

The Development, Challenges and Suggestions of Digital RMB and RMB Internationalization

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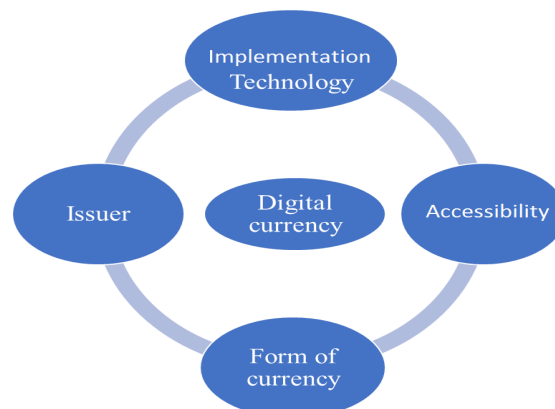
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Abstract: Digital economy is a new economic form with the development of big data, artificial intelligence and blockchain technology. The rapid development of digital economy has profoundly changed our way of production and life, and has great significance in the reconstruction of global factors and economic development. Driven by the digital economy, the academic circles at home and abroad have aroused a research boom. The People's Bank of China is also paying close attention to the impact of RMB digitalization on economic stability, RMB system and financial policies. With the development of the digital economy, the wave of many cryptocurrencies has been opened. In the context of cryptocurrencies, the development of digital currencies has been the general trend of the central bank, but also faced with severe challenges. As the country promotes the internationalization of RMB, the investment and promotion of digital RMB, ensuring the security of digital RMB and establishing an effective regulatory system are of great significance to the development of China's digital economy and the promotion of RMB internationalization.

Keywords: Digital RMB, RMB Internationalization, Digital Economy

1. Introduction

The concept of digital currency can be traced back to the anonymous and untraceable electronic cash system that emerged in the 1980s [1]. In 2008, Satoshi Nakamoto published a paper titled "Bitcoin: A peer-to-peer electronic cash System", which first proposed the concept of Bitcoin, marking the beginning of digital currency. As a result, the academic research on digital currency rises. However, there are many definitions of digital currency, and no consensus has been reached on either connotation or extension. In 2018, the Committee on Payments and Market Infrastructure of the Bank for International Settlements (CPMI) proposed a conceptual model called "Flower of Money", which classifies and defines digital currencies in four aspects (Figure 1): Issuer, form of currency, accessibility, and implementation technology.

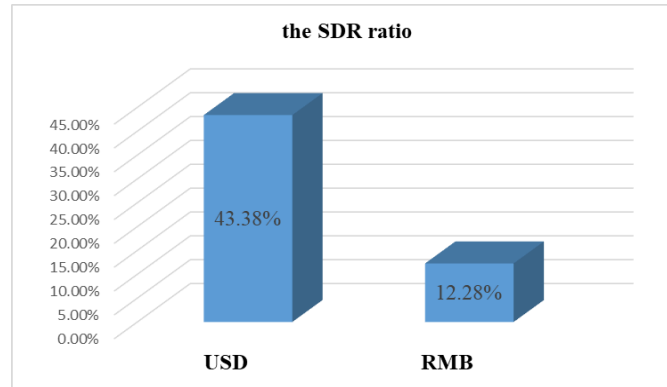


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Figure 1: Definition of digital currency.

With the development of digital economy, market-oriented digital currency is also developing rapidly. Central banks and monetary regulators of major economies around the world have begun to study and issue digital currency. In 2019, the Bank for International Settlements (BIS) surveyed the

digital currencies issued by the central banks of more than 60 economies around the world, showing that the development of digital currency research and development by the central banks of each country promoted the completion of their own digital currency from theory to practice. At present, China is trying to promote the internationalization of the RMB. In October 2016, the RMB was included in the SDR, and now RMB became the fifth reserve currency of the IMF. China has carried out pilot work to promote the digital RMB in some cities. The digital RMB plays a better role in promoting monetary reform and financial services to better serve the real economy. However, the digital RMB also faces many challenges in the process of development (Figure 2). While developing the digital RMB, the country's legal system and technology need to be improved constantly.



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Figure 2: The SDR ratio of America and China.

The world today is undergoing profound changes. The international situation is changing rapidly, and there are uncertainties in the development of the international economy. As the world's largest developing country and the world's second largest economy, China occupies an important position in international settlement and trade (Table 1). However, under the current economic system, the US dollar has a monopoly position in international payment, and China relies on the US dollar to a large extent in international settlement. In the current Russia-Ukraine conflict, Russia was kicked out of the SWIFT system by the US. So it is urgent to accelerate the circulation and use of digital RMB [2].

Table 1: 2022 GDP rank.

Country	GDP(Hundred million US dollars)
US	254,645
China	181,000
Japan	42,335
Germany	40,754
India	33,864
UK	30,706
France	27,840
Russia	22,153
Canada	21,398
Italy	20,120

Source: Made by author

2. The Research Significance of Digital RMB

2.1. Digital RMB Enhances the International Status of RMB and Promotes the Internationalization of RMB

An important symbol of a country's currency internationalization is the extent to which it is used in international trade and investment. According to the monthly report and data statistics of RMB released by SWIFT on April 21, 2023, in March, 2023, in the ranking of global payment currencies based on the amount statistics, The RMB remained the fifth most active currency in the world (Table 2). It can be seen that the proportion of RMB as an international settlement currency is relatively low, but the proportion of China's international trade and economic scale is inconsistent with that of payment currency. Therefore, in the current era of RMB internationalization, digital RMB can further expand the

space of RMB as an international currency and enhance the international status of RMB. Digital RMB can improve the efficiency of global cross-border trade and connect with the RMB cross-border payment system CIPS to further improve the cross-border payment function of digital RMB and realize the country's strategy of promoting the internationalization of RMB.

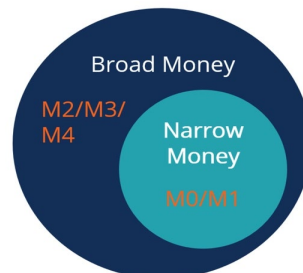
Table 2: Ratio of international currency payments.

Time	USD	EUR	GBP	JPY	RMB
2023.1	40.12%	37.88%	6.57%	3.15%	1.91%
2023.2	41.10%	36.43%	6.56%	2.98%	2.19%
2023.3	41.74%	32.64%	6.19%	4.78%	2.26%

Source: Made by author

2.2. Digital RMB Reconstructs Financial and Monetary System of China

Digital currency is the general trend of currency development in the future. For China, issuing and using digital RMB can make the development of RMB match the digital economy, better implement monetary adjustment policies, and make the value of RMB more stable. The digital RMB will not have a major impact on the existing monetary and financial institutions and the economic system, but also help maintain the stability of the national economic and monetary system. The monetary payment function will be enhanced because of the digital RMB, and the digital RMB can ensure the implementation of the financial policies. With the progress of digital technology, the security and convenience of digital RMB can also meet the needs of savers' reserves. Moreover, the central bank can influence the deposit and loan rates in the market through the adjustment of the digital RMB interest rate. Digital RMB belongs to the category of M0, which can realize the supplement and replacement of traditional paper RMB (Figure 3). The circulation of digital RMB in the market will reduce the number of paper currency, and thus have a fundamental impact on the basic currency, money multiplier and money supply mechanism in the money supply [3].



Source: Made by author

Figure 3: The supply of money.

In the operation process of digital RMB, it can not only save the printing and circulation costs of banknotes in circulation, but also monitor the income and expenditure of RMB in real time as well as the distribution of income and expenditure, so as to reduce money laundering, tax evasion and other criminal acts and realize financial inclusive benefits. In addition, the issuance and circulation of digital RMB can also promote the construction of China's new financial infrastructure and improve the online payment system fundamentally.

2.3. Digital RMB Promote Cross-Border RMB Settlement

Digital RMB not only promotes the internationalization of RMB, but also plays a very important role in the cross-border flow and settlement of RMB. Dominated by the US dollar, the cross-border settlement of RMB mainly relies on the SWIFT system and the CHIPS system of the United States, which uses the SWIFT system to strengthen the influence of the US dollar and often uses it as one of the methods to sanction other countries. So as to realize the long-arm jurisdiction of the United States. In 2012, China officially adopted the RMB cross-border payment system CIPS, but the cross-border communication link of this system is not independent, and it still needs to rely on the SWIFT system for cross-border information transmission in the process of use, which still has huge hidden dangers and has not realized the RMB cross-border settlement at the national level [4]. Moreover, SWIFT system is slow to update and inefficient. As a non-profit organization among international banks, SWIFT system does not guarantee its own impartiality.

Digital RMB is a payment system based on a database built with blockchain technology. It is immutable, open and transparent, and has greatly improved the efficiency of international settlement, greatly reduced the conversion link, and increased the cross-border liquidity of RMB.

2.4. Digital RMB is Easy for the Central Bank to Supervise

Digital RMB is a legal digital currency issued by the use of Internet technology. The central bank can conduct real-time monitoring according to the transaction records, strengthen the anti-money laundering supervision, and can be clearer in terms of tax, so as to effectively avoid tax evasion. In addition, digital RMB can be used to adjust the currency M0 in the market, so as to realize the effectiveness of monetary policy implementation.

3. Problems in Issuing and Circulating Digital RMB

3.1. Contradictions between Digital RMB and US Dollar System

Digital RMB plays a vital role in cross-border settlement and international trade. The current international system has a hegemonic position in trade settlement of the United States. The promotion of digital RMB is conducive to improving the status of RMB in international settlement. We will expand the international influence of the RMB and weaken the hegemony of the US dollar in the international settlement system. Therefore, how to deal with the hegemony of the US dollar and improve the status of the internationalization of RMB is the most important issue facing US at present [5-6].

3.2. Technical and Operational Problems in the Circulation of Digital RMB

Under the current network background, digital RMB cannot realize data collection and analysis in high-frequency transactions, which will cause the central bank to be unable to conduct accurate monitoring of digital RMB. In the process of operation of digital RMB, there is no standard operation rules, supervision is also in a blank state, laws and regulations are lacking, and unified solutions have not been formed for these basic problems in operation.

3.3. The Relationship between the Digital RMB and other Digital Currencies

Digital currency plays a pivotal role in the era of digital economy. Under the background of the era of digital economy, each country is also issuing its own digital currency. How to balance the relationship with other countries' digital currencies and how to solve the network externality of digital RMB and other digital currencies is the only way for the development of digital RMB. In addition, there is a competitive relationship between digital RMB and other digital currencies, which will lead to the uncertainty of the financial system, affect the instability of currency and financial market, and then affect the settlement of international trade and the process of RMB internationalization.

3.4. The Digital RMB Work with Countries that Support Global Digital Currencies

There is fierce competition among digital currencies. Russia, the United States, South Korea, Sweden and other countries have put forward plans for digital RMB, and many countries' digital currencies are also being tested to varying degrees. In the future, the competition of digital currency will lead to the chaos of the international financial system, and then it is necessary to deepen the financial cooperation among countries. Different countries have different attitudes and regulatory measures towards digital currency, so it is very important to find countries and economies with the same goals as China in the field of digital currency [7-8].

3.5. The Low Proportion of International Settlement of RMB

At present, RMB is the fifth international currency in the basket of currencies (SDR), but it does not match China's status as the second largest economy. China relies too much on the US dollar for external payments, while the US relies on its status as a superpower, which makes the US dollar linked to gold, oil, chips and so on. It is a strong rival of RMB. It is crucial for China's export trade to increase the proportion of RMB payments and reduce its dependence on the US dollar, so the current problem of

international payment of RMB is too low [9-10].

4. Solutions

4.1. Accelerate the Legal Provisions and Supervision of Digital RMB

The issuance and circulation of digital RMB not only requires the supervision of the People's Bank of China, but also requires the construction of a complete legal framework and legal system to manage the issuance, circulation and supervision of digital RMB. First of all, digital RMB should be clearly defined in RMB management regulations and banking laws. Secondly, there should be clear regulations on the circulation of digital RMB, the threshold of use and business requirements of enterprises and financial institutions, and clear procedures for the use and supervision of digital RMB accounts. Moreover, there is no experience in the circulation of digital currency at present, so it is more necessary to be cautious in the application of digital RMB.

4.2. Strengthen the Early Warning System to Prevent Financial Risks

The use of currency requires the supervision of the central bank. Under the current monetary system, digital RMB is an emerging digital currency, which inevitably encounters unpredictable risks in the process of circulation. When the central bank uses technology to conduct supervision in the era of digital economy, it should strengthen early warning through big data, construct multidimensional econometric models for risk prediction, and realize the identification of abnormal transactions more quickly. To ensure the effective supervision of the digital RMB and safeguard the stability of the national monetary and financial system [11-13].

4.3. Solve the Technical Problems of Digital RMB

Digital RMB is a digital currency derived from the era of digital economy. It relies on big data, cloud computing and blockchain technology to conduct research and development. It is necessary to make good use of Internet technology to coordinate and solve technical conflicts between digital RMB and the existing RMB system in ledger auditing, data information protection and fund supervision and other operational aspects. At the same time, technical difficulties in digital RMB transfer with a large amount of money need to be solved urgently. In international trade, the transaction amount is large, and the limitation of the amount will greatly limit the circulation and development of digital RMB.

4.4. Strengthen International Cooperation with Other Countries

The ultimate goal of promoting the internationalization of RMB is to realize the complete autonomy of RMB cross-border payment circulation. To build an independent RMB cross-border clearing system, it is necessary to cooperate with other countries' digital currencies, seek global partners, actively encourage partners to use digital RMB, and gradually improve the usage rate and acceptance of digital RMB. In addition, it can cooperate with the Bank for International Settlements and other international institutions to discuss the cooperation of digital currencies under the SDR, relieve the pressure of international reserves and other aspects, and jointly launch digital financial products with other countries and international financial institutions to improve China's voice in international settlement [14-15].

5. Conclusion

The era of digital economy has brought opportunities for the development of digital RMB, which can improve the status of RMB in the world currency and realize the function of economic regulation. Although the digital RMB is rarely used at present, it will certainly play a crucial role in the future with the development of technology and the promotion and use of the central bank. We need to increase investment in research on the digital RMB, raise public awareness of it, increase international usage, and enhance the autonomy of the international settlement currency.

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