

Analyze the Impact of the Digital RMB on International Payments and Financial Structure Based on Literature Review

Jiacheng Li^{1,a,*}

*¹Institute of Economics and Management, China University of Geosciences, Wuhan, 430074, China
a. 20201004351@cug.edu.cn*

**corresponding author*

Abstract: With the development of network technology and digital economy, the demand for convenience, security, inclusiveness and privacy of retail payment is increasing. Central banks or monetary authorities in many countries and regions are actively exploring ways to digitize fiat money to meet this demand. The Chinese government has decided to introduce digital RMB as a digital form of legal tender to enhance the payment experience, strengthen financial supervision, promote economic transformation and financial technology innovation and application. The introduction of digital RMB helps to reduce the cost and risk of traditional cash flow, promote the upgrading of payment methods and the development of digital economy. Based on the comprehensive and systematic collection, collation and analysis of the relevant literature in the field of digital RMB, this paper explores the impact of digital RMB on international payment and financial structure. The study found that digital RMB has international security as a payment tool, which can promote cross-border transactions and change the global payment system. Digital RMB can enhance international financial security and affect the implementation of financial policies in various countries.

Keywords: digital RMB, international payments, financial structure

1. Introduction

With the rapid development of technology and the digital economy, central banks or monetary authorities around the world are closely tracking the achievements of financial technology and actively exploring the digital transformation of legal tenders to meet the challenges of cash payments, promote financial innovation and supervision, promote financial inclusion and inclusive finance, and maintain competitive advantages in international competition.

As a big country with global influence, China is also committed to the development of digital currency. As a form of the central bank's digital currency, the digital RMB launched by China aims to provide people with convenient, safe and stable means of payment and promote the further development of the digital economy. At present, the weight of RMB as an international payment and settlement currency is extremely low, which is inconsistent with China's actual economic scale and foreign trade investment scale. Digital RMB will further expand the space for RMB internationalization [1].

The development of the digital RMB has gone through four stages: technology forward-looking research, scheme design and pilot exploration, technology platform construction and application. Its uniqueness lies in traceability, programmability, security and portability. It ensures the security and privacy protection of transactions through technical principles such as cryptography and blockchain [2].

The issuance of digital RMB mainly includes retail issuance and commercial bank issuance. Retail issuance refers to the direct issuance of digital RMB by the central bank to individuals and enterprises, similar to cash distribution. Commercial bank issuance refers to the provision of digital RMB by the central bank to commercial banks, which is managed and distributed to customers by commercial banks. In order to realize the payment function, the digital RMB adopts the double offline transaction mode, that is, it does not rely on the interconnection and offline transaction characteristics of the network, so that it can realize the payment function in the network-free or low network environment [2].

In previous studies, some scholars have taken the theory of international monetary power as the background to explore whether the digital RMB is possible and how to help the internationalization of the RMB [3]. However, there are still some gaps in the research on the impact of digital RMB globalization. It is necessary to further explore the impact mechanisms and effects of international payment system, global financial system, cross-border supervision, economic impact and legal system.

This paper aims to analyze the impact of digital RMB on international payment and financial landscape. This analysis helps individuals, businesses, and policymakers understand the mechanisms and advantages of the digital RMB and compare it with traditional payment methods. It can also predict and respond to international economic and financial development trends, and provide support for strategic decision-making. Through this analysis, the business community can judge business opportunities and risks and optimize models; governments and financial institutions can use this to guide policy formulation and promote innovation. This study uses the research method of literature review to conduct a comprehensive investigation and analysis of the impact of digital RMB on international payment and financial structure.

The analysis of the impact of digital RMB on international payment and financial landscape aims to assess the application prospects of digital RMB in the field of international payment, as well as its potential impact on the global financial system and international monetary landscape. The research focuses on the concept and development of digital RMB, its status and role in international payment, its impact on the international financial landscape, and provides relevant policy recommendations and decision-making references. By analyzing its impact, it provides accurate information and scientific decision-making basis for relevant stakeholders.

2. The Role of Digital RMB in International Payments

2.1. The International Security of Digital RMB as a Payment Instrument

As a payment instrument based on distributed ledger technology, digital RMB adopts multiple levels of security measures to ensure its international security. The digital RMB system uses advanced encryption algorithms to protect the confidentiality and integrity of users' transaction data. At the same time, users are required to undergo identity verification when making transactions, ensuring that only legitimate users can access and use the system [4].

Secondly, the distributed consensus mechanism is one of the core security mechanisms of the digital RMB system [5]. Through the consensus algorithm, nodes in the system can reach a consensus and confirm the validity of transactions, preventing risks such as malicious tampering and double payment, and ensuring the credibility and security of digital RMB transactions.

In addition, distributed data storage is also an important part of digital RMB security. Transaction data is distributed and stored on multiple nodes, preventing single point of failure of data and centralized attacks. This distributed storage mechanism increases the security of the data, and attackers need to control multiple nodes at the same time to tamper with the data, improving the security and reliability of the system. Cyber security and defense mechanisms also play an important role in the digital RMB system. These include intrusion detection systems, firewalls, security audits and security monitoring, among others, to fend off malicious attacks and cyber threats. Timely updating and repairing vulnerabilities found in the system is also a key step to ensure system security.

Finally, the central bank's supervision and security controls are crucial for the international security of the digital RMB. The central bank is responsible for formulating security policies, standards and regulations, and conducts regular audits and inspections of the digital RMB system to ensure its safe and reliable operation. Meanwhile, international cooperation as well as cooperation and coordination among regulators are also key factors in ensuring the international security of the digital RMB.

2.2. Digital RMB Facilitates Cross-border Transactions

As a new payment instrument, digital RMB has many ways to facilitate cross-border transactions. First, the direct use of digital RMB for cross-border payments streamlines the transaction process, reducing costs and time [6]. Second, digital RMB enables instant clearing and settlement, improving the efficiency of cross-border transactions. In addition, the digital RMB, as a legal tender, reduces exchange rate risks and avoids exchange rate conversion and fees. Transaction records of digital RMB are recorded in a distributed ledger, providing traceability and transparency, enhancing the security and trust of transactions. The use of digital RMB also enhances supervision and compliance, helping to prevent illegal activities. Although the digital RMB still faces challenges and restrictions in the promotion of cross-border transactions, it is expected to gradually promote the convenience and development of cross-border transactions as it advances and develops.

2.3. Discussion on the Application of Digital RMB in Blockchain

In addition to the security mentioned above, digital RMB, as a payment instrument based on blockchain technology, can also provide traceability and transparency, and increase regulation and compliance.

The transaction records of the digital RMB are recorded on the blockchain, forming an immutable distributed ledger. This means that each transaction can be accurately tracked and verified, including information about the parties involved in the transaction, the time of the transaction, and the amount of the transaction. This traceability and transparency give regulators more information and data to better monitor and manage payment activities. Thanks to the decentralized nature of blockchain, as well as the application of encryption algorithms, digital RMB transaction records cannot be tampered with. Each transaction is verified by nodes in the network to ensure the authenticity and legitimacy of the transaction. Payment frauds such as tampering and duplicate payments are effectively prevented to improve the security and credibility of transactions [7].

Transaction records and account balances of digital RMB can be viewed in real time by regulators. By monitoring the blockchain network, regulators can obtain real-time data on trading activities and monitor and deal with violations. Compliance measures to improve the stability and security of the financial system. While digital RMB transaction records are visible to regulators, blockchain technology can enable data anonymity and privacy protection. In the design of the digital RMB, technical means such as anonymous accounts and encryption algorithms can be used to ensure that users' transaction data is adequately protected.

3. Digital RMB Changes and Reforms in the Financial Sector

3.1. Changing the Global Payment System

With the rise of emerging economies and the evolution of the global economic landscape, some countries are beginning to realize that long-term dependence on the US dollar may lead to economic and financial imbalances. Events such as the global financial crisis and the European debt crisis have exposed some flaws and risks in the US dollar system, triggering a re-examination and reform of the financial system. These factors have pushed people to seek to reduce their reliance on the US dollar and achieve the goal of de-dollarization [8].

The launch of the digital RMB can promote the trend of de-dollarization and reduce dependence on the US dollar. As a digital currency for direct use, the digital RMB offers an alternative payment tool to the US dollar. It can be used directly in international transactions, avoiding dependence on the US dollar and thus reducing its hegemonic status. The introduction of the digital RMB could facilitate international settlement in multiple currencies and reduce reliance on the US dollar as a global reserve currency. The digital RMB can be used as an acceptable payment instrument for direct settlement with other currencies in international transactions, increasing the selectivity of multi-currency settlement.

At the same time, the promotion of digital RMB can promote regional economic integration [9]. In some regional economic cooperation organizations, such as East Asia and ASEAN, the digital RMB can be used as a payment and settlement tool to promote trade and investment among member countries and enhance inter-connectivity of currencies within the region.

3.2. An Examination of Financial Security and Other Factors

The traceability and transparency of the digital RMB makes money laundering activities more difficult. The central bank and relevant agencies can monitor and analyze the transaction records of the digital RMB and identify suspicious transaction patterns and fund flows, so as to better prevent and combat money laundering [9]. The digital RMB's real-time monitoring and transaction analysis capabilities enable relevant agencies to quickly identify and track transactions that may be related to terrorist financing, thereby strengthening prevention against terrorist financing. At the same time, the digital RMB helps detect various forms of smuggling and illegal transactions as well as economic crimes, such as fraud, embezzlement and tax evasion. However, it plays a complementary role in preventing illegal activities, and it still needs to rely on the integrated efforts of the government, financial institutions and law enforcement agencies to establish a sound supervision and law enforcement system to ensure the security and compliance of the financial system.

3.3. Impact on Global Financial Policy Implementation

The introduction of the digital RMB has led to policy changes in different countries implementing international policies. By launching the digital RMB, China has strengthened the regulatory capacity of the financial system and promoted its position and influence in the global financial system. Through the analysis of digital RMB transaction data, the government can gain more insight and understanding, including information on international payment behavior, consumption habits, economic activities, etc., which will help formulate more effective policies and regulatory measures. The United States will also pay attention to the digital RMB and may strengthen supervision and evaluation to ensure national economic security. The launch of the digital RMB may also have a certain impact on the international status of the US dollar, which may lead the US government to take corresponding policy measures to suppress it [10]. For example, the US trade and financial policy towards China will change [11]. European countries are cautious about the digital RMB and are

strengthening cooperation with China to deal with digital currency challenges. Emerging market countries are concerned about the application and impact of digital RMB, thinking about how to deal with the development trend of digital currency, and strengthening regulatory cooperation. Countries have adopted different policies and measures to deal with the impact of the digital RMB according to their economic, financial and political conditions as well as their cooperative relations with China.

4. Suggestions on the Global Application of the Digital RMB

4.1. Continue to Promote Technological Innovation

China should continue to invest in research and development and innovation to optimize the performance, security and scalability of blockchain technology. It should improve the efficiency and reliability of the digital RMB by improving aspects such as blockchain's consensus algorithm, privacy protection mechanism and smart contracts. To promote the interoperability and circulation of the digital RMB globally, China can strengthen research and development of cross-chain technology. By achieving interoperability between different blockchains, the digital RMB can be seamlessly connected with other digital currencies and blockchain ecosystems, providing a wider range of use scenarios and interaction opportunities. The launch of the digital RMB can promote fintech innovation, and China should actively support fintech enterprises and innovation teams to promote the application of the digital RMB in areas such as payment, clearing, settlement and smart contracts. By encouraging innovation and providing relevant technical support and policy environment, the country should continuously promote the technological innovation and application expansion of the digital RMB.

At the same time, digital RMB as a digital payment tool, data security and privacy protection are crucial. China should strengthen the research and construction of relevant technologies, laws and regulations to ensure data security and privacy protection of the digital RMB in the process of globalization, and enhance users' trust and acceptance [12]. By continuously promoting technological innovation, the digital RMB can continuously adapt to and meet the needs and challenges in the process of globalization, provide more secure, efficient and innovative payment tools, and further promote the application and influence of the digital RMB worldwide.

4.2. Give Full Consideration to the Needs of Internationalization

China can actively promote the application of digital RMB on an international scale. Cooperate with other countries and regions to establish a digital RMB connectivity mechanism and promote the circulation and acceptance of the digital RMB. To enhance the connectivity of international payment infrastructure, interconnect with payment systems of other countries, and improve the ease of cross-border payment of digital RMB. This can be achieved through the establishment of bilateral or multilateral cooperation mechanisms, as well as participation in international payment clearing systems. Work with other countries and international organizations to develop internationalized standards and regulatory frameworks for digital currencies [13]. This can help build trust, increase the acceptance of digital RMB globally, and provide guidance for digital currency compliance and interoperability worldwide. Promote the application of digital RMB in different fields, such as international trade, cross-border investment and tourism, among others. Through partnerships and promotion activities, the digital RMB will be used in more scenarios around the world to improve its convenience and appeal.

4.3. Promote Digital RMB Payment Service Providers and Enhance Publicity and Promotion

Promoting digital RMB payment service providers is an important aspect of the global application of digital RMB. The Chinese government should support fintech companies and payment institutions to participate in the digital RMB globalization process, and provide policy support and regulatory guidance. Digital RMB payment service providers need to provide secure, convenient and innovative payment solutions to attract users and merchants through technological capability enhancement and innovative products. In addition, cooperation with other countries can expand international business and build cross-border payment networks. Promoting the development of digital RMB payment service providers will help promote the digital RMB globally and provide convenient and efficient payment services to users around the world.

Enhancing awareness and promotion is also a key part. China can increase the visibility and recognition of the digital RMB globally through active publicity and promotion activities. Promote the advantages and features of the digital RMB to users and merchants around the world, and provide relevant training and support to help them better understand and apply the digital RMB. In addition, support the development and expansion of digital RMB payment service providers, promote fintech enterprises and payment institutions to participate in the globalization process of digital RMB, and provide secure, convenient and innovative digital RMB payment solutions. By strengthening publicity and promotion, the visibility and trust of the digital RMB can be increased globally, and its application and influence in the international financial system can be further promoted.

5. Conclusion

This paper discusses the trend of digital transformation of global central banks and the development of China as a big country in the field of digital currency. As the digital currency of China's central bank, the digital RMB aims to provide convenient, safe and stable payment methods and promote the development of the digital economy. This study finds that digital RMB has international security as a payment tool, which can promote cross-border transactions and change the global payment system. Digital RMB can enhance international financial security, which helps to find various forms of smuggling and illegal transactions and economic crimes, such as fraud, money laundering, corruption, tax evasion, terrorist financing, etc., while affecting the implementation of national policies. This study objectively analyzes and predicts the impact of digital RMB on international payment and financial landscape, which is helpful for individuals, enterprises and decision makers to understand the advantages of digital RMB and compare it with traditional payment methods. At the same time, the analysis can predict and respond to international economic and financial development trends, provide support for strategic decision-making, assist the business community to judge business opportunities and risks, and optimize models. Governments and financial institutions can also use this analysis to guide policy formulation and promote innovation. Although the article points out the gap in the study of the impact of the globalization of the digital RMB, the digital RMB is not currently issued and used globally. In the future, the specific impact of the digital RMB can be analyzed and studied, and various aspects of the impact of the digital RMB can be discussed in depth.

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