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Analysis of the Impact of RMB Exchange Rate Changes on the Upgrading of Chinese Industrial Structure

Zhixin Wei*, Shuai Liang

School of Economics and Management, Tianjin University of Technology and Education, Tianjin, China

*Corresponding Author: Zhixin Wei

ABSTRACT

The change of RMB exchange rate is an important factor affecting Chinese economic operation, which has a far-reaching impact on the upgrading of Chinese industrial structure. This paper uses the data from 2014 to 2021 for empirical analysis, and concludes that the rise of RMB exchange rate has a promoting effect on the upgrading of Chinese industrial structure. Suggestions were put forward to accelerate the transformation and upgrading of traditional industries, develop emerging industries and high-tech industries, and encourage enterprises to increase investment in technological innovation and research and development.

KEYWORDS

RMB; Exchange Rate Fluctuations; Industrial Structure.

1. INTRODUCTION

Under the new development pattern of domestic and international dual circulation, the fluctuation of the RMB exchange rate, as an important link connecting domestic and foreign markets, not only affects the nerves of international capital flows, but also profoundly affects the adjustment and upgrading of the domestic industrial structure. As a lever for economic adjustment, the exchange rate is like an invisible force, quietly changing the competition pattern and development path of different industries. With the ups and downs of the RMB exchange rate, the industrial structure seeks a new balance and breakthrough in adaptation and challenge, which is not only related to the overall competitiveness of the national economy, but also has a profound impact on the survival and development of enterprises. Therefore, it is of great significance to deeply explore the impact of the RMB exchange rate on the industrial structure to grasp the law of economic development and optimize the layout of the industrial structure. This paper will empirically analyze the impact of RMB exchange rate changes on the upgrading of Chinese industrial structure, in order to provide reference and enlightenment for the formulation of relevant policies and the adjustment of enterprise strategies.

2. LITERATURE REVIEW

The impact of RMB exchange rate changes on Chinese industrial structure has always been a hot topic in academic research. Tan Xiaofen and Jiang Yuanyuan (2012) believe that the moderate appreciation of the renminbi and the coordination with fiscal and monetary policies will contribute to Chinese industrial restructuring [1]. In the same year, Xu Weicheng and Fan Aijun constructed a profit maximization model to obtain the change in the real effective exchange rate of RMB, and concluded that RMB appreciation can promote the optimization and upgrading of Chinese industrial

structure [1]. He Yi and Zhong Yusheng (2014) found that the appreciation of the RMB exchange rate has a long-term role in promoting the upgrading of the industrial structure [3]. Wang Songqi and Xu Qian (2015) pointed out that the effective exchange rate of RMB has a promoting effect on capital-intensive and technology-intensive industries [4]. Through empirical analysis, Wang Baoqian and Hu Tong (2017) found that the increase in the RMB exchange rate will lead to a decrease in the proportion of the secondary industry and an increase in the proportion of the tertiary industry [5]. Cao Wei (2023) argues that RMB appreciation can promote the transformation of the industrial structure into a service[6]. Although scholars have discussed the impact of RMB exchange rate changes on Chinese industrial structure from different perspectives such as the measurement method of RMB interest rate and the type of industry, scholars agree that the appreciation of RMB exchange rate will promote the upgrading of Chinese industrial structure.

3. EMPIRICAL RESEARCH

3.1. Research Hypothesis

With the rise of the RMB exchange rate, the price of Chinese export commodities will also rise, inhibiting the export of Chinese goods, in response to this situation, enterprises may turn the market center to the domestic, increase the development and investment in the domestic market, prompt enterprises to increase investment in research and development, improve product quality and technical level, reduce dependence on exports, thereby promoting the upgrading of industrial structure. The rise in the RMB exchange rate will reduce the price of imported goods, reduce the production cost of enterprises, increase corporate profits, and promote the upgrading of industrial structure. The rise in the RMB exchange rate will also attract foreign capital to flow into China, promote the cooperation between domestic enterprises and foreign-funded enterprises, and thus improve the technical level and management level of enterprises. Therefore, the rise in the RMB exchange rate may have a positive impact on the upgrading of Chinese industrial structure. Based on the above analysis, the following hypotheses are proposed: The rise of the RMB exchange rate can promote the upgrading of Chinese industrial structure.

3.2. Metric Selection and Model Building

3.2.1. Metric Selection.

Table 1. Variable Selection and Variable Description

Category	Variable	Notation	Unit
Dependent variable	Industrial structure	stru	%
Independent variable	RMB exchange rate	cny	%
Control variables	economic growth rate	gdp	%
	export trade value	open	100 million yuan
	The labor market	lab	%

Dependent variable: industrial structure, measured by the proportion of tertiary industry gdp to total gdp, the increase in the proportion is considered to be the upgrading of industrial structure.

Independent variable: RMB exchange rate, RMB exchange rate refers to the exchange rate change of RMB against a basket of currencies, measured by the RMB exchange rate index.

Control variables: economic growth rate, measured by annual gdp growth rate; export trade value , measured by the total value of goods exported; The labor market is measured by the number of persons employed in the tertiary sector in the total number of employed persons in the year.

The RMB exchange rate index comes from the China Money Network, and the data of variables such as the development level of various industries, annual gdp growth rate, export trade volume and changes in the labor market are from the National Bureau of Statistics.

3.2.2. Model Building.

In this paper, we construct a model (1) to verify the above hypothesis:

$$stru = \beta_0 + \beta_1 cny + \beta_2 gdp + \beta_3 open + \beta_4 lab + \varepsilon. \quad (1)$$

Among them, stru represents the industrial structure, cny represents the RMB exchange rate, gdp represents the economic growth rate, open represents the export trade volume, lab represents the labor market, and ε represents the random error term of the model.

3.3. Empirical Analysis

The descriptive statistical results are shown in Table 2, and the results of OLS regression estimation are shown in Table 3 when the data are brought into the established multiple linear regression model.

Table 2. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
stru	8	52.475	2.051	48.3	54.5
cny	8	96.575	4.005	91.39	102.47
gdp	8	3556.25	510.193	2839.5	4319.7
open	8	163351.96	25412.255	138419.3	214255.2
lab	8	44.962	2.736	40.5	48

Table 3. Descriptive Statistics

Variable	stru
cny	0.1128** (5.46)
gdp	0.0077*** (6.61)
open	-0.0001*** (-11.76)
lab	0.3465* (2.38)
N	8
Adjusted R^2	0.9977
F-statistic	762.55

Note: ***, **, and * indicate significant at the significance levels of 1%, 5%, and 10%, respectively, and the values in parentheses are the values of the regression coefficient t statistic, and the estimates of the constant terms are omitted in this table.

As can be seen from Table 3, cny, gdp, open and lab all have significant effects on stru at a significance level of 0.1, and lab has a significant impact on stru at a significance level of 0.1. Among them, the coefficient of the core explanatory variable cny is positive, indicating that cny has a significant positive effect on stru. For the control variables, the coefficients of cny, gdp and lab are positive, indicating that both gdp and lab have a significant positive impact on stru, and the coefficient of open is negative, indicating that open has a significant negative effect on stru, which is consistent with the theoretical analysis results in the previous paper.

4. SUMMARY AND RECOMMENDATIONS

Through the analysis of the existing literature, this paper finds that the rise of the RMB exchange rate is conducive to the upgrading of Chinese industrial structure, and uses the data from 2014 to 2021 to establish a multiple linear regression model for empirical testing, and the results show that at the significance level of 5%, the RMB exchange rate index has a positive effect on Chinese industrial structure, that is, the increase of the RMB exchange rate can promote the upgrading of Chinese industrial structure.

In order to cope with the impact of RMB exchange rate changes on Chinese industrial structure, the following policy measures need to be adopted:

First, accelerate industrial transformation and upgrading, and enhance competitiveness. Strengthen the integration and optimization of the industrial chain, improve the efficiency and flexibility of the supply chain, and provide a good market environment for enterprise transformation. At the same time, strengthening the cultivation and introduction of talents, the skill level and innovation ability of employees are also the key to achieving industrial transformation and upgrading.

Second, vigorously develop emerging industries and high-tech industries. To improve the level of Chinese industrial structure, it is necessary to vigorously develop emerging industries and high-tech industries to inject new impetus into economic development. By increasing support and investment in emerging industries, we will cultivate new economic growth points, while increasing industrial added value and creating employment opportunities.

Third, encourage enterprises to increase investment in technological innovation and research and development. By increasing R&D spending, enterprises can accelerate the pace of technological innovation and improve the scientific and technological content and competitiveness of products. At the same time, it will strengthen the protection of intellectual property rights and technology transfer, and encourage enterprises to carry out technological innovation and research and development activities. In addition, it is also necessary to strengthen industry-university-research cooperation and promote the transformation and application of scientific and technological achievements.

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REFERENCES

[1] Tan Xiaofen, Jiang Miaomiao (2012).The Effect of RMB Exchange Rate Appreciation on Industrial structure Adjustment: An Empirical Study Based on VAR Model. Macroeconomics, 160(03):48-54+68.

[2] Xu Weicheng, Fan Aijun (2012). The Effect of China′s Industrial structure Upgrading caused by RMB Real Effective Exchange Rate Changes. World Economy Studies, 220(06):9-15+87.

[3] He Yi, Zhong Yusheng (2014). An empirical analysis of the relationship between the change of the real exchange rate of RMB, the industrial structure and the dependence on foreign trade. Journal of Commercial Economics, (35):85-87.

[4] Wang Songqi, Xu Qian (2015). Empirical Research of the Change of Effective Exchange Rate on Industrial structure Effect. Economic Theory and Business Management, 300(12):5-18.

[5] Wang Baoqian, Hu Tong (2017). Nonlinear Effects of RMB Exchange Rate and FDI on China's Industrial structure:An Empirical Study based on MS-VAR Model. Commercial Research, 482(06):170-176.

[6] Cao Wei (2023). Currency Appreciation, Economic structure Transformation and Construction of New Development Pattern. Economist, 291(03):79-88.