

# The Impact of Controllable Anonymity Mechanism of Digital Renminbi on the Risk of Small-scale Consumer Credit

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## Abstract:

In the context of the development of the digital economy, the controllable anonymity mechanism of digital Renminbi (RMB) is gradually being promoted. The characteristics of small amount anonymity, large amount traceability, voluntary front-end, and real name back-end have had various impacts on the risks of small consumer credit. On the one hand, the safety and convenience of small-scale consumption have been improved, which, to some extent, solves the problem of information asymmetry and enhances the ability to manage credit risks. On the other hand, it is difficult to strike a balance between “anonymity” and “regulation”. Furthermore, it relies on a strict legal system and rigorous management institutions, as well as advanced technologies such as blockchain and distributed accounting. However, due to the limitations in the quantity and scope of market research, as well as the challenges brought by the continuous updates of digital RMB, the research results may have limitations. So it suggest considering the market environment and paying attention to the different impacts of digital RMB on credit risk under different conditions. And it can also pay attention to technological updates to make research results more in line with reality, and make more reasonable and effective research results in the future.

**Keywords:** Digital RMB; small consumer loans; controllable anonymity mechanism.

## 1. Introduction

With the development of the digital economy and the advancement of technology, supported and promoted by relevant financial policies, digital RMB has gradually replaced paper currency in the real economy. Digital Renminbi (RMB) is increasingly pro-

moted and applied by consumers in retail payments, cross-border payments, financial services, and other areas.

And the financial system is gradually moving towards modernization. At the same time, with the characteristics of „small anonymity, large traceability“ and „voluntary front-end, real name back-end“,

the controllable anonymity mechanism of digital RMB is being piloted in some cities in China. This is a design that seeks a balance between protecting user privacy and meeting regulatory needs, which has attracted widespread attention in recent years. However, due to the small amount, short-term, unsecured, and fast approval process, small-scale consumer credit faces many risks and challenges. Financial institutions need to conduct timely credit risk assessment and control. There is a certain degree of correlation between digital RMB and credit risk. On the one hand, in addition to improving the safety and convenience of small-scale consumption, because of the hierarchical and classified management of digital wallets, the controllable anonymity mechanism of digital RMB can effectively improve the accuracy of credit risk identification. While mastering background information, implementing visual tracking of funds, effectively identifying default risks, and tracking through network technology. To some extent, this solves the problem of information asymmetry and enhances risk identification and prevention awareness. This not only enhances the ability of credit risk management, but also realizes the modernization and intelligence of financial supervision. On the other hand, due to the reliance on multiple advanced technologies, it cannot be certain that the technology itself has no vulnerabilities, nor can it guarantee the effective and reasonable use of relevant personnel, the controllable anonymity mechanism may also have a certain impact on the risk of small-scale credit. In this context, the purpose of this study is to analyze in depth the characteristics and current status of the controllable anonymity mechanism of digital RMB. It can discuss the characteristics of risks in small consumer loans based on relevant cases, and explore the positive impact and potential challenges of controllable anonymity mechanisms on credit risks by combining small consumer loans themselves and consumers. Therefore, this study can provide a theoretical basis for the effective promotion of the controllable anonymity mechanism of digital RMB and the development of small-scale consumer credit risks. The significance of this study lies in exploring the impact of the controllable anonymity mechanism of digital RMB on the risk of small-scale consumer credit, effectively protecting consumer privacy and security. Establishing a reliable credit regulatory system while increasing consumers' trust and acceptance of controllable anonymity mechanisms. In order to build a sustainable and stable financial market, promote the healthy promotion of small-scale credit business, and ensure the stable operation of digital RMB, this study can refine laws, regulations, and government policies, optimize risk management of financial institutions, improve regulatory systems, and help reduce credit risks.

## 2. Literature Review

### 2.1 Research on the Controllable Anonymity Mechanism of Digital RMB

With the development of the digital economy, digital RMB is becoming increasingly popular and has become the main currency used by contemporary people. Controllable anonymity is one of the biggest features of digital RMB. Previous studies have shown that the controllable anonymity of personal information in digital RMB is the best balance between protecting user information and ensuring the security of currency circulation [1]. It can register an anonymous wallet account using only a mobile phone number, without the need to bind personal information such as an Identification (ID) card or bank card. Consumers can use digital RMB to purchase goods, take the subway or bus, and meet their daily small-scale consumption needs. The controllable anonymity of digital RMB not only satisfies daily currency transactions but also effectively protects users' privacy and avoids the leakage and abuse of personal information.

### 2.2 Research on the Risks of Small Consumer Credit

Small-scale consumer credit refers to financial institutions providing small amounts of financial support to consumers to meet their daily consumption needs. With the development of the Internet economy, micro consumer credit is gradually integrated into public life, providing small loans to low-income groups. However, because of the small amount and wide target audience, small-scale consumer credit also faces many risks, among which credit risk is the most typical [2]. And due to the target audience being low - and middle-income individuals, there may be a series of issues such as unstable income and limited debt repayment ability. In addition, small-scale consumer credit cannot accurately assess the borrower's credit status, so there is a certain chance that the loan cannot be repaid within the prescribed period.

### 2.3 The Correlation between Digital RMB and Credit Risk

As a modern new currency, digital RMB has had a profound impact on credit risk management. On the one hand, digital RMB can enhance risk identification capabilities and improve risk assessment efficiency to a certain extent. In previous studies, scholars have proposed that the controllable anonymity mechanism of digital RMB allows financial institutions to obtain more transaction data under the premise of legality and compliance. This can improve the accuracy of risk identification and better identify potential default risks [3]. By analyzing common risks and

proposing corresponding countermeasures, it aims to promote the long-term stable development of credit.

On the other hand, digital renminbi also carries potential risks. Digital RMB is based on blockchain and distributed accounting, relying on advanced technology [4]. At this point, if there are defects or vulnerabilities in the technology, or if the technology is used improperly, it may lead to the leakage of user information. The protection of personal privacy by a controllable anonymity mechanism may eventually endanger the information security of consumers and impact Internet finance.

### 3. The Characteristics and Current Situation of Controllable Anonymity Mechanism for Digital RMB

The most common understanding of digital RMB among people today is „small anonymous, large traceable“ and „voluntary front-end, real name back-end“. Simply put, for small-scale consumption, consumers can choose anonymous payment by registering an anonymous wallet with their mobile phone number, while protecting personal privacy, such as ID card and bank card, and not disclosing it publicly. Only large purchases require more detailed identity authentication. For suspicious transactions with large amounts, they can still be tracked through network technology, and the information obtained through the backend meets the regulatory requirements of digital RMB, providing consumers with a safer trading environment. In addition, based on advanced technologies such as blockchain and distributed accounting, the digital RMB has become more secure and reliable, maintaining the long-term stable development of the financial market.

Currently, the controllable anonymity mechanism of digital RMB has been widely applied. According to existing research, China vigorously promotes international trade and cooperation, draws on foreign regulatory experience, establishes relevant laws and regulatory systems, builds regulatory systems, and ensures the safety of funds by taking into account the current market development status [5]. Furthermore, while related technologies continue to develop, the quality and efficiency of controllable anonymity mechanisms are constantly optimized to create a more convenient and secure market environment for users.

#### 3.1 Characteristics and Related Cases of Risks in Small-scale Consumer Credit

The small-scale consumer credit business is characterized by fast approval, small amounts, short-term, and no collateral [6]. This poses more challenges for small-scale consumer credit, requiring financial institutions to conduct timely credit risk assessment and control. At the same time, society needs to establish a relatively complete reg-

ulatory system and laws and regulations, and strengthen publicity to comprehensively enhance consumers' social credit awareness [6].

Taking „JD White Label“ as an example—JD Baitiao, as a consumer credit product under JD, has attracted a large number of consumers and brought about a large amount of capital flow through its „consume first, pay later“ service [7]. But there are also certain risks involved. Criminals will commit fraud under the pretext of „canceling JD's IOU“ and „not canceling will affect credit reporting“. For example, a citizen named Lin received a phone call claiming to be „JD White Label Customer Service“, claiming that his lack of personal information would affect his credit rating, inducing him to fill in personal information on a fake website and make transfers. And ultimately resulting in a loss of over 149,000 yuan. This is a typical case of the safety of consumer credit. This amount is not only a loss for consumers in their credit wallets, but also has a certain impact on the market environment of society, posing a threat to finance and accounting. At the same time, such behavior may also damage the company's corporate image. While affecting the normal operation of enterprises, it may also affect consumers' confidence in consumption, leading to instability in the consumer market.

#### 3.2 Positive and Negative Impacts of Controllable Anonymity Mechanism on Credit Risk

On the one hand, the controllable anonymity mechanism of digital RMB has a certain positive significance for small-scale consumer credit. Firstly, the improvement of safety and convenience in small-scale consumption is beyond doubt. An anonymous wallet that can be registered with just a phone number, allowing consumers to complete online transactions and payments at the fastest speed possible. Further, it has, to some extent, solved the problem of information asymmetry. The traditional transaction model cannot accurately evaluate consumers' credit status, while the digital RMB will leave consumption records. Although personal credit information will not be disclosed, financial institutions can still access relevant information to assist in making decisions on whether to lend to the consumer. Better yet, it is beneficial to enhance credit risk management capabilities, as regulatory agencies promote the effective flow of funds while ensuring that consumer information is not leaked. Thus, the safe circulation and efficient application of digital RMB can be achieved, enabling the sustained and stable development of small loans [8].

On the other hand, controllable anonymity mechanisms also have a certain negative impact on credit risk. At first, financial institutions find it difficult to strike a balance between „anonymity“ and „regulation“. If strict regulation is required, financial institutions need to have a deep understanding of user-related information, which does not meet

the requirement of anonymity. But if it want to effectively protect user privacy, it cannot guarantee the implementation of strict regulatory systems. Secondly, a sound credit risk management system needs to be based on a strict legal system and rigorous management institutions. However, due to the constantly changing market environment, the establishment of laws and institutions is difficult to keep pace with the needs of the times. The need for small loans may not be effectively met. Finally, controllable anonymity mechanisms rely on advanced technologies such as blockchain and distributed accounting. If there are certain defects in future technology or improper use, this mechanism will not be able to provide corresponding services for credit risk with the existing quality and efficiency. Consumers may not be able to enjoy convenient payments normally. And it may bring more financial security risks, endangering people's property safety.

## 4. Discussion

### 4.1 The Impact on Small Consumer Loans Themselves

On the one hand, the controllable anonymity mechanism of digital RMB effectively protects consumers' privacy and security. In small-scale consumption, more people choose digital RMB. The safety and stability of small consumer loans have been enhanced. This invisibly enhances trust in small consumer loans, thereby increasing the use of small consumer credit. This not only promotes the activity of the consumer market but also expands the development space of financial institutions, achieving a positive interaction between financial innovation and the consumer market. Additionally, controllable anonymity mechanisms enhance the risk identification awareness and prevention capabilities of financial institutions. In order to make more reasonable and effective credit decisions, people can analyze relevant data, evaluate consumers' credit situations, and accurately identify high-risk customers. This management approach not only improves the efficiency of financial institutions but also enhances the stability of the entire financial market, laying a solid foundation for the sustainable development of the financial industry.

### 4.2 The Impact on Consumers

On the one hand, the improvement of convenience and security in small-scale consumption is undeniable. Anonymous payments do not bind bank cards and ID cards, and consumers' personal information is effectively protected. The products provided by traditional consumer loan institutions are limited by various conditions and cannot meet the consumption needs of the younger generation. But the digital RMB meets the diverse needs of consumers and

promotes the rapid development of the credit market [9]. In addition, people may believe that the widespread use of bank accounts and the popularity of electronic payments will enable criminals to easily obtain personal information and engage in online fraud, endangering people's property security [10]. But the controllable anonymity mechanism effectively protects consumers' personal privacy. And the setting of small anonymous wallets ensures that information is not leaked or tampered with through technology while safeguarding consumption. This method effectively reduces the risk of fraud and safeguards the legitimate rights and interests of citizens.

## 5. Limitations and Shortcomings

### 5.1 Limitations in the Quantity and Scope of Market Research

The controllable anonymity mechanism of digital RMB is currently only being piloted in specific cities such as Beijing, Shanghai, and Guangzhou.

It has not yet been fully popularized, and the usage of controllable anonymity mechanisms in some second - and third-tier cities may be low. The number of users participating in the pilot is limited and lacks representativeness. In addition, due to the impact of anonymity mechanisms on the protection of consumer information, it is difficult to obtain comprehensive information when conducting market research. In the study, it were only able to obtain partial information from certain groups. The sample size is insufficient, and there are limitations.

The market environment and consumption habits vary in different regions, and the usage of digital RMB is relatively low in economically underdeveloped areas. The research results from the pilot areas cannot be generalized nationwide. And then, users of controllable anonymity mechanisms are usually the younger generation, and specific groups of people participate in market research. The scope of market research is limited, and the results can not represent all of the consumers. The conclusion drawn in this article may only apply to some specific regions and is not universally applicable.

### 5.2 Challenges Brought by Continuous Updates of Digital RMB

Affected by changes in the market environment and the development of the times, the continuous updating of digital RMB has brought certain challenges to the risk of small-scale consumer credit. Affected by the update of digital RMB, related technologies may continue to innovate. However, technological updates may not necessarily align with the development status of digital RMB. Laws, regulations, and regulatory policies also need to be con-

tinuously coordinated and optimized to ensure the smooth promotion of digital RMB and the healthy development of small-scale consumer credit.

## 6. Conclusion

This article mainly studies the impact of the controllable anonymity mechanism of digital RMB on the risk of small-scale consumer credit. On the one hand, the controllable anonymity mechanism of digital RMB enhances the security and convenience of small-scale consumption. And to some extent, it has solved the problem of information asymmetry and enhanced credit risk management capabilities. On the other hand, controllable anonymity mechanisms are difficult to balance between „anonymity“ and „regulation“, rely on strict legal systems and rigorous management institutions, and require advanced technology, which still pose certain challenges to the risk of small-scale consumer credit. Besides, this article focuses on the controllable anonymity mechanism of digital RMB, which has had a certain impact on both small consumer loans themselves and consumers. It also pay attention to the impact of the number of pilot projects, audience groups, and other factors on the limitations of market research, as well as the impact of technological updates on controllable anonymity mechanisms and credit risks.

Based on the above conclusions, the following suggestions can be proposed. Firstly, consumption habits and loan willingness vary in different regions, and the development status of digital RMB also differs in different periods. When conducting market research, it is necessary to consider the market environment and pay attention to the different impacts of digital RMB on credit risk under different conditions. It should choose appropriate research methods based on the actual situation. Furthermore, with the development of the times, the related technologies on which the digital RMB relies will change. Technological innovation will change the research results of controllable anonymity mechanisms. When conducting market research, attention should be paid to technological updates to make the research results more in line with reality. When conducting research, it should choose the latest and most suitable research techniques. Better yet, encourage cooperation between financial institutions and technology companies to explore the use of controllable anonymity mechanisms for digital RMB in small-scale consumer credit risks, such as smart credit. Combined with people's actual living scenarios, such as transportation, tourism, etc., strengthens the promotion of digital RMB in different scenarios. Through these methods, people's recognition of digital RMB and awareness of credit risk prevention can be enhanced, making the exploration results more reasonable and effective. Last but not least, under the improved digital RMB security management system, strengthen the

security protection of data collection, storage and other links, standardize the scope of data use, and clarify data security standards. Thus, it can promote the safe and stable operation of the controllable anonymity mechanism of digital RMB. In the future, research on the impact of the controllable anonymity mechanism of digital RMB on the risk of small-scale consumer credit will focus on consumer safety, privacy protection, institutional improvement, risk management, technological innovation, policy adjustment, and other aspects. On the one hand, technology continues to optimize, effectively improving the efficiency and security of controllable anonymity mechanisms. On the other hand, laws, regulations, and government policies will be refined, and regulatory systems will continue to improve, which can reduce credit risks and build a sustainable and stable financial market. As digital RMB continues to develop, the controllable anonymity mechanism will also be continuously improved. In the future, controllable anonymity mechanisms may have various impacts on the credit risk of small-scale consumption. It look forward to more people joining the research on this topic in the near future. And it also hope that this article can provide suggestions for future research.

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