



# Analysis of the risks brought by the issuance of fiat digital currency in China and correlated strategy

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**Abstract.** The rapid development of the digital economy and financial technology has brought the thriving of digital currency. The currency in the market will likely be greatly converted from real to digital in the future. Under the circumstances of digital economy development, the e-CNY shows its value functions, and the implementation of such fiat digital currency may solve many problems existing in traditional currency. However, since the appearance time and application experience are poor, there are many potential risks in the process of implementing and developing digital currency healthfully. Based on the definition of digital currency and the value of implementing e-CNY, this paper analyzes the risks that may be brought by the implementation of fiat digital currency in China and puts forward relevant policy suggestions that are conducive to its issuance and promotion, to provide a reference for the promotion and application of digital currency in China.

**Keywords:** China; fiat digital currency; risk analysis.

## 1 Introduction

Digital currency is a kind of virtual currency that exists in digital form. It has the characteristics of decentralization, anonymity, security and convenience. From the narrow sense, digital currency refers exclusively to encrypted digital currency, that is, the currency that uses encryption algorithms, constructs blockchain, and uses distributed ledger technology and other means for security verification and transaction records. [1]

The theoretical circle divides digital currency into fiat digital currency and private digital currency based on the issuer. As a symbol, money can realize its function as a measure of value, but the symbol itself needs considerable social recognition. [2] Private digital currency cannot fulfil the function of money due to its characteristics such as high price fluctuation, small audience and lack of national credit endorsement. China's fiat digital currency is a digital expression of value, directly issued and managed by the national central bank, representing the authority of the state over currency issuance and management. In form, it is presented as e-CNY, and in legal status, it is presented as the fiat digital currency endorsed by China's national sovereignty, so it has the function of value scale. [3]

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The fiat digital currency does not directly replace the traditional currency but co-exists with it. The issuance and use of e-CNY require the support and supervision of governments and regulatory agencies to ensure its legality, security and stability. At the same time, the development and popularization of fiat digital currency also need the cooperation and participation of commercial banks, payment institutions, technology companies and all the other parties concerned.

## **2 The value and significance of China's issuance of fiat digital currency**

### **2.1 Adapting to the current and future trends of digital technology and economic**

With the high-speed development of information technology, the digital economy has become an important driving force in the development of the economy. China has the world's largest mobile payment market, where people's daily life has been deeply embedded with the digital economy. Fiat digital currency is the inevitable result of the evolution of monetary form driven by information technology. The issuance of fiat digital currency in China can adapt to the development trend of the digital economy, promote the innovation of payment systems and the development of financial technology, and also enhance the flexibility of monetary policy, to meet the development needs of the modern economy. Fintech is the integration of information technology and the financial industry, which has had a profound impact on the financial industry. Issuing fiat digital currency may promote the development of financial technology and applications, offering innovative platforms and opportunities to financial institutions and technology companies. Through the application of digital currency, it can as well as promote the innovation and application of blockchain, smart contracts and other financial technologies, and bring more development opportunities to the financial industry.

### **2.2 Making up for the shortcomings of traditional currencies**

Fiat digital currency can further improve the convenience and efficiency of payment, pushing the transformation from cash payment to digital payment, so that individuals and enterprises can make cross-border payments and online consumption more easily and at a lower cost. At the same time, its use can also reduce the dependence on third-party payment platforms, fundamentally solving the contradiction between payment convenience and the central bank's control over the money market. [4] In addition, traditional banknotes and coins are prone to illegal activities such as theft, counterfeiting and money laundering. By contrast, fiat digital currencies use security measures such as encryption technology and blockchain, which can provide a more secure and reliable payment method and effectively prevent fraud and illegal behaviour. Through the way of digitization, the stability and safety of the financial system are improved.

### **2.3 Strengthening the influence in the international monetary competition system**

Issuing a fiat digital currency can enhance the status of CNY as an international reserve currency, provide more payment and settlement options for global trade and increase the proportion of CNY used in global trade. Thus, it can further consolidate the process of the internationalization of CNY. This will create more favourable conditions for the application of CNY in international trade, investment and other financial activities. In addition, issuing fiat digital currency can also promote international cooperation and global financial governance. As a national legal currency, the digital currency needs coordination and cooperation across the world. Through international cooperation on digital currencies, a more open and interconnected payment and settlement network can be established to promote the stability and security of the financial system and enhance the effectiveness of the international financial governance system.

### **2.4 Regulating and supervising the development of the digital economy in the financial sector**

During the development of the financial industry and the digital economy, the implementation of digital currency also increases the uncertainty of market regulation. Issuing fiat digital currency can strengthen the supervision of regulators on money laundering and terrorist financing in the digital economy, and maintain the security and stability of the financial system. The digital economy has led to many changes in financial innovation and regulatory technology. The issuing of fiat digital currency can be used as a sample and experimental scenario of financial innovation, and promote the development and application of financial technology through practice. In addition, the rapid development of the digital economy has brought about the generation and circulation of a large amount of personal and enterprise data, then data security and privacy protection have become important issues. Issuing fiat digital currency which uses encryption technology, blockchain and other security means can provide a more secure and privacy-protected payment method. Regulators can use the technological means of digital currency to strengthen the regulation of data security and privacy protection and maintain the stable and safe development of the financial industry and the digital economy.

## **3 Issuance path for fiat digital currency and current situation**

China has realized the necessity of issuing e-CNY and has become one of the first countries to research issuing digital currency. E-CNY achieved the integration of virtual currency and cash by adopting the technical route of dual-level operation mechanisms between central banks and commercial institutions. [5] Digital currency and the current banking system are compatible under such mechanisms, reducing the financial disintermediation risk to the minimum. [6] Speaking of the current operation mode of digital currency, in the short term, the central bank digital currency is an alternative to M0, rather than M1 and M2. [7] In the long term, digital currency will

play a role in international payment and settlement and promote the use of CNY overseas. [8] Since 2020, tests of the implementation of fiat digital currency have expanded from Shenzhen, Suzhou, and Chengdu to Beijing, Shanghai, and other cities. Many of them have introduced "digital currency wallet", covering multiple consumer scenarios. In 2021, the Digital Currency Research Institute of the People's Bank of China announced the joint launch of the changeable central bank digital currency bridge research project with many countries on the website of the central bank, implying that the cooperative object has turned to the international scope. By constantly testing and verifying the security and stability of the system, e-CNY will be able to cope with different scenarios and develop more innovative functions.

## **4 Risks that may arise from issuing fiat digital currency**

### **4.1 The risk of bank runs on commercial banks caused by excessive deposit transfer**

The issuance of fiat digital currency will impact the existing financial system and change the public's currency storage habits. Depositors tend to take out long-term assets and transfer them to their digital currency wallet. Banks would run the risk of running out of liquidity, which could lead to bank runs. In extreme cases, commercial banks will lose their status as financial intermediaries, and the risk of bank runs will spread in the financial system and lead to a financial crisis. To cope with the risks, commercial banks may take measures that are not conducive to financial stability.

However, according to Andolfatto and Chiu et al., if banks have market power in the deposit market, introducing the CBDC could lead to improved economic outcomes. [9] Also, the central bank can prevent such risk by limiting the amount of e-CNY that commercial banks can exchange to the public within a certain period or setting an exchange quota.

### **4.2 The risk of financial regulation caused by the lack of laws and financial supervision**

Fiat digital currency will extend its application scenarios in the future. However, although e-CNY has the national credit endorsement, and there are quite a few pilot applications nowadays, the regulatory system is still not sound. The supervision mode and digital currency financial markets don't match, and also, the distribution of rights and obligations under the new system is not clear. The existing legal system lacks laws and regulations on the definition and transaction mode of fiat digital currency. If financial disputes occur, it will be difficult to make authoritative explanations. In addition, it is hard to crack down on financial crimes under regulatory loopholes. It is necessary to build and improve the financial system and legal rules of fiat digital currency, accelerate the formulation of unified issuance standards, and strengthen the supervision of other digital currencies. At the same time, we should highlight the combination of law and engineering, focus on the development of digital technology supervision, and build a diversified and collaborative supervision method.

### **4.3 The risk of technical security caused by immature underlying technologies**

The design of fiat digital currency uses cryptography theory knowledge as well as cloud computing technology and safety chip technology to ensure end-to-end security in the process of digital currency trading. However, the existing technology maturity can not guarantee the complete success of the operation process of fiat digital currency. System builders should not stick to any technology but should have the technical concept of long-term evolution, study all the technologies that may be involved in digital currency, find the optimal solution, make the currency keep pace with the times, and complete the digital process effectively and safely. In addition to the problem that the issuance of fiat digital currency itself puts forward new requirements for the technical environment, another problem is that the existing internal operating system of banks needs to be updated, and the financial infrastructure also needs to be improved. In this regard, pilot projects can be set up in advance, and cities with better economies can be selected for regional practice, to find, evaluate and fix vulnerabilities in closed-loop testing.

### **4.4 The risk of fraud caused by the unclear concept of digital currency**

At present, there are few pilot projects of digital currency, and many regions have not opened this service. Most people are not clear about the concept of digital currency, which is likely to cause fraud incidents. Some pyramid organizations use such a lack of cognizance of investors, combining the concept of "digital currency" with pyramid selling. It is of great significance to publicize the connotation of digital currency to the public and strengthen their ability to identify pyramid selling behaviour. What's more, strengthening the construction of the application scenarios of e-CNY and making it more common and accessible is also an important means. [10]

## **5 Conclusion**

As a virtual currency issued by the state, fiat digital currency is mainly used to meet the current and future needs of digital economic development and has important value functions in promoting economic development and improving currency competitiveness. In the process of issuing fiat digital currency in China, it is necessary to clarify the risks it may bring and take reasonable countermeasures to ensure that the issuance of e-CNY is more in line with the needs of society, to promote the healthy and sustainable development of the national economy.

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