export of electronic and electrical products generally has a comparative competitive advantage over other competitors.

In addition, in the theoretical analysis of policy finance on export, Mattson thinks that enterprises with external investment can learn from the advanced technology and first-class management experience of the investing country, so as to realize the export of enterprises. Weidenbaum research found that the government can provide financial support in the process of enterprises' export, guide the development of enterprises and encourage more enterprises to export. Rajan and zingeles (1998) have proposed that capital intensive industries generally rely on external financing. The higher the level of policy based financial support, the stronger the R&D capability, and thus have a strong

comparative advantage in international competition [7].

To sum up, scholars at home and abroad have used the methods of ternary margin and factor analysis to analyze the factors affecting the trade competitiveness of mechanical and electrical products from different angles. It is generally believed that the export competitiveness of China's mechanical and electrical products, especially high-tech intensive mechanical and electrical products, needs to be improved, and there is still some room for optimization in innovative production of China's mechanical and electrical enterprises. However, scholars' research mostly focuses on the export trade of mechanical and electrical products in certain background or provinces and cities, and the data is relatively old. Therefore, the innovation of this paper is based on the research of domestic and foreign scholars, based on the latest trade status and trade data of China's mechanical and electrical products export, empirical analysis of the factors affecting its export competitiveness, and then to promote the export trade competition of mechanical and electrical products Effective measures to enhance the force [8].

3. Empirical Analysis

(1) Index selection

1. Selection of independent variables

This paper selects economic scale, technology R & D and foreign direct investment as the empirical analysis

(1)Economic scale. This paper uses variable lnGDP to enter the model. The data are from the National Bureau of statistics and China Statistical Bulletin. It is expected that the expansion of economic scale will have a positive effect on the increase of trade competitiveness index.

(2)Technology research and development. This paper uses lnjstr to enter the model. The data are from China Statistical Bulletin and National Bureau of statistics. It is expected that the increase of technology R & D investment will have a positive effect on the increase of trade competitiveness index.

(3)Foreign direct investment. This paper uses the variable lnfdi entry model, and the data comes from Dongfang fortune.com and China Statistical Bulletin. It is expected that the increase of foreign direct investment will positively promote the increase of trade competitiveness index.

(2)Selection of dependent variables

Trade competitiveness index, namely TC index, is used to measure the comparative competitive advantage of a country's certain products. From the macro level, it is the index that can best reflect the strength of a country's export competitiveness. Therefore, this paper selects the trade competitiveness index as the explanatory variable, obtains the import and export value of mechanical and electrical products from 2000 to 2019 from the National Bureau of statistics, and calculates the TC index. The variable is entered into the model with LNTC.

(3)Model building

This paper uses the data from 2000 to 2019 to analyze the influencing factors of China's export competitiveness of mechanical and electrical products. Economic scale, technological research and development and foreign direct investment have different degrees of influence on the export competitiveness of mechanical and electrical products. This paper will regression analysis the three factors that affect the export competitiveness of mechanical and electrical products, and determine the internal mechanism of improving the competitiveness of export trade. Because the logarithm of each variable is different, we take the following variables,the model is as follows(1):

$$\ln TC = \beta_0 + \beta_1 \ln GDP + \beta_2 \ln JSTR + \beta_3 \ln FDI + \mu \quad (1)$$

(4)Result analysis

In this paper, multiple linear regression analysis was carried out for each variable with the help of Stata

Table 1: Regression results

lnTC	Coef.	t	P> t
lnGDP	0.3714	2.83	0.0120
lnJSTR	0.3252	2.84	0.0120
lnFDI	0.1535	1.91	0.0050
_cons	-3.3009	-4.41	0.0000
R-Squared	0.9290	Adj R-Squared	0.9157

It can be seen from table 1 that the R-squared of the multiple linear regression model is 0.9290 and that of adj R-squared is 0.9157, which indicates that the goodness of fit of the model is high. Because the p value of F statistic is 0.000, it shows that the whole equation is highly significant, and the P values of the three explanatory variables are less than 0.05, indicating that the parameter estimation values are significant at the significant level of 5%.

It can be seen from the table that the coefficients of lnGDP, lnjstr and lnfdi are 0.3714, 0.3252 and 0.1535 respectively, which indicates that under the condition that other conditions remain unchanged, the export competitiveness of mechanical and electrical products will increase by 0.37% for each percentage point of national income representing the economic scale; 0.33% will be increased for each percentage point of increase in technology input; and 0.33% for foreign direct investment The export competitiveness of mechanical and electrical products will increase by 0.15%. Therefore, the increase of economic scale, technology investment and foreign direct investment have a positive effect on the improvement of export competitiveness of mechanical and electrical products. Among them, economic scale has the greatest impact on the export competitiveness of mechanical and electrical products, followed by technological investment, and finally foreign direct investment.

4. Suggestions

(1) Optimizing trade structure and attracting foreign investment

The commodity structure of foreign trade reflects the level of a country's economic and technological development. The enhancement of export competitiveness of mechanical and electrical products is based on the optimization and improvement of industrial structure and the improvement of technical level. Although the export product structure of the electromechanical industry has improved, the main export commodities are still labor-intensive products, which is not conducive to the growth of trade. Therefore, it is necessary to improve the commodity structure, produce more types of products, and actively change the export growth mode of products, fundamentally improve the technical level of mechanical and electrical products, and gradually complete the transition from ordinary technology and extensive processing mode to emerging technology and intensive processing mode.

The technology advantage brought by FDI and the integration with local enterprises will bring great spillover effect, thus providing necessary technical support and management experience for the development of China's mechanical and electrical industry. Therefore, in order to attract foreign

investment, first of all, China should fully protect the legitimate rights and interests of foreign investors, formulate relevant policies and measures, give foreign-invested enterprises legal authorization, so as to attract foreign investment in a long-term and stable manner; secondly, we should improve the policy of attracting foreign investment and establish the concept of synchronous introduction of management experience, technology and capital; finally, China can establish foreign investment promotion institutions, Optimize and simplify the investment procedures, actively use advanced technology, management experience and foreign capital to develop domestic mechanical and electrical enterprises, so as to make the industrial development reach the global unified standard level, and enhance the export competitiveness of the mechanical and electrical industry.

At the same time, the scale of two-way investment of Chinese enterprises is more significant in promoting the competitiveness of import and export trade. Therefore, we should combine the use of foreign investment and foreign investment, and use the feedback effect to improve the quality of domestic high-tech and management talents, so as to promote the innovation and transformation of mechanical and electrical products, improve the quality and quantity, and enhance the export trade competition of capital intensive mechanical and electrical products Struggle.

(2) Improving trade mode and promoting diversification of export market

The unbalanced development of mechanical and electrical products restricts the improvement of its overall export competitiveness. China's export of mechanical and electrical products is usually dominated by processing trade, but the general trade mode plays a greater role in promoting the industry than the processing trade mode. Therefore, we should actively adopt the general trade mode and speed up the transformation and development of processing trade.

The key to the transformation and development of processing trade is technological progress. First of all, Chinese enterprises should take the initiative to strengthen technical cooperation with multinational companies, introduce and imitate technology by using technology spillover effect, so as to promote the development of domestic processing trade; second, enterprises should actively undertake the transfer business of high-tech and high-value-added industries of transnational companies, learn and establish themselves in the process of production and manufacturing Finally, enterprises in processing trade should actively absorb advanced methods and strategies to internalize them into the experience needed by their own enterprises, so as to promote the domestic "processing trade" smile curve to both ends, enhance the added value of mechanical and electrical products, extend the value chain, and at the same time, enterprises adopting the processing trade of mechanical and electrical industry should Actively participate in general trade, and constantly improve their own value creation ability.

At the same time, the diversification strategy should be adopted to broaden trade channels to resolve trade frictions and reduce export risks. One belt, one road, is to consolidate the export market of the traditional mechanical and electrical products such as the US, EU and Japan, and to complement the advantages of the electromechanical products trade between these developed countries. At the same time, in order to reduce the risks caused by excessive concentration of the market, we must firmly grasp the development strategy of "one belt and one road", intensify the pioneering efforts in the emerging markets such as the Middle East and South Africa, and thoroughly implement the strategy of market diversification. As emerging economies are still in the early stage of development and there is still a large space for development in the domestic market, there may be a large demand for China's mechanical and electrical products. Therefore, China should actively do a good job in market research, understand the actual situation of various countries, seize trade opportunities, actively open up new markets, establish good trade cooperation relations with emerging market countries, and adopt a series of mutually beneficial and mutually beneficial measures Trade measures, such as export guarantee and trade liberalization, maximize the integration of market resources, expand the trade scale of emerging markets, increase the types

of commodities exported to different markets, and then increase the market share of China's mechanical and electrical products imported by emerging economies.

5. Conclusion

This paper makes an empirical analysis on the influencing factors of export competitiveness of mechanical and electrical products. The results show that the increase of economic scale, foreign direct investment and technology R & D investment all play a positive role in enhancing the export competitiveness of mechanical and electrical products. Mechanical and electrical products are still the largest category of export commodities in China. With the enhancement of China's economic strength, the investment in technological research and development of mechanical and electrical products is increasing year by year, and the quality and added value of mechanical and electrical products are also gradually improving. At the same time, the export proportion of high-value mechanical and electrical products is gradually increasing, and the export trade structure has changed and gradually rationalized. At the same time, foreign direct investment also shows a trend of increasing year by year and the amount of foreign direct investment is relatively large, which is conducive to the development of domestic mechanical and electrical industry by using its management experience and advanced technology. Therefore, on the basis of further expanding the economic scale, enhancing the investment in technology research and development and attracting more foreign investment, the export competitiveness of China's mechanical and electrical products still has a large space for improvement.

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