

# Does foreign direct investment affect the optimization of the industrial structure of the home country? Evidence from China

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**Abstract:** This paper analyzes the status quo of foreign direct investment in China over the years, combined with the actual development of the industry, selects the non-financial foreign direct investment (hereinafter referred to as foreign direct investment) and industrial structure data from 1984 to 2017 in China, and uses regression analysis to analyze the relationship between the two. Empirical analysis. The results show that foreign direct investment has a significant positive effect on the optimization of China's industrial structure. The Chinese government can promote the coordinated development of the three major industries by stimulating high-efficiency foreign investment, and then promote the transformation and upgrading of China's industrial structure.

## 1. Introduction

The report of the 19th National Congress of the Communist Party of China pointed out that during the “Twelfth Five-Year Plan” period, China's economic construction has made great achievements, and its GDP has grown from 54 trillion yuan to 80 trillion yuan, ranking second in the world. At present, China's economy is in a period of transition, and high-quality development methods will gradually replace the long-term high-speed growth mode. Transforming economic development mode, optimizing economic structure, and improving growth momentum will become important development directions for China's economic future. According to the statistical bulletin, the total amount of GDP in China in 2017 was 827.12 billion yuan, a year-on-year increase of 6.9%. The first, second and third industries accounted for 7.9%, 40.5% and 51.6% respectively. Compared with 32%, 43%, and 25% in 1984, China's economic structure has been comprehensively developed over the past 30 years. Under the guidance of the new era, China's industrial structure has undergone significant changes. However, there are still many problems in the process of upgrading China's industrial structure: First, the proportion of the three major industries is not coordinated, and it does not reach the average level of developed countries or the world; second, the proportion of the first and second industries is high, and the proportion of the tertiary industry is higher. The rise is slow and the industrial structure is still unbalanced.

With the increasing degree of openness, China's international influence and appeal have been continuously improved worldwide, and foreign cooperation has also reached a record high. In the report of the 18th National Congress of the Communist Party of China, General Secretary Xi proposed to make full use of the investment strategy of “two kinds of resources and two markets” and put the investment of enterprises to a new height. By the end of 2014, China has become the world's largest trading nation, the largest exporter and the second largest importer. In a deep open environment, China attracts a large number of foreign investors to invest in China every year. The foreign direct investment environment is becoming more mature, and the trend tends to be large capital, full industrial chain and multi-structure. In particular, after China's supply-side structural reforms and the “Belt and Road Initiative” policies were introduced, we will go to production capacity, take advantage of China's comparative advantage industries, and promote foreign direct investment to a new level. China's economic development will also usher in a new one. The golden age of the wheel. Foreign direct investment dividends are an important part of gdp. Under the background of the new era, exploring the relationship between China's industrial structure transformation and upgrading, it has great practical significance for the future industrial restructuring strategy and the adjustment of the direction.

The article selects the ratio of the growth of China's tertiary industry and the secondary industry's output as the explanatory variable to measure the optimization of China's industrial structure, and selects the foreign direct investment amount of China's current year (non-financial) as an explanatory variable to measure the foreign direct investment. Investment level. There are many factors influencing the upgrading of industrial structure, including foreign investment, domestic consumption, inflation, etc. This paper aims to discuss the impact of foreign direct investment on it, so ignore other external factors and use regression models to explore whether the two have influence. And its level of action provides a reference for China's industrial restructuring.

## 2. Research review

For a long time, the academic research on the relationship between China's industrial structure development and foreign direct investment has mainly focused on the field of economic management. The research content includes development status and influencing factors, and the methods tend to be more empirically organized, but they have not been unified. In conclusion, Yan Shenzhou (2018) empirical research believes that the impact of foreign direct investment on China's industrial structure optimization is first suppressed and promoted, and the relationship between them is u-type. Xu Jianwei et al (2016) believe that foreign direct investment has a significant impact on economic growth and ease employment pressure. Gan Xing et al. (2016) analyzed the effect of foreign direct investment on China's economic growth and found that fdi has a strong time lag effect on promoting China's economic growth. Yu Guansheng et al. (2016) show that foreign direct investment has a negative internationalization effect and positive competitive effect in theory. Shan Junhui et al. (2016) show that foreign direct investment has a significant positive effect on the development of China's secondary and tertiary industries, and the impact on the tertiary industry is most significant. Liu Xiaoling et al. (2016) used Hunan Province as an example to empirically analyze the impact of foreign direct investment and import and export trade on regional economic growth, and found that fdi has a significant positive effect on Hunan's economic growth.

Generally speaking, scholars have relatively more research on the upgrading of China's industrial structure, but it is rare to study the foreign industrial structure of foreign direct investment. From the perspective of investment, it is of great significance to analyze the impact of foreign investment on China's economy. On the basis of collating and summarizing the existing literature, this paper analyzes and explores the impact of foreign direct investment on China's industrial structure.

## 3. The status of foreign direct investment in China

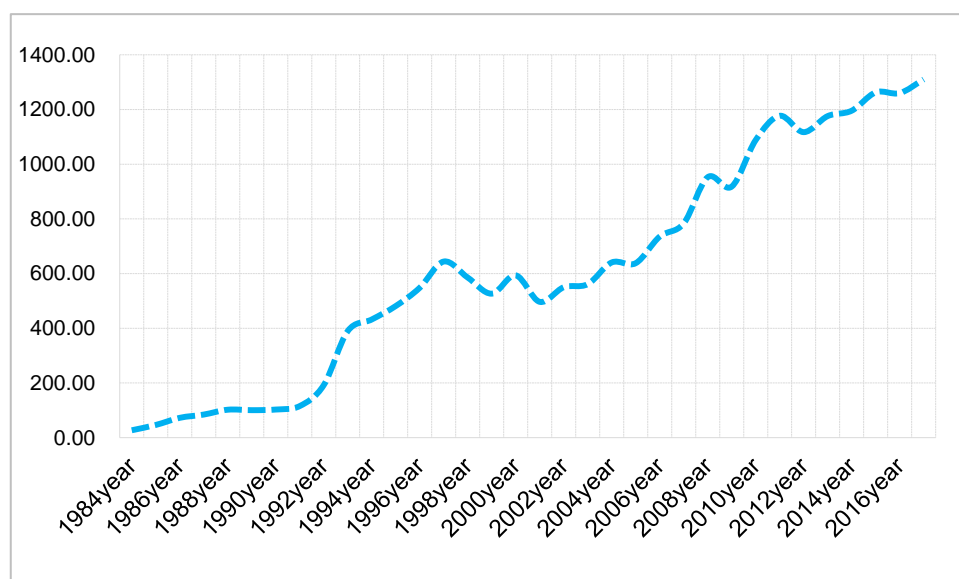


Figure 1 Trends in the actual utilization of foreign investment in China from 1984 to 2017 (unit: billion US dollars)

According to statistics from the Ministry of Commerce, in 2017, foreign investors directly invested in 35,652 new businesses (non-financial), an increase of 27.8%. The actual use of foreign direct investment amounted to \$131 billion, of which 3,857 new enterprises were directly invested in China along the “the Belt and Road”, an increase of 32.8% year-on-year. Throughout the foreign direct investment process of foreign merchants, compared with the \$2.705 billion of foreign direct investment in non-financial fields in 1984, the net foreign direct investment increased by \$128.295 billion in 34 years, an increase of 97.94%. The rapid development of foreign direct investment has not only stimulated the growth of China's GDP, but also led to the optimization of domestic industrial structure due to the diversity of investment industries and fields.

## 4. Empirical research design

### 4.1 Variable selection and research expectations

Based on the research of previous studies, refer to Zhang Lin (2016), Wang Li et al. (2016) Yan Shenzhou (2018) and others. This paper uses the ratio of the output of the tertiary industry to the secondary industry to measure the rationalization of the industrial structure. (Industry optimization), using foreign direct investment (Foreign direct investment) as the explanatory variable.

Table 1 Study variable design

Variable type	variable	symbol	Variable description
Explanatory variables	Foreign direct investment	FDI	China's actual use of foreign direct investment each year (excluding banks, securities, insurance)
Explained variable	Industrial structure optimization	IO	Ratio of tertiary industry to secondary industry

### 4.2 Sample selection and data collection

Since China began to collect statistics on foreign direct investment in 1984, this paper selects the foreign direct investment amount of China from 1984 to 2017 as a research sample. The data is collected from the statistical bulletin of the National Economic and Social Development and the China Statistical Yearbook.

### 4.3 Design of measurement model

This paper aims to empirically test the impact of foreign investment on the optimization and upgrading of industrial structure through regression model. It is assumed that foreign direct investment obeys the linear regression of industrial structure optimization without considering other factors. The prediction model is constructed as follows:

$$IO = \beta_0 + \beta_1 FDI + \varepsilon$$

Note:  $\beta_0$  represents a constant term,  $\beta_1$  represents a coefficient, and  $\varepsilon$  is a random error term.

## 5. Empirical analysis

According to statistics, in recent years, the amount of foreign direct investment in China has increased year by year. In 2017, China's actual use of foreign direct investment amounted to US\$131 billion. The proportion of industrial structure is also developing year by year. The proportion of the primary industry is 32.13% at the largest, and the current annual average is still 16.75%, indicating that China's primary industry still accounts for a large proportion. The difference between the maximum and the minimum of the second industry is only 3 percentage points, and the average value of the cut is as high as 44.85%, indicating that the secondary industry has always been the “pillar pillar” of China's gdp. The proportion of the tertiary industry reached 51.63% in 2017, and the annual growth, indicating that China's industry is gradually shifting from one industry

to the third industry.

Table 2 Descriptive statistical analysis

	Observations	Minimum	Maximum	Mean	Std. Dev
FDI	34	27.050	1310.000	614.929	412.396
First industry share	34	0.079	0.3210	0.167	0.070
Second industry ratio	34	0.398	0.480	0.449	0.023
Third industry ratio	34	0.2478	0.516	0.384	0.068

## 6. Regression analysis

Using the regression analysis application data in Eviews 7.2 software to process the data yields the following results:

Table 3 Regression results

Variable	Coefficient	Std. Error	t-Statistic	Prob
C	0.637	0.028	22.460	0.000
FDI	0.362	0.038	9.395	0.000
R <sup>2</sup>	0.734			
Adjusted R <sup>2</sup>	0.864			

Table 3 shows that for every unit of increase in fdi (100 billion US dollars) without considering external conditions, oi will increase by an average of 0.156 units. The coefficient of determination is 0.734, which indicates that the regression model established has a good overall fitting effect on the sample data, that is, the explanatory variable “foreign direct investment” explains most of the differences in the “optimization degree of industrial structure” of the explanatory variable. That is, the model establishment is more reasonable.

## 7. Research conclusions and recommendations

The empirical results show that the level of foreign direct investment is one of the important factors in the optimization of China's industrial structure. Most of the foreign direct investment is concentrated in the service industry, processing industry, etc., through foreign direct investment to stimulate the growth of the domestic three industries, and then affect the proportion of the first and second industries affecting the domestic industrial structure, which is in line with China's efforts to change the domestic industry through the introduction of investment promotion. Structural policy.

The Chinese government should continue to guide and encourage foreign investors to invest efficiently. (1) Reasonably guiding foreign investors to invest efficiently. At present, in China's diplomatic environment tends to be the most stable level in history, the government should strengthen investment promotion, strengthen the construction of three-product projects, and increase investment and investment. Enhance the development momentum of the three industries, vigorously support the service industry brand enterprises, strengthen the integration of resources in logistics, warehousing and commerce and service industries, foster and expand the leading enterprises in the tertiary industry, further open up the construction of international free trade zones, expand policy coverage, and lead the commerce and trade circulation. The industry is fully developed. (2) Strengthening support for the policies of the three industries. The report of the 19th National Congress of the Communist Party of China pointed out that the current social contradictions in China have changed, and there is still a mismatch between the need for the people's growing good life and the development of inadequate and unbalanced development. The people's needs for life have gradually evolved from material pursuit to spirituality. Level change. In the medium and long term, China should vigorously develop the tertiary industry and accelerate the development of the tertiary industry as an important starting point for economic development in the new era. Support the weak links in the tertiary industry, and support policies and measures to promote the transformation of the traditional service industry into refined transformation, and promote the rapid

development of emerging industries. Maintain a sound economic development environment, comprehensively promote industrial integration, and promote the prosperity, development, and prosperity of China's tertiary industry.

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