



The Impact of E-CNY on RMB Internationalization

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Abstract. Based on the fact that RMB is currently in the process of actively internationalizing, this article mainly takes the E-CNY as the research object, and uses the SWOT business model to analyze the strengths and weaknesses of the issuance of the digital RMB, as well as the opportunities and threats it faces. At the same time, based on the continuous development of digital financial technology, this paper analyzes the important impact that effective cooperation between financial institutions, policymakers, regulators and technology providers may have on enhancing the advantages and mitigating negative effects. The study concluded that the digital RMB caters to the general trend of development in the world today and is an excellent innovation that truly benefit the people, but there are many obstacles in the development process that will make its action less effective. Based on the strong internationalization trend of the digital RMB, it is obvious that its promotion is conducive to the internationalization of the RMB, provides guarantees for financial exchanges between countries, and con-tributes to sustainable development.

Keywords: E-CNY, RMB Internationalization, Digital Currency.

1 Introduction

The process of RMB internationalization is a long-term historical process, which can be divided into three important stages. In the first stage, a unified and globally connected national currency system was established. The second historical development stage was after 1994. In 1993, China's national economy had a serious deficit of more than 11.6 billion dollars [1]. After 1994, China established a foreign exchange trading center, made major adjustments to the RMB exchange rate, and adopted a series of other effective policies, which made the RMB exchange rate consistent with the level determined by the international currency market for the first time [1]. The international status of the RMB has been greatly improved, which has not only transformed its international role, but also produced positive macroeconomic effects. The third phase is the internationalization of the RMB in response to the 2008 global financial crisis. China expanded its global influence through RMB offshore centers and the Belt and Road initiatives [1]. However, after more than a decade of clear international development measures, the use of RMB has not increased significantly. In the process of

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Q. Wu et al. (eds.), *Proceedings of the 2024 3rd International Conference on Public Service, Economic Management and Sustainable Development (PESD 2024)*, Advances in Economics, Business and Management Research 309,

https://doi.org/10.2991/978-94-6463-598-0_12

RMB internationalization, China has launched a highly innovative currency-digital RMB(E-CNY). E-CNY is a digital version of China's legal tender, which must be operated through commercial banks and it act as physical RMB. Since 2014, the development of internet technology has gradually entered people's life, thus network security issues are imminent. The public's requirements for payment security, privacy and popularity are increasing. China is actively exploring multiple forms of currency and continuously promoting the pilot of electronic RMB to make it truly convenient for society in practice. Obviously, E-CNY has also brought multiple impacts to the internationalization of the RMB. It has added the payment methods for cross-border trade, and will also bring crucial changes to different aspects such as financial cooperation and technology. This article uses the business analysis model SWOT to explore the impact of E-CNY on RMB internationalization and list its strengths, weaknesses, opportunities and threats. This study pro-vides feasibility and constructive suggestions for the internationalization of RMB.

2 Literature Review

The digitization of the global economy is significantly changing financial systems around the world. This review synthesizes the academic literature on digital currency, central bank digital currency, currency internationalization and financial regulation in the past one to two years. The focus is on the broad impact of the digital RMB on the internationalization of the RMB. Lim provides a historical perspective on China's efforts to internationalization of the RMB, highlighting the strategic rationale behind this move. The study argues that RMB internationalization is not only a financial objective but also a geopolitical strategy to enhance China's influence in the global economy [1]. Xu explores the development and implication of China's central bank digital currency. The E-CNY is designed to improve the efficiency of the payment system. The study also discusses potential challenges, such as privacy concerns and the need for regulatory frameworks to manage the digital currency effectively [2]. Yu offers a data-driven analysis of how the E-CNY affects multilateral currency swap agreements, particularly with countries in the Islamic world. The research show that the digital RMB facilitates the efficiency of cross-border transactions, strengthening economic ties between China and these countries [3]. Fáykiss et al. highlight the potential of CBDCs to promote financial inclusion, using the example of the Digital Student Safe in Hungary. The study illustrates how digital currencies can support broader economic development goals and monetary policy [4]. Walker discusses the challenges and opportunities posed by digital money and CBDCs, emphasizing the need for robust legal and regulatory frameworks to ensure the stability of financial instruments and financial may lead to the advanced technology [5]. George explores how emerging technologies such as AI, blockchain and machine learning are being integrated into financial systems to safeguard against cyber threats [6]. de Paz analyzes the regulatory implications of the global digital economy, stressing the importance of updating financial regulations to address the unique risks associated with digital currencies [7]. Liu et al. examine the application of a new generation electronic pay-

ment system which facilitate international trade and investment in the context of China's Belt and Road initiative [8]. Safi et al. finds that digital finance can significantly support green initiatives by providing innovative financial solutions that promote environmental sustainability [9]. Karau discusses the competition between central bank digital currencies and high-lights the strategic considerations for countries developing their own CBDCs in this complex policy environment [10]. The literature reviewed highlights the strategies and challenges of E-CNY and RMB internationalization and the transformative potential of digital currencies.

3 Analysis and Discussion

In the current era of the Internet economy, China has actively developed E-CNY technology, and has continuously innovated its design since its issuance in 2014. Starting from 2019, it will be piloted in each district to expand its strategic application. Its development aims to replace cash in circulation and facilitate the public faster and more affordably [2]. During the process of E-CNY development, people have felt the huge impact it has brought, and also realized the infinite possibilities and multiple challenges of its future development. Figure 1 specifically explains some characteristics and possible results of the development of E-CNY for the internationalization of RMB.



Fig. 1. The swot matrix of E-CNY.

3.1 The Strengths of E-CNY to the RMB Internationalization

First of all, the promotion of E-CNY has greatly promoted cross-border trade. Its use in the trade process is likely to make foreign countries realize the convenience of

digital currency, which is conducive to the global promotion of E-CNY, making multilateral trade development more efficient and reducing transaction costs to a certain extent. According to the survey of Yu in 2023, more than 50% of the respondents believe that E-CNY promotes trade between China and Islam, and based on the preference for multilateral currency swaps between China and Islamic countries, people have a strong preference for RMB, especially E-CNY[3]. Therefore, it is likely that the E-CNY will enhance the international status and popularity of the RMB. If its usage rate increases across the world, it may contribute to open up China's financial markets to the outside. The injection of foreign capital will greatly enhance the international competitiveness of Chinese economy. The next representative advantage is that the issuance of E-CNY is very meaningful for enhancing the implementation of monetary policy. Unlike previous paper money, E-CNY possess data traceability and transparency, which facilitates the state to supervise the transaction process and prevents some underground transactions and the proliferation of black market. In terms of central banks, it is useful to monitor and adjust monetary policy, as a result, maintain the stability of the RMB and enhance the confidence of international investors. Research shows that properly regulated financial services can help enhance financial stability [4]. Meanwhile, the issuance of central bank digital currency(CBDC) supports the realization of several economic and policy goals. Different issuance styles will bring different benefits. For example, whole-sale CBDC may reform and innovate the payment and settlement situation between banks, while retail CBDC will help adjust and update financial services and monetary policy [4]. In addition, the promotion of E-CNY will help promote financial technology innovation. China possesses advanced digital infrastructure, so the use of the E-CNY is expected to spread across the whole country soon. For other countries, the currency may promote financial technology innovation around the world. In this way, China will enhance its influence in the global financial technology field and demonstrate its leading position, and promote the internationalization of the RMB. Finance and technology are closely linked. Technology supports the development of financial and market functions. In today's big data era, it provides technological support, pays attention to global financial trends, and maintains the stability of the financial industry, while finance has been used to promote scientific and technological progress [5].

3.2 The Weaknesses of E-CNY on the RMB Internationalization

However, the promotion of digital RMB also has some weaknesses that are not conducive to the internationalization of RMB. It is intuitive that the promotion of digital RMB relies on a highly secure technical infrastructure. But it is only a technology, it always needs to be repaired and improved, and any system is likely to face the risk of cyber-attacks and technical failures. More seriously, due to the internationalization process of RMB, it is possible to suffer security attacks from all over the world. Simultaneously, technical standards and specifications between different countries and regions may be inconsistent, and digital currency may not be as easy to trade as imagined, which may increase the complexity of promoting E-CNY in the international world. According to the survey report, cyber-attacks on financial services companies

have increased by 238% since 2018 [6]. It can be seen that although technology has facilitated the development of finance, it will also bring crises as the advanced technology continues to improve, causing risks in the internationalization of the RMB. E-CNY also faces regulatory and legal obstacles. The cross-border use of digital currency requires international joint regulatory cooperation and legal coordination. For example, the World Economic Organization can list a series of transaction principles and laws, but the international community has not yet formed a unified regulatory framework. Central banks and international regulatory authorities are more willing to use new technologies to regulate transactions and allow them to perform regulatory duties instead of humans, but relying on machine learning and artificial intelligence cannot change the legal basis of financial regulation [7]. The lack of effective supervision of the E-CNY is not conducive to the internationalization of the RMB.

3.3 The Opportunities of E-CNY Development

By promoting the E-CNY, the effectiveness and inclusiveness of cooperation with countries along the ‘Belt and Road’ can be enhanced. The Belt and Road is an important project launched by China to strengthen economic cooperation and financial ties with countries along the route. The rational promotion of the convenience of the E-CNY will help expand the acceptance and application of the RMB in these countries, and play a vital role in the internationalization of the RMB. With the establishment of the Belt and Road Initiative, investment and trade cooperation has continued to deepen, and the convenience and low cost of payment have also been reflected [8]. Additionally, the E-CNY can enrich payment methods, provide reliable ways of payment in financial crises, and build a diversified international monetary system. Through long-term healthy and stable development, it is also conducive to supporting the financing and settlement of green financial projects and promoting sustainable development. It shows the highly positively support of Chinese currency for sustainable development and promotes the internationalization of RMB. As Safi emphasized in article, green finance is crucial to reducing carbon emissions [9].

3.4 The Threats of E-CNY Development

Although the E-CNY has many advantages in promoting the internationalization of RMB and seems to have a bright future, it still faces many challenges that are likely to limit its impact on a global scale. For example, the issue of international acceptance and trust to digital currency. After all, the issuance of the E-CNY has not been supported by countries around the world, and the international community’s acceptance of E-CNY is limited, especially in countries that have doubts about China’s political and economic system. Mean-while, the fluctuation of the RMB exchange rate will also affect the international market’s confidence in E-CNY. Moreover, some countries may also be concerned about the security of China’s data control and the effectiveness of privacy protection. Various reasons may cause them to have trust issues in the issuance of the E-CNY. In addition to the challenge of market acceptance, the international competition for digital currencies is very fierce. Many countries are

developing their own central bank digital currencies, such as digital dollars and digital euros. The international market itself is accustomed to using traditional international such as the US dollar and the euro, so these digital currencies will become strong competitors to the RMB. At the same time, some private cryptocurrencies will also pose a huge threat to the development of the digital RMB. For example, Bitcoin has a broad domestic user base, and the share of the digital RMB in the international market will be threatened by multiple parties. People are increasingly interested in central bank digital currencies, and digital currencies have become an international focus. Competition is fierce, and some central banks are considering launching their digital currencies abroad to increase their currencies' international status [10]. The E-CNY has a long way to go to promote the internationalization of the RMB.

3.5 Discussion

Above all, the E-CNY is an important strategic plan for the international development of the RMB. However, it is crucial to improve the technology, create a safe and reliable environment for its development, protect the common interests of the people, and enhance its international status. At the same time, it is also significant to strengthen government control to ensure its orderly and efficient development and prevent some illegal usages from taking advantage of it. This research and analysis have many shortcomings. First, because of the process of RMB internationalization ranges over the whole world, it is impossible to reasonably take into account the true views of each country on the implementation of the E-CNY. Second, this article did not add actual data research, and only analyzed the SWOT business model of the E-CNY on the process of RMB internationalization. It is strongly suggested that further research will be carried out through data to investigate the actual use of the E-CNY. Third, this topic is highly dynamic. Digital currency and international finance are the development priorities of the world today. They are developing rapidly and are not yet completed. Therefore, as time goes by, there is a high probability that new regulations will be issued or market change will have a great impact on the development of the digital RMB. Hence, it is impossible to fully estimate its future dynamics. At the same time, as the issuance of the E-CNY, electronic payments have risen rapidly, and intermediary trading platforms such as Alipay and WeChat Pay have become popular in China. It is highly suggested to consider these electronic payment methods while researching the development of the digital RMB, as they are also widely used abroad.

4 Conclusion

This article analyzes the impact of E-CNY on the internationalization of RMB through the SWOT business model, and elaborates on it from four aspects: strengths, weaknesses, opportunities and threats. In terms of strengths, E-CNY promotes cross-border transactions, enhances the implementation of monetary policy and promotes financial technology innovation. As for weaknesses, it faces regulatory difficulties and legal obstacles, as well as technical and cybersecurity risks. However, E-CNY has

many opportunities. Through it, it can enhance the effectiveness and inclusiveness of cooperation with countries along the Belt and Road, as a result, promote the internationalization of RMB. It can also build a diversified international monetary system and support green financial projects which are beneficial for the sustainable development. At the same time, E-CNY also faces some threats like the market acceptance issues and highly competitive currency market. The development of China's digital currency is based on scientific design and research. It makes good use of China's strong infrastructure and is an innovation that can truly benefit people. Although there will be a series of difficulties and obstacles during the development, its future results seem to cater to the general trend of the world today. If it is controlled and innovated, also international use is promoted, it can make a huge contribution to the internationalization of the RMB.

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