

# Can RMB's Internationalization Have an Impact on China's Import Trade?

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**Abstract:** The internationalization of RMB is the unescapable consequence about the quick economic development of China. RMB internationalization has many influences on China, and the import trade is the direct object of RMB internationalization. This paper consists of three parts: expounds the meaning of internationalized RMB, the theoretical analysis of the RMB's influence in the import business from exchange rate and trade distribution level, and the internationalized RMB effect in the way of import trade. For the verification of RMB internationalization's influence in the domain of Chinese import trade, this thesis uses regression analysis to make the hypothesis that RMB internationalization has an effect on Chinese import trade, after this, finally obtains a significant negative correlation, the hypothesis is established.

**Keywords:** RMB, Currency internationalization, China, Import trade.

## 1. Introduction

The internationalization of RMB is the inevitable result of China's growing economy, and the internationalization of Chinese currency is inevitably accompanied by the change of Chinese import trade. China's import business plus RMB internationalization are in stage of a later start and development faster in the world. Due to historical factors, China relies heavily on the US dollar for trade settlement and reserve, which leads to continuous friction in the internationalized RMB's foreign trade for the past few years.

The internationalization of RMB means that some functions of the domestic currency of RMB need to be internationalized. Firstly, the RMB needs to become the price measure function in the global market, that is, a unit of accounting and the unit of pricing. What's more, the function of RMB as a medium of exchange also needs to be recognized by other international market participants. Thirdly, the storage function of internationalized RMB has been utilized totally.

## 2. Literature Review

On account of the definition of currency internationalization by M Chinn and J Frankel<sup>[1]</sup>, when a country's currency is internationalized, its own functions should be extended from the domestic market to the international market to reach the point that other countries recognize the service of the currency. Mundell<sup>[2]</sup> believed that when issuance of paper money by the national authorities of a country or district exceeds the geographical scope that should be used, it proves that the sovereign currency of that country or region has started the course of internationalization.

In terms of the degree of RMB internationalization with its impact on trade, J Zou<sup>[3]</sup> analyzed the good or bad influence of RMB internationalization in the area of Chinese import and export business. Pu Y<sup>[4]</sup> had analyzed the effect of RMB internationalization on Chinese export growth from different aspects. Dai J P<sup>[5]</sup> argued that RMB internationalization can increase or decrease exchange rate risk and affect Chinese import price through the exchange rate transmission mechanism. Wang T Q<sup>[6]</sup> put forward the aspects and ideas to

detect the level of RMB internationalization. Ouyang H Q<sup>[7]</sup> concluded that RMB internationalization has an active effect on the value of trade between China and other countries trace the Belt and Road. Chen Y L<sup>[8]</sup> believed that for the good of internationalized RMB are mainly illustrated on the earning brought by international seigniorage and the financial asset benefits obtained by using overseas reserves for investment. Li D K<sup>[9]</sup> summarized that a country's economic aggregate, inflation rate, true rate of interest, exchange rate fluctuation and amplitude of fluctuation and other elements can influence the grade of a country's currency internationalization. Shen J<sup>[10]</sup> argued that currency internationalization can not only reduce transaction costs, but also promote the development of domestic financial markets and financial institutions, improve the financial system, balance the balance of payments, and enhance the ability to resist risks. Liang Q<sup>[11]</sup> found that exchange rate threats caused the undulation of China's import and export business through the analysis of regression China's import and export trade and RMB exchange rate state between 2001 and 2004. Bi Y J<sup>[12]</sup> and Ren Z Z<sup>[13]</sup> found the same phenomenon.

## 3. Research Content

This study primarily includes two portions: principle and practice. The fundamental part incorporates the related theories of internationalized RMB, the principle of Chinese currency influencing trade through exchange rate and trade benefit distribution, and the mechanism of Chinese currency's internationalization influencing Chinese import; The practical part is to draw the conclusion of the influence of RMB internationalization on import trade across data sorting and analysis. Finally, the paper concludes that the grade of internationalized currency of China is not high at present, and it is still necessary to improve the internationalization of China's currency to have an active impact on import business.

## 4. Theoretical Analysis

### 4.1. Exchange rate factors

#### 4.1.1. Impact on the balance of payments

In international trade, a country's export trade volume is greater than its import trade volume, which will lead to a long-term trade surplus, which will result in a decrease in the provision of China's currency compared with other currencies, especially the US dollar, and an augment in the demand for Chinese paper money in the oversea exchange market, thus creating a pressure environment for RMB appreciation.

#### 4.1.2. The difference of interest rate

According to the theory of interest rate parity, interest rate can affect a country with a relatively open financial market in the short term. Due to the profit psychology of investors, it will increase the need for the national currency and attract the exchange rate price to rise, thus increasing the upward pressure of RMB.

### 4.2. The influence of internationalized RMB in the Chinese import and export business environment

#### 4.2.1. It affects the world and regional trade system

The more international a currency is, the more it affects the rule-making of world trade. In the course of increasing the internationalization degree of Chinese currency, it will also enhance the status of RMB in the international monetary system, which will effectively enhance China's trade discourse power and play a positive role in China's import trade.

#### 4.2.2. It will affect the distribution of trade benefits

On the one hand, RMB internationalization can make RMB have more convenient use conditions and lower trade costs than other currencies, and more importantly, reduce exchange rate risks, which can improve China's trade environment. On the other hand, RMB has an impact on

China's import trade mainly through the currency substitution effect, and the impact targets are mainly trade price and trade environment.

## 5. Model Setting and Data Description

### 5.1. Data description

Internationalized Chinese currency possesses a direct impact on Chinese value of trade. The data of Chinese currency's internationalization index are from 2015-2020 RMB Internationalization Report released by the People's Bank of China, the quarterly GDP data are from China Economic Data, and the quarterly average exchange rate data are from CSMAR database.

### 5.2. Regression model setting

In order to explore the effect of Chinese paper money's internationalization on Chinese import business, this paper constructs the following regression model and makes hypotheses.H1: RMB internationalization has a noteworthy influence on Chinese import trade.H2: RMB internationalization has no important impact on Chinese import commerce.

$$\widehat{IM} = \alpha_1 RII + \alpha_2 GDP + \alpha_3 EX + \varepsilon \quad (1)$$

Where IM represents China's import trade volume, RII represents the RMB internationalization index, GDP represents China's GDP data, and EX represents the US dollar exchange rate. $\varepsilon$ Is the random disturbance term.

### 5.3. Variable description

Since GDP index and exchange rate will have a vital influence in China's import commerce in terms of consumers' purchasing psychology and importing enterprises, they are used as control variables in this regression equation. See Table 1 for details.

**Table 1.** Description of variable definitions

	Variable symbols	Variable name	Variable definition
Explained variable	IM	China's import trade volume	Value of trade denominated in RMB
Explanatory variables	RII	RMB Internationalization Index	A comprehensive quantitative index of the actual use of RMB in international economic activities
	GDP	China's gross domestic product	Total final results of production activities of all permanent resident units in China denominated in RMB
Control variables	EX	Average USD/RMB exchange rate	In the Chinese foreign exchange market, the direct quotation method is used as the average value of the quotation method used to measure the exchange of USD against RMB

## 5.4. Descriptive analysis

**Table 2.** Basic statistics of variates

Variable	Observed number	Mean	Standard Deviation	minimum	Maximum
RII	44	2.1961	1.4808	0.02	5.19
EX	44	6.5366	0.2996	6.1176	7.0846
GDP	44	17.868	5.2458	8.7501	29.562
IM	44	3.6122	0.6492	2.1582	5.2616

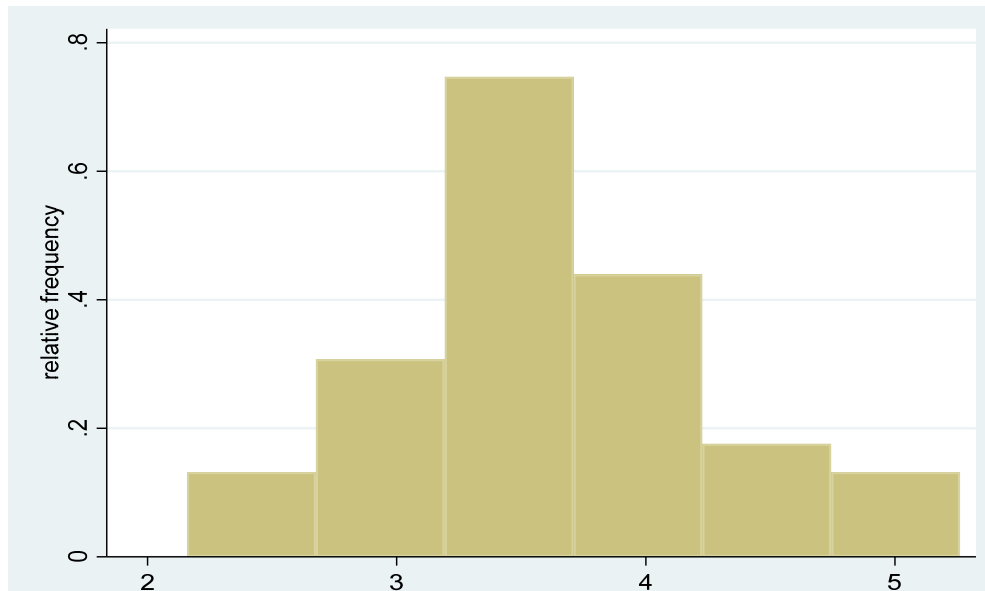


Figure 1. The histogram of China's import volume

It is observed from Table 2 that the overall degree of RMB internationalization is not high, the lowest value is 0.02, the highest value is only 5.19, while the variance of GDP is 5.2458, indicating that China's economy has changed significantly during this period. Combined with the actual situation, China's economy is in a period of rapid development from 2010 to 2020. The variance of the exchange rate is 0.2996, which indicates that the exchange rate between USD and RMB is relatively stable. The histogram below (Figure 1) shows that most of China's import trade volume is concentrated between 3-4 trillion yuan, with a strong trade market and trade share.

## 6. Analysis of Measurement Results

### 6.1. Correlation analysis

As for the inverse correlation between RMB internationalization index and import trade volume, H1 is preliminarily verified, but further regression experiments are still needed. The interrelated analysis is determined in Table 3

Table 3. Correlation analysis

	IM	RII	EX	GDP
IM	1.0000			
RII	0.7444	1.0000		
EX	0.3269	0.2524	1.0000	
GDP	0.9292	0.8516	0.4721	1.0000

Due to the significant correlation coefficients of some variables, it is necessary to judge the degree of collinearity of the regression model, as shown in Table 4.

Table 4. Multicollinearity analysis

Variable	VIF	1/VIF
GDP	4.90	0.2041
RII	4.07	0.2459
EX	1.44	0.6957
Mean VIF	3.47	

It can be shown with Table 5 that the variance inflation coefficient (VIF) and tolerance of the variables are below 5, indicating that the model does not have serious collinearity

problems.

### 6.2. Regression analysis

Stata was used for regression analysis, and the following regression results were obtained.

1. The impact of international RMB index on the value Chinese import

The regression results of Model 1 are shown in Table 5.

Table 5. Regression analysis results

2. Variables	3. Coefficient estimator (t-statistic)
4. RII	5. -0.1219 (-2.74) ***
6. EX	7. -0.4275 (-3.27) ***
8. GDP	9. 0.1558 (11.29) ***
10.	11.
12. N	13. 44
14. R2	15. 0.8985

Note: \*, \*\* and \*\*\* indicate significance at the criterion of 10%, 5% and 1%, severally.

It has shown from Table 5 that the RMB internationalization index and China's import trade volume are significantly negatively correlated at the level of 1%, so H1 is verified. The results show that during this period, the higher the level of internationalized Chinese currency is, the lower China's sum of import commerce transaction is, which is caused by the stage of RMB internationalization. According to the above theoretical analysis, the following ultimateness can be put forward:

At present, RMB internationalization is still in the early stage of development, still at a relatively lower grade. An increased internationalization of RMB is largely due to the symbol of relevant bilateral currency swap agreements with neighboring countries. China's main trading countries include a large number of developed European and American countries. When conducting import trade with developed countries, China needs to use a strong currency, mainly the US dollar, for settlement. Therefore, the dividend of currency substitution effect brought by the promotion of RMB internationalization is less than the appreciation pressure caused by RMB internationalization in the actual trade process.

## 7. Conclusion

As a ruler, RMB internationalization has negative effects on Chinese import commerce at the present phase, which is because Chinese currency exchange ratio, RMB internationalization standard, the model of economic development, import trade policy and the imbalance of import trade development hinder RMB internationalization from playing a role in promoting China's import trade.

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