

# How China Can Address Emerging Challenges in the Stablecoin Surge within the Digital Economy

Yao Sun<sup>1</sup>, Jun Na<sup>2,\*</sup>

<sup>1</sup>*School of Economics, Sichuan University, Chengdu, Sichuan, China*

<sup>2</sup>*School of Business Administration, Baise University, Baise, Guangxi, China*

*\*Corresponding Author.*

**Abstract:** The rapid development of stablecoins has emerged as a significant phenomenon in the global financial landscape, propelled by the deep integration of the digital economy and financial technology. This paper examines the market landscape, and developmental trends of stablecoins. It is observed that the proliferation of stablecoins presents potential challenges to the internationalization of the Renminbi (RMB), while also introducing risks associated with currency sovereignty, capital flow regulation, and financial data security. In response to these challenges, it is proposed that China adopt strategic measures such as piloting stablecoins, enhancing the internationalization efforts of the RMB, upgrading the capital regulatory framework, and advancing the development and adoption of central bank digital currencies.

**Keywords:** Stablecoins; Digital Era; FinTech; Cryptocurrency; E-CNY

## 1. Introduction

In the era of the digital economy, where there is deep integration of financial technology, stablecoins serve as a crucial link between traditional finance and digital assets<sup>[1]</sup>. They are rapidly reshaping the global payment landscape. Stablecoins such as USDT and USDC, leveraging the robust advantages of blockchain technology, have established a global, efficient digital payment network. The swift penetration of this "digital assets" system globally poses potential challenges to the internationalization of the Renminbi (RMB)<sup>[2]</sup> and may introduce risks related to capital flow regulation and financial data security<sup>[3]</sup>. Safeguarding national financial sovereignty amidst the rise of stablecoins has become a strategic imperative for China in the digital economy era.

## 2. Global Overview of Stablecoin Development

### 2.1 Market Landscape and Trends of Stablecoins

Stablecoins can be defined as a crypto-asset designed to maintain a stable value relative to another asset (typically a unit of currency or commodity) or a basket of assets (Financial Stability Board, 2019). Essentially, it is a cryptocurrencies on the blockchain that reflect the price stability of real-world liquid assets, providing the price stability expectations lacking in other virtual currencies through mechanisms such as exchange rate pegging.

Since their introduction in 2014, stablecoins have exhibited strong resilience during various risk shocks. By the end of May 2025, the total market capitalization of stablecoins had exceeded \$250 billion, an eleven-fold increase from the \$20 billion market cap in 2020 (CoinGecko, 2025). Depending on the type of underlying collateral, stablecoins can be categorized into: Fiat-backed stablecoins (e.g., USDC, USDT), Crypto-collateralized stablecoins (e.g., DAI), Commodity-backed stablecoins (e.g., PAXG) and Algorithmic stablecoins (e.g., USDD).

Initially, stablecoins were primarily used for trading and settlement in cryptocurrency markets. Due to their price stability, low transaction costs, and security and convenience, stablecoins have emerged as a new, convenient payment method<sup>[4]</sup>. However, in recent years, they have been rapidly adopted in various fields such as hedging against local currency devaluation, cross-border trade settlement, daily transactions, and other financial investments.

Traditional financial system is slow, cost with limited accessibility<sup>[5]</sup>. However, leveraging blockchain technology, and effectively balancing openness and stability in their functional characteristics, stablecoins enable faster and

more cost-effective cross-border transactions<sup>[6]</sup>. This is particularly beneficial for remittances, where traditional banking systems often involve high fees and long processing times. Traditional bank cross-border remittance settlements can take up to 5 business days; in digital payments based on interbank communication systems, about 30% of remittances take more than 1 day. In contrast, 100% of stablecoin cross-border payments can be completed within 1 hour, significantly decreasing the payment cost.

Technological iteration is driving new application scenarios. The RWA (Real-World Asset) collateralization model enables stablecoins to transcend their role as payment tools and evolve into income-generating assets. Circle has allocated 32% of its reserves to U.S. Treasury bonds, launching an interest-bearing USDC, with annualized returns benefiting users; JPMorgan Chase's Onyx uses stablecoins to enable 24/7 real-time settlement between institutions, while traditional financial giants BlackRock and Fidelity are settling tokenized fund shares using stablecoins.

In the decentralized finance (DeFi) field, stablecoins are integral for various financial services such as lending, borrowing, yield farming, and staking. Their stability minimizes the risk of volatility, making them suitable for financial contracts and transactions. This is mainly due to continuous innovation in blockchain technology, enhancement of the security of smart contracts, and reflection on the limitations of traditional financial systems. Stablecoins like USDC are favored for their proactive compliance. Issuers provide monthly reports, collaborate closely with financial regulators, and keep reserves in reputable banks and fiscally supported assets. This transparency encourages adoption by governments, fintech companies, and institutional participants exploring tokenized payment systems<sup>[7]</sup>. Currently, major DeFi protocols such as MakerDAO, Compound, Aave, and Curve all utilize USDC as a core supported asset for collateralized lending and other services.

Stablecoins designed with regulatory considerations in mind are expected to expand globally with reduced legal friction. As the digital economy plays an increasingly important role in the global economy, stablecoins, serving as a bridge between traditional finance and digital assets, are redefining the monetary system in the digital financial world.

## 2.2 The Development of Dollar-backed Stablecoins

The stablecoin market demonstrates a clear oligopolistic structure. Dollar-backed stablecoins serve as the primary channel for capital inflow and outflow in the cryptocurrency market, with transaction volumes surpassing those of Bitcoin and Ethereum combined. They hold over 95% of the market share (CoinMarketCap, 2025). Notably, Tether's USDT, launched in 2014, and Circle's USDC, launched in 2018, together account for approximately 90% of the stablecoin market share. This is due to the dominance of the US dollar in the international financial market and the encouraging attitude of the US government towards the development of stablecoins.

In September 2018, the New York Department of Financial Services (NYDFS) approved two digital stablecoins that could be exchanged one-to-one with the U.S. dollar, marking the beginning of official recognition for privately issued stablecoins. This was followed by a significant development on September 21, 2020, when the Office of the Comptroller of the Currency (OCC) issued an interpretive letter. This letter was a key moment in the U.S. regulatory process for digital stablecoins, as it provided guidance on how federally chartered banks and federal savings associations could hold reserves for digital stablecoins, indicating full government recognition of these privately issued digital assets<sup>[8]</sup>.

Besides, the U.S. President Trump issued an executive order on January 23, 2025, titled "Strengthening American Leadership in Digital Financial Technology" (Executive Order 14178). This order included stablecoins within the category of digital assets, underscored the strategic importance of stablecoins in maintaining dollar dominance and enhancing U.S. influence in the global digital financial landscape<sup>[7,9]</sup>. Meanwhile, the U.S. House of Representatives and the U.S. Senate continue to advance federal stablecoin legislation in two similar bills: the STABLE Act and the GENIUS Act. These bills would serve to establish a novel federal regulatory framework for this particular form of digital asset, further underscoring the significant role of stablecoins in America's strategic framework.

With the development of stablecoins and the endorsement of U.S. regulatory legislation, traditional financial institutions are also entering

this new arena. One of the early movers in this space is JPMorgan Chase, which introduced the JPM Coin primarily for institutional payments in 2020. More and more American financial institutions and leading tech companies are now involved in issuing stablecoins or advancing stablecoin application. For example, in October 2024, U.S. payments giant Stripe acquired the stablecoin platform Bridge for \$1.1 billion, setting a record for the largest acquisition in the cryptocurrency sector, further promoting the application of stablecoins in the payments industry. Another major payments company, PayPal, announced the launch of its dollar-pegged stablecoin, "PayPal USD," on August 7, 2023. By July 2024, PayPal had issued over 500 million tokens, making it one of the top ten stablecoin issuers globally. Additionally, technology companies such as Apple and Visa have started supporting the use of dollar-backed stablecoins for payments within their networks<sup>[7]</sup>. These institutions and companies are playing significant roles in the stablecoin market, contributing to its growth and adoption across various financial and tech landscapes.

### **3 China's Challenges in Stablecoin Development**

#### **3.1 Stablecoin Development in China**

Generally, China has adopted a stringent regulatory stance on private stablecoins to prevent financial risks and maintain financial order. According to the "Notice on Further Preventing and Addressing Risks Associated with Virtual Currency Trading and Speculation" (People's Bank of China, September 2021), all private cryptocurrencies (including stablecoins) are illegal within China, and their issuance, trading, and related financial services are prohibited. Overseas virtual currency exchanges providing services to Chinese residents through the internet are also deemed illegal financial activities. China has positioned the digital Renminbi (e-CNY) as the only legal digital currency, which is essentially an "official stablecoin" backed by the central bank's credit. However, whether it is institutional breakthroughs or the practical need for the digital upgrade of the internationalization of the RMB, the transformative effect of stablecoins in cross-border payments can no longer be ignored. Governments' attitudes toward the development and regulation of stablecoins are gradually

evolving. This shift occurs against the backdrop of a growing recognition of the challenges and potential risks stablecoins pose to China, as well as the rapid global expansion of virtual digital assets.

#### **3.2 Challenges to China**

Since 2020, the stablecoin market has entered a phase of rapid growth. This expansion rate far exceeds that of traditional financial instruments, with stablecoins rapidly evolving from a niche innovation into a core pillar of financial infrastructure. The rise of stablecoins globally poses severe challenges to China in terms of the internationalization of the Renminbi (RMB), digital currency development, capital flow regulation, and financial security.

Currently, with the robust financial market and international standing of the U.S., dollar-backed stablecoins dominate cross-border payments, international trade settlements, and global financial transactions. For example, some foreign trade enterprises accept quotes in USDT/USDC, weakening the position of the RMB as a contract pricing currency. With advantages such as low fees and instant settlements, stablecoins divert traffic from traditional cross-border payment channels. Enterprises can obtain dollar loans by collateralizing USDC on platforms like MakerDAO. With accelerated penetration of this influence, the digital asset system based mainly on one single currency could weaken the use of the RMB in cross-border payments. Particularly in emerging markets like Southeast Asia and Africa, if single currency dominated stablecoins establish digital payment infrastructure, it may form a "digital financial barrier", encroaching upon the strategic internationalization of the RMB through digital currencies, and containing the formation of a multipolar international monetary system<sup>[3]</sup>.

The cross-border pilot of the digital RMB (e-CNY) faces ecological pressures from USD stablecoins. The e-CNY's cross-border application is limited to central bank cooperation, such as mBridge, a part of China's initiative to lead the development of the multilateral Central Bank Digital Currencies (CBDC). The mBridge project emphasizes cooperation among official CBDC, aiming to build a new international financial infrastructure. China has accumulated a first-mover advantage in the CBDC field through this project. However, the rapid

development of stablecoins would influence China's international collaboration efforts in the digital currency sector. In April 2024, seven monetary authorities and more than 40 traditional financial intermediaries joined the BIS Innovation Center-supported "Next Generation Financial Market Infrastructures" (NGFMI) project called Agora. This project, which focuses on promoting the upgrading of traditional financial infrastructures by private organizations, is completely different from the official CBDC cooperation promoted by China through the mBridge project, and will pose a challenge to China's first-mover advantage in the field of CBDC<sup>[10]</sup>.

In traditional financial systems, financial security is predicated on the political authority of sovereign nations. Central banks play a pivotal role in effectively regulating financial markets, identifying financial risks, and resolving international currency issues at the international level. However, digital currencies achieve transaction security through technological means, thereby eliminating the need for centralized institutions and political authority. This shift fundamentally alters the underlying logic of financial security, transitioning from a reliance on sovereign oversight to one based on decentralized, technology-driven mechanisms<sup>[2]</sup>. Digitalization is driving a transformative shift in the dynamics of currency competition, transitioning the focus from traditional currencies to digital currencies. In this new landscape, private digital currencies and central bank digital currencies (CBDCs) are poised to become the central points of competition<sup>[11]</sup>. Due to technological gaps, stablecoins can bypass traditional regulatory tools such as bank account system monitoring, foreign exchange quota approval, and large transaction reporting systems through non-custodial wallets (e.g., MetaMask), DEX atomic swaps, mixers (e.g., Tornado Cash), and cross-chain bridges (e.g., Multichain). This creates regulatory blind spots, severely impacting China's ability to monitor capital flows and undermining efficient comprehensive oversight.

The operation of stablecoins heavily relies on blockchain technology and big data processing. According to some empirical studies, benefit from arbitrage mechanism<sup>[12]</sup>, stablecoins are more stable than Bitcoin but less stable than fiat currencies and gold<sup>[13]</sup>, which may mean that they have financial risks for their buyers. The

borderless and virtual nature of digital currencies also means that they are prone to becoming a hotbed of cross-border market manipulation, insider trading and financial crime<sup>[14]</sup>. Additionally, in the process of conducting stablecoin business, large technology companies and financial institutions can collect vast amounts of sensitive data from global users, including transaction data, identity information, and asset statuses. If these data are leaked due to technological vulnerabilities, poor internal management, or hacker attacks, they could seriously harm users' personal privacy and financial security, leading to a crisis of trust. More critically, the government might leverage its influence on their companies to use this data for global surveillance, violating other countries' data sovereignty and undermining international trust in data security. This raises significant concerns about data privacy protection and national information security among the international community, potentially exacerbating geopolitical tensions. There is also the possibility that once there is a suspicion that the stablecoin is not backed by enough assets, a kind of bank run could be triggered, much like a crisis in the traditional financial system<sup>[15]</sup>.

## 4. Suggestions

### 4.1 Expanding the Application of E-CNY

The expansion of the application scope of the digital Renminbi (e-CNY) necessitates a continued emphasis on broadening its domestic utilization. This involves enhancing its adoption and acceptance across various public services and commercial sectors. Concurrently, it is imperative to intensify the exploration of cross-border applications for the e-CNY. Initiating cross-border payment pilot programs within the framework of economic and trade collaborations with neighboring countries and regions can progressively enhance its stature within the international payment system. Such a strategy is anticipated to diminish dependence on single-currency-dominated digital currencies and augment China's competitiveness within the global digital currency landscape.

The widespread adoption of the e-CNY can facilitate the establishment of an autonomous and controllable digital payment system. This system is crucial for effectively addressing potential financial risks and challenges associated with single-currency-dominated

stablecoins. Continuous investment in the research and development of the e-CNY is essential to bolster its technological performance and improve user experience. Moreover, promoting the expansion of the e-CNY pilot programs is pivotal for constructing a controlled digital payment ecosystem, thereby constraining the proliferation of private stablecoins.

#### **4.2 Upgrading Capital Flow Regulation Frameworks**

To effectively manage the risks associated with private stablecoins, China should leverage legal measures to deter the illegal use of such currencies within its borders. Concurrently, accelerating the technological development of the digital RMB (e-CNY) is crucial. This involves implementing advanced measures such as controlled anonymity, smart contract interception, and cross-chain interoperability to fortify the digital currency system against misuse.

Moreover, upgrading the regulatory framework for capital flow management and developing a central bank-level blockchain monitoring system are imperative steps to enhance oversight and compliance. These technological and regulatory advancements are vital for mitigating risks associated with digital currency transactions and ensuring adherence to international financial standards.

#### **4.3 Piloting Offshore Renminbi Stablecoins**

For China, the development of an offshore RMB stablecoin is an important tool to accelerate the internationalization of the RMB, as well as to mitigate the impact of the uncertainty of the development of CBDC, and will not affect the monetary policy regulation and cross-border capital management. In April 2024, BIS supported the launch of the Agora project, and in November of the same year, it withdrew from the mBridge project. Although the pace of development of the mBridge project will not be interrupted by the withdrawal of BIS, the international acceptance of the CBDC will undoubtedly be affected by the lack of coordination and support from international organizations. At the same time, even though there is no official policy approval for the issuance of the RMB stablecoin, the market has already implemented an offshore RMB stablecoin in response to demand. Stablecoin development has a strong scale and network

effect, and it is very difficult for late-stage stablecoins to catch up with early-stage stablecoins. Currently, the USD stablecoin accounts for more than 95% of the stablecoin market, and it is very urgent to launch offshore RMB stablecoin issuance and trading. We should try it out in special administration zone first, and then gradually extend it to the domestic market after accumulating experience and perfecting the mechanism, so as to synchronize and improve the monetary control and financial regulatory framework.

#### **4.4 Establishing a Dual-Track Mechanism of Sovereign Credit and Market Efficiency**

The potential future introduction of a Renminbi stablecoin necessitates the establishment of a stratified complementary mechanism with the central bank's Central Bank Digital Currency (CBDC). The fundamental differences in their positioning underscore their collaborative significance. The core function of the central bank's CBDC is to ensure monetary sovereignty and financial system stability through centralized issuance, thereby serving as a "sovereign credit anchor." In contrast, commercial stablecoins are strategically positioned to facilitate decentralized circulation outside of the traditional banking system through blockchain technology. This enables them to transcend cross-border jurisdictional restrictions, thereby forming a freely circulating network<sup>[2]</sup>.

The central bank retains control over the source of currency issuance, ensuring reserve transparency and maintaining manageable systemic risks. Concurrently, the market exploits the technological flexibility of commercial institutions to broaden cross-border scenarios and enhance circulation efficiency.

This model integrates a dual-track fusion mechanism that combines "sovereign credit" and "market efficiency." On one hand, stablecoins can facilitate the international penetration of e-CNY while circumventing direct involvement in cross-border regulatory friction. On the other hand, commercial institutions can leverage the central bank's reserve backing to bolster the credit rating and liquidity depth of stablecoins.

#### **References**

- [1] T. Zhu. Research on the Framework, Theory, and Trends of Global Stablecoin Regulation. *Financial Regulation Research*, 2025, (03): 16-36.

- [2] M. Yin, B. Lei. The Impact of Stablecoins on the Internationalization of Central Bank Digital Currencies and Countermeasures. *Economic and Social Development*, 2024, 22(03): 20-29.
- [3] B. Zhang, X. Zhang, W. Zhang. Status of Stablecoin Development and Potential Macro Policy Challenges. *International Economic Review*, 2023, (02): 66-84+5-6.
- [4] J. Deng, X. Zhang. The Connotation, Risks, and Regulatory Responses of Stablecoins. *Journal of Shaanxi Normal University (Philosophy and Social Sciences Edition)*, 2021, 50(05): 165-176.
- [5] H-Y Chen, J. Pawee, A. Nafis. *Global Perspectives in FinTech: Law, Finance and Technology*. Palgrave Macmillan, 2022.
- [6] J. Shen, T. Zhu. A Decade of Stablecoin Development: Trends, Applications, and Prospects. *International Finance*, 2024, (12): 68-73.
- [7] S. Song, Z. Su, Y. Wang. The Latest Developments and Impacts in the U.S. Digital Currency Sector. *International Finance*, 2025, (02): 26-31.
- [8] D. Liu, S. Song. Digital Dollar Stablecoins Will Help Maintain the Dollar's International Status. *World Affairs*, 2020, (21): 60-61.
- [9] X. Wu, C. Zhao, S. Ma. An Analysis of U.S. Digital Asset Development Policy – Based on the 'Digital Asset Executive Order' and Its Associated Reports. *American Studies*, 2024, 38(04): 92-107+7.
- [10] S. Song. Strengthening U.S. Leadership in Digital Assets: China's Response. *World Affairs*, 2025, (09): 64-66.
- [11] Y. Ming W. Chen. Deconstruction of the Relationship between Private Digital Currency and Central Bank Digital Currency. *Nankai Journal (Philosophy and Social Science Edition)*, 2023(4): 32-45.
- [12] R. K. Lyons, G. Viswanath-Natraj. What Keeps Stablecoins Stable? *Journal of International Money and Finance*, 2023, 131: 102777.
- [13] L. T. Hoang, D. G. Baur. How Stable are Stablecoins? *The European Journal of Finance*, 2024, 30(16): 1984-2000.
- [14] W. Wang. U.S. Digital Currency 'Long-arm Jurisdiction' and Countermeasures for Blocking. *International Economic Cooperation*, 2024, 40(06): 39-52+89.
- [15] H. Joebges, H. Herr, C. Kellermann. Crypto assets as a threat to financial market stability. *Eurasian Economic Review*, 2025(15): 473–502