



The Impact of "Belt and Road" on RMB Internationalization under the Double Cycle Development Pattern

--Taking Countries Along the "Belt and Road" as an Example

Cheng Meng

School of Economics, Zhongnan University of Economics and Law
Wuhan, Hubei, 430073, China

13973131252@163.com

Abstract. The building of a high-quality Belt and Road is a crucial driving force, which will unavoidably speed the RMB's internationalization process. Promoting the new development pattern of double-loop is the core of implementing the RMB internationalization plan in the new era. This article examines pertinent data from 26 nations between 2009 and 2022 for empirical analysis, viewing the Belt and Road Initiative and the new double-loop development pattern from this perspective. This paper presents policy proposals in three areas by combining theory and practical evidence: encouraging the reform of the domestic financial system, putting the Belt and Road Initiative and the new development pattern into practice, and expanding China's international investment and trade.

Keywords: the Belt and Road, RMB internationalization, OFDI, Import and export trade.

1 Introduction

President Xi Jinping proposed the joint proposal to construct the Belt and Road in September 2013. China has been collaborating with other nations to create a political, economic, and cultural community under the motto of "peaceful development," relying on effective regional cooperation platforms, bilateral and multilateral mechanisms that are already in place, and the historical Belt and Road. The development trends of multipolarity, economic globalization, cultural pluralism, and social informatization are addressed by the Belt and Road Initiative. It supports the growth and maintenance of the global economy by upholding the idea of transparent regional collaboration.

High-level opening up requires the Belt and Road hub, which links the main domestic and international cycles. Throughout the previous ten years, it has produced astounding outcomes. More nations are prepared to conduct RMB business, accept RMB payments, and establish RMB offshore hubs as the RMB becomes more globally recognized. The RMB is becoming more and more important in intraregional settlements.

© The Author(s) 2024

K. Zhang et al. (eds.), *Proceedings of the 2024 3rd International Conference on Economics, Smart Finance and Contemporary Trade (ESFCT 2024)*, Advances in Economics, Business and Management Research 305, https://doi.org/10.2991/978-94-6463-548-5_2

Increasing the RMB's internationalization helps China's businesses become more competitive, optimize resource allocation, and quicken the "double cycle." This backdrop informs the study of the Belt and Road Initiative's impact mechanism on RMB internationalization in this research.

2 Literature Review

Scholars have focused more on the evolution of RMB internationalization under the Belt and Road Initiative since the initiative's inception. One of the objectives of the Belt and Road Initiative's continuous implementation is the internationalization of the RMB.^[1] The Belt and Road Initiative's concept and implementation will complete the regionalization phase of RMB internationalization and provide a solid basis for future acceleration of the process.^[2] RMB internationalization has been greatly impacted by China's imports of finished goods and exports of capital goods to the nations along the Belt and Road.^[3] Furthermore, by merging China's trade contacts with the nations along the Belt and Road, numerous academics have conducted a more thorough analysis of the variables influencing RMB internationalization. Using GMM model research, Le Fen and Wang Shaonan demonstrate that the internationalization of the RMB will be positively impacted by currency stability, foreign investment, currency inertia, and economic scale, with the degree of influence growing.^[4] What further expansion avenues should the internationalization of RMB pursue in light of the Belt and Road Initiative? In an effort to find a new strategy for RMB internationalization under the Belt and Road Initiative, academics have put forth measures in the literature to support the development of hardware facilities, create a multi-party financing platform, and enhance the communication of economic policies.^{[5][6][7]}

In summary, there has been much research conducted by the academic community on the topics of RMB internationalization and the Belt and Road Initiative, but there are still some pressing challenges that need to be tackled. The extant literature must, first and foremost, accurately evaluate the influence of policy implementation on RMB internationalization. Secondly, the majority of these studies remain in qualitative analysis and require more empirical evidence in quantitative elements. The following are some potential marginal contributions of this study in comparison to the existing literature: (1) The impact of the Belt and Road Initiative on the degree of RMB internationalization is studied quantitatively in this paper using both theory and empirical evidence; (2) The empirical analysis is conducted using data from 26 countries between 2009 and 2022, increasing the volume of data and strengthening the study's argument; and (3) The mechanism by which the Belt and Road Initiative affects RMB internationalization is empirically examined in terms of import and export trade and outward investment. globalization.

3 Theoretical Analysis and Research Hypothesis

The demand for the respective currencies rises as global trade expands. Other nations will require a nation's currency more for trade settlements and reserves when it starts

to play a larger role in world trade. Increased international trade may also encourage currency-issuing nations to take action to preserve the stability of their currencies since participants in international trade are more likely to accept stable and trustworthy currencies. This would further advance currency internationalization. Financial markets must offer more currencies as part of the settlement of global trade, and this development will further encourage the internationalization of pertinent currencies. Numerous academics from within the country have demonstrated that international trade plays a vital role in advancing the internationalization of the RMB.^{[8][9]}

OFDI, according to Ni Yafen and Li Zilian, enhances the foreign exchange function of RMB by encouraging the growth of the financial market.^[10] In order to expedite the internationalization of RMB and provide funding guarantees, OFDI simultaneously depends on the growth of the global financial market. According to Zhang Jingzhi, OFDI encourages the expansion of foreign trade, which raises the frequency of settlement of the national currency and advances its internationalization.^[11] The three features of currency exchange multiplier effect, local currency settlement aggregation effect, and international currency substitution effect have been used by other researchers to further explain the favorable impact of OFDI on RMB internationalization.^[12] Based on the above analysis, this paper makes the following hypotheses:

Hypothesis 1: The Belt and Road Initiative facilitates the internationalization of the RMB;

Hypothesis 2: China's outbound foreign direct investment facilitates the internationalization of the RMB;

Hypothesis 3: The import and export activities of China contribute to the internationalization of the RMB;

Hypothesis 4: China's import and export commerce, as well as its outside investment, can rise with the implementation of the Belt and Road Initiative.

4 Model Design

4.1 Variable Selection

4.1.1. Explained Variables. The explanatory variable in this study is the Renminbi Internationalization Index (RII), which is taken from the Renminbi Internationalization Report that the Institute of International Monetary Studies of Renmin University of China (RIMS) publishes from 2009 to 2022.

4.1.2. Explanatory Variables. A dummy variable is inserted to identify whether the sample nations are along the Belt and Road Economic Belt, if they are, and 0 otherwise. Twenty-six relevant trade countries are chosen as the sample. Since the Belt and Road Initiative was first suggested in 2013, if the initiative is covered, a time variable is created; if not, it is set to 0. The Belt and Road Initiative's impact is calculated using the dummy variable's interaction term. If and only if the sample nations are part of the Belt

and Road Initiative and are situated along the Belt and Road Economic Belt, then the interaction term of the dummy variable takes 1; otherwise, it takes 0.¹

4.1.3. Control Variable. In order to build the model, the pertinent variables from the sample countries for the years 2009–2022 were chosen, and their explanations are displayed in the table 1 below:

Table 1. Summary of variables.

Variable type	Variable Symbol	Variable meaning	Data sources
Explained variables	RII	RMB Internationalization Index	Renminbi Internationalization Report, Renmin University
explanatory variables	Treated	Belt and Road dummy variable interaction term	
control variable	Gdp	The ratio of China's GDP to that of sample countries	World Bank WDI database
	Gdpgrowth	The difference in GDP growth rates between China and the sample countries	World Bank WDI database
	Pergdp	Natural logarithm of the difference in GDP per capita between China and the sample countries	World Bank WDI database
	Ofdi	Global share of Chinese FDI in sample countries	Statistical Bulletin on China's Outward Foreign Direct Investment
	Trade	Total import and export trade between the sample countries and China as a proportion of total world trade in goods	UN Comtrade database
	eImport	The proportion of sample countries' trade imports from China to total world trade in goods	UN Comtrade database
	eExport	The proportion of sample countries' trade with China to total world trade in goods Expenditure	UN Comtrade database
	Free	economic freedom	The Heritage Foundation
	Exchange	Exchange rate	IMF IFS database

¹ Sample countries (26): Russia, India, Indonesia, Malaysia, Philippines, Singapore, Czech Republic, Saudi Arabia, Laos, Thailand, Israel, Hungary, Bulgaria, Cambodia, Turkey, Poland, Germany, South Korea, UK, Denmark, Brazil, Canada, Australia, Japan, Peru
 Countries along the Belt and Road Initiative covered by the Belt and Road Initiative (16): Russia, Indonesia, Malaysia, Philippines, Singapore, Czech Republic, Saudi Arabia, Laos, Thailand, Hungary, Bulgaria, Cambodia, Turkey, Poland, South Korea, Peru

4.2 Model Setup

This study employs policy aspects as research and analysis variables, presenting the Belt and Road Initiative's interaction term with the Initiative's signing time. Based on the baseline regression model, $\text{treated}=\text{Count}\times\text{T}$ is established as an explanatory variable for empirical analysis, resulting in the following regression model:

$$RII_{it} = \beta_1 Fdi_{it} + \beta_2 Trade_{it} + \beta_3 Gdp_{it} + \beta_4 Pergdp_{it} + \beta_5 Gdpgrowth_{it} + \beta_6 Free_{it} + \beta_7 Exchange_{it} + \beta_8 Treated_{it} + \varepsilon_{it} \quad (1)$$

4.3 Descriptive Statistics

Table 2. Descriptive statistics.

VARIABLES	(1)	(2)	(3)	(4)	(5)
	N	mean	sd	min	max
code	364	13.50	7.510	1	26
year	364	2,016	4.037	2,009	2,022
RII	364	2.647	1.874	0.0200	6.400
gdp	364	80.29	189.0	0.962	1,151
gdpgrowth	364	0.0417	0.0358	-0.0574	0.172
pergdp	364	4.027	1.200	1.880	6.651
ofdi	364	0.0589	0.0985	-0.0631	0.800
trade	364	0.406	0.430	0.00590	1.959
free	364	67.29	9.091	49.20	89.70
exchange	364	146.0	400.7	0.0887	1,720
treated	364	0.393	0.489	0	1

The variables' descriptive statistical analysis findings are displayed in the above table 2. The average RII value for the chosen sample countries over the research period is 2.647, as the table illustrates. The RMB's competitiveness has to be more noticeable when compared to the currencies of the nations that have signed the Belt and Road Initiative, as evidenced by its maximum and lowest values of 6.400 and 0.0200, respectively. Furthermore, as the above table demonstrates, China's total outward direct investment, the volume of trade in goods and services between China and the sample nations, and other metrics demonstrate the importance of China's foreign trade and investment attractiveness for the country's economic strength.

5 Empirical Analysis

5.1 Base Regression Analysis

Table 3. base regression analysis.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	RII	RII	RII	RII	RII	RII	RII	RII
treated	3.1189*** (331.6337)	2.9522*** (33.8366)	2.2800*** (8.8436)	2.0854*** (7.6587)	0.9934*** (3.5498)	0.9461*** (3.5622)	0.9367*** (3.5469)	0.9117*** (3.3981)
ofdi		3.4380** (2.2143)	2.2486* (2.0000)	2.6268** (2.1986)	1.3433** (2.3229)	1.7150*** (2.9467)	1.6712*** (2.8227)	1.6589** (2.7335)
trade			9.7579*** (3.0004)	9.6714*** (3.0082)	4.3926*** (3.3481)	4.2313*** (3.3865)	4.2323*** (3.3957)	4.1761*** (3.1491)
gdp				0.0133*** (2.8133)	0.0035* (1.9755)	0.0036*** (2.8314)	0.0037** (2.5398)	0.0037** (2.6434)
pergdp					4.2254*** (10.3028)	3.9108*** (10.0660)	3.9128*** (10.0848)	3.9125*** (10.1840)
gdpgrowth						-6.5121*** (-4.1897)	-6.5768*** (-4.2406)	-6.6400*** (-4.0522)
exchange							-0.0027 (-1.3408)	-0.0025 (-1.1394)
free								0.0098 (0.2673)
Constant	1.4219*** (384.8410)	1.2850*** (16.6530)	-2.3407* (-1.9319)	-3.3218** (-2.6892)	- (-11.8292)	- (-10.8984)	- (-10.5564)	- (-5.6644)
Observations	364	364	364	364	364	364	364	364
R-squared	0.3939	0.4052	0.5243	0.5542	0.7883	0.7973	0.7979	0.7980
Number of code	26	26	26	26	26	26	26	26

Robust t-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The variable considered is significant at a 1% level, as seen in column (1) of the preceding table 3. The coefficient is 3.1189, and it consistently stays significantly positive at the 1% level even after accounting for the control factors. This suggests that the Belt and Road Initiative's implementation has a discernible positive promotion effect on the RMB's internationalization. The first hypothesis is validated.

The percentage of OFDI is noteworthy at the 5% level, suggesting that China's portion of the global OFDI volume plays a major role in the internationalization of the RMB. It is proven that hypothesis 2. The proportion of China's total import and export of goods from outside the country to global trade is noteworthy at the 1% level, suggesting that expanding China's international trade may effectively support the internationalization of the RMB. The third hypothesis is validated.

The economic volume measurements are all substantial at 1%, suggesting that raising GDP is a practical way to enhance the RMB's internationalization. Furthermore, the calculated exchange rate and economic freedom coefficients are negative and positive, respectively, but not statistically significant, suggesting that economic freedom

contributes positively to RMB internationalization to some extent. Simultaneously, it is possible that RMB internationalization is diminished by a rise in exchange rates.

5.2 Analysis of Impact Mechanisms

Based on the benchmark regression analysis above, it is possible to investigate the mechanism by which the Belt and Road Initiative affects RMB internationalization further. The results show that total outward foreign direct investment as well as total import and export trade of goods from China have a significant positive impact on the RMB internationalization index. This analysis looks at the Belt and Road Initiative's impact on RMB internationalization from two angles: import and export trade, as well as foreign investment. The mechanism of RMB internationalization is analyzed using "Treated" as the explanatory variable and "Trade", "Ofdi", "eImport", and the number of trade imports to China" as the explanatory variables. The regression model is built using the explanatory variables "Trade", "Ofdi", "eImport", and "eExport". The following table displays the results of the regression.

Table 4. Mechanism test regression analysis.

VARIABLES	(1) ofdi	(2) trade	(3) eimport	(4) eexport
treated	0.0485** (2.1700)	0.0748*** (4.7347)	0.0524*** (4.8186)	0.0224*** (3.1481)
Constant	0.0398*** (4.5368)	0.3764*** (60.6515)	0.1745*** (40.8749)	0.2020*** (72.1022)
Observations	364	364	364	364
R-squared	0.0902	0.1519	0.2396	0.0344
Number of code	26	26	26	26

Robust t-statistics in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The Belt and Road Initiative (Treated) significantly increases China's outward foreign direct investment (Ofdi) and the sample nations' import and export trade (Trade), according to the regression results shown in Table 4 above. The estimated coefficients on the variables "eImport" and "eExport" are 0.0524 and 0.0224, respectively, indicating that the proposed Belt and Road Initiative promotes China's trade exports more than trade imports. This indicates that the initiative simultaneously encourages China's imports and exports. As a result, the Belt and Road Initiative encourages China to sell more goods than it imports. Additionally, by increasing China's trade surplus, the initiative helps to accelerate the internationalization of the RMB. The fourth hypothesis is validated.

6 Conclusions

The present study conducts an empirical analysis of the mechanism by which the Belt and Road Initiative is promoting the internationalization of the RMB and comes to the following conclusions: first, the proposal of the new development pattern of the double cycle and the Belt and Road Initiative facilitate the internationalization of the RMB; second, the initiative further accelerates this process by encouraging China's foreign trade and foreign investment, which in turn increases demand for the RMB and foreign exchange transactions; third, trade exports in foreign trade have a greater impact on the internationalization of the RMB than imports, and enhancing the trade surplus will, to some extent, positively affect the internationalization of the RMB. Based on the above conclusions, this paper puts forward the following policy recommendations:

First, bolstering the financial system and advocating for its reform.

To satisfy the market's increasing demand for RMB, China's financial system must be continuously enhanced and pertinent innovations in RMB and foreign exchange derivatives must be implemented. To enhance the global RMB settlement system and fortify the development of the offshore RMB market, enabling investors globally to transact at various times. Maintain the market-oriented strategy, encourage market-oriented changes to interest rates and exchange rates, and progressively increase the convertibility of capital accounts. In order to encourage more international bulk commodities to be settled in RMB, expand the scope and scale of bilateral currency swaps, maintain direct trade facilitation between the RMB and other currencies, and enhance the multi-level and overall capital market system, it will be easier for foreign investors to use RMB to invest in the domestic capital market.

Second, a fresh innovation in smooth double-cycling has emerged in response to the Belt and Road Initiative.

We will actively encourage currency swaps, create offshore markets, adjust to China's economic development needs, and support the progressive and orderly opening up of the capital account based on thoroughly preventing financial risks, seizing the opportunity presented by the Belt and Road initiative. Additionally, in order to provide a strong basis for RMB internationalization, we currently need to insist on a domestic macro-cycle as the dominant force. To increase the demand for RMB abroad, both the supply and demand sides of the domestic investment and consumer markets should restructure their sizes and composition. Moreover, achieving the seamless operation of the global grand cycle requires China to become more open to the outside world. To completely propel the development of RMB internationalization, stabilize the global supply and industrial chains, and enhance the effectiveness and stability of RMB internationalization, a variety of trade innovation techniques can be employed in the future.

Thirdly, there should be a greater emphasis on commerce and investment, as well as a greater usage of the currency.

Boost investment and trade under the Belt and Road Initiative and aggressively expand the reserve and settlement functions of the RMB. One crucial question to be answered in the process of RMB internationalization is whether the development of the Belt and Road construction project will make Chinese goods and services more competitive. Additionally, bonds denominated in RMB can be issued to increase the RMB

credit line, thereby stimulating the expansion of the scale and variety of RMB bonds, while investing in the sectors of science and technology, education, and healthcare in the nations and regions along the route. RMB's credit should be progressively increased in the Belt and Road region in terms of both OFDI and commodity quality.

References

1. Yang, C., & Lau, W. Y. (2023). Analysis of the impact of the trade war between China and America on the RMB exchange rate under the R-vine copula model from the perspective of the global value chain. *Electronic Commerce Research*, 1.
2. Johnston, L. A. (2019). The Belt and Road Initiative: what is in it for China?. *Asia & the Pacific Policy Studies*, 6(1), 40-58.
3. Van Noijs, P., De Conti, B., & Zucker-Marques, M. (2021). China: capital flight or renminbi internationalization?. *Review of Keynesian Economics*, 9(4), 552-574.
4. Lin, L.F. & Wang, S.N..(2015). "Belt and Road" Construction and RMB Internationalization. *World Economics and Politics* (11),72-90+158.
5. Zhou, C. (2017). "Belt and Road" Construction and RMB Internationalization. *Taxation and Economy* (05),43-47.
6. Ye, Q.L. & Liu, H.Y. (2019). New Progress, New Challenges and New Initiatives of RMB Internationalization under the "Belt and Road" Initiative. *Practice in Foreign Economic Relations and Trade* (02),56-59.
7. Lu, C.P.,Yang, L. & Yuan, Y..(2022). Building a high-quality "Belt and Road" and steadily promoting the internationalization of RMB: A perspective on building a new development pattern of double-cycle. *Intertrade* (05),89-96.doi:10.14114/j.cnki.itrade.2022.05.006.
8. Song, K.,Hou, J.N.,Xia, L. & Zhu, S.D..(2022).“The "Belt and Road" Initiative and RMB Internationalization: Empirical Evidence from RMB Real Transaction Data. *Management World* (09),49-67.doi:10.19744/j.cnki.11-1235/f.2022.0135.
9. Zhang, Y. & Song, X.L. (2020). Whether the economic and trade development of "Belt and Road" promotes the internationalization of RMB - An empirical study based on the influencing factors of RMB cross-border settlement. *New Finance* (05),17-21.
10. Ni, Y.F. & Li, Z.L. (2016). Interaction analysis of RMB internationalization and outward foreign direct investment. *Finance and Economy* (02),45-49+75.doi:10.19622/j.cnki.cn36-1005/f.2016.02.010.
11. Zhang, J.Z. (2014). A study on the correlation between RMB internationalization and RMB outward foreign direct investment. *Shanghai Finance* (11),24-26. doi:10.13910/j.cnki.shjr.2014.11.005.
12. Ye, H.G. (2010). Research on the endogenous mechanism of RMB internationalization and outward investment. *Accounting and Finance* (02),18-23.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

