

Research on the Impact of Digital Currencies on the Internationalisation of the Renminbi and the Role of Promotion

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Abstract. The internationalisation of the RMB faces many opportunities and risks under the current new international development situation. It is precisely for this reason that the Chinese government should take every step carefully, and it should seize the opportunity now that the hegemony of the US dollar is loosening. The Chinese government is at the forefront of the development of the digital RMB and has already put it into practice many times. It has China's unique dual operation system, controlled anonymity and so on. The Chinese government should maintain the advantage, continuously improve the digital RMB standard, and vigorously develop the settlement system of digital RMB. This paper is based on the current status of the preliminary development of the central bank digital currency, analyses the advantages of the Chinese government's legal tender digital currency, for the study of the impact of the digital currency on the process of RMB internationalisation has a certain reference value.

Keywords: RMB internationalisation; digital currency; digital RMB.

1. Introduction

Digital currency is a legal tender based on a network of nodes and digital encryption algorithms, which can only be deciphered by the person who holds the private key [1]. So digital currency has a high degree of security and credit. Unlike physical currency, its use or storage does not need to rely on paper currency as a medium and does not need to rely on a third party, so digital currency can greatly save the cost of payment, save the cost of issuance, improve the speed of transaction settlement, and also has a very high degree of security and stability. The concept of digital currency first arose in 2008, and now has been initially developed. Released by Satoshi Nakamoto as "Bitcoin: A Peer-to-Peer Electronic Cash System," Bitcoin is the world's first and currently the best major digital currency. It has new features compared to traditional currencies, adopting blockchain technology with a distributed ledger at its core, and is therefore completely decentralised, secure, and tamper-proof. The issuance of Bitcoin does not require the credit of a sovereign state, so it is available to everyone. Bitcoin was initially created to address the global financial crisis caused by the increased issuance of U.S. dollars in 2008, so the total number of bitcoins that exist as a deflationary digital currency is currently fixed at only 21 million. However, Bitcoin has several drawbacks that cannot be ignored. Firstly, there is currently no asset that is denominated in Bitcoin, and Bitcoin is not a financial asset. Bitcoin is not a financial asset. Bitcoin also does not have any direct consumer utility, nor does it contribute directly to the production of the economy, and therefore is not a physical cost. Most people currently hold Bitcoins for the speculative benefits they currently bring to the financial markets. Another reason may be that the fixed quantity and decentralised nature of Bitcoin prevent governments from looting the wealth of society by triggering inflation. It is this fear factor that gives Bitcoin its value, so in the most optimistic scenario, Bitcoin will only become an asset similar to gold, and will not be able to replace the modern credit money system at this point [2].

The U.S. dollar remains in a hegemonic position in today's international monetary system. As of July 2023, the U.S. dollar in the global payment currency use ratio accounted for a total of 46.46 percent, as of the third quarter of 2022, the dollar in the global public official foreign exchange reserves accounted for 59.7 percent [3]. All kinds of data show that although the Fed continues to raise interest rates leading to a series of inflation, as well as credit rating downgrades and other issues the status of the U.S. dollar in the last century has declined, but the hegemony of the U.S. dollar in

the international monetary system is deeply entrenched. However, as China is the world's second-largest economy and the largest trading nation, the internationalisation of the renminbi is fully necessary. Therefore, the internationalisation of the RMB is a complex and long-term task, and the Chinese government should be prepared to fight a long battle.

The road to the internationalisation of the RMB is long but the government is still moving forward steadily:

In 2001, China's accession to the WTO led to the signing of local currency swap agreements with neighboring countries to reduce the transaction costs brought about by the US dollar as an intermediary medium and to promote trade between multiple countries. The internationalisation of the renminbi has officially begun.

In 2008, some Asian countries announced the inclusion of the RMB in their national reserve currencies, beginning the process of the RMB as a reserve currency.

In 2009, the central bank announced the Implementation Rules for RMB Cross-border Trade Settlement, which opened the way for RMB cross-border trade. It also promoted the internationalisation process of RMB side by side.

Into the 20's, the internationalisation of the RMB has made significant achievements, with the RMB reaching a total of 2.02% of assets as foreign exchange reserves globally in 2019, and RMB cross-border trade settlements reaching 3.08 trillion yuan in 2020, making the RMB the fifth largest payment currency in the world [4].

Through the summary of previous literature, it is concluded that if the RMB wants to further accelerate the process of internationalisation, one of the most important ways to promote it is to innovate the transaction and settlement methods, and at the same time, it is impossible to abandon the modern credit currency system. Therefore, the authors believe that the development of digital currency should continue. The Chinese government should continue to improve the digital RMB, further expand the scope of digital RMB pilots, and strive to one day form a complete legal tender digital currency system. Only then can the hegemony of the US dollar in international transactions and payments be effectively broken, while further promoting the internationalisation of the RMB. This paper is based on promoting the internationalisation of the RMB, giving full play to the advantages of digital currencies in effectively reducing the cost of international trade and improving the efficiency of cross-border payments, innovating and developing digital currencies with Chinese characteristics, helping China's digital economy on the road to development, and analysing the role of the digital RMB in assisting the RMB to go global in the true sense of the word.

2. Advantages of Digital RMB

The concept of digital currencies was first introduced in 2008 and has now been developed to offer new features compared to traditional currencies. Firstly, digital currencies do not have a physical carrier, and because they are closely related to cryptography and blockchain technology, they can only be decoded by the person who holds the private key, making them highly secure and creditworthy. Currently issued by the central bank of each country is the legal tender digital currency, unlike virtual currency such as Bitcoin, which can be issued by anyone, the digital currency issued by the central bank has the national credit endorsement, so the currency has unlimited legal capacity [5]. The central bank digital currency is a government-issued legal tender with a distributed corroborated ledger bookkeeping method, so it is centralised and belongs to the modern credit currency system.

The concept of digital RMB was first introduced by the People's Bank of China in 2014 and has the following advantages over other traditional currencies:

Firstly, there is a dual operation mode, China's central bank digital currency has designed a two-tier operation delivery system instead of a single-tier operation system in which the PBoC issues digital currency directly to the public, but a two-tier operation system. Under the two-tier operation system, the upper tier is the central bank, which guarantees the credit of the legal tender digital

currency issued by the central bank, so the central bank's digital currency has unlimited solvency, just like the RMB. The lower layer of the operational placement system consists of different commercial banks, and while commercial banks and other institutions are responsible for issuing central bank digital currency to the public, they are required to pay 100% of the full amount of reserves to the central bank to ensure that the central bank digital currency is not over-issued. That is, the central bank puts it to each commercial bank, and each commercial bank puts it to the public. Its current development goal is to serve as the M0 currency, i.e., the new form of existence of the RMB, with the same legal status and economic value as the traditional currency, and the traditional currency is not a substitute for each other, but rather complementary to each other and interdependent.

Secondly, the issuance of digital RMB can effectively reduce the cost of traditional currency issuance. From precious metal currencies to paper currencies, the issuance cost of currencies has been decreasing, and today the variable cost of issuing a hundred yuan RMB is basically under ten yuan, but the issuance cost of digital RMB can reduce this figure even more. China's digital yuan by the central bank and commercial banks using CDBC distributed corroboration ledger technology. Based on the cryptographic method, and through the Internet to provide users with CDBC corroboration query website. And act as an online banknote checker.

The digital RMB follows a controlled anonymity approach, i.e., "anonymity for small payments and traceability for large amounts following the law." While ensuring the anonymity of digital RMB in the front office, it also realises the real name in the back office. The user privacy protection at the same time, also makes money laundering, fraud, and other crimes have nothing to hide. For example, various Internet platforms and third-party payment institutions often track the flow of consumer funds through the user's big data screening, to achieve personalised recommendations. In the online consumption scenario of digital RMB, the user's payment information is packaged and encrypted before being pushed to various e-commerce platforms. Internet platforms and third parties can not directly access the user's personal information, thus further protecting the user's privacy and security, but also can effectively avoid the platform big data "kill ripe" and other issues [6]. With data security.

The last point is centralised management, which facilitates the tracking and measuring central bank data. With the central bank as the centre of issuance management, on the one hand, its authoritative position helps to enhance the ability of digital RMB to withstand the impact of various market factors. On the other hand, the central bank can centralise the verification information of digital RMB. While clarifying the responsibility of the main body, it also greatly improves the efficiency of the relevant processes. At the macro level, the issuance of digital RMB can enable the central bank to more accurately measure the velocity of currency circulation and currency structure, thus improving macro-control.

Digital currency is the cornerstone of the digital economy. The digital RMB took the lead in issuing and applying the digital euro and digital dollar programs at a moment when they were still being prepared and took the lead in identifying problems, improving them in practice, and actively participating in the development and launching of global digital currency standards. This is undoubtedly a good opportunity for China's digital economy to take the lead in its development, and it is also an important step in promoting the internationalisation of the RMB [7].

3. The Contribution of Digital RMB to RMB Internationalisation

3.1. Maintaining the Financial Sovereignty of Sovereign States

At present, the Society for Worldwide Interbank Financial Telecommunication (SWIFT) dominates the field of cross-border funds settlement. Almost all important financial institutions around the world are members of the system. Because of the wide influence of SWIFT in the world, SWIFT has repeatedly become a tool for the United States to launch financial sanctions against other countries, such as Iran.2022 Since the outbreak of the Russian-Ukrainian conflict, the United States has upgraded the sanctions against Russia and banned the use of the SWIFT system by the main banks in Russia, which has caused a huge impact on Russia's foreign trade and international settlements [8].

At the same time, other countries in the world have taken corresponding countermeasures to reduce the potential risks caused by the dollar-dominated SWIFT system. In recent years, China's growing economic strength and international status have threatened the hegemony of the US dollar, and the Chinese government must explore a separate cross-border payment and settlement system to bypass the US dollar settlement and to build a perfect digital infrastructure for cross-border flow of RMB based on the RMB cross-border payment system (CIPS).

3.2. Peer-to-peer Payments

At present, the commonly used international settlement system is still the SWIFT wire transfer system, this system needs to pass through some intermediary agent banks in the middle of the system, which brings the problem that the transaction time is long, the transaction usually takes a few days to complete, and the transaction cost is expensive, according to the International Monetary Fund report, the cost of international payments is about 45 billion U.S. dollars/year [9]. This shows that the global monetary system lacks a more efficient and less expensive payment facility, and the most promising one at the moment is the central bank digital currency. Legal tender digital currencies can eliminate third-party intermediaries in the process of cross-border payments to achieve peer-to-peer docking. This results in significant savings in time and transaction costs. The central bank of each country is the highest bank authorised by each country, if the central bank digital currency of any country becomes the world's common currency in the future, then the bank of that country will be upgraded to the world's central bank, then the global monetary system will be reshaped. Therefore, if you want to achieve the internationalisation of the RMB, it is necessary to vigorously develop China's legal tender digital currency.

3.3. Contribute to Inflation Control and Exchange Rate Mechanisms

First, the legal digital RMB can improve the effect of macro-control and provide strong support for the internationalisation of the RMB. Currently, China's exchange rate is managed at the national level through macro-control, supervision of the foreign exchange market, market intervention, etc. The issuance of digital RMB allows the central bank to more accurately measure the velocity of currency circulation and the structure of the currency. After the adoption of digital RMB, relying on the centralised management of every transaction, the implementation of monetary policy can be implemented quickly and accurately transmitted characteristics, the RMB can also be recognized by more countries around the world and thus move towards internationalisation. Second, the digital RMB can regulate the market exchange rate mechanism and stabilise the value of the RMB. Because of the precise monetary policy macro-control, when the CPI (consumer price index) rises, the market inflation, the central bank can reduce the amount of digital RMB control, reduce the amount of currency issued by the major commercial banks, control the amount of currency circulation in the market. Conversely, when there is deflation, the central bank can increase the amount of currency circulating in the market, thus taking advantage of the digital RMB to stabilise the value of the RMB. After the digital RMB has a market-oriented exchange rate mechanism and a stable RMB currency value, it will naturally be recognised in the international market, and the RMB can be better internationalised, including winning a larger share in international payment and settlement, which can further enhance the international discourse of the RMB and promote the international development of the RMB [10].

4. Conclusion

To sum up, the hegemony of the US dollar has shown signs of loosening, and its gradual decline is an inevitable trend, which is a major opportunity for the internationalisation of the RMB. Although the road is long, the Chinese government must choose the right way according to the domestic and international environments, continue to develop the digital RMB, and improve the internationalisation of the RMB. To this end, the Chinese government should rely on the existing

blockchain technology to improve the supervision and management system, and at the same time, research new technologies, and step up the practice of improving and expanding the existing pilot scope, and finally, the Chinese government should seize the window of the world pattern to accelerate the reshaping of the global monetary pattern, and to grasp the economic links with other countries. In this way, the Chinese government will be able to take a path of RMB internationalisation that is in line with China's national conditions. China's current digital RMB has made significant progress, but it still needs to continue to work hard to reach the international stage. In order to help the internationalisation of the RMB, the digital RMB has the following directions that still need to be pushed forward:

First, firstly, the underlying design logic of digital RMB should be further researched, blockchain technology is only one aspect, and the attitude of innovation should be maintained. Second, secondly, digital RMB is a new thing, the country has not formulated the corresponding legal provisions and policies for the industry, and the foundation of regulating the cross-border payment of digital RMB is relatively shallow, resulting in the lack of legal protection for the issuance and use of digital RMB in China. This has resulted in a lack of legal protection for the issuance and use of digital RMB in China. Implementing digital RMB will inevitably require new financial regulatory measures, legal frameworks, etc., and should maintain an attitude of continuous improvement. Third, finally, under the premise of ensuring the full development of digital RMB, the scope of the pilot project will continue to expand, and strive for cross-border payments, and China's "One Belt, One Road" is a good pilot application space. Relying on the Asian Infrastructure Investment Bank (AIIB), the digital RMB can be incorporated into the settlement currency, so that it can become the main settlement currency for cross-border payments, investment loans, and other purposes in countries along the "Belt and Road". If the digital RMB benefits the countries along the "Belt and Road", the internationalisation of RMB will be developed to a higher level.

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