

Analysis on the Trend of China's Terms of Trade Based on Input-output Analysis

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Abstract: With the deepening of reform and opening up to the outside world, China's economic development has attracted worldwide attention, and the total volume of import and export trade has grown rapidly. In international trade theory, terms of trade are defined as the quantity of imports that can be exchanged for each unit of export goods. Although the rapid development and accumulation of China's foreign trade has produced tremendous advantages, the world environment has changed dramatically, and China's domestic economic environment also has a variety of risks. The negative effect of import commodity structure on terms of trade indicates that with the increase of the proportion of imported primary products to industrial manufactures, the price terms of trade tend to decline. As one of the important indicators to measure the size of a country's trade gains, trade conditions have always been a hot topic in academic research. Based on the input-output analysis, this paper makes a reasonable improvement on the terms of trade. Consider the combination of price and trade conditions, income and trade conditions, and factor trade conditions. Objectively derive the changing trend of China's total price and trade conditions.

1. Introduction

The distribution of interests in international trade has always been one of the difficult problems in the study of international economic theory. Generally speaking, countries participating in international trade are to obtain as many benefits as possible through trade on the basis of their existing resources [1]. China has actively participated in the wave of economic globalization, and its foreign trade has maintained a high growth rate for many years. In the theory of international trade, terms of trade are defined as the quantity of imports that can be exchanged for each unit of export goods [2]. Whether bilateral or multilateral agreements on international trade, or arrangements and management made by various countries in foreign trade, are directly related to the distribution and redistribution of trade interests [3]. Trade conditions are an important indicator to measure the gains and losses of a country's trade in a certain period of time, and have always been one of the important issues in the study of economics [4]. If the number of imported goods that can be exchanged for each unit of export for a certain period of time has increased, it means that the terms of trade have improved during this period [5]. How to measure the benefits of foreign trade has become a key issue for every international trade participant, and the study of terms of trade has emerged.

Terms of trade are important indicators for measuring the size of a country's access to trade interests. The high growth of China's foreign trade has greatly promoted the development of economic and technological progress and productivity. At the same time, it also promoted the adjustment of the domestic industrial structure and improved the quality and efficiency of economic growth [6]. As one of the important indicators to measure the size of a country's trade gains, trade conditions have always been a hot topic in academic research. In the long-term dynamic perspective, the benefit from trade represents an acceleration in the accumulation of production factors and technological advancement through international trade [7]. China's position in the international market is also constantly improving, and it has gradually become an important driving force for world economic growth. The quality of terms of trade is directly related to the vital trade interests of countries, and is considered as two basic issues of international trade. Governments of all countries are also very concerned about the changing trend of terms of trade [8]. Although the rapid

development and accumulation of China's foreign trade has produced tremendous advantages, the world environment has changed dramatically, and China's domestic economic environment also has a variety of risks [9]. If the proportion of imports that can be exchanged for a unit of export commodities increases in a certain period of time, the country's terms of trade will improve, and vice versa, worsen.

2. Analysis on the Influencing Factors of Terms of Trade Change

Terms of trade and comparative advantage theory are two major research directions in the field of international trade. The terms of trade and poverty-stricken growth of developing countries are also very active and relatively open topics. From the perspective of price terms of trade, the trend of price terms of trade in China is basically similar to that in developing countries, both of which show a downward trend in fluctuations. The terms of trade of manufactured goods fluctuate greatly in the long run, and the terms of trade of primary products are relatively stable on the whole. In recent years, the deterioration of terms of trade in China is caused by the deterioration of terms of trade of primary products and manufactured goods. The terms of trade have an important position in the field of international trade. From the perspective of terms of trade, it is of great practical significance to analyze China's foreign trade development and trade gains. If the price of imported goods in a country remains unchanged, the price of exported goods will increase. Then the trade conditions of a country are improved and more benefits can be obtained from international trade. If the import price is lower than the export price, then the quantity of imported products that can be exchanged for exporting one unit of product increases, and the terms of trade are improved.

With the acceleration of the process of economic globalization, intra-industry trade and intra-company trade have developed rapidly, and the proportion of intermediate goods trade has become higher and higher. In trade activities, as an important factor of social capital, the scale of social relations has the most important impact on trade performance. Businessmen with large scale of social relations have strong financing ability, and can make their own investment decisions according to market opportunities, so as to improve the success rate of trade. The specific process can be shown in Figure 1. Firstly, the minimum spanning tree is obtained, then the loop is controlled according to the condition, and the edge with the largest weight is partitioned. If two clusters are needed, only one of the longest edges needs to be cut off.

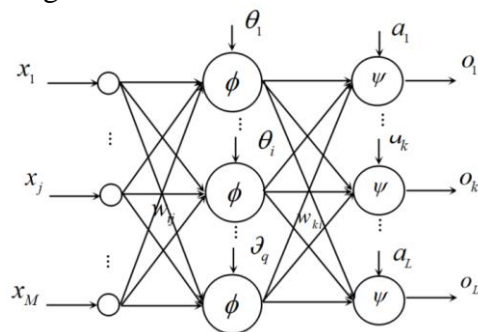


Fig.1. Spanning Tree Process

A multi-angle inspection of changes in terms of trade can not only reflect the level of trade profitability of a country, but also reflect the strengths and weaknesses of a country's export competitiveness. The calculation of price terms of trade is relatively easy, and it is the most basic and practical trading condition index, which is still widely used in most countries in the world. The change in the terms of trade and trade can not tell the true change of China's trade interests, while China's income and trade conditions have been showing a rapid upward trend. Due to the ability to influence the price of the international market, changes in demand have caused price changes. The price trade condition is a simple and intuitive reflection of a country's competitiveness and interest changes in the international market from a price perspective [10]. Cointegration test and causality test should be carried out on terms of trade and its main influencing factors to obtain their long-term correlation, and the causality between terms of trade and other factors. Price terms of trade reflect

more changes in the international value of commodities. It can not reflect the dynamic changes of trade interests related to technology, human capital and factor utilization. When classifying the import and export commodities, it is found that the deterioration of the terms of trade index of primary products is the main reason for the deterioration of the total terms of trade index.

3. Economic Analysis of Terms of Trade Change

China's foreign trade has achieved unprecedented rapid development, both in terms of volume and speed, and its trade surplus continues to expand. For developing countries like China, whose financial system is relatively closed but whose export-oriented economy dominates, the financial crisis has the most direct impact on exports. Although many scholars use the same index to calculate China's price terms of trade index, the results are different, so the reference value is not high. Under the condition of limited international market space, there is less and less space for China to improve its terms of trade by simply relying on quantity expansion. China's terms of trade and the world's major exporters of manufactured goods have shown a downward trend in price and trade conditions, and are in line with the changing trend of trade conditions in emerging economies. Connotational economic growth always promotes the improvement of production standards. It does not lie in the increase of capital stock and high-quality labor. It does not need to consume non-renewable resources or resources that are regenerated but have higher development costs. If the imported goods that can be exchanged for exporting one unit of goods in a certain period of time increase compared with the base period, the country's terms of trade will improve, and vice versa.

The overall situation of China's foreign trade development in the past decade or so has been very alarming. Both in terms of total volume and growth rate, it has developed rapidly in a record-breaking manner. The price and trade conditions reflect the import capacity of a country's export commodities, that is, how many units of imported goods can be exchanged for the export of one unit of the country's goods. The trade aid system can help individuals develop trade opportunities, as shown in Table 1 for the empirical analysis of trade policies and trade attitudes.

Table 1 Empirical analysis of trade policy and trade attitude

Variable	Perceptual skills	Perceived opportunity	Trade intention	Fear of failure
Trade Education	0.067	0.246	0.058	0.191
trade environment	0.025	0.084	0.036	0.022
Economic Types	0.023	0.076	0.093	0.045

Economic growth is defined by development economists as the growth of a country's actual output of goods and services in a certain period of time. If economic growth is caused by technological progress, considering the different nature of technological progress and the different departments, it is generally divided into three situations: capital-saving technological progress, labor-saving technological progress and neutral technological progress. Income terms of trade index increases, and trade benefits increase, indicating that the country's export earnings can be exchanged for more imports. A better situation is that commodity trading conditions are improving, while factor inputs are decreasing due to productivity gains. If a country spares no effort to accelerate technological progress in the production process of using scarce elements in today's world, it will inevitably receive the benefits of improved factor trade conditions. In reality, it is often difficult to maximize the terms of trade by imposing the best tariffs.

4. Conclusion

Trade promotion services should focus on SMEs. In recent years, China has accelerated the liberalization of foreign trade management rights, and many private enterprises have begun to engage in foreign trade. Among them, SMEs account for the vast majority and will be more and more. Since the current price of these products is relatively low, it will help to lower the import price index and thus improve the price and trade conditions. Increasing the import of these products

will also have a positive effect on the stability of the global market. The effect of the structure of imported goods on the terms of trade is negative, indicating that as the proportion of imported primary products to industrial manufactured goods increases, the terms of trade in prices tend to decline. The optimization of export commodity structure and foreign direct investment promote the improvement of factor terms of trade in improving labor productivity. At present, the main objective is to improve the terms of trade of income and factors, take into account the terms of trade of prices, ensure the growth of overall economic interests, and adopt relevant policies to improve the terms of trade. With the challenge of aging population in China becoming more and more serious, we should speed up the pace of personnel training and improve labor productivity, so that the growth of labor productivity in China is higher than the world average level, and promote the steady development of economy and foreign trade.

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