

Exploring the Development Status and Application of Digital RMB

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ABSTRACT : At present, China attaches great importance to the development of the digital economy and requires the acceleration of the construction of digital China. After the launch of digital RMB in China with the support of blockchain technology, the operational efficiency of the currency and payment system and the development of inclusive finance have been effectively improved and supported, and the digital currency continues to move to a higher level. However, even though there exists a great potential for the development of digital currency, there are constraints in various aspects and many practical problems. This paper provides an in-depth analysis based on the current development status and difficulties faced by digital RMB, and provides corresponding solution strategies for digital RMB.

KEYWORDS - Digital RMB, block chain finance, realistic problems, path exploration

I. INTRODUCTION.

With the development of the digital economy, digital currency has become the focus of countries around the world. Digital RMB is issued by the People's Bank of China, which is a legal value currency whose carrier is in digital form. China's central bank commenced to invest in the research of digital currency in 2014, and carried out pilot work in numerous places in 2020. At present, the international track of digital currency China has already had a relatively considerable advantage, with the increasing expansion of the scope of the pilot, the application of the increasingly rich scene, the digital RMB has played a significant role in the promotion of consumption, conformity to the nominal, expanding demand, not only to promote the payment system is more perfect, but also to promote the payment system is more standardized and systematic.

The payment field has undergone tremendous changes after the introduction of digital RMB. First of all, digital RMB has improved the security of payment. It eliminates the emergence of counterfeit money, and in addition to requiring a password for payment, it also provides a digital currency loss function so that people can recover their cheated money according to the law. In addition, controlled anonymity respects and protects people's privacy while preventing the risk of being exploited by lawbreakers.

Secondly, the digital RMB is favorable to China's macroeconomic regulation and control, and facilitates real-time supervision of the efficiency of currency operation. Various industries use digital RMB and big data to analyze relevant information, and in all aspects of circulation, including flow, transaction methods and information, can be reflected online, and can be monitored and queried at any time, thus providing a basis for the implementation of the country's monetary policy. ^[1]

Third, like the introduction of digital RMB can be beneficial to combat crime, its traceability can make the transaction direction at a glance, the bank and management for anti-money laundering, anti-terrorist financing direction to provide an effective means of identification, but also promote the money corruption, the

reduction of underground economic behavior.

II. BLOCKCHAIN TECHNOLOGY SUPPORT FOR DIGITAL CURRENCY

Mu Changchun, head of the Digital Currency Research Center of the People's Bank of China, has said that the digital RMB payment instrument system combines the traditional centralized structural framework and blockchain technology on a technical level.^[2] First of all, the blockchain technology on which China's digital RMB relies is a decentralized distributed ledger technology, and there are two main scenarios for the application needs in digital currency. First, it is used in regulation, management, standardization, etc., which mainly utilizes the non-tampering and traceability characteristics of the blockchain. It uses encryption algorithms, decentralized payment characteristics to ensure data security, and can be traced back using blockchain technology after fraud. These features allow the digital RMB to be well applied in food and drug traceability, fund direction monitoring, and e-commerce transaction identification. Secondly, it is the financial aspects such as the registration of rights and interests and transactions. For example, supply chain finance will digitize assets, including accounts payable, warehouse receipts, waybills, and orders, and realize the process of digital asset authentication and transaction flow through blockchain smart contract technology.^[3]

Secondly, our country uses digital RMB smart contract technology, which can be automatically executed on the blockchain. The close combination of digital currency and supply chain financial services has introduced a program of business model innovation, which further deepens the exploration of new modes of digital RMB service to the real economy while imposing certain constraints on the transaction process.

At the same time, blockchain technology applies the irreversible characteristics of the hash algorithm, which not only protects people's privacy and security, but also guarantees the centralized maintenance of the ledger, prevents the security risks of financial data that may be caused by the distributed ledger, and realizes the isolation of data between cross-operating institutions. Therefore, blockchain has great potential in the support of digital currency, and it should be brave to explore the application of blockchain in digital RMB to better serve the real economy.

III. CURRENT STATUS

Up to now, it has been four years since the promotion of digital RMB, and it has been promoted and applied in 26 pilot areas in 17 provinces and cities. It is precisely because digital RMB is in the pilot stage and most merchants in the market still do not support digital RMB payment that the penetration rate of digital RMB is less than 0.1%.

(i) Digital RMB and Existing Payment Methods

Figure 1 shows that compared with other existing payment methods, digital RMB is far less popular than WeChat Pay and Alipay Pay. According to the market share survey of third-party payment platforms in 2023: WeChat Pay accounted for 29.0% of the market, and Alipay accounted for 34.5% of the market share. It can be seen that Alipay and WeChat are still the leaders of China's payment platform market, with a market share of 63.5%. They are payment tools with a large user base, and there are many differences in their implementation and utilization from the government-controlled digital RMB.

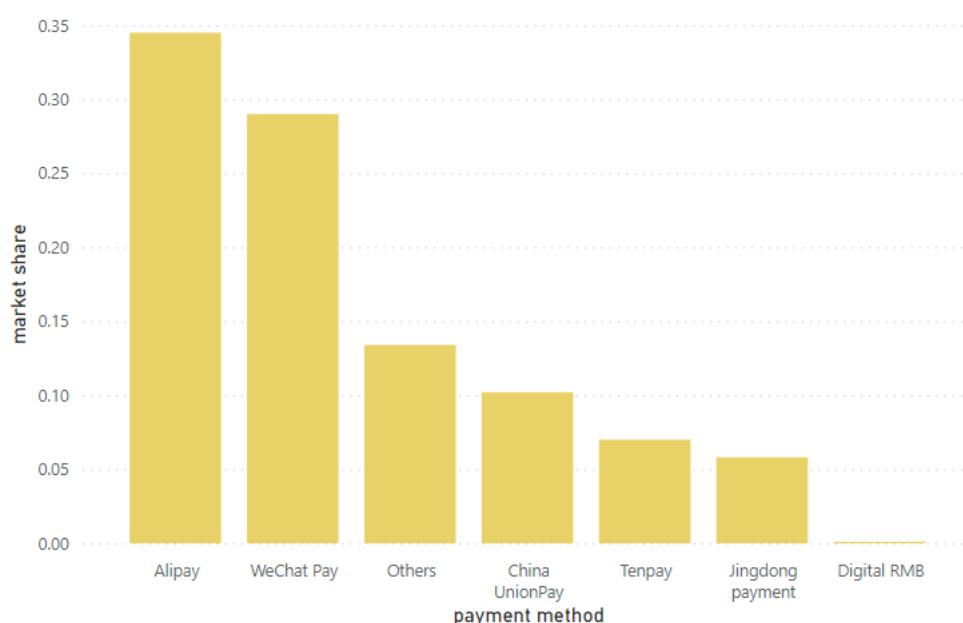


Figure 1: Data Source: Ranking and Analysis of Third-Party Payment Platforms, 2023

1. Differences in Positioning

In terms of their positioning, digital RMB is led by the Chinese government and is mainly a cash-based payment voucher (M0), which is the digitalized form of RMB. It aims to improve payment security, help the development of the digital economy and strengthen the RMB's position in the international monetary system.

However, WeChat and Alipay are both owned by private companies and are essentially electronic payment tools, which do not have the attributes of money, but are just a medium for payment, transfer, recharge and financial management functions. From the point of view of the definition of money, WeChat and Alipay belong to the digitalization of the M1 and M2 levels, which belong to the monetary settlement of commercial bank deposits, and do not have the legal effect of the M0 level.

2. Difference in principle

Digital RMB is mainly transacted through cell phone wallets, and there is no bond transfer of third-party roles. Digital RMB can transfer value without relying on an account, and supports offline transactions, with the characteristics of "payment as settlement", the transaction is completed between the merchant and the consumer, which is more secure and anonymous.

WeChat and Alipay mainly make payment through code scanning, QR code, cell phone NFC, payment within the App. In terms of the principle of payment, WeChat and Alipay can only be called real-time settlement by transferring money through the binding of bank cards.

3. Different stages of development

Digital RMB is not as good as WeChat and Alipay and other third-party payment platforms in the beginning, and digital RMB was specially researched in 2014, and it was not until the end of 2017 that the research and development test was carried out, and the pilot trial was carried out in 2020. Digital RMB has a low penetration rate due to its relatively late launch and the fact that there are still fewer regions that are actually using it. But the digital RMB may be combined with more payment and financial services in the future to broaden the use of the scene.

WeChat and Alipay were born earlier, with WeChat Pay appearing in 2013, initially receiving and sending WeChat red packets, and then gradually applying it to e-payments; Alipay was born in 2004 as a payment tool applied to e-commerce platforms. After several years of development, WeChat Pay and Alipay have penetrated into the streets and alleys, which is convenient for countless merchants and consumers, and has made great contributions to the economic development of our country and reformed our traditional payment methods.

4. Different promotion modes

As a digital form of RMB issued by the state, digital RMB is mainly promoted in a top-down manner, with consumption-boosting activities carried out in various pilot cities as well as inter-governmental utilization, for example, digital RMB can be adopted for payroll and tax payment in government departments. In order to increase the use of digital RMB, the government also encourages merchants and organizations to actively use digital RMB for settlement, and promotes digital RMB through the media to increase public awareness and acceptance.

On the contrary, WeChat and Alipay mainly adopt a bottom-up promotion model, which is of a profit-making nature for enterprises. In cooperation with merchants, they provide QR codes that can be scanned by customers to make payments, and the platforms also offer a variety of financial services to promote their use by merchants and individuals for the convenience of people. Cooperation with the government provides many convenient services, expanding the customer base and bringing many profit opportunities to the platform.

(ii) Support from national policies

On December 7, 2023, the State Council mentioned in the issuance of the "Overall Program for Comprehensively Docking to International High-Standard Economic and Trade Rules and Promoting High-Level System-Based Openness in the China (Shanghai) Pilot Free Trade Zone" that it would promote the pilot of the digital RMB in an orderly manner, and explore the scenarios for the application of the digital RMB in the field of trade. The country continues to expand the use of digital RMB, in international trade, the use of digital RMB's safe and convenient payment features to accelerate the promotion of the convertibility of capital items and the internationalization of the RMB; with the help of digital RMB's intelligent contracts, real-time transaction data monitoring functions, to ensure the security of the digital RMB and the risk can be controlled.^[4] On this basis, the process of RMB internationalization will be promoted continuously, and the application scenarios of cross-border payment of digital RMB will be enriched.

IV. DIFFICULTIES FACED BY DIGITAL RMB AND SOLUTION STRATEGIES

(i) Problems

1. Competition of existing payment modes

At present, the people of the country's existing WeChat and Alipay payment methods have generated greater stickiness, the majority of users of digital RMB demand and willingness to use is not strong. Especially in the economic development of the more backward areas and in the use of electronic devices have difficulties in the elderly group, they are more accustomed to the use of paper RMB and savings. As a digital currency, the digital RMB is closely related to people's daily life, and it is still uncertain whether it can cultivate the habits of the majority of users within a limited period of time. And the infrastructure of digital RMB is not perfect, people have not been popularized digital currency payment, transfer and other functions, the use of the scene is very little.

2. Poor user experience

For regulatory reasons, digital RMB wallets not only need to differentiate between four types of wallets, but also need to differentiate which bank the digital RMB accessed originates from. When using the

digital RMB, we found that it is not as convenient as WeChatAlipay. When entering the app page, there are various difficulties in guiding the registration; when recharging, the sub-wallets need to be separated and separately bound to various banks; after payment, the app cannot automatically total the amount spent, and still needs to be manually completed, which brings great inconvenience to users.

3. Regulatory system to be broken through

Compared with traditional sovereign credit currencies, the circulation of digital currencies has the advantages of fast speed, wide range, and variable scale, and at the same time, it is accompanied by more new risks and loopholes, and thus the previous supervision and management initiatives may not be able to play a good protective role for digital currencies.^[5] In the promotion of digital RMB, it is necessary to address the various risks of use that the people are concerned about; especially when a new form of financial currency emerges, financial supervision often fails to improve the relevant system in a timely manner, which can lead to a variety of opportunities for many unscrupulous elements to take advantage of. Once a certain degree of risk is found in the use of the model, it will greatly hinder the promotion of the digital RMB.

(ii) Countermeasures

1. Balance the existing payment mode

The emergence of every new thing will inevitably threaten some old ways. Therefore, under the competition of dealing with the existing payment modes, digital RMB also needs to adopt more reasonable ways and means of handling in order to develop better. The emergence of digital RMB is not to target a certain enterprise or eliminate certain products, but only to enhance the level and efficiency of financial services and build a new development pattern. In today's digital development, our country must comply with the development of the international situation, docking international monetary rules, accelerating the construction of digital currency infrastructure, and actively promoting the integration of digital currency and existing payment modes to promote the internationalization of RMB.

2. Ease of operation process

Avoid the use of overly cumbersome procedures in the digital RMB app, simplify the steps of registration, recharge and access, so that people can settle more efficiently and use more conveniently, and create a payment platform with a better user experience. Developers should release regular updates to fix bugs, improve features, and pay close attention to user feedback and needs. By constantly optimizing the application, developers can make users feel that their needs are valued and increase user loyalty.

3. Build a standardized regulatory system

For the issuance of digital RMB, a corresponding financial regulatory system must be introduced to standardize the digital currency. It is recommended that on the basis of the continuation of the relevant currency management regulations in the past, combined with the unique attributes of the digital RMB, some new content should be added appropriately, so as to meet the actual needs of the current situation.^[6] During the pilot period, many problems will inevitably arise in the digital RMB, and the financial regulator must formulate a corresponding regulatory system for these problems. And the digital RMB mainly relies on the blockchain technology, which can be used to supplement the law for the gaps in Internet finance, and strive to build a good financial supervision and management system, and strengthen the standardization of digital currency.

V. CONCLUSION

The future era is the era of digital. In China's "14th Five-Year Plan" for the development of the digital economy, it is indicated that digitization is inevitably a general trend, and the goal is that in 2025, China's digital economy will enter a period of comprehensive expansion, and the added value of the core industry level of the digital economy will account for 10% of the GDP. The integration of digital technology and the real economy

has achieved remarkable results, the digital economy governance system is more perfect, and the competitiveness of China's digital economy and the international influence of the RMB have steadily increased. Under this trend, China must strengthen the foundation of the digital economy, namely the digital RMB. It is only by applying the digital RMB to more scenarios that we can cope with the various challenges and opportunities of the future digitalized world and gain a foothold among the fierce competitors in the future. China should actively promote the construction and improvement of the international regulatory norms and order of digital currency, master the dominant power and discourse in the digital financial field, gain absolute competitive advantage, and enhance China's financial discourse and the international influence of RMB.^[7]

As a major product of the digital era, digital currency will inevitably become a huge driving force to fuel future economic development. With the announcement of the fourth batch of digital RMB pilot cities, it is only a matter of time for the popularization and application of digital RMB. The development and application of digital RMB is not only related to China's financial security and financial development, but also to China's economic and social development and national strategy. At the same time, the internationalization process of digital RMB also needs attention. Therefore, we need to pay close attention to the development and application of digital RMB and actively adapt to the changes in the digital era in order to enjoy the dividends of the development of digital economy.

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