

RESEARCH ON THE IMPACT OF DIGITAL RMB CROSS BORDER PAYMENT ON RMB INTERNATIONALIZATION

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Abstract: With the booming development of digital technology and digital economy, digital RMB has attracted widespread attention in various fields, and whether digital RMB cross-border payment can promote the internationalization of RMB has become one of the current research hotspots. China started the pilot program for RMB cross-border settlement in 2009, and the process of internationalization of RMB has been accelerating. However, there are still many challenges in the process of RMB internationalization, such as the development level of China's financial market, the opening level of capital account and so on. However, through the use of digital RMB for cross-border payments, it can better cope with the difficulties and challenges faced in the process of RMB internationalization. To this end, this paper takes the digital RMB cross-border payment as the guidance and analyzes its impact on the internationalization of RMB.

Key words: Digital RMB; Cross-border payment; RMB internationalization

1. Introduction

The report of the 20th CPC National Congress pointed out that accelerating the construction of digital China is an important direction for promoting the development of digital economy in the future. In order to establish a new retail payment system that is suitable for the needs of digital economy, the People's Bank of China has attached great importance to the research and development of digital RMB. In 2014, China established a research team for legal digital currency, conducting in-depth research on its issuance system, core technology, issuance and circulation environment, and foreign experience that can be learned from. In 2016, China established the "Digital Currency Research Center" and built the first prototype system of legal digital currency in China. The People's Bank of China was officially approved by the State Council to start researching and developing legal digital currency by the end of 2017. By 2024, the pilot range of digital RMB has expanded to 17 provinces and 26 cities. Based on this, digital RMB cross-border payment as a new development direction can effectively utilize the cooperation between countries to obtain the recognition of national central banks of various countries for the application of digital RMB cross-border payment, thereby further promoting the process of RMB internationalization.

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2.A literature review on digital RMB

2.1A review of research on digital RMB

Sirui Lei (2023)^[1] starts from the understanding of the conceptual connotation of digital RMB and analyzes its features from the legal, technical, application, and product levels. Enda Xie (2023)^[2] systematically sorts out the development history of digital RMB and uses the SWOT method to analyze its advantages and disadvantages in the domestic and foreign markets, as well as the opportunities and challenges it faces. Based on the existing research results, Xie gives relevant development strategies.

2.2A literature review on digital RMB cross-border payment

In response to the issue of digital RMB cross-border payment, Jianping Ji (2023)^[3] conducted a thorough analysis of the application of digital RMB cross-border payment, examined the development foundation and the problems faced in its development, and elaborated its short-term, medium-term, and long-term development models. Lu Song (2023)^[4] believes that utilizing digital RMB for cross-border payment not only expands its application but also effectively solves certain problems in traditional cross-border payment, thereby driving the further improvement of the cross-border payment system. Benxiang Yuan (2023)^[5] analyzed the current situation of cross-border payment settlement in China and found that the current settlement efficiency is low and the cost is high. Using digital RMB can remedy these defects, greatly improve China's cross-border payment settlement efficiency, and also break the monopoly of foreign countries on the international payment and settlement system ensuring China's financial security. Based on this, the author discussed many issues from the perspectives of technological innovation, standardization of payment information, payment and settlement system with global digital currency, and exploration of cooperation modes of digital RMB cross-border payment and settlement.

2.3A literature review on the impact of digital RMB cross-border payments on RMB internationalization

Combining the actual conditions of China, Xinyu Zhao (2023)^[6] studies the relationship between digital RMB and strategies of RMB internationalization, analyzes its development process and ultimate effect, and then explores its role in RMB internationalization strategy. Huihui Liu (2023)^[7] starts from the current development of RMB internationalization and explores the new progress and new problems it brings to the development of RMB internationalization, proposing that a digital currency based on blockchain can explore a new path for RMB internationalization, which has great significance in enriching the cross-border transaction environment of RMB, weakening the inertia of the US dollar, and safeguarding national economic security. Jing Yan (2023)^[8] starts from the development status of digital RMB and analyzes its advantages in internationalization, and finally discusses how to use digital RMB to support the process of RMB internationalization and analyzes the existing problems.

Through a review and analysis of the existing literature on the application situation of digital RMB, the progress of digital RMB cross-border payment, and its impact on RMB



internationalization, it is found that there has been some progress in research on the cross-border payment of digital RMB. However, there are still some issues that need further research, such as the differences in relevant regulations between China and other countries under the digital RMB system, the limitations of existing cross-border payment systems, etc. Therefore, this paper starts from the perspective of digital RMB cross-border payment and explores its impact on RMB internationalization.

3.The concept of digital RMB and current situation of cross-border payment

3.1 The concept of digital RMB

Digital RMB is different from Alipay's third-party digital currency denominated in RMB, nor is it the central bank's electronic payment. It is managed and used by the central bank, with national credit backing. Digital RMB has the following four characteristics: it is issued by the central bank, a type of legal digital currency; it uses centralized management and dual-layer operation; it will coexist with physical RMB and remain a payment voucher based on cash; it is a retail central bank digital currency, with its main function being to meet the domestic retail payment needs.

According to data released by the People's Bank of China, the cumulative transaction amount of digital RMB reached 700 billion yuan by the end of June 2024. It has continued to explore applications in wholesale and retail, catering and tourism, education and healthcare, and has developed a number of replicable and scalable solutions covering both online and offline scenarios. This has significant implications for boosting resident consumption, promoting green transformation, and optimizing the business environment.

3.2 The current situation of digital RMB cross-border payment

In 2020, the Bank of China launched its first cross-border digital RMB pilot program in Hong Kong, which is now basically covering individuals and companies in Hong Kong. Individual customers in Hong Kong can use digital RMB both within the territory and the mainland, while merchants in Hong Kong can also use digital RMB. Companies in Hong Kong and the mainland can also use digital RMB for cross-border transactions. In February 2021, the Innovation Hub of the Bank for International Settlements (Hong Kong), the Bank of Thailand (the central bank of Thailand), the Central Bank of the United Arab Emirates, the Digital Currency Research Institute of the People's Bank of China, and the Hong Kong Monetary Authority jointly launched the Multi-Central Bank Digital Currency Bridge Project to explore the application of central bank digital currency in cross-border payments. The development of digital RMB represents a new opportunity for the cross-border payment system in China, and its timely development and launch will greatly enhance the international status of the RMB. At the same time, if digital RMB can be implemented as soon as possible, its technology and operational logic will be easier to be accepted by other countries, thereby obtaining a leading advantage.

4.Analysis of Opportunities and Challenges for Digital RMB Cross-border Payments in the Process of RMB Internationalization



4.1 Opportunities for Digital RMB Cross-border Payments

4.1.1 The RMB internationalization has accelerated

The process of RMB internationalization has been steadily advancing and deepening, from initial discussions to the promotion of pilot programs, to the expansion and in-depth development of full-scale implementation. RMB internationalization has achieved significant achievements. In 2015, RMB was approved as a basket currency of IMF Special Drawing Rights, which became a key milestone in the process of RMB internationalization and gradually increased its share in international trade and investment. Due to the growing concern among world leaders that the US dollar may become the dominant currency in the world, many countries are actively seeking diversified exchange rate policies, and an increasing number of enterprises and countries hope to rely less on the US dollar to enhance their economic resilience. By the end of 2023, over 75 central banks in more than 75 countries and regions had included RMB in their foreign exchange reserves, and the People's Bank of China had approved 27 overseas RMB settlement institutions, covering 25 countries and regions. The establishment and operation of the RMB cross-border payment system has greatly improved the efficiency of RMB use internationally, laying a solid foundation for the promotion of digital RMB cross-border payments.

4.1.2 The acceptance of the RMB in countries along the Belt and Road Routes has increased

With the deepening implementation of the Belt and Road Initiative, China's outward foreign direct investment relies on overseas infrastructure construction, commodity imports and exports, etc., which has improved the acceptance of the RMB by overseas investors. These have created favorable market conditions for China to issue digital RMB overseas. On the one hand, China has a fairly complete industrial chain and a rich product market, which can better serve the trade needs of countries along the Belt and Road routes. Legal digital currency provides more convenient, secure and efficient payment means. On the other hand, for countries and regions along the Belt and Road routes where financial infrastructure is not fully developed, by establishing intelligent digital RMB transaction systems, it can effectively solve the problem of contracts not being fulfilled in time, ensuring the stability of trade and promoting economic and trade cooperation between China and relevant countries.

4.1.3 The cross-border payment system for the RMB is constantly improving

The People's Bank of China launched the construction of the Cross-border Interbank Payment System (CIPS) in 2012, going through stages such as demand analysis, software development, system integration, business testing, and simulated operation before officially going into operation on October 8, 2015. By the end of 2023, there were a total of 1,484 participants, including 139 direct participants and 1,345 indirect participants, with business coverage in 182 countries and regions around the world, and services provided to more than 4,400 corporate banking institutions globally,^[9]laying a solid foundation for the RMB internationalization and the future global promotion of digital RMB.

4.2 Challenges for Digital RMB Cross-Border Payments

4.2.1 The lack of a global regulatory framework



The central bank uses digital RMB for cross-border payments, as it has digital and cross-border characteristics, its regulatory difficulty is far higher than that of traditional currencies. The current financial regulatory system has not taken into account the flow of sovereign digital currencies around the world, therefore, it is necessary to establish a global financial regulatory system, which puts forward higher requirements on transparency, interoperability, inclusiveness and adaptability of the existing financial system. With the launch of "digital RMB", China has more international right of speech in the global currency and financial system, but also brings new challenges. Traditional strong currencies will become a barrier to RMB internationalization.

4.2.2 Poor quality of existing financial institutions

Currently, even within the framework of the Belt and Road Initiative, Chinese commercial banks' operations still have a significant gap compared to those of developed countries such as the US and Europe. In the application of digital RMB, domestic financial institutions are facing a transformation issue, which involves all aspects of the circulation of digital RMB, including its issuance, transmission, and redemption. The payment and settlement system also needs to consider the efficiency and stability of multiple parallel transactions, as well as the tracking and monitoring of the cross-border flow of digital RMB by the regulatory system. Therefore, Chinese financial institutions still need to further improve themselves in order to better promote digital RMB.

4.2.3 The cross-border payment infrastructure is not perfect

Currently, the cross-border settlement of the RMB in China is mainly achieved through the RMB cross-border payment system. When using this system conducting cross-border transactions, a domestic commercial bank's RMB account must be used. However, as the demand for RMB cross-border payments has increased, the drawbacks of the CIPS have become increasingly apparent, including high transaction costs and low efficiency. Additionally, due to its short operating cycle, it cannot achieve cross-time zone settlement, and it is not interconnected with domestic foreign exchange payment system and securities settlement systems, severely restricting the efficiency of digital RMB cross-border circulation. At the same time, the current cross-border payment of digital RMB in China still relies on the CIPS, and the defects of the cross-border payment system also limit the promotion of digital RMB.

5. Suggestions

5.1 Build a sound financial system

Building a financial system that conforms to the legal digital RMB and adapting its operation process to it is the only way forward for the financial industry in the digital economy era. To achieve this goal, reform and innovation are needed in technology, operation, and circulation. During the issuance of digital RMB, it is necessary to clarify and standardize technical specifications to lay a solid foundation for building the infrastructure of digital finance. At the same time, we can also use digital RMB in the financial field to reduce the intermediate links in financial transactions and leverage the monitorability of digital RMB to better prevent and resolve financial risks and enhance the stability of the financial system. Currently, although



the pilot project of digital RMB is being carried out steadily, this does not mean that the process of RMB internationalization will unfold as digital currencies are used and popularized. Therefore, strengthening the construction of a more robust financial system will help RMB to have a more comprehensive role definition and promote the healthy development of RMB internationalization.

5.2 Improve the regulatory framework for financial institutions in China

Currently, there are still many uncertainties in the issuance and promotion of digital RMB, and the difficulties of standardizing it and the related regulatory system also need further improvement, which undoubtedly puts higher demands on the regulatory authorities. Financial institutions, as the key link in realizing the cross-border payment of digital RMB, should dig out and expand more diverse and comprehensive wealth management, bill and credit products based on the characteristics of digital RMB, fully expanding the development opportunities brought by digital RMB and improving them comprehensively. Based on this, more scenarios and more stylish financial products can be designed. This also provides the legal basis and institutional guarantee for the development of various links in the issuance, circulation and other aspects of digital RMB, so that it can respond to new economic situations and ensure a smooth promotion process, promoting RMB internationalization.

5.3 Improve the cross-border payment system for digital RMB

In the process of the continuous promotion of RMB internationalization, on the one hand, the RMB internationalization and the cross-border circulation of digital RMB have common basic conditions, goals, and development directions. The cross-border circulation of digital RMB is carried out under the premise of RMB internationalization, and is oriented towards the internationalization of RMB. On the other hand, we need optimize the cross-border payment system for RMB (CIPS) and guide domestic and overseas individuals and enterprises to use digital RMB for payment and settlement within this system. At the same time, we can prioritize using digital RMB for payment and settlement when conducting trade with countries along the Belt and Road routes, thereby promoting the widespread use of RMB globally and promoting its widespread recognition globally.

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